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Subheading 1

Purpose: Prostate cancer (PCa) is the second most common oncologic disease among men. Radical treatment with curative intent provides good oncological results for PCa survivors, although definitive therapy is associated with significant number of serious side-effects. In modern-era of medicine tissue-sparing techniques, such as focal HIFU, have been proposed for PCa patients in order to provide cancer control equivalent to the standard-of-care procedures while reducing morbidities and complications. The aim of this systematic review was to summarise the available evidence about focal HIFU therapy as a primary treatment for localized PCa.Purpose of review: Radical treatments for prostate cancer are associated with significant morbidity, including incontinence and erectile dysfunction. Advances in the field of prostate MRI and desire to reduce treatment morbidities have led to a rapid growth in focal treatments for prostate cancer. Here, we review novel focal prostate cancer treatments and their associated recent clinical data, with a particular focus on data reported within the last 24 months.Context: Management of locally recurrent prostate cancer after definitive radiotherapy remains controversial due to the perceived high rates of severe genitourinary (GU) and gastrointestinal (GI) toxicity associated with any local salvage modality.High-intensity focused ultrasound (HIFU) is a noninvasive procedure that has shown promising results in a wide range of malignant and nonmalignant conditions, including localized prostate cancer (PCa). This review aims to describe the application of HIFU in the management of patients with PCa, explaining its basic therapeutic principles, going through the main phases during aHIFU session, and providing an overview of the main available pieces of evidence from literature. HIFU treatment for prostate cancer is increasingly performed with high success and safety. MR guidance (MR-guided HIFU) has the advantage of real-time intraprocedural thermometric feedback that ensures that the whole region of interest has been covered by critical thermal damage (and that all surrounding healthy tissues have been spared). The absence of comparative long-term trials prevents HIFU from being considered as afirst choice for the treatment of patients with PCa.Context: Focal therapy is a promising, minimally invasive strategy to selectively treat localized prostate cancer. A previous systematic review indicated that there is growing evidence for favorable functional outcomes, but that oncological effectiveness was yet to be defined.What's known on the subject? and What does the study add? Novel therapeutic methods have emerged in recent years as 'focal' treatment alternatives in which cancer foci can be eradicated and greatly reducing the associated side-effects of radical treatment. High-intensity focused ultrasound (HIFU) seems to result in a well fitted technology, which has proven short- to medium-term cancer control, with a low rate of complications comparable with those of established therapies. This is an up-to-date review of the available literature on HIFU as a definitive treatment of prostate cancer. It describes the technique in a comprehensive approach in terms of technical features, procedure, indications, and gives an overview of its historical background; finally, we present the future applications of HIFU and its development trend.The incidence of prostate cancer is increasing, and therefore also the need for optimal treatment. Because of the appearance of many different disease stages different treatment modalities are desirable for the treatment of localized prostate cancer. The established therapies, radical prostatectomy and radiation therapy, are associated with a lot of risks, complications and co-morbidity, and not all patients are eligible for these treatments. That is why the need for reliable minimally invasive alternatives has developed. For this paper a literature search was conducted on published studies and review articles to determine the role of HIFU (high intensity focused ultrasound) and cryoablation as minimally invasive treatment modalities for localized prostate cancer. Both therapies are being used as a primary or secondary (salvage) treatment, but can they replace surgery or radiation? And is there a role for contrast enhanced ultrasound (CEUS) of the prostate to improve diagnostics, treatment outcomes and follow-up? To date the outcomes of both therapies are promising but no prospective and comparative randomized studies with a long term follow-up were available for analysis. From this review we can conclude that until those studies are available, HIFU and cryoablation are good alternatives for patients not eligible for prostatectomy or radiation. They should not be used as a first treatment option as long as diagnostics and follow-up have not improved.Background: Patients with

(local) recurrence of prostate cancer after radiation therapy face the question of the appropriate diagnostic and possible therapeutic options. Many patients in this setting receive palliative androgen deprivation therapy alone, with arguable impact on overall cancer survival. In the case of an isolated local recurrence, salvage prostatectomy represents a potentially curative therapeutic option, albeit with a high complication rate. Alternatively, these patients can be offered a local treatment with salvage HIFU therapy.Objective: To present a summary of the 2016 version of the European Association of Urology (EAU) - European Society for Radiotherapy & Oncology (ESTRO) - International Society of Geriatric Oncology (SIOG) Guidelines on the treatment of relapsing, metastatic, and castration-resistant prostate cancer (CRPC).Objectives: Magnetic resonance imaging/transrectal ultrasound (MRI/TRUS) fusion-guided focal high intensity focused ultrasound (HIFU) therapy of the prostate has recently been developed as a selective HIFU-therapy technique to enable targeted ablation of prostate cancer. Here we report a series of patients treated with focal HIFU therapy, discuss its potential pitfalls, and address controversies concerning the indications.Over the past 25 years, the average life expectancy for men has increased almost 4 years, and the age of prostate cancer detection has decreased an average of 10 years with diagnosis increasingly made at early-stage disease where curative therapy is possible. These changing trends in the age and extent of malignancy at diagnosis have revealed limitations in conventional curative therapies for prostate cancer, including a significant risk of aggressive cancer recurrence, and the risk of long-term genitourinary morbidity and its detrimental impact on patient's quality of life (QOL). Greater awareness of the shortcomings in radical prostatectomy, external radiotherapy, and brachytherapy has prompted the search for alternative curative therapies that offer comparable rates of cancer control and less treatment-related morbidity to better preserve QOL. High-intensity focused ultrasound (HIFU) possesses characteristics that make it an attractive curative therapy option. HIFU is a noninvasive approach that uses precisely delivered ultrasound energy to achieve tumor cell necrosis without radiation or surgical excision. In current urologic oncology, HIFU is used clinically in the treatment of prostate cancer and is under experimental investigation for therapeutic use in multiple malignancies. Clinical research on HIFU therapy for localized prostate cancer began in the 1990s, and there have now been ~65,000 prostate cancer patients treated with HIFU, predominantly with the Ablatherm (EDAP TMS, Lyon, France) device. Neoadjuvant transurethral resection of the prostate has been combined with HIFU since 2000 to reduce prostate size, facilitate tissue destruction, and to minimize side effects. Advances in imaging technologies are expected to further improve the already superior efficacy and morbidity outcomes, and ongoing investigation of HIFU as a focal therapy in salvage and palliative indications is serving to expand the role of HIFU as a highly versatile noninvasive therapy for prostate cancer.Prostate cancer screening has resulted in earlier diagnosis with lower-grade disease, leading to over-detection and over-treatment in a significant number of patients. Current whole-gland radical treatments are associated with significant rates of morbidity. The high prevalence of low-risk disease together with an inability to accurately identify those men harboring more aggressive cancers has led to tremendous research in low-morbidity focal therapies for prostate cancer. This review summarizes the early experiences with focal therapy with emphasis on early applications of laser, high-intensity focuses ultrasound, and photodynamic approaches.Context: In recent years, focal therapy has emerged as a treatment option for a selected group of men with localized prostate cancer. Cryotherapy and high-intensity focused ultrasound (HIFU) are the most investigated types of focal treatment with other options currently under evaluation.Background: Focal therapy aims to treat areas of cancer to confer oncological control whilst reducing treatment-related functional detriment.Background: Focal therapy for prostate cancer (PCa) remains experimental. Aim of the current study is to review available evidence and perform a pooled analysis exploring oncologic and functional results of high intensity focus ultrasound (HIFU) focal therapy for the treatment of unilateral PCa.Introduction: The treatment of prostatecancer has recently been questioned because ofthe adverse effects it causes may out weigh the benefitsin many patients, so, it has increased interest in active surveillance for low-risk diseases and tissue preservation with focal therapy, thereby reducing the burden on medical care and side effects that may occur after radical prostatectomy and radiation therapy.Background: High-intensity focused ultrasound (HIFU) is an alternative technique in the treatment of prostate cancer (PC). Despite proven oncologic efficacy, HIFU is still not establish as a standard therapy for PC in Germany due to insufficient clinical studies.Purpose: Focal therapies (FTs) are investigated within prospective studies on selected patients treated for localized prostate cancer (PCa). Benefits are preservation of genitourinary function and reduced complications, but follow-up is elaborate and is associated with uncertainty as cancer-free survival appears to be lower compared to standard radical treatments. The

aim of this study was to analyse patient-reported acceptance of FT and evaluate factors associated with treatment decision regret.Histotripsy is the first noninvasive, non-ionizing, and non-thermal ablation technology guided by real-time imaging. Using focused ultrasound delivered from outside the body, histotripsy mechanically destroys tissue through cavitation, rendering the target into acellular debris. The material in the histotripsy ablation zone is absorbed by the body within 1-2 months, leaving a minimal remnant scar. Histotripsy has also been shown to stimulate an immune response and induce abscopal effects in animal models, which may have positive implications for future cancer treatment. Histotripsy has been investigated for a wide range of applications in preclinical studies, including the treatment of cancer, neurological diseases, and cardiovascular diseases. Three human clinical trials have been undertaken using histotripsy for the treatment of benign prostatic hyperplasia, liver cancer, and calcified valve stenosis. This review provides a comprehensive overview of histotripsy covering the origin, mechanism, bioeffects, parameters, instruments, and the latest results on preclinical and human studies.Background: High-intensity focused ultrasound (HIFU) treatment is a novel minimally invasive therapeutic option for patients with localized prostate cancer. Little is known about the histological findings in prostate biopsies upon HIFU treatment.• To review the less common and not widely discussed, but much more serious complications of prostate cancer treatment of: urethral stricture, bladder neck contracture and urorectal fistula. • The treatment options for patients with organ-confirmed prostate cancer include: radical prostatectomy (RP), brachytherapy (BT), external beam radiotherapy (EBRT), high-intensity focussed ultrasound (HIFU) and cryotherapy; with each method or combination of methods having associated complications. • Complications resulting from RP are relatively easy to manage, with rapid recovery and return to normal activities, and usually a return to normal bodily functions. • However, after non-surgical treatments, i.e. BT, EBRT, HIFU and cryotherapy, these same problems are more difficult to treat with a much slower return to a much lower level of function. • When counselling patients about the primary treatment of prostate cancer they should be advised that although the same type of complication may occur after surgical or non-surgical treatment, the scope and scale of that complication, the ease with which it is treated and the degree of restoration of normality after treatment, is altogether in favour of surgery in those for whom surgery is appropriate and who are fit for surgery.Objectives: To assess change in functional outcomes after a second focal high-intensity focused ultrasonography (HIFU) treatment compared with outcomes after one focal HIFU treatment.Biochemical recurrence of prostate cancer occurs in 25-33% of patients who undergo radiation therapy (RT). Unfortunately, greater than 90% of patients with radiation recurrence undergo androgen deprivation therapy (ADT), despite the detrimental side effect profile and the lack of supporting evidence for ADT use in local recurrence. In patients who experience recurrence after treatment with RT, options for treatment include salvage radical prostatectomy (SRP), salvage cryotherapy (SCT), salvage brachytherapy (SBT), and high-intensity focused ultrasound (HIFU). These salvage treatments provide recurrence-free survival in almost half of the patients with an acceptable safety profile. However, it is important to note that approximately 20-40% of radio-recurrent prostate cancers are isolated and local. Recent studies have shown salvage focal treatments to have encouraging outcomes with significantly less side effects. This article summarizes the outcomes of currently used salvage treatment options for radio-recurrent prostate cancer and focuses on recent advancements in image-guided focal salvage therapies.Objective: To compare cancer control in anterior compared to posterior prostate cancer lesions treated with a focal HIFU therapy approach.The vast majority of men newly diagnosed with prostate cancer have clinically localized disease. Besides active surveillance in low risk cancers and open radical prostatectomy as the traditional gold standard more and more patients demand a effective tumor control through a minimally invasive approach. After the introduction of laparoscopy for the treatment of prostate cancer especially the robot-assisted radical prostatectomy gained in importance. In recent years the accuracy for cancer localisation within the prostate was considerably improved, which enables the increasing use of focal therapy techniques. In addition to the robot-assisted and conventional laparoscopic radical prostatectomy the current and future importance of cryotherapy, HIFU and vascular targeted photodynamic therapy for localized prostate cancer will be analyzed in the following review article.Background: Clinically significant nonmetastatic prostate cancer (PCa) is currently treated using whole-gland therapy. This approach is effective but can have urinary, sexual, and rectal side effects.Prostate cancer is the second leading cause of cancer death in men. Its current treatment includes various physical and chemical approaches for the localized and advanced prostate cancer [e.g. metastatic castrate resistant prostate cancer (mCRPC)]. Although many new drugs are now available for prostate cancer, none is suitable for local treatment that can reduce adverse effects often associated with the current physical treatment. Of the

drugs approved by FDA for mCRPC, the best mean improvement in overall survival is only about 4.8 months. Therefore, there is a need for improved treatment approaches for prostate cancer, especially drug-resistant cancer.Ultrasound therapy represents a useful new physical approach for the drug-resistant cancer treatment by facilitating the entry of the related chemotherapy drug into the target cancer cells. There are two versions of ultrasound: High Intensity Focused Ultrasound (HIFU) and Low Intensity Pulsed Ultrasound (LIPUS). HIFU has been a promising treatment option for prostate cancer due to its noninvasiveness and various biological effects on cancer tissue. It has been approved for the treatment of cancer and in recent years there have been numerous findings suggesting HIFU can reduce cancer cell viability and possibly reverse the spread of cancerous tumors. LIPUS is currently being studied as an alternative treatment option for prostate cancer. Preliminary studies have found LIPUS to reduce cancer cell viability without the side effects seen in HIFU. Reversible cell membrane damage caused by LIPUS could allow increased uptake of anticancer drugs, enhancing cytotoxicity and death of cancer cells. In this way, a low dose of anticancer drug is more effective toward cancer cells while there is less damage to normal cells. The combination of LIPUS with certain chemotherapeutic agents can be an exciting physical-chemical combination therapy for prostate cancer. This review will focus on this topic as well as the clinical use of HIFU to provide an understanding of their current use and future potential role for prostate cancer therapy.Prostate cancer screening currently consists of serum prostate-specific antigen and digital rectal examination, followed by transrectal ultrasound-guided biopsy for diagnostic confirmation. Although the current paradigm of prostate cancer screening has led to a decrease in advanced disease and cancer-related mortality, these techniques have limitations in terms of sensitivity and specificity, resulting in missed cancers that are clinically significant and the overdetection of clinically insignificant cancers. New imaging techniques and technologies are required to improve the detection of prostate cancer. This article summarizes the use of novel ultrasound techniques and technologies in the detection, biopsy, and treatment of prostate cancer.High intensity focused ultrasound (HIFU), is a promising, non-invasive modality for treatment of tumours in conjunction with magnetic resonance imaging or diagnostic ultrasound guidance. HIFU is being used increasingly for treatment of prostate cancer and uterine fibroids. Over the last 10 years a growing number of clinical trials have examined HIFU treatment of both benign and malignant tumours of the liver, breast, pancreas, bone, connective tissue, thyroid, parathyroid, kidney and brain. For some of these emerging indications, HIFU is poised to become a serious alternative or adjunct to current standard treatments--including surgery, radiation, gene therapy, immunotherapy, and chemotherapy. Current commercially available HIFU devices are marketed for their thermal ablation applications. In the future, lower energy treatments may play a significant role in mediating targeted drug and gene delivery for cancer treatment. In this article we introduce currently available HIFU systems, provide an overview of clinical trials in emerging oncological targets, and briefly discuss selected pre-clinical research that is relevant to future oncological HIFU applications.Attractivity of robotic high intensity focused ultrasound (HIFU) is based largely on the non-invasive, extremely precise nature of this high-tech robotic therapy as well as its clean, radiation free, surgical, but nevertheless, bloodless character. Today, in urological oncology, HIFU is used clinically as a therapeutic tool for the treatment of prostate cancer. Experimentally it is investigated for therapeutic use in kidney and breast cancer. Transrectal treatment of localized prostate cancer with HIFU has been under investigation since the 1990s and it is meanwhile an actively used therapy for the disease in many urological departments worldwide. Since 2000 HIFU is mostly used in combination with transurethral resection of the prostate in order to reduce prostate gland size, to facilitate effective tissue destruction and to avoid side effects. Palliative and salvage indications as well as focal therapy of prostate cancer are under investigation to extend the spectrum of HIFU indications for non invasive prostate cancer therapy.Objective: The purpose of this article is to evaluate MRI-guided therapies and to investigate their feasibility for focal therapy in prostate cancer patients. Relevant articles were retrieved using the PubMed online search engine.MR imaging-guided focal therapy is a viable treatment option for patients with localized prostate cancer. After the identification of a malignant focus in the prostate gland on multiparametric MR imaging, treatment can be directed in a precise fashion to the area of interest. The goal of focal therapy is to eradicate prostate cancer while minimizing complications that can affect quality of life. Currently, the most commonly used methods of focal treatment of prostate cancer are cryotherapy, high-intensity focused ultrasound, and laser ablation.The optimal treatment for localized prostate tumours remains unknown. The standard curative options (radical prostatectomy and radiotherapy) are not free of significant complications and risks. High-intensity focused ultrasound (HIFU) appears to be an alternative. It is currently used as primary

treatment for patients with localized prostate cancer T(1-2) N(0-x) M0, mostly low and intermediate risk, not suitable for surgery and as salvage treatment for locally proven recurrence of prostate cancer after curative therapy. In Belgium, it is estimated that about 730 patients (0.8% of all new prostate cancer patients) were treated with this new technology at 4 hospitals in the years 2000 to 2008. Given the increasing use of HIFU, this study was conducted to assess the current evidence supporting the effectiveness and safety of HIFU and to examine its role in the management of prostate cancer. A standard literature review showed that there is currently not sufficient evidence to support routine use of this new treatment modality. In order to obtain FDA approval, two multicentric non-randomized controlled trials comparing HIFU with cryotherapy and brachytherapy have been started in the U.S. and are now recruiting patients. Until more evidence becomes available, KCE recommends to limit the use of HIFU treatment to study setting. Future research is recommended in the form of comparative studies, preferably randomized controlled trials.Objective: High-intensity focused ultrasound (HIFU) Focal therapy appears to have encouraging oncologic outcomes and urinary and erectile function. The control of the treated area can be done using contrast enhanced ultrasound with sulfur hexafluoride (Sonovue®) at the end of the procedure. We report oncological and functional outcomes in HIFU focal therapy (FT) for prostate cancer (PCa) management using sonovue.Background: Salvage high-intensity focused ultrasound (HIFU) and cryotherapy (CRYO) have emerged as interesting alternatives in the treatment of local radio-recurrent prostate cancer. Currently, recommendations concerning the use of CRYO and HIFU in the salvage setting are still evolving.Background: We systematically evaluated the evidences on oncological and functional outcomes of high-intensity focused ultrasound (HIFU) as the primary treatment for localized prostate cancer (PCa).Purpose: To investigate focal therapy using High Intensity Focused Ultrasound (HIFU) for the treatment of localized prostate cancer (CaP), we analyzed the safety and complications of this procedure.Purpose of review: This review aims to summarize the latest evidence for the use of salvage ablation of localized prostate cancer recurrences after primary therapy radiotherapy or prostatectomy.High-intensity focused ultrasound (HIFU) is a minimally invasive alternative for patients with localized prostate cancer, not suitable for radical prostatectomy because of a life expectancy less than 10 years or because of major co-morbidities precluding surgery. HIFU can be performed in patients with LUTS (associated TURP) or with a previous history of BPH surgery. HIFU is repeatable after the initial procedure if a recurrent cancer is diagnosed on control biopsies. Furthermore, this therapy is a viable option for patients with a local relapse after external beam radiation therapy: oncologic efficacy is conversely related to the initial prostate cancer stage before radiation therapy.Background and aim of the work: Prostate cancer is one of the most common cancers in men over 50 years of age. Surgery, radiotherapy and hormonal manipulation represent its typical treatment. High-Intensity Focused Ultrasound (HIFU) is an alternative choice in localized prostate cancer. To date, an index for prediction of recurrence in patients treated with HIFU is not availabe. Our study proposes a novel index for the predition of recurrence able to determine if a candidate is fit for this tratment.Purpose: To evaluate the performance of multiparametric magnetic resonance imaging (mpMRI) and PSA testing in follow-up after high intensity focused ultrasound (HIFU) focal therapy for localized prostate cancer.Objective: To evaluate high-intensity focused ultrasound (HIFU) effects on anorectal physiology and fecal continence or constipation, and on quality of life (QoL).Context: High-intensity focussed ultrasound (HIFU) is an emerging minimally invasive treatment option for prostate cancer.Objectives: To report on our 5-year results with transrectal high-intensity focused ultrasound (HIFU) in the treatment of localized prostate cancer. HIFU delivers high energy, causing rapid coagulation necrosis of tissue within the target area without damaging the surrounding tissue.Background: Prostate cancer focal therapy aims to minimize the side-effects of whole gland treatments, such as radical prostatectomy and radiotherapy without compromising oncological efficacy. However, concerns exist regarding the multifocal nature of prostate cancer and the lack of long-term oncological data for this form of treatment. In recent years, the routine adoption of multi-parametric magnetic resonance imaging (mpMRI) of the prostate has improved our ability to select candidates for focal therapy and to accurately deliver this form of prostate cancer treatment.Radiotherapy is the main salvage option after primary radical prostatectomy. Radical prostatectomy, cryosurgical ablation and high-intensity focused ultrasound are the main salvage options after primary radiotherapy. After primary radiotherapy, long-term oncological outcome of salvage radical prostatectomy and salvage cryosurgical ablation is fairly comparable with the results of primary radical prostatectomy and primary cryosurgical ablation. Side effects of salvage radical prostatectomy in elite centers are acceptable and side effects of salvage cryosurgical ablation in tertiary centers are almost the same as after primary cryosurgical ablation. Good long-term data after salvage

high-intensity focused ultrasound are lacking and the risk of side effects is considerable. After primary radical prostatectomy, there is a high level of evidence for oncological benefit of salvage radiotherapy. Careful patient selection is important for all salvage modalities.Background: To evaluate quality of life, functional and oncological outcome after infravesical desobstruction and HIFU treatment for localized prostate cancer.Background: High intensity focused ultrasound (HIFU) has been used since the beginning of the 1990s as an alternative treatment for prostate cancer.The use of high-intensity focused ultrasound (HIFU) as a method for ablation of a localized tumor growth is not new. Several attempts have been made to apply the principles of HIFU to the treatment of pelvic, brain, and gastrointestinal tumors. However, only in the past decade has our understanding of the basic principles of HIFU allowed us to further exploit its application as a radical and truly noninvasive, intent-to-treat, ablative method for treating organ-confined prostate cancer. Prostate cancer remains an elusive disease, with many questions surrounding its natural history and the selection of appropriate patients for treatment yet to be answered. HIFU may play a crucial role in our search for an efficacious and safe primary treatment for localized prostate cancer. Its noninvasive and unlimited repeatability potential is appealing and unique; however, long-term results from controlled studies are needed before we embrace this new technology. Furthermore, a better understanding of HIFU's clinical limitations is vital before this treatment modality can be recommended to patients who are not involved in well-designed clinical studies. This review summarizes current knowledge about the basic principles of HIFU and its reported efficacy and morbidity in clinical series published since 2000.High-intensity focused ultrasound (HIFU) has recently been promoted as a non-invasive treatment option for prostate cancer. This systematic review sought to evaluate the evidence comparing it with standard treatment in patients with localised prostate cancer. The literature review included searches of MEDLINE, EMBASE, the Cochrane Library, annual meetings' abstracts and websites of evidence-based practice guideline producers. Studies were included if they were randomised controlled trials comparing HIFU with current management approaches, or were meta-analyses, systematic reviews or practice guidelines addressing HIFU. No randomised controlled trials or meta-analyses were identified. Seven systematic reviews and two practice guidelines were identified; neither contained randomised controlled trials. Adjusting the selection criteria to include case series found 34 clinical studies of HIFU. Twenty-nine evaluated HIFU as the primary treatment and five examined HIFU as salvage treatment for recurrence after radiotherapy. In most studies the outcomes used to determine efficacy were negative biopsy rates or prostate-specific antigen (PSA) levels. Among the 29 studies of HIFU as the primary treatment, negative biopsy rates ranged from 35 to 95% in 21 studies, a PSA nadir of ≤0.5 ng/ml ranged from 55 to 91% in 10 studies and mean PSA nadirs ranged from 0 to 1.9 ng/ml in 17 studies. Five studies reported 5-year disease-free survival rates ranging from 55 to 95%. Among five studies of HIFU as salvage treatment, negative biopsy rates ranged from 73 to 84% in four studies, a PSA nadir of ≤0.5 ng/ml ranged from 57 to 66% in three studies and mean PSA nadirs were 1.97 and 2.38 ng/ml in two studies, respectively. Current evidence on HIFU use in prostate cancer patients is of low quality, rendering it difficult to draw conclusions about its efficacy. Until results from case series are confirmed in prospective studies, the widespread use of HIFU is not supported.Prostate cancer is the most commonly diagnosed noncutaneous cancer and second leading cause of death in men. Many patients with clinically organ-confined prostate cancer undergo definitive treatment of the whole gland, including radical prostatectomy, radiation therapy, and cryosurgery. Active surveillance is a growing alternative option for patients with documented low-volume and low-grade prostate cancer. However, many patients are wanting a less morbid focal treatment alternative. With recent advances in software and hardware of magnetic resonance imaging (MRI), multiparametric MRI of the prostate has been shown to improve the accuracy in detecting and characterizing clinically significant prostate cancer. Targeted biopsy is increasingly utilized to improve the yield of MR detected, clinically significant prostate cancer and to decrease in detection of indolent prostate cancer. MR-guided targeted biopsy techniques include cognitive MR fusion transrectal ultrasound (TRUS) biopsy, in-bore transrectal targeted biopsy using robotic transrectal device, and in-bore direct MR-guided transperineal biopsy with a software based transperineal grid template. In addition, advances in MR-compatible thermal ablation technology allow accurate focal or regional delivery of thermal ablative energy to the biopsy-proved, MRI-detected tumor. MR-guided ablative treatment options include cryoablation, laser ablation, and high-intensity focused ultrasound with real-time or near simultaneous monitoring of the ablation zone. We present a contemporary review of MR-guided techniques for prostatic interventions.Clinical practice guidelines and new treatment techniques are of particular importance for the effective management of prostate cancer. In Europe, the European Association of Urology guidelines offer a regularly updated

evidence-based source of recommendations for the optimal treatment of prostate cancer. This review examines recent changes to guidelines highlighting developments in diagnosis, hormonal therapy in advanced and metastatic disease, bone protection, the definition of new terminology such as castrate-resistant prostate cancer, treatment of relapse after hormonal therapy, and cytotoxic therapy for castrate-resistant prostate cancer. The review also examines new surgical and radiotherapeutic developments in prostate cancer. This includes minimally invasive techniques such as robot-assisted radical prostatectomy, which is becoming the surgical gold standard for clinically localized disease in many countries. Other promising techniques reviewed include cryosurgical ablation of the prostate, laser-induced interstitial thermotherapy, vascular-targeted photodynamic therapy, and high-intensity focused ultrasound; with the exception of cryotherapy, these approaches are not currently recommended for routine clinical use. Finally, we will review the evidence supporting intensity modulated radiotherapy, an optimized high-precision form of three-dimensional conformal radiotherapy which aims to allow homogeneously increased radiation doses, without increased toxicity to healthy at-risk organs. Novel techniques such as proton beam or carbon ion radiotherapy, which may offer improved and more localized dose distribution with reduced damage to normal tissue, are also examined.Purpose of review: The goal of this paper was to review the novel treatment modality of high-intensity transurethral directional ultrasound for prostate cancer.Purpose of review: Prostate cancer screening practices are providing new opportunities for earlier diagnosis, and for identifying smaller tumours with low probability of regional involvement and high likelihood of curability. Simultaneous innovations in tissue ablation technologies offer the potential for effective targeted treatments to discrete areas within the prostate, with negligible side-effects. This review provides an overview of recent data on developing options for prostate cancer ablation, the mechanisms of action of these modalities and results to date of these treatments.Background: High-intensity focused ultrasound (HIFU) is a new modality that can be used for local tumor ablation therapy. In the present study, the expression of human checkpoint kinase2 (Chk2), which may have significant roles in the response to DNA damage after HIFU treatment for prostate cancer, was examined.High-intensity focused ultrasound (HIFU) is a noninvasive treatment option used for localized prostate cancer or salvage surgery after failed radiation therapy. Histological changes in post-treatment needle biopsies are reviewed to better understand HIFU failures. Between 2016 and 2021, 50 patients with localized prostate cancer were enrolled and treated in this study. Of these, 10 patients underwent salvage therapy after radiation failure and 7 did not have post-treatment needle biopsies available for review and were excluded. Inclusion criteria included pathologically confirmed prostate cancer and clinical stage T1/T2 disease. We describe the histological changes in post-treatment needle biopsies as part of routine follow-up. Biopsies were examined for presence, distribution and extent of residual adenocarcinoma, Gleason score, and ablative tissue changes. A total of 33 patients underwent HIFU hemi-ablation treatment of localized prostate cancer as primary treatment with post-treatment biopsies available for review. The average mean age of the patients was 64 years (range, 52-81 years). The average PSA (prostate-specific antigen) level of the patients was 6.3 ng/mL (range, 2.4-14.7 ng/mL). The Gleason scores assigned in pretreatment prostate needle biopsies are as follows: 3 + 3 (1 case, 3%), 3 + 4 (21 cases, 64%), 4 + 3 (9 cases, 27%), and 4 + 4 (2 cases, 6%). In post-treatment needle biopsies, 33 cases (100%) showed variable degrees of fibrosis ranging from mild to moderate. Twenty-four of 33 cases (73%) showed necrosis usually associated with acute and/or chronic inflammation. Histological examination of benign glands revealed glandular heterogeneity including atrophy and basal cell hyperplasia. Eight cases (24%) had residual prostatic adenocarcinoma after treatment, of which 4 cases were assigned Gleason score: ≥3 + 4. In cases with residual adenocarcinoma, 8 cases (100%) showed nuclear enlargement, 5 cases (63%), cytoplasmic vacuolization, and 1 case (13%) showed nuclear pyknosis; otherwise, no discernible effects of treatment were seen. Morphological alterations included a spectrum of changes ranging from extensive coagulative stromal necrosis secondary to thermal injury to atrophic changes in benign prostatic tissue after HIFU treatment. Our findings also support the hypothesis that HIFU failure results from inadequate targeting rather than failure within a treated zone.Purpose: To evaluate tolerance and biochemical control rates of salvage external beam radiotherapy (EBRT) in patients with local relapse from prostate cancer (PC) after high-intensity focused ultrasound (HIFU) as primary treatment.Introduction and aims: High-Intensity Focused Ultrasound (HIFU) represents an alternative choice in mini-invasive treatment of prostate cancer. The technology of the device used to perform the treatment allows to exactly destroy a pre-selected area and to save all the tissues around it. We report our experience on the effectiveness and complications of this tecnique.Prostate cancer is the most

common solid tumor malignancy in men worldwide. Treatment with surgery and radiation can be curative in organ-confined disease. Unfortunately, about one third of men develop biochemically recurrent disease based only on rising prostate-specific antigen (PSA) in the absence of visible disease on conventional imaging. For these patients with biochemical recurrent prostate cancer, there is no uniform guideline for subsequent management. Based on available data, it seems prudent that biochemical recurrent prostate cancer should initially be evaluated for salvage radiation or prostatectomy, with curative intent. In selected cases, high-intensity focused ultrasound and cryotherapy may be considered in patients that meet very narrow criteria as defined by non-randomized trials. If salvage options are not practical or unsuccessful, androgen deprivation therapy (ADT) is a standard option for disease control. While some patients prefer ADT to manage the disease immediately, others defer treatment because of the associated toxicity. In the absence of definitive randomized data, patients may be followed using PSA doubling time as a trigger to initiate ADT. Based on retrospective data, a PSA doubling time of less than 3-6 months has been associated with near-term development of metastasis and thus could be used signal to initiate ADT. Once treatment is begun, patients and their providers can choose between an intermittent and continuous ADT strategy. The intermittent approach may limit side effects but in patients with metastatic disease studies could not exclude a 20% greater risk of death. In men with biochemical recurrence, large studies have shown that intermittent therapy is non-inferior to continuous therapy, thus making this a reasonable option. Since biochemically recurrent prostate cancer is defined by technological limitations of radiographic detection, as new imaging (i.e., PSMA) strategies are developed, it may alter how the disease is monitored and perhaps managed. Furthermore, patients have no symptoms related to their disease and thus many prefer options that minimize toxicity. For this reason, herbal agents and immunotherapy are under investigation as potential alternatives to ADT and its accompanying side effects. New therapeutic options combined with improved imaging to evaluate the disease may markedly change how biochemically recurrent prostate cancer is managed in the future.Introduction: Despite the enthusiasm for an organ preserving approach to prostate cancer treatment, studies that support the supposition that this approach will offer patients the "Trifecta" of prostate cancer therapy are lacking.Globally, the increased uptake of serum PSA level screening led to an increase in the number of diagnoses of low-risk and intermediate-risk prostate cancer. Traditionally, these patients have been considered for either active surveillance programmes or radical whole-gland therapies, such as prostatectomy or radiotherapy. Focal therapy is an emerging treatment option that involves the focal ablation of prostate cancer with preservation of surrounding healthy tissue. This approach might result in reduced morbidity when compared with whole-gland therapies. In current practice, much controversy surrounds optimal patient selection and preoperative tumour localization strategies. Focal therapy modalities include cryotherapy, high-intensity focused ultrasound, laser ablation, photodynamic therapy, irreversible electroporation, radiofrequency ablation and focal brachytherapy. However, as long-term oncological data for focal therapies are lacking, formal recommendations for its use cannot be made.The surgical and non-surgical treatment of localised prostate cancer may be complicated by bladder neck contractures, prostatic urethral stenoses and bulbomembranous urethral strictures. In general, such complications following radical prostatectomy are less extensive, easier to treat and associated with a better outcome and more rapid recovery than the same complications following radiotherapy, high-intensity focussed ultrasound and cryotherapy. Treatment options range from minimally invasive endoscopic procedures to more complex and specialised open surgical reconstruction.In this chapter the surgical management of bladder neck contractures following the treatment of prostate cancer is described together with the management of prostatic urethral stenoses and bulbomembranous urethral strictures, given the difficulty in distinguishing them from one another clinically.The advent of focal therapies theoretically offers new treatment options for patients with localized prostate cancer. The goal of prostate cancer treatment is effective long-term cure with minimal impact on health-related quality of life. Multiparametric MR imaging of the prostate is being increasingly used for diagnosis, image-guided targeted biopsy, guidance for targeted focal and regional therapy, and monitoring the effectiveness of treatments for prostate cancer of all stages. In this article, the use of prostate MRI in the burgeoning domain of thermal ablative therapy for localized and recurrent prostate cancer is reviewed.Purpose of review: High-intensity focused ultrasound (HIFU) has been widely used for whole gland ablation with large series. HIFU induces immediate and irreversible coagulative necrosis with sharply delineated boundaries making HIFU an attractive treatment option for focal therapy of localized prostate. The treatment can be accurately targeted to a portion of the prostate gland. Unlike radiation, there is no lifetime dose limit, allowing HIFU to be repeated if necessary. Additional radical therapy can be

performed involving radical surgery, external beam radiation therapy and cryotherapy. Moreover, HIFU is a minimally invasive therapy that can be performed under spinal anesthesia on an outpatient basis.Pulsed robotic high-intensity focused ultrasound (rHIFU) is an interesting therapeutic option mainly due to its noninvasive character. In urologic oncology, rHIFU is used for the transrectal therapy of prostate cancer. While percutaneous therapy of renal cancer using rHIFU is still being tested in experimental studies, transrectal therapy with rHIFU for prostate cancer is already established in more than 230 urologic departments worldwide. The results of prostate cancer therapy with rHIFU are mainly based on different clinical studies. In 2007 a clinical study comparing rHIFU and cryotherapy for the treatment of prostate cancer was initiated in the USA in order to gain clinical approval by the FDA. The most recent publications concluded that the use of rHIFU is an effective standard treatment for prostate cancer with a broad range of indications in all tumor stages: (1) in the primary treatment of local prostate cancer, (2) in patients with local recurrence after failure of any primary treatment, and (3) as an adjuvant therapy in the palliation of systemic prostate cancer.Purpose of review: Nowadays the treatment paradigm for localized prostate cancer is to distinguish patients with clinically relevant cancers who may benefit from radical treatment, or perhaps an organ-sparing approach, from the remainder who may not need intervention at the time of diagnosis. We review new concepts of parenchymal preservation as possible new frontiers in the treatment armamentarium for this malignancy.Objective: To evaluate health-related quality of life (HRQOL) after salvage high-intensity focused ultrasound (HIFU) for locally radiorecurrent prostate cancer (PCa).Objective: Because prostate cancer local recurrences can be efficiently treated by salvage therapies, it becomes critical to detect them early.Background: High-intensity focused ultrasound (HIFU) is a novel therapy for prostate cancer. Owing to a lack of long-term data, HIFU is recommended for use only in the context of research.High Intensity Focused Ultrasound (HIFU) is a heat based energy source used for tissue ablation. HIFU has several clinical applications and prostate cancer ablation is one of the uses that have been explored for more than a decade. Focal therapy is an alternative treatment option for selected patients with low/intermediate PCa, that is based on complete ablation of tumor within the prostate with preservation of normal parenchyma and better preservation of Genitourinary functions. In spite of PCa being predominantly a multi-centric disease, it is postulated that a specific dominant (large volume) 'index lesion' dictates the biological behavior of the cancer and subsequent lethality of the disease. The use of HIFU for focal ablation of PCa, have demonstrated satisfactory cancer control with fewer morbidity and better preservation of continence and erection. The aim of this article is to present the readers with a brief review of the principles, devices available for clinical uses, published clinical experience and future directions and research opportunities in focal HIFU ablation of prostate cancer.Introduction: Current treatment options for prostate cancer, other than active surveillance, are limited to entire prostate gland destruction through removal (radical prostatectomy), radiation (external beam, brachytherapy, or a combination of both), or thermal ablation (cryoablation, high-intensity focused ultrasound, or radiofrequency). There has been a demand to develop ablative therapies that attempt to reduce treatment burden while retaining cancer control and avoiding the psychological morbidity associated with surveillance.The tremendous progress in engineering and computing power coupled with ultrasound transducer technology and imaging modalities over the past 20 years have encouraged a revival of clinical interest in ultrasound therapy, mainly in High-Intensity Focused Ultrasound (HIFU). So far, the most extensive results from HIFU obtained in urology involve transrectal prostate ablation, which appears to be an effective therapeutic alternative for patients with malignant prostate tumors. Prostate cancer (PCa) is one of the most frequently diagnosed cancers in men. Several treatment options with different therapeutic approaches exist, including HIFU for localized PCa that has been in use for over 15 years. Since the early 2000s, two systems have been marketed for this application, and other devices are currently in clinical trials. HIFU treatment can be used either alone or in combination with (before- or after-) external beam radiotherapy (EBRT) (before or after HIFU) and can be repeated multiple times. HIFU treatment is performed under real-time monitoring with ultrasound or guided by MRI. Two indications are validated today: Primary care treatment and EBRT failure. The results of HIFU for primary care treatment are similar to standard conformal EBRT, even though no randomized comparative studies have been performed and no 10-year follow up data is yet available for HIFU. Salvage HIFU after EBRT failure is increasing with oncological outcomes, similar to those achieved with surgery but with the advantage of fewer adverse effects. HIFU is an evolving technology perfectly adapted for focal treatment. Thus, HIFU focal therapy is another pathway that must be explored when considering the accuracy and reliability for PCa mapping techniques. HIFU would be particularly suited for such a therapy since it is clear that HIFU outcomes and toxicity are

relative to the volume of prostate treated.The multifocal nature of prostate cancer has necessitated whole-gland therapy in the past; however, since the widespread use of PSA screening, patients frequently present with less-advanced disease. Many men with localized disease wish to avoid the adverse effects of whole-gland therapy; therefore, focal therapy for prostate cancer is being considered as a treatment option. For focal treatment to be viable, accurate imaging is required for diagnosis, staging, and monitoring of treatment. Developments in MRI and PET have brought more attention to prostate imaging and the possibility of improving the accuracy of focal therapy. In this Review, we discuss the advantages and disadvantages of conventional methods for imaging the prostate, new developments for targeted imaging, and the possible role of image-guided biopsy and therapy for localized prostate cancer.Background: Focal therapy has been introduced for the treatment of localised prostate cancer (PCa). To provide the necessary data for consistent assessment, all focal therapy trials should be performed according to uniform, systematic pre- and post-treatment evaluation with well-defined end points and strict inclusion and exclusion criteria.Transrectal HIFU ablation has become a reasonable option for the treatment of localized prostate cancer in non-surgical patients, with 5-year disease-free survival similar to that of radiation therapy. It is also a promising salvage therapy of local recurrence after radiation therapy. These favourable results are partly due to recent improvements in prostate cancer imaging. However, further improvements are needed in patient selection, pre-operative localization of the tumor foci, assessment of the volume treated and early detection of recurrence. A better knowledge of the factors influencing the HIFU-induced tissue destruction and a better pre-operative assessment of them by imaging techniques should improve treatment outcome. Whereas prostate HIFU ablation is currently performed under transrectal ultrasound guidance, MR guidance with real-time operative monitoring of temperature will be available in the near future. If this technique will give better targeting and more uniform tissue destruction, its cost-effectiveness will have to be carefully evaluated. Finally, a recently reported synergistic effect between HIFU ablation and chemotherapy opens possibilities for treatment in high-risk or clinically advanced tumors.Background: Focal therapy is an emerging mini-invasive treatment modality for localized prostate cancer aimed to reduce the morbidity associated with radical therapy while maintaining optimal cancer control. We report the mid-term oncological and functional results of primary hemiablation high-intensity focused ultrasound (HIFU) in a prospective cohort of patients.High-intensity focused ultrasound (HIFU) is a minimally invasive therapy applied for prostate cancer that capitalizes on the coagulation necrosis that occurs at temperatures greater than 60°C. Owing to a lack of long-term follow-up data the procedure is still considered experimental treatment. As primary therapy, HIFU is indicated in patients aged ≥70 years with clinical organ-confined disease, although it has also been used, with encouraging results, as first line salvage therapy after definitive treatment, and in locally advanced (T3-4) and non-metastatic hormone-resistant prostate cancer. Morbidity associated with this treatment method appears to be low and includes urinary retention (1-9%), urethral stricture (4-14%), incontinence (1-15%), erectile dysfunction (13-53%) and rectourethral fistulae (0-3%). The risk of complications increases with repeated treatments. A few studies have recently been published on HIFU as focal therapy. HIFU technology can be enhanced using means such as ultrasound microbubble contrast agents for assessment of therapy efficacy, magnetic resonance imaging to guide the enhancement of heat rate, and localized drug and gene delivery.Prostate cancer (PCa) is the most common cancer in men and the second leading cause of death from malignancy in the UK. The number of men diagnosed with PCa is increasing, due in part to an increased willingness of men to visit their family doctors with lower urinary tract symptoms, and also a willingness of physicians to test for it. As the demographic of men diagnosed with PCa becomes younger and better informed, so the demand for a less-invasive alternative to standard therapies becomes greater. The Sonablate-500 is one of only two high-intensity focused ultrasound (HIFU) devices commercially available to treat PCa. HIFU is an attractive treatment option as it is the only form of therapy that neither involves direct instrumentation of the prostate nor ionizing radiation. This article describes the unique features of both the Sonablate-500 system hardware and software, and the outcome data from this device in the context of current standard therapies. Finally, a view into the future attempts to outline where this technology is heading and how a paradigm shift in the way that PCa is considered may make HIFU even more relevant.The stage migration for newly diagnosed prostate cancer, improvements in prostate imaging, and devices capable of inducing subtotal prostate ablation have allowed for the formal study and evaluation of focal therapy for low-risk prostate cancer. Significant limitations remain: 1) the need for more accurate pre-treatment determination of cancer location, extent, and size, 2) determining appropriate methods of post-treatment surveillance and definitions of clinical progression, 3) the uncertainty whether repeat

treatment, by focal or whole-gland therapy, is effective and safe. Clinical trials are ongoing to provide data on the feasibility and reliability of these new therapies, the capability of eradicating cancers, rates of secondary treatment, and impact on urinary and sexual function.Focal therapy (FT) represents a potential shift in clinical practice by featuring a tissue-sparing approach for prostate cancer (PCa) treatment. It stands midway between active surveillance (AS) and more aggressive options like radical prostatectomy (RP) or radiotherapy. The field has enormously evolved in the last few years but there are still pending questions to answer in the future. The manuscript overlooks FT in terms of indications, available energies, situation of tumor microenvironment, follow-up, re-interventions, and the future of this approach for PCa.Introduction: The treatment of localised prostate cancer seeks to minimise the impact on sexual function and urinary continence. In this respect, therapy with high-intensity focused ultrasound offers important results. We present our experience with this technique in 2 Spanish centres.Focal therapy of the prostate is defined as prostate gland ablation aiming at eradication of unifocal low-risk prostate cancer, and preserving uninvolved (peri-) prostatic tissue and therefore quality of life. The major arguments against focal therapy can be classified under the headings of understaging and multifocality. The argument of understaging highlights the importance of the occasional, but troublesome, finding of a large, extraprostatic or high-grade tumor (Gleason score > or = 7) in about a quarter of radical prostatectomy specimens removed from men initially classified as having a low-risk tumor. Indeed, 85% of all prostate cancer cases are multifocal. These concerns can be offset by additional testing: another biopsy, especially a transperineal mapping biopsy, and magnetic resonance imaging (MRI) of the prostate. The technology needed to ablate small regions or sectors of the prostate harboring a known cancer is rapidly becoming available. Cryotherapy is already being used and the preliminary data are encouraging, Ultrasound-guided high-intensity focused ultrasound (HIFU), photodynamic therapy using newly developed light-sensitizing agents, and MRI-guided HIFU are all promising new tools.Purpose: Based on contemporary epidemiological and pathological characteristics of prostate cancer we explain the rationale for and concerns about focal therapy for low risk prostate cancer, review potential methods of delivery and propose study design parameters.Focal therapy (FT) for localized prostate cancer (PCa) is emerging to reduce adverse effects of radical treatments, while maintaining comparable oncological outcomes. However, an area for improvement still exists and a gap in cancer control needs to be filled by complementing FT with additional forms of treatment to minimize failures. Part of the recurrences/persistences after FT may be related to PCa microenvironment favouring tumorigenesis of benign tissue or indolent PCa left untreated. FT-induced inflammation may alter microenvironment in a pro-tumorigenic fashion. On the contrary, androgen deprivation therapy (ADT) modifies PCa microenvironment and suppresses PCa tumorigenesis. So far, ADT has proven effective in combination with radiotherapy, has been evaluated in the context of AS and to reduce prostate volume in the context of whole-gland high-intensity focused ultrasound (HIFU). However, no prospective data exist evaluating FT/ADT combination in terms of cancer control for the treatment of localized PCa. We will perform the ENHANCE pilot study (EvaluatioN of HIFU Hemiablation and short-term AndrogeN deprivation therapy Combination to Enhance prostate cancer control). Twenty men with localized unilateral csPCa will receive HIFU hemi-ablation and concomitant short-term ADT. Oncologic efficacy will be assessed 1-year post-treatment considering the persistence/recurrence of csPCa. Complications and functional outcomes will be evaluated using internationally validated questionnaires. If the hypothesis of an oncological benefit together with no relevant additional toxicity is confirmed, the ENHANCE study will allow an evidence-based starting point for a large randomized controlled trial against the standard of care and/or HIFU hemiablation alone.The standard treatment options for organ-confined prostate cancer are radical prostatectomy and radiation therapy. A number of minimally invasive new technologies have also recently emerged. High-intensity focused ultrasound (HIFU) is considered to be one of the most promising alternative therapies for prostate cancer. The indications for HIFU have recently been expanded to include its use both as a primary therapy for organ-confined prostate cancer as well as for local recurrence of prostate cancer, following radiation therapy. Although experience with the use of HIFU in the salvage setting following failed radiation therapy is limited, there is evidence to support the concept that HIFU offers comparable oncological outcomes to other established salvage treatment options for radiation-recurrent prostate cancer, with potentially less side effects. HIFU should be regarded as a viable alternative, especially for low-to-intermediate-risk cases of radiation-recurrent prostate cancer.Purpose: Defining the site of recurrent disease early after definitive treatment for a localized prostate cancer is a critical issue as it may greatly influence the subsequent therapeutic strategy or patient management.Introduction: Active surveillance for low risk prostate cancer has become an

acceptable management strategy. However, a percentage of these patients in active surveillance move on to active treatment. Our aim was to examine urinary incontinence (UI) rates in men who move on to treatment from active surveillance and compare it to quoted rates in the literature. We examined the question that a potential delay in the treatment of prostate cancer in those on active surveillance may result in an increase in incontinence rates.Objective: To evaluate the value of MRI for surveillance of primary hemi-HIFU therapy for localized PCa in a single-center.Purpose of review: Contrast-enhanced transrectal ultrasound (CeTRUS) is an emerging imaging technique in prostate cancer (PCa) diagnosis and treatment. We review the utility and implications of CeTRUS in PCa focal therapy (FT).Prostate cancer lesions smaller than 0.5 m3, or Gleason pattern 3, are likely clinically insignificant. Clinically significant disease is often limited to a single index lesion. Focal ablation targets this index lesion, maintains oncological control, and minimizes complications by preserving healthy prostate tissue. Template mapping biopsy or multiparametric MRI-targeted biopsies are used to identify appropriate index lesions. Multiple energy modalities have been tested, including high-intensity frequency ultrasound, cryoablation, laser ablation, photodynamic therapy, focal brachytherapy, radiofrequency ablation, irreversible electroporation. Outcome is assessed by biopsy of the target area, triggered by prostate-specific antigen measurements or MRI imaging, or performed per protocol at 12 months.As a result of widespread serum prostate-specific antigen (PSA) screening and prostate cancer awareness, the detection of low-grade prostate cancer has increased. At the moment, it is unclear how to treat patients in this population. Thus, we focused on reviewing therapies for patients in this low risk group. The purpose of this review paper is to present the status of emerging therapies of cryotherapy and high-intensity focused ultrasound (HIFU) in patients with low risk disease. Based on our review of the literature, there are several small-scale studies of these two therapies that have revealed favorable outcomes, but with complications of urinary incontinence and impotence. With further research, these therapies may develop into good alternatives for patients in this expanding group.The optimal strategy for imaging after focal therapy for prostate cancer is evolving. This series is an initial report on the use of contrast-enhanced transrectal ultrasound (TRUS) in follow-up of patients after high-intensity focused ultrasound (HIFU) hemiablation for prostate cancer. In 7 patients who underwent HIFU hemiablation, contrast-enhanced TRUS findings were as follows: (1) contrast-enhanced TRUS clearly showed the HIFU ablation defect as a sharply marginated nonenhancing zone in all patients; (2) contrast-enhanced TRUS identified suspicious foci of recurrent enhancement within the ablation zone in 2 patients, facilitating image-guided prostate biopsy, which showed prostate cancer; and (3) contrast-enhanced TRUS findings correlated with multiparametric magnetic resonance imaging and biopsy histologic findings.We discuss the efficacy and safety of high-intensity focused ultrasound (HIFU) in patients with prostate cancer, to define the best indications for HIFU in daily clinical practice as primary therapy. We searched Medline and Embase for clinical studies evaluating the efficacy and safety of HIFU in prostate cancer (July 2007), and abstracts presented at the 2005-2007 annual meetings of the European Association of Urology and American Urological Association were screened. In all, 37 articles/abstracts were selected. As the data on HIFU as salvage therapy were limited, we focused on HIFU as primary therapy. Studies consisted of case series only. Included patients were approximately 70 years old with T1-T2 N0M0 disease, Gleason Score or=70 years) with T1-T2 N0M0 disease, a Gleason score of <7, a PSA level of <15 ng/mL and a prostate volume of <40 mL. In these patients HIFU achieves short-term cancer control, as shown by a high percentage of negative biopsies and significantly reduced PSA levels. The median-term survival data also seem promising, but long-term follow-up studies are needed to further evaluate cancer-specific and overall survival rates before the indications for primary therapy can be expanded.Focal therapy aims to find a middle ground between surveillance and radical therapies by treating the cancer alone, with a margin, and preserving as much tissue as is practical. Early feasibility studies have demonstrated an absence of rectal toxicity and preservation of genitourinary function in 80-90% of men. The incidence of low- to intermediate-risk prostate cancer is rising owing to informal and formal prostate-specific antigen screening practices. The treatment burden from radical therapies is high with over 50% of men suffering genitourinary or rectal toxicity. Active surveillance, on the other hand, carries surveillance and psychological burden with risk of progression. A research strategy to evaluate focal therapy should be embedded within pragmatic designs using a broad patient group, using the available ablative technologies (cryotherapy, high-intensity focused ultrasound, brachytherapy and photodynamic therapy) with end points derived from biochemical, biopsy and imaging. Within this framework there exists a unique opportunity to undertake landmark diagnostic studies incorporating imaging techniques and biomarkers in addition to studies directed at the biology of prostate cancer over time.Introduction: External Beam Radiation Therapy (EBRT) is one of the

option available for the treatment of clinically localized prostate cancer. In patients with radiorecurrent localized prostate cancer, Androgen Deprivation Therapy (ADT) is one of the most common therapeutic strategies. However, in the last decades, other salvage treatment options have been investigated, such as brachytherapy, cryoablation and High Intensity Focused Ultrasound (Hifu).The objective of this study was to report on technical incidents and early and late complications occurring in high-intensity focused ultrasound (HIFU) treatment of patients with localized prostate cancer. We performed a retrospective review of patients who were treated by Ablatherm at our centre. We recorded all technical incidents, treatment discontinuations and early (<1 month) and late complications. A total of 74 HIFU procedures were performed in 65 patients (55 first-line HIFU treatments and 10 cases of salvage therapy after radiotherapy) over a 5-year period. Median follow-up was 41 months (10-64 months). All the procedures were well tolerated and no intra- or peri-operative deaths occurred. Six technical incidents in the overall population (8.1%) led to discontinuation of the procedure. The early complication rate in patients undergoing first-line HIFU was 36.4%: urinary retention (20%), dysuria (5.4%), urinary infection (3.6%), haematuria (3.6%) and urethral stenosis (3.6%). The late complication rate was 12.7%: urethral stenosis (9%) and dysuria (3.6%). There were no cases of rectourethral fistula. The long-term urinary incontinence rate was 20% and the de novo erectile dysfunction rate was 77.1%. Nine complications (16.4%) required surgical management. The overall complication rate was 49%. Ablatherm is a reliable technique with a relatively high complication rate. However, most complications were minor and required surgical management in a few cases only. Our results confirm that all patients who are offered HIFU treatment should be properly informed of the risks, in particular with regard to continence and sexual function.Purpose of review: While recurrence after primary treatment of prostate cancer (PCa) is not uncommon, there is currently no consensus on the most appropriate management after radiation treatment failure. This article seeks to explore the currently utilized modalities for salvage treatment for radiorecurrent PCa. We focused our review on the oncologic outcomes and reported toxicity rates in the latest studies examining salvage radical prostatectomy (SRP), salvage cryotherapy (SCT), salvage high-intensity focused ultrasound (HIFU) and re-irradiation.Image-guided high-intensity focused ultrasound (HIFU) has been used for more than ten years, primarily in the treatment of liver and prostate cancers. HIFU has the advantages of precise cancer ablation and excellent protection of healthy tissue. Breast cancer is a common cancer in women. HIFU therapy, in combination with other therapies, has the potential to improve both oncologic and cosmetic outcomes for breast cancer patients by providing a curative therapy that conserves mammary shape. Currently, HIFU therapy is not commonly used in breast cancer treatment, and efforts to promote the application of HIFU is expected. In this article, we compare different image-guided models for HIFU and reviewed the status, drawbacks, and potential of HIFU therapy for breast cancer.The use of minimally-invasive ablative therapies in localised prostate cancer offer potential for a middle ground between active surveillance and radical therapy. This article reviews the evidence for cryotherapy, high intensity focused ultrasound (HIFU) and photodynamic therapy in the treatment of localised prostate cancer. These ablative technologies can deliver a minimally invasive, day case treatment with effective early cancer control and low genitourinary morbidity. In addition, all have the ability to deliver focal therapy of only the malignant lesions within the prostate.Background and objectives: Focal high intensity focused ultrasound (HIFU) is an emerging treatment for selected men with localized prostate cancer. A limitation of HIFU is the absence of a reliable tool to measure treatment effect intraoperatively. Contrast-enhanced ultrasound (CEUS) has been shown to be a promising modality for assessing the extent and boundaries of tissue ablation. The aim of this study was to assess the value of CEUS immediately after focal HIFU.Objective: To evaluate the biochemical disease-free survival (DFS), predictors of clinical outcome and morbidity of patients with localized prostate cancer treated with high-intensity focused ultrasound (HIFU), a noninvasive treatment that induces complete coagulative necrosis of a tumour at depth through the intact skin.The International Task Force on Prostate Cancer defines focal therapy (FT) for prostate cancer (PCa) as the therapy that "selectively ablates known disease and preserves existing functions, with the overall objective of minimizing lifetime morbidity without compromising life expectancy". FT for the treatment of PCa has been called the "male lumpectomy", an analogue to women's breast lumpectomy for the treatment of breast cancer. Radical prostatectomy continues to be the most frequently performed treatment for localized PCa, as anatomic knowledge and several technical advances, i.e. the introduction of robotic assisted surgery, have led to successful oncological outcome and lower rates of post-treatment morbidity. However, a proportion of patients still experiences a no negligible sexual, urinary, and bowel morbidity. Although the rationale of active surveillance for low-risk PCa (PSA <10 ng/mL, Gleason grade 6 or less, and clinical stage

T1c-T2a) is sound, only few of newly diagnosed patients elect this approach. Thus, in the recent years the concept of a "subtotal therapy" gained the interest of some urological schools. The aim of this paper is to review the existing literature in order to provide the status of art on FT for PCa. The manuscript will focus on the characteristics of the target population, on the pre-operative evaluation to localise disease, as well as on perioperative, functional, and disease-control following focal therapy.High Intensity Focused Ultrasound (HIFU) is a definitive treatment for localized prostate cancer that is currently utilized most in Europe and Japan but it not yet approved by the FDA for this indication. Within the armamentarium of definitive prostate cancer therapies it is unique as it is truly non-invasive and does not involve incision or excision. The purpose of this paper is to review the scientific foundation of the technology as well as the clinical outcomes of commercially available devices. The scientific foundation of HIFU is reviewed in terms of how it has resulted in the development of commercially available equipment. MEDLINE was used to search the medical literature for publications pertaining to HIFU for prostate cancer as a primary therapy in terms of clinical outcomes. Biochemical disease free rates as well as negative biopsy rates are reviewed. Different engineering optimization strategies in the face of technicalities inherent to HIFU for prostate cancer have led to the development of two distinct commercially available devices. Each has their own merits and limitations. HIFU provides excellent biochemical and local control and results appear to be durable. Clinical outcomes are similar for the two technologies developed but are difficult to compare due to different lengths of follow-up and varying patient populations. HIFU is a technically advanced definitive local therapy for prostate cancer. Short and medium term results are encouraging and its role as a primary therapy for prostate cancer continues to be defined as more results become available.High-intensity focused ultrasound (HIFU) is an emerging, noninvasive, local treatment of prostate cancer with 15 years of clinical experience, during which about 30,000 HIFU treatments have been performed worldwide. In this paper, we review relevant publications regarding the means by which new and old prostate cancer technologies are evaluated, the outcomes of HIFU by Ablatherm (EDAP TMS, Lyon, France), and the evolution currently underway regarding how prostate cancer is diagnosed and treated. We show the potential of HIFU to be used as local therapy for men with any stage of prostate cancer and how this additional therapeutic option can fit within the future armamentarium of a sequential multimodal therapy concept.Background: Owing to the morbidity of established radical treatment options for prostate cancer, alternative whole-gland and focal treatment strategies have emerged. High-intensity focused ultrasound (HIFU) is one of the most studied sources for tissue ablation and has been used since the 1990s.We report medium-term results in men receiving primary whole-gland HIFU (WG-HIFU) and following salvage treatment. One hundred and twenty-eight patients in a single hospital were enrolled. The enrolled patients were treated with WG-HIFU for primary localized prostate cancer. Salvage treatment include androgen deprivation therapy, secondary HIFU and salvage radiation therapy. Our primary outcomes were biochemical recurrence-free survival, salvage treatment-free survival, and metastasis-free survival. Secondary outcomes included urinary incontinence, de novo erectile dysfunction, acute epididymitis, bladder neck contracture, and urethral stricture. The 5-year biochemical recurrence-free survival rates were 85.7%, 82.7%, and 45.2% for D'Amico low-, intermediate-, and high-risk groups, respectively. Multivariate analysis revealed high risk group is the only predictor of significant shorter biochemical recurrence free survival, salvage treatment free survival, and metastasis free survival. Of 38 patients receiving salvage treatment after biochemical recurrence, 29 (76.3%) became free from biochemical recurrence. Rates of the adverse events of urinary incontinence, acute epididymitis, bladder neck contracture or urethral stricture, and de novo erectile dysfunction were 2.3%, 10.9%, 20.3%, 65.6%, respectively. In conclusion, WG-HIFU is an effective treatment option for localised prostate cancer, especially in D'Amico low- and intermediate-risk cases. The success rate of salvage treatment with radiation therapy and secondary HIFU for biochemical recurrence was acceptable. Fewer adverse events were caused by HIFU, especially incontinence and erectile dysfunction, than by radical prostatectomy and radiotherapy.The study investigates a new sonication strategy with high-intensity focused ultrasound (HIFU), aiming for improvement of the original Ablatherm procedure in the prostate cancer treatment. The currently implemented and clinically used method (defined as reference) uses a single-element transducer, operated with 60% duty cycle. To implement the novel strategy, the active surface was split into two sectors, which can be powered either sequentially (for temporal switching) or simultaneously (equivalent to a single-element transducer). Numerical simulations were used to predict the lesion shape and to determine for the novel strategy the best set of treatment parameters among the 99 explored cases. The same pattern for the focal point trajectory was executed irrespectively to the sector activating mode. The theoretical duty cycle reached 100% for the

sector switching strategy. The HIFU device was built MRI compatible, and consisted of two mirror symmetrical sectors operating at 3 MHz, shaped as a truncated spherical cap. The two sonication strategies were experimentally tested on fresh samples of degassed porcine liver, using fast MR thermometry (proton resonance frequency shift method with voxel size 0.85 x 0.85 x 4.25 mm (3), 2 s/dynamic, 0.5 (degrees) C temperature accuracy, two orthogonal slices). A practical value of 87.5% overall duty cycle could be experimentally implemented. The performance of the two sonication strategies was comparatively assessed based on: cumulated thermal dose derived from MR temperature maps, postoperatory MR morphological images sensitive to tissue contrast changes (inversion-recovery T1-weighted turbo spin-echo, voxel size 0.5 x 0.5 x 4 mm (3)) and postoperatory macroscopic tissue examination. Using a sector-switching sonication strategy for prostate cancer treatment-induced lesions of similar size and shape as for the reference approach. When considering the available reserve of duty cycle and the exact lesion size, we concluded the treatment time was reduced by 20% with the new sector switching strategy at equal performance. Further in vivo studies are considered mandatory for preclinical validation.Objective: To study the oncologic and functional results of HIFU as a first-line treatment for localized prostate cancer.Introduction: Prostate cancer is the leading malignancy in men today and an increase in detected localized prostate cancers is expected in the years to come. Even though radical prostatectomy is an effective treatment, it is associated with a considerable morbidity in some cases and efforts are made to provide minimally invasive alternative treatment options with equal efficacy but fewer side effects.Background: Prostate cancer is the second most frequently diagnosed cancer and the sixth leading cause of cancer death in males. A systematic review of randomised controlled trials (RCTs) of radiotherapy and other non-pharmacological management options for localised prostate cancer was undertaken.Introduction: High intensity focused ultrasound (HIFU) is a non-invasive technique that uses focused ultrasound waves to ablate tissue. This retrospective study evaluates the early HIFU experience at a single Canadian center.Objective: High-intensity focused ultrasound (HIFU) is a minimally invasive treatment based on thermal ablation of tissues which are warmed up to 85 degrees C in the focal area. Clinical studies have shown such treatment modality to be safe and effective in the management of localised prostate cancer as well as of local recurrences after radical prostatectomy or radiotherapy.Objectives: To evaluate the long-term outcomes of transurethral resection of the prostate (TURP) immediately after high-intensity focused ultrasound (HIFU) treatment for prostate cancer (CaP).The goal of the study was to establish early hyperpolarized (HP) 13 C MRI metabolic and perfusion changes that predict effective high-intensity focused ultrasound (HIFU) ablation and lead to improved adjuvant treatment of partially treated regions. To accomplish this a combined HP dual-agent (13 C pyruvate and 13 C urea) 13 C MRI/multiparametric 1 H MRI approach was used to measure prostate cancer metabolism and perfusion 3-4 h, 1 d, and 5 d after exposure to ablative and sub-lethal doses of HIFU within adenocarcinoma of mouse prostate tumors using a focused ultrasound applicator designed for murine studies. Pathologic and immunohistochemical analysis of the ablated tumor demonstrated fragmented, non-viable cells and vasculature consistent with coagulative necrosis, and a mixture of destroyed tissue and highly proliferative, poorly differentiated tumor cells in tumor tissues exposed to sub-lethal heat doses in the ablative margin. In ablated regions, the intensity of HP 13 C lactate or HP 13 C urea and dynamic contrast-enhanced (DCE) MRI area under the curve images were reduced to the level of background noise by 3-4 h after treatment with no recovery by the 5 d time point in either case. In the tissues that received sub-lethal heat dose, there was a significant 60% ± 12.4% drop in HP 13 C lactate production and a significant 30 ± 13.7% drop in urea perfusion 3-4 h after treatment, followed by recovery to baseline by 5 d after treatment. DCE MRI Ktrans showed a similar trend to HP 13 C urea, demonstrating a complete loss of perfusion with no recovery in the ablated region, while having a 40%-50% decrease 3-4 h after treatment followed by recovery to baseline values by 5 d in the margin region. The utility of the HP 13 C MR measures of perfusion and metabolism in optimizing focal HIFU, either alone or in combination with adjuvant therapy, deserves further testing in future studies.Background: In men with recurrence of prostate cancer post radiation therapy, further treatment remains a challenge. The default salvage option of androgen-deprivation therapy (ADT) has adverse effects. Alternatively, selected men may be offered salvage therapy to the prostate. Herein, we present long-term oncological outcomes of two whole-gland ablation techniques, cryotherapy (sCT) and high-intensity-focused ultrasound (sHIFU).The objective was to evaluate T2-weighted (T2w) and dynamic contrast-enhanced (DCE) MRI in detecting local cancer recurrences after prostate high-intensity focused ultrasound (HIFU) ablation. Fifty-nine patients with biochemical recurrence after prostate HIFU ablation underwent T2-weighted and DCE MRI before transrectal biopsy. For each

patient, biopsies were performed by two operators: operator 1 (blinded to MR results) performed random and colour Doppler-guided biopsies ("routine biopsies"); operator 2 obtained up to three cores per suspicious lesion on MRI ("targeted biopsies"). Seventy-seven suspicious lesions were detected on DCE images (n = 52), T2w images (n = 2) or both (n = 23). Forty patients and 41 MR lesions were positive at biopsy. Of the 36 remaining MR lesions, 20 contained viable benign glands. Targeted biopsy detected more cancers than routine biopsy (36 versus 27 patients, p = 0.0523). The mean percentages of positive cores per patient and of tumour invasion of the cores were significantly higher for targeted biopsies (p < 0.0001). The odds ratios of the probability of finding viable cancer and viable prostate tissue (benign or malignant) at targeted versus routine biopsy were respectively 3.35 (95% CI 3.05-3.64) and 1.38 (95% CI 1.13-1.63). MRI combining T2-weighted and DCE images is a promising method for guiding post-HIFU biopsy towards areas containing recurrent cancer and viable prostate tissue.Purpose: To assess the added value of the dynamic contrast-enhanced sequence (DCE) to combination T2-weighted imaging (T2w) + diffusion-weighted imaging (DWI) in detecting prostate cancer (PCa) recurrence after HIFU (high-intensity focused ultrasound).Objective: To report our intermediate outcomes of the use of focal ablation for treating significant unilateral prostate cancer. This technique was adopted in our center 10 years ago. With improving diagnostic accuracy of index prostate cancer lesions and a low side-effect profile, use of focal high intensity focused ultrasound (HIFU) ablation is increasing.Background: Focal therapy (FT) for prostate cancer (PCa) seems to be part of a natural evolution in the quest to improve the management of early organ-confined disease.During 2007-2012 748 patients with prostate cancer (PCa) underwent ultrasound ablation (HIFU). Patients were divided into 3 groups according to the prevalence and risk of disease progression: low risk (localized prostate cancer, 465 (62%) of patients) stage T1-2N0M0, total Gleason score < or = 6, the level of prostate-specific antigen (PSA) less than 20 ng/ml), high risk (locally advanced prostate cancer, 251 (34%) of patients)--stage T2-3N0M0, total Gleason score < or = 9, the PSA level from 20 to 60 ng/ml, the presence of local recurrence after radical prostatectomy (RPE) and external beam radiation (EBRT)--32 (4%) patients. Median follow-up after HIFU-therapy was 36 (3-54) months. At 12 and 48 months after treatment in patients with a low risk of progression median PSA was 0.2 and 0.5 ng/ml, in the group with a high risk 0.8 and 1.2 ng/ml, in patients with local recurrence after RPE and EBRT--0.5 and 1.7 ng/ml respectively. Generally HIFU treatment was successful in 90.9% of patients. It is shown that HIFU is safe minimally invasive treatment for localizes and locally advanced prostate cancer. It can be successfully performed in patients with local recurrence after RPE and EBRT.Introduction: Reduced acceptance of radical prostatectomy in patients with low risk or intermediate risk prostate cancer has significantly changed treatment strategies in prostate cancer (PCa) during the last years. Focal therapy of the prostate with high intensity focused ultrasound (HIFU) is an organ-preserving treatment for prostate cancer with less impairment of health-related quality of life. Follow-up after HIFU therapy by imaging modalities remains a major problem as eg. MRI performs poorly. Contrast enhanced ultrasound (CEUS) allows to monitor the vascular architecture of organs non-invasively. However, only limited data are available using CEUS to define successful and complete HIFU treatment of the prostate. In this study, we aimed to evaluate short-term image findings using CEUS and image fusion before and after HIFU treatment.Objectives: To report on the long-term results of high-intensity focused ultrasonography (HIFU) in the treatment of localized prostate cancer.Prostate cancer is the leading malignancy in men; an increase in detected localized prostate cancers is expected in the years to come. Radical prostatectomy, although effective, is associated with a considerable morbidity. The aim of minimal invasive alternative treatment options should be equal efficacy, but a decrease in side effects. Cryosurgical ablation of the prostate, brachytherapy, high-intensity focused ultrasound, and radiofrequency interstitial tumor ablation were evaluated after a literature review from a MEDLINE search (1966-2002). When compared with treatments in the 1960s and 1970s, increased safety is observed in all of the alternative treatments available today. Sophisticated technology, including the latest ultrasonography devices for exact planning and monitoring of treatment, contributes largely to this safety. Five-year results of cryosurgical ablation of the prostate show a prostate-specific antigen lower than 1 ng/mL in 60% of the cases; in the third generation, there are no long-term data available on cryosurgical ablation of the prostate. Recent outcome data of brachytherapy come close to results of radical prostatectomy series. Brachytherapy is the only true alternative at this point in time. High-intensity focused ultrasound and radiofrequency interstitial tumor ablation are promising new technologies that have proven to be able to induce extensive necrosis; however, follow-up is too short to determine their definite places in the treatment of prostate cancer.We reviewed the current salvage methods for patients with local recurrent prostate

cancer after primary radiotherapy (RT), using a search of relevant Medline/PubMed articles published from 1982 to 2008, with the following search terms: 'radiorecurrent prostate cancer, local salvage treatment, salvage radical prostatectomy (RP), salvage cryoablation, salvage brachytherapy, salvage high-intensity focused ultrasound (HIFU)', and permutations of the above. Only articles written in English were included. The objectives of this review were to analyse the eligibility criteria for careful selection of appropriate patients and to evaluate the oncological results and complications for each method. There are four whole-gland re-treatment options (salvage RP, salvage cryoablation, salvage brachytherapy, salvage HIFU) for RT failure, although others might be in development or investigations. Salvage RP has the longest follow-up with acceptable oncological results, but it is a challenging technique with a high complication rate. Salvage cryoablation is a feasible option, especially using third-generation technology, whereby the average biochemical disease-free survival rate is 50-70% and there are fewer occurrences of severe complications such as recto-urethral fistula. Salvage brachytherapy, with short-term cancer control, is comparable to other salvage methods but depends on cumulative dosage limitation to target tissues. HIFU is a relatively recent option in the salvage setting. Both salvage brachytherapy and HIFU require more detailed studies with intermediate and long-term follow-up. As these are not prospective, randomized studies and the definitions of biochemical failure varied, there are limited comparisons among these different salvage methods, including efficacy. In the focal therapy salvage setting, the increased use of thermoablative methods for eligible patients might contribute to reducing complications and maintaining quality of life. The problem to effectively salvage patients with locally recurrent disease after RT is the lack of diagnostic examinations with sufficient sensitivity and specificity to detect local recurrence at an early curable stage. Therefore, a more strict definition of biochemical failure, improved imaging techniques, and accurate specimen mapping are needed as diagnostic tools. Furthermore, universal selection criteria and an integrated definition of biochemical failure for all salvage methods are required to determine which provides the best oncological efficacy and least comorbidity.Focal therapy is a treatment strategy for men with localized prostate cancer that may serve as an alternative option to radical therapy. A number of minimally invasive ablative technologies are available to deliver treatment, and the energies most commonly used include high-intensity focused ultrasound and cryotherapy. The benefit of a tissue-preserving approach is the limitation of damage to key structures such as the neurovascular bundles, external urinary sphincter, rectal mucosa and bladder neck. This in turn minimizes side effects typically associated with radical therapies whilst also aiming to maintain oncological control. Over 30 single-centre studies of focal therapy have been published to date reporting excellent continence rates, good potency rates and acceptable short-term oncological outcomes. However, there are a number of controversial aspects associated with focal therapy including the index lesion hypothesis, patient selection criteria, assessment of treatment effect and the lack of medium- and long-term oncological outcomes. In the process of the adoption of new technology, there is a limited window of opportunity to provide this evidence in well-designed prospective trials. Men should be allowed to benefit from the potential advantages of this novel treatment whilst under close surveillance. An English version of this article is available under dx.doi.org/10.1007/s00120-014-3734-7.High-intensity focused ultrasound (HIFU) treatment has recently been pursued to reduce radical treatment-related morbidity in low-to-intermediate-risk localized prostate cancer (PCa), especially in older men. The aim of this study was to develop a dedicated framework for HIFU therapy. All clinical data, such as risk categories, magnetic resonance with functional parametric imaging, and histopathology, are essential for driving proper HIFU treatment. All needed data can be added to the framework to localize areas that need to be treated. Once PCa areas have been featured, quantified, and located, planning can be adapted to drive accurate HIFU treatment. Our planning framework may be useful for all ablative therapies in order to standardize treatment for both clinical and scientific purposes.Overtreatment of prostate cancer (PC) remains one of the main burdens in uro-oncology. Focal therapy may be a reasonable alternative with less side effects and morbidity. Application of high-intensity focused ultrasound (HIFU) induces immediate and irreversible coagulation. The treatment leads to consecutive necrosis with sharply delineated margins, making HIFU a promising tool for the focal therapy of localized PC. Unlike radiation, the treatment leaves no collateral damage outside of the heated tissue, allowing repeated use of HIFU, if necessary. In case of non-organ-confined relapse, additional radical salvage therapy can be performed. This review gives an overview of the existing evidence on focal HIFU. Today, 3 HIFU devices are approved for the treatment of localized PC: Sonablate™, Ablatherm™ and the FocalOne™ device. In summary, the first published results of focal HIFU are promising. The quality of life and potency of the patients are well preserved. Therefore, HIFU treatment, and especially focal

ablation of tumor foci, seems to be a safe alternative to standard treatment, with low side effects. The oncologic results seem satisfactory but need further follow-up to validate this practice of PC control.Prostate cancer (PrC) is one of the most common tumors diagnosed in men. The detection rate of localized PrC has been dramatically enhanced by screening and the development of visualization methods. There are currently several techniques for focal treatment available, among which the most interesting in our opinion is high-intensity focused ultrasound (HIFU). Currently, HIFU hemiablation of PrC is not an established treatment, although evidence of its effectiveness and safety is growing. We have been performing HIFU hemiablation since 2013 and here report our results to add to the evidence on the effectiveness of the technique. Between October 2013 and December 2016, we performed HIFU hemiablation of the prostate for a total of 35 patients with confirmed PrC stage 20 ng/ml - 8≤ Gleason Score≤ 10 - clinical stage≥T2c), 8 patients intermediate risk (10 PSAnadir+1.2ng/ml) or after adjuvant therapy introduction. All complications were recorded. Of the 14 patients selected, 12 patients underwent HIFU treatments; 2 patients were excluded because of rectal strictures induced by radiotherapy. At a mean 13 months' follow-up, biochemical success rate was obtained in 1 of the high risk patients and in 5 of the low and intermediate risk patients; 1 man died for a disease not correlated with prostate cancer recurrence. Complications included urinary tract infection, acute urinary retentions, urethral strictures and light stress incontinence. In our experience salvage HIFU is a safe treatment option for local relapse after radiotherapy; its efficacy depends on a careful patient selection.Background: High-intensity focused ultrasound (HIFU) is a minimally-invasive treatment for nonmetastatic prostate cancer.Introduction: Long-term outcomes from large cohorts are not yet available upon which to base recommended follow-up protocols after prostate focal therapy. This is an updated summary of a 2015 SIU-ICUD review of the best available current evidence and expert consensus on guidelines for surveillance after prostate focal therapy.Objectives: To evaluate the current status of high-intensity focused ultrasound (HIFU) and cryosurgery as the primary treatment option in patients with prostate cancer.The adoption of routine prostate specific antigen screening has led to the discovery of many small and low-grade prostate cancers which have a low probability of causing mortality. These cancers, however, are often treated with radical therapies resulting in long-term side effects. There has been increasing interest in minimally invasive focal therapies to treat these tumors. While imaging modalities have improved rapidly over the past decade, similar advances in image-guided therapy are now starting to emerge--potentially achieving equivalent oncologic efficacy while avoiding the side effects of conventional radical surgery. The purpose of this article is to review the existing literature regarding the basis of various focal therapy techniques such as cryotherapy, microwave, laser, and high intensity focused ultrasound, and to discuss the results of recent clinical trials that demonstrate early outcomes in patients with prostate cancer.Objective: To assess the short-term outcome in patients with high-risk prostate cancer treated by transrectal high-intensity focused ultrasound (HIFU).What's known on the subject? and What does the study add? The experience with HIFU as a minimally invasive treatment for localized prostate cancer is relatively new and most reports are from European centres. Our study is unique in five regards: 1. Data was collected prospectively. 2. All patients were treated with contemporary technology. 3. Outcomes are reported after a single HIFU session using two definitions of biochemical failure that have the ability to predict longer-term clinical failure after primary ablative therapies for prostate cancer (Stuttgart definition for HIFU and Horwitz definition for radiation). 4. All patients were treated in a single centre. 5. No patients underwent peri-HIFU TURP. The present study represents the largest North American prospective cohort of primary HIFU for prostate cancer with mid-term oncological outcome data.This paper overviews one of the most important, interesting, and challenging problems in oncology, early diagnosis of prostate cancer. Developing effective diagnostic techniques for prostate cancer is of great clinical importance and can improve the effectiveness of treatment and increase the patient's chance of survival. The main focus of this study is to overview the different in-vitro and in-vivo technologies for diagnosing prostate cancer. This review discusses the current clinically used in-vitro cancer diagnostic tools, such as biomarker tests and needle biopsies and including their applications, advantages, and limitations. Moreover, the current in-vitro research tools that focus on the role of nanotechnology in prostate cancer diagnosis have been detailed. In addition to the in-vitro techniques, the current study discusses in detail developed in-vivo non-invasive state-of-the-art Computer-Aided Diagnosis (CAD) systems for prostate cancer based on analyzing Transrectal Ultrasound (TRUS) and different types of magnetic resonance imaging (MRI), e.g., T2-MRI, Diffusion Weighted Imaging (DWI), Dynamic Contrast Enhanced (DCE)-MRI, and multi-parametric MRI, focusing on their implementation, experimental procedures, and reported outcomes. Furthermore, the paper addresses the limitations of

the current prostate cancer diagnostic techniques, outlines the challenges that these techniques face, and introduces the recent trends to solve these challenges, which include biomarkers used in in-vitro lab-on-a-chip nanotechnology-based methods.Objective: To test high-intensity focused ultrasound (HIFU) as salvage first-line treatment for palpable, TRUS-evidenced, biopsy-proven locally recurrent prostate cancer (CaP) after radical prostatectomy (RP).Purpose: Rectourethral fistula is a known complication of prostate cancer treatment. Reports in the literature on rectourethral fistula repair technique and outcomes are limited to single institution series. We examined the variations in technique and outcomes of rectourethral fistula repair in a multi-institutional setting.Purpose: Advances in prostate imaging, biopsy and ablative technologies have been accompanied by growing enthusiasm for partial gland ablation, particularly using high-intensity focused ultrasound, to treat prostate cancer. Preserving noncancerous prostate tissue and minimizing damage to the neurovascular bundles and external urethral sphincter may improve functional outcomes.Objectives: To evaluate the efficacy and safety of High Intensity Focused Ultrasound (HIFU) as salvage treatment after radical radiotherapy in prostate cancer (PC).Biochemical failure after primary external beam radiotherapy for prostate cancer is common, and a significant proportion of these failures are due to local residual or recurrent disease. Early or delayed palliation using androgen deprivation therapy is the most common approach. Although a conservative approach is appropriate for many individuals, selected patients would benefit from retreatment with curative intent. We review the pertinent literature on salvage of locally recurrent prostate cancer after primary radiotherapy, including the modalities of surgery, cryotherapy, high-intensity focused ultrasound, or reirradiation with brachytherapy or stereotactic body radiotherapy. We discuss patient selection, outcomes, and toxicities. Patients with local recurrence and sufficient life expectancy, in the absence of metastatic disease, could be considered for local salvage. Although highly dependent on patient selection, the efficacy of the various salvage options seems comparable, with biochemical-recurrence-free survivals ranging approximately 50% at 5 years. The toxicity profiles differ, but all salvage treatments are more toxic than primary treatment. Management of isolated local failure after radiotherapy remains challenging. However, with the recent progress in salvage techniques, and more sensitive functional imaging for tumor localization and staging, salvage treatments are likely to play an increasingly important role.The target of focal therapy (FT) in prostate cancer (PC) is partial treatment of the prostate aiming at preserving surrounding anatomical structures. The intention is to minimize typical side effects of radical treatment options combined with local tumor control. Numerous established and new technologies are used. Results of published studies showed a good safety profile, few side effects and good preservation of functional results. Oncologic long-term data are lacking so far. Photodynamic therapy (PDT) is the only technology that has been studied in a published prospective randomized trial. The FT is challenged by the multifocality of PC; therefore, the quality of prostate biopsy, histopathological assessment as well as imaging are of paramount importance. Multiparametric magnetic resonance imaging (MRI) has gained increasing importance. The FT is experimental and should only be offered within clinical trials.Purpose: High intensity focused ultrasound for the treatment of primary prostate cancer is increasing in a subset of men seeking definitive treatment with reduced morbidity. We review outcomes in men undergoing salvage radical prostatectomy after failed whole gland high intensity focused ultrasound.High-intensity focused ultrasound (HIFU) has evolved significantly from early work treating cerebral lesions. The ability to treat deep soft-tissue lesions without damaging superficial structures led to it being used for prostate cancer treatment both in the primary and salvage setting. Primary HIFU treatment for prostate cancer leads to 5-year disease free survival rates of up to 70-80% in selected patients with little morbidity; however, comparative studies with established treatment modalities are lacking. Salvage treatment with HIFU leads to significantly more morbidity than primary treatment yet the morbidity appears the same or less than other salvage treatments following external-beam radiation treatment. We believe that with the development of more advanced imaging techniques combined with multimodality prostate imaging that HIFU's future lies in focal treatment of prostate cancer.The aim of this cross-sectional study was to compare single with repeated high-intensity focused ultrasound (HIFU) treatment in patients with localized prostate cancer, regarding treatment-related morbidity. A number of 223 consecutive patients with localized prostate cancer were treated with HIFU. Among them, 174 (78%) patients had one treatment, while 49 (22%) needed a second treatment. The patients' status and treatment-related side effects were followed up. The complications rates after one HIFU in 223 patients were: urinary tract infection 0.4%, chronic pelvic pain 0.9%, infravesical obstruction 19.7%, stressincontinence 7.6%, impotence 49.8%. Among the 49 patients who received a second HIFU therapy, the cumulative incontinence rate (12.2%; $P = 0.024$) and cumulative impotence rate (55%; $P < 0.001$) were

significantly increased. Although there is an increase in morbidity if transrectal HIFU is repeated, the risk of side effects related to additional HIFU sessions in the case of primary treatment failure is still low.Objectives: To report the 10-year oncologic and functional outcomes of whole-gland HIFU as first-line treatment for localized prostate cancer (PCa).This article describes the available focal therapy options for primary treatment of localized PCa, along with their respective outcomes, drawbacks, and applicability.Objectives: • To assess the rationale, efficacy, and morbidity of various methods of achieving focal prostatic ablation. • To determine the current role of focal therapy in the management of localized prostate cancer.Personalizing focal ablation energy for prostate cancer on the basis of cancer location is a novel concept. We propose the use of high-intensity focused ultrasound, cryotherapy, and brachytherapy for posterior, anterior, and apical tumors, respectively, to improve the overall outcome. This concept needs to be verified in prospective studies.Objectives: To report the functional and oncological outcomes of HIFU for prostate cancer using the Ablatherm Integrate Imaging(®) device.Background: There is lack of evaluation of the effect of the treated area on the urinary function after focal therapy. The objectives of the study is to evaluate the effects of focal therapy on urinary function in the anterior portion of the transition zone (TZ) with transrectal high-intensity focused ultrasound (HIFU) for localized prostate cancer (PCa). Methods: From 2016 to 2018, patients who were diagnosed as having localized PCa and treated with focal therapy with HIFU, were included prospectively. The urinary function and complications were evaluated separately in the treated regions of the anterior TZ (TZ group) and other portions (other group) for 12 months. Before and after the treatment, the International Prostate Symptom Score (IPSS), IPSS Quality Of Life (QOL), Overactive Bladder Symptom Score (OABSS), and uroflowmetry were evaluated to assess the urinary function. Results: Ninety patients were included in the study. There was no significant differences in the patients' characteristics between the two groups. At 1 month after the treatment, IPSS ($p = 0.011$), IPSS QOL ($p = 0.002$), OABSS ($p = 0.002$), maximum flow rates ($p = 0.011$), and residual urine volume ($p = 0.011$) in TZ group were significantly deteriorated compared with the other group. Multivariate logistic regression analysis revealed that anterior TZ treatment (odds ratio, 3.386; $p = 0.029$) was an independent risk factor for the deterioration with ≥32% of preoperative status of maximum flow rates. Concerning complication, the rates of Grade 2 urinary retention and Grade 3 urethral stricture were 15.4% and 11.5% in the TZ group and 0% and 0% in the other group, respectively. Conclusions: There was a greater risk of urinary dysfunction with treatment in the anterior TZ portion than in the other portion at 1 month after focal therapy with HIFU.Objectives: To assess the potential factors influencing the occurrence of bladder outlet obstruction (BOO) during follow-up after high-intensity focused ultrasound (HIFU) treatment for localized prostate cancer.Background: For localised prostate cancer, focal therapy offers an organ-sparing alternative to radical treatments (radiotherapy or prostatectomy). Currently, there is no randomised comparative effectiveness data evaluating cancer control of both strategies.Objectives: To report our health-related quality of life (QOL) and functional outcomes following high-intensity focused ultrasound (HIFU) for localized prostate cancer.This article reviews the most current methods and technological aspects of high-intensity focused ultrasound (HIFU), which is termed histotripsy. The rationale for focal therapy for prostate carcinoma rather than prostatectomy, which is being used extensively throughout Europe and Asia, is presented, and an argument for why HIFU is the modality of choice for primary therapy and recurrent disease is offered. The article presents a review of the technical advances including higher ultrasound beam energy than current thermal HIFU which allows for more accurate tissue targeting, less collateral tissue damage, and faster treatment times. Finally, the article presents a discussion about the advantage of ultrasound guidance for histotripsy in preference to magnetic resonance imaging guidance primarily based on cost, ease of application, and portability.Purpose: Local recurrence of prostate cancer after cryosurgery (CS) and high-intensity focused ultrasound (HIFU) is an emerging problem for which optimal management is unknown. Proton therapy (PT) may offer advantages over other local therapeutic options. This article reviews a single institution's experience using PT for salvage of local recurrent disease after HIFU or CS.Purpose: Today, up to one-third of newly diagnosed prostate cancer (PCa) cases may be suitable for focal treatment. The lack of data about the toxicity profiles of lesion-targeting therapies, however, has made it difficult to compare treatment modalities. The aim of the present study was to evaluate comprehensively the incidence, severity, and timing of onset of complications for PCa patients undergoing focal high-intensity focused ultrasound (HIFU) and focal cryosurgical ablation of the prostate (CSAP). Materials and Methods: A total of 336 patients were included who underwent focal HIFU or focal CSAP as a primary treatment for PCa between January 2009 and December 2017. Mean follow-up was 11 months (standard deviation: 3.0). All complications were captured and graded

according to severity, and classified by timing of onset. Univariate and multivariate analysis was performed to identify predictors of the most common side effects. Results: There were 98 complications in 79/210 patients (38%) undergoing focal HIFU and 34 complications in 27/126 patients (21%) undergoing focal CSAP. In terms of severity, 95% of the complications of focal HIFU and 91% of the complications of focal CSAP were minor. Most complications presented in the early postoperative period. On multivariate analysis, subtotal HIFU was associated with acute urinary retention (AUR), while a smaller prostate size and longer catheterization time with dysuria. In CSAP patients, longer catheterization time was associated with AUR and urethral sloughing. The main limitation is the nonrandomized and retrospective nature. Conclusions: Focal HIFU and focal CSAP provide a tolerable toxicity, with primarily minor complications presenting in the early postoperative period.Objective: To determine which pretreatment clinical parameters were predictive of a low prostate-specific antigen (PSA) nadir following high-intensity focused ultrasound (HIFU) treatment.Objective: To assess the long term oncologic results of high-intensity focused ultrasound therapy (HIFU) as a primary and single treatment for clinically localized prostate cancer.Purpose: To prospectively evaluate magnetic resonance (MR) imaging findings after high-intensity focused ultrasound (HIFU) treatment of the prostate and to correlate them with clinical and histologic findings.We report a multicenter trial with transrectal high-intensity focused ultrasound (HIFU) in the treatment of localized prostate cancer. A total of 72 consecutive patients with stage T1c-2NOM0 prostate cancer were treated using the Sonablate 500TM HIFU device (Focus Surgery, Indianapolis, USA). Biochemical recurrence was defined according to the criteria recommended by the American Society for Therapeutic Radiology and Oncology Consensus Panel. The median age and prostate specific antigen (PSA) level were 72 years and 8.10 ng/ml, respectively. The median follow-up period for all patients was 14.0 months. Biochemical disease-free survival rates in all patients at 1 and 2 years were 78% and 76%, respectively. Biochemical disease-free survival rates in patients with stage T1c, T2a and T2b groups at 2 years were 89, 67% and 40% ($p = 0.0817$). Biochemical disease-free survival rates in patients with Gleason scores of 2-4, 5-7 and 8-10 at 2 years were 88, 72% and 80% ($p = 0.6539$). Biochemical disease-free survival rates in patients with serum PSA of less than 10 ng/ml and 10-20 ng/ml were 75% and 78% ($p = 0.6152$). No viable tumor cells were noted in 68% of patients by postoperative prostate needle biopsy. Prostatic volume was decreased from 24.2 ml to 14.0 ml at 6 months after HIFU ($p < 0.01$). No statistically significant differences were noted in International Prostate Symptom Score, maximum urinary flow rate and quality of life analysis with Functional Assessment of Cancer Therapy. HIFU therapy appears to be minimally invasive, efficacious and safe for patients with localized prostate cancer with pretreatment PSA levels less than 20 ng/ml.What's known on the subject? and What does the study add? Focal therapy techniques are emerging in prostate cancer treatment. However, several key questions about patient selection, treatment and monitoring still have to be addressed. The concept of focal therapy is barely discussed in current urological guidelines. In the present manuscript, we report the results of a consensus meeting focused on ultrasonography, the most common used urological imaging method, in relation to focal therapy of prostate cancer. • To establish a consensus on the utility of ultrasonography (US) to select patients for focal therapy. Topics were the current status of US to determine focality of prostate cancer, to monitor and assess outcome of focal therapy and the diagnostic advantages of new US methods. In addition, the biopsy techniques required to identify focal lesions were discussed. • Urological surgeons, radiation oncologists, radiologists, and basic researchers from Europe and North America participated in a consensus meeting on the use of transrectal US (TRUS) in focal therapy of prostate cancer. The consensus process was face-to-face and specific clinical issues were raised and discussed with agreement sought when possible. • TRUS is commonly used and essential for diagnosing men with prostate cancer. It is particularly useful for targeting specific anatomical regions or visible lesions. However, it has several limitations and there is a need for improvement. Newer visualisation techniques, e.g. colour Doppler US, contrast-enhanced US and elastography, are being developed but currently there is no US technique that can accurately characterise a cancer suitable for focal therapy. Systematic biopsy is the only known procedure that allows the identification of prostate cancers suitable for focal therapy. Scarce data exist about the role of US for monitoring patients during or after ablative therapy. • Consensus was reached on all key aspects of the meeting. • US cannot reliably identify focal prostate cancer. New US methods show promising results in identifying prostate cancer focality. • Currently selecting appropriate candidates for focal therapy should be performed using dedicated protocols and biopsy schemes.Background: To evaluate the clinical and oncological outcomes of partial gland ablation (PGA) using high intensity focused ultrasound (HIFU) technique for the clinically unilateral prostate cancer.Purpose: To assess

contrast material-enhanced ultrasonographic (US) findings seen after high-intensity focused ultrasound (HIFU) ablation of prostate cancer and correlate the US findings with post-HIFU biopsy findings.Based on a review of recently published articles, we evaluated the current status of high-intensity focused ultrasound (HIFU) as a primary treatment option for localized prostate cancer and as a salvage therapy when radiation has failed. With mid- and long-term progression-free survival rates around 70%, negative postoperative prostate biopsies almost 90%, and an excellent morbidity profile, primary HIFU appears to be a valid alternative to active surveillance protocols in low-risk patients and standard therapies in patients with life expectancies of 10 or fewer years. Moreover, HIFU has a considerable potential for local-only recurrence after radiation failure. HIFU is a recent technology, and many improvements will undoubtedly expand its future indications and use for the management of prostate cancer.Objective: To assess short- to medium-term cancer control rates and side effects of focal salvage high- intensity focused ultrasound (HIFU).Context: The incidence of localised prostate cancer is increasing worldwide. In light of recent evidence, current, radical, whole-gland treatments for organ-confined disease have being questioned with respect to their side effects, cancer control, and cost. Focal therapy may be an effective alternative strategy.Purpose: To analyse the impact of the presence of extra-target non-clinically significant cancer (NCSC) after high-intensity focused ultrasound (HIFU) hemiablation on oncological results. To analyse radical treatment free survival (RTFS) rates at 2-3 years follow-up.Focused ultrasound holds promise in a large number of therapeutic applications. It has long been known that high-intensity focused ultrasound (HIFU) can kill tissue through coagulative necrosis. However, it is only in recent years that practical clinical applications are becoming possible, with the development of high-power ultrasound arrays and noninvasive monitoring methods. In the last decade, HIFU have been adapted and used to treat localized prostate cancer and it is now commercially available in Europe. In this article, preclinical studies and clinical development of prostate HIFU as well as early clinical results from our center and international studies are reviewed. Early results demonstrated that prostate HIFU is efficient to obtain local control for low- and intermediate-risk localized prostate cancer; however, long-term follow-up is still needed to estimate the efficacy of prostate HIFU in terms of specific cancer mortality. This makes HIFU a viable alternative in patients not candidate for radical therapy.Purpose of review: Progress in imaging, fusion software, and ablative modalities has fostered growth of the latest image-guided generation of high-intensity focused ultrasound (HIFU) for focal treatment of prostate cancer. Although early reports are encouraging, important questions remain regarding candidate selection, treatment, and outcomes. We review contemporary considerations for the use of HIFU for focal treatment of primary and radio-recurrent prostate cancer.Background: Focal therapy (FT) is an option to treat localized prostate cancer (PCa) and preserve healthy prostate tissue in order to reduce known side effects from primary whole-gland treatment. The available FT modalities are manifold. Until now, national and international PCa guidelines have been cautious to propose recommendations regarding FT treatment since data from prospective controlled trials are lacking for most FT modalities. Moreover, none of the international guidelines provides a separate section on FT. In this purpose, we provide a synopsis of the consensus-based German S3 guidelines for a possible international use.The face of prostate cancer has been dramatically changed since the late 1980s when PSA was introduced as a clinical screening tool. More men are diagnosed with small foci of cancers instead of the advanced disease evident prior to PSA screening. Treatment options for these smaller tumors consist of expectant management, radiation therapy (brachytherapy and external beam radiotherapy) and surgery (cryosurgical ablation and radical prostatectomy). In the highly select patient, cancer specific survival employing any of these treatment options is excellent, however morbidity from these interventions are significant. Thus, the idea of treating only the cancer within the prostate and sparing the non-cancerous tissue in the prostate is quite appealing, yet controversial. Moving forward if we are to embrace the focal treatment of prostate cancer we must: be able to accurately identify index lesions within the prostate, image cancers within the prostate and methodically study the litany of focal therapeutic options available.Purpose: We examined the safety and potential efficacy of transrectally delivered high intensity focused ultrasound for the full gland ablation of previously untreated localized prostate cancer.Background: To analyze data on patients with localized prostate cancer who were treated with complete high-intensity focused ultrasound (HIFU) prospectively captured within a voluntary HIFU user database (@-Registry).Background: We evaluated the efficacy and feasibility of high-intensity-focused ultrasound (HIFU) for localized prostate cancer.Prostate segmentation in 3-D transrectal ultrasound images is an important step in the definition of the intra-operative planning of high intensity focused ultrasound (HIFU) therapy. This paper presents two main approaches for the semi-automatic methods based on

discrete dynamic contour and optimal surface detection. They operate in 3-D and require a minimal user interaction. They are considered both alone or sequentially combined, with and without postregularization, and applied on anisotropic and isotropic volumes. Their performance, using different metrics, has been evaluated on a set of 28 3-D images by comparison with two expert delineations. For the most efficient algorithm, the symmetric average surface distance was found to be 0.77 mm.The past decade has brought an improved ability to precisely target and deliver radiation as well as other focal prostate-directed therapy. Stereotactic body radiotherapy (SBRT), proton beam radiation, high-dose-rate (HDR) brachytherapy, as well as nonradiotherapy treatments such as cryoablation and high-intensity focused ultrasound are several therapeutic modalities that have been investigated for the treatment of prostate cancer in an attempt to reduce toxicity while improving cancer control. However, high-risk prostate cancer requires a comprehensive treatment of the prostate as well as areas at risk for cancer spread. Therefore, most new radiation treatment (SBRT, HDR, and proton beam radiation) modalities have been largely investigated in combination with regional radiation therapy. Though the evidence is evolving, the use of SBRT, HDR, and proton beam radiation is promising. Nonradiation focal therapy has been proposed mainly for partial gland treatment in men with low-risk disease, and its use in high-risk prostate cancer patients remains experimental.Objective: To report the oncological outcome of salvage high-intensity focused ultrasound (S-HIFU) for locally recurrent prostate cancer after external beam radiotherapy (EBRT) from a multicentre database.Two devices are currently available for the treatment of prostate cancer with HIFU: Sonablate® and Ablatherm®. The outcomes achieved for primary-care patient are very promissing with mid- and long-term progression-free survival rates around 70%, negative postoperative prostate biopsies almost 85%, and an excellent morbidity profile. Moreover, HIFU has a considerable potential for local recurrence after radiation failure. Recently, some early experiences on focal therapy suggest that HIFU could be an excellent option for highly selected patient.Background: The use of minimally invasive ablative therapies in localised prostate cancer offer potential for a middle ground between active surveillance and radical therapy.Objectives: To investigate the clinical effectiveness of proton magnetic resonance spectroscopy in predicting local recurrence or residual disease after high-intensity focused ultrasound for treatment of localized prostate cancer.Purpose: We report short-term outcomes of focal high intensity focused ultrasound use for primary treatment of localized prostate cancer.Background: We compared the clinical outcomes between whole-gland ablation (WGA) and partial gland ablation (PGA) using the high-intensity focused ultrasound (HIFU) technique for localized prostate cancer (PCa).Objectives: To evaluate the toxicity of therapeutic sequences High Intensity Focused Ultrasound (HIFU)-salvage radiotherapy (HIFU-RT) or radiotherapy-salvage HIFU (RT-HIFU) in case of locally recurrent prostate cancer.High-intensity focused ultrasound (HIFU) is a promising new modality for the treatment of localized prostate cancer (PCa). Follow-up of patients is recommended with biopsies and multiparametric MRI (mpMRI). However, mpMRI in the postinterventional setting is often false-negative. It was our aim to investigate if the new tracer targeting the prostate-specific membrane antigen (68Ga-PSMA-11) could be used to localize recurrent disease with PET/MR in patients with discrepant findings between mpMRI and template biopsies. Methods: Interim analysis was performed of the first 10 patients scanned between September 2016 and May 2018 with positive template biopsy and negative mpMRI after HIFU from an ongoing clinical trial (NCT02265159). All patients underwent 68Ga-PSMA-11 PET/MRI within 3 mo. Four prostatic quadrants were defined, and for every quadrant suspicion for recurrence was rated on a 5-point Likert scale from definitely no recurrence (1) to highly suspected of recurrence (5), with 4 used as a cutoff for suspected disease based on PET/MRI by a masked reader. 68Ga-PSMA-11 uptake of suspected lesions and background areas was measured with the SUVmax The apparent diffusion coefficient values of lesions and background were given for each segment. PET/MRI scans were compared with the template biopsy results, including corresponding Gleason scores (GS), number of positive cores, and tumor length. Results: The quadrant-based sensitivity, specificity, and positive and negative predictive values for PET/MRI were 55%, 100%, 100%, and 85%, respectively. Patient-based PET/MRI was negative in 4 cases with GS 3 + 4 and a tumor length between 0.1 and 3 mm. All tumor lesions with GS 4 + 3 or higher were detected on PET/MRI. Conclusion: Our preliminary results indicate that 68Ga-PSMA-11-PET/MR has the potential to localize PCa recurrence after HIFU occult on mpMRI.Purpose: We report oncologic outcomes in patients treated with focal therapy for prostate cancer.Purpose: The authors sought to determine the diagnostic performance of dynamic contrast-enhanced magnetic resonance (DCE-MR) imaging in the evaluation of prostate cancer before and after transrectal high-intensity focused ultrasound (HIFU) treatment.Purpose: To investigate the occurrence of bladder outlet obstruction

(BOO) after high-intensity focused ultrasound (HIFU) therapy of prostate cancer, the need for secondary transurethral interventions for BOO, and the benefit of transurethral resection of the prostate (TURP) before HIFU.Image-guided tumor ablation refers to a group of treatment modalities that have emerged during the past 2 decades as important tools in the treatment of a wide range of tumors throughout the body. Although most widely recognized in the treatment of hepatic and renal malignancies, the role of thermal ablation has expanded to include lesions of the lung, breast, prostate, bone, as well as other organs and its clinical applications continue to increase. In the following article, we discuss the major thermal ablation modalities, their respective strengths and weaknesses, potential complications and how to avoid them, as well as possible future applications.Objective: To test the feasibility and safety of salvage laparoscopic radical prostatectomy (sLRP) for recurrent prostate cancer after high-intensity focused ultrasound (HIFU) treatment.Background: High-intensity focused ultrasound (HIFU) allows noninvasive heating of deep-seated tissues. Guidance under magnetic resonance imaging (MR-HIFU) offers spatial targeting based on anatomical MR images as well as MR-based near-real-time temperature maps. Temperature feedback allows delivery of a well-defined thermal dose enabling new applications such as the ablation of malignant tissue.Purpose: We determined whether prostate specific antigen criteria after focal high intensity focused ultrasound to treat prostate cancer could diagnose treatment failure.Aim: to study the clinical, morphological and microcirculatory criteria for treatment efficiency and prognosis of local recurrence after HIFU.Background: High-intensity focused ultrasound (HIFU) is a promising treatment method for many common cancers, including prostate cancer. Magnetic resonance image (MRI) guidance of HIFU permits targeting and monitoring of therapy. A prototype MRI-compatible positioning device that navigates a HIFU transducer was designed, fabricated and tested.Objective: To report on the long-term results of high-intensity focused ultrasound in the treatment of localized prostate cancer.Objective: To evaluate the long-term efficacy of high-intensity focused ultrasound (HIFU) therapy for patients with localised prostate cancer.What's known on the subject ? and What does the study add? Transrectal High-Intensity Focused Ultrasound (HIFU) ablation has been used as a minimally invasive treatment for localized prostate cancer for 15 years. Five-year disease-free survival rates of 66-78% have been reported, challenging the results of external-beam radiation therapy. Usually, a 6-mm safety margin is used in the apex to preserve the urinary sphincter and potency. The influence of this 6-mm margin on the results of the treatment has never been assessed. This retrospective study of a cohort of 99 patients who underwent systematic biopsy 3-6 months after HIFU ablation for prostate cancer (with a 6-mm safety margin in the apex) shows that post-HIFU residual cancer is found more frequently in the apex. Therefore, new strategies improving the prostate destruction at the apex while preserving the urinary continence need to be found.Purpose: Over the last years, focal therapy has emerged as an intermediate management technique between radical approaches (radical prostatectomy, external beam radiation, and brachytherapy) and watchful waiting to manage some early stage prostate cancers (CaP). Different energy modalities are being developed. The aim of this study is to review these energy modalities and their indications.Localized prostate cancer is one of the success stories of modern oncology, with radical treatments offering long-term cancer-specific survival for most patients. In fact, most men with this condition die from nonprostate cancer diseases rather than from their prostate cancer. Open radical prostatectomy has been the gold standard radical treatment for localized prostate cancer, but a new dawn is emerging. Novel minimally invasive modalities are now available, and include both minimally invasive prostatectomy as well as newer energy sources such as high-intensity focused ultrasound. This review summarizes these newer technologies, in terms of technique, as well as both oncological and functional outcomes to date. The ultimate goal of such novel minimally invasive modalities is to continue to improve on the functional outcomes without compromise to the oncological results of the gold standard.Objective: In this study, we explored the use of mechanical high intensity focused ultrasound (M-HIFU) as a neo-adjuvant therapy prior to surgical resection of the primary tumor. We also investigated the role of signal transducer and activator of transcription 3 (STAT3) in M-HIFU elicited anti-tumor immune response using a transplant tumor model of prostate cancer.Introduction: The management of Prostate cancer (PC), since PSA testing has been introduced in the clinical practice, has been significantly spoiled by a "leading-time bias" effect. As a consequence, this has brought to a dramatic diagnosis anticipation at the 4th-5th decade of life in sexually active and otherwise asymptomatic men. Standard options as radical prostatectomy or EBRT are hampered by a significant negative impact on patient's QoL. More recently several alternative minimally-invasive ablative treatment modalities have been proposed with promising results. Among these, TR-HIFU (Trans-Rectal High Intensity Focused Ultrasound) is playing a growing role in the treatment of localized

low-intermediate risk PC, although long-term oncologic outcome are still awaited. In order to achieve an optimal result, a specific TR-HIFU's requirement is given by an unchanging target throughout the whole procedure. Therefore, the ideal anaesthesia should be either minimally-invasive and allow to get a motionless target up to 3-4 hours. A retrospective evaluation of efficacy and safety of a spinal anaesthesia in this patient's setting was done.Purpose: MRI-guided transurethral ultrasound ablation (TULSA) uses real-time MR thermometry feedback to target prostate disease. We systematically review the literature to synthesize efficacy, functional, and safety outcomes and assess the influence of planned ablation fraction on outcome. Materials and Methods: PubMed, Embase, and the Cochrane Library were searched from inception to June 2021 following Preferred Reporting Items for Systematic Reviews and Meta-analyses (PRISMA) guidelines. Studies reporting at least one efficacy, functional, or safety outcome after a single TULSA treatment were included. The relationship of freedom from salvage treatment and potency preservation with planned ablation volume was modeled. Results: Two hundred twenty-four patients were treated in 10 studies with up to a 5-year follow-up, mainly for primary localized prostate cancer (PCa) plus smaller cohorts with recurrent PCa, and locally advanced PCa (LAPC). The prostate-specific antigen decline from baseline up to 2 years, including focal to whole-gland ablation plans, was 54% to 97%. The rate of salvage treatment after one TULSA treatment for primary PCa was 7% to 17%. Continence and potency preservation were from 92% to 100% and from 75% to 98%. Urinary symptoms were stable in men with good voiding function at baseline, and 85% of men with concurrent PCa and lower urinary tract symptoms met the criteria for improvement. Symptom relief in a small cohort of men with LAPC was observed. Grade III adverse events were incurred by 13/224 men (6%), with no rectal injury/fistula or Grade IV complication. The planned ablation fraction was linearly related to salvage-free survival. The relationship between potency preservation and planned ablation fraction followed a sigmoid curve. Conclusions: As an alternative to conventional treatments, TULSA is safe and effective for prostate tissue ablation in men with primary PCa. There is also evidence that TULSA delivers effective relief of urinary symptoms while treating PCa in a single, low-morbidity procedure. The likelihood of freedom from additional treatment or potency preservation is associated with the planned ablation fraction.Purpose: We report outcomes of hemigland high intensity focused ultrasound ablation as primary treatment for localized prostate cancer in the United States.Treatment options for prostate cancer are currently widely discussed in the media and by urologic associations. International studies showed that current treatment options may significantly affect the quality of life (including incontinence and erectile dysfunction) while only offering marginal survival benefits. Low to medium risk patients in particular don't seem to be ideal candidates for radical treatment by surgery of radio therapy. For this large group of patients focal therapy offers additional valuable treatment option. Malignant prostate tissue can be specifically ablated by High-Intensity Focused Ultrasound (HIFU). Thus, the cancer can be controlled without removing the whole prostate and with minimal side effects. Multimodal magnetic resonance tomography, specific biopsies and monitoring contribute to the safety of this new treatment strategy.Transrectal high intensity focused ultrasound (HIFU) as a minimal invasive treatment approach of localized prostate cancer was evaluated concerning its efficacy and security. Post-operative monitoring included PSA-levels and histological results of control random biopsies. Seventy-three HIFU sessions were performed on 62 patients during the period from November 1997 to April 2000. Patients were classified in 4 indication groups: 1) localized prostate cancer, T1-T2, initial PSA < 15 ng/ml, Gleason score < 7, volume < 30 cc, no more than 4 of 6 random biopsies affected by cancer, not suitable for radical prostatectomy; 2) localized prostate cancer, T1-T3, no PSA or Gleason score limitation; 3) local recurrence after first line therapy (RPE, radiation, hormonal ablation); 4) for local debulking. Mean plus or minus standard deviation for patient age was 67.5 +/- 7.48 years, for PSA was 7.64 +/- 5.26 ng/ml and for prostate volume was 21.3 +/- 7.9 cc. Median follow up was 15 months (range 5-29) and included PSA development, control sextant biopsies and transrectal color coded duplex sonography (TCCDS) at 1, 3, 6, 12 and 24 months. At least 1 control biopsy result was available in 48 patients. We evaluated the therapy in 3 categories: 1) group 1 (complete response) included 33/48 patients (68.7%) with no residual cancer and PSA < 4 ng/ml; 2) group 2 (biochemical control) 8/48 patients (16.7%) with small residual cancer and PSA < 4 ng/ml; 3) group 3 (failure) 7/48 patients (14.6%) with residual cancer and PSA > 4 ng/ml (4 of them received hormone therapy). As major complications 2 urethrorectal fistulas occurred, both in post-radiation patients, 3 stress-incontinences II-III after TUR post HIFU. In 20 patients (32.3%) transurethral manoeuvres were necessary to remove obstructive necrotic tissue or because of bladderneck or urethral strictures. 11 of these patients were among the first 20 treated patients. Regarding the individual learning curve about technique, indication and the technical

developments HIFU treatment can currently be considered as a valid alternative treatment strategy for patients with localized prostate cancer, who are not suitable for radical surgery. HIFU treatment can be repeated depending on biopsy result and PSA development. Local control of the localized prostate cancer was observed in group 1 and 2 (85%).Introduction: Despite no consensus on the optimal management of recurrent prostate cancer after primary radiation or HIFU therapy, salvage prostatectomy (sRP) is reserved for only 3% of patients because of technical challenges and frequent post-operative complications. We assessed outcomes after sRP in a series of patients with localized PCa and that had received radiation therapy or HIFU as a first-line treatment.High-intensity focused ultrasound (HIFU) can locally ablate biological tissues such as tumors, i.e., induce their rapid heating and coagulative necrosis without causing damage to surrounding healthy structures. It is widely used in clinical practice for minimally invasive treatment of prostate cancer. Nonablative, low-power HIFU was established as a promising tool for triggering the release of chemotherapeutic drugs from temperature-sensitive liposomes (TSLs). In this study, we combine ablative HIFU and thermally triggered chemotherapy to address the lack of safe and effective treatment options for elderly patients with high-risk localized prostate cancer. DU145 prostate cancer cells were exposed to chemotherapy (free and liposomal Sorafenib) and ablative HIFU, alone or in combination. Prior to cell viability assessment by trypan blue exclusion and flow cytometry, the uptake of TSLs by DU145 cells was verified by confocal microscopy and cryogenic scanning electron microscopy (cryo-SEM). The combination of TSLs encapsulating 10 μM Sorafenib and 8.7W HIFU resulted in a viability of less than 10% at 72 h post-treatment, which was significant less than the viability of the cells treated with free Sorafenib (76%), Sorafenib-loaded TSLs (63%), or HIFU alone (44%). This synergy was not observed on cells treated with Sorafenib-loaded nontemperature sensitive liposomes and HIFU. According to cryo-SEM analysis, cells exposed to ablative HIFU exhibited significant mechanical disruption. Water bath immersion experiments also showed an important role of mechanical effects in the synergistic enhancement of TSL-mediated chemotherapy by ablative HIFU. This combination therapy can be an effective strategy for treatment of geriatric prostate cancer patients.Purpose: High intensity focused ultrasound is a minimally invasive treatment option for prostate cancer. Data from the literature show promising early oncological outcomes and a favorable side effect profile. This study is a preliminary report of the Italian experience (Perugia and Turin) of patients treated with the Sonablate(R)500 high intensity focused ultrasound device.Introduction: High-intensity focused ultrasound (HIFU) has proved to be effective in the treatment of localized prostate cancer. The aim of this prospective study is to assess their first oncological and functional results in an Afro-Caribbean population.Currently, the choice of tactics of treatment of the patient with prostate cancer (PCa) requires to take into account the degree of differentiation and stage of tumor, age of the patient and his somatic diseases, the risk of complications, as well as the patient's desire and physician's experience. Due to the progressive development of medical technology, interest in minimally invasive treatments for prostate cancer, such as cryoablation, interstitial brachytherapy and HIFU-therapy, has grown. Cryoablation of the prostate gland is a tissue ablation by local effects of very low temperatures and is minimally invasive, highly effective treatment for prostate cancer that can be used as the primary treatment, and in the case of tumor recurrence after radiotherapy. Focal cryoablation of the prostate allows to selectively destroy the known tumor with preservation of organ function and without reducing the quality of life of the patient. Focal therapy for prostate cancer is an alternative to radical treatment and active surveillance, occupying an intermediate position between them. Due to the lack of long-term results, focal cryoablation is an experimental type of treatment. First cryoablation of the prostate using modern equipment was carried out in Russia in March 2010, at the Department of Urology MSMSU. Since that time, we performed this procedure in 122 patients with prostate cancer; cryoablation was primary treatment in 110 patients and was used as salvage treatment in 12 patients. In most cases, the operation was performed under epidural or spinal anesthesia. According to the protocol, all the patients underwent 2 cycles of freezing and thawing under transrectal ultrasound guidance. A significant improvement of equipment for cryosurgery, the use of cryoneedles with smaller diameter, and the use of temperature sensors and catheters to warm the urethral mucosa have allowed to minimize the number of complications in comparison with other methods of treatment of prostate cancer and achieve a high disease-free survival. Our prospective study was aimed to analyze our own results cryoablation of the prostate gland.Objectives: To compare the specificity and sensitivity of different definitions of biochemical failure in patients treated with high-intensity focused ultrasound (HIFU) for prostate cancer, to identify the most accurate predictor of clinical failure after HIFU.Context: Although magnetic resonance imaging (MRI) is emerging as the most commonly used imaging modality for prostate cancer

(PCa) detection, treatment planning, and follow-up, its acceptance has not been uniform. Recently, great interest has been shown in multiparametric MRI, which combines anatomic T2-weighted (T2W) imaging with MR spectroscopic imaging (MRSI), dynamic contrast-enhanced MRI (DCE-MRI), and diffusion-weighted imaging (DWI).The current treatment algorithms for management of localized prostate cancer are mainly extirpative in nature. Treatment varies from expectant management to radical prostatectomy or radiation therapy. However, the ever-increasing emphasis on achieving the best survival benefit while better preserving quality of life, coupled with the introduction of new, safer, and efficacious minimally invasive ablative technologies, has led to the increased popularity of minimally invasive treatment (MIT). MIT refers to the use of a wide range of techniques for local target ablation of the prostate gland with minimal damage to the surrounding tissue. Currently these include cryotherapy and high-intensity focused ultrasound. However, other experimental technologies such as photodynamic therapy, interstitial prostate brachytherapy, and microwave and radiofrequency interstitial tumor ablation are also currently under investigation in early clinical trials. To date, the overall interim results for these relatively new modalities of treatment appear comparable to those for surgical and radiation therapies. However, randomized, controlled studies are needed to support use of these modalities as an alternative to surgery and radiation. In this review, we will address the current rationale for and knowledge of MIT with regard to its safety and efficacy in the treatment of localized prostate cancer. In addition, we will discuss future promising tools in MIT such as photodynamic therapy and the target focal therapy approach as a new trend for the treatment of organ-confined low-volume disease.Objective: To report on the short-term functional and oncological results, from one institution, of high-intensity focused ultrasound (HIFU) for treating localized prostate cancer.Objectives: To assess the potential efficacy of the effects of neoadjuvant hormonal therapy on high-intensity focused ultrasound (HIFU) in the treatment of localized prostate cancer.Purpose: Men with localized prostate cancer currently face a number of treatment options that treat the entire prostate. These can cause significant sexual and urinary side effects. Focal therapy offers a novel strategy that targets the cancer rather than the prostate in an attempt to preserve tissue and function.Objective: To report the oncological and functional outcomes of salvage hemiablation high-intensity focused ultrasound (HIFU) in patients with unilateral radio-recurrent prostate cancer.The study was aimed to the assessment of the effectiveness of treatment for prostate cancer using high-intensity focused ultrasound on the basis of clinical, radiation, laboratory data, and results of morphometric and immunohistochemical study of postoperative prostate biopsies. 112 sessions of HIFU-ablation of the prostate in 112 patients with localized prostate cancer were performed. Average number of impulses of action--634 +/- 176, the average volume of tissue exposed--34.6 +/- 15.2 cm3 per 1 session. The operative time ranged from 90 to 165 min (mean 125 min). The postoperative hospital stay ranged from 7 to 14 days (average 10 +/- 0.8 days). Intraoperative complications during HIFU-ablation were not observed. The average level of prostate-specific antigen 1,5 months after surgery was 0.7 (0.12-3.67) ng/ml. Minimum level of prostate-specific antigen was reached 20 +/- 2 weeks after treatment, and the average level was 0.26 +/- 0.01 ng/ml. 6 months after, prostate volume decreased by an average of 49%; 10-12 months after intervention, prostate volume was 6.5 +/- 2.2 cm3. Morphological analysis after treatment included studies with standard and immunohistochemical staining using the following antibodies: PCNA, Bcl2, AMACR, E-cadherin, ANDR. Recurrence-free course was observed in 96 (85.8%) patients. Recurrences were detected in 16 (14.2%) patients, with biochemical progression in 11 (9.82%) patients. Local recurrence (morphologically confirmed) was diagnosed in 5 (4.46%) patients.Objective: To evaluate the clinical effect of transrectal high-intensity focused ultrasound (HIFU) in the treatment of prostate cancer (PCa).Objectives: To identify predictive factors of biochemical recurrence for patients undergoing high-intensity focused ultrasound treatment for localized prostate cancer.Background: Magnetic resonance imaging (MRI)-guided transurethral ultrasound ablation (TULSA) is an emerging method for treatment of localized prostate cancer (PCa). TULSA-related subacute MRI findings have not been previously characterized.Background: Magnetic resonance imaging-guided transurethral ultrasound ablation (MRI-TULSA) is a novel minimally invasive technology for ablating prostate tissue, potentially offering good disease control of localized cancer and low morbidity.Focal therapy (FT) for prostate cancer (PCa) is emerging as a novel therapeutic approach for patients with low- to intermediate-risk disease, in order to provide acceptable oncological control, whilst avoiding the side effects of radical treatment. Evidence regarding the ideal follow-up strategy and the significance of prostate-specific antigen (PSA) kinetics after treatment is needed. In this study, we aimed to assess the value of the percentage of PSA reduction (%PSA reduction) after FT in predicting the likelihood of any additional treatment or any radical treatment. We retrospectively analysed a multicentre cohort of 703

men receiving FT for low- and intermediate-risk PCa. Overall, the rates of any additional treatment and any radical treatment were 30% and 13%, respectively. The median follow-up period was 41 mo. The median %PSA reduction after FT was 73%. At Cox multivariable analysis, %PSA reduction was an independent predictor of any additional treatment (hazard ratio [HR]: 0.96; $p < 0.001$) and radical treatment (HR: 0.97; $p < 0.001$) after FT. For %PSA reduction of>90%, the probability of any additional treatment within 5 yr was 20%. Conversely, for %PSA reduction of <10%, the probability of receiving any additional treatment within 5 yr was roughly 70%. This study is the first to assess the role of %PSA reduction in the largest multicentre cohort of men receiving FT for PCa. Given the lack of standardised follow-up strategies in the FT field, the use of the %PSA reduction should be considered. PATIENT SUMMARY: The percentage of prostate-specific antigen reduction is a useful tool to assess men following focal therapy (FT). It can assist the urologist in setting up an appropriate follow-up and during post-FT patient counselling.Prostate cancer continues to have a negative impact on the duration and quality of life for males and their families. MRI is transforming the pathway of prostate cancer detection, diagnosis, staging, and surveillance, backed by multiple Level 1 studies and robust reporting standards. This evolving paradigm of MRI-directed care is now being expanded to include in-bore MRI-guided prostate tissue ablation techniques, which reduce the burden of genitourinary complications associated with standard-of-care treatments, without sacrificing cancer control. The workflow for MRI-guided transurethral ultrasound ablation relies on intraprocedural MRI guidance for treatment planning, automated and physician-monitored treatment delivery, and post-treatment assessment at both immediate and long-term time points. Our early experience has identified several procedure refinements, and aligns with early evidence from prospective clinical studies using transurethral ultrasound ablation for treatment of patients with either primary or recurrent disease. Driven by quantitative real-time imaging, MRI-guided ablative interventions provide rich datasets for developing technical refinements and predictive models that will progressively improve patient outcomes as these novel techniques become part of a new standard-of-care.Objectives: To report the functional and oncological outcomes of HIFU for prostate cancer in patients with a history of severe colorectal disease.The prostate cancer is one of the most often cancers amongst males. Its frequency is increasing with age. Thanks to widespread of screening denomination of specific prostate specific antigen (PSA), ultrasonography including the one in transrectal (TRUS), computed tomography, magnetic resonance and especially the awareness of society, the number of patients with low local advance of illness is increasing. The basic method of treatment in such cases is still the surgical removal of prostate with seminal bladder or radiotherapy. To this purpose tele-(IMRT, VMAT) or brachytherapy (J125, Ir192, Pa103) is used. In patients with higher risk of progression the radiotherapy may be associated with hormonotherapy (total androgen blockage-LH-RH analog and androgen). Despite numerous clinical researches conducted there is still no selection of optimal sequence of particular methods. Moreover, no explicit effectiveness was determined. The general rule of treatment in patients suffering from prostate cancer still remains individual selection of therapeutic treatment depending on the age of a patient, general condition and especially patient's general preferences. In case of elderly patients and patients with low risk of progression, recommendation of direct observation including systematical PSA denomination, clinical transrectal examination, TRUS, MR of smaller pelvis or scintigraphy of the whole skeleton may be considered.Purpose: To evaluate pre-operative prognostic risk factors to predict oncologic outcome of Salvage High-Intensity Focused Ultrasound (S-HIFU) for radiorecurrent prostate cancer (PCa).The purpose of this study is to evaluate the efficacy of the enhancement of docetaxel by pulsed focused ultrasound (pFUS) in combination with radiotherapy (RT) for treatment of prostate cancer in vivo. LNCaP cells were grown in the prostates of male nude mice. When the tumors reached a designated volume by MRI, tumor bearing mice were randomly divided into seven groups (n = 5): (1) pFUS alone; (2) RT alone; (3) docetaxel alone; (4) docetaxel + pFUS; (5) docetaxel + RT; (6) docetaxel + pFUS + RT, and (7) control. MR-guided pFUS treatment was performed using a focused ultrasound treatment system (InSightec ExAblate 2000) with a 1.5T GE MR scanner. Animals were treated once with pFUS, docetaxel, RT or their combinations. Docetaxel was given by i.v. injection at 5 mg kg(-1) before pFUS. RT was given 2 Gy after pFUS. Animals were euthanized 4 weeks after treatment. Tumor volumes were measured on MRI at 1 and 4 weeks post-treatment. Results showed that triple combination therapies of docetaxel, pFUS and RT provided the most significant tumor growth inhibition among all groups, which may have potential for the treatment of prostate cancer due to an improved therapeutic ratio.Background: We aimed to evaluate oncological and functional outcomes of index lesion HIFU ablation with Focal-One®.The National Comprehensive Cancer Network guidelines currently endorse salvage local therapy as a reasonable

alternative to observation or androgen-deprivation therapy for select men with a biopsy-proven local recurrence after definitive radiation for prostate cancer. Patients being considered for salvage therapy should have had localized disease at presentation, a prostate-specific antigen < 10 at recurrence, a life expectancy >10 years at recurrence, and a negative metastatic workup. In this systematic review, we synthesize the current literature describing the oncologic efficacy and toxicity profile of salvage brachytherapy, prostatectomy, cryotherapy, and high-intensity focused ultrasound. We found 5-year biochemical control rates to be similar across treatments, in the range of 52%-56%, although patient selection and definition of failure was variable. Toxicity profiles were also distinct between local salvage modalities.Interest in focal therapy for prostate cancer has recently been renewed owing to downward stage migration, improved biopsy and imaging techniques, and the prevalence of either unifocal cancer or a dominant cancer with secondary tumors of minimal malignant potential. Several techniques have potential for focal ablation of prostate cancer. Cryotherapy has been used for some time as primary therapy for complete ablation of the prostate or local recurrence after radiotherapy. Enthusiasm for cryotherapy as the primary therapy has been tempered by the uncertainty about complete ablation of the cancer, the frequent persistence of measurable prostate-specific antigen levels after the procedure, and a high rate of erectile dysfunction. Studies have reported "focal ablation" of prostate cancer with cryotherapy, targeting 1 side of the gland to eliminate a cancer confined to that side with less risk of urinary or sexual complications. Whether cryotherapy has sufficient power to eradicate focal cancer and can be targeted with sufficient accuracy to avoid damage to surrounding structures remains to be demonstrated in prospective clinical trials. High-intensity focused ultrasound (HIFU) has been used widely in Europe for complete ablation of the prostate, especially in elderly men who are unwilling or unable to undergo radical therapy. For low- or intermediate-risk cancer, the short- and intermediate-term oncologic results have been acceptable but need confirmation in prospective multicenter trials presently underway. Whole gland therapy with transrectal ultrasound guidance has been associated with a high risk of acute urinary symptoms, often requiring transurethral resection before or after HIFU. Adverse effects on erectile function seem likely after a therapy that depends on heat to eradicate the cancer, but erectile function after HIFU has not been adequately documented with patient-reported questionnaires. HIFU holds promise for focal ablation of prostate cancer. As with cryotherapy, focal HIFU should reduce the adverse sexual, urinary, and bowel effects of whole gland ablation. New techniques are being developed to allow HIFU treatment under real-time guidance using magnetic resonance imaging, which could improve the precision and reduce the adverse effects further. Another promising technique, currently in clinical trials, is vascular-targeted photodynamic therapy, which has been used for whole gland ablation of locally recurrent cancer after radiotherapy and, more recently, for focal ablation of previously untreated cancer. In combination with a new, systemically administered photodynamic agent, laser light is delivered through fibers introduced into the prostate under ultrasound guidance. This technique does not heat the prostate but destroys the endothelial cells and cancer by activating the photodynamic agent. Damage to surrounding structures appears to be limited and can be controlled by the duration and intensity of the light. We have reviewed the principles of focal therapy and these new therapeutic modalities.Aim: To assess the prognostic value of magnetic resonance imaging (MRI) before salvage high-intensity focused ultrasound (HIFU) for locally recurrent prostate cancer after external-beam radiotherapy (EBRT).The treatment of localized prostate cancer with high-intensity focused ultrasound (HIFU) has been researched since the 1990s and today the treatment is an actively used therapy for the disease. HIFU works in two ways to destroy tissue, namely thermal and mechanical effects. The most recent data on the Ablatherm HIFU device come from an international registry (@-Registry) and indicate a 5-year biochemical survival rate of 85%. HIFU is commonly used in conjunction with transurethral resection of the prostate in order to reduce prostate gland size and facilitate effective tissue destruction. An additional benefit of HIFU is that it can be used as salvage therapy after radical prostatectomy and external-beam radiotherapy. A new area of research with HIFU involves focal therapy, where tumor sites within the gland are directly targeted with the objective of reducing morbidity.Objective: To evaluate the ability of contrast-enhanced transrectal ultrasound (CETRUS) scanning for prostate cancer detection in different area, compared with conventional transrectal ultrasound (TRUS).Purpose: To evaluate the efficacy of extracorporeal ultrasound-guided high intensity focused ultrasound (HIFU) based upon data in controlled clinical trials in China.Objectives: To evaluate the oncological and functional outcomes of salvage high-intensity focused ultrasound (S-HIFU) for locally recurrent prostate cancer after low-dose-rate (LDR) brachytherapy.Objective: To establish a consensus on the utility of multiparametric magnetic resonance imaging (mpMRI) to identify patients for focal therapy.Purpose: Focal therapy (FT) offers an alternative

approach for prostate cancer (PCa) treatment in selected patients. However, little is known on its actual establishment in health care reality.High intensity focused ultrasound (HIFU) is rapidly gaining clinical acceptance as a technique capable of providing non-invasive heating and ablation for a wide range of applications. Usually requiring only a single session, treatments are often conducted as day case procedures, with the patient either fully conscious, lightly sedated or under light general anesthesia. HIFU scores over other thermal ablation techniques because of the lack of necessity for the transcutaneous insertion of probes into the target tissue. Sources placed either outside the body (for treatment of tumors or abnormalities of the liver, kidney, breast, uterus, pancreas brain and bone), or in the rectum (for treatment of the prostate), provide rapid heating of a target tissue volume, the highly focused nature of the field leaving tissue in the ultrasound propagation path relatively unaffected. Numerous extra-corporeal, transrectal and interstitial devices have been designed to optimize application-specific treatment delivery for the wide-ranging areas of application that are now being explored with HIFU. Their principle of operation is described here, and an overview of their design principles is given.Purpose: To investigate the treatment outcomes of a single-session high-intensity focused ultrasound (HIFU) using the Sonablate(®) for patients with localized prostate cancer.Ultrasound has been developed for therapeutic use in addition to its diagnostic ability. The use of focused ultrasound energy can offer a non-invasive method for tissue ablation, and can therefore be used to treat various solid tumours. High-intensity focused ultrasound is being increasingly used in the treatment of both primary and metastatic tumours as these can be precisely located for ablation. It has been shown to be particularly useful in the treatment of uterine fibroids, and various solid tumours including those of the pancreas and liver. High-intensity focused ultrasound is a valid treatment option for liver tumours in patients with significant medical co-morbidity who are at high risk for surgery or who have relatively poor liver function that may preclude hepatectomy. It has also been used as a form of bridging therapy while patients awaiting cadaveric donor liver transplantation. In this article, we outline the principles of high-intensity focused ultrasound and its clinical applications, including the management protocol development in the treatment of hepatocellular carcinoma in Hong Kong by performing a search on MEDLINE (OVID), EMBASE, and PubMed. The search of these databases ranged from the date of their establishment until December 2015. The search terms used were: high-intensity focused ultrasound, ultrasound, magnetic resonance imaging, liver tumour, hepatocellular carcinoma, pancreas, renal cell carcinoma, prostate cancer, breast cancer, fibroids, bone tumour, atrial fibrillation, glaucoma, Parkinson's disease, essential tremor, and neuropathic pain.Objective: To study the survival rate of patients without biochemical recurrence according to the Stuttgart and Phoenix criteria in terms of their correlation with four different PSA nadir values as predictors of clinical recurrence in patients with localized prostate cancer who underwent total HIFU prostate ablation.Up to one-third of men can fail radical external beam radiotherapy for primary prostate cancer. Most of these men have expectant management with delayed hormones. However, around half of these men have localised recurrence. Challenges remain in identifying such men accurately, in order to enable them to undergo local salvage therapy which is potentially curative. Currently, this includes radical prostatectomy, brachytherapy and ablative whole-gland therapies, such as cryotherapy and high intensity focused ultrasound, all of which can carry significant morbidity. New approaches may involve targeting the area of recurrence alone--focal salvage therapy--in order to reduce tissue damage and thus reduce morbidity. This requires accurate localisation of intraprostatic recurrent disease and precision targeted ablation.Hormone and radiation therapy have traditionally been used in prostate cancer (PCa). Morphological effects are often identified in needle biopsies and surgical specimens. A range of histological changes are seen in the non-neoplastic prostate and in the pre-neoplastic and neoplastic areas. Other ablative therapies, including cryotherapy, and emerging focal therapies, such as high-intensity focused ultrasound, photodynamic therapy and interstitial laser thermotherapy, may induce changes on the prostate. As new compounds are developed for prostate cancer treatment, it is important to document their effects on benign and neoplastic prostate tissue.WHAT'S KNOWN ON THE SUBJECT? AND WHAT DOES THE STUDY ADD?: High-intensity focused ultrasound (HIFU) is an alternative treatment option for localized prostate cancer (PCa), which is applied for over 15 years. There are conflicting recommendations for HIFU among urological societies, which can be explained by the lack of prospective controlled studies, reports on preselected patient populations and limited follow-up providing little information on overall and cancer-specific survival. We report on a large, unselected consecutive patient series of patients who have undergone primary HIFU for clinically localized PCa with the longest follow-up in current literature. Our results improve the understanding of the oncological efficacy, morbidity and side effects of primary HIFU.Purpose of review: This review

discusses the feasibility, recent advances and current status of in-bore MRI-guided interventional techniques for diagnosis and treatment of focal prostate cancer (PCa) and also explores the future applications, highlighting the emerging strategies for the treatment of PCa.The 3-D transrectal ultrasound (TRUS)-guided prostate biopsy system is a novel device that allows precise needle placement in a template fashion. We evaluate its utility for prostate cancer (PCa) detection. A retrospective analysis was performed evaluating 68 prospective patients at the Duke Prostate Center who underwent a prostate biopsy using a 3-D TRUS-guided system. After creation of a three-dimensional map of the prostate, a computer algorithm identified an ideal biopsy scheme based on the measured dimensions of the prostate. The system then used a fixed template that allowed prostate biopsy at specific locations with the ability to target the same region of the prostate in the future if needed. For all patients, a 12-core biopsy pattern was used to cover medial and lateral areas of the base, mid-gland, and apex. In total, 68 patients underwent 3-D TRUS-guided prostate biopsies between April 2006 and November 2007 for prostate cancer detection. The indication for prostate biopsy was PSA > or = 4.0 ng/ml in 47 (69%) patients, abnormal digital rectal examination (DRE) in 17 (25%), and atypia on previous biopsy in 4 (6%) patients. Prostate cancer was detected in 18 patients (26.5%) and 7 (10.3%) had atypical small acinar proliferation (ASAP). The highest frequency (55.5%) from all cases of cancer detected was identified when 3-D TRUS biopsy was used as the initial biopsy. This study demonstrates that a 3-D TRUS-guided biopsy system translates to a more frequent detection of prostate cancer among patients undergoing an initial prostate biopsy than a subsequent one. More comprehensive studies are warranted to corroborate and extend the results of this study.It seems clear that thermal-based therapies of prostate cancer have the potential to completely eradicate the prostate gland. Technical modifications continue to improve our ability to use these modalities more effectively, which can be seen in the ever decreasing morbidity from damage to adjacent structures. These treatments offer potential major advantages over surgery and radiation-based treatment modalities.Purpose of review: This review is an update on the role of the two minimally invasive techniques in primary therapy of organ-confined prostate cancer: as a salvage option after standard-therapy failure and for focal ablation of index tumors.High intensity focused ultrasound (HIFU) is a method of delivering acoustic energy to a focal point and thus destroying it, causing coagulation necrosis. Repeating the fires, the whole needed volume of organ can be treated without damaging the surrounding tissue. A total of 122 patients with biopsy-proven prostatic cancer (and 2 more patients had only high-grade PIN) have been treated in our clinic for 3.5 years using the Ablatherm device. Seventy one of them entered this study. They were followed up for six months to three years at a regular interval. Follow-up PSA measurements and control sextant biopsies were made. The median PSA nadir 1.5-3.0 months after treatment ranged from 0.10 ng/ml (in low-risk localized prostate cancer group) to 2.50 ng/ml (in patients with disseminated process). Negative control biopsies were registered in 74-77.7% patients with local prostatic cancer and in 60-68% patients with disseminated process. Of all the patients, 90% had undergone transurethral resection of the prostate before HIFU treatment. Such combination improved the efficacy of HIFU and significantly reduced treatment-related morbidity. Urinary stress incontinence grade 2 was observed in 1.6% and grade 3--in 0.8% of all the patients. No other severe complications occurred. The erectile function was preserved in 71.2% patients. Our results demonstrate efficacy and safety of HIFU. HIFU does not exclude other treatment options and can be repeated. HIFU seems to be a valid alternative treatment for patients with contraindications for radical surgery.Objective: Analysis of treatment success regarding oncological recurrence rate between standard and dose escalation focal high-intensity focused ultrasound (HIFU) of prostate cancer. Materials and Methods: In this analysis of our prospectively maintained HIFU (Sonablate® 500) database, 598 patients were identified who underwent a focal HIFU (Sonablate 500) between March 2007 and November 2016. Follow-up occurred with 3-monthly clinic visits and prostate specific antigen (PSA) testing in the first year. Thereafter, PSA was measured 6-monthly or annually at least. Routine and for-cause multiparametric MRI (mpMRI) was conducted with biopsy for MRI suspicion of recurrence. Treatments were delivered in a quadrant or hemiablation fashion depending on the gland volume as well as tumor volume and location. Before mid-2015, standard focal HIFU was used (two HIFU blocks); after this date, some urologists conducted dose escalation focal HIFU (three overlapping HIFU blocks). Propensity matching was used to ensure two matched groups, leading to 162 cases for this analysis. Treatment failure was defined by any secondary treatment (systemic therapy, cryotherapy, radiotherapy, prostatectomy, or further HIFU), metastasis from prostate cancer without further treatment, tumor recurrence with Gleason score ≥7 (≥3 + 4) on prostate biopsy without further treatment, or prostate cancer-related mortality. Complications and side-effects were also compared.

Results: Median age was 64.5 years (interquartile range [IQR] 60-73.5) in the standard focal-HIFU group and 64.5 years (IQR 60-69) in the dose-escalation group. Median prostate volume was 37 mL (IQR 17-103) in the standard group and 47.5 mL (IQR 19-121) in the dose-escalation group. As tumor volume on mpMRI and Gleason score were major matching criteria, these were identical with 0.43 mL (IQR 0.05-2.5) and Gleason 3 + 3 = 6 in 1 out of 32 (3%), 3 + 4 = 7 in 27 out of 32 (84%), and 4 + 3 = 7 in 4 out of 32 (13%). Recurrence in treated areas was found in 10 out of 32 (31%) when standard treatment zones were applied, and in 6 out of 32 (19%) of dose-escalation focal HIFU (p = 0.007). Conclusion: This exploratory study shows that dose escalation focal HIFU may achieve higher rates of disease control compared with standard focal HIFU. Further prospective comparative studies are needed.Purpose: Magnetic resonance imaging-guided transurethral ultrasound ablation uses directional thermal ultrasound under magnetic resonance imaging thermometry feedback control for prostatic ablation. We report 12-month outcomes from a prospective multicenter trial (TACT).Background To reduce adverse effects of whole-gland therapy, participants with localized clinically significant prostate cancer can undergo MRI-guided focal therapy. Purpose To explore safety and early oncologic and functional outcomes of targeted focal high-intensity focused ultrasound performed under MRI-guided focused ultrasound for intermediate-risk clinically significant prostate cancer. Materials and Methods In this prospective phase II trial, between February 2016 and July 2019, men with unifocal clinically significant prostate cancer visible at MRI were treated with transrectal MRI-guided focused ultrasound. The primary end point was the 5-month biopsy (last recorded in December 2019) with continuation to the 24-month follow-up projected to December 2021. Real-time ablation monitoring was performed with MR thermography. Nonperfused volume was measured at treatment completion. Periprocedural complications were recorded. Follow-up included International Prostate Symptom Score (IPSS) and International Index of Erectile Function-15 (IIEF-15) score at 6 weeks and 5 months, and multiparametric MRI and targeted biopsy of the treated area at 5 months. The generalized estimating equation model was used for statistical analysis, and the Holm method was used to adjust P value. Results Treatment was successfully completed in all 44 men, 36 with grade group (GG) 2 and eight with GG 3 disease (median age, 67 years; interquartile range [IQR], 62-70 years). No major treatment-related adverse events occurred. Forty-one of 44 participants (93%; 95% CI: 82, 98) were free of clinically significant prostate cancer (≥6 mm GG 1 disease or any volume ≥GG 2 disease) at the treatment site at 5-month biopsy (median, seven cores). Median IIEF-15 and IPSS scores were similar at baseline and at 5 months (IIEF-15 score at baseline, 61 [IQR, 34-67] and at 5 months, 53 [IQR, 24-65.5], P = .18; IPSS score at baseline, 3.5 [IQR, 1.8-7] and at 5 months, 6 [IQR, 2-7.3], P = .43). Larger ablations (≥15 cm3) compared with smaller ones were associated with a decline in IIEF-15 scores at 6 weeks (adjusted P < .01) and at 5 months (adjusted P = .07). Conclusion Targeted focal therapy of intermediate-risk prostate cancer performed with MRI-guided focused ultrasound ablation was safe and had encouraging early oncologic and functional outcomes. © RSNA, 2021 Online supplemental material is available for this article See also the editorial by Tempany-Afdhal in this issue.Objectives: To determine whether combining short-term neoadjuvant androgen deprivation therapy (NADT) with high-intensity focused ultrasound (HIFU) had a significant benefit in a large population of men with nonmetastatic prostate cancer (CaP).Introduction: To evaluate the feasibility and efficacy of salvage endoscopic extraperitoneal radical prostatectomy (EERPE) in recurrent prostate cancer after failed high intensity focused ultrasound therapy (HIFU), external beam radiotherapy (EBT) and brachytherapy.Purpose: We evaluated the association between long-term clinical outcomes and morbidity with high intensity focused ultrasound.Objective: To explore the association between the prostate-specific antigen (PSA) nadir after transrectal high-intensity focused ultrasound (HIFU) therapy for organ-confined prostate cancer and subsequent treatment failure, as defined by the presence of residual disease at biopsy 6 months after treatment.Purpose of review: Urethral stricture disease is poorly understood in prostate cancer survivors who have undergone radiation or ablative treatments. We review the cause and incidence of urethral strictures (excluding bladder neck contracture) in this setting, as well as risk factors and treatment options.Objective: To explore the effect of neoadjuvant androgen suppression (AS) compared to no AS on cancer-related outcomes after radical high-intensity focused ultrasound (HIFU) therapy for men with presumed organ-confined prostate cancer.Recto-urethral fistula is one of the most serious complications caused by high-intensity-focused ultrasound used as salvage treatment for recurrence of prostate cancer after brachytherapy or external beam radiotherapy (EBRT). We report the case of a recto-urethral fistula in a 68-year-old patient, who previously had undergone radical prostatectomy and EBRT for prostate cancer (pT3 N0 Mx). The fistula was treated conservatively by an indwelling Foley catheter, without the creation of an intestinal

diversion. The fistula was assessed initially by a retrograde and a CT scan of the pelvis with contrast medium and reassessed periodically by means of retrograde urethrograms. To date, 24 months after this episode, no evidence of recurrence of the fistula has been found.Background: Up to a third of patients with localized prostate cancer have unilateral disease that may be suitable for partial treatment with hemiablation.Background: High-intensity focused ultrasound (HIFU) is a nonsurgical therapy for selected patients with localized prostate cancer (PCa).Purpose: We determined the safety and efficacy of whole gland high intensity focused ultrasound in men with radiorecurrent prostate cancer.Introduction: Focal therapy for localized prostate cancer has the potential for oncological control without the side effects of radical therapies. However, there is currently no validated method for monitoring treatment success. We assessed the diagnostic performance of prostate-specific antigen (PSA) parameters and MRI compared to histological outcomes following focal therapy.Background: The aim of this study was to evaluate oncologic outcomes and adverse events for patients with prostate cancer after treatment by high-intensity focused ultrasound (HIFU).Purpose: Focal instead of whole gland ablation for prostate cancer has been proposed to decrease treatment morbidity. We sought to determine differences in erectile function and urinary continence after focal and whole gland ablation for prostate cancer.Prostate cancer (CaP) is the second most common cause of cancer deaths in the United States and the incidence of CaP has remained constant at 165 cases per 100,000 men. Since 1990, the age-adjusted death rate has decreased by 31%. In this article, the authors review the current literature on the experimental therapy for HIFU. The HIFU technique, its mechanism of action, patient selection, current efficacy studies, complications, follow-up after HIFU treatment, and future developments are discussed.Objectives: To evaluate the effects of transrectal compression of the prostate for intra-operative prostatic swelling and intraprostatic point shift during high-intensity focused ultrasound treatment of localized prostate cancer.Purpose: The aim of this study was to conduct a prospective, single-institutional comparison for primary whole-gland cryoablation and high-intensity focused ultrasound (HIFU) in localized prostate cancer with respect to oncological and functional outcomes.Objective: The aim of the study was to compare the oncological and functional outcomes in localized prostate cancer patients who received non-whole-gland high-intensity focused ultrasound (HIFU) with those in patients who received whole-gland HIFU therapy.Objectives: To evaluate in the literature scientific evidence on the use of High-Intensity Focal Ultrasound (HIFU) in the treatment of prostatic carcinoma (PC).We previously developed an ultrasonic elastography imaging system that may provide a simple and cost-effective solution to monitor high-intensity focused ultrasound (HIFU) treatments. The objective of this clinical study was to evaluate the reliability of our system in assessing the volume of HIFU lesions in the prostate, using a comparison with magnetic resonance imaging (MRI). Elastograms were obtained in 20 patients after HIFU treatment for prostate cancer and gadolinium-enhanced T1- and T2-weighted MRI was performed. Lesion boundaries were manually outlined and the volume was calculated. A statistically significant correlation of rho = 0.62 ($p = 0.022$) was found between elastographic and MRI measurements of lesion volume, with elastographic measurements that generally underestimated the volume measured in MRI. Some basic physics (hypoechoic areas) and instrumentation (frame rate and band width) issues that were detrimental to image quality in vivo are reported, along with propositions to improve the technique. Because of these issues and, although good correspondence between elastographic and MRI measurements was found in some patients, elastographic measurements were unable to predict MRI measurements in a single individual. Nevertheless, the results confirmed the potential of elastography for monitoring HIFU treatment of the prostate. Further investigation will be conducted using better suited ultrasound equipment and performing real-time elastogram calculations.Introduction: Focal therapy (FT) of the prostate for low risk prostate cancer (PCa) is an alternative to traditional definite treatment options like external beam radiotherapy or radical prostatectomy. However, follow up after FT is still challenging and is subject to current studies. Significance of imaging after FT such as multiparametric MRI (mpMRI) is currently not well established. In this study, we aimed to evaluate the efficacy of alternative imaging during the follow up of low risk PCa treated with focal HIFU therapy using CEUS and image fusion.We have developed acoustically activated nanodroplets (NDs) using an amphiphilic triblock copolymer, which self-assembles and encapsulates different perfluorocarbons including perfluoropentane (PFP) and perfluorohexane (PFH). Applying histotripsy pulses (i.e., short, high pressure, ultrasound pulses) to solutions of PFP- and PFH-NDs generated bubble clouds at a significantly reduced acoustic pressure compared to the cavitation pressure observed for histotripsy treatment alone. In this report, we summarize the results of combining histotripsy at low frequency (345 and 500 kHz) with PFP-NDs and PFH-NDs on the ablation of PC-3 and C4-2B prostate cancer cells. Using custom built histotripsy

transducers coupled to a microscope and a high speed recording camera, we imaged the generation of a cavitation bubble cloud in response to different ultrasound regimes in solution and in tissue-mimicking gel phantoms. We quantified the associated ablation of individual cancer cells and 3D spheroids suspended in solution and embedded in tissue phantoms to compare the ablative capacity of PFP-NDs and PFH-NDs. Results show that histotripsy pulses at high acoustic pressure (26.2 MPa) ablated 80% of prostate cancer spheroids embedded in tissue-mimicking gel phantoms. In comparison, combining histotripsy pulses at a dramatically lower acoustic pressure (12.8 MPa) with PFP-NDs and PFH-NDs caused an ablation of 40% and 80% of the tumor spheroid volumes, respectively. These results show the potential of acoustically activated NDs as an image-guided ablative therapy for solid tumors and highlight the higher ablative capacity of PFH-NDs, which correlates with the boiling point of the encapsulated PFH and the stability of the formed bubble cloud.Objective: To report medium-term oncological outcomes in men receiving primary focal treatment with high-intensity focused ultrasonography (HIFU) for prostate cancer (PCa).Objectives: To evaluate the efficacy of high intensity focused ultrasound (HIFU) for the treatment of localized prostate cancer in a population of potentially curable patients.In the past two decades, high-intensity focused ultrasound (HIFU) in combination with diagnostic ultrasound (USgFUS) or magnetic resonance imaging (MRgFUS) opened new ways of therapeutic access to a multitude of pathologic conditions. The therapeutic potential of HIFU lies in the fact that it enables the localized deposition of high-energy doses deep within the human body without harming the surrounding tissue. The addition of diagnostic ultrasound or in particular MRI with HIFU allows for planning, control and direct monitoring of the treatment process. The clinical and preclinical applications of HIFU range from the thermal treatment of benign and malign lesions, targeted drug delivery, to the treatment of thrombi (sonothrombolysis). Especially the therapy of prostate cancer under US-guidance and the ablation of benign uterine fibroids under MRI monitoring are now therapy options available to a larger number of patients. The main challenges for an abdominal application of HIFU are posed by partial or full occlusion of the target site by bones or air filled structures (e.g. colon), as well as organ motion. In non-trivial cases, the implementation of computer based modeling, simulation and optimization is desirable. This article describes the principles of HIFU, ultrasound and MRI therapy guidance, therapy planning and simulation, and gives an overview of the current and potential future applications.Purpose: To review the current status of high intensity focused ultrasound (HIFU) therapy in the prostate, in particular the treatment of prostate cancer.Purpose: The FDA (Food and Drug Administration) recently allowed the marketing of 2 high intensity focused ultrasound devices for prostate tissue ablation indications after previous rejections for a prostate cancer indication due to insufficient data on clinical effectiveness or direct patient benefit. We reviewed the safety and effectiveness of high intensity focused ultrasound and knowledge regarding patient preferences, such as tolerance for adverse events associated with high intensity focused ultrasound ablation of tissue, in men with prostate cancer. This may inform decision making for device developers and the FDA.Background: Multiparametric magnetic resonance imaging (mpMRI)/transrectal ultrasound (TRUS) fusion-guided high-intensity focused ultrasound (HIFU) is a focal treatment option for MRI-visible localized prostate cancer (PCa). High-quality evidence regarding the clinical efficacy remains limited.Objectives: To estimate the relative cost-effectiveness of focal high-intensity focussed ultrasound (F-HIFU) compared to active surveillance (AS) in patients with low- to intermediate-risk prostate cancer, in France.Introduction: Urinary tract infections (UTI) represent the most frequent complications after transrectal focal ablation of prostate cancer. Single-shot antibiotic prophylaxis for prevention has not yet been described.Minimally invasive alternatives to traditional prostate surgery are increasingly utilized to treat benign prostatic hyperplasia and localized prostate cancer in select patients. Advantages of these treatments over prostatectomy include lower risk of complication, shorter length of hospital stay, and a more favorable safety profile. Multiparametric magnetic resonance imaging (mpMRI) has become a widely accepted imaging modality for evaluation of the prostate gland and provides both anatomical and functional information. As prostate mpMRI and minimally invasive prostate procedure volumes increase, it is important for radiologists to be familiar with normal post-procedure imaging findings and potential complications. This paper reviews the indications, procedural concepts, common post-procedure imaging findings, and potential complications of prostatic artery embolization, prostatic urethral lift, irreversible electroporation, photodynamic therapy, high-intensity focused ultrasound, focal cryotherapy, and focal laser ablation.Current and emerging three- and four-dimensional medical imaging modalities, along with development of efficient 3-D computer rendering and modeling of multidimensional volume image data and image-guided navigation, are significantly advancing our capabilities for improved and minimally invasive diagnosis

and treatment of prostate cancer, obviating the need for exploratory surgery, physical dissection, blind biopsies and mental reconstruction of anatomy and pathology. Currently, both diagnostic and therapeutic procedures require x-ray fluoroscopy, transrectal ultrasound, CT and/or MRI for assessing the condition of the prostate and/or the outcome of any therapeutic procedure. New imaging approaches based on three-dimensional ultrasound transducers placed on catheters for easy insertion into the urethra are demonstrating significant promise for improved diagnosis and treatment of prostate disease. Microwave thermal ablation shows promise for reduction of prostate size and tumor volume, and preliminary data from cryosurgery suggests improvements in tumor reduction and/or management while minimizing the risk of serious complications. Prostate brachytherapy is becoming a more popular and effective alternative to surgery. All of these methods, either independently or combined through image fusion, are providing an exciting and rapid evolution in capabilities for visualizing the prostate and its anatomic environment, extending from physical to functional forms and from macro to micro orders of scale. Traversing the scale distances between these imaged objects within the prostate and its environs will be made automatic and instantaneous in the near future with the expected advances in miniaturization of powerful computing and electronic sensing elements. Imaging devices will continue to improve in resolution, speed and affordability and will be deployed harmlessly within the body, as well as outside of it. Diagnosis and therapy of prostate disease will become fully noninvasive and synchronous.This paper describes the optimization of designing a two-dimensional (2-D) ultrasound phased array to be used for the treatment of both prostate cancer and benign prostatic hyperplasia. The optimization study took into consideration the physical constraints of the conventional method of treatment, and arrived at an optimized array design with the overall dimensions of 10 cm x 2.2 cm. The optimization study also addressed the following additional parameters: The maximum possible depth of penetration (DOP), the maximum possible steering angle, the Grating lobe level, the operating frequency, and the element size. In optimizing the design, the DOP and the steering angle are maximized while the grating lobe value is minimized. A 56 x 12 element 2-D array was found to be the optimum choice allowing both focusing and steering within the entire prostate without inducing damage at locations other than that of the focal point.Treatments for localized prostate cancer include radical prostatectomy, brachytherapy, conformal external beam irradiation, and focused ultrasound. This paper describes the oncologic and functional results of each approach. The treatment choice depends on the patient's general status and on the results of biopsy and imaging studies. Watchful waiting and hormone therapy are other options for elderly patients.Study Type--Therapy (case series) Level of Evidence 4. What's known on the subject? and What does the study add? High-intensity focused ultrasound (HIFU) therapy has been proposed for the treatment of localized prostate cancer (PCa) for all risk levels of tumour recurrence. The study adds data on the efficacy of a single HIFU application in the treatment of PCa with different risks of recurrence. Durable cancer control was achieved in 81.7% of patients with low-risk disease, with rates of efficacy declining in intermediate- and high-risk tumours. The data suggest that the principal domain for minimal invasive HIFU should be low-risk disease.Introduction: Focal therapy has increasingly become an accepted treatment option for patients with localised prostate cancer. Most follow-up protocols use a mixture of protocol biopsies or "for cause" biopsies triggered by a rising PSA. In this paper, we discuss the histological outcomes from these biopsies and their use in guiding subsequent management and trial development.The proportion of men with low- to intermediate-risk prostate cancer is rising with the increasing use of formal and informal prostate-specific antigen screening. The risk-to-benefit ratio of radical therapy is large with many men suffering genitourinary side effects compared with the small degree of cancer control that they derive from surgery or radiotherapy. On the other hand, the current alternative, active surveillance, carries risk of progression as well as some psychological and healthcare burdens. Focal treatment may be an acceptable alternative: in aiming to destroy only the areas of prostate cancer, focal therapy could deliver cancer control while at the same time avoid damage to surrounding structures. This may reduce incontinence, impotence, and rectal toxicity. Improvements in localization of cancer such as template transperineal prostate-mapping biopsies as well as state-of-the-art imaging such as multiparametric MRI and novel ultrasound-based tissue characterization tools have made the delivery of focal therapy possible. Minimally invasive ablative technologies such as cryotherapy, high-intensity focused ultrasound, photodynamic therapy, photothermal therapy, or radiofrequency interstitial tumor ablation can precisely treat to within a few millimeters. Early studies evaluating focal therapy have found a lower side-effect profile with acceptable short- to medium-term cancer control rates. If these promising results are confirmed in future prospective trials, focal therapy could start to challenge the current standard of care.Purpose: Clinically significant, localized prostate cancer is currently treated with whole gland

therapy. This approach is effective but associated with genitourinary and rectal side effects. Focal therapy of prostate cancer has been proposed as an alternative. The aim of this study was to determine the oncologic and functional outcomes of focal high intensity focused ultrasound therapy of prostate cancer.Objective: To evaluate the current state of high intensity focused ultrasound as therapeutical option of prostatic carcinoma (PCa)Treatment of prostate cancer using high-intensity focused ultrasound (HIFU) focal therapy will become a reliable treatment option only if several conditions are fulfilled. These conditions concern patient selection, assessment of the tumour location and aggressiveness, evaluation of target tissue destruction, and detection of local recurrence or appearance of new tumours. Regarding patient selection, standard transrectal biopsies are not accurate enough and, although perineal template biopsies can detect tumours, they are invasive, expensive procedures, and there is a risk of incidental detection of insignificant cancers. In turn, multiparametric MRI is accurate for detecting and localizing high-grade (Gleason score ≥7) cancers and may provide non-invasive assessment of tumour aggressiveness. Moreover, contrast-enhanced imaging-ultrasonography or MRI-can assess post-HIFU tissue destruction and provide accurate detection of tumour recurrence, which is a key element for follow up. This Perspectives article will assess whether our current methods for cancer diagnosis, tissue targeting, and treatment follow up are accurate enough to allow the design of robust HIFU focal therapy protocols.Purpose: We describe the long-term cancer control and morbidity of high intensity focused ultrasound with neoadjuvant transurethral resection of the prostate, the risk of metastatic induction by transurethral prostate resection, and the evolution of high intensity focused ultrasound application and technology with time.Background: High-intensity focused ultrasound (HIFU) is an emerging treatment for select patients with localized prostate cancer (PCa).We report a 62 years old kidney transplant (KT) patient who was diagnosed of localized prostatic cancer (PC) after 6 years of the implant. Transrectal prostatic High Intensity Focused Ultrasound (HIFU) was applied. Results have been satisfactory, achieving pathologic and biochemical success. The discharge was completed at 24 hs, the morbidity was minimal. We have not found any reference in the literature on the appliance of HIFU in PC KT patients. We think that HIFU may represent a good alternative for these patients.High-intensity focused ultrasound (HIFU) has emerged in the past decade as a new addition to the armamentarium of treatment options for prostate cancer. Clinical studies have investigated its use as a treatment for clinically localized disease and as salvage therapy in the setting of failure after external beam radiotherapy. Additional studies with long-term follow-up are needed to further evaluate the cancer control and quality of life outcomes of this new therapeutic modality.Objective: To propose a standard for the conduct of visually directed transrectal high-intensity focused ultrasound (HIFU) and to offer a formal description of the changes observed on B-mode ultrasonography (US) during this procedure. We describe our early experience of using two different treatment methods; algorithm-based HIFU and visually directed HIFU for the treatment of organ-confined prostate cancer.Introduction: Focal therapy offers the possibility of cancer control, without the side effect profile of radical therapies. Early single centre prospective development studies using high intensity focused ultrasound (HIFU) have demonstrated encouraging genitourinary functional preservation and short-term cancer control. Large multi-centre trials are required to evaluate medium-term cancer control and reproduce functional recovery. We describe the study design of an investigator-led UK multi-centre, single arm trial using HIFU to deliver focal therapy for men with localised prostate cancer.Objective: Transrectal ultrasound cannot accurately depict early cancer recurrences after prostate high-intensity focused ultrasound (HIFU) ablation. We evaluated transrectal color Doppler (CD) in guiding post-HIFU prostate biopsy.Objective: • To determine oncological outcomes after high-intensity focused ultrasonography (HIFU) treatment in patients with localized prostate cancer using a new, more accurate, definition ('Stuttgart' definition) of biochemical failure.Objectives: To report 8 cases of rectourethral fistula (RUF) in patients treated with high-intensity focused ultrasound (HIFU) for either localized or locally recurrent prostate cancer (PCa).Purpose: To assess T2W and dynamic: contrast-enhanced (DCE) MR imaging in the detection of local tumor recurrence after transrectal high-intensity focused US (HIFU) treatment.Purpose of review: We summarize the evidence on accurate target definition, precise imaging, and guiding systems that are a necessary ground to targeted focal therapy.We studied the impact of combined transurethral resection of the prostate (TURP) and high intensity focused ultrasound (HIFU) for localized prostate cancer (CaP) to decrease side effects such as prolonged urinary voiding disturbance observed after HIFU treatment. Included in this study were 18 patients with clinically localized CaP indicated for HIFU just followed by TURP (TUR combination group). Complete response was defined in accordance with ASTRO consensus statement and negative sample in biopsies performed 6 months after the HIFU

treatment. Prostate specific antigen (PSA) nadir, International Prostate Symptom Score (IPSS) and morbidity during follow-up of TUR combination group were compared with those of a control of 18 patients who took HIFU treatment alone (HIFU monotherapy group). No statistical significances on the values of preoperative parameters (PSA, prostate volume, Gleason score, and IPSS) between these two groups. The median follow-up duration was 10 (5-15) months in both groups. A statistically significant impact was observed between TUR combination group and HIFU monotherapy group on median catheter time (5 versus 13 days, P<0.0001), PSA nadir (0.096 ng/ml versus 0.430 ng/ml in median, P<0.05) and the evolution of the post-treatment IPSS (8 versus 13.5 in median, P<0.0003) at 3 months after treatment. Urethral stricture necessary for urethral dilation was noted in 1 patient (5.6%) in the TUR combination group while in 2 (11.1%) in the HIFU monotherapy group. CR was obtained in 88.9% in the TUR combination group and 83.3% in the HIFU monotherapy group. Our study suggests that the combination of TURP with HIFU treatment improves posttreatment urinary status without additional morbidity.Objectives: To assess the oncologic results of high-intensity focused ultrasound therapy (HIFU) as treatment for clinically localized prostate cancer.Objective: To investigate the use of high-intensity focused ultrasound (HIFU) as a salvage therapy in patients with recurrence of localized prostate cancer after external beam radiation (EBRT), brachytherapy, or proton therapy.Background: Radiotherapy is a treatment option in the case of local failure following treatment for localised prostate cancer with high-intensity focussed ultrasound (HIFU).The growing interest in high-intensity focused ultrasound (HIFU) technology is mainly due to its many potential applications as a minimally invasive therapy. It has been introduced to urologic oncology as a treatment for prostate and kidney cancers. While its application in the kidney is still at the clinical feasibility phase, HIFU technology is currently used in daily practice in Europe for the treatment of prostate cancer. Literature describing the results of HIFU for prostate cancer is mainly based on several series of patients from clinical development teams. The latest published results suggest that HIFU treatment is a valuable option for well-differentiated and moderately-differentiated tumors, as well as for local recurrence after external-beam radiation therapy.Purpose of review: The shift in the diagnostic algorithm for prostate cancer to early imaging with mpMRI has resulted in many patients being diagnosed with small volume, apparently unilateral, clinically significant cancers. In these patients, a minimally invasive, nonmorbid intervention is appealing. The aim of this study was to review data reported within the last 2 years on focal therapy and partial gland ablation for organ-confined prostate cancer.Background: Prostate cancer (PCa) is the most common cancer in men in the UK. Patients with intermediate-risk, clinically localised disease are offered radical treatments such as surgery or radiotherapy, which can result in severe side effects. A number of alternative partial ablation (PA) technologies that may reduce treatment burden are available; however the comparative effectiveness of these techniques has never been evaluated in a randomised controlled trial (RCT).High intensity focused ultrasound (HIFU) is gaining rapid clinical acceptance as a treatment modality enabling non-invasive tissue heating and ablation for numerous applications. HIFU treatments are usually carried out in a single session, often as a day case procedure, with the patient either fully conscious, lightly sedated or under light general anaesthesia. A major advantage of HIFU over other thermal ablation techniques is that there is no necessity for the transcutaneous insertion of probes into the target tissue. The high powered focused beams employed are generated from sources placed either outside the body (for treatment of tumours of the liver, kidney, breast, uterus, pancreas and bone) or in the rectum (for treatment of the prostate), and are designed to enable rapid heating of a target tissue volume, while leaving tissue in the ultrasound propagation path relatively unaffected. Given the wide-ranging applicability of HIFU, numerous extra-corporeal, transrectal and interstitial devices have been designed to optimise application-specific treatment delivery. Their principle of operation is described here, alongside an overview of the physical mechanisms governing HIFU propagation and HIFU-induced heating. Present methods of characterising HIFU fields and of quantifying HIFU exposure and its associated effects are also addressed.Introduction: Focal therapy (FT) by high-intensity focused ultrasound (HIFU) is an emerging option for localized prostate cancer (PC). Due to the lack of long-term data, a close monitoring after FT is essential, but there are still uncertainties about the optimal follow-up regimen. Here we report on a series of FT-HIFU patients with the focus on oncological short-term outcome and the value of postoperative magnetic resonance imaging (MRI).Purpose: Patient selection for focal salvage remains difficult. Therefore, we developed and internally validated prediction models for biochemical failure (BF) and a composite endpoint (CE) following focal salvage high intensity focused ultrasound (HIFU) for radiorecurrent prostate cancer.Background: In patients with low-risk prostate cancer (PCa) the standard therapies carry a risk of overtreatment with potentially preventable side effects whereas

restrained therapeutic strategies pose a risk of underestimation of the individual cancer risk. Alternative treatment options include thermal ablation strategies such as high-intensity focused ultrasound (HIFU).Purpose: Partial gland ablation (PGA) using high-intensity focused ultrasound (HIFU) is currently under investigation for clinically significant prostate cancer (Cs-PCa). Our primary objective was to assess the role of systematic control biopsies following HIFU-PGA in a cohort of Cs-PCa patients.Objective: The objective of this study was to compare the accuracy of T2-weighted magnetic resonance (MR) imaging and transrectal ultrasound (TRUS) for staging of prostate cancer.Objective: To report our experience with salvage high-intensity focused ultrasound (HIFU) in patients with local failure after brachytherapy for prostate cancer.High Intensity Focused Ultrasound (HIFU) capably bridges the disciplines of surgery, oncology and biomedical engineering science. It provides the precision associated with a surgical tool whilst remaining a truly non-invasive technique. Oxford has been a centre for both clinical and preclinical research in HIFU over the last twenty years. Research into this technology in the UK has a longer history, with much of the early research being carried out by Professor Gail ter Haar and her team at the Institute of Cancer Research at Sutton in Surrey. A broad range of potential applications have been explored extending from tissue ablation to novel drug delivery. This review presents Oxford's clinical studies and applications for the development of this non-invasive therapy. This includes treatment of solid abdominal tumours comprising those of the liver, kidney, uterus, pancreas, pelvis and prostate. It also briefly introduces preclinical and translational works that are currently being undertaken at the Institute of Biomedical Engineering, University of Oxford. The safety, wide tolerability and effectiveness of this technology is comprehensively demonstrated across these studies. These results can facilitate the incorporation of HIFU as a key clinical management strategy.High intensity focused ultrasound (HIFU) or focused ultrasound (FUS) is a promising modality to treat tumors in a complete, non invasive fashion where online image guidance and therapy control can be achieved by magnetic resonance imaging (MRI) or diagnostic ultrasound (US). In the last 10 years, the feasibility and the safety of HIFU have been tested in a growing number of clinical studies on several benign and malignant tumors of the prostate, breast, uterine, liver, kidney, pancreas, bone, and brain. For certain indications this new treatment principle is on its verge to become a serious alternative or adjunct to the standard treatment options of surgery, radiotherapy, gene therapy and chemotherapy in oncology. In addition to the now clinically available thermal ablation, in the future, focused ultrasound at much lower intensities may have the potential to become a major instrument to mediate drug and gene delivery for localized cancer treatment. We introduce the technology of MRI guided and ultrasound guided HIFU and present a critical overview of the clinical applications and results along with a discussion of future HIFU developments.MR-guided high intensity focused ultrasound (MRg HIFU) is a novel method of tissue ablation that incorporates high energy focused ultrasound for tissue heating and necrosis within an MR scanner that provides simultaneous stereotactic tissue targeting and thermometry. To date, MRg HIFU has been used primarily to treat uterine fibroids, but many additional applications in the pelvis are in development. This article reviews the basic technology of MRg HIFU, and the use of MRg HIFU to treat uterine fibroids, adenomyosis, and prostate cancer.Purpose: To evaluate the long-term efficacy of prostate cancer control and complication rates, in the elderly, after focal therapy with high-intensity focused ultrasound (HIFU).With the advancement of early detection tools for prostate cancer and ability to better localize disease, there has been increased interest in focal or targeted therapies that carry less morbidity than traditional whole-gland treatments. The Sonablate® high-intensity focused ultrasound (HIFU) device has Food and Drug Administration (FDA) 510(K) clearance in the United States for ablation of prostate tissue. HIFU utilizes an ultrasound (US) transducer that focuses US beams on a preset point as much as 4 cm from the energy source without injuring intervening tissue. The Sonablate system guides the surgeon step-by-step to perform effective ablation of a target lesion. The surgeon can assess treatment effect with tissue change monitoring, and care is taken to prevent rectal wall injury. We believe hemiablation is the most favorable focal HIFU treatment to optimize cancer control and minimize the side effects associated with whole gland therapy. We recommend considering HIFU ablation as an extension of active surveillance rather than definitive treatment. Further research on long-term oncologic and functional outcomes is warranted.Purpose To report the safety profile and 2-year functional outcomes of in-bore magnetic resonance (MR)-guided focused ultrasound on single cancer foci in men with prostate cancer. Materials and Methods Ethics approval was obtained from the centralized institutional review board for this prospective single-arm study, and patients provided informed consent. Patients with untreated low-volume low-grade prostate cancer (clinical stage T2a or lower; Gleason score, 3+3; index tumor ≤10 mm3) underwent MR-guided focused ultrasound between July 2011 and February

2013. All patients underwent robotic transperineal mapping biopsy and multiparametric MR imaging. Only those with a maximum of two lesions smaller than 10 mm at mapping biopsy were included. Target areas were sonicated with real-time MR thermometry monitoring, excluding critical areas from the beam path. Serum prostate-specific antigen (PSA) and Expanded Prostate Index Composite (EPIC) scores were obtained at baseline and at 1, 3, 6, 12, 18, and 24 months and were plotted to observe their trend. Mean EPIC subdomain score changes at each serial time point were compared with the baseline score by using paired t tests (level of significance, P < .007). Repeat transperineal biopsy was performed at 6 and 24 months. Results Fourteen men (mean age, 62.8 years; median PSA level, 8.3 ng/mL) underwent treatment, with 12 men completing 2-year follow-up. A median reduction of PSA level by 2.9 ng/mL was observed at 6 months. Seven men had Clavien-Dindo grade 1-2 complications. There was a slight insignificant deterioration of EPIC urinary symptom score (mean increase of 7.8 points compared with baseline, P = .012) noted at 1 month, but it returned to baseline by 3 months. There was a trend to deterioration in sexual function score (mean decrease, 4.4 points; P = .04 [not significant]) that normalized at 3 months. There was no significant change in EPIC subdomain scores from baseline over the 24 months. At 6-month template biopsy, one man had cancer with a Gleason score greater than 6; at 24 months, three men had cancer with a Gleason score greater than 6. Conclusion MR-guided focused ultrasound is technically feasible for focal prostate ablation and appears to have a favorable early safety and functional profile. Further clinical trials are necessary to establish oncologic efficacy. © RSNA, 2017 Online supplemental material is available for this article.The article outlines oncological and functional outcomes of salvage external beam radiation therapy after HIFU-ablation in 49 patients. The study determined overall and relapse-free survival, compared the rates of adverse events stratified by CTCAE, erectile function and continence scores assessed by questionnaire survey. Univariate and multivariate analysis of risk factors for failure of salvage radiation therapy after prostate HIFU-ablation were conducted. In univariate analysis the level of prostate-specific antigen (PSA) prior to radiotherapy, the risk group, PSA nadir after radiotherapy, PSA nadir greater than 0.2 ng/mL and the time to nadir after salvage therapy were predictors of failure. There were no serious gastrointestinal side effects. The most frequent urinary adverse event was urgency. The difference in the rates of urinary incontinence before and 1 year after radiotherapy was not statistically significant. The study confirmed the appropriateness of radiotherapy after HIFU-ablation. Radiation therapy can be considered as a treatment option for prostate cancer recurrence after HIFU-ablation.Local recurrence after external radiotherapy or brachytherapy occurs in 30% of patients treated for prostate cancer. These recurrences can be localised to the prostate and controlled by salvage treatment. Salvage prostatectomy is the gold standard treatment, however, it is associated with a high morbidity rate. Minimally invasive treatments such as cryotherapy and high intensity focused ultrasound (HIFU) can be proposed to treat local recurrences. Indications, complications and oncological results of these salvage treatments are discussed in this article.The management of recurrent prostate cancer after radiotherapy or brachytherapy is non-standardized and rapidly evolving. Local recurrence is observed on average in 30% of cases several years following irradiation. A key challenge is to determine the site of recurrence and imaging (MRI and PET choline) coupled to prostate biopsies are important to confirm the local character. Salvage therapy performed by the urologist can then control the situation. Radical prostatectomy subject to strict technical conditions is one of the most efficient local treatments, however it comes at the cost of significant urinary morbidity; minimally invasive therapies (focused ultrasound and cryotherapy) have also their place in specific indications. Each clinical situation should be discussed in pluridisciplinary meetings integrating the oncologic and functional status at recurrence, the risk/benefit ratio of each treatment, the patient's wishes and probability of survival.Objective: After radical external beam radiation therapy (EBRT), local recurrence may benefit from definitive local therapy. The objective of this study was to evaluate the safety and short-term biochemical results and morbidity after salvage high-intensity focused ultrasound (HIFU) treatment in patients with biopsy-proven local prostate cancer recurrence after EBRT.Objectives: Bone pain resulting from cancer metastases reduces a patient's quality of life. Magnetic Resonance-guided High Intensity Focused Ultrasound (MR-HIFU) is a promising alternative palliative thermal treatment technique for bone metastases that has been tested in a few clinical studies. Here, we describe a comprehensive pre-clinical study to investigate the effects, and efficacy of MR-HIFU ablation for the palliative treatment of osteoblastic bone metastases in rats.PSA, DRE, and TRUS sector biopsy have been used clinically internationally for almost two decades and have been available in New Zealand since 1993. The incidence of prostate cancer has approximately doubled. Many countries especially in Western Europe, North America and including Australia report decreases

in prostate cancer mortality due to this change ranging from 10 to 39%. This has not so far occurred in New Zealand, however, and likely reasons for this are discussed. They include a negative approach encouraged by the New Zealand Guidelines Group and others, and more difficult access to investigations and treatments for New Zealand men than other countries. Technological advances in TRUS sector biopsy, histological diagnosis, and management are discussed. Changes in international prostate cancer mortality data and results from several clinical trials are also discussed. It is concluded that the weight of evidence in favour of PSA/DRE testing is now overwhelming and that potentially between 200 and 300 of the 600 men who currently die of prostate cancer in New Zealand could be saved by the application of current technology.The rising incidence of small, incidentally detected renal masses in elderly, infirm patients has raised interest in minimally invasive, energy ablative techniques. High-intensity focused ultrasound (HIFU) delivers ultrasonic energy, resulting in heat and tissue destruction in the targeted tissue at a selected depth. In contrast to radiofrequency ablation and cryoablation, HIFU does not require puncturing the tumor, avoiding the high risk of hemorrhage or tumor spillage. While the extracorporeal approach shows unsatisfactory results, laparoscopic HIFU appears to be a promising alternative treatment option. Problems with respiratory movement and interphases, as seen in extracorporeal HIFU, are avoided when the transducer is brought directly to the target by laparoscopic HIFU. Potential benefits of laparoscopic HIFU are decreased morbidity, shorter hospitalization and convalescence, and preservation of renal function. Nevertheless, further prospective studies have to be performed to define the oncological success of HIFU as an alternative to open and laparoscopic surgery in small renal masses.Purpose: We evaluated magnetic resonance imaging controlled transurethral ultrasound therapy as a treatment for magnetic resonance imaging defined focal prostate cancer using subsequent prostatectomy and histology as the reference standard.Objective: To report on the high rectal fistula rate associated with salvage high-intensity focused ultrasound (HIFU) after the failure of combined brachytherapy and external beam radiotherapy (EBRT) for prostate cancer; salvage ablative therapy for prostate cancer is indicated when there is local recurrence after RT, brachytherapy or their combination.Although a significant proportion of patients with localized prostate cancer are cured after definitive radiotherapy, solitary local recurrence is observed in a subset of patients and poses a management challenge. Curative-intent treatment options include prostatectomy, reirradiation, cryotherapy, and high-intensity-focused ultrasound. Outcomes data after any of these options are relatively limited. The 5-year biochemical progression-free survival rate is approximately 50% after salvage prostatectomy. However, the morbidity rate of the procedure is significantly higher compared with that observed in previously untreated patients. The likelihood of cure after low dose rate brachytherapy is similar to that observed after salvage prostatectomy, and the morbidity, although significant is less. Although cryotherapy and high-intensity-focused ultrasound may be less morbid than a prostatectomy, the probability of cure is probably lower.Focused ultrasound is a treatment modality increasingly used for diverse therapeutic applications, and currently approved for several indications, including prostate cancers and uterine fibroids. But what about breast cancer? Breast cancer is the most common and deadliest cancer in women worldwide. While there are different treatment strategies available, there is a need for development of more effective and personalized modalities, with fewer side effects. Therapeutic ultrasound is such an option, and this review summarizes the state of the art in their use for the treatment of breast cancer and evaluate potentials of novel treatment approaches combining therapeutic ultrasound, immuno- and chemo-therapies.The objective of this study was to evaluate mechanisms of the synergy between high intensity-focused ultrasound (HIFU) and docetaxel and to determine the best sequence of chemotherapy administration in relation to HIFU treatment for obtaining optimum control of tumoral growth. A total of 15 days after s.c. implantation of the tumor, 52 Copenhagen rats studied were randomized in 4 groups of 13: controls, docetaxel alone (group 1), HIFU and docetaxel concomitant (group 2) and HIFU and docetaxel administered 24 h before treatment (group 3). The number of HIFU shots was calculated in order to cover 75% of the tumor volume. The effects of docetaxel, HIFU and their interaction on tumor volumes were analyzed using a linear regression. The distributions of the tumor volumes were significantly greater in the control group than in the group 1 ($P=0.002$) and than in both groups 2 and 3 ($P < 0.0001$ and $P = 0.0001$). These volumes were also significantly greater in group 1 than in both groups 2 and 3 and there was no difference between the groups 2 and 3. The tumor doubling times were 7.8 days for the group 1, 43.8 days for the group 2, 16.1 days for the group 3 and 5.9 days for the controls. The mechanism of the synergy between HIFU and docetaxel on the growth of Dunning tumors is apparently multifaceted. The results are encouraging because in the two groups of rats treated with the combination of HIFU and docetaxel, the percentage of complete remission was approximately

30%.Objectives: To investigate the feasibility and efficacy of salvage endoscopic extraperitoneal radical prostatectomy (EERPE) in cases of recurrent prostate cancer after high-intensity focused ultrasound therapy (HIFU) or radiotherapy.Purpose: To quantitatively assess 12-month prostate volume (PV) reduction based on T2-weighted MRI and immediate post-treatment contrast-enhanced MRI non-perfused volume (NPV), and to compare measurements with predictions of acute and delayed ablation volumes based on MR-thermometry (MR-t), in a central radiology review of the Phase I clinical trial of MRI-guided transurethral ultrasound ablation (TULSA) in patients with localized prostate cancer.In one-third of patients, prostate cancer (PCa) is monofocal. These patients can undergo focal high-intensity focused ultrasound (HIFU) therapy of the tumor without damage to surrounding structures and not compromising uro-oncologic safety. Robot-assisted HIFU coagulates the entire targeted volume within the prostate transrectally, in one session, without direct tumor contact and without adjuvant endourologic therapy. It is performed with the patient receiving spinal anesthesia and without blood loss; negative immunologic influence can be excluded. Heat-destroyed cancer cells that act as tumor vaccination are discussed. Right now, the limitation of focal therapy is caused by the lack of diagnostic accuracy to determine multifocal stages of PCa reliably. Discussions of tumor development, triggering primary lesion monotherapy, do not overcome skepticism about leaving invisible tumor foci untreated. This explains why PCa therapy today treats always the entire gland. Furthermore, the thought that the problem could be solved "radically, once forever," ignores the fact that in all PCa therapies, local recurrence rates are between 10% and 50%. Considering the longer survival of men in industrialized countries, a structured multimodal therapy concept should be created and evaluated in studies and should replace the competition between classic therapies. Focal therapy in most cases should be the first approach in cancer therapy because it is noninvasive, has low side effects, and is a single-session therapy. It does not exclude but may delay other, more invasive therapies in cases of cancer recurrence. Focal therapy should not be misunderstood as substitution for existing classic therapies but as a therapeutic first choice in monofocal, low-aggressive PCa cases.Purpose: We assessed the outcomes of high intensity focused ultrasound as primary treatment of localized prostate cancer in a retrospective series. This represents one of the largest published series of patients at intermediate and high risk.Purpose: High intensity focused ultrasound may have a role as an alternative to standard radical therapies for localized prostate cancer. An attribute of high intensity focused ultrasound is that it can be repeated. We determined morbidity after primary and redo high intensity focused ultrasound.Background and purpose: Criteria for determining the durability of the response to transrectal high-intensity focused ultrasound (HIFU) ablation of prostate cancer have been established by calculating progression-free probability.Magnetic resonance imaging-guided high-intensity focused ultrasound (MR-HIFU) is a novel technology that integrates magnetic resonance imaging with therapeutic ultrasound. This unique approach provides a completely noninvasive method for precise thermal ablation of targeted tissues with real-time imaging feedback. Over the past 2 decades, MR-HIFU has shown clinical success in several adult applications ranging from treatment of painful bone metastases to uterine fibroids to prostate cancer and essential tremor. Although clinical experience in pediatrics is relatively small, the advantages of a completely noninvasive and radiation-free therapy are especially attractive to growing children. Unlike elderly patients, young children must deal with an entire lifetime of negative effects related to collateral tissue damage associated with invasive surgery, side effects of chemotherapy, and risk of secondary malignancy due to radiation exposure. These reasons provide a clear rationale and strong motivation to further advance clinical utility of MR-HIFU in pediatrics. We begin with an introduction to MR-HIFU technology and the clinical experience in adults. We then describe our early institutional experience in using MR-HIFU ablation to treat symptomatic benign, locally aggressive, and metastatic tumors in children and young adults. We also review some limitations and challenges encountered in treating pediatric patients and highlight additional pediatric applications which may be feasible in the near future.Key controversies concerning the management of genitourinary cancers across the treatment continua were discussed at the second annual Interactive Genitourinary Cancer Conference (IGUCC) held in February 2010 in Athens, Greece. Prostate cancer is the most common form of cancer among western men and prevention strategies are needed. Trials evaluating 5α-reductase inhibitors have reported beneficial and clinically meaningful results, but uptake remains low for primary prostate cancer prevention. Prostate cancer detection programmes are also important as curative treatments for advanced disease are unavailable. Two large landmark randomized controlled trials reported conflicting results concerning screening efficacy and uncovered high levels of over-diagnosis and potential over-treatment. Tailored management strategies after diagnosis are important and predictive markers that distinguish between

aggressive and indolent tumours are needed. The majority of newly diagnosed cases of prostate cancer are clinically localized. Active surveillance of favourable risk patients may be beneficial in the intermediate term, while an integrated approach of multi-modality therapy in patients with adverse features is recommended. The benefits of new technologies such as high-intensity focused ultrasound (HIFU) and robotic prostatectomy have not been established in prospective randomized trials vs current standards of care. A multidisciplinary approach is essential to evolving the management of advanced prostate cancer into a chronic disease paradigm. Docetaxel plus prednisone is the standard first-line chemotherapy for patients with metastatic castration-resistant prostate cancer (mCRPC), but the optimal timing of chemotherapy initiation has not been addressed in randomized clinical trials. Retrospective analyses suggest that asymptomatic patients with adverse prognostic factors for survival may also benefit from receiving chemotherapy. Bladder cancer is a common malignancy and the most expensive cancer per patient. Non-muscle-invasive bladder cancer is a heterogenous disease that requires dynamic multidisciplinary management. Aggressive early intervention may be beneficial in some cases. Platinum-based therapies represent the first-line standard of care for advanced bladder cancer, but the maximum benefit may have been reached for conventional chemotherapies and new strategies are needed. Several ongoing clinical trials are assessing combination chemotherapy and targeted therapy.Multiparametric magnetic resonance imaging (mpMRI) is of interest for the diagnosis of clinically significant prostate cancer and mpMRI-targeted biopsies are being used increasingly in clinical practice. Target acquisition is performed using a range of magnet strengths and varying combinations of anatomical and functional sequences. Target identification at the time of biopsy can be carried out in the MRI scanner (in-bore biopsy) or, more commonly, the MRI-target is biopsied under ultrasonographic guidance. Many groups use cognitive or visual registration, whereby the biopsy target is identified on MRI and ultrasonography is subsequently used to direct the needle to the same location. Other groups use registration software to show prebiopsy MRI data on real-time ultrasonography. The reporting of histological results in MRI-targeted biopsy studies varies greatly. The most useful reports compare the detection of clinically significant disease in standard cores versus mpMRI-targeted cores in the same cohort of men, as recommended by the STAndards of Reporting for MRI-Targeted biopsy studies (START) consensus panel. Further evidence is needed before an mpMRI-targeted strategy can be recommended as the standard intervention for men at risk of prostate cancer.Objective: The purpose of this study was to evaluate the diagnostic performance of dynamic contrast-enhanced MRI (DCE-MRI) and of T2-weighted MRI with diffusion-weighted imaging (DWI) for predicting local tumor progression after high-intensity focused ultrasonic ablation of localized prostate cancer.Background: Whole-gland high-intensity focused ultrasound (HIFU) has been used as salvage therapy for local recurrence following external beam radiation therapy for decades. This article describes the use of the Sonablate 500 HIFU system in the salvage setting.Objective: To present experience in high-intensity focused ultrasound (HIFU) used as a salvage therapy for biopsy-confirmed local recurrence at the vesico-urethral anastomosis after radical prostatectomy (RP).HIFU therapy is one of epoch-making, low-invasive treatments for prostate cancer. We investigated 71 patients who had undergone HIFU therapy from June 2004 through September 2005. We mainly gave a single spinal injection followed by epidural catheterization with a combined spinal-epidural anesthesia kit. Three patients received general anesthesia because of various problems such as allergy for local anesthetics, ankylosing spondylitis and severe spinal deformity causing difficulty in lumbar puncture. Spinal anesthesia was successfully achieved in most patients. Twelve patients with insufficient anesthetic levels required additional local anesthetics via epidural catheters. We found no serious perioperative complications.Purpose: This study aimed to analyze technical and clinical factors related to oncological outcomes in patients with localized prostate cancer (PC) who were treated with whole-gland high-intensity focused ultrasound (HIFU).Purpose of review: Prostate ablation treatments have long been utilized although a recent shift away from whole gland ablation has occurred in an effort to decrease side-effects. Interest in this form of focal treatment has developed following encouraging initial reports suggesting feasibility, safety and favorable quality of life. Data on functional outcomes and limitations are now accumulating that require careful interpretation for educating patients and providers on the realistic outcomes achievable with these approaches.Introduction: Erectile dysfunction (ED) represents a common quality-of-life issue of any treatment used for prostate cancer, including high-intensity focused ultrasound (HIFU) and targeted cryoablation of the prostate (TCAP). There is a paucity of comparative studies regarding the difference in the erectile function and penile size of patients undergoing HIFU or TCAP.Objectives: Our aim was to assess whether magnetic resonance imaging (MRI) features predict recurrence-free survival (RFS) after prostate cancer high-intensity focused ultrasound (HIFU) ablation.Background: The objective of

this study was to evaluate the safety, feasibility, side-effect profile, and proof of concept for focal salvage therapy using high-intensity focused ultrasound (HIFU).Background: Hemiablation is a less morbid treatment alternative for appropriately selected patients with unilateral prostate cancer (PCa). However, to the authors' knowledge, traditional diagnostic techniques inadequately identify appropriate candidates. In the current study, the authors quantified the accuracy for identifying hemiablation candidates using contemporary diagnostic techniques, including multiparametric magnetic resonance imaging (mpMRI) and MRI-fusion with complete systematic template biopsy.The concept of ideal tumor surgery is to remove the neoplastic tissue without damaging adjacent normal structures. High-intensity focused ultrasound (HIFU) was developed in the 1940s as a viable thermal tissue ablation approach. In clinical practice, HIFU has been applied to treat a variety of solid benign and malignant lesions, including pancreas, liver, prostate, and breast carcinomas, soft tissue sarcomas, and uterine fibroids. More recently, magnetic resonance guidance has been applied for treatment monitoring during focused ultrasound procedures (magnetic resonance-guided focused ultrasound, MRgFUS). Intraoperative magnetic resonance imaging provides the best possible tumor extension and dynamic control of energy deposition using real-time magnetic resonance imaging thermometry. We introduce the fundamental principles and clinical indications of the MRgFUS technique; we also report different treatment options and personal outcomes.Purpose: We assessed the outcomes of high intensity focused ultrasound as primary treatment of localized prostate cancer in a retrospective series. This represents one of the largest published series of patients at intermediate and high risk.Current planning methods for transrectal high-intensity focused ultrasound treatment of prostate cancer rely on manually defining treatment regions in 15-20 sector transrectal ultrasound (TRUS) images of the prostate. Although effective, it is desirable to reduce user interaction time by identifying functionally related anatomic structures (segmenting), then automatically laying out treatment sites using these structures as a guide. Accordingly, a method has been developed to effectively generate solid three-dimensional (3-D) models of the prostate, urethra, and rectal wall from boundary trace data. Modeling the urethra and rectal wall are straightforward, but modeling the prostate is more difficult and has received much attention in the literature. New results presented here are aimed at overcoming many of the limitations of previous approaches to modeling the prostate while using boundary traces obtained via manual tracing in as few as 5 sector and 3 linear images. The results presented here are based on a new type of surface, the Fourier ellipsoid, and the use of sector and linear TRUS images. Tissue-specific 3-D models will ultimately permit finer control of energy deposition and more selective destruction of cancerous regions while sparing critical neighboring structures.Objective: To evaluate if and why obesity affects the clinical outcome in patients undergoing high-intensity focused ultrasound (HIFU) treatment for prostate cancer (CaP).Purpose: To compare oncological, functional, and toxicity outcomes of patients with radiation-recurrent prostate cancer (PCa) after external beam radiation therapy (EBRT) or brachytherapy (BT) treated with salvage high-intensity focused ultrasound (S-HIFU) or salvage radical prostatectomy (S-RP).Objective: To investigate structural changes in the tumor and nontumor tissues of the prostate in patients with its cancer (PC) after treatment with high-intensity focused ultrasound (HIFU) in combination with androgen deprivation to clarify criteria for evaluating the efficiency of treatment.Introduction: The main objective was to evaluate feasibility, toxicity and biochemical control rates of salvage external beam radiotherapy (EBRT) in recurrent localized prostate cancer after high-intensity focused ultrasound (HIFU) as primary therapy.Objectives: To report the 3-year follow-up of a Phase I study of magnetic resonance imaging (MRI)-guided transurethral ultrasound ablation (TULSA) in 30 men with localised prostate cancer. Favourable 12-month safety and ablation precision were previously described.Context: Focal therapy of prostate cancer has been proposed as an alternative to whole-gland treatments.Purpose: To assess the association between the development of a urethral stricture (US) and disease-free survival for patients with localized prostate cancer treated with high-intensity focused ultrasound (HIFU).Purpose: In this prospective registry we prospectively assessed the oncologic, functional and safety outcomes of salvage high intensity focused ultrasound for radiorecurrent prostate cancer.Objectives: To evaluate the feasibility and safety of focal therapy for low-intermediate risk prostate cancer (PCa) with magnetic resonance-guided high frequency focused ultrasound (MRgFUS) METHODS: This IRB-approved phase 1 prospective study enrolled eight patients with prostate specific antigen (PSA) ≤ 10 ng/ml, ≤ cT2a and Gleason score ≤ 7 (4 + 3) disease following informed consent. Under MRI guidance, focused high frequency ultrasound energy was delivered to ablate the target tissue. Treatment-related adverse events were recorded. Oncologic outcomes were evaluated with multiparametric MRI, PSA and TRUS biopsy at 6 months following treatment.Introduction: Stereotactic body radiation therapy (SBRT) is considered an effective

and safe treatment in patients with low- and intermediate-risk prostate cancer (PC). However, due to a lack of long-term follow-up and late toxicity data, this treatment is not universally accepted. The present study aimed to evaluate outcome and early and late toxicity in a cohort of patients with low- and intermediate-risk PC treated prospectively with linear accelerator (linac)-based SBRT.Objective: To evaluate the clinical efficacy of high intensity focused ultrasound (HIFU) combined with endocrine therapy in the treatment of patients with prostate cancer.High-intensity focused ultrasound (HIFU) is a technique that has been used to treat localised prostate cancer. There is no standard treatment for patients who relapse with prostate cancer following primary treatment with HIFU; here we report the case of a patient who was successfully treated with external beam radiotherapy for disease relapse following HIFU. To date, our patient remains disease free with no toxicity from his treatment.Introduction: Curative treatments for localized prostate cancer, from least invasive to most invasive, include brachytherapy, cryosurgery, three-dimensional conformal radiation therapy, external beam radiation therapy, and radical prostatectomy. A patient with localized, low risk or intermediate risk prostate cancer who is diagnosed at an early age and receives one of these treatments has only an approximately 50% chance of maintaining an undetectable prostate-specific antigen (PSA) level, good spontaneous erections, and total continence by 5 years after treatment.Immunohistochemical and morphometric analysis of the microcirculatory bed in the tumor and non-tumor parenchyma of the prostate was carried out with the use of endothelial cell marker CD34 in patients treated by high-intensity focused ultrasound (HIFU). The numerical density of microvessels in the adenocarcinoma focus did not correlate with the degree of its differentiation, while high values of this parameter were associated with lower incidence of local progression after HIFU. Effective HIFU ablation led to progressive fibrosis and significant reduction of the microcirculatory bed in zones of intact non-tumor glands in control samples; an inverse relationship between the degree of reduction of the microcirculatory bed and the probability of relapse was revealed. The use of HIFU in combination with androgen deprivation was associated with a decrease in numerical density of microvessels in zones of tumor and non-tumor parenchyma in patients with relapses.Objectives: To investigate the use of minimally invasive high-intensity focused ultrasound (HIFU) as a salvage therapy in men with localized prostate cancer recurrence following external beam radiotherapy (EBRT).Purpose: To compare the oncological long-term efficacy of whole gland high-intensity focused ultrasound (HIFU) therapy and radical prostatectomy (RP) in patients with clinically localized prostate cancer.Objective: To assess the totality of prostate cancer eradication in radical prostatectomy (RP) specimens from men with a unilaterally positive prostate biopsy, and who would currently qualify for subtotal prostate ablation with controlled thermal energy such as cryoablation or high-intensity focused ultrasound.Objective: In patients with clinically suspected local recurrence of prostate cancer, a lobulated hyperintense mass in the radical prostatectomy fossa can be readily visualized with T2-weighted MRI, but this imaging technique is less successful after treatments such as radiation therapy, high-intensity focused ultrasound, and cryosurgery. We describe the additional value of functional techniques in the assessment of local recurrence.At the time of diagnosis, prostate cancer is organ confined in 70% of the cases. A quarter of these patients undergo local therapy (surgery/radiation); 75% risk disease progression by "watchful waiting" or systemic side effects through hormonal ablation. Local high-intensity focused ultrasound (HIFU), as minimal invasive tissue coagulation (85 degrees C), ablates prostatic tissue with high precision. Since April 1996, 184 patients have undergone 232 sessions of transrectal HIFU therapy (average 90 min) under spinal anesthesia at 2.25/3.0 MHz, 50 W, and a penetration depth of 25 mm. The follow-up serum prostate specific antigen (PSA) concentration, sextant biopsies, International Prostate Symptom Score (IPSS), quality of life measures (QoL), and complaint registration provide the foundation for this clinical evaluation. Follow-up sextant biopsies (an average of 1.9) showed 80% of the patients to be cancer free. In men with residual cancer, the tumor mass was reduced more than 90%. The PSA nadir in 97% was <4 ng/mL, including 61% with values <0.5 ng/mL. After primary HIFU, no severe side effects (fistula, second or third grade incontinence, rectal mucosal burns) occurred. All patients had a suprapubic tube (average 29 days), and 33% needed a transurethral debris resection averaging 7 g. They were discharged within 23 hours. According to the short-term follow-up transrectal HIFU enables minimal invasive local prostate tissue ablation with high rates of negative biopsies, low PSA nadir, and low complication rate.Background: Partial ablation of the prostate using high-intensity focussed ultrasound (HIFU-PA) is a treatment option for localised prostate cancer. When local recurrence occurs, salvage robot-assisted radical prostatectomy is a treatment option for selected patients, but there is a paucity of data on the peri-operative safety, functional and oncologic outcomes of sRARP.. The objective of this study was

therefore to describe peri-operative safety, functional and early oncologic outcomes following salvage robot-assisted radical prostatectomy (sRARP) for local recurrence after HIFU-PA.In the near future, the number of young patients suffering from locoregional recurrence of their prostate cancer after external beam radiation will increase. For these patients, androgen deprivation is the most widely used therapy, but it is only palliative. Salvage radical prostatectomy, cryoablation, interstitial brachytherapy, and high-intensity focused ultrasound (HIFU) are treatment options with the potential of curing the patient. Currently, salvage radical prostatectomy offers the best chance for cure. Although a significant reduction in peri- and postoperative complication rates has been reported, surgery remains technically challenging, with a high rate of urinary incontinence. We believe that salvage prostatectomy should be considered only for patients in good general health whose life expectancy is more than 10 years and whose cancer was initially organ-confined before radiation therapy. Salvage cryotherapy might be an alternative to surgery. Complication rates have decreased as technical application has improved considerably within the last years. A major drawback of cryoablation is its lack of reliable and complete ablation of all prostate cells. HIFU and interstitial brachytherapy are minimally invasive salvage options that have been investigated in small clinical studies.Purpose: Feasibility of targeted and volumetric hyperthermia (40-45 °C) delivery to the prostate with a commercial MR-guided endorectal ultrasound phased array system, designed specifically for thermal ablation and approved for ablation trials (ExAblate 2100, Insightec Ltd.), was assessed through computer simulations and tissue-equivalent phantom experiments with the intention of fast clinical translation for targeted hyperthermia in conjunction with radiotherapy and chemotherapy.Purpose: Due to the tissue preserving approach of focal therapy (FT), local cancer relapse can occur. Uncertainty exists regarding triggers and outcome of salvage strategies.High-intensity focused ultrasound (HIFU) is a noninvasive treatment that induces complete coagulative necrosis of a tumor at depth through the intact skin. We evaluated a biochemical disease-free rate, safety and morbidity for localized prostate cancer treated with HIFU. A total of 132 consecutive patients with stage T1c-2N0M0 localized prostate cancer underwent HIFU using Sonablate-500 (Focus Surgery, Indianapolis, USA). The 5-year biochemical disease-free rate in all patients was 67%. The 5-year biochemical disease-free rates for patients with a pretreatment PSA less than 10 ng/ml, 10.01 to 20.0 ng/ml, 20.01-30.0 ng/ml and more than 30.01 ng/ml were 88%, 67%, 34% and 13% (log rank test, $p < 0.0001$), respectively. HIFU therapy appears to be a safe, efficacious and minimally invasive therapy for patients with localized prostate cancer.Background: Prostate cancer (PCa) is the most commonly diagnosed malignancy in men and the second leading cause of cancer death in developed countries. Despite the primary treatments, 20-30% of patients experience a recurrence. The main objective of this study was to evaluate the clinical efficacy of salvage high intensity focused ultrasound (HIF U) after radical prostatectomy in terms of biochemical free survival rate (BFSR) and PSA nadir.The fight against prostate cancer goes beyond radical prostatectomy, radiation therapy, and hormonal therapy. Temperature can also kill cells and proves to be highly successful in this war on prostate cancer. There is no known insensitivity to extremely low or extremely high temperatures.In high intensity focused ultrasound (HIFU) therapy, an ultrasound beam is focused within the body to locally affect the targeted site without damaging intervening tissues. The most common HIFU regime is thermal ablation. Recently there has been increasing interest in generating purely mechanical lesions in tissue (histotripsy). This paper provides an overview of several studies on the development of histotripsy methods toward clinical applications. Two histotripsy approaches and examples of their applications are presented. In one approach, sequences of high-amplitude, short (microsecond-long), focused ultrasound pulses periodically produce dense, energetic bubble clouds that mechanically disintegrate tissue. In an alternative approach, longer (millisecond-long) pulses with shock fronts generate boiling bubbles and the interaction of shock fronts with the resulting vapour cavity causes tissue disintegration. Recent preclinical studies on histotripsy are reviewed for treating benign prostatic hyperplasia (BPH), liver and kidney tumours, kidney stone fragmentation, enhancing anti-tumour immune response, and tissue decellularisation for regenerative medicine applications. Potential clinical advantages of the histotripsy methods are discussed. Histotripsy methods can be used to mechanically ablate a wide variety of tissues, whilst selectivity sparing structures such as large vessels. Both ultrasound and MR imaging can be used for targeting and monitoring the treatment in real time. Although the two approaches utilise different mechanisms for tissue disintegration, both have many of the same advantages and offer a promising alternative method of non-invasive surgery.Purpose: To codify the use of multiparametric magnetic resonance imaging (mpMRI) for the interrogation of prostate neoplasia (PCa) in clinical practice and focal therapy (FT).Purpose: We sought to report the preliminary results of salvage high-intensity focused ultrasound for locally recurrent

prostate cancer in the prostatic bed after radical prostatectomy and adjuvant or salvage radiotherapy.High-intensity focused ultrasound (HIFU) represents a fairly new treatment option for focal therapy of prostate cancer. However, studies evaluating its efficacy have not provided strong data to support the use of HIFU in the majority of patients. Thus, high-profile studies investigating feasibility of the modality in terms of adverse effects seem premature.Five patients with unifocal, biopsy-proven prostate cancer (PCa) evident on multiparametric magnetic resonance imaging (MRI) were treated with magnetic resonance-guided focused ultrasound (MRgFUS) ablation before radical prostatectomy (RP). An endorectal probe featuring a phased-array focused ultrasound transducer was positioned for lesion ablation under MRI guidance. The tissue temperature and accumulation of thermal damage in the target zone was monitored during the procedure by MRI thermometry. Overlap between the ablation area and the devascularisation of the target lesion was evaluated by contrast-enhanced MRI performed immediately after treatment. The procedure was uneventful, and no adverse events were observed. RP was safely performed without significant surgical difficulties in relation to the previous MRgFUS treatment. The histopathology report showed extensive coagulative necrosis, with no residual tumour in the ablated area. Significant bilateral residual tumour, not evident on pretreatment MRI, was observed outside the treated area in two patients. MRgFUS ablation of focal localised PCa is feasible and, if confirmed in appropriate studies, could represent a valid option for the focal treatment of localised PCa.Combination of polymer therapeutics and hyperthermia has been shown to enhance accumulation in selectively heated tumor tissue. The additional use of heat shock (HS)-targeting towards tumor tissues can further enhance accumulation and retention, and improve therapeutic outcomes. In this work, high intensity focused ultrasound (HIFU) was used to generate hyperthermia in prostate tumor tissue. Upregulation of the cell surface HS receptor glucose regulated protein 78 kDa (GRP78) was observed after treatment with HIFU hyperthermia which was then targeted by specific HS-targeting peptides. We used the peptide sequence WDLAWMFRLPVG attached to the side chains of water-soluble N-(2-hydroxypropyl)methacrylamide (HPMA) copolymers containing docetaxel (DOC) conjugated via a lysosomally degradable linker. It was shown that HIFU-mediated HS-targeted copolymer-DOC conjugates improved treatment efficacy in a murine prostate tumor xenograft model. These results show that the use of HIFU hyperthermia in combination with HS-targeted polymer-drug conjugates has potential to improve therapeutic outcomes in prostate cancer treatment.Background: High-intensity focused ultrasound (HIFU) is considered to be an alternative to surgery. Extracorporeal ultrasound-guided HIFU (USgFU) has been clinically used to treat solid tumors. Preliminary trials in a small sample of a Western population suggested that this modality was safe. Most trials are performed in China thereby providing comprehensive data for understanding the safety profile. The aim of this study was to evaluate adverse events of USgFU therapy.Background: Benign ectopia of prostatic glandular tissue in the seminal vesicles is rare with only three prior cases reported in the literature. Prostate cancer, arising within prostatic ectopia in the seminal vesicles, has never been described and therefore presents a challenge in both diagnosis and management.There are few data on the outcomes and toxicity of radical prostatectomy (RP) among men experiencing local recurrence of prostate cancer (PC) following focal therapy (FT). To characterise perioperative, oncological, and functional outcomes after salvage robot-assisted RP (S-RALP) and determine the risk factors for S-RALP failure, we conducted a multicentre cohort study of 82 patients undergoing S-RALP after FT. All had histological confirmation of PC recurrence, with metastatic disease excluded using pelvic magnetic resonance imaging, a bone scan, and/or positron emission tomography/computed tomography. Progression-free survival was 74%, 48%, and 36% at 12, 24, and 36mo after surgery, respectively. The 12-mo continence rate was 83%. There were no intraoperative complications and no major postoperative complications. On multivariable analysis, only infield recurrence (hazard ratio [HR] 3.77, 95% confidence interval [CI] 1.11-12.85; p=0.03) and pT3b stage (HR 5.0, 95% CI 1.53-16.39; p=0.008) were independent predictors of recurrence. This study represents the largest series of salvage surgery after FT and shows that this approach is safe with no increase in toxicity when compared to primary RALP. Men identified as having infield recurrence after FT appear to have phenotypically aggressive disease and should be counselled regarding the potential need for a multimodal therapeutic approach. PATIENT SUMMARY: Robotic surgery after focal therapy for prostate cancer is safe and achieves postoperative continence results similar to those for robotic radical prostatectomy in treatment-naïve patients. However, if the cancer recurrence is within the previously treated field, the oncological prognosis seems to be worse.Background: Focal therapy (FT) for localized prostate cancer (PCa) treatment is raising interest. New technological mpMRI-US guided FT devices have never been compared with the previous generation of ultrasound-only guided devices.Intra-fraction motion of the

prostate was recorded during 721 fractions of image guided radiotherapy (IGRT) in 28 patients, 14 of which were treated by intensity modulated radiation therapy (IMRT), and 14 of which were treated by volumetric arc therapy (VMAT). The prostate was imaged by three-dimensional and time-resolved transperineal ultrasound (4D-US) of type Clarity by Elekta, Stockholm, Sweden. The prostate volume was registered and the prostate position (center of volume) was recorded at a frequency of 1.6 samples per second. This raw data set contains a total of 380.199 prostate and patient couch positions over a time span of 53 hours, 47 minutes and 29 seconds of life radiotherapy as exported by the instrument software. This data set has been used for the validation of models of prostate intra-fraction motion and for the estimation of the dosimetric impact of actual intra-fraction motion on treatment quality and side effects. We hope that this data set may be reused by other groups for similar purposes.Performance of 16 (16 g) (n=103) and 18 gauge (18 g) (n=101) biopsy needles in transrectal ultrasound (TRUS)-guided 10-core prostate biopsies were compared in terms of cancer detection and pre-defined specimen quality criteria in this prospective randomized study. Cancer detection rates of the two groups were similar, although the mean core volume of 16 g needles was almost twice that of 18 g needles. On the other hand, using 16 g needles significantly improved specimen quality by acquiring less empty cores, small cores and fragmented cores. There were no significant differences among the complication rates and VAS pain scores of the two groups. Sixteen gauge needles can safely be used in TRUS-guided prostate biopsies, as they improve specimen quality without increasing morbidity and patient discomfort.Purpose: To assess the use of the new Focal-One® HIFU platform in salvage setting to evaluate the occurrence of postoperative complications.Purpose: High intensity focused ultrasound (HIFU) provides a non-invasive salvage treatment option for patients with recurrence after external beam radiation therapy (EBRT). As part of EBRT the prostate is frequently implanted with permanent fiducial markers. To date, the impact of these markers on subsequent HIFU treatment is unknown. The objective of this work was to systematically investigate, using computational simulations, how these fiducial markers affect the delivery of HIFU treatment.The Kiel University technique of intensity modulated brachytherapy boost implantations complementary to external beam radiation used in the treatment of prostate cancer patients was improved by involving real-time three-dimensional transrectal ultrasound analysis of the prostate gland both before implantation and after the implantation but before capture of the transrectal ultrasound images for real-time dynamic treatment planning. Implantation technique, treatment planning procedure, and dose delivery are described as practiced at the University Hospital Schleswig-Holstein Campus Lübeck, Germany.Objective: We report our initial experience in the treatment of prostate cancer (PCa) with high-intensity focused ultrasound (HIFU) using the Focal-One® device.Objective: To evaluate the therapeutic effect of high-intensity focused ultrasound (HIFU) combined with chemotherapy (paclitaxel + estramustine) on AT2 Dunning adenocarcinoma, as no satisfactory treatment for localized prostate cancer is available for patients with a poor prognosis, e.g. stage T3, a high Gleason score, or a prostate-specific antigen level of >15 ng/mL.Purpose: We quantified prostate swelling and the intraprostatic point shift during high intensity focused ultrasound using real-time ultrasound.The UK National Institute for Health and Care Excellence (NICE) 2019 "Prostate cancer: diagnosis and management" guidelines have recommended that all patients suspected of prostate cancer undergo multiparametric magnetic resonance imaging (mpMRI) prior to biopsy. The Likert scoring system is advocated for mpMRI reporting based on multicentre studies that have demonstrated its effectiveness within the National Health Service (NHS). In recent years, there has been considerable drive towards standardised prostate reporting, which led to the development of "Prostate Imaging-Reporting And Data System" (PI-RADS). The PI-RADS system has been adopted by the majority of European countries and within the US. This paper reviews these systems indicating the similarities and specific differences that exist between PI-RADS and Likert assessment through a series of histologically proven clinical cases.Aim: To assess outcomes of whole gland high-intensity focused ultrasound (HIFU) as compared with minimally-invasive radical prostatectomy (MIRP) in elderly patients.Aims: High intensity focused ultrasound (HIFU) is an emerging alternative for the treatment of prostate adenocarcinoma. Alpha-methylacyl-CoA racemase (AMACR) has been shown to be a sensitive immunomarker for prostate cancer, however, there is no information available concerning its utility and that of other immunomarkers for the detection of malignancy after HIFU therapy.Objectives: To evaluate the first results of salvage radiotherapy after high-intensity focused ultrasound (HIFU) in terms of feasibility, tolerance, and oncologic control.Introduction: The aim of our study was to evaluate the significance of transurethral resection of the prostate (TURP) to detect prostate cancer (PCa). A comparison was performed of the TURP specimens of patients undergoing high-intensity focused ultrasound (HIFU) with the core biopsies.Objectives: Fiducial markers improve

accuracy in external beam radiation therapy (EBRT) for treatment of prostate cancer (PCa). However, many patients recur after EBRT necessitating additional treatment, such as MR-guided transurethral ultrasound ablation (TULSA). Residual markers may compromise TULSA through ultrasound field distortions and generation of local susceptibility artifacts. The objective was to investigate how markers affect the ablation outcome during clinical TULSA treatments.Background: Transrectal prostate biopsy has limited diagnostic accuracy. Prostate Imaging Compared to Transperineal Ultrasound-guided biopsy for significant prostate cancer Risk Evaluation (PICTURE) was a paired-cohort confirmatory study designed to assess diagnostic accuracy of multiparametric magnetic resonance imaging (mpMRI) in men requiring a repeat biopsy.Objective: To confirm the correlation between planning and thermal injury of the prostate as determined by magnetic resonance imaging (MRI) and histology in canine and humans treated with transurethral ultrasound.Purpose: We evaluated focal therapy with high intensity focused ultrasound hemiablation in a prospective trial.Avascular areas on contrast-enhanced magnetic resonance imaging have been considered to be areas of localized prostate cancer successfully treated by high-intensity focused ultrasound. However, the optimal timing of magnetic resonance imaging has not been discussed. The thermal effect of high-intensity focused ultrasound is degraded by regional prostatic blood flow. Conversely, the mechanical effect of high-intensity focused ultrasound (cavitation) is not affected by blood flow, and can induce vessel damage. In this series, the longitudinal change of blood flow on contrast-enhanced magnetic resonance imaging was observed from postoperative day 1 to postoperative day 14 in 10 patients treated with high-intensity focused ultrasound. The median rates of increase in the non-enhanced volume of the whole gland, transition zone and peripheral zone from postoperative day 1 to postoperative day 14 were 36%, 39%, and 34%, respectively. In another pathological analysis of the prostate tissue of 17 patients immediately after high-intensity focused ultrasound without neoadjuvant hormonal therapy, we observed diffuse coagulative degeneration and partial non-coagulative prostate tissue around arteries with vascular endothelial cell detachment. These observations on contrast-enhanced magnetic resonance imaging support a time-dependent change of the blood flow in the prostate treated with high-intensity focused ultrasound. Additionally, our pathological findings support the longitudinal changes of these magnetic resonance imaging findings. Further large-scale studies will investigate the most appropriate timing of contrast-enhanced magnetic resonance imaging for evaluation of the effectiveness of high-intensity focused ultrasound for localized prostate cancer.Introduction: Active surveillance (AS) is commonly recommended for men with localized low-intermediate-risk prostate cancer (PCa). The aim of our study was to assess the probability that patients with PCa would develop unfavorable disease features (UDF) while under AS for the purpose of evaluating whether immediate hemiablation therapy (HAT) could bring clinical benefit to selected patients.In high-intensity focused ultrasound (HIFU) surgery, it is desirable to produce a large necrotic area per sonication for reduced treatment time. It has been well known that the conventional split-focus scheme capable of generating multiple foci can increase a necrotic region in the lateral or elevational direction. To treat a deep-seated target, it is necessary to generate an expanded necrotic region in the axial direction. In this paper, a novel sonication scheme capable of producing an expanded coagulated region in the both lateral and axial directions is presented. The proposed method can generate multi-focal spots in the lateral and axial directions by using a dual concentric-sectored (DCS) HIFU transducer based on phase-shifted ultrasound excitation. A sound field simulation was employed for this investigation. Four electrical signals with identical center frequencies and different phases activated the DCS transducer, composed of a disc and an annular element with a confocal point. Four 4-MHz ultrasound signals with different phases were transmitted to the target simultaneously, resulting in generation of dual-focal spots in the lateral and axial directions. The sound field simulation results showed that the 0-6-dB lateral and axial beamwidths of the DCS transducer were maximally 79% and 91% broader than the single-element transducer. Subsequently, bio-heat transfer and thermal dose simulation results were matched to the sound field simulation. Hence, the DCS HIFU transducer combined with phase-shifted excitation may be a promising approach to treat a deep-seated target and to reduce treatment time for HIFU surgery.Objective: To assess clinical safety (primary) and efficacy (secondary) of histotripsy for treatment of symptomatic benign prostatic enlargement in a first-in human study.Not long ago, survival rates were the primary outcome measures of surgical management of prostate cancer. Currently, more attention is paid to the quality of life, because even minor changes in the quality of life can lead to serious alterations in the psycho-emotional status and significantly reduce patients' self-esteem. Most experts believe that the quality of life of patients treated for prostate cancer, is mostly affected by urinary incontinence, erectile dysfunction, urethral stricture, and bowel dysfunction. Thanks to advances in the treatment of prostate

cancer, the incidence of complications was reduced to a minimum. To some extent, this was due to the use of novel minimally invasive treatment for prostate cancer, such as cryoablation, interstitial brachytherapy and HIFU-therapy. The quality of life in 65 patients undergoing cryoablation of the prostate was evaluated using EORTC QLQ-C30 questionnaire. Analyzing the findings of the survey enabled us to estimate the patients' quality of life, as well as to identify the various components of the postoperative health problems.Purpose: High-intensity focused ultrasound (HIFU) has been investigated for ablative therapy and drug enhancement for gene therapy and chemotherapy. The aim of this work is to explore the feasibility of pulsed focused ultrasound (pFUS) for cancer therapy using an in vivo animal model.Purpose: Transurethral MR-HIFU is a minimally invasive image-guided treatment for localized prostate cancer that enables precise targeting of tissue within the gland. The treatment is performed within a clinical MRI to obtain real-time MR thermometry used as an active feedback to control the spatial heating pattern in the prostate and to monitor for potential damage to surrounding tissues. This requires that the MR thermometry measurements are an accurate representation of the true tissue temperature. The proton resonance frequency shift thermometry method used is sensitive to tissue motion and changes in the local magnetic susceptibility that can be caused by the motion of air bubbles in the rectum, which can impact the performance of transurethral MR-HIFU in these regions of the gland.Since 1989, when Hodge and al. demonstrated transrectal ultrasound guided prostate biopsy, it has become a "gold standard" for the diagnosis of prostate cancer. According to the experience gained in the period 1999-2003 in the Department of Urology-Medical University, Sofia, in a prospective follow-up of 20 prostate cancer patients, we found relationship between the positive tru-cut biopsy cores and the rate of positive lymph nodes.Aims: High intensity focused ultrasound (HIFU) is currently offered as primary treatment for patients with clinically localised prostate cancer. Data on histopathological features of post-treatment biopsies are limited.Prostate segmentation from transrectal ultrasound (TRUS) images plays an important role in the diagnosis and treatment planning of prostate cancer. In this paper, a fully automatic slice-based segmentation method was developed to segment TRUS prostate images. The initial prostate contour was determined using a novel method based on the radial bas-relief (RBR) method, and a false edge removal algorithm proposed here in. 2D slice-based propagation was used in which the contour on each image slice was deformed using a level-set evolution model, which was driven by edge-based and region-based energy fields generated by dyadic wavelet transform. The optimized contour on an image slice propagated to the adjacent slice, and subsequently deformed using the level-set model. The propagation continued until all image slices were segmented. To determine the initial slice where the propagation began, the initial prostate contour was deformed individually on each transverse image. A method was developed to self-assess the accuracy of the deformed contour based on the average image intensity inside and outside of the contour. The transverse image on which highest accuracy was attained was chosen to be the initial slice for the propagation process. Evaluation was performed for 336 transverse images from 15 prostates that include images acquired at mid-gland, base and apex regions of the prostates. The average mean absolute difference (MAD) between algorithm and manual segmentations was 0.79±0.26mm, which is comparable to results produced by previously published semi-automatic segmentation methods. Statistical evaluation shows that accurate segmentation was not only obtained at the mid-gland, but also at the base and apex regions.Background: Surgery is the only curative treatment in patients with colorectal liver metastases (CLM), but only 10-20% of patients are eligible. High Intensity Focused Ultrasound (HIFU) technology is of proven value in several indications, notably prostate cancer. Its intra-operative use in patients with CLM has not previously been studied. Preclinical work suggested the safety and feasibility of a new HIFU device capable of ablating volumes of up to 2cm x 2cm in a few seconds.High-intensity focused ultrasound describes the use of high-intensity focused ultrasound (HIFU) to ablate tumours without requiring an incision or other invasive procedure. This technique has been trialled on a range of tumours including uterine fibroids, prostate, liver and renal cancer. We describe our experience of using HIFU to ablate sacral chordoma in four patients with advanced tumours. Patients were treated under general anaesthetic or sedation using an ultrasound-guided HIFU device. HIFU therapy was associated with a reduction in tumour volume over time in three patients for whom follow up scans were available. Tumour necrosis was reliably demonstrated in two of the three patients. We have established a national trial to assess if HIFU may improve long-term outcome from sacral chordoma, details are given.Purpose: The purpose of this study was to investigate the potential of MR-guided pulsed focused ultrasound (pFUS) for the enhancement of drug uptake in prostate tumors in vivo using doxorubicin (Dox).HIFU is used in the treatment of cancer (prostate, breast) and uterine fibroma but not yet in TNs. This case report describes

the first successful ablation of a toxic TN with HIFU. TSH and radioiodine scan normalization were achieved without complications and maintained for 18 months. HIFU treatment is a minimally invasive technique that may be an effective safe alternative to radioiodine or surgery in patients with toxic TNs.The database of examining 624 patients aged 49-85 were analyzed to define the diagnostic effectiveness of gray-scale, color and power Doppler transrectal ultrasonography (TRUS). Among them there are 473 (75.8%) cancer patients and 151 (24.2%) benign prostate diseases patients. All the patients underwent a transrectal ultrasound examination with multifocal biopsy. The gray-scale, color and power Doppler transrectal ultrasound examination has the diagnostic accuracy of 75,3%. At this the effectiveness of the method increases with the Gleason sum growing.Background: Treatment options for radio-recurrent prostate cancer are either androgen-deprivation therapy or salvage prostatectomy. Whole-gland high-intensity focussed ultrasound (HIFU) might have a role in this setting.Our aim was to evaluate the influence of regional prostate blood flow (rPBF) on high-intensity focused ultrasound (HIFU) treatment outcome. A total of 48 patients with clinically localized prostate cancer were examined by dynamic contrast-enhanced (DCE)-MRI prior to HIFU therapy. A prostate-specific antigen (PSA) nadir threshold of 0.2 ng/ml was used to define the populations of responders and nonresponders. A dedicated tracer kinetic model, namely "monoexponential plus constant" (MPC) deconvolution, was implemented to provide quantitative estimates of rPBF. The results were compared with those obtained by semiquantitative (steepest slope, mean gradient) and quantitative (Fermi deconvolution) approaches. Of the four methods studied, quantitative rPBF obtained by MPC deconvolution proved the most sensitive to the perfusion changes encountered in this study. Furthermore, blood-flow values obtained with MPC deconvolution in the prostate and muscle (12 +/- 8 and 5 +/- 3 ml/min/100 g, respectively) were in good agreement with literature data. The mean pretreatment rPBF obtained with MPC deconvolution was significantly higher in nonresponders compared to responders (16 +/- 9 vs. 10 +/- 6 ml/min/100 g), suggesting a correlation between baseline perfusion and treatment outcome. The present work describes and validates the use of dynamic MRI to estimate rPBF in patients, which in the future may help to refine the conduct of HIFU therapy.Purpose To compare the abilities of three pulsed focused ultrasound regimes (that cause tissue liquefaction, permeabilization, or mild heating) to release tumor-derived microRNA into the circulation in vivo and to evaluate release dynamics. Materials and Methods All rat experiments were approved by the University of Washington Institutional Animal Care and Use Committee. Reverse-transcription quantitative polymerase chain reaction array profiling was used to identify candidate microRNA biomarkers in a rat solid tumor cell line. Rats subcutaneously grafted with these cells were randomly assigned among three pulsed focused ultrasound treatment groups: (a) local tissue liquefaction via boiling histotripsy, (b) tissue permeabilization via inertial cavitation, and (c) mild (<10°C) heating of tissue, as well as a sham-treated control group. Blood specimens were drawn immediately prior to treatment and serially over 24 hours afterward. Plasma microRNA was quantified with reverse-transcription quantitative polymerase chain reaction, and statistical significance was determined with one-way analysis of variance (Kruskal-Wallis and Friedman tests), followed by the Dunn multiple-comparisons test. Results After tissue liquefaction and cavitation treatments (but not mild heating), plasma quantities of candidate biomarkers increased significantly (P value range, <.0001 to .04) relative to sham-treated controls. A threefold to 32-fold increase occurred within 15 minutes after initiation of pulsed focused ultrasound tumor treatment, and these increases persisted for 3 hours. Histologic examination confirmed complete liquefaction of the targeted tumor area with boiling histotripsy, in addition to areas of petechial hemorrhage and tissue disruption by means of cavitation-based treatment. Conclusion Mechanical tumor tissue disruption with pulsed focused ultrasound-induced bubble activity significantly increases the plasma abundance of tumor-derived microRNA rapidly after treatment. © RSNA, 2016 Online supplemental material is available for this article.Purpose: Rectourinary fistula (RUF) is an uncommon but devastating condition that usually occurs as a complication of surgical treatment or radiotherapy of prostate cancer. Although operative fistula repair remains the most successful treatment, there still is no consensus concerning the management of RUF. We present first experiences and transanal surgical technique using biological mesh for fistula repair after urological intervention.This work examines the use of lanthanide-based contrast agents and magnetic resonance imaging in monitoring liposomal behavior in vivo. Dysprosium (Dy) and gadolinium (Gd) chelates, Dy-diethylenetriaminepentaacetic acid bismethylamide (Dy-DTPA-BMA) and Gd-DTPA-BMA, were encapsulated in pegylated distearoylphosphatidylethanolamine-based (saturated) liposomes, and then intravenously injected into Copenhagen rats with subcutaneous Dunning AT2 xenografts. Liposome-encapsulated Dy chelate shortens transverse relaxation times (T(2) and T(2)*) of tissue;

thus, liposomal accumulation in the tumor can be monitored by observing the decrease in T(2)* relaxation time over time. The tumor was treated at the time of maximum liposomal accumulation (48 h) with confocal, cavitating high-intensity focused ultrasound to induce liposomal payload release. Using liposome-encapsulated Gd chelate at high enough concentrations and saturated liposomal phospholipids induces an exchange-limited longitudinal (T(1)) relaxation when the liposomes are intact; when the liposomes are released, exchange limitation is relieved, thus allowing in vivo observation of payload release as a decrease in tumor T(1).High intensity focused ultrasound (HIFU) under MRI guidance may provide minimally invasive treatment for localized prostate cancer. In this study, ex vivo and in vivo experiments were performed using a prostate-dedicated endorectal phased array (16 circular elements arranged on a truncated spherical cap of radius 60 mm) and a translation-rotation mechanical actuator in order to evaluate the lesion formation and the potential interest of dual-modality (electronic and mechanical) interleaved displacement of the focus for volumetric sonication paradigms. Different sonication sequences, including elementary lesions, line scan, slice sweeping and volume sonications, were investigated with a clinical 1.5 T MR scanner. Two orthogonal planes (axial and sagittal) were simultaneously monitored using rapid MR thermometry (PRFS method) and the temperature and thermal dose maps were displayed in real time. No RF interferences were detected in MR acquisition during sonications. The shape of the thermal lesions in vivo was examined at day 5 post-treatment by MRI follow-up (T2w sequence and Gd-T1w-TFE) and postmortem histological analysis. This study suggests that electronic displacement of the focus (along the ultrasound propagation axis) interleaved with mechanical X-Z translations and rotation around B(0) can be a suitable modality to treat patient-specific sizes and shapes of a pathologic tissue. The electronic displacement of focus (achieved in less than 0.1 s) is an order of magnitude faster than the mechanical motion of the HIFU device (1 s latency). As an example, for an in vivo volumetric sonication with foci between 32 and 47 mm (7 successive line scans, 11 lines/slice, 4 foci/line) with applied powers between 17.4 and 39.1 Wac, a total duration of sonication of 408.1 s was required to ablate a volume of approximately 5.7 cm(3) (semi-chronic lesion measured at day 5), while the maximum temperature elevation reached was 30 °C. While electronic focusing is necessary to speed up the procedure, one should consider as a potential drawback the non-negligible risk for generating secondary lobes with full steering in 3D. Reference-free PRFS thermometry accurately removed the effects of B(o) dynamic perturbation in the vicinity of the moving transducer. Therefore, the dual-modality volumetric sonication paradigm represents a cost-effective technological compromise to induce the desired shape of the lesion in the prostate through the limited endorectal space, in a reasonable period of time and without side effects.Purpose: We describe the pathological characteristics of recurrence following high intensity focused ultrasound partial ablation in men treated with salvage robot-assisted radical prostatectomy. We assessed the sensitivity of magnetic resonance imaging before salvage robot-assisted radical prostatectomy in these men.Aim: of the study: demonstrate the feasibility of non-invasive mechanical disintegration of human prostate tissue using pulsed high-intensity focused ultrasound (pHIFU), a method termed boiling histotripsy.At the time of diagnosis, prostate cancer is organ confined in 70% of the cases. Of these patients, 25% undergo local therapy (surgery/radiation), and 75% risk disease progression by "watchful waiting" or systemic side effects through hormonal ablation. Local high-intensity focused ultrasound (HIFU) for minimal invasive tissue coagulation (85 degrees C) ablates prostatic tissue with high precision. Follow-up sextant biopsies (1.9) showed 80% of the patients to be cancer free. In those cases with residual cancer, the tumor mass was reduced by more than 90%. The PSA nadir in 97% was < 4 ng/ml, including 61% < 0.5 ng/ml. After primary HIFU, no severe side effects occurred (no fistula, no grade II/III incontinence, no rectal mucosa burn). As auxiliary treatments, all patients received a suprapubic tube (29 days), and 33% needed a transurethral debris resection (TUR 7 g). The patients were released from the hospital within 24 h after treatment. According to the short-term follow-up, transrectal HIFU enables minimal invasive local prostate tissue ablation with high rates of negative biopsies, low PSA nadir, and low complication rate.Objectives: To determine the efficacy and adverse effects of high intensity focused ultrasound (HIFU) for the treatment of local recurrence of prostate cancer after exclusive external beam radiotherapy.Objective: To analyse the functional and oncologic outcomes at one year of focal therapy with HIFU compared with total prostatectomy in patients with localised prostate cancer (PCa).Introduction: The aim of this study was to review the oncological and functional outcomes of new and established primary focal treatments (FT) for localized prostate cancer (PCa).In 2016, it is estimated 180,890 men are newly diagnosed with prostate cancer and 3,306,760 men live with prostate cancer in the United States. The introduction of multiparametric (mp) magnetic resonance imaging (MRI) of the prostate, standardised interpretation

guidelines such as Prostate Imaging Reporting and Data System (PI-RADS version 2), and MRI-based targeted biopsy has improved detection of clinically significant prostate cancer. Accurate risk stratification (Gleason grade/score and tumour stage) using imaging and image-guided targeted biopsy has become critical for the management of patients with prostate cancer. Recent advances in MRI-guided minimally invasive ablative treatment (MIAT) utilising cryoablation, laser ablation, high-intensity focused ultrasound ablation, have allowed accurate focal or regional delivery of optimal thermal energy to the biopsy proven, MRI-detected tumour, under real-time or near simultaneous MRI monitoring of the ablation zone. A contemporary review on prostate mpMRI, MRI-based targeted biopsy, and MRI-guided ablation techniques is presented.Purpose of review: The use of MRI in the early detection of prostate cancer (PCa) is increasing rapidly. In the last couple of years, there have been a number of key publications that have led to its adoption in the UK and European guidelines.MRI guided Focused Ultrasound (MRgFUS) has shown to be effective therapeutic modality for non-invasive clinical interventions in ablating of uterine fibroids, in bone metastasis palliative treatments, and in breast, liver, and prostate cancer ablation. MRgFUS combines high intensity focused ultrasound (HIFU) with MRI images for treatment planning and real time thermometry monitoring, thus enabling non-invasive ablation of tumor tissue. Although in the literature there are several studies on the Ultrasound (US) effects on cell in culture, there is no systematic evidence of the biological effect of Magnetic Resonance guided Focused Ultrasound Surgery (MRgFUS) treatment on osteosarcoma cells, especially in lower dose regions, where tissues receive sub-lethal acoustic power. The effect of MRgFUS treatment at different levels of acoustic intensity (15.5-49 W/cm2) was investigated on Mg-63 and Saos-2 cell lines to evaluate the impact of the dissipation of acoustic energy delivered outside the focal area, in terms of cell viability and osteogenic differentiation at 24 h, 7 days, and 14 days after treatment. Results suggested that the attenuation of FUS acoustic intensities from the focal area (higher intensities) to the "far field" (lower intensities) zones might determine different osteosarcoma cell responses, which range from decrease of cell proliferation rates (from 49 W/cm2 to 38.9 W/cm2) to the selection of a subpopulation of heterogeneous and immature living cells (from 31.1 W/cm2 to 15.5 W/cm2), which can clearly preserve bone tumor cells.Introduction: Focal therapy (FT) targets individual areas of cancer within the prostate, providing oncological control with minimal side-effects. Early evidence demonstrates encouraging short-medium-term outcomes. With no randomized controlled trials (RCT) comparing FT to radical therapies, Comparative Healthcare Research Outcomes of Novel Surgery in prostate cancer (CHRONOS) will compare the cancer control of these two strategies.Purpose: The ability to estimate prostate weight is useful. Two commonly used methods for estimating prostate weight are digital rectal examination (DRE) and transrectal ultrasonography (TRUS). We evaluated the relative accuracy of these weight estimates by comparing them to prostate weight following radical retropubic prostatectomy (RRP).Focal therapy is emerging as an alternative to active surveillance for the management of low-risk prostate cancer in carefully selected patients. The aim of focal therapy is long-term cancer control without the associated morbidity that plagues all radical therapies. Different energy modalities have been used to focally ablate cancer tissue, and available techniques include cryotherapy, laser ablation, high-intensity focused ultrasound and photodynamic therapy. The majority of evidence for focal therapy has come from case series and small phase I trials, and larger cohort studies with longer follow-up are only now being commenced. More data from large trials on the safety and efficacy of focal therapy are therefore required before this approach can be recommended in men with prostate cancer; in particular, studies must confirm that no viable cells remain in the region of ablation. Focal therapy might eventually prove to be a 'middle ground' between active surveillance and radical treatment, combining minimal morbidity with cancer control and the potential for re-treatment.Context: Recent studies suggested that magnetic resonance imaging (MRI) followed by targeted biopsy ("MRI-stratified pathway") detects more clinically significant prostate cancers (csPCa) than the systematic transrectal ultrasound-guided prostate biopsy (TRUS-Bx) pathway, but controversy persists. Several randomized clinical trials (RCTs) were recently published, enabling generation of higher-level evidence to evaluate this hypothesis.Objectives: To assess if prostate-specific antigen (PSA) nadir is an independent predictor of treatment failure and disease-free survival after high-intensity focussed ultrasound (HIFU) therapy for localised prostate cancer as defined by the new ASTRO criteria.Background: With growing interest in focal therapy (FT) of prostate cancer (PCa) there is an increasing armamentarium of treatment modalities including high-intensity focused ultrasound (HIFU), cryotherapy, focal laser ablation (FLA), irreversible electroporation (IRE), vascular targeted photodynamic therapy (VTP), focal brachytherapy (FBT) and stereotactic ablative radiotherapy (SABR). Currently there are no clear recommendations as to which of these technologies are

appropriate for individual patient characteristics. Our intention was to review the literature for special aspects of the different technologies that might be of advantage depending on individual patient and tumour characteristics.Objective: This retrospective study compares dynamic contrast-enhanced (DCE) MRI with the serial prostate-specific antigen (PSA) measurement for detection of residual disease following whole-gland high-intensity focused ultrasound (HIFU) therapy of prostate cancer.The combination of T2-weighted MRI with functional MRI, including contrast-enhanced MRI, diffusion-weighted imaging and magnetic resonance spectroscopy, has been recognized as the most promising diagnostic modality for the detection and staging of localized prostate cancer. In spite of the relatively low predictive value of the transrectal ultrasonography (US) image alone, transrectal US-guided prostate biopsy is currently the most clinically used, gold standard technique to confirm pathological prostate cancer. A possible way of improving the precision of prostate biopsy is to use computer-aided analysis, the fusion of the US image with MRI, or by introducing contrast-enhanced US, elastography and/or 3D US to be coupled with computer-assistance or robotic needle placement. Computer-aided surgical navigation systems with image-fusion or image-overlaying capability, integrated with real-time organ tracking systems and/or robotic systems for feedback on the 3D spatial positions of the surgical targets and instruments, can provide attractive opportunities to improve the digitally-coordinated precision of minimally invasive urology, along with predictive ability to guide toward ideal surgical outcomes.Transrectal ultrasound (TRUS)-guided systematic biopsy, the current gold standard for the detection of prostate cancer, suffers from low sensitivity for clinically significant cancer. The use of diagnostic multiparametric MRI has increased the relevance of targeted biopsy techniques such as MRI-TRUS fusion biopsy and direct (in-bore) MRI-guided biopsy, which have higher detection rate for clinically significant cancer. Although primarily used in patients who remain at high clinical suspicion for prostate cancer despite a negative systematic biopsy, with the increasing use of upfront diagnostic MRI, these biopsies are expected to replace routine systematic biopsies. This pictorial essay aims to enhance our understanding of the concepts of these biopsy techniques so that they can be performed safely and provide maximum diagnostic yield.Purpose: To assess usefulness of ((18)F)-fluorocholine positron emission tomography (PET) for localizing relapse in patients with biochemical relapse from prostate adenocarcinoma and its impact on indications of salvage local therapy.The objective of this study was to develop a robust non-linear mixed model for prostate-specific antigen (PSA) measurements after a high-intensity focused ultrasound (HIFU) treatment for prostate cancer. The characteristics of these data are the presence of outlying values and non-normal random effects. A numerical study proved that parameter estimates can be biased if these characteristics are not taken into account. The intra-patient variability was described by a Student-t distribution and Dirichlet process priors were assumed for non-normal random effects; a process that limited the bias and provided more efficient parameter estimates than a classical mixed model with normal residuals and random effects. It was applied to the determination of the best dynamic PSA criterion for the diagnosis of prostate cancer recurrence, but could be used in studies that rely on PSA data to improve prognosis or compare treatment efficiencies and also with other longitudinal biomarkers that, such as PSA, present outlying values and non-normal random effects.Background: Local high-intensity focused ultrasound (HIFU) is a minimally invasive method of coagulation (85 degrees C) that ablates prostatic tissue with high precision.To determine the utility of transrectal ultrasound (TRUS)-guided 10-core prostate biopsy (sextant plus 4 far lateral cores) for Japanese patients, we compared it with the standard sextant for detection of prostate cancer. The study patients were 564 consecutive Japanese men (median age 71 years) who underwent 10-core biopsy because of PSA values of > or = 2.0 ng/ml at Hiroshima University Hospital between March 2000 and December 2004. The overall cancer detection rate for the 10-core biopsy was 42.6% (240/564), which was significantly higher than the 36.3% (205/564) for the standard sextant biopsy (P=0.0330), with a 14.6% (35/240) improvement. The 10-core biopsy also detected a significant number of additional cancers in the sub-groups of patients with PSA values of 2 to approximately 10 ng/ml (P=0.0275), a prostate volume of > 20 cc (P=0.0440), or normal findings of digital rectal examination (P=0.0304). The 10-core biopsy scheme detected 9.6% and 2.1 to approximately 8.3% more cancers than the lateral sextant (apex, lateral mid portion, and lateral base) and the probable different combinations of 8-core biopsy designs, respectively. Compared to the standard sextant biopsy, the 10-core biopsy did not detect an increased proportion of clinically insignificant cancers. There was no severe morbidity, and only 2 patients (0.4%) were briefly hospitalized due to high fever. These results show that the TRUS-guided 10-core biopsy yields a better prostate cancer detection rate than the 6-core or 8-core protocol without severe complications. Therefore, it seems to be practicable for Japanese patients.Recent advances in high-intensity focused

ultrasound, which was developed in the 1940s as a viable thermal tissue ablation approach, have increased its popularity. High-intensity focused ultrasound is currently utilized the most in Europe and Japan, but has not yet been approved by the Food and Drug Administration, USA, for this indication. The purpose of the present report is to review the scientific foundation of high-intensity focused ultrasound technology and the clinical outcomes achieved with commercially available devices. Recently published articles were reviewed to evaluate the current status of high-intensity focused ultrasound as a primary or salvage treatment option for localized prostate cancer. Improvements in the clinical outcome as a result of technical, imaging and technological advancements are described herein. A wide range of treatment options for organ-confined prostate cancer is available. However, high-intensity focused ultrasound is an attractive choice for men willing to choose less invasive options, although establishing the efficacy of high-intensity focused ultrasound requires longer follow-up periods. Technological advances, together with cultural and economic factors, have caused a dramatic shift from traditional open, radical prostatectomy to minimally invasive techniques. High-intensity focused ultrasound is likely to play a significant role in the future of oncology practice.Purpose: We analyzed the oncologic and functional outcomes of partial gland ablation compared with robot-assisted radical prostatectomy in patients with low and intermediate risk prostate cancer.Introduction: Prostate cancer is one of the most common types of cancer in men. The gold standard for the detection of prostate cancer is ultrasound guided transrectal prostate biopsy. The detectability of cancer using this method is from 30 to 50%. As a result, many men undergo multiple repeat biopsies for suspected prostate cancer. The European Association of Urology does not give any recommendations on this matter. A revolutionary new method in the diagnosis of prostate cancer is a targeted prostate biopsy using a fusion of multiparametric magnetic resonance imaging (MRI) and ultrasound.Early prostate cancers are best detected with transrectal ultrasound (TRUS)-guided core biopsy of the prostate. Due to increased longevity and improved prostate cancer screening, more men are now subjected to TRUS-guided biopsy. To improve the detection rate of early prostate cancer, the current trend is to increase the number of cores obtained. The significant pain associated with the biopsy procedure is usually neglected in clinical practice. Although it is currently underutilized, the periprostatic nerve block is an effective technique to mitigate pain associated with prostate biopsy. This article reviews contemporary issues pertaining to pain during prostate biopsy and discusses the practical aspects of periprostatic nerve block.Objective: •To determine if the prostate-specific antigen (PSA) nadir after high-intensity focused ultrasound (HIFU) can be used as a predictor of the biochemical disease-free survival rate (DFSR).Objectives: To estimate the impact of peri-prostatic fat (PPF) measurements using preoperative magnetic resonance imaging on the prediction of prostate cancer (PCa) with transrectal ultrasound-guided biopsy.The study was aimed to the improvement of the diagnosis and treatment of patients with prostate cancer (PC). The study included 46 patients with recurrent prostate cancer after radical prostatectomy (RPE). The examination included contrast enhanced magnetic resonance imaging (endorectal coil 1.5T) and hystoscanning. All patients had local recurrence confirmed by the morphologically results of transrectal biopsy of the area of vesicourethral anastomosis. All patients underwent high-intensity focused ultrasound (HIFU). Before RPE, protate volume ranged from 21 to 102 cm3. The median age was 62 (46-68) years. PSA levels before a HIFU session ranged from 0.4 to 18 ng/ml. Nadir PSA level after 3 months of follow up was 0.1 ng/ml. Five-year disease-free survival in patients with locally recurrent prostate cancer after HIFU in the group of low cancer risk was 10 (81%), moderate risk--18 (57%), high risk--12 (42%). Contrast enhanced magnetic resonance imaging and hystoscanning are highly informative methods for diagnosis of local recurrence after radical prostatectomy, and HIFU can be categorized as highly effective treatment.Diagnosis of the prostate cancer is based on clinical, biochemical and histological examinations, as well as various imaging techniques. From the last listed group, magnetic resonance imaging (MRI) provides precise identification of focal areas and local staging of the cancer. It improves evaluation of the local extracapsular extension and involvement of regional lymph nodes, which has significant implications for a patient management. MRI, supplemented by dynamic contrast enhanced and diffusion-weighted imaging (DWI), is especially useful in detection of small focal lesions. MRI also plays an important role in the evaluation of a local recurrence and monitoring of the early and late response to treatment. Whole-body MRI should be performed in patients with a disseminated disease. In patients with an increased level of prostate specific antigen (PSA), small lesions, local recurrence and distant metastases, not detected by other imaging techniques, a positron emission tomography (PET) should be also performed. Computed tomography (CT) does not play a significant role in the diagnosis of the primary prostate cancer, however new CT scanners improve the accuracy of prostate cancer staging.

Diagnostic imaging is also widely used in the screening process. Transrectal ultrasound (TRUS) examination of the organ is applied to obtain systematic core biopsies for a histological examination.The growing interest in high-intensity focused ultrasound (HIFU) technology is mainly due to its many potential applications as a new energy source and as noninvasive therapy. It has been introduced to urological oncology as a transrectal treatment for prostate cancer and as extracorporeal treatment for kidney cancer. Although its application in the kidney is still at the clinical feasibility phase, HIFU technology is currently being used in daily practice in Europe for the treatment of prostate cancer. Reports in the literature describing results of HIFU for prostate cancer are mainly based on monocentric, prospective clinical studies. The latest published results suggest that HIFU treatment is a valuable option for well-differentiated and moderately differentiated tumors, as well as for local recurrence after external beam radiation. Two different devices for transrectal treatment of prostate cancer are available, which are essentially different in technology, application mode, published results, and side effects.HIFU in locally recurrent cancer after surgery, as well as adjuvant HIFU for local debulking in locally advanced or metastatic disease, shows promising first results for reducing local disease-induced morbidity and for delay of progression.Objectives: To assess the long-term outcomes of transrectal high-intensity focused ultrasound (HIFU) for patients with localized prostate cancer.Purpose: Transrectal ultrasound (TRUS)-guided random prostate biopsy is, in spite of its low sensitivity, the gold standard for the diagnosis of prostate cancer. The recent advent of PET imaging using a novel dedicated radiotracer, [Formula: see text]-labeled prostate-specific membrane antigen (PSMA), combined with MRI provides improved pre-interventional identification of suspicious areas. This work proposes a multimodal fusion image-guided biopsy framework that combines PET-MRI images with TRUS, using automatic segmentation and registration, and offering real-time guidance.Objective: To report the oncological and functional outcomes of hemi salvage high-intensity focused ultrasound (HSH) in patients with unilateral radiorecurrent prostate cancer.Objective: To assess the role of magnetic resonance imaging (MRI) for evaluating changes in the prostate after transrectal high-intensity focused ultrasound (HIFU) for treating prostate cancer, correlating the findings with histology to assess its possible role in predicting the outcome, evaluating residual cancer or local recurrence of disease.Purpose of review: Widespread prostate-specific antigen screening has led to an increase in prostate cancer diagnoses in Asian populations, reflecting changes in socioeconomic status and epidemiological features in these countries. In this setting, the present review explores opportunities for target focal therapy in Japan.Objective: The objective of this article is to introduce the reader to the principles and applications of high-intensity focused ultrasound (HIFU).Imaging in cancer has moved in the last twenty years from morphological detection of diseases to characterization and categorization of different subtypes of tumors. Functional information, based on dynamic contrast-enhanced imaging of tissue perfusion and evaluation of water diffusion, tissue oxygenation, capillary permeability or lymphatic drainage, plays a major role in that field.The next coming steps will concern the differentiation of biological behaviour of tumors according to their phenotypes by identifying specific surface receptors or products of synthesis.These developments allowing an in vivo identification of the tumor biological singularities is a tremendous progress in the management of cancer at the step of diagnosis but, more importantly, to assess the most appropriated treatment to each tumor type. At the same time, minimally invasive methods of treatment of tumors have also developed, mainly in the field of thermotherapies. Ablation of tumors using radiofrequency is now used in clinics as a new standard within the liver and as a promising additional option in many other organs as kidney, lung and bone. High intensity focused ultrasound (HIFU) showed more restricted developments in clinics, mainly applied to prostatic cancer, because of many technical barriers. We believe that magnetic resonance (MR) imaging and MR-guided HIFU (MRgHIFU) have a great potential in that field due to the capacity of MR imaging to monitor temperature changes for an optimal heat deposition and for an optimal safety. This technique has already gained recognition for the treatment of uterine leiomyomas. But it has still to prove its efficacy in treatment of malignant tumors. This review will focus on some recent developments in molecular characterisation of tumors using MR imaging and in technical improvements necessary for accurate application of MRgHIFU in cancer.Purpose: We assessed whether prostate cancer (PCa) location might affect oncologic outcomes after focal therapy (FT) for PCa.Purpose: To evaluate the effect of targeted biopsy (TB) with elastic fused magnetic resonance imaging (MRI) and 3-dimensional transrectal ultrasound (3D-TRUS) guidance in the diagnosis of anterior prostate cancer (APCa).Background: The aims of this study were to investigate the utility of red blood cell distribution width (RDW) as a simple and readily available marker in prostate cancer, as well as to evaluate RDW as a predictor of progression in prostate cancer patients.Purpose

of review: With the increasing incidence of low-to-intermediate risk of prostate cancer (PCa) by the introduction of prostate-specific antigen (PSA) screening, focal therapy has become one of the promising treatment options in the world. In Asia, same movement are occurring using several technologies including cryoablation, high-intensity focused ultrasound, brachytherapy and irreversible electroporation. However, these are still not common strategies to treat organ-confined PCa. The purpose of this review is to summarize the most updated experience and future direction of focal therapy in Asian countries.The efficacy of high-intensity focused ultrasound (HIFU) used for the treatment of localized prostate cancers has been demonstrated over the past decade. We present our early results after HIFU used as a single session in patients with clinically localized prostate cancer. A total of 58 patients were treated using the Ablatherm HIFU device with or without transurethral resection of the prostate (TURP). HIFU failure was defined as the presence of a cancer remnant on repeated biopsies or three consecutive increases in the prostate-specific antigen (PSA) >/=1.0 ng/ml. The mean follow-up was 14 months (range, 6-21 months). After HIFU treatment, 78% of patients had a decreased PSA level to <0.5 ng/ml within 3 months. The median value of the last PSA was 0.6 ng/ml and the median nadir PSA was 0.2 ng/ml. The success rates of HIFU were 85, 77 and 47% in low-, intermediate- and high-risk groups, respectively. The HIFU failure rate was closely associated with clinical stage, presence of cancer on TURP chips and nadir PSA on univariate analysis. However, the only significant predictor for HIFU failure was the nadir PSA value by multivariate Cox regression analysis. The operation-related complications were minimal. Although both the period and number of patients were limited to evaluate the clinical efficacy, HIFU appears to be a safe and effective treatment option in selected patients with prostate cancer.In improving the management of prostate cancer, cryotherapy, interstitial laser ablation and high intensity focused ultrasound may prove to be preferable to radical prostatectomy. For patients with advanced, metastatic or recurrent disease, the mainstay of therapy is likely to remain combined androgen blockage, that is the use of a luteinising hormone-releasing hormone analogue and antiandrogen combination. Other possible new therapeutic advances include the use of growth factor inhibitors such as suramin in hormone escaped prostate cancer and the use of gene therapy. In conclusion, the best hopes for managing prostate cancer lie in earlier detection of the disease, and there is a need for improved diagnostic indicators. It is also important, as a general principle, to increase the efficacy and reduce the morbidity of therapies. However, increased survival is not the only issue as improvements in quality of life are fundamental in patients with prostate cancer.Aim: To evaluate whether a combination method involving the transrectal (TR) and transperineal (TP) approach can increase the cancer detection rate relative to the TR approach regarding repeat prostate biopsy.Objectives: Lateral biopsies are thought to have a better cancer detection rate compared with standard sextant biopsies. This study aimed to determine whether lateral peripheral zone biopsies in Japanese men who underwent transrectal ultrasound-guided prostate biopsies provided a significantly higher cancer detection rate than sextant biopsies.Total prostatectomy remains the main treatment for intermediate risk prostate cancer with a life expectancy greater than 10 years. In other cases non-surgical treatments can be proposed: external radiotherapy (exclusive or combined anti-androgen therapy), brachytherapy with permanent implants, high frequency ultrasounds (HIFU, Ablatherm), cryotherapy or exclusive hormonal treatment. For such patients in case of biological recurrence, prostate biopsies are usually performed in order to affirm the local recurrence. The histological confirmation of persistent tumor is usually required before any treatment: salvage surgery, cryotherapy, and brachytherapy or high intensity focused ultrasound (HIFU). Pathologists must be aware of the histological modifications induced by these different treatments in order to ensure an optimal interpretation of the biopsies. In this review, we describe the modifications observed in the normal prostate and in cancers after these various therapeutic methods, and also after alpha reductase inhibitors proposed as treatment of benign prostate hypertrophy and prostate cancer chemoprevention.Purpose: To determine the oncologic and complication outcomes of treatment of patients with localized prostate cancer by high intensity focused ultrasound (HIFU) for primary management of prostate cancer in a whole of population, multiuser series.Prostate cancer is the most commonly diagnosed noncutaneous cancer and second-leading cause of death in men. Many patients with clinically organ-confined prostate cancer undergo definitive treatment of the whole gland including radical prostatectomy, radiation therapy, and cryosurgery. Active surveillance is a growing alternative option for patients with documented low-volume, low-grade prostate cancer. With recent advances in software and hardware of MRI, multiparametric MRI of the prostate has been shown to improve the accuracy in detecting and characterizing clinically significant prostate cancer. Targeted biopsy is increasingly utilized to improve the yield of MR-detected, clinically significant prostate cancer

and to decrease in detection of indolent prostate cancer. MR-guided targeted biopsy techniques include cognitive MR fusion TRUS biopsy, in-bore transrectal targeted biopsy using robotic transrectal device, and in-bore direct MR-guided transperineal biopsy with a software-based transperineal grid template. In addition, advances in MR compatible thermal ablation technology allow accurate focal or regional delivery of optimal thermal energy to the biopsy-proved, MRI-detected tumor, utilizing cryoablation, laser ablation, high-intensity focused ultrasound ablation under MR guidance and real-time or near simultaneous monitoring of the ablation zone. Herein we present a contemporary review of MR-guided targeted biopsy techniques of MR-detected lesions as well as MR-guided focal or regional thermal ablative therapies for localized naïve and recurrent cancerous foci of the prostate.Objectives: To evaluate the efficacy and safety of a salvage therapy using transrectal high-intensity focused ultrasonography (HIFU) for locally recurrent prostate cancer after external beam radiotherapy.Objective: High-intensity focused ultrasound (HIFU) is a minimally invasive treatment for prostate cancer. Data from the literature show promising oncological outcomes with a favourable side-effect profile. The aim of this study was to re-evaluate and bring up to date the follow-up of a previously published, prospective trial on HIFU as the primary treatment for prostate cancer.The authors present a flyover of current management of prostate cancer. The topics include active surveillance, surgery, radiotherapy, high-intensity focalized ultrasound (HIFU). Current hormone treatment modalities as well as chemotherapy for hormone-resistant prostate cancer (HRPC) management are also reported. Reasonable evidence has supported the safety and feasibility, during a period of 5-10 years, of an active surveillance regimen for men with low-risk prostate cancer. Radical prostatectomy is an effective form of therapy for patients with clinically significant prostate cancer. Outcomes are highly sensitive to variations in surgical technique. The risks of perioperative complications such as urinary and sexual dysfunction appear to be as great with robotic-assisted prostatectomy as with any other technique. External beam radiotherapy (EBRT) is an effective noninvasive form of curative therapy with a long-term risk of troublesome bowel and sexual and urinary dysfunction. EBRT can also be used in adjuvant manner or in combination. Brachytherapy, is a convenient effective form of radiotherapy targeted for selected patients with clinically confined cancer without evidence of extraprostatic extension on imaging. Excellent outcomes require meticulous technique. Acute urinary symptoms are frequent; and the long-term risks of proctitis and erectile dysfunction seem comparable to the risks associated with external beam radiotherapy. HIFU has been used widely in Europe for complete ablation of the prostate, especially in the elderly who are unwilling or unable to undergo more invasive radical therapy. For low- or intermediate-risk cancer, the short- and intermediate-term oncologic results have been acceptable but need confirmation in prospective multicenter trials presently underway. HIFU is associated with a risk of acute urinary symptoms requiring transurethral resection before or after HIFU. Erectile function has not been adequately documented after HIFU. HIFU holds promise for focal ablation of prostate cancer and in case of recurrence after EBRT. Androgen-deprivation therapy is not recommended for men with localized prostate cancer. For locally extensive cancer, androgen-deprivation therapy should be used alone only for the relief of local symptoms in men with a life expectancy of < 5 years who are not eligible for more aggressive treatment. Management of HRPC is actually accepted with docetaxel chemotherapy based regimens.The current protocol for detecting and ruling out prostate cancer involves serum PSA testing followed by sampling of the prostate using a transrectal ultrasonography (TRUS)-guided biopsy. Many specialists have discussed how PSA screening has contributed to underdetection of clinically significant prostate cancer, overdiagnosis of clinically insignificant disease and poor risk stratification; however, little consideration has been given to the role of TRUS-guided biopsy in these errors. The performance of TRUS-guided biopsy is constrained by the biomechanical attributes of the sampling strategy, resulting in suboptimal detection efficiency of each core. By using a biomedical engineering approach, a uniform grid sampling strategy could be used to improve the detection efficiency of prostate biopsy. Moreover, the calibration of the sampling can be adjusted by altering the distance between needle deployments. Our model shows that for any given number of needle trajectories, a uniform grid approach will be superior to a divergent, nonuniform strategy for the detection of clinically important disease. This is an important message that should result in a move away from divergent sampling to a uniform grid approach for prostate biopsy.Focal therapy modalities achieved interest in the management of prostate cancer (PCa) over the last a few years. This systematic review was aimed to investigate erectile function after focal therapy for localized PCa. Twenty-six out of 1287 reports were identified through a database systematic search in MEDLINE, EMBASE, and Web of Science, supplemented with hand search, on June 1st, 2020, according to PRISMA guidelines. Focal therapy

modalities investigated were cryotherapy, high-intensity focused ultrasound (HIFU), photodynamic therapy (TOOKAD), irreversible electroporation (IRE), and focal radiotherapy (RT) (i.e. brachytherapy or stereotactic RT). Overall, reported sexual function outcomes after these treatment modalities were generally good, with many studies reporting a complete recovery of EF at 1-year follow-up. However, the quality of current evidence is affected both by the lack of well-conducted comparative studies and by a significant heterogeneity in terms of study design, study population, erectile and sexual function assessment modalities.Objectives: To investigate the value of contrast-enhanced transrectal ultrasound (CETRUS) in predicting the nature of prostate diseases and prostate cancer Gleason score.Objective:: To provide a step-by-step technique for fusion-guided biopsy for prostate cancer diagnosis and surveillance.Prostate cancer is the most common malignancy amongst American men. However, the majority of prostate cancer diagnoses are of low risk, organ-confined disease. Many men elect to undergo definitive treatment, but may benefit from focal therapy to maintain continence and potency. This review reports the mechanism of action and outcomes of emerging focal therapies for prostate cancer. We report the mechanism of action of focal cryotherapy, high intensity focused ultrasound, focal laser ablation, and irreversible electroporation. In addition, we reviewed the largest studies available reporting rates of urinary incontinence, erectile dysfunction, biochemical recurrence-free survival (ASTRO), and post-operative adverse events for each procedure. Each treatment modality stated has a unique mechanism in the ablation of cancerous cells. Genito-urinary symptoms following these studies report incontinence and erectile dysfunction rates ranging from 0-15% and 0-53%, respectively. Biochemical disease-free survival was reported using the ASTRO definition. Some treatment modalities lack the necessary follow-up to determine effectiveness in cancer control. No focal therapy studies reported serious adverse events. These minimally invasive procedures are feasible in a clinical setting and show promising functional and disease control results with short to medium-term follow-up. However, each treatment requires additional robust prospective studies as well as its own unique domain to determine biochemical recurrence free survival to properly determine their role in treatment of organ-confined prostate cancer.High intensity focused ultrasound (HIFU) is a treatment modality for tissue ablation with an expanding range of indications. It is helpful to understand its basic principles, the physiological changes induced, and the pathophysiology of the patient groups undergoing HIFU. HIFU is usually performed in a radiology suite, and requires co-ordinated efforts between the radiologist/surgeon and anaesthetist during ablation therapy to enhance accuracy of treatment and patient safety. Planning of the equipment, ventilation strategies and drugs needed during the procedure would reduce potential anaesthetic and procedure-related complications.Objective: To investigate the efficacy and safety of extracorporeal prostatic tissue ablation using high-intensity focused ultrasound (HIFU) in vivo in animals, and in a clinical feasibility study in men, as this is an investigational minimally invasive treatment alternative for locally confined prostatic carcinoma, but may have significant side-effects.In this paper, a novel computer-based virtual training system for prostate brachytherapy is presented. This system incorporates, in a novel way, prior methodologies of ultrasound image synthesis and haptic transrectal ultrasound (TRUS) transducer interaction in a complete simulator that allows a trainee to maneuver the needle and the TRUS, to see the resulting patient-specific images and feel the interaction forces. The simulated TRUS images reflect the volumetric tissue deformation and comprise validated appearance models for the needle and implanted seeds. Rendered haptic forces use validated models for needle shaft flexure and friction, tip cutting, and deflection due to bevel. This paper also presents additional new features that make the simulator complete, in the sense that all aspects of the brachytherapy procedure as practiced at many cancer centers are simulated, including simulations of seed unloading, fluoroscopy imaging, and transversal/sagittal TRUS plane switching. For real-time rendering, methods for fast TRUS-needle-seed image formation are presented. In addition, the simulator computes real-time dosimetry, allowing a trainee to immediately see the consequence of planning changes. The simulation is also patient specific, as it allows the user to import the treatment plan for a patient together with the imaging data in order for a physician to practice an upcoming procedure or for a medical resident to train using typical implant scenarios or rarely encountered cases.In the treatment of localized prostate cancer, controlling the cancer and maintaining quality of life are important. Focal therapy of localized prostate cancer aims to treat the lesion/part of the prostate that includes the index lesion, which determines the prognosis. We performed a non-systematic review of novel studies on focal therapy of localized prostate cancer as primary treatment published between 2016 and 2021. For mainly intermediate-risk patients, therapeutic technology, such as cryoablation, brachytherapy, high-intensity focused ultrasound, photodynamic therapy, microwave-coagulation, electroporation, and laser ablation, etc., were performed. These

procedures are minimally invasive and safe, and provide good functional outcome: a 94-100% pad-free rate against urinary incontinence and 47-86% erectile function, which is sufficient for sexual intercourse. Accurate three-dimensional mapping of the targeted lesion could be an essential navigation technique for therapeutic success. Intermediate- to short-term oncological outcomes were good, resulting in downstaging of the patient's status to no clinically significant cancer; however, transition to conventional whole-gland treatment was necessary in about 10-30% of patients. It is important to select appropriate patients by both multiparametric magnetic resonance imaging and targeted biopsy, and to follow-up postoperatively with methods such as active surveillance. Clinically significant prostate-specific antigen reduction, image response using preoperative and postoperative multiparametric magnetic resonance imaging, and histological analysis should be combined for follow-up.Objectives: To systematically review erectile function (EF) outcomes following primary whole gland (WG) and focal ablative therapies for localized prostate cancer to ascertain whether the treatment modality or intended treatment volume affects the time taken to recover baseline EF.Background: In selected patients with unilateral, organ-confined prostate cancer (PCa), hemiablation of the affected lobe might be feasible to achieve acceptable cancer control with fewer complications.Objective: To investigate whether altered prostate specific antigen (PSA) levels due to individual prostate growth may affect the PSA velocity (PSAV).Purpose: In this study, the efficacy of transurethral prostate ablation in the presence of silica-shell ultrasound-triggered phase-shift emulsions (sUPEs) doped with MR contrast was evaluated. The influence of sUPEs on MR imaging assessment of the ablation zone was also investigated.Prostate cancer and its various forms of treatment remain a source of significant controversy and morbidity despite recent advances. In response, there is an increasing trend toward the development of treatments aimed at cancer prevention and at maximizing the preservation of function without sacrificing cancer control. This article reviews the current prostate cancer literature and reports on improvements in existing surgical treatments and developing technologies aimed toward achieving these goals. Specific therapies addressed include improvements in surgical techniques, laparoscopy, robotics, cryosurgical and thermal ablation, and high-intensity focused ultrasound.Purpose of review: In the absence of whole gland treatment for prostate cancer, both active surveillance and focal therapy share the common need of requiring a more thorough, detailed and precise analysis of the biological threats within the prostatic parenchyma if one chooses to monitor or selectively eradicate only specific neoplastic targets. In addition, focal therapy utilizes active surveillance post-treatment to monitor the untreated sectors of the prostate. We aim to evaluate the current modalities available to modernize active surveillance protocols in order to distinguish patients who may be safely observed from those who require intervention.Men diagnosed with low- to intermediate-risk, clinically localized prostate cancer (PCa) often face a daunting and difficult decision with respect to treatment: active surveillance (AS) or radical therapy. This decision is further confounded by the fact that many of these men diagnosed, by an elevated PSA, will have indolent disease and never require intervention. Radical treatments, including radical prostatectomy and whole-gland radiation, offer greater certainty for cancer control, but at the risk of significant urinary and/or sexual morbidity. Conversely, AS preserves genitourinary function and quality of life in exchange for burdensome surveillance and the psychological impact of living with cancer.Purpose: To investigate criteria that can identify dominant treatable prostate cancer foci with high certainty at endorectal magnetic resonance imaging (MRI) and MR spectroscopic (MRS) imaging, and thus facilitate selection of patients who are radiological candidates for MR-guided focal therapy.Purpose: To compare CT and transrectal ultrasound (TRUS)-measured prostate volumes in patients with untreated prostate cancer.The purpose of this study is to report our method in detecting prostate cancer (PCa) using an 18-core transrectal ultrasound (TRUS) prostate biopsy (PB) schema, in combination with additional targeted cores from suspicious images in conventional (e-cMRI) and functional (e-fMRI) endorectal magnetic resonance imaging (e-MRI) of the prostate. From 2004 to 2008, 260 consecutive patients with a clinical suspicion of PCa underwent PB and were prospectively studied. e-cMRI and e-fMRI was performed in all patients before PB. The patients were divided into two groups (A and B) according to the results of their radiological findings (group A=suspicious findings, group B=non-suspicious findings). After the images were processed, an 18-core TRUS-guided PB was performed. When a patient exhibited a suspicious site on e-cMRI and e-fMRI images, three additional targeted PBs were obtained from that site. In group A, 17.5% of PCa was detected by the 18-core PB and 56.5% of PCa was detected by the targeted cores. The overall PCa detection rate (18+targeted cores) was 73.9%. The overall specificity was 73.9%. In group B, overall false-positive detection rate reached 19.2%, with the overall sensitivity being 80.8%. The method described above is not only practical but also a promising

modality in PCa detection. As seen, PCa was optimally detected when combining the 18-core and targeted-core PB schema together. Non-suspicious images do not rule out the probability of PCa, thus justifying a PB in these patients as well.In this article, the major idea and mathematical aspects of model-based planning and real-time predictive control for laser-induced thermal therapy (LITT) are presented. In particular, a computational framework and its major components developed by authors in recent years are reviewed. The framework provides the backbone for not only treatment planning but also real-time surgical monitoring and control with a focus on MR thermometry enabled predictive control and applications to image-guided LITT, or MRgLITT. Although this computational framework is designed for LITT in treating prostate cancer, it is further applicable to other thermal therapies in focal lesions induced by radio-frequency (RF), microwave and high-intensity-focused ultrasound (HIFU). Moreover, the model-based dynamic closed-loop predictive control algorithms in the framework, facilitated by the coupling of mathematical modelling and computer simulation with real-time imaging feedback, has great potential to enable a novel methodology in thermal medicine. Such technology could dramatically increase treatment efficacy and reduce morbidity.Objectives: To present our preliminary clinical results of transrectal high-intensity focused ultrasound (HIFU) in Stage T1b-2N0M0 prostate cancer. Efforts are being made to provide minimally invasive alternative treatment options with equal efficacy and fewer side effects. HIFU delivers ultrasound energy with rapid thermal necrosis of tissue in the focal region without damaging the surrounding tissue.Prostate cancer treatment has undergone vast development over the last few decades, but the most notable changes have included nerve-sparing open radical prostatectomy, laparoscopic radical prostatectomy, including robot-assisted and, more recently, cryotherapy and high-intensity focused ultrasound (HIFU). While radical surgery is the current gold standard, the less invasive therapeutic options of cryotherapy and HIFU are regarded as largely experimental by governing bodies. In the case of cryotherapy, a wealth of experience has been accumulated demonstrating its efficacy. Initially used as a salvage treatment for radiation-failed prostate cancer, cryotherapy has been widely used as a primary treatment for localized and locally advanced prostate cancer. More recently, there has been interest expressed in the concept of focal therapy in prostate cancer. This has been evaluated as a primary treatment for prostate cancer, but little information is available regarding the potential use as a salvage treatment. In this article, we evaluate the potential for focal treatment in the salvage setting.Objective: To improve the diagnostic efficacy of transrectal ultrasound (TRUS)-guided targeted prostatic biopsies, we have suggested the use of a new scoring system for the prediction of malignancies regarding the characteristics of focal suspicious lesions as depicted on TRUS.Objective: To characterize the oncologic outcomes 5 years following focal laser ablation (FLA) of localized prostate cancer.Objectives: To evaluate longitudinal changes in urinary function and quality of life, and the oncological outcomes of patients treated with urethra-sparing high-intensity focused ultrasound for localized prostate cancer.Background: Prostate specific antigen kinetics (PSAK) including prostate specific antigen velocity (PSAV) and PSA doubling time (PSADT) are used as predictors of prostate cancer (PCa) therapeutic outcome, disease prognosis, and cancer-specific mortality. However controversy persists regarding use of these parameters in cancer detection. Our aim is to evaluate PSAV as a predictor of PCa and intermediate/high grade PCa (HGPCa).Purpose of review: Focal therapy aims to reduce side-effects of active whole-gland therapies with an acceptable or noninferior oncologic benefit for the patient. The definition of the lesion to treat using this tissue-preserving approach is central, and there is a recent shift in considering more aggressive disease than in the past. This article examines recent consensus reports, assessment of emerging techniques, histologic considerations as well as results of trials and their development.Background: Prostate HistoScanning (PHS) is a tissue characterization system used to enhance prostate cancer (PCa) detection via transrectal ultrasound imaging.Focal treatment for prostate cancer has been proposed as an innovative strategy that aims to achieve oncological benefit while reducing treatment-related morbidity. This treatment is suitable for patients with low and intermediate risk, organ-confined disease. Focal therapy can be categorized as follows: unifocal index lesion ablation, multifocal ablation, hemi-gland ablation or subtotal gland ablation. Different types of energies are applied in focal therapy including high intensity focal ultrasound (HIFU), cryotherapy, focal laser ablation (FLA), irreversible electroporation (IRE) and Photodynamic therapy (PDT). In this review we will briefly present a summary of leading techniques and the available data regarding their oncological outcomes and adverse events. Whole-gland therapies were excluded from this review.In a phase-I clinical trial the morphologic impact and safety of high-intensity focused ultrasound (HIFU) administered transrectally for tissue ablation in human prostates (n = 54) was evaluated. Location and size of the tissue lesions correlated well with the predefined target area and revealed sharply

delineated coagulative necrosis in all cases. Intervening tissues, such as the rectal wall and posterior prostate capsule were invariably intact. In a subsequent phase-II clinical trial safety and efficacy of transrectal HIFU as a novel minimally invasive treatment modality for patients with symptomatic benign prostatic hyperplasia (BPH; n = 102) was determined. The maximum urinary flow rate (Qmax, ml/s) increased from 9.1+/-4.0 to 12.9+/-6.1 (3 months, n=86), 12.7+/-5.1 (6 months, n=78) and 13.3+/-6.1 (12 months, n=56). In the same time period the post void residual volume (ml) decreased from 131+/-115 to 46+/-45, 57+/-46 and 48+/-36 and the AUA symptom score decreased from 24.5+/-4.7 to 13.3+/-4.4, 13.4+/-4.7 and 10.8+/-2.5. A subset of patients (n=30) underwent multichannel pressure flow studies, which demonstrated that transrectal HIFU reduces bladder outflow obstruction. These data demonstrate that transrectal HIFU is capable of inducing coagulative necrosis in the human prostate via a transrectal approach while preserving intervening and adjacent tissue. A 48% improvement of uroflow and a 53% decrease of urinary symptoms 1 year after treatment prove that transrectal HIFU is an effective and safe minimally invasive treatment option for BPH.Purpose of review: The index lesion theory has created a strong interest in partial gland ablation for men with prostate cancer. By only treating the focus of clinically significant disease and avoidance of surrounding periprostatic tissue, one may provide adequate oncologic control with minimal side effects. Accurate identification of the index lesion and effective ablation are critical for satisfactory oncologic outcomes. Herein, we review key ablative techniques used in partial gland ablation.Four patients with biochemical prostate-specific antigen (PSA) failure with suspected local recurrence at the vesico-urethral anastomotic site after radical prostatectomy were treated using a high-intensity focused ultrasound (HIFU) device (Sonablate 500) under caudal or spinal anesthesia. The pretreatment PSA levels ranged from 0.318 to 0.898 ng/mL and their Gleason scores ranged between 5 and 7. HIFU treatment was carried out six times in four patients. The median time of operation and follow-up period were 30 min (range, 15-37) and 13 months (range, 7-18), respectively. In all patients, the median PSA levels decreased from 0.555 ng/mL (range, 0.318-0.898) to 0.137 ng/mL (range, 0.102-0.290). The median PSA nadir after each HIFU was 0.054 ng/mL (range, 0.008-0.097). No major complications were noted. HIFU may be useful for the therapy of vesicourethral anastomostic lesion in patients with PSA failure after prostatectomy.Background: The aim of this paper was to compare safety and functional outcomes of total, hemi and focal ablation by the latest focal high-intensity focused ultrasound (HIFU) device.Focal therapy for localized prostate cancer involves destroying the cancer focus in order to offer patients the potential of combining cancer control with minimal side-effects. Current standard of care involves either active surveillance or radical therapy. Neither of these is ideal. Active surveillance carries a risk of under- treatment, with psychological morbidity as a result of anxiety and is associated with side-effects due to repeated biopsies, although radical therapy is the gold standard for curative treatment. With the proportion of unifocal or unilateral disease among men with low-risk disease rising, a focal approach could avoid both under and over-treatment. With the advent of improved accuracy for cancer localization provided by multiparametric MRI and new biopsy strategies such as transperineal mapping biopsies, ablative modalities such as cryotherapy, high intensity focused ultrasound, photodynamic therapy and radio-interstitial tumour ablation make focal treatments a real possibility.Introduction: African American men have a higher rate of prostate cancer mortality compared with their Caucasian American counterparts. However, it remains unclear as to whether such differences are due to biologic or socioeconomic influences. This study sought to determine if there are differences in demographic and clinical characteristics between African American and Caucasian American men in a modern cohort undergoing extended biopsy approach, and evaluated the subsequent choice of therapy in patients diagnosed with prostate cancer.An increase or 'upgrade' in Gleason Score (GS) in prostate cancer following Transrectal Ultrasound (TRUS) guided biopsies remains a significant challenge to overcome. to evaluate whether MRI has the potential to narrow the discrepancy of histopathological grades between biopsy and radical prostatectomy, three hundred and thirty men treated consecutively by laparoscopic radical prostatectomy (LRP) between July 2014 and January 2019 with localized prostate cancer were included in this study. Independent radiologists and pathologists assessed the MRI and histopathology of the biopsies and prostatectomy specimens respectively. A multivariate model was constructed using logistic regression analysis to assess the ability of MRI to predict upgrading in biopsy GS in a nomogram. A decision-analysis curve was constructed assessing impact of nomogram using different thresholds for probabilities of upgrading. PIRADS scores were obtained from MRI scans in all the included cases. In a multivariate analysis, the PIRADS v2.0 score significantly improved prediction ability of MRI scans for upgrading of biopsy GS (p = 0.001, 95% CI [0.06-0.034]), which improved the C-index of predictive nomogram significantly (0.90

vs. 0.64, p < 0.05). PIRADS v2.0 score was an independent predictor of postoperative GS upgrading and this should be taken into consideration while offering treatment options to men with localized prostate cancer.Purpose of review: An imaging tool providing reliable prostate cancer (PCa) detection and localization is necessary to improve the diagnostic pathway with imaging targeted biopsies. This review presents the latest developments in existing and novel ultrasound modalities for the detection and localization of PCa.Purpose of review: The aim of this study was to summarize the latest evidence, as well as the rationale behind using focal therapy for the treatment of prostate cancer. With patients becoming more educated, knowledge of the available evidence is key when discussing treatment.Transrectal ultrasound (TRUS) biopsy can miss 20-30% of clinically significant cancers. We evaluate an alternative approach-transperineal template-guided mapping biopsy (TTMB) in the initial and repeat biopsy setting. From January 2005 through September 2008, 373 consecutive men underwent TTMB (294 men with > or =1 prior negative biopsy and 79 men as the initial biopsy). The location of each positive biopsy core, number of positive cores, and percent involvement of each core was recorded. Cancer detection rate for the initial biopsy was 75.9%. For men with 1, 2, and > or =3 prior negative biopsies detection rates were 55.5%, 41.7%, and 34.4%, respectively. In all, 55.5% of the cancers identified were Gleason > or =7. The majority of the cancers were multifocal. There was no significant change in the number of positive cores or Gleason score as the number of prior biopsies increased. The anterior and apical aspects of the prostate were among the most common cancer locations. TTMB provides a high rate of cancer detection as initial and repeat biopsy. TTMB was particularly effective at diagnosing anterior and apical cancer. TTMB may have particular application for men considering active surveillance, with prior negative TRUS biopsies, and those considering subtotal gland or other minimally invasive treatments.Focal therapy (FT) may offer a promising treatment option in the field of low to intermediate risk localized prostate cancer. The aim of this concept is to combine minimal morbidity with cancer control as well as maintain the possibility of retreatment. Recent advances in MRI and targeted biopsy has improved the diagnostic pathway of prostate cancer and increased the interest in FT. However, before implementation of FT in routine clinical practice, several challenges are still to overcome including patient selection, treatment planning, post-therapy monitoring and definition of oncologic outcome surrogates. In this article, relevant questions regarding the key steps of FT are critically discussed and the main available energy modalities are analyzed taking into account their advantages and unmet needs.Organ-preserving therapies are widely accepted in many facets of medicine and, more recently, in oncology. For example, partial nephrectomy is now accepted as a preferred alternative over radical nephrectomy for small (up to 4 cm or T1) tumors. Focal therapy (FT) is another organ-preserving strategy applying energy (cryotherapy, laser ablation and/or high-intensity focused ultrasound) to destroy tumors while leaving the majority of the organ, surrounding tissue and structures unscathed and functional. Owing to the perceived multifocality of prostate cancer (PCa) technology limitations, in the past PCa was not considered suitable for FT. However, with the rise of active surveillance for the management of low-risk PCa in carefully selected patients, FT is emerging as an alternative. This is owing to technology improvements in imaging and energy-delivery systems to ablate tissue, as well as the realization that many men and clinicians still desire tumor control. With the postulated ability to ablate tumors with minimal morbidity, FT may have found a role in the management of PCa; the aim of FT a being long-term cancer control without the morbidity associated with radical therapies. Data for FT in PCa have been derived from case series and small Phase I trials, with larger cohort studies with longer follow-up having only just commenced. More data from large trials on the safety and efficacy of FT are required before this approach can be recommended in men with PCa. Importantly, studies must confirm that no viable cancer cells remain in the region of ablation. FT might eventually prove to be a 'middle ground' between active surveillance and radical treatment, combining minimal morbidity with cancer control and the potential for retreatment.Objective: To describe neoadjuvant and adjuvant treatments to surgery and the place of surgery in the recurrence after primary treatments.The prostate cancer is one of the most common male neoplasm. The exact location of the tumor using imaging is essential both diagnosis and treatment of prostate cancer. MR prostate with proton spectroscopy (HMRS) turns to be the best contemporary method of prostate changes imaging. However prostate biopsy performed under sonographical control using HMRS imaging registered in DICOM format is not precise enough because the layers of HMRS prostate imaging do not respond to sonographical view of the prostate. The method (MRIUSG) was performed to increase the efficiency of prostate imaging. MRIUSG reconstructs the MR picture in the level appointed by the transrectal USG. MRIUSG is based on linear interpolation of pixels with the sonographical prostate imaging obtained in real time to localize the changes and to perform the

targeted prostate biopsy. The aim of the study was to determine and compare the effectiveness of transrectal core biopsy of the prostate /TRUStru-cutBx/ in the group of men with prior proton magnetic resonance spectroscopy, in which reconstruction of images was done using the method developed by the author of this study-MRIUSG, with the group without such reconstruction and thus improve detection rate of prostate diseases, prostate cancer among them. 80 males suspicious of prostate cancer and negative result of sextant core biopsy were qualified to this study. All of them undergone, with positive result, transrectal HMRS examinaton. All of them had trans-rectal core biopsy targeted at atypical suspicious findings in HMRS. Biopsies were performed on patients randomly divided into two groups. Group I in which HMRS positive foci were localized by use of MRI image only. Group II in which HMRS positive foci were localized by use of method of MRI images reconstruction and then transfering them to TRUS image (MRIUSG). Our method of localizing and transferring HMRS images to ultrasonography by images increases prostate cancer detection 22.5%, increase praecancerosus lesions detection by 10.0%, increase inflamatory changes detection 7.5% and eliminates almost 40% of falsely negative results. The probability of detecting cancer using MRIUSG about 3 times higher than in the method without image reconstruction. Method of reconstruction of images obtained in proton magnetic resonance spectroscopy, adequately measured, with marked lesions, and their comparison on a single computer screen with USG images obtained in real-time with the aim of localizing lesions and performing prostate targeted core biopsy enabled the detection of a greater number of prostate lesions in relation to biopsies performed without image reconstruction.Posterior urethral stenosis can result from radical prostatectomy in approximately 5%-10% of patients (range 1.4%-29%). Similarly, 4%-9% of men after brachytherapy and 1%-13% after external beam radiotherapy will develop stenosis. The rate will be greater after combination therapy and can exceed 40% after salvage radical prostatectomy. Although postradical prostatectomy stenoses mostly develop within 2 years, postradiotherapy stenoses take longer to appear. Many result in storage and voiding symptoms and can be associated with incontinence. The evaluation consists of a workup similar to that for lower urinary tract symptoms, with additional testing to rule out recurrent or persistent prostate cancer. Treatment is usually initiated with an endoscopic approach commonly involving dilation, visual urethrotomy with or without laser treatment, and, possibly, UroLume stent placement. Open surgical urethroplasty has been reported, as well as urinary diversion for recalcitrant stenosis. A proposed algorithm illustrating a graded approach has been provided.Background: To overcome the limitations regarding two dimensional (2D) greyscale (GS) transrectal ultrasound (TRUS)-guided biopsy in prostate cancer (PCa) detection and tissue packaging in biopsy processing, there is an ongoing focus on new imaging and pathology techniques. A three-dimensional (3D) model of the prostate with biopsy needle guidance can be generate by the Navigo™ workstation (UC-care, Israel). The SmartBX™ system (UC-care, Israel) provides a prostate biopsy core preembedding method. The aim of this study was to compare cancer detection rates between the 3D TRUS-guidance and preembedding method with conventional 2D GS TRUS-guidance among patients undergoing prostate biopsies.Objectives: To analyze the validity of the ratio between the second and fourth finger (digit ratio; 2D/4D) of the left hand as a predictor for prostate cancer (PCa) in a group of men undergoing prostate biopsy.Background: To assess factors that can predict active surveillance (AS) failure on serial transrectal ultrasound guided biopsies in patients with low-risk prostate cancer.Introduction: Prostate cancer (PCa) is the most commonly diagnosed malignancy in men and the second leading cause of cancer-related death in industrialized countries. Even if the healing chances are very high after definitive treatment of localized disease, 20-30% of patients experience recurrence.Radical external-beam radiotherapy (EBRT) is a standard treatment for prostate cancer (PC) patients. Despite this, the rate of intraprostatic relapses after primary EBRT is still not negligible. There is no consensus on the most appropriate management of these patients after EBRT failure. Treatment strategies after PC relapse are strongly influenced by the effective site of the tumor recurrence, and thus the instrumental evaluation with different imaging techniques becomes crucial. In cases of demonstrated intraprostatic failure, several systemic (androgen deprivation therapy) or local (salvage prostatectomy, cryotherapy, high-intensity focused ultrasound, brachytherapy, stereotactic EBRT) treatment options could be proposed and are currently delivered by clinicians with a variety of results. In this review we analyze the correct definition of intraprostatic relapse after radiotherapy, focusing on the recent developments in imaging to detect intraprostatic recurrence. Furthermore, all available salvage treatment options after a radiation therapy local failure are presented and thoroughly discussed.Focal therapy for prostate cancer has been increasingly utilized with the goal of effective disease control while maximizing patient functional outcomes. The optimal patient selection criteria are not known and therefore are not standardized. This

review compares the available expert panel consensus guidelines with the selection criteria utilized in recently published focal therapy trials. Because the data from focal trials are still maturing, the currently enrolling clinical trials are reviewed as well. In addition, the recent literature regarding technological advances in prostate biopsy and imaging strategies are added to the current guidelines to recommend a rationale for patient selection.Background: Transrectal high-intensity focused ultrasound (HIFU) is under investigation as a minimally invasive therapeutic option for elderly men with prostatic cancer.Objective: To evaluate enhanced transrectal ultrasound (E-TRUS) techniques including real-time sonoelastography (RTE) and contrast-enhanced transrectal ultrasound (CE-TRUS) for prostate cancer (PCa) detection in men with elevated prostate-specific antigen (PSA) serum levels.Purpose: The accumulation of data through a prospective, multicenter coordinated registry network is a practical way to gather real world evidence on the performance of novel prostate ablation technologies. Urological oncologists, targeted biopsy experts, industry representatives and representatives of the FDA (Food and Drug Administration) convened to discuss the role, feasibility and important data elements of a coordinated registry network to assess new and existing prostate ablation technologies.To decrease side effects observed after high-intensity focused ultrasound (HIFU) treatment for localized prostate cancer and to re-establish normal micturition in a patient population that often presents with concomitant prostate enlargement, the impact of a combined transurethral resection of the prostate (TURP) and HIFU has been evaluated. TURP and HIFU treatments were performed under the same spinal anesthesia. For the HIFU treatments, the Ablatherm device (EDAP SA, Lyon, France) was used. Selection criteria for HIFU treatment were localized prostate cancer, no previous treatment for prostate cancer, and prostate-specific antigen (PSA) pound 15 ng/mL at diagnosis. All patients meeting these criteria were considered for treatment and analysis. PSA nadir and stability, histology, International Prostate Specific Score (IPSS) and IPSS-quality of life, and morbidity were assessed during follow-up; 271 patients were selected: 96 in the HIFU group and 175 in the TURP plus HIFU group. A statistically significant impact was observed on catheter time (40.0 days versus 7.0 in median), incontinence (15.4% versus 6.9%), urinary infection (47.9% versus 11.4%), and the evolution of the post-treatment IPSS (8.91 versus 3.37 in average) in favor of the TURP plus HIFU group. No significant changes were observed regarding efficacy during short-term follow-up when considering a 25% retreatment rate in the HIFU group versus a 4% retreatment rate in the TURP plus HIFU group. The combination of a TURP and HIFU treatment reduces the treatment-related morbidity significantly. The patient management after a combined TURP and HIFU treatment is comparable with the management after a single TURP.With the advent of focal therapy as a recognized treatment option for men with prostate cancer, there are a host of emerging interventions that take advantage of MRI for image guidance. Focal therapy affords a middleground option for patients with low- to intermediate-grade prostate cancer by providing a means of keeping their cancer at bay while avoiding the negative consequences of radical therapies. However, the practice of focal treatment is far from straightforward, with some believing focal treatment errs on the side of overtreatment among patients with low-grade cancer; others worry it is undertreatment in potentially significant multifocal disease. Further research is necessary, both relating to focal therapy in general and to the utility of each MRI-guided focal treatment discussed.Objectives: Prostate-specific antigen (PSA) kinetics have failed to predict for the presence of prostate cancer in screening populations in which many patients harbor subclinical disease. We hypothesized that the prebiopsy PSA doubling time (PSADT) and PSA velocity (PSAV) could predict for cancer detection in a referral population with a suspicion of prostate cancer.Purpose: To evaluate the results of high-intensity focused ultrasound (HIFU) treatment of localized prostate cancer with reference to disease-related prognostic factors.Prostate cancer was the subject of communications, round tables and plenary sessions at the 98th congress of the Association française d'urologie (AFU). We report the whole of the meetings on the subject by classifying them by categories: epidemiology and biological diagnosis, information to patients included in screening (recommendations of the ANAES), biopsies and IRM, radiotherapy, radical prostatectomy, brachytherapy, HIFU (High Intensity Focused Ultrasound), functional consequences and quality of life, treatment of PSA elevation, advanced cancer of the prostate, place of surgery in T3 cancers of the prostate, research.Background: Tissue blood perfusion influences the results of some hyperthermia and thermotherapy procedures, but its role in the outcome of prostate cancer treatment by high-intensity focused ultrasound (HIFU) has not been evaluated yet. We evaluated preoperative prostate color Doppler as a predictor of the efficacy of HIFU treatment.High-intensity focused ultrasound (HIFU) has been used to treat localized prostate cancers. Similar to all forms of ablation, including radiation and cryoablation, there is a local persistence rate. Salvage robotic prostatectomy

has been utilized but published series are multi-institutional, multi-surgeon, and do not segregate the different HIFU devices. The results are also grouped with other forms of ablation. This series describes the technical results of a single surgeon performing salvage robotic prostatectomy on only HIFU patients, and only after whole gland ablation on a Sonablate 500 device. A retrospective hospital and office chart review was performed of nine consecutive patients. Results of the surgical cases reveal an acceptable mean OR time of 130 min, mean estimated blood loss of 125 cc with no intraoperative or post-operative transfusions, and mean length of hospital stay of 2.4 days. Urinary catheters were removed after 7-10 days. All patients were pad free no longer than 35 days later. There was no surgical field or systemic complications in any patient. Intraoperative findings include diffuse fibrosis of the periprostatic tissues including the endopelvic and lateral pelvic fascia. The thermal changes make the surgery more tedious, particularly for nerve sparing. These cases support the stance that robotic salvage prostatectomy can be safely performed in this patient cohort with immediate surgical results similar to non-salvage cases.Purpose: To determine the utility of digital rectal examination (DRE), serum total prostate specific antigen (tPSA) estimation, and transrectal ultrasound (TRUS) for the detection of prostate cancer (PCa) in men with lower urinary tract symptoms (LUTS).Multiparametric magnetic resonance imaging (MRI) provides an accurate anatomical assessment of the tumor and its local staging. Herein, we report a case of intermediate-risk prostatic adenocarcinoma, initially followed on active surveillance, which upgraded from Gleason 7 (3 + 4) to Gleason 8 (4 + 4) on transrectal ultrasound/MRI fusion biopsy after progression of MR spectroscopic findings and review of the role of multiparametric MRI in the follow-up of patients with prostate cancer undergoing active surveillance.Aims and background: The objective of the study was to evaluate the significance of suspicious lesions at transrectal ultrasonography for prostate cancer diagnosis.Since the patient wanted both his lower urinary tract symptoms and his prostate cancer to be treated together, he decided to undergo robot-assisted radical prostatectomy.Background: For people with localised prostate cancer, active treatments are effective but have significant side effects. Minimally invasive treatments that destroy (or ablate) either the entire gland or the part of the prostate with cancer may be as effective and cause less side effects at an acceptable cost. Such therapies include cryotherapy, high-intensity focused ultrasound (HIFU) and brachytherapy, among others.Purpose of review: Prostate cancer screening has shifted the diagnosis of prostate cancer to lower grade, organ confined disease. Radical prostatectomy or radiation therapy has been shown to be overtreatment in 30% of patients. In this review, we will discuss targeted focal therapy (TFT) using the modalities of cryotherapy or high intensity focused ultrasound as an alternate treatment for low-risk prostate cancers.There is growing clinical demand for image registration techniques that allow multimodal data fusion for accurate targeting of needle biopsy and ablative prostate cancer treatments. However, during procedures where transrectal ultrasound (TRUS) guidance is used, substantial gland deformation can occur due to TRUS probe pressure. In this paper, the ability of a statistical shape/motion model, trained using finite element simulations, to predict and compensate for this source of motion is investigated. Three-dimensional ultrasound images acquired on five patient prostates, before and after TRUS-probe-induced deformation, were registered using a nonrigid, surface-based method, and the accuracy of different deformation models compared. Registration using a statistical motion model was found to outperform alternative elastic deformation methods in terms of accuracy and robustness, and required substantially fewer target surface points to achieve a successful registration. The mean final target registration error (based on anatomical landmarks) using this method was 1.8 mm. We conclude that a statistical model of prostate deformation provides an accurate, rapid and robust means of predicting prostate deformation from sparse surface data, and is therefore well-suited to a number of interventional applications where there is a need for deformation compensation.Purpose: Several studies suggest that extended transrectal prostate biopsy more than 6 core may improve the cancer detection rate. We compared 6 and 12 core biopsies to determine the impact on cancer detection and complication rate.This article examines one of the most common outpatient diagnostic procedures carried out in urology--the transrectal ultrasound (TRUS) and prostatic biopsy. Following an exploration of the aetiology, anatomy and physiology of prostate disease, an explanation is given regarding the clinical investigations that inform the decision-making process and precipitate the procedure. Technical, clinical and ethical issues will be explored before a through examination of the TRUS and biopsy procedure and the crucial role of the registered nurse and healthcare assistant. References are made to the elements of nursing care required throughout this most invasive of procedures. These include counselling, discharge information and the maintenance of patient dignity in relation to gender-sensitive care.Objectives: We compared the cancer detection rate of extended 14-core biopsy with that of

sextant biopsy to assess whether additional biopsy cores are useful for detection of prostate cancer and to clarify the indications for obtaining additional cores.While focal therapy (FT) is increasingly endorsed for treating localized prostate cancer in the appropriately selected patient, management of recurrences following FT is not well-established in the literature. This case series describes three patients who received high-intensity focal ultrasound (HIFU) for primary treatment followed by focal laser interstitial thermal therapy (FLTT) for salvage therapy treated in the context of an ongoing clinical trial. Evaluation of these reported patients demonstrates that FLTT is feasible in the salvage setting with promising short-term oncologic outcomes and with the potential to preserve functional outcomes. Repeat focal therapy for previous failures is feasible however, it requires sophisticated imaging modalities for the accurate identification of recurrence and treatment of the tumor.The primary goal of modern prostate cancer treatment paradigms is to optimize the balance of predicted benefits associated with prostate cancer treatment against the predicted harms of therapy. However, given the limitations in the existing evidence as well as the significant tradeoffs posed by each treatment, there remain myriad challenges associated with individualized prostate cancer treatment decision-making. In this review, we summarize the existing comparative effectiveness evidence of treatments for localized prostate cancer with an emphasis on oncologic control. While we focus on the major treatment categories of radical prostatectomy, radiation therapy, and observation, we also provide a review of emerging therapies such as cryotherapy and high-intensity frequency ultrasound (HIFU).With an incidence of approximately 60,000 per year prostate cancer is the most common malignant neoplasm in men with a relatively low mortality rate and a high mean age of primary diagnosis of about 70 years. The disease remains usually clinically occult over a long period of time and generally manifests primarily in a locally advanced or metastasized stage. Due to screening using the PSA level (prostate specific antigen) in blood serum, diagnosis and therapy nowadays are oftentimes possible at an early stage. The prostate carcinoma is classified using risk groups based on the level of PSA, the local tumor spread and the histological degree of differentiation (Gleason score). If no metastases are detected during staging a local curative therapy is indicated, provided that the patient is eligible for this due to age, comorbidity and life expectancy. Depending on the risk group of the patient, radical prostatectomy, percutaneous radiotherapy, brachytherapy or active surveillance are available as curative therapy concepts. Focal therapies such as HIFU, electrovaporization or cryotherapy are currently considered to be experimental. If metastases are already present at primary diagnosis, palliative, systemic therapy can be performed with an androgen deprivation therapy and chemotherapy. At an advanced and hormone refractory stage, treatment with an osteotropic radiotracer or palliative radiotherapy can reduce bone metastases and alleviate respective symptoms.The aim of this study was to investigate the feasibility and safety of high-intensity focused ultrasound (HIFU) combined with (+) low-dose external beam radiotherapy (LRT) as supplemental therapy for advanced prostate cancer (PCa) following hormonal therapy (HT). Our definition of HIFU+LRT refers to treating primary tumour lesions with HIFU in place of reduced field boost irradiation to the prostate, while retaining four-field box irradiation to the pelvis in conventional-dose external beam radiotherapy (CRT). We performed a prospective, controlled and non-randomized study on 120 patients with advanced PCa after HT who received HIFU, CRT, HIFU+LRT and HT alone, respectively. CT/MR imaging showed the primary tumours and pelvic lymph node metastases visibly shrank or even disappeared after HIFU+LRT treatment. There were significant differences among four groups with regard to overall survival (OS) and disease-specific survival (DSS) curves (P = 0.018 and 0.015). Further comparison between each pair of groups suggested that the long-term DSS of the HIFU+LRT group was higher than those of the other three groups, but there was no significant difference between the HIFU+LRT group and the CRT group. Multivariable Cox's proportional hazard model showed that both HIFU+LRT and CRT were independently associated with DSS (P = 0.001 and 0.035) and had protective effects with regard to the risk of death. Compared with CRT, HIFU+LRT significantly decreased incidences of radiation-related late gastrointestinal (GI) and genitourinary (GU) toxicity grade ≥ II. In conclusion, long-term survival of patients with advanced PCa benefited from strengthening local control of primary tumour and regional lymph node metastases after HT. As an alternative to CRT, HIFU+LRT showed good efficacy and better safety.High-intensity focused ultrasound (HIFU) has been used to ablate benign and malignant prostate tissue for several decades. This review summarizes the technology and available clinical trials to date. Continued technological advances combined with well-designed clinical trials could allow HIFU to become part of the arsenal against prostate cancer.Aims: Ablative therapy, such as focal therapy, cryotherapy or electroporation, aims to treat clinically significant prostate cancer with reduced treatment-related toxicity. Up to a third of patients may require further local salvage treatment after

ablative therapy failure. Limited descriptive, but no comparative, evidence exists between different salvage treatment outcomes. The aim of this study was to compare oncological and functional outcomes after salvage robot-assisted radical prostatectomy (SRARP) and salvage radiotherapy (SRT).Introduction: Adequate monitoring of volume and location of affected tissue might provide helpful information when performing localized ablative therapy for prostate cancer. We hypothesize that the change in blood flow patterns after therapy in comparison to the blood flow pattern prior to therapy can be used to locate and quantify the amount of affected tissue due to the therapy. We describe the use of three-dimensional contrast-enhanced power Doppler ultrasound (3D-CE-PDU) to determine its additive value to visualize the extent of tissue defects created by high-intensity focused ultrasound (HIFU) in correlation with the histopathology of the prostatectomy specimen.Objective: To assess the cost-effectiveness of two diagnostic strategies for prostate cancer in men with prostate-specific antigen (PSA) levels of 4-10 ng/ml and normal digital rectal examination (DRE).Purpose: This study aimed to prospectively analyze the role of magnetic resonance spectroscopy imaging (MRSI) and dynamic-contrast enhancement magnetic resonance (DCEMR) in the detection of prostate tumor foci in patients with persistently elevated prostate-specific antigen levels (in the range of >or=4 ng/mL to <10 ng/mL) and prior negative random trans-rectal ultrasound (TRUS)-guided biopsy.Recurrent disease following primary radiotherapy for localized prostate cancer is a common problem, occurring in up to 46% of patients. For these patients, therapeutic options include salvage prostatectomy, salvage cryotherapy, salvage high-intensity focused ultrasound (HIFU), hormonal therapy or observation. This review will focus on the emerging evidence for salvage HIFU. There are no randomized or prospective studies in this area. Efficacy results of 17-57% have been reported from retrospective case series, with reported toxicity including rectal fistula in 0-16%, and incontinence in 10-50%. The ideal patient, while yet to be clearly defined, should have preradiotherapy low or intermediate risk disease. Salvage HIFU appears most appropriate for those patients with histologically proven local recurrence only, with a life expectancy of at least 5 years and with some medical comorbidities rendering them not ideal for salvage prostatectomy.With the advent of PSA dosing, an increasing number of prostate cancers are being detected at a local stage. Since 1989, our group has been developing a research project with the aim of establishing treatment of localised prostate cancer by means of HIFU. The treatment is performed transrectally, using ultrasound imaging guidance only. The quality of HIFU treatment depends on four factors: the intensity of the transmitted pulse, the exposure time, the signal frequency, and the time between two firing bursts. The lesions are created by a thermal effect. Their slightly conical form is due to the absorption of ultrasound by tissue, enhanced by cavitation bubbles. Results obtained since 1993 demonstrate that transrectally administered HIFU treatment achieves local control of localised prostate cancer in 80% of cases, with 70% complete success and 30% partial response. The use of an annular array probe with variable focus and frequency should significantly improve results in the future. Finally, real time visual display of the damaged tissue via differential imaging of the attenuation coefficient should give the surgeon an instant appreciation of the result of the sequence. It would thus be possible to repeat treatment of insufficiently covered zones in the same session.Objective: To evaluate whether high-intensity focused ultrasound (HIFU) is less invasive than targeted cryoablation of the prostate (TCAP), as experimental studies suggest that the acute-phase reaction is proportional to surgery-induced tissue damage.Isolated local relapse after prostate cancer radiotherapy corresponds to 40% of biochemical failure. The management of these relapses is not well defined. Several strategies are available including surgery, high-intensity focused ultrasounds (HIFU), cryotherapy and reirradiation. Radical prostatectomy is the historical approach; biochemical control is obtained in 50 to 80% at 5 year. However, morbidity is higher after irradiation than as a first line treatment. Some limited series of HIFU and cryotherapy have been published with interesting results, but again the risk of urinary and rectal toxicity is high. However, new generation technologies could decrease the complication rate. Reirradiation could be performed with brachytherapy and more recently with stereotactic radiation therapy. The results of salvage low-dose-rate brachytherapy have been reported in some series with a 5-year biochemical control rate of 34 to 88%. High-dose rate brachytherapy seems to be better tolerated, but the number of patients treated and reported is too low to draw firm conclusions. This is the same for stereotactic radiation therapy salvage treatment. A prospective trial of salvage brachytherapy (CAPRICUR) is now open in France and inclusion in this trial is recommended.Objectives: To investigate the usefulness of Apparent Diffusion Coefficients (ADC) in predicting prostatectomy Gleason Grades (pGG) and Scores (GS), compared with ultrasound-guided biopsy Gleason Grades (bGG).Objectives: Focal therapies (FTs) are promising techniques for the treatment of localized prostate cancer. We assessed the medium-term oncological outcomes of

intermediate-risk prostate cancer (PCa) treated with HIFU or cryotherapy.Background and purpose: The results of the standard treatment for prostate cancer-radical prostatectomy-are not entirely satisfactory. A new local therapy, transrectal high-intensive focused ultrasound (HIFU), has been developed. We reviewed our experience with HIFU for palliation of localized prostate cancer.There is growing consensus that multiparametric magnetic resonance imaging (mpMRI) is an effective modality in the detection of locally recurrent prostate cancer after prostatectomy and radiation therapy. The emergence of magnetic resonance (MR)-guided focal therapies, such as cryoablation, high-intensity focused ultrasound, and laser ablation, have made the use of mpMRI even more important, as the normal anatomy is inevitably altered and the detection of recurrence is made more difficult. The aim of this article is to review the utility of mpMRI in detecting recurrent prostate cancer in patients following radical prostatectomy, radiation therapy, and focal therapy and to discuss expected post-treatment mpMRI findings, the varied appearance of recurrent tumors, and their mimics.Purpose: To evaluate transrectal (TR) and transperineal (TP) approaches for MRI/ultrasound (MRI/US) fusion-guided biopsy to detect prostate cancer (PCa).Context: Different nonsurgical therapeutic strategies can be adopted for intraprostatic relapse of prostate cancer after primary radiotherapy, including re-irradiation (with brachytherapy [BT] or external beam radiotherapy [EBRT]), high-intensity focused ultrasound (HIFU), and cryotherapy. The main issues to consider when choosing nonsurgical salvage local therapies are local tumor control and significant genitourinary toxicity.The aim of our study was to evaluate the diagnostic value of contrast-enhanced ultrasonography (CEUS) in comparision to morphological examinations of radical prostatectomy specimens and to study factors limiting the visibility of malignant lesions.In terms of effectivity and impact, no ideal approach is as yet available for treatment of local recurrence of prostate cancer. We direct our attention mainly toward high-intensity focused ultrasound (HIFU). HIFU therapy (Ablatherm) is only performed in our department when the following criteria are met: the recurrent tumor must be visualizable with imaging procedures (for HIFU, transrectal ultrasound is employed), the tumor must be accessible to the scanner head (penetration depth: 25 mm), and finally the diagnosis of recurrent tumor has to be histologically confirmed. An indisputable advantage of HIFU is the option of easily administering HIFU therapy for a second time in the presence of tumor remnants or in the event of cancer recurrence. Depending on the primary cancer treatment given, salvage HIFU achieves a biopsy-proven tumor-free state in 60-74% of patients. These results are in line with those that can be obtained with other salvage strategies (radical prostatectomy, radiation therapy). However HIFU shows reduced postoperative morbidity with less side effects.The literature regarding the efficacy and the morbidity of the HIFU treatment for localized prostate cancer is poor. The main published studies were carried out by 4 teams using the device available in Europe. Despite a follow-up too short to allow a relevant assessment of the HIFU efficacy in terms of definitive cure of localized prostate cancer, the last published results from the European Multicentric Study and from Gelet may consider the HIFU treatment as a valuable alternative option for well and moderately differentiated tumors, with an initial PSA < or = 15 ng/ml, in men with a life expectancy between 5 and 15 years. When considering patients presenting a localized cancer with a low or intermediate risk for disease recurrence, the HIFU preliminary results are similar to those reported for the other therapeutic options. The high risk patients should not be considered for HIFU treatment as a monotherapy, but for a combined treatment which might include HIFU. The role of the HIFU treatment as a salvage therapy for local recurrence after radiotherapy looks promising. In the context of a prospective evaluation of the HIFU practice in this indication, the urologists using this technology will receive an appropriate training, and will include all their patient data in a dedicated database hold by the Association Française d'Urologie for a longitudinal study. This AFU evaluation will conclude on the positioning of the HIFU treatment among the other treatment options for localized prostate cancer, its indications versus watchful waiting in elderly and confirm the low HIFU-related morbidity, mainly focusing on the impact on the urinary symptoms and the sexual function. In clinical cases which do not match with the standard recommendations, separate analysis or specific protocols will be considered. For the young patients (life expectancy over 15 years), appropriate information must be delivered, explaining that the reference treatment of localized prostate cancer is the radical prostatectomy or the external beam radiation therapy, and that HIFU is not currently validated for them. The HIFU procedure is now standardized. The learning curve is short (approximately 10 to 15 patients) for urologists with skills in ultrasound imaging. The main advantages of the HIFU treatment are its low morbidity, the option for repeated HIFU treatment, the possible treatment of patients who previously underwent prostate resection, the early local control with biopsies and, if needed, a radiotherapy may be performed after HIFU, without increased morbidity.Background: The objective of this study was to evaluate the clinical

usefulness of transrectal ultrasound (TRUS)-guided eight-core prostate biopsy for detecting prostate cancer in Japanese men.Despite a follow-up too short to allow a relevant assessment of the HIFU efficacy in terms of definitive cure of localized prostate cancer, the last published results from the European multicentric study and from Gelet may consider the HIFU treatment as a valuable alternative option for well differentiated tumors, with an initial PSA<15 ng/ml, in men with a life expectancy more than 5 years. The main advantages of the HIFU treatment are its low morbidity, the option for repeated HIFU treatment, the possible treatment of patients who previously underwent prostate resection, the early local control with biopsies and, if needed, radiotherapy may be performed after HIFU, without increased morbidity.Aim: This systematic review summarizes the clinical data on focal therapy (FT) when used alone as definitive therapy for primary prostate cancer (PCa).Introduction and objective: Partial gland ablation (PGA) for localised prostate cancer (CaP) aims to eradicate clinically significant tumours while preserving healthy tissue, thereby decreasing the likelihood of side effects compared to whole-gland approaches. Although salvage radical prostatectomy (sRP) is a well-described salvage option in cases of PGA failure, the evidence supporting salvage PGA (sPGA) is limited. We hereby report the oncologic and functional outcomes of patients treated with sPGA following initial treatment with primary PGA (pPGA).Objectives: The use of software-based magnetic resonance-transrectal ultrasound fusion to deliver focal therapy may increase the precision of treatment. This is a prospective development study assessing the feasibility of Magnetic resonance imaging-transrectal ultrasound (MRI-TRUS) fusion focal cryotherapy.An imaging system was developed for prostate elastography in vivo using a transrectal ultrasound (US) probe to guide high-intensity focused US (HIFU) therapy of prostate cancer. Uniform compression was applied using a balloon, while a sector image was acquired. Strain was calculated from the gradient of the displacements obtained from the ultrasonic signal using the cross-correlation technique. Elastograms were acquired on a total of 31 patients undergoing HIFU therapy for localised prostate cancer. For two patients, only part of the prostate was treated and posttherapy magnetic resonance imaging (MRI) confirmed the size and position of the HIFU lesions seen in the elastograms as low strain areas, with a strain contrast ratio between 1.6 and 3.2. The whole prostate was treated for the next 29 patients. After treatment, the whole prostate appeared to be stiff in the elastograms and a 40% to 60% (mean 50%) decrease in average strain was observed when compared to strains measured before HIFU application. Tumours identified by biopsies and sonograms could occasionally be seen in the preoperative elastograms. Decorrelation effects occurred mainly because of low sonographic signal-to-noise ratio (SNR) and of out-of-plane motion induced by respiration.Salvage brachytherapy after a first prostate radiation therapy is an emerging technique, which has to be considered in the therapeutic armamentarium in the clinically challenging context of patients with isolated local failure from prostate cancer who may still be considered for cure. These occult failures are more and more frequently diagnosed at an early stage, thanks to targeted biopsies and advances in imaging modalities, such as multiparametric MRI and PET-CT. Salvage brachytherapy benefits from the implantation accuracy of brachytherapy procedures using 3D dosimetry and has resulted in more than 50% tumour control rates with long-term. Incontinence rates are always below those of other salvage treatments such as radical prostatectomy, HIFU or cryotherapy. Today, a consensus has been reached to better define good candidates for salvage brachytherapy with respect to disease characteristics at baseline and at failure. No consensus has been clearly defined yet regarding the choice of the technique (low or high dose rate), the total dose to be delivered, or the volume to be implanted (whole gland or focal). While we await robust data from recently completed phase II studies and given the heterogeneous results in the literature, this technique (although already included in the last 2016 NCCN guidelines) remains to be precisely evaluated, optimally within the frame of controlled trials.Introduction and objective: High-Intensity Focused Ultrasound (HIFU) is a technology that has moved from being used for benign prostate disease to the treatment of prostate cancer. A technology review was undertaken to guide patients and physicians as to its suitability.Objectives: To identify how on-line information relating to prostate cancer screening (PCS) is best sourced, whether through general, medical, or meta-search engines, and to assess the quality of that information.Objective: To evaluate the association between abdominal obesity and prostate cancer (CaP) diagnosis and grade in patients undergoing prostate biopsy.Objective: To evaluate the near-term clinical and pathological effects of repeat partial gland ablation (PGA) in men with intermediate-risk prostate cancer (PCa).Introduction: Salvage ablative therapy (SAT) has been developed as a form of localized treatment for localized recurrence of prostate cancers following radiation therapy. To better address the utility of SAT, prospective clinical trials must address the aspects of accepted standards in the initial evaluation, treatment, follow-up, and outcomes in the oncology community. We undertook this

study to achieve consensus on uniform standardized trial design for SAT trials.Purpose: To describe the safety and efficacy of high-intensity focused ultrasound (HIFU) for the treatment of prostate cancer as assessed in a Phase II/III prospective multicentric clinical trial.Background: Prostate cancer patients are known to suffer from poor sexual and urinary long-term side-effects following treatment, potentially impacting quality of life. The purpose of our study was to compare health-related quality of life at 3 years between prostate cancer patients and healthy controls according to key life-style characteristics. Secondary objectives were to compare urological dysfunction, sexual function, anxiety and depression.Introduction: As a urologist, it is common to review a patient above the age of 70 being referred to a prostate assessments clinic with an elevated PSA. We evaluate the prognosis of these patients clinically as there is no international consensus on the exact PSA cutoff level or a single international guideline as to when these patients should be offered a prostate biopsy.Transrectal ultrasound (TRUS)-guided prostate biopsy is a critical diagnostic tool in urology. Residents require adequate training but resident education could have a deleterious effect on patient comfort and morbidity. We compared pain associated with prostate biopsy when performed by staff versus resident urologists in order to determine the impact of resident training. Male patients scheduled to undergo prostate biopsy were assigned to either a staff urologist or a resident as the primary surgeon. All residents were directly assisted by the staff surgeon. The patients were given a visual analogue scale (VAS; 0-100 mm) and were asked to assess the pain associated with each component of prostate biopsy, including probe insertion, anesthetic injection and the biopsies themselves. The mean VAS scores for probe insertion, anesthetic injection and biopsies were 31.0, 30.4 and 30.1, respectively, for patients in the staff cohort and 37.1, 28.9 and 33.6, respectively, for those in the resident cohort. There was a statistically significant difference between staff and resident VAS scores, marked by a higher odds of greater pain with ultrasound probe placement (odds ratio (OR)=1.48, P=0.012) and the biopsies themselves (OR=1.52, P=0.01) in the resident cohort. TRUS biopsy can be performed by adequately trained and supervised resident urologists of all levels, but there is the potential for increased patient pain, particularly with ultrasonic probe insertion and obtaining core biopsies. However, the absolute magnitude of the differences in pain scores between residents and staff was small and may not be clinically meaningful. Such data indicate that urological resident training can be accomplished without compromising patient care and comfort.Background: The histological diagnosis of prostate cancer requires a prostate needle biopsy. Little is known about the relationship between information provided to prepare men for transrectal ultrasound guided biopsy (TRUS-Bx) and how men experience biopsy. The objectives were a) to understand men's experiences of biopsy as compared to their expectations; and b) to propose current evidence-based information for men undergoing TRUS-Bx.External beam radiotherapy (EBRT) is a standard treatment for prostate cancer. Despite the development of novel radiotherapy techniques such as intensity-modulated conformal radiotherapy, the risk of local recurrence after EBRT has not been obviated. Various local treatment options (including salvage prostatectomy, brachytherapy, cryotherapy, and high-intensity focused ultrasound [HIFU]) have been employed in cases of local recurrence after primary EBRT. Brachytherapy is the first-line treatment for low-risk and selected intermediate-risk prostate tumors. However, few studies have examined the use of brachytherapy to treat post-EBRT recurrent prostate cancer. The purpose of this paper is to analyze the current state of our knowledge about the effects of salvage brachytherapy in patients who develop locally recurrent prostate cancer after primary EBRT. This article also introduces our novel permanent brachytherapy salvage method.Background: In the era of digital data, the Internet has become the primary source from which individuals draw healthcare information.The literature concerning the efficacy and safety of transrectal high-intensity focused ultrasound (HIFU) for the treatment of localized prostate cancer still comprises a relatively small number of articles. The main studies have been published by four teams using an apparatus available in Europe for several years. The recently presented results of the European Multicentre Study and the study by Gelet and associates based on 242 patients with a follow-up of more than 1 year show that HIFU is a valid alternative for the management of welldifferentiated and moderately differentiated localized prostate cancer with an initial PSA 10 years. In two studies, the combination of transurethral resection of the prostate and HIFU limited the risk of postoperative urinary retention without inducing a higher complication rate. In a series of patients presenting recurrence after external-beam radiotherapy, HIFU was found to be a useful therapy, with >80% negative biopsies. The best indications for HIFU are men over the age of 65, those who are not candidates for radical prostatectomy, obese patients, or patients with comorbidities likely to make surgery more difficult. The learning curve for this technique is relatively short, between 10 and 15 patients, for urologists experienced in transrectal ultrasonography. One of the

advantages of HIFU is that it can be repeated in the case of recurrence or to re-treat a prostatic site, it involves no radiation, and patients do not suffer from long-term irritative urinary symptoms.Background: Recurrent prostate cancer after radiotherapy occurs in one in five patients. The efficacy of prostate magnetic resonance imaging (MRI) in recurrent cancer has not been established. Furthermore, high-quality data on new minimally invasive salvage focal ablative treatments are needed.How to manage patients with prostate cancer (PCa) with biochemical recurrence (BCR) following primary curative treatment is a controversial issue. Importantly, this prostate-specific antigen (PSA)-only recurrence is a surrogate neither of PCa-specific survival nor of overall survival. Physicians are therefore challenged with preventing or delaying the onset of clinical progression in those deemed at risk, while avoiding over-treating patients whose disease may never progress beyond PSA-only recurrence. Adjuvant therapy for radical prostatectomy (RP) or local radiotherapy (RT) has a role in certain at-risk patients, although it is not recommended in low-risk PCa owing to the significant side-effects associated with RT and androgen deprivation therapy (ADT). The recommendations for salvage therapy differ depending on whether BCR occurs after RP or primary RT, and in either case, definitive evidence regarding the best strategy is lacking. Options for treatment of BCR after RP are RT at least to the prostatic bed, complete or intermittent ADT, or observation; for BCR after RT, salvage RP, cryotherapy, complete or intermittent ADT, brachytherapy, high-intensity focused ultrasound (HIFU), or observation can be considered. Many patient- and cancer-specific factors need to be taken into account when deciding on the best strategy, and optimal management depends on the involvement of a multidisciplinary team, consultation with the patient themselves, and the adoption of an individualised approach. Improvements in imaging techniques may enable earlier detection of metastases, which will hopefully refine future management decisions.Background: Local occurrence of prostate cancer (PCa) after external beam radiation (EBRT) may benefit from definitive local therapy.Radiation therapy (RT) is one of the treatment options for prostate cancer (PCa). Transperineal low-dose rate brachytherapy (BT) is another safe and effective technique for low-risk PCa. Recurrence after RT for localized PCa can be defined by a PSA value of 2 ng/mL above the nadir after RT, and biochemical recurrence (BCR) rate after RT is 40-60 %. In case of radiorecurrent PCa, treatment options include salvage radical prostatectomy (RP), cryotherapy, high-intensity focused ultrasound (HIFU), and salvage BT. Only salvage RP has cancer control results for over 10-year follow-up in a substantial portion of patients (30-40 %). However, salvage RP is technically demanding, and experienced surgeons are needed; in fact, RT-induced cystitis, fibrosis, and tissue plane obliteration can lead to significant complications, such as rectal injuries, anastomotic stricture, and urinary incontinence. This review describes indications, oncologic and functional outcomes, surgical techniques, and complications of salvage robot-assisted RP.Multiple treatments are proposed to cure prostate carcinoma. Radical prostatectomy is the classical option for localized tumor. However radiotherapy can be proposed in such circumstances with the argument of a less invasive procedure with similar results. High Intensity Focalised Ultrasound (HIFU) is a new technique available for similar staging of the carcinoma with good results. Follow up is based on biological evaluation of PSA. Imaging studies are required only in cases of abnormal level. Endorectal Ultrasonography with biopsies is useful after radical surgery. Indications for MRI study is mainly to differentiate a localized from a general recurrence.Objectives: Focal salvage HIFU is a feasible therapeutic option in some men who have recurrence after primary radiotherapy for prostate cancer. We aimed to determine if multi-parametric quantitative parameters, in addition to clinical factors, might have a role in independently predicting focal salvage HIFU outcomes.Purpose: To validate current eligibility criteria for focal therapy (FT) in prostate cancer men undergoing radical prostatectomy (RP) and to assess the role of magnetic resonance imaging (MRI).Restaging local recurrence after high-intensity focused ultra-sound (HIFU) is based on multiparametric MRI (mpMRI). However, postinterventional changes of the tissue, such as edema or hemorrhage, are limiting tumor detection on mpMRI. We present a case of a rising prostate-specific antigen values, negative mpMRI, and a Gleason score of 4+4 on template biopsy after HIFU. On F-choline PET/MR, high focal uptake was detected at the location of positive biopsy. Re-HIFU based on the fused F-choline PET/MR images was performed, followed by a recurrence-free period of 11 months. Thus, F-choline PET/MR could improve guiding retreatment in patients with recurrence after HIFU.Objectives: To compare different biopsy schemes for detecting prostate cancer in Korean men.Objectives: To compare prostate volume obtained by transrectal ultrasound (TRUS) and endorectal MRI (eMRI) to assess the reliability of TRUS in determining prostate-specific antigen (PSA) density.Aim: To assess the validity of PSA doubling time (PSADT) as a predictor of prostate sextant biopsy outcome in patients with PSA levels in the 4-10 ng/mL range.In 2007, prostate cancer was the

subject of a large number of communications in international conferences. The most innovating studies that are likely to modify patient management were selected. The topics included cancer detection, active surveillance, surgery and treatment of urinary incontinence after prostatectomy, radiotherapy, and high-intensity focalized ultrasound (HIFU). Current hormone treatment modalities as well as the new therapies for hormone-resistant prostate cancer management were also evaluated in detail.Currently, prostate biopsy remains the main method used to diagnose prostate cancer (PCa). The indication for the procedure is an elevated level of the serum level of the total prostate-specific antigen (PSA). However, the PSA test is organ- but not cancer-specific, and patients may undergo an unnecessary biopsy, which is an invasive procedure associated with a risk of complications. Additional tests have been developed aimed to improve the diagnostic performance of PSA for detecting PCa. They include PSA derivatives such as free PSA fraction, -2proPSA, PSA density, PHI and the free /total PSA fraction.To compare diagnostic value of transrectal prostatic biopsy in obtaining samples of tissue from different sites in patients with various levels of prostate-specific antigen (PSA) and prostate size, we made primary transrectal biopsy of the prostate in 486 patients. The patients were divided into 7 groups by the number of punctures at biopsy (from 6 to 18). Among the patients with PSA under 20 ng/ml in the number of tissue biopsy samples 18, a rise in prostatic cancer detection rate (PCDR) was 16.6%. In PSA above 20 ng/ml, a statistically significant maximal rise in PCDR occurred in the increase of biopsy number from 6 to 12 (by 9.3%). The number of local cancer forms in patients with PSA < 20 ng/ml among all the detected cases rose from 70% (biopsy from 6 sites) to 92.3% (biopsy from 18 sites). Among the patients with PSA < 20 ng/ml and the size of the prostate > 50 sm3, a significant rise of PCDR increased from 20 to 33.3% in an increase of the puncture number from 6 to 12. In the group of patients with the same PSA level and prostate > 50 cm3 PCDR improves in biopsy from 14, 16 and 18 sites (from 12.1 to 27.7%, 28.5 to 33.3%, respectively). Standard biopsy is insufficient for adequate PCDR, it is necessary to obtain samples of tissue from a large number of sites with puncture of peripheral zone of the prostate. Transrectal biopsy of the prostate according to the extended method improves PCDR, primarily, in local cancer.The accuracy of high-intensity focused ultrasound (HIFU) lesion prediction modelling was evaluated for a truncated spherical transducer designed for prostate cancer treatment The modelling adapted the bio heat transfer equation (BHTE) to take into account the activity of cavitation bubbles generated during HIFU exposure. This modelling was used to predict the lesions produced by three different transducer geometries: fixed-focus, concentric-ring and 1.5D phased-array. Lesions were predicted for different ultrasound exposure conditions close to those used in prostate cancer treatment. Twenty-one in vitro and nine in vitro experiments were performed on pig liver to validate the accuracy of the predictions. A good match was found between the predicted and experimental lesion shapes. Lesion dimensions (maximum depth and length, area at the centre of the lesion or central surface area) were measured on experimental and predicted lesions. The central surface area was predicted by the model with a range of error of 0.15-6.5% for in vitro tests and 0.97-9% in vivo. For comparison, BHTE without bubbles had a range of error of 0.4-55.5% (in vitro) and 9-25.5% (in vivo). The model should be accurate enough to predict HIFU lesions under ultrasound exposure conditions used in prostate cancer treatment.To evaluate the value of resistive index (RI) of prostatic capsular arteries in diagnosis and evaluation of prostate cancer (PCa) in Chinese patients undergoing initial prostate biopsy. A total of 532 consecutive patients undergoing prostate biopsy were enrolled in this study. RI was measured on the largest transverse section of prostate for each individual. The predictive value of RI was evaluated using multivariate logistic regression and receiver operating characteristic (ROC) curve analyses. PCa was identified in 217 (40.79%) patients. RI was 0.69 ± 0.08 and 0.8 ± 0.08 for patients without and with PCa ($p < 0.01$). On logistic regression RI was significantly associated with PCa ($p < 0.01$). Using ROC analysis RI outperformed tPSA in prediction of PCa in all patients [area under ROC curve (AUC) = 0.83, 0.78, respectively]. With the cutoff value of 0.73, RI discriminated PCa from non-PCa patients with 81.9% sensitivity, 75.9% specificity and 77.63% diagnostic accuracy. Furthermore, The AUC for RI in the discrimination of PCa from non-PCa patients in a subset with PSA of 4 to 10 ng/ml, high grade from non-high grade PCa patients and advanced from localized PCa patients was 0.70, 0.77 and 0.80, higher than other parameters ($p < 0.05$). RI is proved a practicable parameter in identifying patients at risk for PCa and predicting the grade and stage of PCa before initial prostate biopsy. The value of RI should be further explored in the future.Aims: Investigation of the histopathological changes in prostatectomy specimens of patients with prostate cancer after high intensity focused ultrasound (HIFU) and identification of immunohistochemical markers for tissue damage after HIFU treatment.Local recurrent prostate cancer after radical treatment is found in the majority of men with a rising PSA. Salvage treatment procedures for recurrent disease,

such as radiation therapy and ablative procedures, can provide long-term responses in well-selected cases. Prostate magnetic resonance imaging (MRI) allows diagnosis and staging, and the value provides information on treatment selection, treatment planning and treatment guidance in local recurrent prostate cancer.Cryoablation (CA), high-intensity focused ultrasound (HIFU), irreversible electroporation (IRE), and vascular-targeted photodynamic therapy (VTP) have been evaluated as novel strategies for selected patients with prostate cancer (PCa). We aim to determine the current status of literature regarding the clinical outcomes among these minimally invasive therapies. A systematic search of PubMed, EMBASE, and the Cochrane Library for all English literature published from January 2001 to December 2019 was conducted to identify studies evaluating outcomes of CA, HIFU, IRE or VTP on PCa. Proportionality with 95% confidence intervals (CIs) was performed using STATA version 14.0. 56 studies consisting of 7383 participants were found to report data of interest and fulfilled the inclusion criteria in the final meta-analysis. The pooled proportions of positive biopsy after procedure were 20.0%, 24.3%, 24.2%, and 36.2% in CA, HIFU, IRE and VTP, respectively. The pooled proportions of BRFS were 75.7% for CA and 74.4% for HIFU. The pooled proportions of CSS were 96.1%, 98.2%, and 97.9% for CA, HIFU, and IRE, respectively. The pooled proportions of OS were 92.8% for CA and 85.2% for HIFU. The pooled proportions of FFS were 64.7%, 90.4%, and 76.7% for CA, IRE and VTP, respectively. The pooled proportions of MFS were 92.8% for HIFU and 99.1% for IRE. This meta-analysis shows that CA, HIFU, IRE, and VTP are promising therapies for PCa patients with similar clinical outcomes. However, further larger, well-designed randomized controlled trials are required to confirm this assertion.Recurrence after radiotherapy is not uncommon. Facing this situation, physicians have the choice between numerous possibilities, including simple observation, androgen ablation, salvage radical prostatectomy, cryotherapy, brachytherapy, high-intensity focused ultrasound, chemotherapy and nonconventional therapy. There is, however, no standard treatment and each case must be individually discussed.Transrectal high-intensity focused ultrasound (HIFU) was recently established as a highly effective means of inducing contact and irradiation-free intraprostatic coagulative necrosis. This technique, therefore, appears potentially useful for treating localized prostate cancer (PC). To evaluate this issue, a total of 29 human prostates with localized cancer was subjected to HIFU treatment in vivo before radical retropubic prostatectomy. HIFU therapy was performed with the use of HIFU transducers with focal lengths of 3.0 cm (n = 3), 3.5 cm (n = 19), and 4.0 cm (n = 7), and the site intensity was varied from 1260 to 2000 W/cm2. The extent of intraprostatic necrosis was determined by planimetrical analysis of whole mount prostatic sections. Transrectal HIFU consistently induced sharply delineated intraprostatic coagulative necrosis within the target area, whereas alterations of perioprostatic structures were never observed. The cross-sectional area of necrosis increased from 1.1 +/- 0.7 cm2 (SD; n = 3; 3.0-cm focal length; 1428 W/cm2) to 1.2 +/- 0.7 cm2 (n = 2; 3.5-cm focal length; 1428 W/cm2), 1.8 +/- 0.17 cm2 (n = 8; 3.5-cm focal length; 1680 W/cm2), 2.8 +/- 0.32 cm2 (n = 9; 3.5-cm focal length; 2000 W/cm2) and 3.8 +/- 0.4 cm2 (n = 7; 4.0 cm focal length; 1260 W/cm2). HIFU beam transmission and the therapeutic effect were comparable in benign and malignant prostatic tissue. Interstitial thermometry (n = 6) revealed maximum intraprostatic temperatures in the focal zone up to 98.6 degrees C. Outside the focal zone and on the rectal wall, no significant temperature rises were noted. Subsequently, HIFU was applied to unilateral histologically proven T2a/T2b PC (n = 10) in an attempt to destroy all cancer before radical retropubic prostatectomy. PC was always correctly targeted. In 7 individuals, PC was partially (mean, 53%; range, 38-77%) destroyed; in the remaining 3 cases the entire tumor was ablated. Although these histological data permit no definitive conclusion on the clinical efficacy of this approach, transrectal HIFU seems to be an attractive novel minimally invasive treatment option for localized PC.Prostate cancer represents the most commonly diagnosed cancer in men and is the second-leading cause of cancer related death in the United States. Primary treatment for prostate cancer includes radiotherapy or ablative procedures such as cryotherapy, and high-intensity focused ultrasound (HIFU). Unfortunately, a large proportion of these patients, especially with high risk features, may experience disease recurrence within 10 years. Management of recurrent localized prostate cancer is heterogeneous, and radical surgery remains as a salvage option in these patients. The purpose of this article is to offer oncological arguments in favor of salvage robotic radical prostatectomy (sRARP), which could benefit a certain group of patients. Tips and tricks in order to perform a challenging salvage surgery are summarized, as evidence of modern series with acceptable morbidity rates.Purpose: To conduct a multi-institutional comparison of prostate brachytherapy pre-implant dosimetry of Pd-103 and I-125.Introduction: Algorithms for the treatment of prostate cancer (PrCa) rely on risk grouping, and those who fall into low (LR) and favourable intermediate risk (FIR) categories have multiple options for treatment. High-intensity focused ultrasound

(HiFU) is a local treatment modality that uses ultrasound waves to ablate prostate cancer. In case of treatment failure, optimal salvage modality after HiFU remains unclear.For clinically significant, locally confined prostate cancer, whole-gland radical prostatectomy and radiotherapy are established effective treatment strategies that, however, come at a cost of significant morbidity related to urinary and sexual side effects. The concept of risk stratification paired with a better understanding of prognostic factors has led to the development of alternative management options including active surveillance and focal therapy for appropriately selected patients with localized disease. High-intensity focused ultrasound (HIFU) is one such minimally invasive, image-guided treatment option for prostate cancer. Due to the relative novelty of HIFU and the increased use of magnetic resonance imaging in prostate cancer, many radiologists are not yet familiar with imaging findings related to HIFU, their temporal evolution as well as imaging appearance of recurrent disease after this type of focal therapy. HIFU induces sharply demarcated, localized coagulative necrosis of a tumor through thermal energy delivered via an endorectal or transurethral ultrasound transducer. In this pictorial review, we aim at providing relevant background information that will guide the reader through the general principles of HIFU in the prostate, as well as demonstrate the imaging appearance of expected post-HIFU changes versus recurrent tumor.Objective: To characterize conservative management of urorectal fistulae (URF).Objectives: Efficacy evaluation of high intensity focused ultrasound (HIFU) treatment for localized prostate cancer and identification of the factors affecting the outcome.Background: The growing interest in high-intensity focused ultrasound (HIFU) is mainly due to its potential applications as a minimally invasive therapy. HIFU has been assessed for its role in the treatment of localized prostate cancer in patients who otherwise would not have benefited from surgery and in local recurrences after radiation failure.Introduction: Relationship between prostate cancer (PCa) and testosterone (T) is controversial. Conflicting evidence has been published about T levels and development of PCa.Background: To determine the efficacy and safety of a periprostatic nerve block combined with perineum subcutaneous anaesthesia and intrarectal lidocaine gel for transrectal ultrasound-guided transperineal prostate biopsy (TPBx) through a prospective randomised controlled trial.Objective: Focal therapy is an emerging approach to the treatment of localized prostate cancer. The purpose of this study was to report the 6-month follow-up oncologic and functional data of the initial phase 1 trial of patients treated with focal transrectal MRI-guided focused ultrasound in North America.Background: The clinical value of heat-induced coagulation of prostatic tissue is evaluated as a minimally invasive treatment for patients with benign prostatic hyperplasia (BPH) and, more recently, localized prostate cancer (PC). To obtain a more detailed insight on the effect of heat on prostatic cells, heat shock protein (HSP) 27 expression of normal and malignant prostatic cells was studied.Prostate cancer is a common malignancy among men, and the current screening, imaging and sampling approaches aim to detect early-stage, organ-confined disease. In such scenario, focal prostate cancer therapy currently relies on the index lesion concept as the dominant lesion that drives the disease natural history. Focal therapy demands the essential imaging and sampling techniques to strategically locate and qualify the disease, but, despite advances in technology, prostate imaging and biopsy have several limitations that need to be overcome if focal therapy is to be developed further. The I Prostate Cancer Focal Treatment International Symposium was convened to foster discussion on this topic that sits at the crossroads of multiple disciplines (Urology, Pathology, Radiology, Radiation Oncology and Medical Oncology) all of which were represented for this comprehensive multidisciplinary review of the current literature.Purpose: To overcome the difficulties in the interpretation of postoperative tumor obtaining biopsy cores for patients who treated their prostate cancer with high-intensity focussed ultrasound (HIFU) therapy.The best treatment option for patients with prostate cancer who experience local relapse after external beam radiation therapy remains uncertain. Salvage brachytherapy, cryotherapy, HIFU and radical prostatectomy have shown varying biochemical and quality-of-life outcomes according to disease-related and patient-related factors, but follow-up data are still short. It seems clear that careful patient selection for salvage brachytherapy is essential for good clinical and quality-of-life outcomes. We present a review of the currently available experiences of brachytherapy as salvage treatment after failure to external beam radiotherapy.The two major long-term concerns associated with different options for the management of prostate cancer, (including surgery, radiotherapy, brachytherapy, cryotherapy, HIFU, etc.) include difficulties with lower urinary tract symptoms (LUTS) and/or erectile dysfunction. LUTS can be in the form of stress urinary incontinence (SUI), urge urinary incontinence (UUI), frequency/urgency, and/or voiding difficulties. While surgery is mostly associated with SUI and radiation mostly results in UUI, there can be an overlap. Incontinence rates after cryotherapy and high intensity focused ultrasound (HIFU) are generally very low. Voiding difficulties can

also happen after the above-mentioned options. Treatment of SUI can start with pelvic floor muscle exercises (PFME), penile clamps or urethral plugs. If these fail to provide satisfactory results the surgical options could include: urethral bulking agents, male slings, and artificial urinary sphincter (AUS). Surgical options are usually not recommended during the first 6-12 months after radical prostatectomy. Management of frequency, urgency and/or UUI can also be started with lifestyle modifications and PFME. Oral agents (anticholinergics and β3-agonists) are also considered before proceeding to third line options, such as Botox injection or sacral neuromodulation. The treatment options for ED resulting from the treatment of prostate cancer can include oral PDE5-I as the first line, local therapy as the second (such as MUSE, intracavernosal injections, and perhaps low intensity shock wave therapy) and finally surgery as the third line. Standard questionnaires and patient reported outcome measurement tools should be used for the assessment of LUTS and erectile dysfunction prior and after initiation of treatment to guide the management.Background: High-intensity focused ultrasound (HIFU) is a minimally invasive technique used in achieve coagulation necrosis. We evaluated biochemical disease-free survival rates, predictors of clinical outcome and morbidity in patients with localized prostate cancer treated with HIFU.Objective: The aim of this study was to assess and quantify changes in voiding parameters and prostate size in men with prostate cancer from before the start of endocrine treatment and during long-term follow-up.Aim: The treatment of prostate cancer using high intensity focused ultrasound (HIFU) is considered to be mini-invasive and normally has a low rate of morbidity. The aim of this study was to evaluate the quality of life of patients treated with HIFU.The aim of this study is to demonstrate the feasibility of a new spherically curved 1.5-D phased array for the treatment of localized prostatic cancer. The device is designed to conform to the Ablatherm machine (EDAP-Technomed, France), a commercially available machine in which high intensity focused ultrasound (HIFU) treatment for prostate cancer is administered transrectally. It uses high intensity electronically focused ultrasound to steer a beam along two axes, allowing enough depth to be reached to treat large prostates and eliminating two degrees of mechanical movement. Through computer simulation, it was determined that a curved 1.5-D configuration offered the optimal design. Two configurations were then proposed, and their ability to steer a beam within a target volume centered on the geometric focus of the transducer was simulated. An eight-element prototype was constructed to test the piezo-composite material and its electro-acoustical efficiency. Then, an array was constructed, and a multi-channel amplifier and control system were added, to permit remote operation. Acoustical and electrical measurements were made to verify performance. Finally, the 1.5-D array was tested in vitro on samples of pig liver to confirm the ability to induce lesions.Due to its slow progression and susceptibility to radical forms of treatment, low-grade PC is associated with high overall survival (OS). With the clinical progression of PC, the therapy is becoming more complex. The immunosuppressive tumor microenvironment (TME) makes PC a difficult target for most immunotherapeutics. Its general immune resistance is established by e.g., immune evasion through Treg cells, synthesis of immunosuppressive mediators, and the defective expression of surface neoantigens. The success of sipuleucel-T in clinical trials initiated several other clinical studies that specifically target the immune escape of tumors and eliminate the immunosuppressive properties of the TME. In the settings of PC treatment, this can be commonly achieved with radiation therapy (RT). In addition, focal therapies usually applied for localized PC, such as high-intensity focused ultrasound (HIFU) therapy, cryotherapy, photodynamic therapy (PDT), and irreversible electroporation (IRE) were shown to boost the anti-cancer response. Nevertheless, the present guidelines restrict their application to the context of a clinical trial or a prospective cohort study. This review explains how RT and focal therapies enhance the immune response. We also provide data supporting the combination of RT and focal treatments with immune therapies.Purpose: To assess the performance of multiparametric magnetic resonance imaging (mp-MRI) in patients with previous negative transrectal ultrasound (TRUS) guided prostate biopsy.Purpose: To compare patient reported pain during TRUS guided biopsies using intrarectal lidocaine gel versus lubricating gel.Purpose: The effect of obesity on prostate cancer detection and behavior remains uncertain. We evaluated the impact of obesity, as measured by body mass index, in a case series of 500 consecutive men who underwent a modern 10 to 12 core biopsy approach.Purpose: Low temperature sensitive liposome (LTSL) encapsulated docetaxel were combined with mild hyperthermia (40-42°C) to investigate in vivo biodistribution and efficacy against a castrate resistant prostate cancer.Background: Salvage therapeutic options for biochemical failure after primary radiation-based therapy include radical prostatectomy, cryoablation, high-intensity focused ultrasound (HIFU), brachytherapy (for post-EBRT patients) and androgen deprivation therapy (ADT). ADT and salvage prostate cryoablation (SPC) are two commonly considered treatment options for

RRPC. However, there is an urgent need for high-quality clinical studies to support evidence-based decisions on treatment choice. Our study aims to determine the feasibility of randomising men with RRPC for treatment with ADT and SPC.Robust and effective shape prior modeling from a set of training data remains a challenging task, since the shape variation is complicated, and shape models should preserve local details as well as handle shape noises. To address these challenges, a novel robust projective dictionary learning (RPDL) scheme is proposed in this paper. Specifically, the RPDL method integrates the dimension reduction and dictionary learning into a unified framework for shape prior modeling, which can not only learn a robust and representative dictionary with the energy preservation of the training data, but also reduce the dimensionality and computational cost via the subspace learning. In addition, the proposed RPDL algorithm is regularized by using the norm to handle the outliers and noises, and is embedded in an online framework so that of memory and time efficiency. The proposed method is employed to model prostate shape prior for the application of magnetic resonance transrectal ultrasound registration. The experimental results demonstrate that our method provides more accurate and robust shape modeling than the state-of-the-art methods do. The proposed RPDL method is applicable for modeling other organs, and hence, a general solution for the problem of shape prior modeling.Purpose: The purpose of this study was to compare the diagnostic performance of 3 Tesla, 3-dimensional (3D) magnetic resonance spectroscopic imaging (MRSI) in the localization of prostate cancer (PCa) with and without the use of an endorectal coil (ERC).Objective: To evaluate the prostate cancer detection rate at low total prostate-specific antigen (tPSA) ranges of 2.6-4 and 4.1-10 ng/mL, according to different percentage free (f/t) PSA levels in a screening population.Prostate focal therapy offers men the opportunity to achieve oncological control while preserving sexual and urinary function. The prerequisites for successful focal therapy are to accurately identify, localize and completely ablate the clinically significant cancer(s) within the prostate. We aim to evaluate the evidence for current and upcoming technologies that could shape the future of prostate cancer focal therapy in the next five years. Areas covered: Current literature on advances in patient selection using imaging, biopsy and biomarkers, ablation techniques and adjuvant treatments for focal therapy are summarized. A literature search of major databases was performed using the search terms 'focal therapy', 'focal ablation', 'partial ablation', 'targeted ablation', 'image guided therapy' and 'prostate cancer'. Expert commentary: Advanced radiological tools such as multiparametric magnetic resonance imaging (mpMRI), multiparametric ultrasound (mpUS), prostate-specific-membrane-antigen positron emission tomography (PSMA-PET) represent a revolution in the ability to understand cancer function and biology. Advances in ablative technologies now provide a menu of modalities that can be rationalized based on lesion location, size and perhaps in the near future, pre-determined resistance to therapy. However, these need to be carefully studied to establish their safety and efficacy parameters. Adjuvant strategies to enhance focal ablation are under development.Background: A phase 3 multicenter trial demonstrated that magnetic resonance imaging (MRI)-guided focused ultrasound (US) is a safe, noninvasive treatment that alleviated pain from bone metastases. However, outcomes varied among institutions (from 0%-100% treatment success).Adenocarcinoma of prostate metastasizing to testis is a rare occurrence and is incidentally detected in orchiectomy specimens. The pattern of metastasis may mimic a primary neoplasm of testis like a seminoma or lymphoma and pose a diagnostic difficulty for the pathologist. A rare case of bilateral testicular metastasis of prostatic adenocarcinoma is presented wherein the metastatic cells expressed CD168, a receptor for hyaluronan mediated motility (Rhamm), implicated in the development of androgen independence in prostate cancer.The purpose of this retrospective study was to compare the toxicity and disease control rate of radiotherapy for prostate cancer in salvage settings after high-intensity focused ultrasound (HIFU) therapy (HIFU cohort) with those in radical settings (non-HIFU cohort). From 2012 to 2020, 215 patients were identified for this study and 17 were treated in the salvage settings after HIFU. The median follow-up time was 34.5 months (range: 7-102 months, inter-quartile range [IQR]: 16-64 months). Genitourinary (GU) and gastrointestinal (GI) adverse events were evaluated in acute and late periods with Common Terminology Criteria for Adverse Events version 5, and the rates of biochemical-clinical failure free survival (BCFS) and overall survival (OS) were estimated. The cumulative incidence of late GU Grade 2 or greater toxicity after five years was significantly different between the non-HIFU and HIFU cohorts with rates of 7.3% and 26.2%, respectively (P = 0.03). Regarding GI Grade 2 or greater toxicity, there was no significant difference between the two cohorts. The 5y-BCFS was 84.2% in the non-HIFU cohort and 69.5% in the HIFU cohort with no significant difference (P = 0.10) and the 5y-OS was 95.9% and 92.3%, respectively (P = 0.47). We concluded that the possibility of increased late GU Grade 2 or greater should be considered when applying salvage radiotherapy for local recurrence after

HIFU.High intensity focused ultrasound (HIFU) is a technique whereby energy with resultant heat and tissue destruction can be delivered to a discreet distant site without injury to intervening tissue. 27 patients with bladder outlet obstruction and 5 men with loco-regional prostate cancer were treated by this method. At 3 months' follow-up a highly significant improvement of objective and subjective parameters could be demonstrated. No significant complications of this minimally invasive technique have been encountered. Moreover, our preliminary experience suggests that transrectal HIFU may control localized prostate cancer with minimal morbidity and that retreatment is possible at any time without toxicity to surrounding structures.Local recurrence after external radiotherapy for prostate cancer occurs in 30 to 50 % and is often diagnosed by a rising PSA. The absence of local control after radiotherapy is a risk factor of metastases and specific mortality. There are several therapeutic options to treat these patients: surveillance, hormonotherapy and salvage therapies (radical prostatectomy, cystoprostatectomy, brachytherapy, high intensity focused ultrasound [HIFU] and cryotherapy). Hormonotherapy is not a curative treatment and after a couple of years, the disease will progress again. Local salvage therapies are the only treatment to have the potential to cure these patients with the condition of very strict inclusion criteria. Among these therapies, only radical prostatectomy demonstrated his efficacity with a follow-up of 10 years on specific survival and survival without biological progression respectively from 70 to 77 % and from 30 to 43 %. During last decade, morbidity of RP has strongly decreased with a percentage of rectal and ureteral injury at 3 %. Nevertheless, percentage of urinary incontinence remains high from 29 to 50 %. Salvage mini-invasive therapies (cryotherapy, HIFU and cryotherapy) are under constant evolution due to progress of technology. Functional and oncological results are better with last generation devices but need to be evaluated and compared with radical prostatectomy.Background: High-intensity focused ultrasound (HIFU) applies high-intensity focused ultrasound energy to locally heat and destroy diseased or damaged tissue through ablation. This study intended to review HIFU to explain the fundamentals of HIFU, evaluate the evidence concerning the role of HIFU in the treatment of prostate cancer (PC), review the technologies used to perform HIFU and the published clinical literature regarding the procedure as a primary treatment for PC.Purpose: We aimed to investigate the efficiency and cancer detection of magnetic resonance imaging (MRI) / ultrasonography (US) fusion-guided prostate biopsy in a cohort of biopsy-naive men compared with standard-of-care systematic extended sextant transrectal ultrasonography (TRUS)-guided biopsy.Aim: To determine whether patients undergoing transrectal ultrasound (TRUS)-guided prostate biopsy with increased sampling numbers are more likely to experience bleeding complications and whether warfarin or low-dose aspirin are independent risk factors.Prostate brachytherapy is a radiotherapy technique for early stage prostate cancer that uses imaging guidance to place radioactive sources directly into the prostate gland. Transrectal ultrasound is used to facilitate a template-guided transperineal approach to the prostate and permits a highly conformal method of prostate radiotherapy with doses far higher than can be achieved with other radiation techniques. Maturing data has validated this technique as an acceptable treatment option with favourable and durable biochemical outcomes. The radiologist has a major role to play in the process: patient selection, guiding source delivery and follow-up after treatment all require close collaboration with colleagues in Radiation Oncology and Medical Physics. This review emphasises the specific contribution of imaging in the context of currently reported outcomes data.The purpose of this work was to evaluate tolerance, feasibility and acute toxicity in patients undergoing salvage radiotherapy after high-intensity focused ultrasound (HIFU) failure. From 2005 to 2011 a total of 15 patients were treated with HIFU as primary radical treatment. Between July 2011 and February 2013, all 15 patients presented biochemical relapse after HIFU and 11C choline PET documenting intrapostatic-only failure. Salvage EBRT was performed with moderate hypofractionation schedule in 28 fractions with volumetric modulation arc therapy (VMAT). Genito-urinary (GU) and rectal and bowel toxicity were scored by common terminology criteria for adverse events version 4 (CTCAE V.4) scale. Biochemical response was assessed by ASTRO Phoenix criteria. Median age of patients was 67 years (range: 53-85). The median Gleason score was 7 (range: 6-9). The median prostate specific antigen (PSA) at the time of biochemical relapse after HIFU was 5.2 ng/mL (range: 2-64.2). Seven of the 15 patients received androgen deprivation therapy (ADT) started after HIFU failure, interrupted before 11C choline PET and radiotherapy. Median prescribed dose was 71.4 Gy (range: 71.4-74.2 Gy) in 28 fractions. No radiation related major upper gastrointestinal (GI), rectal and GU toxicity were experienced. GU, acute grade 1 and grade 2 toxicities were recorded in 7/15 and 4/15 respectively; bowel acute grade 1 and grade 2 toxicities in 4/15 and 1/15; rectal acute grade 1 and grade 2 toxicities in 3/15 and 2/15 respectively. No grade 3 or greater acute or late toxicities occurred. Biochemical control was assessed in 12/15 (80%)

patients. With a median follow up of 12 months, three out of 15 patients, with biochemical relapse, showed lymph-nodal recurrence. Our early clinical results and biochemical data confirm the feasibility and show a good tolerance of the 11C choline PET guided salvage radiation therapy after HIFU failure. The findings of low acute toxicity is encouraging, but longer follow-up is needed to assess late toxicity and definitive outcomes.Introduction: There are relatively few studies that compare the use of transrectal ultrasound (TRUS) to magnetic resonance imaging (MRI) to estimate the prostate volume. In this study, we compared the prostate volumes measured with MRI and TRUS with a surgical specimen volume.Introduction: This study aimed to evaluate the risk of complications for patients who received periprosthetic nerve block (PPNB) with one percent lignocaine before transrectal ultrasonography (TRUS) biopsy of the prostate.Background: Although localised prostate cancer is multifocal in most instances, the index lesion might be responsible for disease progression.Objectives: To evaluate, over a 10-year period, the feasibility, efficacy, duration of action and adverse effects of intermittent hormonal therapy (IHT) in patients with advanced prostate cancer or biochemical recurrence after radical treatment.Introduction: To assess the variability of pre-prostate biopsy prophylaxis among American urologists.Objectives: Different artificial neural networks (ANNs) using total prostate-specific antigen (PSA) and percentage of free PSA (%fPSA) have been introduced to enhance the specificity of prostate cancer detection. The applicability of independently trained ANN and logistic regression (LR) models to different populations regarding the composition (screening versus referred) and different PSA assays has not yet been tested.The impact of prostate-specific membrane antigen (PSMA) PET/CT on management of prostate cancer (PCa) patients with biochemical recurrence (BCR) is well established. However, whether and how PSMA PET/CT affects the management of patients undergoing scans for other clinical indications remains unknown. The goal of this study was to determine the impact of 68Ga-PSMA-11 PET/CT on initial and subsequent management decisions in a cohort of PCa patients referred for various indications (i.e., a basket trial) excluding the 2 main classic indications: BCR and presurgical staging. Methods: This was a prospective study of 197 patients that aimed to determine the impact of 68Ga-PSMA-11 PET/CT on PCa stage and management. The indications for PSMA PET/CT were initial staging of nonsurgical candidates (30 patients) and restaging after definitive treatment (167 patients). The restaging cohort comprised patients restaged with known advanced metastatic disease (n = 103), after androgen deprivation therapy only (n = 16), after surgery and with serum prostate-specific antigen levels lower than 0.2 ng/mL (n = 13), after radiation therapy and not meeting the Phoenix criteria (n = 22), and after other primary local treatments (i.e., high-intensity focused ultrasound, focal laser ablation, cryoablation, hyperthermia, or irreversible electroporation) (n = 13). Patients with BCR and candidates for curative surgery were excluded. Impact on management was assessed using pre- and post-PET questionnaires completed by referring physicians, electronic chart review, or patient telephone calls. Results: PSMA PET/CT changed the disease stage in 135 of 197 (69%) patients (upstaging in 38%, downstaging in 30%, and no change in stage in 32%). Management was affected in 104 of 182 (57%) patients. Specifically, PSMA PET/CT impacted the management of patients who were restaged after radiation therapy without meeting the Phoenix criteria for BCR, after other definitive local treatments, and with advanced metastatic disease in 13 of 18 (72%), 8 of 12 (67%), and 59 of 96 (61%), respectively. Conclusion: PSMA PET/CT has a profound impact on stage and management of PCa patients outside the 2 main classic indications (BCR and presurgical staging) across all examined clinical scenarios.Purpose: We studied the feasibility of combined treatment with high intensity focused ultrasound (HIFU) and transurethral resection or incision of the prostate for localized prostate cancer to decrease the risk of posttreatment prolonged urinary retention.Recently, minimally invasive therapy has been a key word in the medical field. Many new therapies have been developed in the field of urology. In this area, bacillus Calmette-Guerin (BCG) instillation therapy, transurethral resection of the bladder tumor and intra-arterial infusion with irradiation therapy are noted as minimally invasive therapies for bladder cancer. Laparoscopic prostatectomy, brachytherapy, three-dimensional conformal radiotherapy (3D-CRT) and high-intensity focused ultrasound (HIFU) have also been developed as minimally invasive therapies for prostate cancer. Though the establishment of the validity of each treatment will still take time, the best treatment for each patient should be chosen case by case, including considerations of postoperative quality of life and economic efficiency.The present study proposes a new integrated imaging (II) high-intensity focused ultrasound (HIFU) probe intended as an improvement to the Ablatherm prostate cancer treatment. Because of a perforation in the center of the II probe, the expected lesion differs from the one obtained for the original Ablatherm probe. In this paper, the new geometry and the strategy followed to establish the treatment parameters are presented. The original

probe has a 40-mm focal length, a 50-mm aperture and is truncated at 31 mm. The II probe has a 45-mm focal length, a 61-mm aperture, a central perforation of 25 mm and is truncated at 31 mm. Both probes operate at 3 MHz. A mathematical model for lesion prediction was used for setting the treatment parameters for the II probe. These parameters should ensure equivalence between the lesions obtained with the original and II probes. Simulation-obtained parameters were validated by in-vitro and in-vivo (on liver of 70 New Zealand rabbits) experiments. The new II probe was used clinically to treat 30 patients. The mean age was 70.9 +/- 5.3 years (SD), the mean prostate volume 26.9 +/- 7.7 mL and the mean serum prostate specific antigen (PSA) concentration before treatment was 9.2 +/- 5.5 ng/mL. Simulations showed that for the II probe acoustical power and duration when the transducer is inactive should be reduced of 14% and 1s. In-vitro and in-vivo experiments confirmed the equivalence between the lesions obtained with the two probes. The lesion volume obtained under in-vitro conditions (for a traversed tissue depth of 16 mm to the focus) was 5 +/- 0.4 cm(3) and 5.1 +/- 0.5 cm(3) for the original and II probes, respectively. Under in-vivo conditions, the lesion volume (for a traversed tissue depth of 18 mm) was 5.3 +/- 1.1 cm(3) and 5.1 +/- 1.1 cm(3) for the original and II probes, respectively. During the clinical trial, a correction of + 1s in the exposure time was required to recreate the same degree of efficacy observed with the original probe (p = 0.97): 66.7 % of negative biopsies and 75% of patients with PSA at 3 mo < or =1 ng/mL. The morbidity observed was minimal and identical to that observed with the original probe.Objective: To present a summary of the 2016 version of the European Association of Urology (EAU) - European Society for Radiotherapy & Oncology (ESTRO) - International Society of Geriatric Oncology (SIOG) Guidelines on screening, diagnosis, and local treatment with curative intent of clinically localised prostate cancer (PCa).Purpose: The diagnosis of prostate cancer in men with persistently increased prostate specific antigen after a negative prostate biopsy has become a great challenge for urologists and pathologists. We analyzed the diagnostic value of 6 genes in the tissue of patients with prostate cancer.Aim: To evaluate the efficacy of intramuscular injection of 75 mg diclofenac sodium and periprostatic nerve block (PPNB) with 1% lignocaine in controlling pain during transrectal ultrasound (TRUS)-guided prostate biopsy.Focal therapy has been introduced as a novel treatment option for clinically localized prostate cancer. However, defining its role in the clinical space is still debated, especially with regards to identifying eligible candidates who will stand to benefit from treatment. Active surveillance (AS) is established as the preferred treatment for low-risk prostate cancer, with the goal of identifying those experiencing risk re-classification for curative intervention if it occurs. AS has been shown to be inferior to whole-gland treatments in to preventing progression or metastases. As a result, the field has sought solutions outside of the dichotomous options currently presented to men with low-risk cancer. Finally, the acceptance of preservation of sexual/urinary function and the avoidance of definitive therapy as valid endpoints has forced providers to think outside of survival alone as meaningful measures of success. It is here that focal therapy has emerged as a prospective replacement to AS or definitive treatment in carefully selected men. Combined with available risk stratification tools, focal ablation may afford patients durable oncological benefit while maintaining quality of life even in low-risk cancers.Purpose of review: Options for prostate cancer management are rapidly expanding. The recent advent of MRI technology has led to guided prostate biopsies by radiologists working in-bore or by urologists using MR/US fusion technology. The resulting tumor visualization now provides the option of focal therapy. Currently available are highly directed energies - focused ultrasound (HIFU), cryotherapy, and laser - all offering the hope of curing prostate cancer with few side effects.Objective: To report feasibility and outcome of salvage robotic-assisted laparoscopic radical prostatectomy (S-RALP) after focal therapy using high-intensity focused ultrasound (HIFU) treatment compared to primary robotic-assisted laparoscopic radical prostatectomy (pRALP).Introduction: The aim of this study was to evaluate toxicity, oncological and functional outcome, and quality of life after salvage radiotherapy for recurrent prostate cancer after high-intensity focused ultrasound (HIFU) therapy.Context: Despite excellent cancer control with the treatment of localized prostate cancer (PCa), some men will experience a recurrence of disease. The optimal management of recurrent disease remains uncertain.Background/aim: Patients with locally recurrent prostate cancer after primary radiotherapy can be eligible for salvage treatment. Whole-gland salvage techniques carry a high risk of toxicity. A focal salvage approach might reduce the risk of adverse events while maintaining cancer control in carefully selected patients. The aim of this review was to evaluate current literature to assess whether focal salvage leads to a comparable or favourable recurrence rate and less toxicity compared to whole-gland salvage.Introduction: Focal therapy for prostate cancer is a radical paradigm shift in the management of men with localised prostate cancer. It involves locating and destroying only the areas of prostate cancer whilst leaving the majority of the

prostate untreated. By doing so, it is proposed that side-effects of traditional whole-gland therapies such as impotence, incontinence and rectal toxicity will be significantly reduced and cancer control will be at similar levels.Prostate cancer is an increasing medical problem. Radical prostatectomy and radiation therapy are effective treatments, but have the risk of significant morbidity. Clinicians have strived to develop new modalities of treatment that can maintain the excellent treatment outcomes of radical prostatectomy, but diminish the morbidity. Improved instrumentation, optics, and robotic technology have allowed the application of laparoscopic techniques to radical prostatectomy. Patients can have less blood loss and expect more rapid recovery. Intermediate oncologic outcomes appear similar to radical prostatectomy with good functional results. Cryotherapy and HIFU are tissue ablative approaches rather than extirpative approaches to prostate cancer treatment. They attempt to use nonsurgical methods to treat prostate cancer with the hope of providing oncologic control comparable to surgery and radiation while minimizing morbidity.Results of the evaluation of transrectal ultrasound (TRUS) guided needle biopsy of voxels identified as suspicious of malignancy on magnetic resonance spectroscopic imaging (MRSI) in a large cohort of men (n = 83) with abnormal digital rectal examination (DRE) [prostate specific antigen (PSA) 0-4 ng/ml] or PSA less than 10 ng/ml, are reported. Three-dimensional (1)H MRSI was carried out at 1.5 T using a pelvic-phased array coil in combination with an endorectal surface coil. Voxels were classified as suspicious of malignancy based on Cit/(Cho + Cr) metabolite ratio. TRUS-guided biopsy of suspicious voxels was performed using the z- and x-coordinates obtained from MR images and two to three cores were taken from the suspected site. A systematic sextant biopsy was also carried out. MRSI showed voxels suspicious of malignancy in 44 patients while biopsy revealed cancer in 11 patients (25%). Patients who were negative for malignancy on MRSI were also negative on biopsy. An overall sensitivity of 100%, specificity of 54%, negative predictive value of 100% and accuracy of 60% were obtained. The site of biopsy was confirmed (n = 20) as a hypo-intense area on repeat MRI while repeat MRSI revealed high choline and low citrate. The overall success rate of MRI-directed TRUS-guided biopsy of 25% was higher compared with a 9% success rate achieved without MR guidance in another group of 120 patients. Our results indicate that TRUS-guided biopsy of suspicious area identified as malignant from MRSI can be performed using the coordinates of the voxel derived from MR images. This increases the detection rate of prostate cancer in men with PSA level <10 ng/ml or abnormal DRE and also demonstrates the potential of MR in routine clinical practice.The management of prostate cancer (PC) recurrence after definitive radiation therapy (RT) is shifting and there is no consensus regarding the optimal strategy. The major challenge is determining the anatomical site of relapse. In case of biochemical relapse (BR), androgen deprivation therapy (ADT) is a non-curative option commonly used, while patients with a local PC recurrence could be managed through a curative intent. Based on a Pubmed data search, this manuscript focused on the management of post-RT local PC recurrences. In case of BR (nadir+2 ng/ml), classical imaging work-up is not contributive for PSA levels <10 ng/ml while new imaging investigations (diffusion MRI, 11C-choline PET) are more sensitive to detect local and distant recurrences at lower PSA levels. Positive prostate biopsies are the only method for confirming local recurrence, although this technique presents limitations. Primary PC presentation as well as PSA-related features (interval to failure, PSA kinetic) and patient features (life expectancy, urinary, sexual status) are important to consider. Results of curative salvage options (radical prostatectomy, cryotherapy, brachytherapy and high-intensity focused ultrasound-HIFU) are analyzed and discussed. Each of these therapies appears feasible and has its own set of experience and toxicity profile. Other therapeutic options (photodynamic therapy, ADT, observation) are discussed. Longer follow-up and mature series are needed to evaluate the optimal strategy and prospective trials are warranted. Each clinical situation should be discussed in a multidisciplinary setting. Different options should be explained to the patient and decision should be taken after balancing treatment outcomes with life expectancy.Study objectives: To demonstrate a synergistic action between high intensity focal ultrasound (HIFU) and combination chemotherapy with paclitaxel and estramustine phosphate (EMP) on a prostate cancer model.Purpose: Cysts of prostate tissue are common. Most cases are diagnosed accidently during ultrasound but they sometimes have clinical relevance when related to lower urinary tract symptoms, infertility or the expression of neoplastic disorders. Clinical relevance is linked to the differential diagnosis of the different types of cysts. We provide an updated classification of prostate cyst disorders and indicate how these disorders appear on transrectal ultrasound based on our experience and a literature review.Introduction: Benign prostatic hyperplasia is a common disease of ageing men worldwide. Though transrectal ultrasonography (TRUS) is the standard in most parts of the world in evaluation of benign prostatic hyperplasia (BPH), it is rarely done in some less developed countries because of non availability of

appropriate probes and or specialists. Transabdominal ultrasonography (TAUS) remains the mainstay in these areas. Some controversies still exist in literature about the accuracy of TAUS evaluation of prostatic volume in patients with BPH. This study aimed at comparing the transition zone volume estimation of the prostate on transrectal and transabdominal ultrasound with post-operative enucleated adenoma volume in Nigeria patients with BPH and to suggest better predictor of prostate volume in evaluation of BPH.Introduction: The aim of this review was to conduct a comprehensive analysis of the role of minimally invasive salvage modalities in radio-recurrent prostate cancer and the associated clinical outcomes and toxicity profiles.Objective: To evaluate the feasibility of using computer-assisted, deformable image registration software to enable three-dimensional (3D), multi-parametric (mp) magnetic resonance imaging (MRI)-derived information on tumour location and extent, to inform the planning and conduct of focal high-intensity focused ultrasound (HIFU) therapy.Current screening methods towards prostate cancer (PCa) are not without limitations. Research work has been on-going to assess if there are other better tests suitable for primary or secondary screening of PCa to supplement the serum prostate specific antigen (PSA) test, which fails to work accurately in a grey zone of 4-10ng/ml. In this pilot study, the potential roles of urinary polyamines as prostate cancer biomarkers were evaluated. PCa, benign prostatic hyperplasia (BPH) patients and healthy controls (HC) showing PSA>4.0ng/ml were enrolled in the study. Their urine samples were obtained, and the urinary levels of putrescine (Put), spermidine (Spd) and spermine (Spm) were determined by ultra-high performance liquid chromatography coupled with triple quadrupole mass spectrometer (UPLC-MS/MS). Receiver operating characteristics (ROC) curve and Student's t-test were used to evaluate their diagnostic accuracies. Among the three biogenic polyamines, Spm had demonstrated a good diagnostic performance when comparing their levels in PCa patients with BPH patients (1.47 in PCa vs 5.87 in BPH; $p<0.0001$). Results are in accordance with transrectal ultrasound prostatic biopsy (TRUSPB) results, with an area under curve (AUC) value of 0.83±0.03. Therefore urinary Spm shows potential to serve as a novel PCa diagnostic biomarker, which in turn can help to address the limited sensitivity and specificity problem of serum PSA test.Objective: To evaluate the quality of web-based information on ablative therapies for prostate cancer.Background: To evaluate the survival and quality of life (QoL) outcomes of high-intensity focused ultrasound (HIFU) whole-gland ablation for localized prostate cancer.Purpose: We determined the impact of increasing the number of cores from 12 to 20 at initial prostate biopsy in men suspicious of prostate cancer.Purpose: High-intensity focused ultrasound (HIFU/FUS) has expanded as a noninvasive quantifiable option for hyperthermia (HT). HT in a temperature range of 40-47 °C (thermal dose CEM43 $\geq$ 25) could work as a sensitizer to radiation therapy (RT). Here, we attempted to understand the tumor radiosensitization effect at the cellular level after a combination treatment of FUS+RT.Objective: To evaluate the feasibility and utility of registration and fusion of real-time transrectal ultrasonography (TRUS) and previously acquired magnetic resonance imaging (MRI) to guide prostate biopsies.These last years, focal therapy is emerging as an intermediate management technique between radical approaches (radical prostatectomy, external beam radiation and brachytherapy) and active surveillance to manage some early stage prostate cancer. Different energy modalities are currently being developed. Prostatic tumour destruction can be achieved with different energies: freezing effect for cryotherapy, thermal effect using focalized ultrasound for HIFU and using thermal effect of light for FLA, and activation of a photosensitizer by light for PDT. Those techniques carry a low morbidity but clinical experience is limited regarding to oncologic outcome. Prospective clinical trials are needed to highlight the full potential of this promising treatment modality.Purpose: To evaluate the oncologic outcomes and postoperative complications of high-intensity focused ultrasound (HIFU) as a salvage therapy after external-beam radiotherapy (EBRT) failure in patients with prostate cancer.Purpose: We examined the influences of age, body mass index and waist circumference on prostate specific antigen before and after adjusting for prostate volume. We also examined associations among age, body mass index, waist circumference and prostate volume.Robotic prostatectomy is a common surgical treatment for men with prostate cancer, with some studies estimating that 80% of prostatectomies now performed in the USA are done so robotically. Despite the technical advantages offered by robotic systems, functional and oncological outcomes of prostatectomy can still be improved further. Alternative minimally invasive treatments that have also adopted robotic platforms include brachytherapy and high-intensity focused ultrasonography (HIFU). These techniques require real-time image guidance--such as ultrasonography or MRI--to be truly effective; issues with software compatibility as well as image registration and tracking currently limit such technologies. However, image-guided robotics is a fast-growing area of research that combines the improved ergonomics of robotic systems with the improved visualization of modern

imaging modalities. Although the benefits of a real-time image-guided robotic system to improve the precision of surgical interventions are being realized, the clinical usefulness of many of these systems remains to be seen.Purpose of review: To assess the contemporary literature on the prevalence, cause and management of lower urinary tract symptoms (LUTS) and bladder overactivity following treatment of prostate cancer with radical surgery, radiotherapy and minimally invasive therapies for localized prostate cancer, including cryotherapy and high-intensity focused ultrasound (HIFU).Purpose: To investigate the effect of pre-procedural waiting period and anxiety level on pain perception during transrectal ultrasound-guided prostate biopsy.Prostate cancer is the most common malignant disease and second in causes of cancer death among men in Western Europe and North America. Despite improved surgical and irradiation techniques tumor relapse after curatively intended therapy is not uncommon. Due to the difficulty in discriminating local and systemic progression, it is often difficult to decide what this means for the patient and what kind of second-line treatment has to be given. Modern imaging techniques (MRI with endorectal coil, Choline-PET-CT, ProstaScint-Scan) are used for diagnosis of prostate cancer relapse. Nevertheless, early detection of local tumor relapse and likewise the detection of disseminated tumor cells often fails. To differentiate between local and systemic progression, prognostic factors of the primary tumor (grading, surgical margins, infiltration of the seminal vesicles, lymph node metastases) and PSA kinetics are used. The time from initial treatment to biochemical relapse and PSA doubling time are of highest prognostic relevance. Local progression allows second-line local treatment with potentially curative results (local irradiation after radical prostatectomy, salvage-surgery / cryotherapy / HIFU after irradiation), while in the case of systemic progress a palliative systemic therapy (hormonal treatment, chemotherapy, bisphosphonates) is indicated. Before deciding on the most appropriate therapy, prognostic factors and the patient's individual situation (co-morbidity, life expectancy, individual wishes) should be taken into account.Objectives: Focal therapy with high-intensity focused ultrasound (HIFU) is an emerging option for the treatment of prostate cancer and often followed up by MRI. Image assessment of treatment failure, however, requires proper knowledge about typical procedure-related changes in prostate MRI, which is sparse, in particular for unilateral HIFU treatment and late follow up (beyond 6 months). The goal of this study was therefore to compile the type and frequency of such MRI findings in selected patients without recurrent cancer 12 months after prostate hemiablation.YouTube is a social media platform with more than 1 billion users and >600000 videos about prostate cancer. Two small studies examined the quality of prostate cancer videos on YouTube, but did not use validated instruments, examine user interactions, or characterize the spread of misinformation. We performed the largest, most comprehensive examination of prostate cancer information on YouTube to date, including the first 150 videos on screening and treatment. We used the validated DISCERN quality criteria for consumer health information and the Patient Education Materials Assessment Tool, and compared results for user engagement. The videos in our sample had up to 1.3 million views (average 45223) and the overall quality of information was moderate. More videos described benefits (75%) than harms (53%), and only 50% promoted shared decision-making as recommended in current guidelines. Only 54% of the videos defined medical terms and few provided summaries or references. There was a significant negative correlation between scientific quality and viewer engagement (views/month p=0.004; thumbs up/views p=0.015). The comments section underneath some videos contained advertising and peer-to-peer medical advice. A total of 115 videos (77%) contained potentially misinformative and/or biased content within the video or comments section, with a total reach of >6 million viewers. PATIENT SUMMARY: Many popular YouTube videos about prostate cancer contained biased or poor-quality information. A greater number of views and thumbs up on YouTube does not mean that the information is trustworthy.Background: High-intensity focused ultrasound (HIFU) consists of focused ultrasound waves emitted from a transducer that are capable of inducing tissue damage. Experimental studies have shown clear damage of malignant tissue exposed to HIFU, but knowledge of in vivo effects is limited. We studied the safety and efficacy of HIFU in patients with a T1-2 N0) M0 prostate carcinoma.This article aimed to review the clinical application and evidence of the therapeutic ultrasound in detail for urological diseases such as prostate cancer, kidney tumor, erectile dysfunction, and urolithiasis. We searched for articles about high-intensity focused ultrasound (HIFU), extracorporeal shock wave therapy, ultrasound lithotripsy, and extracorporeal shockwave lithotripsy (ESWL) in the MEDLINE and Embase. HIFU may be indicated as a primary treatment for low- or intermediate-risk prostate cancer, and salvage therapy for local recurrence as a promising way to address the limitations of current standard therapies. The application of HIFU in treating kidney tumors has scarcely been reported with unsatisfactory results. Evidence indicates that low-intensity shockwave

therapy improves subjective and objective erectile function in patients with erectile dysfunction. Regarding the application of ultrasound in stone management, the novel combination of ultrasound lithotripsy and other energy sources in a single probe promises to be a game-changer in efficiently disintegrating large kidney stones in percutaneous nephrolithotomy. ESWL is losing its role in managing upper urinary tract calculi worldwide. The burst-wave lithotripsy and ultrasound propulsion could be the new hope to regain its position in the lithotripsy field. According to our investigations and reviews, cavitation bubbles of the therapeutic ultrasound are actively being used in the field of urology. Although clinical evidence has been accumulated in urological diseases such as prostate cancer, kidney tumor, erectile dysfunction, and lithotripsy, further development is needed to be a game-changer in treating these diseases.Background: Salvage Robot-Assisted Radical Prostatectomy (sRARP) has been described as feasible treatment for the management of localised prostate cancer (PCa) recurrence after primary treatment. However, no large reports have published cancer and quality outcomes.We describe a patient with node positive prostate cancer treated with radiation, androgen deprivation, and immunotherapy with long-term overall survival and PSA control. ELISPOT immunoassay studies demonstrated PSA specific T-cells prior to starting vaccine therapy suggesting that this positive response may be related to an improved antitumor immune response of the patient, increased immunogenicity of the tumor, or decreased activation of immune escape pathways. Further evaluation of therapeutic cancer vaccines in combination with radiation and hormonal therapy in the definitive management of prostate cancer is warranted.Objectives: High-intensity focused ultrasound (HIFU) consists of focused ultrasound waves emitted from a transducer that are capable of inducing tissue damage. The histologic effects and clinical outcome of the HIFU treatment were studied in two different groups of men with prostate carcinoma.Objectives: To present recent data on the epidemiology of urinary incontinence in prostate cancer (PCa). To review the incidence of urinary incontinence, its impact on quality of life and related pharmacoeconomic features.Aim: To compare the prostate antigen 3 (PCA3) test with (1)H-magnetic resonance spectroscopic imaging ((1)H-MRSI) and dynamic contrast-enhanced magnetic resonance imaging (DCEMR) combined examination in the detection of prostate tumor foci in patients with persistently elevated prostate-specific antigen (PSA) levels and prior negative random transrectal ultrasound (TRUS)-guided biopsy.Background: The aim of the study was to evaluate the pain scores and complications of transrectal ultrasonography (TRUS)-guided prostate biopsy and to compare lithotomy position (LP) versus left lateral decubitis position (LLDP).Currently, prostate cancer (PCa) is one of the most important problem of modern medicine, including economical issue. The detection of PCa compared to any other cancers progressively increases with age. Currently, PCa is the most commonly diagnosed solid tumor. Radical prostatectomy and radiation therapy are considered standard of treatment for PCa. However, while excellent long-term oncologic results can be achieved, these methods are often associated with significant complication rate, which negatively affects the quality of life of patients. Technological advancement and their implementation in medicine have increased treatment opportunities in oncourology. The purpose of this literature review is to study alternative treatment methods of localized PCa and compare their efficiency with conventional therapy.Transrectal ultrasound-guided needle biopsy of the prostate is a widely accepted technique to obtain prostatic tissue for histological examination. Severe complications are rarely seen. We report a case of symphysitis causing hospitalization and severe pain and discomfort of the patient. Possible etiologic factors are traumatic osseous lesions and transport of rectal bacteria to the periosseous region. Especially in small prostates, care should be taken to avoid this condition. Prolonged perioperative antibiotic prophylaxis is mandatory.We conduct a retrospective analysis of salvage radiotherapy plus androgen deprivation therapy (SRT+ADT) for high-risk prostate cancer patients with biochemical failure after high-intensity focused ultrasound (HIFU) as the primary treatment. A total of 38 patients, who met the criteria of biochemical failure and were consecutively treated with SRT+ADT, were enrolled. All patients received intensity modulated radiotherapy with a median dose of 70 Gy to the clinical target volume. ADT was given before, during or after the course of SRT with the duration of ■6 months (n = 14), 6–12 months (n = 12) or >12 months (n = 12). The median follow-up was 45.9 months. A total of 10 (26.3%) patients had biochemical failure after SRT+ADT. The cumulative 5-year biochemical progression free survival (b-PFS) and overall survival (OS) rate was 73.0% and 80.3%, respectively. A nadir prostate-specific antigen (nPSA) value 0.02 ng/mL was observed to predict the b-PFS in multivariate analysis. The 5-year b-PFS was 81.6% for those with nPSA < 0.02 compared with 25.0% with nPSA ■ 0.02. The adverse effects related to SRT+ADT were mild in most cases and only three (8%) patients experienced grade 3 urinary toxicities. For high-risk prostate cancer after HIFU as primary treatment with

biochemical failure, our study confirms the feasibility of SRT+ADT with high b-PFS, OS and low toxicity.Introduction: To find the most beneficial method, we assessed patient comfort and morbidity rates during prostate biopsy procedures performed using periprostatic nerve blockade, unilateral pudendal nerve blockade, intrarectal lidocaine gel, and a combination of periprostatic nerve blockade and intrarectal lidocaine gel.Introduction: Focal therapy (FT) ablates areas of prostate cancer rather than treating the whole gland. We compared oncological outcomes of FT to radical prostatectomy (RP).A shift in the use of prostate MR for diagnosis, staging, and pre-treatment planning over the last several years has modified the MR protocols. Classically used to detect extra-prostatic tumor, MR now plays a role for diagnosis (pre-biopsy evaluation in a patient with elevated PSA and suspected cancer in an unusual site), treatment planning (prostate mapping), and follow-up after treatment (evaluation for local recurrence or follow-up after HIFU, radiation therapy, or focal treatment...). Imaging protocols at 1.5T and 3.0T combine morphological T2W imaging with functional sequences (perfusion imaging, diffusion imaging, spectroscopy) using high-resolution phased array pelvic coils or "combined" coils (added endorectal coil). To promote acceptance by clinicians and increased access to patients, the indications for prostate MR must be better defined (and provide useful data to urologists), the cost must be reduced, and results must be more reproducible and standardized.A measure of focusing efficiency is introduced for high-intensity, focused ultrasound (HIFU). The measure consists of the fraction of the total acoustic power emitted that linearly propagates through a circle located at the focus. The medium is absorption-free water, and power is computed using pressure and the normal component of velocity. 3 MHz phased-array designs involving different element layouts and curvatures are placed in square apertures of length 2.2 cm. The acoustic fields of these devices then are propagated to on-axis foci. The resulting focal efficiencies then are calculated using a two wavelength (0.1 cm) radius circle. Among these array designs, an annular array with 27 wavelength-wide rings then is extended to be the basis of a twin phased-array device for prostate hyperthermia treatment. The two annular arrays are attached to door-like hinges to allow for joint two-dimensional focusing. The focusing efficiency of this device then is compared to rectangular element-array devices with the same 5.4 by 2.2 cm source extent. With the addition of absorption and finite-amplitude distortion, the heating rate and temperature rise produced by the twin annular device in prostate tissue is considered. As a final look at the potential of annular array-based designs, three larger 2 MHz devices are briefly considered for abdominal treatment.Background: Radical whole-gland therapy can lead to significant genitourinary and rectal side-effects for men with localised prostate cancer. We report on whether selective focal ablation of unifocal and multifocal cancer lesions can reduce this treatment burden.The aim of the study was to assess frequency of various complications of transrectal multifocal biopsy of the prostate (TMBP), to specify prophylactic measures against such complications. Primary TMBP under US guidance was made in 612 patients (mean age 65.8 years, mean level of PSA 12.6 ng/ml). TMBP complications include: hematuria (220 patients, 35.9%), hemospermia (166 patients, 27.1%), pain in the perineum and the rectum (189, 30.9%), acute prostatitis (21 patients, 3.4%), acute orchiepididymitis (7 patients, 1.1%), acute urine retention (9 patients, 1.5%), long-term rectal hemorrhage (13 patients, 2.1%), loss of consciousness during the biopsy (7 patients, 1.1%). The analysis of TMBP complications leads to the conclusion that adequate preparation of the patients and accurate conduction of the prostatic biopsy technique under US guidance make this invasive manipulation diagnostically effective and safe.Objectives: PSA testing has led to an increasing number of TRUS-guided biopsies being performed. These are well tolerated in the majority, but a minority of men find the procedure unacceptably painful. We have studied a cohort of men undergoing TRUS guided prostate biopsy to ascertain whether the biopsy strategy, or pain on probe insertion, can assist in predicting those who men most likely to suffer severe pain during prostate biopsy.Aims: The National Prostate Cancer Audit (NPCA) started in April 2013 with the aim of assessing the process of care and its outcomes in men diagnosed with prostate cancer in England and Wales. One of the key aims of the audit was to assess the configuration and availability of specialist prostate cancer services in England.Objective: To compare cancer detection rates according to the number of biopsy cores in patients on whom a repeat prostate biopsy was performed for atypical small acinar proliferation (ASAP).Background: We evaluated clinical outcomes of region target focal therapy with high-intensity focused ultrasound (HIFU) for the localized prostate cancer (PCa) based on magnetic resonance imaging-based biopsy and systematic prostate biopsy for Asian.Purpose: We assessed the analgesic effect of additional intrarectal lidocaine gel instillation during transrectal ultrasound guided prostate biopsy and identified the procedural steps that benefit from lidocaine gel instillation.Financial toxicity is a broad term to describe the economic consequences and subjective burden resulting from a cancer diagnosis and

treatment. As financial toxicity is associated with poor disease outcomes, recognition of this problem and calls for strategies to identify and support those most at risk are increasing. Men with localized prostate cancer face treatment choices including active surveillance, prostatectomy or radiotherapy. The fact that potential patient out-of-pocket costs might influence decision making has rarely been acknowledged and, overall, the risk of financial toxicity for men with localized prostate cancer remains poorly studied. This shortfall requires a work-up in the context of prostate cancer and a multidimensional framework for considering a patient's risk of financial toxicity. The major elements of this framework are direct and indirect costs, patient-specific values, expectations of possible financial burdens, and individual economic circumstances. Current data indicate that total cost patterns probably differ by treatment modality: surgery might have an increased short-term effect, whereas radiotherapy might have an increased long-term risk of financial toxicity. Specific thresholds of patient income levels or out-of-pocket costs that predict risk of financial toxicity are difficult to identify. Compared with other malignancies, prostate cancer might have a lower overall risk of financial toxicity, but persistent post-treatment urinary, bowel or sexual adverse effects are likely to increase this risk.Purpose: In older patients who do not wish to undergo watchful waiting, focal therapy could be an alternative to the more morbid radical treatment. We evaluated the role of focal therapy (FT) in patients 70 years and older as an alternative management modality.Purpose: To compare the incidence of infection between a 1 day and a 3 day antibiotic prophylaxis regimen for transrectal ultrasound (TRUS) guided prostate biopsy in a prospective, randomized open-label trial.Background: We aimed to conduct a systematic review and meta-analysis of studies reporting functional and oncologic outcomes of combining whole-gland high-intensity focused ultrasound ablation (HIFU) with transurethral resection of the prostate (TURP) in prostate cancer (PCa) patients.Developments in the technology applied to the field of minimally invasive surgery have led to the exploration of high-intensity focused ultrasound (HIFU) for the treatment of localized prostate cancer. Extensive research and continuous evolution have resulted in two commercially available HIFU devices: the Ablatherm and the Sonablate500. These devices are conceptually the same; however, specific technical differences exist. This paper reviews the clinical outcomes obtained with these devices, evaluates the quality of the evidence from the individual trials, and provides the results of a head-to-head comparison in terms of oncologic outcomes and complication rates.Introduction: Although still experimental, focal treatment is being increasingly implemented in the management of prostate cancer (PCa). Aim of the current study was to compare functional and oncologic outcomes of high-intensity focal ultrasound (HIFU) hemiablation of the prostate to robot-assisted laparoscopic prostatectomy (RALP) in the management of unilateral PCa.Brachytherapy techniques by permanent implant of radioactive sources or by temporary high-dose-rate (HDR) fractions are nowadays extensively used for the treatment of prostatic carcinoma. Long-term results (at 20 years) concerning large amount of patients have been published by major centers confirming both in terms of efficacy and toxicities that permanent implant of radioactive iodine-125 seeds yields at least the same good results of surgery and of external beam irradiation when proposed to patients affected by low-risk disease. For intermediate to high-risk tumors, HDR temporary implants are proposed as a boost for dose escalation. For both techniques, several topics still need to be clarified dealing with a recent enlargement of indications (HDR alone for low-risk, iodine-125 seeds boost for intermediate-high-risk cancers), or with technical aspects (loose seeds versus linked ones, number of fractions and dose for HDR protocols), while dosimetric issues have only recently been addressed by cooperatives groups. Last but not least, there is a real need to address and clearly characterize the correct definition of biochemical disease control both for iodine permanent implant and for HDR implant. New challenges are facing the prostate-brachytherapy community in the near future: local relapse after external beam radiotherapy are currently managed by several salvage treatments (prostatectomy, cryo, high intensity focused ultrasounds [HIFU]) but the role of reirradiation by brachytherapy is also actively investigated. Focal therapy has gained considerable interest in the last 5 years aiming at treating only the area of cancer foci inside the prostate and preserving nearby healthy tissues. Encouraging results have been obtained with the so-called "minimally invasive" approaches and both permanent seed implantation and HDR brachytherapy techniques may be worthwhile testing in this setting because of their capability of exactly sculpting the dose inside the prostatic gland.Background: To evaluate the prevalence, density, and distribution of prostate calcification in patients with prostate cancer.Currently, the active surveillance of men with favorable intermediate-risk localized prostate cancer (PCa) is a longstanding controversy, in terms of their oncological outcomes, and radical prostatectomy would constitute a similar concern of overtreatment, regarding its functional outcomes. Thus, focal therapy could be considered in men belonging to favorable intermediate-risk

group. Among all focal therapies, high-intensity focused ultrasound (HIFU) was the most studied methodology in clinical trials. Although HIFU provided better functional outcomes than radical prostatecomy, the oncological outcomes were inferior in men with intermediate-risk localized PCa. Two articles have been published discussing the feasibility and clinical outcomes of robot-assisted partial prostatectomy (RAPP), and both the functional and oncological outcomes were superior than those with HIFU. However, the rate of positive surgical margins (PSMs) was reported as high in the literature. Here, we present a case of favorable intermediate-risk localized PCa with an isolated tumor at the anterior apex. After reconstructing a personal three-dimensional (3D) image, we utilized it in a 3D image-guided precise excise, followed by intraoperative frozen specimen review. We found that this method may present a resolution to the high PSM rate documented in the current literature regarding RAPP. This method merits further study with a well-designed prospective study.Background: Trans rectal ultrasound guided prostate biopsy (TRUS) was introduced to Sri Lanka in 2002.Context: The clinical effectiveness of focal therapy (FT) for localised prostate cancer (PCa) remains controversial.High-intensity focused ultrasound (HIFU) is a technique that was first investigated in the 1940s as a method of destroying selective regions within the brain in neuro-surgical An ultrasound beam can be brought to a tight focus at a distance from its source, and if sufficient energy is concentrated within the focus, the cells lying within this focal volume are killed, whereas those lying elsewhere are spared. This is a noninvasive method of producing selective and trackless tissue destruction in deep seated targets in the body, without damage to overlying tissues. This field, known both as HIFU and focused ultrasound surgery (FUS), is reviewed in this article.Purpose: To our knowledge the optimal analgesia during prostate biopsy remains undetermined. We tested the efficacy and safety of combined perianal-intrarectal lidocaine-prilocaine cream and periprostatic nerve block during transrectal ultrasound guided prostate biopsy.Introduction: The ReIMAGINE Consortium was conceived to develop risk-stratification models that might incorporate the full range of novel prostate cancer (PCa) diagnostics (both commercial and academic).Background: To investigate the possibilities offered by high intensity focused ultrasound (HIFU) in the field of tumor vaccination, we analyzed how prostatic cancer (CaP) cells react towards heat treatment and whether increased access to CaP cells by the immune system would be the result.Objectives: After the Georgia Department of Human Resources Division of Public Health was notified about 4 patients who were hospitalized with Pseudomonas aeruginosa infections after outpatient transrectal ultrasound-guided prostate biopsies in July 2005, we investigated the cause of, and risk factors for, the infections.Benign prostatic hyperplasia (BPH) is an extremely common condition and represents a major health issue in terms of patient numbers and treatment cost. Traditionally, the choice of treatment has been between watchful waiting and surgery, however, the side effects of surgery lead to reluctance for treatment in many men, other than those with severe symptoms and complications. In the last 2 decades there has been a rapid expansion in the number of treatments being offered and the number of patients submitting to novel therapies. Medical management has evolved to achieve a central role in the management of BPH. Heat based treatments are also being investigated with considerable interest. Transrectal high intensity focused ultrasound (HIFU) is one such treatment, which allows radiation-free treatment, without the need for intra-urethral manipulation. Imaging can be performed during treatment and treatment results in symptomatic improvement, which is retained with medium-term follow-up. It involves a brief hospital stay and post-operative complications are few. The use of HIFU has also been extended to the treatment of renal, prostatic and bladder tumours and the results in these areas suggest further expansion of its role in urological practice.Introduction/background: Only 1 randomized controlled trial has compared focal therapy and active surveillance (AS) for the low-risk prostate cancer (PCa). We investigated whether focal HIFU (fHIFU) yields oncologic advantages over AS for low-risk PCa.Purpose: To evaluate the performance of [68Ga]Ga-PSMA-11 PET/CT in the diagnosis of recurrent prostate cancer (PC) after prostatectomy in a large multicentre cohort.Objective: To compare the pain of injection and biopsy when lidocaine is injected periprostatically either at a basal or apical site, as the former is commonly used to anaesthetise the prostate, based on several reports showing that it can eliminate most of the pain associated with prostate biopsy, and this site has been favoured over apical injection because the nerves enter the prostate from the basal aspect.Objectives: To evaluate the analgesic advantage of tramadol in patients undergoing transrectal biopsy of the prostate in ambulatory settings compared with topical analgesia.Background: Transrectal ultrasound-guided (TRUS) prostate biopsy is a commonly performed procedure, and fluoroquinolones are the most frequently given prophylactic antimicrobials. In the context of increasing fluoroquinolone resistance, and the international emergence of fluoroquinolone-resistant sequence type 131 (ST131) Escherichia coli,

we describe a large series of E. coli bacteremia after TRUS biopsy.A multifunctional organic-inorganic hybrid nanocapsule based on Bi2S3-embedded poly (lactic-co-glycolic acid) (PLGA) nanocapsule has been elaborately designed to combine the merits of both polymeric shell structure and Bi2S3 nanoparticles. Hydrophobic Bi2S3 nanoparticles were successfully introduced into the PLGA nanocapsules via a facile and efficient water/oil/water (W/O/W) emulsion strategy. The elastic polymeric PLGA shell provides the excellent capability of ultrasound contrast imaging to the Bi2S3/PLGA. Meanwhile, the potential of these microcapsules to enhance the high intensity focused ultrasound (HIFU) therapy was demonstrated. Importantly, this research provided the first example of both in vitro and in vivo to demonstrate the radiosensitization effect of Bi2S3-embedded PLGA hybrid nanocapsules against prostate cancer under external X-ray irradiation. Thus, the successful integration of the Bi2S3 and PLGA nanocapsules provided an alternative strategy for the highly efficient ultrasound guided HIFU/RT synergistic therapy.Aim: The aim of this study was to evaluate the anal discomfort and pain level, during transrectal ultrasound probe insertion and before the periprostatic anesthesia in young patients (<65 years of age).Background: Randomised controlled trials (RCTs) for surgical interventions have often proven difficult with calls for innovative approaches. The Imperial Prostate (IP4) Comparative Health Research Outcomes of Novel Surgery in prostate cancer (IP4-CHRONOS) study aims to deliver level 1 evidence on outcomes following focal therapy which involves treating just the tumour rather than whole-gland surgery or radiotherapy. Our aim is to test the feasibility of two parallel RCTs within an overarching strategy that fits with existing patient and physician equipoise and maximises the chances of success and potential benefit to patients and healthcare services.High intensity focused ultrasound (HIFU) 'cooks' or ablates the target tissue at the focus of the ultrasound beam by thermal and cavitation effects. The HIFU is emerging as a non-invasive method for tumor ablation. The HIFU application for tissue ablation requires tools for dosimetry therapy planning, and real-time feedback of the intended and actual target tissues. Pretreatment planning is an important step for a successful HIFU therapy outcome. Typically, the therapy planning approach involves the use of pretreatment imaging data, defining the target and surrounding tissues by manual or semiautomatic segmentation, development of a 3-D anatomy model of the region of interest from segmentation or registration with a reference dataset, simulation of the HIFU beam and thermal dosimetry around the target tissue, display and 3-D visualization of imaging and simulation data, and review of the treatment plan options. Recent developments in therapy planning using imaging are targeted for specific applications such as prostate cancer using 3-D ultrasound images and uterine fibroids using MRI. However, significant developments have been accomplished in image guidance and feedback during the delivery of HIFU treatments. This talk reviews recent work towards therapy planning and presents approaches for developing strategies for HIFU therapy. It describes general and target-specific techniques and software tools for HIFU treatment planning using pretherapy imaging, and monitoring and controlling the HIFU delivery and tissue lesion using 1D, 2D and 3D ultrasound imaging. This aids development of optimized, high-precision HIFU applications for a controlled ablation of the target tumor. It also potentially reduces the overall treatment duration and exposure to non-target tissues.Objectives: The aim of this study was to determine the feasibility and safety of transcutaneous ablation of human testicular tissue by high-intensity focused ultrasound (HIFU).After antibiotic prophylaxis with metronidazole and levofloxacin, a transrectal sextant biopsy was performed under the guide of transrectal ultrasonography (TRUS) for a 75-year-old suspicious patient with prostate adenocarcinoma. Although antibiotics were also given after this procedure, the patient still developed fever, anxious, agrypnia and headache. Blood cultures remained negative. Lumbar puncture was performed and was consistent with Escherichia coli bacterial meningitis.Objectives: Deep infiltrating endometriosis (DIE) of the rectosigmoid is associated with painful symptoms. When medical treatment is ineffective, surgical resection remains the standard treatment, despite significant risk of adverse events. High-intensity focused ultrasound (HIFU) is a minimally invasive ablative procedure. Focal One® is a transrectal HIFU (TR-HIFU) device used in prostate cancer treatment. The primary objective of this study was to confirm the feasibility of treatment with TR-HIFU in patients presenting with posterior DIE with rectosigmoid involvement. We also assessed its safety and clinical efficacy in this context.Robot-assisted laparoscopic radical prostatectomy (RALRP) using the da Vinci surgical system is the current state-of-the-art treatment option for clinically confined prostate cancer. Given the limited field of view of the surgical site in RALRP, several groups have proposed the integration of transrectal ultrasound (TRUS) imaging in the surgical workflow to assist with accurate resection of the prostate and the sparing of the neurovascular bundles (NVBs). We previously introduced a robotic TRUS manipulator and a method for automatically tracking da Vinci surgical instruments with the TRUS imaging plane, in

order to facilitate the integration of intraoperative TRUS in RALRP. Rapid and automatic registration of the kinematic frames of the da Vinci surgical system and the robotic TRUS probe manipulator is a critical component of the instrument tracking system. In this paper, we propose a fully automatic registration technique based on automatic 3-D TRUS localization of robot instrument tips pressed against the air-tissue boundary anterior to the prostate. The detection approach uses a multiscale filtering technique to identify and localize surgical instrument tips in the TRUS volume, and could also be used to detect other surface fiducials in 3-D ultrasound. Experiments have been performed using a tissue phantom and two ex vivo tissue samples to show the feasibility of the proposed methods. Also, an initial in vivo evaluation of the system has been carried out on a live anaesthetized dog with a da Vinci Si surgical system and a target registration error (defined as the root mean square distance of corresponding points after registration) of 2.68 mm has been achieved. Results show this method's accuracy and consistency for automatic registration of TRUS images to the da Vinci surgical system.Objectives: To report toxicity of treatment observed in men participating in the Robotic surgery After Focal Therapy (RAFT) clinical trial.Introduction: TRUS-guided needle biopsy of the prostate is the standard technique in the diagnosis of prostate cancer. However the practice is highly variable across the United Kingdom. We survey the standard approaches to TRUS biopsy of prostate, highlighting the nationwide diversity of practice and training.Therapeutic ultrasound approaches including high-intensity focused ultrasound (HIFU) are emerging as popular minimally invasive alternative treatments for localized, low-to-intermediate risk prostate cancer. FDA approval was recently granted for two ultrasound-guided HIFU devices. Clinical trials for devices using MRI guidance are ongoing. The current level of evidence for whole-gland ultrasound ablation suggests that its clinical efficacy and adverse event rates including erectile dysfunction and urinary incontinence are similar to current definitive therapies such as radical prostatectomy and external-beam radiotherapy. Short-term data suggest that more focal therapy could reduce the rates of adverse events.Prostate cancer (PCa) is one of the most common malignancies in men, but patient outcomes are varied depending on extent of disease. Radical, whole-gland therapies, such as prostatectomy or radiotherapy, are definitive treatments for PCa, but they are associated with significant morbidity, including erectile dysfunction and urinary incontinence. Focal therapies for PCa, whereby the part of gland harboring disease is selectively treated, spares the normal surrounding structures, and minimizes the morbidity associated with whole gland treatment. The use of magnetic resonance imaging (MRI) guidance provides advantages over ultrasound guidance, such as better localization and targeting of clinically significant PCa (csPCa), as well as MRI thermometry which optimizes tissue ablation temperatures. This review will discuss two MRI-guided high-intensity focused ultrasound (HIFU) techniques - transrectal MR-guided focused ultrasound (MRgFUS) and TULSA (transurethral ultrasound ablation) ablation for localized PCa. Overall, recent major trials for MRgFUS and TULSA have shown promising oncological and functional results in the treatment of low- to intermediate-risk PCa. Recent Phase II MRgFUS trials have shown better oncologic outcomes than the published results for focal ultrasound guided HIFU and may justify the additional costs associated with MRI guidance. While initial studies on TULSA have focused on subtotal gland ablation, recent trials assessing oncological outcomes for focal treatment of angular sectors have shown promise.Introduction: Prostate cancer is considered one of the most important health problems. Due to the increased number of diagnosed patients and the inability to distinguish aggressive tumors, minimally-invasive procedures have become increasingly interesting. High-intensity focused ultrasound (HIFU) is an alternative option to radical surgery to treat prostate cancer. To date, however, data on side effects and comorbidities of this technique are still not conclusive.We fabricated a prototype 3.25-MHz split-focus therapeutic transducer combined with a small 6.5-MHz imaging ultrasonic probe for transrectal treatment of prostate cancer and evaluated the feasibility of using split-focus high-intensity focused ultrasound (HIFU) to ablate localized tumor tissue without injuring the surrounding organs. We therefore established a localized tumor model by inoculating VX2 tumor into rabbit livers. The localized VX2 tumors of nine rabbits were transdermally treated with split-focus ablation at a peak intensity in water of 6 kW/cm2 for 4 s (6 shots) under the guidance of ultrasonic B-mode imaging. Necropsy a day after treatment found the surface of the livers and gastrointestinal tracts to be grossly normal. The VX2 tumors were completely coagulated and were surrounded by ablated liver tissue. The six shots of split-focus HIFU destroyed the VX2 tumors without injuring the liver surfaces or the surrounding organs. These results suggest that split-focus HIFU ablation could be an effective treatment of localized tumors.Introduction: Therapy of choice for symptomatic vascular malformations consists of surgery, sclerotherapy, or embolization. However, these techniques are invasive with possible complications and require hospitalization. We present a

novel non-invasive technique, i.e., magnetic resonance-guided high-intensity focused ultrasound (MR-HIFU) ablation, for the treatment of a vascular malformation in a patient. This technique applies high-intensity sound waves transcutaneously to the body and is fully non-invasive. MRI guidance is the novel aspect of HIFU treatments and is used for exquisite delineation and localization of the lesion and accurate real-time temperature monitoring during tissue ablation. MR-HIFU is a well-established treatment option for uterine fibroids and is currently being investigated for, e.g., bone tumors, breast cancer, prostate cancer, and liver cancer. MR-HIFU of vascular malformations has not been a topic of research yet.Introduction: The primary objective of the ReIMAGINE Prostate Cancer Screening Study is to explore the uptake of an invitation to prostate cancer screening using MRI.Established therapies for prostate cancer (PCa), surgery and radiotherapy, treat the entire gland regardless of the location of the cancerous lesion within the prostate. Although effective, these methods include a significant risk of worsening genitourinary outcomes. Targeted image-guided cancer therapy has gained acceptance through improved PCa detection, localization, and characterization by magnetic resonance imaging (MRI). Minimally-invasive ablative techniques aim to achieve comparable oncological outcomes to radical treatment while preserving genitourinary function. Transurethral ultrasound ablation (TULSA) and next-generation transrectal high-intensity focused ultrasound (HIFU) utilize MRI guidance to thermally ablate prostate tissue under real-time MRI monitoring and active temperature feedback control. Previous trials performed by our group and others, including a large multicenter study in men with localized favorable-risk disease, have demonstrated that TULSA provides effective prostate ablation with a favorable safety profile and low impact on quality of life. Recently, MRI-guided HIFU focal therapy was also shown as a safe and effective treatment of intermediate-risk PCa. Here we review the current literature on ablative techniques in the treatment of localized PCa with a focus on TULSA and HIFU methods.Background: Tissue preservation strategies have been increasingly used for the management of localized prostate cancer. Focal ablation using ultrasound-guided high-intensity focused ultrasound (HIFU) has demonstrated promising short and medium-term oncological outcomes. Advancements in HIFU therapy such as the introduction of tissue change monitoring (TCM) aim to further improve treatment efficacy.Prostate cancer (PC) is one of the most frequently diagnosed cancers in men. There are a number of treatment options for PC with a different therapeutic approach between USA and Europe. Radical prostatectomy is one of the most used therapies but focal gland therapy is an emerging approach, especially for localized tumors. In this scenario, high intensity focused ultrasound (HIFU) has been incorporated in certain medical association guidelines. HIFU has been employed for about 10 years especially for localized PC. Results are promising with a 5-year biochemical survival rate ranging from 45% to 84%. Collateral events are rare and HIFU retreatment is not common. Magnetic resonance guided focused ultrasound surgery (MRgFUS) was recently presented as a method for ablation with focused ultrasound under magnetic resonance imaging guidance. It has the advantage of improved targeting and real time temperature monitoring but only a few studies have been conducted with human patients. The aim of this review is to describe the current status of HIFU and MRgFUS in the therapy of PC.Immune-sensitive urologic malignancies include prostate, kidney and bladder cancers. To date, most immunotherapeutic treatments have been applied to advanced metastatic disease. Limited efficacy in this setting is likely due to an excessive disease burden, which overwhelms the capacity of the immune system. Immunotherapy has not been widely utilized in a low-disease-burden state - a setting in which the immune system may be best suited to effectively mount a clinically meaningful response. The emergence of high-intensity focused ultrasound, and more recently, low-intensity focused ultrasound technologies, have demonstrated not only immune-stimulatory effects but also an interesting capacity to alter tissue architecture and cell membrane properties, which may be exploited to increase tumoral uptake of drugs and vaccines. In this article, we review the literature supporting the novel use of ultrasound combination therapy with adjunctive agents in the treatment of urologic malignancy.Objective: To prospectively compare the efficacy of bi-basal vs bi-apical periprostatic nerve block (PPNB) during 12-core prostate biopsy guided by transrectal ultrasonography (TRUS), and to evaluate the pain experienced on inserting the probe compared to the biopsy procedure, as PPNB with lignocaine local anaesthesia has been used for over a decade for minimizing pain during prostatic biopsy.A widespread screening with prostate-specific antigen (PSA) has led increased diagnosis of localized prostate cancer along with a reduction in the proportion of advanced-stage disease at diagnosis. Over the past decade, interest in focal therapy as a less morbid option for the treatment of localized low-risk prostate cancer has recently been renewed due to downward stage migration. Focal therapy stands midway between active surveillance and radical treatments, combining minimal morbidity with cancer control. Several techniques of focal

therapy have potential for isolated ablation of a tumor focus with sparing of uninvolved surround tissue demonstrating excellent short-term cancer control and a favorable patient's quality of life. However, to date, tissue ablation has mostly used for near-whole prostate gland ablation without taking advantage of accompanying the technological capabilities. The available ablative technologies include cryotherapy, high-intensity focused ultrasound (HIFU), and vascular-targeted photodynamic therapy (VTP). Despite the interest in focal therapy, this technology has not yet been a well-established procedure nor provided sufficient data, because of the lack of randomized trial comparing the efficacy and morbidity of the standard treatment options. In this paper we briefly summarize the recent data regarding focal therapy for prostate cancer and these new therapeutic modalities.Objective: To assess the expression profile and functional mechanism of long noncoding RNA (lncRNA) insulin growth factor 2 antisense (IGF2AS) in human prostate cancer (PCa).Interventional radiology plays a crucial role in oncology. The most common interventional treatments are transarterial embolisation as well as percutaneous thermal ablations. Transarterial embolisation, such as transarterial chemoembolization (TACE) or selective internal radiation therapy (SIRT) are well established, usually palliatively intended treatment options for primary and secondary hepatic malignancies. Embolisation is usually well tolerated under conscious sedation and can be repeated several times. Percutaneous thermoablation is a local ablative, usually curatively intended treatment for hepatic, renal and pulmonary tumors. As a minimally invasive technique, it competes against surgery and radiation therapy. There are different types of thermoablation, most commonly used are radiofrequency ablation (RFA), microwave ablation (MWA) and cryo-ablation. Ablation is usually performed in general anesthesia, less common in conscious sedation. New interventional treatments are high intensity focused ultrasound (HIFU) and irreversible electroporation (IRE). HIFU allows a non-invasive, imaging-guided thermoablation that is currently certified for uterine myoma, prostate cancer and bone tumors. IRE is a minimal invasive non-thermal ablation that is especially established for locally advanced tumors that show a close relationship to large vessels, for example pancreatic cancer.Aims and objectives: To assess the effects of three different bowel preparation methods on the incidence of infectious complications in patients who underwent transrectal ultrasonography-guided prostate biopsy.Aim: Radical treatment of prostate cancer (PCa) is often associated with the development of urinary incontinence (UI). The etiology of UI after prostatectomy is multifactorial and can be caused by both urethral sphincter deficiency and bladder dysfunction. To date, there are no comparative studies of the development of UI in patients after either organ-preserving treatment or radical prostatectomy (RP). Considering this fact, our aim was to carry out the comparative assessment of urodynamic changes in these categories of patients.Objectives: To evaluate the feasibility of a novel multiparametric MRI (mpMRI) and cognitive fusion transperineal targeted biopsy (MRTB) led prostate cancer (PCa) diagnostic service with regard to cancer detection and reducing time to diagnosis and treatment.Objective: Recent reports on high-intensity focused ultrasound (HIFU) treatment of localized prostate cancer suggest that preoperative risk groups of tumor recurrence are strong predictors of oncological outcomes. The purpose of this study is to determine the prognostic significance of treatment-related factors in relation to patient characteristics for biochemical outcomes after HIFU.Background: High intensity focused ultrasound (HIFU) is a novel method which offers the non-invasive ablation of tissues without harming overlying organs or skin. It has been introduced successfully in urology for the ablation of prostatic hyperplasia and seems to be promising in the treatment of uterine fibroids. In this study we aimed to examine the feasibility and possible side effects of HIFU treatment of uterine tissues using an experimental mobile HIFU unit with ultrasound guidance.High intensity focused ultrasound (HIFU) is a novel non-invasive modality for ablation of various solid tumors including uterine fibroids, prostate cancer, hepatic, renal, breast and pancreatic tumors. HIFU therapy utilizes mechanical energy in the form of a powerful ultrasound wave that is focused inside the body to induce thermal and/or mechanical effects in tissue. Multiple preclinical and non-randomized clinical trials have been performed to evaluate the safety and efficacy of HIFU for palliative treatment of pancreatic tumors. Substantial tumor-related pain reduction was achieved in most cases after HIFU treatment, and no significant side-effects were observed. This review provides a description of different physical mechanisms underlying HIFU therapy, summarizes the clinical experience obtained to date in HIFU treatment of pancreatic tumors, and discusses the challenges, limitations and new approaches in this modality.Prostate cancer treatment is a controversial topic amongst physicians and patients alike. Radical therapies such as prostatectomy and whole gland radiation offer the best outcomes in terms of oncologic efficacy, but the decision to undergo treatment must be weighed against its potential morbidity. Over the past decade, the concept of focal therapy for prostate cancer has been introduced as a potential method of achieving

oncologic control with a lesser degree of morbidity. Focal therapy refers to isolated ablation of a tumor focus with sparing of uninvolved, surrounding tissue. While it remains in the early stages of development, considerable research is underway that will help determine the optimal method of achieving this goal. Current areas of investigation include appropriate candidate selection, lesion identification, modality of treatment, and follow-up strategies.Image-guided high-intensity focused ultrasound (HIFU) is an innovative therapeutic technology, permitting extracorporeal or endocavitary delivery of targeted thermal ablation while minimizing injury to the surrounding structures. While ultrasound-guided HIFU was the original image-guided system, MR-guided HIFU has many inherent advantages, including superior depiction of anatomic detail and superb real-time thermometry during thermoablation sessions, and it has recently demonstrated promising results in the treatment of both benign and malignant tumors. HIFU has been employed in the management of prostate cancer, hepatocellular carcinoma, uterine leiomyomas, and breast tumors, and has been associated with success in limited studies for palliative pain management in pancreatic cancer and bone tumors. Nonthermal HIFU bioeffects, including immune system modulation and targeted drug/gene therapy, are currently being explored in the preclinical realm, with an emphasis on leveraging these therapeutic effects in the care of the oncology patient. Although still in its early stages, the wide spectrum of therapeutic capabilities of HIFU offers great potential in the field of image-guided oncologic therapy.Purpose: Although the quality of life (QoL) of prostate cancer (PCa) patients is a major issue, there is no unified and useful methodology for assessing QoL. The Expanded Prostate Cancer Index Composite (EPIC) is a globally used tool to measure QoL after PCa treatment that comprises urinary, bowel, sexual, and hormonal domains. Acknowledging the need for such a tool applicable to Korean PCa patients, we translated EPIC into Korean and validated the new version.Introduction: The objective of this study is assess the outcomes of whole-gland ablation (high-intensity focused ultrasound (HIFU), cryotherapy and brachytherapy) and active surveillance (AS) in patients with low-risk prostate cancer (PCa).Gleason score 7 prostate cancer with a higher proportion of pattern 4 (G4) has been linked to genomic heterogeneity and poorer patient outcome. The current assessment of G4 proportion uses estimation by a pathologist, with a higher proportion of G4 more likely to trigger additional imaging and treatment over active surveillance. This estimation method has been shown to have inter-observer variability. Fifteen patients with Prostate Grade Group (GG) 2 (Gleason 3 + 4) and fifteen patients with GG3 (Gleason 4 + 3) disease were selected from the PROMIS study with 192 haematoxylin and eosin-stained slides scanned. Two experienced uropathologists assessed the maximum cancer core length (MCCL) and G4 proportion using the current standard method (visual estimation) followed by detailed digital manual annotation of each G4 area and measurement of MCCL (planimetric estimation) using freely available software by the same two experts. We aimed to compare visual estimation of G4 and MCCL to a pathologist-driven digital measurement. We show that the visual and digital MCCL measurement differs up to 2 mm in 76.6% (23/30) with a high degree of agreement between the two measurements; Visual gave a median MCCL of 10 ± 2.70 mm (IQR 4, range 5-15 mm) compared to digital of 9.88 ± 3.09 mm (IQR 3.82, range 5.01-15.7 mm) ($p = 0.64$) The visual method for assessing G4 proportion over-estimates in all patients, compared to digital measurements [median 11.2% (IQR 38.75, range 4.7-17.9%) vs 30.4% (IQR 18.37, range 12.9-50.76%)]. The discordance was higher as the amount of G4 increased (Bias 18.71, CI 33.87-48.75, r 0.7, $p < 0.0001$). Further work on assessing actual G4 burden calibrated to clinical outcomes might lead to the use of differing G4 thresholds of significance if the visual estimation is used or by incorporating semi-automated methods for G4 burden measurement.The prospect of being able to use "minimally invasive" surgical techniques is of great interest today, particularly for reasons of health economics, patient acceptability and reduced morbidity. High intensity focused ultrasound (HIFU) has long been known to offer the potential of very precise "trackless lesioning" but has only recently, with the advent of high quality methods of medical imaging, become a practicable possibility. High intensity beams can readily be achieved using either bowel or lens focusing procedures and, by choice of a suitable acoustic frequency, regions of tissue destruction--"lesions"--can be induced at depths of up to at least 10 cm with exposure times of the order of 1 s. Theoretical and experimental evidence indicates that the primary mechanism of damage is thermal, i.e. "cooking" of the tissues. Both conventional cavitation and boiling of tissue water may complicate the situation. Furthermore, substantial non-linear behaviour is involved. On histological appearance the lesions have a spatially sharp demarcation between regions of normal and dead cells. When attempts are made to ablate a block of tissue, by creating an array of adjacent elementary lesions, a phenomenon is observed of inhibition of formation of a lesion whose placing is too close to that of a neighbour. Provided that this problem is dealt with, complete ablation of an extended block of

tissue can be achieved. For animal tumours in particular, this observation is reinforced by evidence both of in vitro cell survival and of tumour growth delay experiments. Clinically, the sites accessible for HIFU treatment will be limited by the need for a suitably wide acoustic window that either is available naturally or can be provided by a relatively minor surgical procedure. Tumour sites which thus offer a realistic prospect for local control (and some of which are already the subject of phase 1 trials) include liver, bladder, kidney, prostate, breast and brain. There is also considerable interest in non-cancer applications in these and other sites.Although radiotherapy to the prostate for cancer is effective, recurrence occurs in 10-15% within 5 years. Traditional salvage treatments for men with radiorecurrent prostate cancer comprise of watchful waiting (WW) with or without androgen deprivation therapy (ADT) or radical prostatectomy (RP). Neither strategy provides ideal therapeutic ratios. Salvage focal ablation is an emerging option. We performed a systematic review of the Medline and Embase databases for studies reporting outcomes of focal salvage brachytherapy (sBT), cryotherapy (sCT) or high-intensity focused ultrasound (sHIFU) for radiorecurrent prostate cancer (conception to April 2019). Results were screened for inclusion against predetermined eligibility criteria. Certain data were extracted, including rates of biochemical disease-free survival (BDFS), metastasis, conversion to second-line therapies and adverse events. Of a total 134 articles returned from the search, 15 studies (14 case series and 1 comparative study) reported outcomes after focal sBT [5], sCT [7] and sHIFU [3]. Cohort size varied depending on intervention, with eligible studies of sBT being small case series. Median follow-up ranged from 10 to 56 months. Although pre-salvage demographics were similar [median age range, 61-75 years; prostate-specific antigen (PSA) range, 2.8-5.5 ng/mL], there was heterogeneity in patient selection, individual treatment protocols and outcome reporting. At 3 years, BDFS ranged from 61% to 71.4% after sBT, 48.1-72.4% after sCT and 48% after sHIFU. Only studies of sCT reported 5-year BDFS, which ranged from 46.5% to 54.4%. Rates of metastasis were low after all salvage modalities, as were conversion to second-line therapies (although this was poorly reported). Grade 3 adverse events were rare. This systematic review indicates that salvage focal ablation of radiorecurrent prostate cancer provides acceptable oncological outcomes and is well tolerated. Unfortunately, there is heterogeneity in the study design of existing evidence. Level 1 research comparing salvage focal therapies to existing whole-gland strategies is needed to further establish the role of these promising treatments.Background: Despite being formally included in the assessment of patients presenting with lower urinary tract symptoms (LUTS), transrectal ultrasonography (TRUS) is not routinely offered to these patients. This tactic however might not be optimum since data exist on the superiority of TRUS over transabdominal ultrasound in accurately predicting prostate volumes. We aimed to evaluate TRUS as a standard tool in the evaluation of patients with benign prostate hyperplasia (BPH) with a special focus on the potential impact it might have on the decision of open versus transurethral surgery.Purpose: To determine whether the peri-procedural administration of low-dose aspirin increases the risk of bleeding complications for patients undergoing extended prostate biopsies.Focal therapy for localized prostate cancer (PC) using high-intensity focused ultrasound (HIFU) is gaining in popularity as it is noninvasive and associated with fewer side effects than standard whole-gland treatments. However, better methods to evaluate response to HIFU ablation are an unmet need. Prostate-specific membrane antigen (PSMA) and gastrin-releasing peptide receptors are both overexpressed in PC. In this study, we evaluated a novel approach of using both 68Ga-RM2 and 68Ga-PSMA11 PET/MRI in each patient before and after HIFU to assess the accuracy of target tumor localization and response to treatment. Methods: Fourteen men, 64.5 ± 8.0 y old (range, 48-78 y), with newly diagnosed PC were prospectively enrolled. Before HIFU, the patients underwent prostate biopsy, multiparametric MRI, 68Ga-PSMA11, and 68Ga-RM2 PET/MRI. Response to treatment was assessed at a minimum of 6 mo after HIFU with prostate biopsy (n = 13), as well as 68Ga-PSMA11 and 68Ga-RM2 PET/MRI (n = 14). The SUVmax and SUVpeak of known or suspected PC lesions were collected. Results: Pre-HIFU biopsy revealed 18 cancers, of which 14 were clinically significant (Gleason score ≥ 3 + 4). Multiparametric MRI identified 18 lesions; 14 of them were at least score 4 in the Prostate Imaging-Reporting and Data System. 68Ga-PSMA11 and 68Ga-RM2 PET/MRI each showed 23 positive intraprostatic lesions; 21 were congruent in 13 patients, and 5 were incongruent in 5 patients. Before HIFU, 68Ga-PSMA11 identified all target tumors, whereas 68Ga-RM2 PET/MRI missed 2 tumors. After HIFU, 68Ga-RM2 and 68Ga-PSMA11 PET/MRI both identified clinically significant residual disease in 1 patient. Three significant ipsilateral recurrent lesions were identified, whereas 1 was missed by 68Ga-PSMA11. The pretreatment level of prostate-specific antigen decreased significantly after HIFU, by 66%. Concordantly, the pretreatment SUVmax decreased significantly after HIFU for 68Ga-PSMA11 (P = 0.001) and 68Ga-RM2 (P = 0.005). Conclusion: This

pilot study showed that 68Ga-PSMA11 and 68Ga-RM2 PET/MRI identified the target tumor for HIFU in 100% and 86% of cases, respectively, and accurately verified response to treatment. PET may be a useful tool in the guidance and monitoring of treatment success in patients receiving focal therapy for PC. These preliminary findings warrant larger studies for validation.Review efficacy and safety of minimally-invasive treatments for Low Urinary Tract Symptoms (LUTS) in patients affected by Benign Prostate Hyperplasia (BPH). We performed a systematic review of the literature from 1993 to 2022 leveraging original research articles, reviews, and case-studies published in peer-reviewed journals and stored in public repositories. Prostate artery embolization (PAE), transurethral needle ablation (TUNA), transurethral microwave thermotherapy (TUMT), high intensity focused ultrasound (HIFU), laser treatments and Cryoablation are valid and safe alternatives to the gold standard (surgery) in the treatment of LUTS in patients affected by BPH, with fewer undesired effects being reported.Objectives: To evaluate the current status of focal therapy as the salvage treatment option for patients with recurrent prostate cancer after established therapy (radiation, surgery) failure for localized tumor. Methods: A MedLine search using specified search terms was done on December 23, 2011. This research rendered 346 papers related to High-Intensity Focused Ultrasound (HIFU), 644 papers related to cryosurgery, 180 related to photodynamic therapy and 3 articles related to radio frequency ablation. Very few of these papers presented original outcome data and are included in the present review. Results: No controlled trial was available for analysis. Conclusions: Salvage HIFU in patients with local recurrence of prostate cancer after radical EBRT indicate is a reasonable treatment option, but better patient selection criteria are needed. It is a promising treatment option for local recurrence after radiation therapy, with morbidity comparable with other forms of salvage treatment. The side effects are not negligible but comparable with other forms of salvage treatment. Photodynamic therapy is a new option that could be suitable for organ-confined PC recurrence after radiotherapy, but the data are very few.Objectives: To assess the comparative safety and effectiveness of 2 prostate cancer treatment ablation modalities: irreversible electroporation (IRE) and high-intensity focused ultrasound (HIFU). METHODS: Two systematic literature reviews (SLRs) and meta-analyses (MAs) on IRE and HIFU were conducted in accordance with PRISMA guidelines. Searches were conducted in PubMed and EMBASE. Independent reviewers assessed literature eligibility and abstracted safety and effectiveness data. Oncological, safety, functional, and quality of life (QOL) outcomes were examined for each technology. MAs were conducted where data quality and availability allowed, using normal methods and a random/mixed effects model, and quality assessments performed.Introduction: Some men who experience prostate cancer recurrence post-radiotherapy may be candidates for local salvage therapy, avoiding and delaying systemic treatments. Our aim was to assess the impact of clinical outcomes of adding salvage local treatment in prostate cancer patients who have failed radiation therapy.The treatment of cancer is an important issue in both developing and developed countries. Clinical use of ultrasound in cancer is not only for the diagnosis but also for the treatment. Focused ultrasound surgery (FUS) is a noninvasive technique. By using the combination of high-intensity focused ultrasound (HIFU) and imaging method, FUS has the potential to ablate tumor lesions precisely. The main mechanisms of HIFU ablation involve mechanical and thermal effects. Recent advances in HIFU have increased its popularity. Some promising results were achieved in managing various malignancies, including pancreas, prostate, liver, kidney, breast and bone. Other applications include brain tumor ablation and disruption of the blood-brain barrier. We aim at briefly outlining the clinical utility of FUS as a noninvasive technique for a variety of types of cancer treatment.Multiparametric magnetic resonance imaging (mpMRI) of the prostate has allowed clinicians to better visualize and target suspicious lesions during biopsy. Targeted prostate biopsies give a more accurate representation of the true cancer volume and stage so that appropriate treatment or active surveillance can be selected. Advances in technology have led to the development of MRI and ultrasound fusion platforms used for targeted biopsies, monitoring cancer progression, and more recently for the application of focal therapy. Lesions visualized on mpMRI can be targeted for ablation with a variety of energy sources employed under both local and general anesthesia. Focal ablation may offer an alternative option for treating prostate cancer as compared to the well-established interventions of whole-gland radiation or prostatectomy. Focal ablation may also be an option for patients on active surveillance who wish to be even more "active" in their surveillance. In this review, we describe the advancements and development of fusion biopsies, the rationale behind focal therapy, and introduce focal ablative techniques for indolent prostate cancers ("super-active surveillance"), including cryoablation and focal laser ablation (FLA) and the subsequent MRI/biopsy surveillance.Organ preserving management is common place in renal cancer, breast cancer and many other solid organ tumours. Current strategies in managing intermediate risk prostate

cancer include either whole gland treatment, in the form of radical radiotherapy or radical prostatectomy, or active surveillance. The former is associated with significant post-treatment functional morbidity, whilst the latter associated with the burden of surveillance activity and patient anxiety. Focal therapy would logically fit as a middle ground for suitable patients in whom treatment would be recommended, but where much better functional outcomes may be possible. Ideally this comes without restricting the successful prevention of harm from the cancer. Historically limitations in developing tissue preserving focal therapy strategies in prostate cancer, were due to inaccuracies in tumour characterisation prior to treatment and during follow up. Consequently for example many patients undergoing an active surveillance strategy were being upgraded and upstaged within a short period. Recently high level evidence supporting the use of MRI and targeted biopsies, in particular the PROMIS and PRECISION trials have strengthened clinician confidence in accurate disease characterisation, thus making focal therapy to become a more feasible management option. With improved diagnostic strategies and the publication of reassuring medium term oncological and functional outcomes after focal therapy for intermediate risk prostate cancer, has the time come to require consideration of focal therapy within our multi-disciplinary team (MDT) meetings and with patients? In this review we will consider patient selection and the evidence for the various focal ablation options as well as the surveillance of these patients after treatment. The forthcoming trials to determine comparative effectiveness will be discussed.Modern cancer treatment aims to conserve as much healthy tissue as possible. This has been challenging in the treatment of prostate cancer due to the difficulty in imaging the gland and concerns over leaving multifocal cancer untreated. With improvements in imaging and understanding of multifocal prostate cancer evidence now shows accurate treatment of just the primary focus of cancer or the index lesion can control progression or recurrence of the disease. Many different energy sources are now available to target the cancer lesion within the prostate with less significant side-effects on urinary and sexual function compared to radical treatment. Evidence shows that men value these functions highly and would even trade years of life in exchange for preserved retention of continence or erectile function. Focal treatment of prostate cancer aims to provide both cancer control and preservation of sexual and urinary functions so that men do not have to make a choice between the two. This is a treatment option that men clearly want and deserve.We sought to compare oncologic and functional outcomes between thermal and nonthermal energy partial gland ablation (PGA) modalities. We conducted comprehensive, structured literature searches, and 39 papers, abstracts, and presentations met the inclusion criteria of pre-PGA magnetic resonance imaging, oncologic outcomes of at least 6 months, and systematic biopsies after PGA. Twenty-six studies used thermal ablation: high-intensity focused ultrasound (HIFU), cryotherapy, focal laser ablation, or radiofrequency ablation. In-field recurrence rates ranged from 0 to 36% for HIFU, 6 to 24% for cryotherapy, 4 to 50% for focal laser ablation, and 20 to 25% for radiofrequency ablation. Twelve studies used nonthermal technologies of focal brachytherapy, vascular-targeted photodynamic therapy, or irreversible electroporation. Focal brachytherapy had the lowest reported failure rate of 8%, vascular-targeted photodynamic therapy had >30% positive in-field biopsies, and irreversible electroporation had in-field recurrence rates of 12-35%. PGA was well tolerated, and nearly all patients returned to baseline urinary function 12 months later. Most modalities caused transient decreases in erectile function. Persistent erectile dysfunction was highest in patients who underwent HIFU. Although oncologic outcomes vary between treatment modalities, systematic review of existing data demonstrates that PGA is a safe treatment option for patients with localized prostate cancer.Recent advances in high intensity focused ultrasound (HIFU), which was developed in the 1940s as a viable thermal tissue ablation approach, have increased its popularity. In clinics, HIFU has been applied to treat a variety of solid malignant tumors in a well-defined volume, including the pancreas, liver, prostate, breast, uterine fibroids, and soft-tissue sarcomas. In comparison to conventional tumor/cancer treatment modalities, such as open surgery, radio- and chemo-therapy, HIFU has the advantages of non-invasion, non-ionization, and fewer complications after treatment. Over 100 000 cases have been treated throughout the world with great success. The fundamental principles of HIFU ablation are coagulative thermal necrosis due to the absorption of ultrasound energy during transmission in tissue and the induced cavitation damage. This paper reviews the clinical outcomes of HIFU ablation for applicable cancers, and then summarizes the recommendations for a satisfactory HIFU treatment according to clinical experience. In addition, the current challenges in HIFU for engineers and physicians are also included. More recent horizons have broadened the application of HIFU in tumor treatment, such as HIFU-mediated drug delivery, vessel occlusion, and soft tissue erosion ("histotripsy"). In summary, HIFU is likely to play a significant role in the future oncology

practice.Magnetic resonance imaging (MRI)-guided therapy for prostate cancer (PCa) aims to reduce the treatment-associated comorbidity of existing radical treatment, including radical prostatectomy and radiotherapy. Although active surveillance has been used as a conservative method to reduce overtreatment, there is a growing demand for less morbidity and personalized (focal) treatment. The development of multiparametric MRI was of real importance in improving the detection, localization and staging of PCa. Moreover, MRI has been useful for lesion targeting within the prostate, as it is used in the guidance of prostate biopsies, by means of cognitive registration, MRI-ultrasound fusion guidance or direct in-bore MRI-guidance. With regard to PCa therapies, MRI is used for precise probe placement into the lesion and to accurately monitor the treatment in real-time. Moreover, advances in MR-compatible thermal ablation allow for noninvasive real-time temperature mapping during treatment. In this review, we present an overview of the current status of MRI-guided therapies in PCa, focusing on cryoablation, focal laser ablation, high intensity focused ultrasound and transurethral ultrasound ablation. We explain the important role of MRI in the evaluation of the completeness of the ablation and during follow-up. Finally, we will discuss the challenges and future development inherent to these new technologies.A disruptive technology is a technological innovation that overturns the existing dominant technologies in a market. Magnetic resonance (MR)-guided focused ultrasound (MRgFUS) is a noninvasive procedure based on the combination of real-time MR anatomic guidance, MR thermometry, and high-intensity focused ultrasound. Several hundred transducer elements become convergent at a point under MR guidance, leading to heating and coagulation necrosis. Outside the focal point, there is no significant heating. There is no need to break the skin for procedures in the body or to perform a craniotomy for procedures in the brain. This lack of invasiveness is what makes MRgFUS so disruptive compared with surgery. At present, MRgFUS has been used for the ablation of uterine fibroids, breast tumors, painful bony metastases, and liver tumors. In the brain, it has been used for the ablation of glioblastomas and for functional neurosurgery. Phantom and animal studies suggest future applications for prostate cancer and acute stroke treatment.Purpose: In daily clinical practice, it is challenging to accurately diagnose suspected neoplasias in the small pelvis by minimal invasive means, and CT-guided biopsy is often limited in its feasibility. The aim of our study was to evaluate whether transrectal ultrasound (TRUS)-guided biopsy can verify suspected neoplasias in the small pelvis histologically.Background: Prostate cancer is frequently treated using external beam radiation therapy (EBRT). Prior to therapy, the prostate is commonly implanted with a small number of permanent fiducial markers used to monitor the position of the prostate during therapy. In the case of local cancer recurrence, high-intensity focused ultrasound (HIFU) provides a non-invasive salvage treatment option. However, the impact of the fiducial markers on HIFU treatment has not been thoroughly studied to date. The objective of this study was to experimentally investigate the effect of a single EBRT fiducial marker on the efficacy of HIFU treatment delivery using a tissue-mimicking material (TMM).Background: The purpose of these clinical studies was to validate a Tissue Change Monitoring (TCM) algorithm in vivo. TCM is a quantitative tool for the real-time assessment of HIFU dose. TCM provides quantitative analysis of the backscatter pulse echo signals (pre and immediately post HIFU) for each individual ablative site, using ultrasonic tissue characterization as a surrogate for monitoring tissue temperature. Real-time analysis generates an energy difference parameter (ΔE in dB) that is proportional to tissue temperature.Introduction: Prostate cancer is the most frequent cancer among males in Europe and a leading cause of cancer deaths, with similar proportion in other developed countries. For more than twenty years, external-beam radiation therapy, alongside with radical prostatectomy, has been used as a primary radical therapeutic approach for localized prostate cancer. Yet, EBRT failures relate to 22-69% following curative radiotherapy (± androgen deprivation therapy). Additionally, a proportion of these men will have a biopsy-proven local recurrence.Objective: The study aimed at investigating the outcome of prostate HIFU focal therapy using the MRI-US fusion platform for treatment localization and delivery.Objective: The aim of this study was to evaluate the value of computed tomography (CT) in determining total prostate volume (TPV), as an alternative to transrectal ultrasonography (TRUS) when TRUS is not available.Objective: Thyroid surgery is common and complications are not rare. High-intensity focused ultrasound (HIFU) could be a possible minimally invasive alternative to surgery. The aim of this study was to assess the feasibility of using HIFU to obtain localized ablation of thyroid tissue without affecting neighboring structures.Fungal urinary tract infection represents a high-risk event in severely ill patients. We report a case of a prostatic abscess due to Candida tropicalis with no systemic manifestations. In first time, a conservative treatment with antifungal treatment and transrectal ultrasound-guided drainage was performed without success. Transurethral resection was required for drainage with a favourable course.The challenge to the

urology community is to reduce the risks of screening and treatment by reducing the number of men undergoing unnecessary biopsy and whole-gland curative treatment of low-risk disease. There is compelling evidence that focal ablation of prostate cancer is truly minimally invasive and offers major functional advantages over whole-gland treatment.Initially used in the treatment of prostate cancer and uterine fibroids, the role of focused ultrasound has expanded as transcranial acoustic wave distortion and other limitations have been overcome. Its utility relies on focal energy deposition via acoustic wave propagation. The duty cycle and intensity of focused ultrasound influence the rate of energy deposition and result in unique physiologic and biomechanical effects. Thermal ablation via high-intensity continuous exposure generates coagulative necrosis of tissues. High-intensity, pulsed application reduces temporally averaged energy deposition, resulting in mechanical effects, including reversible, localized BBB disruption, which enhances neurotherapeutic agent delivery. While the precise mechanisms remain unclear, low-intensity, pulsed exposures can influence neuronal activity with preservation of cytoarchitecture. Its noninvasive nature, high-resolution, radiation-free features allow focused ultrasound to compare favorably with other modalities. We discuss the physical characteristics of focused ultrasound devices, the biophysical mechanisms at the tissue level, and current and emerging applications.Purpose: Transrectal ultrasound guided prostate biopsy results rely on physician ability to target the gland according to the biopsy schema. However, to our knowledge it is unknown how accurately the freehand, transrectal ultrasound guided biopsy cores are placed in the prostate and how the geometric distribution of biopsy cores may affect the prostate cancer detection rate.Introduction: We compared the morbidity of whole gland salvage ablation using cryotherapy (CRYO) and high-intensity focused ultrasound (HIFU) for radio recurrent prostate cancer at a single centre over a 17-year period.This article systematically reviews the rationale for magnetic resonance imaging in prostate cancer, in detection and following various treatment methods. A basic discussion of the identification of prostate cancer is imperative to understand postintervention imaging. Each available therapy, including surgery, radiation, hormone therapy, and focal therapies will be discussed along with associated imaging findings, providing the reader with a better understanding of current interventions in prostate cancer and imaging.Purpose of review: As all new treatment modalities nonablative thermal therapy for minimal invasive treatment of benign prostatic hyperplasia should be critically analyzed. This review discusses the literature to identify the merits of these so-called minimally invasive treatments and the place they should take in the armamentarium of benign prostatic hyperplasia therapy options.Purpose: We determine the safety and feasibility of magnetic resonance image guided transurethral ultrasound prostate ablation using active temperature feedback control in a preclinical canine model with 28-day followup.Background: Metastatic disease is the most common malignancy of the bone. Prostate, breast, lung, kidney, and thyroid cancer account for 80% of skeletal metastases. Bone metastases are associated with significant skeletal morbidity including severe bone pain, pathologic fractures, spinal cord or nerve roots compression, and malignant hypercalcemia. These events compromise greatly the quality of life of the patients. The treatment of cancer patients with bone metastases is mostly aimed at palliation.Background: The goal of prostate cancer focal therapy is to achieve oncologic control while reducing the rate of adverse events associated with whole-gland treatments. Numerous focal therapy modalities are currently available with early data demonstrating highly variable rates of cancer control and preservation of sexual/urinary function.Purpose of review: To provide an overview of the technologic advancements in the field of ablative therapy, focusing on the treatment of renal neoplasms.The treatment time needed for high-intensity focused ultrasound (HIFU) ablation might be decreased substantially by using the split-focus approach, so we made a prototype 4.2-MHz split-focus therapeutic transducer combined with a small 6.5-MHz imaging ultrasonic probe for transrectally treatment of canine prostatic cancer and used it to experimentally evaluate the feasibility of using split-focus transrectal HIFU to ablate canine prostatic tissue without injuring surrounding tissues. The prostates of 5 dogs were transrectally treated with split-focus ablation at a peak intensity in the water of 1.7 kW/cm(2) for 4 s (4 shots) under the guidance of ultrasonic B-mode imaging. After ultrasonic exposure, the prostates became stiff because of thermal effect of HIFU. For the first 3-5 days after treatment, dogs were catheterized daily for urinary management and treated with oral antibiotics to prevent urinary tract infection. The dogs were able to urinate normally by a week after. Within two weeks a large centrally located cystic cavity had formed in the prostate by replacing the necrotic parenchyma around the prostatic urethra. Necropsy three months after treatment found the rectum and prostate capsule to be normal grossly and histologically. The 4 shots of split-focus HIFU destroyed the prostatic parenchyma and created a prostatic cavity 0.34-0.45 cm(3) in volume without injuring surrounding tissues. These results suggest that split-focus HIFU

ablation could be used for noninvasive treatment of prostatic cancer in dogs.Focal therapy for prostate cancer is a nascent and emerging field. As such, the patient selection criteria for this new treatment paradigm are evolving in parallel to both the technology on which this approach depends and to our unfolding understanding of the natural history of prostate cancer. Until, and while, prospective trials of focal therapy are being reported, patient selection criteria will be flexible and very dependent on the therapeutic goals. We must carefully define the therapeutic intentions of focal therapy before engaging in the actual process of determining optimal patient selection. The therapeutic intent will define the most appropriate candidate for such therapy. Patient selection encompasses multiple complex issues including the type of prostate biopsy (12 core transrectal versus mapping transperineal) to the type of imaging (multiparametric magnetic resonance imaging or enhanced ultrasound) to the specific anatomical location of the disease within the prostate (apex, mid-prostate, base) and a comprehensive assessment of the patient's overall health and life expectancy. It is not as simple as saying a patient with a certain grade or a certain number of cores is or is not appropriate for focal therapy. There are many more considerations for a reasonable and thoughtful approach to this new treatment.Objective: The objective of this study is to discuss the use of MRI-guided and MRI-directed prostate biopsy techniques, describe how interventional MRI focal therapies are used for the treatment of prostate cancer, and predict future directions in prostate interventional MRI. The prospect of establishing a center for prostate imaging, diagnosis, and treatment is also discussed.Purpose: To describe the national-level patterns of care for local ablative therapy among men with PCa and identify patient- and hospital-level factors associated with the receipt of these techniques.Male sexual dysfunction, a common sequela following primary prostate cancer (PC) treatment, is likely to be more significant following salvage PC therapy. In general, these impairments in sexual domains can be divided into three groups, namely (1) sexual desire, sexuality and masculinity; (2) erectile function (EF); and (3) ejaculation and orgasm. However, there is considerable overlap between these sexual domains and male sexual response cycle, and various factors such as cancer status, mental well-being, medical conditions and social circumstances can adversely impact on the male sexual function. While several preventive and treatment strategies for the preservation and recovery of sexual function are available, there is limited consensus guidelines exist regarding the optimal rehabilitation or treatment protocol for men with sexual dysfunction following salvage therapy. While penile rehabilitation may be effective to restore erectile function and the ability to have coital sex, there is lack of effective treatments in other domains of male sexual function, thereby underscoring the importance of psychological and sexual counselling in sexual rehabilitation. Indeed, a comprehensive multidisciplinary approach is necessary to better understand and optimally assist and manage the men and their respective partners for better sexual health and activity.Among diverse subject areas in the field of prostate cancer management, treatment-related sexual dysfunction complications persist today as a significant potential problem for all men receiving treatment for this disease. The conjecture that African-American men are disproportionately affected by this problem among ethnic groups is not trivial and warrants attention in view of the possibility that its risk profile, whether real or perceived, may influence clinical management decisions impacting survival outcomes in this high-prostate cancer-risk population. A literature review was performed to define the occurrence and significance of sexual dysfunction after prostate cancer treatment in African-American men, with an emphasis on clinically localized treatment. Data retrieved from population-based as well as single-center investigations are conflicting with regard to the extent and quality of life relevance of sexual dysfunction following prostate cancer treatments in African-American men, relative to that of ethnically different counterparts. Some reports suggest a relatively greater trend in African-American men than other ethnic groups toward obtaining clinical management for sexual dysfunction and experiencing psychosocial effects from it, lending additional support for the possibly greater effect of this problem in African-American men. Although further studies are needed to define sexual dysfunction after prostate cancer treatment and ascertain its bother and impact on quality of life in African-American men, survivorship care that encompasses sexual dysfunction management should proceed with appropriate attention given to cultural, educational, and psychosocial variables.Sexual dysfunction is one of the most common, distressing and persistent adverse effects of prostate cancer treatment, and has a profound effect on quality of life for the patient and his partner. Current health-care provisions are inadequate to address the demand for the management of sexual dysfunction, with approximately half of prostate cancer survivors reporting unmet sexual health-care needs. Management strategies predominately involve pharmacological interventions to address the direct physiological effects of prostate cancer treatment on erectile function. However, the aetiology of sexual dysfunction is multifaceted and considerable physiological

and psychological adverse effects of prostate cancer treatments, which are not addressed by pharmacological intervention, contribute to sexual dysfunction. Exercise has established efficacy for improving many of these factors in men with prostate cancer, including changes in body composition (especially to counteract body feminization), fatigue, physical function, risk of comorbid conditions, depression, anxiety and quality of life. Emerging evidence indicates that exercise also has a positive effect on sexual desire and sexual activity in men with prostate cancer.Prostate cancer is the second most common cause of cancer-related death in men in the USA, but the effect of prostate cancer diagnosis and treatment on men in a sexual minority group, including men who have sex with men and transgender women, is poorly understood. Efforts to study this population are complicated, as cancer registries do not routinely collect information on sexual orientation. As a result, epidemiological data regarding this population have come from small studies that have included disparate rates of prostate cancer screening, diagnosis and treatment. Qualitative studies indicate that prostate cancer is experienced differently by sexual minorities, with distinct health-care needs that arise owing to differences in sexual practices, social support systems and relationships with the medical community. Notably, sexual minorities have been reported to experience poorer health-related quality of life outcomes than heterosexual men, and tend to have less robust social support systems, experience increased psychological distress caused by sexual dysfunction (areas of which are unmeasured after treatment), experience isolation within the health-care system and express increased levels of dissatisfaction with treatment. The incidence of prostate cancer actually seems to be decreased in men from sexual minorities living with HIV, despite there being no differences in screening and treatment, with poor cancer-specific mortality. Although the literature on patients with prostate cancer in men from sexual minority groups has historically been sparse, peer-reviewed research in this area has grown considerably during the past decade and has become an important field of study.Introduction: The challenges for prostate cancer survivors include the surveillance of prostate cancer recurrence and management of physical, cognitive, sexual, and socioeconomic quality of life issues. Sexual function remains an important issue in men, who often continue to be interested in sex after prostate cancer treatment. The various post-prostate cancer treatment-related sexual dysfunctions are penile deformities and erectile dysfunction (ED); sexual desire and mental health; ejaculatory and orgasmic dysfunctions; and changes in partner relationship and dynamics.Objectives: Knowing the importance of sexuality items in the choice by the patient of the modality of treatment of localized prostate cancer, we aimed at reviewing and updating the effects of prostate radiotherapy and brachytherapy on sexual functions.Introduction: Supportive sexual health care is much-needed adjuvant care to oncologic management for men with prostate cancer (PCa).Background: Survivors of prostate, bladder, and colorectal cancer endure many sexual side-effects of treatment that negatively impact their relationships and diminish their quality of life. Multiple barriers exist in addressing men's sexual concerns in oncological care.Since prostate cancer becomes more common with age, at least one-third of men have sexual problems at diagnosis. All localized treatments for prostate cancer greatly increase the prevalence of sexual dysfunction, which include loss of desire, erectile dysfunction, and changes in orgasm. Even men on active surveillance have a higher rate of problems than matched peers without prostate cancer. However, men given androgen deprivation therapy (ADT) have the worst rates of sexual dysfunction. Even after 3 to 4 months of ADT, men's desire for sex is decreased and irreversible damage may occur to the erectile tissue in the penis. Erections do not recover in about one-half of men, even if ADT is discontinued. Although intermittent ADT allows some recovery of sexual function, serum testosterone requires 9 to 12 months off ADT to recover. Again, one-half of men have permanent erectile dysfunction. If ADT causes atrophy of the erectile tissue, blood leaks out of the venous system during erection. This syndrome is difficult to treat except with surgery to implant a penile prosthesis. Despite the high rate of sexual problems in men on ADT, a small group stays sexually active and is able to have reliable erections. To improve men's sexual satisfaction on ADT, it may be important to educate them about getting extra mental and physical sexual stimulation, as well as using penile rehabilitation during hormone therapy. Information on reaching orgasm and coping with problems such as dry orgasm, pain with orgasm, and urinary incontinence during sex also should be provided.This study evaluated erectile function and sexual quality of life (QoL), and predictive factors for erectile dysfunction (ED) and the deterioration of sexual QoL in 70 patients who underwent low-dose-rate brachytherapy (LDR-BT) alone for prostate cancer without androgen deprivation therapy. Erectile function and sexual QoL were evaluated before and 1, 3, 6, 12, 24, 36, 48 and 60 months after LDR-BT. Binary logistic regression analysis was used to determine whether age, prostate volume, hypertension, diabetes, Brinkman's index, testosterone, baseline Sexual Health Inventory for Men

(SHIM) score and post-implant dosimetry parameters could predict ED and deterioration of sexual QoL at 24 and 60 months after LDR-BT. After 24 and 60 months, ED was noted in 39 of 70 patients and 42 of 64 patients respectively. Furthermore, sexual QoL worsened in 42 of 70 and 43 of 64 patients respectively. Baseline SHIM score was identified as a significant predictor of ED (24 months: odds ratio [OR]: 0.83, p = 0.02; 60 months: OR: 0.83, p = 0.03) and the deterioration of sexual QoL (24 months: OR: 0.84, p = 0.03). LDR-BT for prostate cancer promoted decreased erectile function and sexual QoL, with high preimplant potency being a significant predictor of ED and the deterioration of sexual QoL.The treatment of prostate cancer is partly guided by patient preferences. Radical prostatectomy and radiation therapy are the standard radical therapies for localized disease and render comparable oncologic outcomes. Considering that survival is high regardless of the chosen treatment, factors such as treatment-related toxicities affecting the patients' quality of life play an important role in their decision. Notably, post-treatment sexual dysfunction, which includes decreased libido, erectile dysfunction, and ejaculatory dysfunction has been shown to be an important and prevalent concern of prostate cancer survivors. In this literature review, we sought to characterize the sexual complications associated with radiation therapy and map the available sexual rehabilitation options for prostate cancer survivors experiencing sexual dysfunction as a result of radiation therapy. We identified medical, non-biomedical, counseling, and lifestyle modification options for prostate cancer survivors seeking sexual rehabilitation. Future research in this area should address the standardization of sexual side-effect reporting and investigate sexual outcomes and rehabilitation in more diverse groups and of transgender and nonheterosexual prostate cancer survivors.Background: Patients with prostate cancer suffer significant sexual dysfunction after treatment which negatively affects them and their partners psychologically, and strain their relationships.Background: Patients with prostate cancer suffer significant sexual dysfunction after treatment which negatively affects them and their partners psychologically, and strain their relationships.Background: Men with prostate cancer (PCa) often experience sexual dysfunction following diagnosis and treatment, yet little is known about the support they receive to deal with this.Introduction: 1 in every 7 Canadian men is affected by prostate cancer. Given impressive advances in detection, treatment, and survival rates, there is a considerable focus on survivors' supportive care needs. Among the top unmet supportive care needs for prostate cancer survivors are concerns related to sexual health and intimacy.Objective: Prostate cancer is the most common type of male cancer in the United States and the negative effect of prostate cancer treatment on sexual function has been well documented. The objective of this study was to examine the long-term impact of sexual dysfunction on spouses or partners of prostate cancer survivors.Context: Focal therapy has emerged as a promising option to treat well-selected men with localised prostate cancer while preserving healthy prostate tissue and key structures, such as the urethral sphincter and neurovascular bundles. However, how this tissue preservation may translate into improved outcomes, particularly into improved sexual outcomes, is still an active research field.Background: Anodyspareunia may be an adverse outcome of prostate cancer (PCa) treatment for gay, bisexual, and other men who have sex with men (GBM).Background: Whether there is a connection between sexual dysfunction (SD) and prostate cancer (PCa) is controversial.Objective: To describe the sexual consequences of prostate cancer and its treatments (prostatectomy, external beam radiation, brachytherapy, androgen deprivation therapy) and to suggest treatments for sexual side effects of these therapies.Prostate cancer affects one in six American men. Erectile and sexual dysfunctions are long-term side effects of prostate cancer treatment. PubMed database was searched for papers on prostate cancer-related sexual recovery for men and couples. The search yielded articles on (1) the treatment of erectile dysfunction, (2) men's psychological and culturally diverse adaptation to the sexual side effects; (3) the impact of prostate cancer on couples' relationships; and (4) interventions to promote sexual function. Erectile dysfunction after prostate cancer treatment has been widely studied. Research on the sexual recovery of men and couples or understanding it in a cultural context is scarce. Greater focus on the impact of sexual sequelae of prostate cancer treatment on men as well as couples in diverse groups is needed. Clinical implications for treating sexual dysfunction and promoting sexual recovery for prostate cancer survivors and their partners are discussed. Recommendations for future research are provided.Background: Compromised sexual function is often a side effect for patients following radical surgical procedures for bladder or prostate cancer.Many therapies for erectile dysfunction (ED) after prostate cancer treatment improve erectile firmness, yet, most couples stop using aids within 1-2 years. Patients and partners who expect immediate and complete success with their first ED treatment can be demoralized when they experience treatment failure, which contributes to reticence to explore other ED aids. Comprehensive patient education should improve sustainability

and satisfaction with ED treatments. Pre-emptive and realistic information should be provided to couples about the probability of recovering natural erections. Beginning intervention early and using a couple-based approach is ideal. Recommendations are provided about the timing of ED treatment, the order of aid introduction, and combination therapies. Renegotiation of sexual activity is an essential part of sexual adaptation. From the outset of therapy, couples should be encouraged to broaden their sexual repertoire, incorporate erection-independent sexual activities, and continue to be sexual despite ED and reduced libido.Quality of life in general and sexual functioning in particular have become very important in cancer patients. Due to modern surgical techniques, improved quality of drugs for chemotherapy and very modern radiation techniques, more patients can be successfully treated without largely compromising sexual functioning. One can assume that because of the life-threatening nature of cancer, sexual activity is not important to patients and their partners, but this is not true. Prostate cancer has become the most common non-skin malignant neoplasm in older men in Western countries. In this paper, we discuss the various methods used to evaluate erectile and sexual dysfunction and the definition of potency. Data on the etiology of erectile dysfunction after external-beam radiotherapy for prostate cancer is reviewed, and the literature is been summarized. Patients should be offered sexual counseling and informed about the availability of effective treatments for erectile dysfunction, such as sildenafil, intracavernosal injection, and vacuum devices. Cancer affects quality of life and sexual function. The challenge for oncologists is to address this with compassion.Sexual dysfunction and prostate cancer are common among older men. Few studies explored the association between these two illnesses. We examined whether sexual function is associated with prostate cancer risk among older men. Among 448 men undergoing prostate biopsy at the Durham Veterans Affairs Hospital, sexual function was ascertained from the Expanded Prostate Cancer Index Composite sexual assessment. We tested the link between sexual function and prostate cancer risk adjusting for multiple demographic and clinical characteristics using logistic regression. Multinomial logistic regression was used to test the associations with risk of low-grade (Gleason $\leq$6) and high-grade (Gleason $\geq$7 or $\geq$4 + 3) disease versus no cancer. Of 448 men, 209 (47%) had a positive biopsy; these men were less likely to be white (43% vs 55%, P = 0.013), had higher prostate-specific antigen (PSA) (6.0 vs 5.4 ng ml-1 , P < 0.001), but with lower mean sexual function score (47 vs 54, P = 0.007). There was no difference in age, BMI, pack years smoked, history of heart disease and/or diabetes. After adjusting for baseline differences, sexual function was linked with a decreased risk of overall prostate cancer risk (OR: 0.91 per 10-point change in sexual function, P = 0.004) and high-grade disease whether defined as Gleason $\geq$7 (OR: 0.86, P = 0.001) or $\geq$4 + 3 (OR: 0.85, P = 0.009). Sexual function was unrelated to low-grade prostate cancer (OR: 0.94, P = 0.13). Thus, among men undergoing prostate biopsy, higher sexual function was associated with a decreased risk of overall and high-grade prostate cancer. Confirmatory studies are needed.Objective: To characterize the sexual function of both prostate cancer patients and their partners, and to examine whether associations between sexual dysfunction and psychosocial adjustment vary depending on spousal communication patterns.Background: The proportion of people living with and surviving cancer is growing. This has led to increased awareness of the importance of quality of life including sexual function in people with cancer. Sexual dysfunction (SD) is a potential long-term complication of cancer treatments.Purpose: Prostate cancer has become the most common nonskin malignant neoplasm in older men in Western countries. As treatment efficacy has improved, issues related to posttherapy quality of life and sexual functioning have become more important.Purpose: The most prevalent intervention for localized prostate cancer (pca) is radical prostatectomy (rp), which has a 10-year relative survival rate of more than 90%. The improved survival rate has led to a focus on reducing the burden of treatment-related morbidity and improving the patient and partner survivorship experience. Post-rp sexual dysfunction (sdf) has received significant attention, given its substantial effect on patient and partner health-related quality of life. Accordingly, there is a need for sdf treatment to be a fundamental component of pca survivorship programming.Purpose of review: Evolution in the management of prostate cancer includes increased attention being paid to patient quality of life after treatment, specifically with issues related to sexual function. Erectile dysfunction is one of the major concerns of patients undergoing treatment for prostate cancer. There are several recognized factors that determine the postoperative incidence of erectile difficulties, including patient age, degree of cavernosal nerve sparing during surgery, cancer stage, and associated vascular comorbidities. Early initiation of rehabilitation protocols after radical prostatectomy has been advocated to promote the speed and degree of recovery of erectile function. The aim of this communication is to review recent initiatives in erectile dysfunction restoration after prostate cancer therapy.Prostate cancer diagnosis and treatment adversely affect quality of life for most men. The true

incidence of erectile dysfunction (ED) after prostate cancer therapy is unknown, and the rates of ED in radical prostatectomy (RP) and radiation groups are similar, although the onset of ED is often later in patients treated with radiation therapy. Proposed pathophysiological mechanisms of ED include neurovascular injury, local inflammatory changes, damage to nearby supporting structures, cavernosal smooth muscle hypoxia with ensuing smooth muscle apoptosis and fibrosis, and corporal veno-occlusive dysfunction causing venous leakage. Penile rehabilitation aims to help men regain the ability to achieve erections sufficient for satisfactory sexual intercourse during rehabilitation from prostate cancer treatment, and ultimately to return to pretreatment erectile function. While there is no consensus on the ideal rehabilitation regimen, many sexual health experts agree that treatment should start as soon as possible to protect and/or prevent corporal endothelial and smooth muscle damage. Current management strategies for erectile function rehabilitation predominantly relate to patients who have had RP. Phosphodiesterase type 5 inhibitors, intracavernosal injection of vasoactive agents and vacuum erection devices are options which can be used in a rehabilitation program. Penile implants should be considered if patients do not respond to medical therapies. To facilitate informed decision making, patients should be presented with all treatment options, and told that rehabilitation and treatment for ED as early as possible after prostate cancer therapy will result in faster and better recovery of erectile function and preserve sexual continuity.Introduction: All treatments for prostate cancer have a negative impact on sexuality. The objective of this review is to highlight recent developments in the management of sexual dysfunction associated with prostate cancer.Objective: To present an overview of the issues related to the sexual well-being of people affected by prostate cancer and their partners, and propose ways to manage and address these by oncology nurses and the wider multi-disciplinary team.Purpose of review: Although no standard management of erectile dysfunction in prostate cancer (CaP) survivors exists, many treatment options are available. This review summarizes the current understanding of the cause and management of erectile dysfunction in CaP survivors.Objective: To assess urology residents' current knowledge, practice, previous training, barriers, and training needs regarding prostate cancer treatment-related sexual dysfunction.Prostate cancer is the most common solid cancer in men and the second leading cause of cancer death in men. A favored treatment option for organ-confined prostate cancer in a middle-aged healthy man is radical prostatectomy (RP). Despite advances in techniques for RP, there remain concerns among physicians and patients alike on its adverse effects on sexual function. Although post-RP erectile dysfunction has been extensively studied, little attention has been focused on the other domains of sexual function, namely loss of libido, ejaculatory dysfunction, orgasmic dysfunction, penile shortening, and Peyronie disease. The aim of this review is to discuss the most recent literature regarding post-RP sexual dysfunctions.Erectile dysfunction is a common sequela following potentially curative local treatment for early-stage carcinoma of the prostate gland. With larger studies and longer follow-up, it is clear that erectile dysfunction following prostate brachytherapy is more common than previously reported, with a myriad of previously unrecognized sexual symptoms. Approximately 50% of patients develop erectile dysfunction within 5 years of implantation. Several factors including preimplant potency, patient age, the use of supplemental external-beam irradiation, radiation dose to the prostate gland, radiation dose to the bulb of the penis, and diabetes mellitus appear to exacerbate brachytherapy-related erectile dysfunction. The majority of patients with brachytherapy-induced erectile dysfunction respond favorably to sildenafil citrate (Viagra). Despite reports questioning the potency-sparing advantage associated with brachytherapy, recent elucidations of brachytherapy-related erectile dysfunction may result in refinement of treatment techniques, an increased likelihood of potency preservation, and ultimately, improved quality of life.Purpose: This study aimed to highlight the biopsychosocial recommendations provided to prostate cancer survivors and their partners during sexual rehabilitation.Purpose: To evaluate the sexual functions of prostate cancer patients receiving radiotherapy (RT) with curative intent.Almost any diagnosis of cancer, but particularly those primarily affecting areas related to sexual function, can lead to sexual impairment. Multiple phases of sexuality are impacted, and various dysfunctions result. Both biological and psychosocial mechanisms are involved in sexual difficulties after cancer. This chapter principally focuses on the detrimental effects of breast, cervical, vulvar, ovarian, prostate and testicular cancer on the sexual health of survivors. When applicable, pharmacologic and psychosocial treatment for sexual dysfunction is discussed.Erectile dysfunction (ED) following prostate cancer therapy is a common condition that is well documented in literature. Despite the significant focus placed on ED and prostate cancer, very little is known regarding the baseline prevalence of other aspects of sexual dysfunction (SD) in this specific cohort of patients. The objective of the current manuscript was to assess the prevalence of subtypes of SD, including ED,

ejaculatory dysfunction (EjD) and decreased libido among men with newly diagnosed prostate cancer. To achieve this objective, patients presenting to our clinic with a new diagnosis of prostate cancer from July 2011 and May 2012 completed the Male Sexual Health Questionnaire (MSHQ) to assess baseline sexual function. A total of 60 patients completed an MSHQ, with a mean age of 60.28 ± 6.25 (range 44-73 years). Of patients surveyed, 14% reported no sexual activity within the previous month, while 53% had sex at least once weekly. The percentage of patients reporting ED, EjD and decreased sexual desire ≥50% of the time was 37, 26 and 48% respectively. Eleven to 18% of patients reported that these symptoms were 'very' or 'extremely' bothersome. Patients noted dissatisfaction with the quality of their sexual relationship, frequency of sexual activity and quality of sex in 18, 31 and 20%, respectively. Overall findings suggest that patients with newly diagnosed prostate cancer experience a high rate of SD at baseline. Knowledge of these prevalence rates may assist physicians managing patient's expectations with planned therapies.Introduction: With earlier prostate cancer (PCa) diagnosis and an increased focus on survivorship, post-treatment sexual quality of life (QoL) has become increasingly important. Research and validated instruments for sexual QoL assessment based on heterosexual samples have limited applicability for men-who-have-sex-with-men (MSM).Background: Prostate cancer is the most common non-skin cancer in men and sexual dysfunction is the most frequently reported long-term side effect of prostate cancer surgery or radiation. The aim of this study was to examine the experiences of men with sexual dysfunction and their partners following prostate cancer treatment.Objectives: Although detrimental impact on sexual function following radiotherapy (RT) and brachytherapy decreases the quality of life of prostate cancer survivors, the etiology, pathophysiology, prophylaxis and treatment of this condition has not yet been fully clarified. We reviewed the published literature in terms of etiology, treatment and possible prevention of erectile dysfunction (ED) following RT and/or brachytherapy.Receiving a diagnosis of and treatment for prostate cancer often results in significant physical side-effects and associated psychosocial stressors that can interfere with the experience of sexual intimacy for couples. Despite the fact that prostate cancer affects mainly older men, the maintenance of sexual intimacy is an important issue to consider, as the majority of older adults continue to value, engage in, and enjoy sexual activity throughout their lives. While the current research identifies the challenges that many men face, little is known about the strategies that couples use to successfully maintain sexual intimacy after prostate cancer treatment. In this review article, the existing literature on sexual intimacy after prostate cancer is reviewed, a critical analysis of current limitations in our knowledge and understanding is provided, and directions for further research are suggested.Background: Sexual dysfunction is the most common and most distressing consequence of prostate cancer (PCa) treatment and has been shown to directly affect the sexual function and quality of life of survivors' partners. There are currently no established therapies to treat the emotional and psychological burden that sexual issues impose on the couple after PCa.Introduction: Although previous research has evaluated the effectiveness of psychosocial interventions for men with prostate cancer, no previous review has investigated the effects of psychosocial interventions on both sexual and relationship functioning.Aim: The involvement of various penile structures in radiotherapy (RT)-induced sexual dysfunction among prostate cancer survivors remains unclear and domains beyond erectile dysfunction such as orgasm, and pain have typically not been considered. The purpose of this study was to investigate sexual dysfunction post-RT for localized prostate cancer and to examine whether radiation dose to different penile structures can explain these symptoms.Prostate cancer is the most prevalent non-cutaneous cancer in men worldwide. As a result of increased survival rates, men and their partners are living longer with the sexual sequelae of active treatments for prostate cancer, including surgery, radiotherapy and hormone therapy. The effect of erectile dysfunction on the patient and his partner is complex; many men experience psychosocial effects influenced by their hegemonic masculine beliefs. Some men experience difficulties in addressing their needs and require support while they attempt to reframe their beliefs about masculinity. The PLISSIT model can be used to guide healthcare practitioners in assessing and addressing the needs of this group of patients. The man's partner should be included in assessment and interventions where appropriate.Purpose of review: The estimated disease-free survival rates are approximately equivalent across standard treatments for localized prostate cancer. We aim to review the efforts being made to reduce posttreatment erectile dysfunction, a major morbidity of these therapies.Purpose of review: The considerable prevalence of sexual health problems in men after cancer treatment coupled with the severity of impact and challenges to successful intervention make sexual dysfunction one of the most substantial health-related quality of life burdens in all of cancer survivorship. Surgeries, radiation therapies, and nontreatment (e.g., active surveillance) variously result in physical disfigurement, pain, and disruptions

in physiological, psychological, and relational functioning. Although biomedical and psychological interventions have independently shown benefit, long-term, effective treatment for sexual dysfunction remains elusive.Half of patients with inflammatory bowel disease (IBD) are men, yet less attention has been focused on their sexual issues despite higher rates of sexual dysfunction and infertility than the general population. Depression and IBD disease activity are the most consistently reported risk factor for sexual dysfunction among men with IBD. Methotrexate and sulfasalazine have been rarely associated with impotence. Sulfasalazine reversibly reduces male fertility. No other medications used in IBD significantly affect fertility in humans. There is no increase in adverse fetal outcomes among offspring of fathers with IBD. Patients with IBD seem to be at a higher risk for prostate cancer; therefore, screening as recommended for high-risk patients should be considered.Introduction: Men with advanced prostate cancer (APC) undergoing androgen deprivation therapy (ADT) often experience distressing sexual side effects. Sexual bother is an important component of adjustment. Factors associated with increased bother are not well understood.Study Type - Outcomes (cohort sample) Level of Evidence 2b. What's known on the subject? and What does the study add? The study compares the sexual function of men with low-risk prostate cancer who chose active surveillance (expectant management) with similar men who received radiation therapy or radical prostatectomy. The first group appeared to be sexually active more frequently and had less erectile dysfunction. The study was non-randomized. No other studies exist on the effect of active surveillance on sexual function vs other treatment methods.Sexual dysfunctions are a quality of life main concern following prostate cancer treatment. After both radiotherapy and brachytherapy, sexual function declines progressively, the onset of occurrence of erectile dysfunction being 12-18 months after both treatments. The pathophysiological pathways by which radiotherapy and brachytherapy cause erectile dysfunction are multifactorial, as patient comorbidities, arterial damage, exposure of neurovascular bundle to high levels of radiation, and radiation dose received by the corpora cavernosa at the crurae of the penis may be important in the aetiology of erectile dysfunction. Diagnosis and treatment of postradiation sexual dysfunctions must integrate pretherapeutic evaluation and information to provide to the patient and his partner a multidisciplinary sexual medicine management.Erectile dysfunction is a common side-effect of prostate cancer surgery that causes men suffering and hinders their sexual recovery. There are studies that describe men's and partners' distress and couples' difficulties engaging in sexual recovery. A few studies show a short-term benefit of brief psycho-social interventions such as psychoeducation and counseling. However, there is no conceptual framework to guide psychosocial treatments. We propose a model of intervention in sexual recovery that incorporates grief and mourning as a gateway to new and satisfying sexuality after prostate cancer treatment.Objectives: To establish current uro-oncology practice in the management of sexual dysfunction (SD) following radiotherapy (RT) and/or androgen deprivation therapy (ADT) to treat prostate cancer. To identify differences in approach to the management of SD according to disease stage.Background: Management options for localized prostate cancer include radical prostatectomy, external radiation therapy, brachytherapy, and watchful waiting. Improvements in treatment techniques have resulted in fewer side effects. Nevertheless, long-term complications such as erectile dysfunction (ED) continue to affect a significant percentage of men treated for prostate cancer and can have a distressing and debilitating effect on the patient's quality of life.Satisfaction with sex life is a patient-centered, attainable sexual health outcome after prostate cancer treatment. Its achievement combines the necessary components of erectile dysfunction prevention and treatment and reliance on patients' and partners' psychosocial strengths, regardless of either partner's sexual function.Background: Men with prostate cancer often experience urinary and sexual dysfunction after treatment. Previous studies have demonstrated a relationship between dietary factors and these symptoms among men with diabetes or metabolic syndrome. However, there are limited data on whether diet after prostate cancer diagnosis, including a Mediterranean dietary pattern, affects urinary and sexual function among prostate cancer survivors.As patients live longer after cancer diagnosis and treatment, attention to symptoms and quality of life (QoL) are of increasing importance both during treatment and throughout survivorship. Two complications of multi-modal cancer treatment that can profoundly affect both men and women are sexual dysfunction and infertility. Survivors at highest risk for treatment-related sexual dysfunction are those with tumors that involve the sexual or pelvic organs and those whose treatment affects the hormonal systems mediating sexual function. Sexual dysfunction may not abate without appropriate intervention. Therefore, early identification and treatment strategies are essential. Likewise, multiple factors contribute to the risk of infertility from cancer treatment and many cancer patients of reproductive age would prefer to maintain their fertility, if possible. Fortunately, advances in reproductive technology have created options for young newly

diagnosed patients to preserve their ability to have a biologic child. This paper will focus on the sexual and reproductive problems encountered by cancer survivors and discuss some treatment options.Objective: To assess erectile dysfunction in patients with prostate cancer undergoing surgery by radical prostatectomy, laparoscopic prostatectomy or robotic prostatectomy.Objective was to investigate content of written information material and availability of sexual health care for men experiencing sexual dysfunction (SD) after prostate cancer treatment. A cross-sectional survey was conducted among Dutch urology and radiotherapy departments to evaluate information materials and availability of sexual health care. Out of 71 eligible departments, 34 urology and 15 radiotherapy departments participated in the survey (response rate 69.0%). Fifty-nine brochures corresponding to 31 urology and 11 radiotherapy departments were analysed. In 88.1% of collected information material, sexual health was mentioned. Regarding extensiveness, 20.4% of the brochures contained extensive information, 50.8% moderate amount of information and 28.8% contained little or no information. Urology departments provided pre-treatment nurse consultations more often than radiotherapy departments. Sexual counselling was more frequently provided by urology departments. Urology departments were more aware of adequate referral possibilities. Information material provided by Dutch urology and radiotherapy departments does not address treatment-related SD routinely. Sexual health care is not available everywhere for men experiencing SD. Applying a standard regarding content of sexual health in information material is recommended as well as improved awareness of referral possibilities and enhanced provision of pre-treatment nurse consultations for men experiencing SD after prostate cancer treatment.Prostate cancer treatment decision making requires complex trade-offs among treatment outcomes, and sexual function is a central consideration for most men. Although sexual function is included in prostate cancer decision models, survival and fear of recurrence and cancer progression weigh more heavily in these decisions for many men than concerns about treatment impact on sexuality. In this article, we discuss the importance of sexuality in men's treatment decisions for prostate cancer. We focus on men's preferences for maintaining sexual function and their needs for information about the risk of sexual side effects with prostate cancer treatment. Our review suggests that among men diagnosed with prostate cancer sexual function is less important to men than concerns about survival, but is more highly valued than other side effects and treatment characteristics. However, there is evidence that concerns about sexuality are not in proportion with the associated risk for sexual problems with prostate cancer treatment and men acknowledge unmet needs for information about sexuality in making prostate cancer treatment decisions.Introduction: Sexual function can be impaired by all prostate cancer treatment modalities, but studies specifically addressing the impact of stereotactic body radiotherapy (SBRT) on sexual function are scarce.Development in the management of prostate cancer has placed increased attention on patient quality of life after treatment, particularly sexual function. The incidence of erectile dysfunction (ED) in men following radical prostatectomy has been estimated to range from 16% to 82%. Several factors determine the postoperative incidence of erectile difficulties; these include patient age, degree of cavernosal nerve sparing during surgery, cancer stage, and associated comorbidities. Early initiation of available treatments after radical prostatectomy, such as phosphodiesterase-5 (PDE-5) inhibitors and intracavernosal alprostadil, may improve the speed and degree of recovery of erectile function. Oral PDE-5 inhibitors are recognized as the first line of therapy for men with ED after radical prostatectomy, with reasonable success rates reported for all commercially available PDE-5 inhibitors. In recognition of the neurogenic basis for erectile dysfunction after radical prostatectomy, new strategies have been devised, such as cavernous nerve graft interposition procedures, perioperative neuroprotection measures, and postoperative neurotrophic treatments. Hopefully, these efforts will improve quality of life for patients with prostate cancer. The aim of this article is to review the current modalities of ED management for men with prostate cancer.Background: Sexual dysfunction might be symptomatic of cancer spreading beyond the prostate by local invasion, a mechanism of tumour progression associated with prognosis. Conversely, among men with raised prostate-specific antigen (PSA) levels, a negative association might be expected if sexual dysfunction was symptomatic of benign, rather than malignant, prostatic disease.Background: Despite being a critical survivorship care issue, there is a clear gap in current knowledge of the optimal treatment of sexual dysfunction in men with prostate cancer. There is sound theoretical rationale and emerging evidence that exercise may be an innovative therapy to counteract sexual dysfunction in men with prostate cancer. Furthermore, despite the multidimensional aetiology of sexual dysfunction, there is a paucity of research investigating the efficacy of integrated treatment models. Therefore, the purpose of this study is to: 1) examine the efficacy of exercise as a therapy to aid in the management of sexual dysfunction in men with prostate cancer; 2) determine if combining

exercise and brief psychosexual intervention results in more pronounced improvements in sexual health; and 3) assess if any benefit of exercise and psychosexual intervention on sexual dysfunction is sustained long term.The goal of this research was to better understand the impact of prostate cancer and its treatment on a broad range of aspects of men's sexual well-being. Interviews were conducted with 19 men. The men ranged in age from 49 to 74 years and were 1 to 5 years posttreatment. Our results suggest that some but not all aspects of men's sexual well-being are affected by treatment for prostate cancer. Further, the specific aspects that were affected as well as their emotional impact varied considerably from individual to individual. Most of the men reported that, prior to diagnosis and treatment, they engaged in regular sexual activity and that they had been satisfied or very satisfied with their sexual relationship. Following treatment, most (but not all) of the men reported no change in the amount and type of affection expressed, the quality of their romantic relationship, their self-concept as a man, or their sexual desire. In contrast, nearly all of the men described negative changes that were distressing to them in erections, orgasmic consistency, and sexual satisfaction. Further, most of the men believed that their sex life was over due to their erectile difficulties and so had stopped engaging in any sexual activity with their partner, although one third of them continued to masturbate. Five themes emerged with respect to factors that either contributed to or buffered the emotional impact of these changes: partner responses to changes in sexual functioning, effectiveness of medical treatments, communication with their partner about sexual functioning, acceptance of or resignation to sexual changes, and communication with physicians about sexual functioning. Finally, most participants felt that the health care system did not respond adequately to their needs. These results are discussed with respect to the importance of facilitating sexual communication between partners and between patients and health care providers.Many patients with prostate cancer experience severe levels of depression, which can negatively affect their treatment and disease course. Some prostate cancer treatments can increase the severity of a patient's depression, for example, by increasing anhedonia and erectile dysfunction. Depression is often thought of as a unitary phenomenon, but multiple subtypes can be distinguished. This variety of manifestations challenges the successful application of universal antidepressant treatment options and argues for a multi-symptom assessment process that considers a patient's disease burden and their particular form of depression. Inclusion of screening and detailed diagnosis of depression can be argued to be part of good practice, and clinicians are urged to consider when and how this might be accomplished within their urological practice.At present, a significant proportion of patients with prostate cancer are diagnosed at an early stage and may receive treatments able to bring about the long-term control of the disease. Thus, the impact of available treatments on the patient's quality of life has been gaining increasing importance; for patients with prostate cancer, counselling on the treatment-related effects on sexual function has become mandatory. Radical prostatectomy is very frequently performed in patients with clinically localized prostate cancer. Postoperative erectile function has been reported as being satisfactory in the majority of the patients operated on in centers of excellence for this procedure. However, overall, the results for postoperative potency are disappointing in view of the large amounts of data available from community practices. Attempts to improve postoperative potency include the intraoperative use of cavernous nerve stimulation and grafting of peripheral nerves to restore the innervation of the corpora cavernosa. Erectile dysfunction has also been associated with prostate radiotherapy. It has been shown that both ultrasound-guided brachytherapy and three-dimensional conformal radiation therapy cause an impairment of erectile function that is usually seen some time after the completion of therapy. Treatment with sildenafil citrate remains a viable option both for patients treated with radical prostatectomy (in whom the cavernous nerve function is at least partially present) and in patients treated with radiotherapy.Purpose of review: Erectile dysfunction has a major impact on quality of life. Treating sexual dysfunction after cancer treatment requires special concern because of specific medical, psychological and social factors. This article presents the relevant experimental and clinical recent literature on rehabilitation of erectile function after surgery, external beam radiotherapy, brachytherapy or hormonal deprivation therapy for prostate cancer as it is the most studied model for erectile dysfunction management.Background: The needs of gay men after prostate cancer treatment are becoming visible. This patient group reports a more negative impact of treatment than heterosexual men. Yet, gay men's experiences of post-treatment sexual changes are still little explored. This study aims to determine specific concerns of gay men's post-treatment sexual practices. Methods: A qualitative study design was deployed using semi-structured interviews as data. Participants were purposefully sampled through advertisements and the snowball method. Eleven self-identifying gay men aged 58-81 years and treated for prostate cancer participated in interviews during 2016-2017. The

interviews were transcribed, coded and thematically analysed. Results: The analysis highlights sexual changes in relation to the physical body, identity and relations. Problematic physical changes included loss of ejaculate and erectile dysfunction. Some respondents reported continued pleasure from anal stimulation and were uncertain about the role of the prostate. These physical changes prompted reflections on age and (dis)ability. Relationship status also impacted perception of physical changes, with temporary sexual contacts demanding more of the men in terms of erection and ejaculations. Conclusions: Gay prostate cancer survivors' narratives about sexual changes circle around similar bodily changes as heterosexual men's, such as erectile problems and weaker orgasms. The loss of ejaculate was experienced as more debilitating for gay men. Men who had anal sex were concerned about penetration difficulties as well as sensations of anal stimulation. Additional studies are required to better understand the role of the prostate among a diversity of men, regardless of sexuality.Introduction: An increasing number of patients with prostate cancer (PC) are diagnosed and treated. The aim of this study was to investigate urinary incontinence (UI) and sexual dysfunction (SD) two years after treatment for localized prostate cancer (PC).Improvements in the management of prostate cancer have increased the need to consider patients' quality of life, in particular in relation to sexual function. The causes of sexual dysfunction are varied and derive from both the condition and its management. Health professionals must choose their treatment strategies with great care. Patient expectations must be understood, and patients should be offered counselling, as an understanding of what can reasonably be expected contributes to patients' perception of their quality of life. There are few studies on sexual dysfunction in patients with prostate cancer. A first step would be to develop reliable questionnaires for the assessment of the problem. This article describes and discusses the findings of one such recently developed questionnaire. When baseline measures of sexual function have been established and the extent of sexual dysfunction in patients with prostate cancer is reliably quantified, large multicentre trials can be performed to evaluate the impact of different therapies on sexual function and quality of life. Sexual dysfunction is an area which will be of increasing importance to urologists who manage prostate cancer and one that should not be underestimated.Introduction: Sexual dysfunction is common in patients after radical prostatectomy (RP) for prostate cancer.Objective: To assess the association of lower urinary tract symptoms (LUTS) with sexual function, and estimate the correlates of LUTS among Japanese and American men with localized prostate cancer.This article updates the findings of the Prostate Cancer Prevention Trial (PCPT) based on recent publications and reviews of the PCPT. New evidence shows that finasteride reduces the overall risk of prostate cancer by 30% and reduces the risk of clinically significant prostate cancer, including high-grade tumors. For tumors with Gleason scores of < or = 6, men in the finasteride arm had a relative risk reduction (RRR) of 34% (RR, 0.66; 95% CI, 0.55-0.80; P < or = 0.0001); tumors with Gleason scores of > or = 7 had an RRR of 27% (RR, 0.73; 95% CI, 0.56-0.96; P = 0.02). The effect of finasteride on sexual function appears to be minimal as men on finasteride had an average 3.21 point increase on the 100 point Sexual Activity Scale compared with men on placebo. With an excellent safety profile and minimal side effects, men aged 55 years or older should be informed of the opportunity to reduce their risk of prostate cancer with finasteride.Prostate cancer is a highly prevalent disease with a high likelihood of survival. If treated, survivors live with significant and lasting treatment-related side effects. Surgical treatment is associated with urinary incontinence and erectile dysfunction, and radiation leads to urinary and bowel irritability as well as erectile dysfunction. Patients who undergo hormonal treatment cope with sexual dysfunction, bone density loss, hot flashes, mood symptoms, and cardiac and metabolic disorders. Functional losses have a significant impact on patients and their partners' quality of life and are associated with distress and psychosocial morbidity. Psychosocial treatment is largely unavailable in usual care, but has been shown to reduce distress, to increase positive reappraisal of the illness, and to contribute to the recovery of sexual intimacy. Treatment for grief and mourning, typical reactions to loss, has not been introduced into psychosocial interventions but is increasingly recognized as a path toward a 'new normal' after prostate cancer treatment.Purpose: The Expanded Prostate Cancer Index Composite is a validated health related quality of life instrument that is commonly administered after prostate cancer treatment. We classified Expanded Prostate Cancer Index Composite-Short Form sexual summary scores into clinically meaningful groups.Purpose of review: Androgen deprivation therapy (ADT) causes erectile dysfunction and increases patients' emotionality while diminishing their sexual interest. ADT has been linked to erosion of spousal bonds; however, this is not an invariant outcome. Understanding the factors that lead to these various outcomes may help couples deal with ADT.Prostate cancer is the most commonly diagnosed noncutaneous cancer in men in the United States. Treatment of men with prostate cancer

commonly involves surgical, radiation, or hormone therapy. Most men with prostate cancer live for many years after diagnosis and may never suffer morbidity or mortality attributable to prostate cancer. The short-term and long-term adverse consequences of therapy are, therefore, of great importance. Adverse effects of radical prostatectomy include immediate postoperative complications and long-term urinary and sexual complications. External beam or interstitial radiation therapy in men with localized prostate cancer may lead to urinary, gastrointestinal, and sexual complications. Improvements in surgical and radiation techniques have reduced the incidence of many of these complications. Hormone treatment typically consists of androgen deprivation therapy, and consequences of such therapy may include vasomotor flushing, anemia, and bone density loss. Numerous clinical trials have studied the role of bone antiresorptive therapy for prevention of bone density loss and fractures. Other long-term consequences of androgen deprivation therapy may include adverse body composition changes and increased risk of insulin resistance, diabetes, and cardiovascular disease. Ongoing and planned clinical trials will continue to address strategies to prevent treatment-related side effects and improve quality of life for men with prostate cancer.Assessment of sexual function following potentially curative local treatment for carcinoma of the prostate gland has resulted in wide ranges of potency preservation rates, which may be because of differences in the evaluated patient populations, mode of data collection, and length of patient follow-up. Quality-of-life data are most reliable when obtained by patient-administered and validated quality-of-life instruments. In the Schiffler Cancer Center's prostate brachytherapy unit, healthcare professionals utilize the specific erectile questions of the International Index of Erectile Function to ascertain pre- and post-treatment erectile function. Documentation of sexual function following all local treatments, including prostate brachytherapy, may help to clarify the etiology of treatment-induced erectile dysfunction (ED), improve treatment for ED, and, ultimately, improve quality-of-life outcomes. Fortunately, the majority of patients with brachytherapy-induced ED respond favorably to sildenafil citrate.Objective: There is a growing debate about the important determinants of sexual satisfaction in men. Some authors argue that men's sexual satisfaction correlates with physical functioning variables such as erection quality and ejaculatory time. Other authors have suggested that the limited literature indicates that men's sexual satisfaction is related to psychosocial variables such as relationship satisfaction, depression, or anxiety. This study is the first to our knowledge to explore this question in men with prostate cancer.Introduction: Sexual dysfunction is common in patients after radical prostatectomy (RP) for prostate cancer.Objectives: To examine the levels of sexual, psychological and dyadic functioning of the prostate cancer 'couple' (as studies have shown that spouses/partners play an integral role in the patient's adjustment to prostate cancer treatment), to encourage the creation of innovative psychosexual interventions to be used in the outpatient setting, and to offer insights into a novel area of prostate cancer research.Background: Neglected sexual side effects (NSSE) are a group of less common sexual side effects that may present after Prostate Cancer (PCa) treatment. There is currently no valid and reliable tool to identify these side effects. A modified Delphi study is an effective way of developing the content of such a screening tool.Purpose: Focal instead of whole gland ablation for prostate cancer has been proposed to decrease treatment morbidity. We sought to determine differences in erectile function and urinary continence after focal and whole gland ablation for prostate cancer.Background: To investigate the prevalence of premature ejaculation (PE) and erectile dysfunction (ED) in a sample of patients with prostate cancer and to determine the utility of the previously suggested cutoffs of the Premature Ejaculation Diagnostic Tool (PEDT) for the diagnosis of PE and that of International Index of Erectile Function (IIEF-5) for ED.While the cancer patient may be affected by sexual dysfunction throughout the entire course of the disease, sexual health is largely underevaluated and undertreated. Sexual problems should be anticipated and patients should be actively screened as they are unlikely to initiate discussion on sexual issues. Cancer-related sexual dysfunction may involve several components, and an understanding of the underlying etiologies is essential to tailoring the appropriate treatment to the individual patient. This article reviews the numerous factors potentially involved in male sexual dysfunction associated with a variety of cancers.Sexuality is an important component of emotional and physical intimacy that men and women experience through their lives. Male erectile dysfunction (ED) and female sexual dysfunction increase with age. About a third of the elderly population has at least one complaint with their sexual function. However, about 60% of the elderly population expresses their interest for maintaining sexual activity. Although aging and functional decline may affect sexual function, when sexual dysfunction is diagnosed, physicians should rule out disease or side effects of medications. Common disorders related to sexual dysfunction include cardiovascular disease, diabetes, lower urinary tract symptoms and depression. Early control of cardiovascular risk factors may improve

endothelial function and reduce the occurrence of ED. Treating those disorders or modifying lifestyle-related risk factors (eg obesity) may help prevent sexual dysfunction in the elderly. Sexuality is important for older adults, but interest in discussing aspects of sexual life is variable. Physicians should give their patient's opportunity to voice their concerns with sexual function and offer them alternatives for evaluation and treatment.Treatment modalities for prostate cancer include surgery, radiation therapy, and hormonal manipulation. Sexual dysfunction is a potential sequela of these treatments. Ideally, nursing interventions are begun before treatment is initiated. Pertinent questions enable nurses to elicit specific information needed to develop the patient's care plan. Sexual assessment strategies and interventions, such as the PLISSIT model, that can be implemented when caring for these patients are presented.Objectives: To evaluate whether the relationship between sexual desire and quality of life (QOL) is moderated by sexual functioning in 91 men who had received treatment for localized prostate cancer within the past 18 months.Introduction: Focal therapy has emerged as a promising treatment option for men with localised prostate cancer. However, most of the evaluation of postoperative function has taken place at a relatively high, non-granular level. Most of the data we use to provide informed consent for our patients is obtained from retrospective series, or derived from prospective studies whose primary outcome was oncological. Finally, most studies have focused on erectile function and overlooked other, presumably important, elements of male sexual function. The present study aims at studying in-depth the sexual consequences of focal therapy with various energy sources.A well-known side effect of prostate cancer treatment is erectile dysfunction. However, little is known about how men and their sexual partners think about the threat of erectile dysfunction prior to prostate cancer treatment. Twenty-one patients who had been diagnosed with early prostate cancer, but not yet treated, and 13 female partners of these men were recruited from two urologists' offices. In separate, semistructured individual interviews with men and their partners, thoughts about the threat of erectile dysfunction were solicited. Men's reactions to the possibility of losing their sexual capacity due to prostate cancer-related treatment were linked to their current level of sexual function. Women reacted to erectile dysfunction by stressing the existence of other relationship dimensions, whereas they were aware about the gravity of their male partners' feelings about potency. Finally, both men and women alike had concerns about the implications of erectile dysfunction on their relationship. Physicians advising men about treatment options should consider exploring men's current sexual function, thoughts about identity, and especially men's relationship situation. Physicians addressing these issues with men and their partners should provide resources for counseling.Background: There is a lack of prospective studies focusing on the sexual quality of life of prostate cancer patients after conformal radiotherapy (RT).Purpose: Cancer of the prostate (CAP) is one of the most common malignancies affecting North American men with about 215,000 new cases and 35,800 CAP related deaths annually. The most prevalent intervention for localized CAP is radical prostatectomy (RP) with 10-year survival rates approaching 90%. Studies of men in post-RP recovery indicate that 44% to 75% experience sexual dysfunction and more than 60% experience distress in reaction to sexual dysfunction problems. These findings are increasingly significant as prostate specific antigen testing continues to increase CAP detection rates, resulting in more and younger post-RP patients confronting sexual dysfunction.Aims and objectives: To investigate whether a symposium aimed at healthcare professionals in the uro-oncological field changes knowledge, competence and general practice regarding sexual dysfunction after prostate cancer treatment.The Sexual Distress Scale (SDS) can be used to assess sexual distress in women, men, and prostate cancer (PCa) survivors. Despite its strong psychometric properties, researchers and clinicians could benefit from a short form of the scale. Two studies were conducted to develop (Study 1) and validate (Study 2) a short form of the SDS (SDS-SF) using samples of women, men, and PCa survivors from previous studies. Results of Study 1 suggested a 5-item SDS-SF. Study 2 showed that the SDS-SF items clustered in one factor with good fit across the three samples and excellent reliability. Sexual distress was associated with higher sexual bother, and poorer sexual satisfaction, sexual function, and relationship quality. The SDS-SF discriminated participants with and without distressing sexual problems. The SDS-SF facilitates the assessment of sexual distress in clinical settings by providing a quick way of screening patients with high levels of sexual distress.The aim of this article is to selectively review the current research findings related to quality of life and prostate cancer. English-language journals indexed in MEDLINE, PubMed, and CINAHL published between 1999 and 2005 were searched for relevant articles using the following keywords: "quality of life and prostate cancer," "prostatectomy," "radiation therapy," "brachytherapy," "cryotherapy," or "androgen deprivation therapy." References in selected articles were reviewed for potentially relevant articles not identified through database searches. All treatment modalities have a

significant impact on quality of life for men with local or advanced prostate cancer. Alterations in sexual functioning cause the most significant impact on quality of life for men. Quality of life is decreased in both the short and long term for men with prostate cancer. Oncology nurses must be cognizant of the challenges that a diagnosis of prostate cancer presents to the man with prostate cancer and his partner. Patients should be fully informed of the potential for impact on quality of life with all treatment modalities, and the oncology nurse can play an important role in both providing this information and supporting the patient when quality of life is impacted.The use of assistive aids in sexual rehabilitation after prostate cancer (PCa) was examined in 124 gay, bisexual, and other men who have sex with men (GBM) and 225 heterosexual men. GBM were significantly more likely to use assistive aids (79% versus 56%), to try multiple assistive aids (M = 1.65 versus M = 0.83) including medication, penile injection, penile implant, vacuum pump, and nonmedical sex aids, and to seek information about sexual rehabilitation on the Internet, through counseling, or in a support group. There were no differences between the groups in satisfaction with the use of assistive aids. However, use of aids was a significant negative predictor of sexual functioning for GBM and a significant positive predictor for heterosexual men. Interview accounts described satisfaction with assistive aids in terms of maintaining erectile functioning and relationships. The majority of men in the study also described hindrances, both physical and social, resulting in discontinuation of assistive aids, including perceived artificiality, loss of sexual spontaneity, side effects, failure to achieve erectile response, cost, and lack of access to information and support. It is concluded that the specific needs and concerns of GBM and heterosexual men regarding sexual rehabilitation after PCa need to be addressed by clinicians.Purpose: Little empirical research identifies environmental influences on sexual recovery of men with prostate cancer. This secondary qualitative analysis aimed to describe the role of the patients' environment on their sexual recovery process following prostate cancer surgery.Background: Prostate cancer survivors' post-surgery sexual problems are well documented and long lasting. Partners' distress in this context leads to psychological morbidity which is poorly understood. Given the prevalence of prostate cancer diagnoses in older men, partners' distress represents a public health concern. This study elucidates an important aspect of partners' distress which has hitherto been undocumented. It can lead to further research and health-care provisions that will support couples in prostate cancer survivorship towards improved mental health and health outcomes.Objectives: The adverse sexual effects of androgen deprivation therapy (ADT) on men with prostate cancer have been well described. Less well known is the relative degree of sexual dysfunction and bother associated with ADT compared to other primary treatment modalities such as radical prostatectomy. We sought to describe the trajectory and relative magnitude of changes in sexual function and bother in men on ADT and to examine demographic and clinical predictors of ADT's adverse sexual effects.The number of patients diagnosed with prostate cancer was estimated to be 192,000 in 2009 according to the American Cancer Society. The prevalence of reported erectile dysfunction after radical prostatectomy has significant variance. Among the studies in which the nerve-sparing status was described, erectile function recovery adequate for sexual intercourse was achieved in 50% of patients. This article reviews the animal and human studies in this field and provides a useful penile rehabilitation algorithm.Objective: To explore perceptions of the impact of erectile dysfunction on men who had undergone definitive treatment for early nonmetastatic prostate cancer.Objective: To help guide individualized treatment, we sought to identify baseline predictive factors that impact long-term erectile function following high-dose image-guided radiotherapy (HD-IGRT).Prostate cancer survivors appear to have higher rates of seeking medical help for erectile dysfunction (ED) than other cohorts of sexually dysfunctional men; however, factors associated with help-seeking for ED after prostate cancer have not been investigated. A group of 1,188 men with ED after prostate cancer responded to a postal survey about their sexuality, including a new questionnaire developed to measure traditional masculine attitudes about sex that could inhibit help-seeking. Respondents had a mean age of 68 years and were an average of 4.3 years postdiagnosis of cancer. At the time of the survey, 46% had sought medical help for ED since their cancer treatment and 44% intended to seek help in the next year. A hierarchical backward selection logistic regression analysis was performed to determine factors correlated with seeking help for ED after prostate cancer. Blocks of factors were entered in to the analysis in order. Factors significant within each step were retained when calculating a final model. Out of 37 factors entered into the model, three retained significance: Men who sought help for ED were more likely to have had a prostate cancer treatment designed to spare sexual function and reported higher distress about postcancer ED. Even with all other factors taken into account, men who had more positive attitudes on the Help-Seeking Questionnaire were significantly more likely to have sought help for ED. A second logistic regression analysis examined correlates of

intent to seek help for ED within the next year. Out of 38 factors entered into the analysis, six retained significance in the final model: Men intending to seek help had been treated more recently for their prostate cancer, were more dissatisfied with their sexual function, had higher levels of distress about postcancer ED and loss of sexual desire, and were more likely to have sought help for ED even before their prostate cancer was diagnosed. Even with these factors taken into account, positive attitudes on the Help-Seeking Questionnaire were significantly associated with help-seeking intentions. These results suggest that cognitive-behavioral interventions designed to challenge men's negative beliefs about seeking help for ED could potentially increase help-seeking behavior.Purpose: Existing questionnaires assessing sexual function after prostate cancer (PCa) were developed in predominantly heterosexual male cohorts and may measure function incompletely in gay men. We sought to determine if there are sexual function domains relevant to gay men that are not captured by the Expanded Prostate Cancer Index Composite (EPIC) sexual function assessment. Methods: Fifty-three gay men with PCa responded to an online survey regarding the applicability of the sexual function domain in the validated EPIC questionnaire. They were then queried about whether the prostate is a source of sexual pleasure and the importance of measuring sexual satisfaction as it relates to receptive anal intercourse. Results: A majority of gay men with PCa found the EPIC sexual function tool to be applicable when measuring erectile function (76.5%). Of the men queried, 64.2% felt that the prostate is a source of sexual pleasure and 52.8% felt it important to measure sexual satisfaction associated with receptive anal intercourse. A larger proportion of gay men who engaged in receptive anal intercourse, compared with those who did not engage in receptive anal intercourse, felt that the prostate is a source of sexual pleasure (100% vs. 57.1%), and thought it important to measure sexual satisfaction as it relates to receptive anal intercourse after PCa treatment (90.0% vs. 45.2%). Conclusions: Our findings highlight the need to create a validated questionnaire to measure sexual satisfaction from receptive anal intercourse to help care for men engaging in receptive anal intercourse after PCa treatment.Purpose: Neutrophil-to-lymphocyte ratio (NLR), a marker for subclinical inflammation, has been previously shown to be associated with erectile dysfunction (ED). We studied the potential predictive value of the NLR on ED after prostate brachytherapy (PB) for PCa.Objectives: To determine the rate of loss of potency after radiation therapy (RT).Objectives: To evaluate the potential association between sexual motivation and patterns of erectile dysfunction (ED) therapy among a large cohort of localized prostate cancer treatment survivors.Sexual recovery after prostate cancer (PCa) treatment is challenging. When expectations are that erectile response will quickly return to baseline, patients can often struggle when this does not happen. Further difficulty is experienced when patients encounter physical, psychological, and relational barriers to sexual adjustment. Drawing on the psychosocial research literature and on 15 years of clinical experience counseling PCa patients about sexual recovery, this paper outlines considerations for clinical practice. Suggestions include broadening the target for successful outcomes after Pca treatment beyond erectile function to include sexual distress and other sources of sexual concern. Clinicians are urged to consider individual differences such as the larger context of the patient, including their values and preferences, their treatment goals, and their relationship situation and status, in order to promote successful sexual adaptation. When introducing treatment approaches, the role of grief and loss should be assessed, and patients should be supported to foster realistic expectations about the recovery process. Suggestions for how to introduce various sexual strategies to patients are also offered, including ways to support patients in making and sustaining behavioral changes associated with sexual intervention. Clinicians are offered suggestions to promote patients' sexual flexibility, prevent long periods of sexual inactivity, and help patients to identify various sexual motivators. Consideration of these psychological, relational, and social factors are all likely to help facilitate better sexual outcomes for PCa patients.As part of a larger postal survey, 320 survivors of prostate cancer who reported they were likely to seek help in the next year for a sexual problem were interviewed by phone about their strategies for finding help and the types of treatment that would help resolve post-cancer sexual problems. In addition, 164 sexual partners (including 160 wives, three female partners in committed relationships, and one gay male partner) were interviewed. Educational materials were used by patients and partners to answer questions about sexual dysfunction but were less useful in helping to find professional referrals or in actually resolving sexual problems, particularly for African-American couples. Men's preferred method of finding help was to consult a urologist or prostate cancer specialist to find a medical treatment for erectile dysfunction. Ninety-one percent of men had already tried to find medical help for erectile dysfunction, but previous attempts remained unsuccessful. Men wanted an oral medication that would resolve their sexual problem naturally, without major side effects. Only 43% of men said their partners had encouraged

them to find help, and indeed a large minority of women had resigned themselves to having unsatisfying sex lives. These data suggest that including the partner in counseling about medical treatments for sexual function, and giving both men and partners realistic expectations about the limitations of existing treatments could boost the success of sexual rehabilitation after prostate cancer.Permanent prostate brachytherapy techniques are associated with excellent biochemical control for patients with localised prostate cancer. Ten-year data show that permanent prostate brachytherapy is compatible with external beam irradiation or radical prostatectomy. However, treatment protocols and techniques for prostate brachytherapy vary between centres and there is little conformity of treatment protocols. The selection of patients for monotherapy or combined external beam irradiation and brachytherapy is controversial. The role of neoadjuvant androgen deprivation also remains unanswered in patients with localised prostate cancer. In addition, post-implant dosimetry may in fact be more significant for predicting outcome than the addition of adjuvant therapies, and should be a requirement when performing prostate brachytherapy. Data now seem to support specific computed tomography (CT)-based criteria to evaluate implant quality and delivered dose to the prostate. Unfortunately, prostate oedema and poor imaging techniques are limiting factors for evaluating implant dosimetry. Treatment planning techniques that use new treatment planning computers may assist in improving the implant procedure and dosimetry and are now available.Background: There are multiple treatment options for men with localized prostate cancer that provide similar curative efficacy but differ in their impact on sexual functioning.Background: Androgen deprivation therapy (ADT) administered against metastatic prostate cancer has significant side effects including sexual dysfunction.When patients survive cancer, they eventually come back to their primary care physicians. This group has special needs, including surveillance for recurrent and new cancer, health promotion, and interventions to mitigate the lingering effects of the cancer and the adverse effects of its treatment.In a questionnaire study, men with prostate cancer (n = 155) or benign prostatic hyperplasia (n = 131) identified more sexual problems than did men from the general population (n = 129). Sexual dysfunction was acknowledged regarding sexual pleasure and attraction, erectile function and sexual satisfaction and sexual performance. Lowered rates of sexual desire, pleasure and attraction were found when comparing their situation in recollection of pre-treatment situation to the current situation. Lower intercourse frequency and sexual satisfaction were also found. Medication, masturbation and artificial aids to achieve erection were not used as substitutes for shortcomings of erectile function either by men with prostate cancer and benign prostatic hyperplasia nor by their partners. There seemed to be a lack of information about the illness and treatment consequences for sexual life, including what physical dysfunction to expect after surgery and also what possible help to expect to compensate for the shortcomings.Prostate cancer affects couples' sexual intimacy, but men rarely use recommended proerectile aids. This mixed-methods study aimed to identify couples' preprostatectomy barriers to sexual recovery. Interviews about anticipated sexual recovery were paired with surveys: the Dyadic Assessment Scale, the Protective Buffering Scale, the Expanded Prostate Cancer Index Composite, the Sexual Experience Questionnaire (men), and the Female Sexual Function Index. Potential barriers were derived using Grounded Theory. Quantitative data triangulated qualitative findings. Heterosexual couples (N = 28) participated. Men's average age was 62 years and their partners' average age was 58 years. Preexisting and diagnosis-related barriers included aging-related sexual dysfunction, inadequate sexual problem-solving skills, stressors, worry, avoidance of planning for sexual recovery, and dislike of artificially assisted sex. Participants endorsed moderate/high marital satisfaction (DAS: for men, M = 110.0, SD = 11.4; for partners, M = 114.1, SD = 12.1) and communication (PBS: for men, M = 24.5.2, SD = 6.1; for partners, M = 25.1, SD ± 6.2). Men reported mild erectile dysfunction and incontinence (EPIC sexual function M = 76.6, SD = 21.5, urinary incontinence M = 88.4, SD = 18.2). Men's couple sexual satisfaction was lowest (Sexual Experience Questionnaire: M = 60.1, SD = 26.9). Mean total Female Sexual Function Index was low (M = 21.6, SD = 7.8). Heterosexual couples face prostatectomy-related sexual side-effects having experienced developmental sexual losses. Couples use avoidant strategies to defend against worry about cancer and anticipated prostatectomy-related sexual changes. These potential barriers are modifiable if couples can learn to cope with sexual losses and accept sexual rehabilitation strategies.Objective: To evaluate erectile function after high-dose radiotherapy for prostate cancer using the International Index of Erectile Function, Expanded Prostate Cancer Index Composite, and stamp test.Purpose of review: Radical prostatectomy, regardless of the technology used intraoperatively, induces erectile dysfunction for most men who undergo the procedure. For many men, this proves to be transient. Penile rehabilitation strategies have been developed with the goal of increasing the probability and speed of return of sexual function. The

purpose of this work is to review the fundamentals of erectile dysfunction relevant to the postprostatectomy patient as well as the components that are often included in penile rehabilitation strategies.All treatments of prostate cancer have a negative effect on both sexuality and male fertility. There is a specific profile of changes in the fields of quality of life, sexual, urinary, bowel and vitality according to the treatment modalities chosen. Maintain a satisfying sex is the main concern of a majority of men facing prostate cancer and its treatment. It is essential to assess the couple's sexuality before diagnosis of prostate cancer in order to deliver complete information and to consider early and appropriate treatment options at the request of the couple. Forms of sexuality sexual preference settings stored (orgasm) may, when the erection is not yet recovered, be an alternative to the couple to maintain intimacy and complicity. In all cases, a specific management and networking will in many cases to find a satisfactory sexuality. Consequences of the treatment on male fertility should be part of the information of patients with prostate cancer and their partners. The choice of treatment must take into account the desire of paternity of the couple. A semen analysis with sperm cryopreservation before any therapy should be routinely offered in men with prostate cancer, particularly among men under 55, with a partner under 43 years old or without children. If the desire for parenthood among couples, sperm cryopreservation before treatment and medical assisted reproduction are recommended.Background: Over half of men who receive treatment for prostate suffer from a range of sexual problems that affect negatively their sexual health, sexual intimacy with their partners and their quality of life. In clinical practice, however, care for the sexual side effects of treatment is often suboptimal or unavailable. The goal of the current study is to test a web-based intervention to support the recovery of sexual intimacy of prostate cancer survivors and their partners after treatment.Objective: To analyze clinical and dosimetric factors involved in prostate-specific antigen bounce in patients who underwent permanent implant brachytherapy for localized prostate cancer, and to study the relationships among prostate-specific antigen bounce, age and sexual function.Rationale: Prostate cancer is a leading cause of cancer in men, affecting one in eight. An ageing population coupled with increased testing indicates that the incidence of early-stage prostate cancer is rising rapidly. Treatments are effective, but all can result in chronic sexual side effects and impact on the psychological, emotional and relational components of sexual functioning. Whilst the physical consequences of treatment are well documented, we lack a comprehensive picture of the effects of localised prostate cancer treatment on men's experience of sexual intimacy and how this may affect survivorship and recovery.Problem identification: To systematically evaluate the literature for functional quality-of-life (QOL) outcomes following treatment for localized prostate cancer. .Purpose: To obtain insight into the long-term (5- to 10-year) effects of prostate cancer and treatment on bowel, urinary, and sexual function, we performed a population-based study. Prostate-specific function was compared with an age-matched normative population without prostate cancer.Introduction: The sexual dysfunction following prostate cancer treatments often leads to a reduction in intimate contact for couples. A number of psychosocial interventions have been developed to enhance intimacy in these couples. This paper reviews three of these interventions and is a summary of a presentation given as part of a symposium at the 2011 Cancer Survivorship and Sexual Health Meeting.Introduction: For men with cancer, sexual dysfunction is a common issue and has a negative impact on quality of life, regardless of whether he has a partner. In general, sexuality encompasses much more than intercourse; it involves body image, identity, romantic and sexual attraction, and sexual thoughts and fantasies.Introduction: The diagnosis and treatment of prostate cancer adversely affects the physical and emotional well-being of patients and partners and has been associated with sexual dysfunction in patients and their intimate partners.Many published articles have documented the impact of prostate-cancer treatment on sexual functioning in men treated for localized disease. Surprisingly, the literature on interventions to rehabilitate men's sexual functioning is much more limited. In this article, we review the sexual-rehabilitation interventions for prostate-cancer patients and identify a number of common themes across interventions. We also identify areas where further research is needed and propose a conceptual model based on psychologic and nursing theories and informed by the published research.While both short- and long-term androgen deprivation therapy (ADT) are effective for treating prostate cancer, with the clinical benefits patients can often have significant side-effects. It is important that these complications are recognized and managed appropriately so that adverse effects on the patient's quality of life (QoL) are minimized. The incidence of deaths from prostate cancer has decreased over the last decade, probably as a result of various factors including improved screening and diagnosis, improved treatments, and better risk assessment to help guide therapy. A meta-analysis of prostate cancer trials comparing the use of early vs late hormonal therapy found that 10-year overall

survival increased by up to 20% between 1990 and 2000, and this was attributed to the earlier use of hormone therapy (HT) in these patients. Data from the USA Cancer of the Prostate Strategic Urological Research Endeavor database also suggest a significant decrease in risk in the last two decades in the USA, with more patients being identified with low-risk disease at diagnosis. In addition, there has been an increase in recent years in the use of HT at all stages of prostate cancer. The extensive use of ADT has raised concerns about potential adverse effects. ADT might be associated with a range of adverse effects that vary in their degree of morbidity and effect on the patient's QoL. They include hot flashes, osteoporosis, loss of libido or impotence, and psychological effects, e.g. depression, memory difficulties or emotional lability. Effective strategies are available for managing the major side-effects of HT, but to many patients these unwanted effects are often less important than the benefits of treatment. An investigation of health-related QoL found that men with prostate cancer receiving ADT had a poorer QoL than those not receiving ADT, but the difference was less pronounced after controlling for comorbidities. Many new therapies are currently under investigation which aim to maximize the clinical effects of ADT while reducing the adverse effects.Objectives: Erectile dysfunction (ED) is known to be a common consequence of radical treatment for prostate cancer (PCa) but is often under-reported and undertreated. This study aimed to explore how ED in patients with PCa is managed in real-life clinical practice, from the perspective of patients and healthcare professionals (HCPs).Objective: To examine prostate cancer (PCa) survivors' sexual help-seeking intentions, behaviours, and unmet needs.Purpose: To our knowledge the relationship between the underlying etiology of erectile dysfunction and its impact on health related quality of life has not been studied. Such a study is important for men with prostate cancer, as the potential negative quality of life impact of erectile dysfunction may affect clinical decision making in newly diagnosed disease. We compare health related quality of life in impotent men with prostate cancer to that of impotent men without prostate cancer using the Exploratory and Comprehensive Evaluation of Erectile Dysfunction (ExCEED, TAP Pharmaceutical Products, Inc., Lake Forest, Illinois) data base, which is a multicenter, observational disease registry of men with erectile dysfunction.Androgens play a prominent role in the development, maintenance and progression of prostate cancer. The introduction of androgen deprivation therapies into the treatment paradigm for prostate cancer patients has resulted in a wide variety of benefits ranging from a survival advantage for those with clinically localized or locally advanced disease, to improvements in symptom control for patients with advanced disease. Controversies remain, however, surrounding the optimal timing, duration and schedule of these hormonal approaches. Newer hormonal manipulations such as abiraterone acetate have also been investigated and will broaden treatment options for men with prostate cancer. This review highlights the various androgen-directed treatment options available to men with prostate cancer, their specific indications and the evidence supporting each approach, as well as patterns of use of hormonal therapies.Introduction: Changes in sexual function other than erectile dysfunction are sparsely investigated after radiation therapy for prostate cancer.Introduction: Decrements in health-related quality of life (HRQOL) and sexual difficulties are a recognized consequence of prostate cancer (PCa) treatment. However little is known about the experience of gay and bisexual (GB) men.Introduction: Although cancer treatment commonly has a negative impact on sexual functioning, sexual concerns are still largely undertreated in routine cancer care. The medical model that guides current approaches to sexual care in cancer does not adequately address key patient needs.With the established effectiveness of diverse treatments for prostate cancer, identification of the physical and psychosocial consequences of the disease and various treatments becomes critical. We review the literature on the effects of prostate cancer and its treatment on health-related quality of life (HRQoL). Studies show that prostate cancer and its treatment affect both disease-specific HRQoL (i.e. urinary, sexual, and bowel function) as well as general HRQoL (i.e. energy/vitality, performance in physical and social roles). Yet, these effects appear to differ across stage of disease and type of treatment. We outline evidence from three sources: (1) studies that compare men with the disease with an age-matched sample of men without the disease, (2) studies that assess men with the disease across time, and (3) cross-sectional studies that highlight predictors of HRQoL. Future research directions are discussed.Background: Prostate cancer (PCa) treatments commonly lead to erectile difficulties. While the mainstay treatment is erectile aids (EAs) to promote erectile recovery, some men never use these treatments and those whose do use EAs often abandon them in the long-term.Objectives: To measure the effect of treatment choice (pelvic irradiation [XRT] versus radical prostatectomy [RP] with or without nerve sparing) on sexual function and sexual bother during the first 2 years after treatment.Prostate cancer is a highly prevalent malignancy in older men. Because the disease and its treatments have the potential to cause substantial morbidity in affected

individuals, prostate cancer has been the subject of great interest for quality-of-life (QOL) researchers. In this article, we review published QOL studies that have focused on individuals with prostate cancer. Generic survey instruments have generally been found to be insensitive to changes in health-related quality of life (HR-QOL) related to prostate cancer and its treatments. Domain-specific survey instruments (such as those focusing on sexual function) have been more sensitive, but fail to capture all relevant impacts. At least 9 disease-specific instruments have been developed to measure the HR-QOL impact of prostate cancer. These instruments generally focus on specific symptoms related to the disease and its treatment--urinary function, bowel function, sexual function, physical function, psychological function and pain--however, the domains covered are not consistent from instrument to instrument, and the domains of emphasis within each instrument are rarely the same. In addition, no single instrument has been applied to all major therapies for prostate cancer across men at different ages and stages of disease. Finally, HR-QOL evaluations in some patient groups, such as those with advanced disease, have received relatively little attention to date. As a result of the proliferation of prostate cancer-specific survey instruments and inconsistencies in their design and application, decision-makers face great difficulties evaluating HR-QOL across disease stages and comparing the HR-QOL impacts of alternative therapies, including conservative management ('watchful waiting'). In order for these tools to be useful for patient management and policy-making, coordination of instrument development efforts with the goal of consolidating the number of measures used is urgently needed.The aim of this study was to evaluate the relationship between quality of life, erectile function and group psychotherapy in patients with prostate cancer undergoing radical prostatectomy. Sixty patients were evaluated for erectile function (IIEF-5), quality of life (SF-36SF), urinary incontinence (ICQI-SF and ICQI-OAB). Thirty of them had group psychotherapy two weeks before and 12 weeks after surgery. Patients who underwent group psychotherapy had better scores in IIEF-5, satisfaction with life in general, satisfaction with sexual life and in partner relationship; better results of SF-36SF, excepting two domains: bodily pain and role emotional. There were significant correlations between IIEF-5 and perception of discomfort ($p = .030$), physical functioning ($p = .021$), physical component ($p = .005$) and role emotional ($p = .009$) in patients undergoing group psychotherapy. In patients who didn't have group psychotherapy there were significant correlations between ICQI-OAB and perception of discomfort ($p = .025$), social functioning ($p = .052$) and role emotional ($p = .034$); between ICQI-SF and perception of discomfort ($p = .0001$). Group psychotherapy has a positive impact in quality of life and erectile function. There was no difference in the urinary function of the two groups. Further studies are necessary to identify the impact of self-perception and self-knowledge in the postoperative management of radical prostatectomy.Introduction: Despite the decrease in overall cancer incidence and mortality rates in developed countries since the early 1990 s, cancer remains a major public health problem. Sexual dysfunction is one of the more common consequences of cancer treatment.Background: Urinary symptoms and sexual dysfunction are the two most common complaints following prostate radiotherapy. The impact of hypofractionated treatment on sexual function, irritative symptoms, and voiding symptoms has not been determined within the same patient population. Here we present our institutional data on sexual function, voiding function, irritative symptoms, and treatment response following SBRT.Introduction: Vascular comorbidities (VC) (hypertension, diabetes, and hyperlipidemia) are known factors related to erectile dysfunction (ED) in men. However, no data are yet available for the effects of VC on ED incidence after prostate cancer radiotherapy (XRT).Background: Interventions to treat early prostate cancer (PCa) can leave men with debilitating sexual side effects. The cluster of side effects referred to as the neglected sexual side effects (NSSE) may remain permanent, undiagnosed and untreated because men are hesitant to disclose them. Questionnaires offer a discreet way into the discussion, subsequent diagnosis and possible treatment of the NSSE. This study will be conducted to map the evidence about the prevalence of the neglected sexual side effects (NSSE) after PCa treatment, and use of questionnaires in its diagnosis and screening.Purpose: The purpose of this study is to assess French cancer survivors' sexual health 2 years after diagnosis.Purpose: Erectile dysfunction (ED) persists for years following curative therapies for clinically localized prostate cancer. We report use and treatment outcomes in a 5-year interval in a population based cohort from the Surveillance, Epidemiology, and End Results Prostate Cancer Outcomes Study.Objective: To examine the effectiveness of a cognitive-behavioural therapy (CBT) group intervention to facilitate improved psycho-sexual adjustment to treatment side effects in prostate cancer survivors post-radical prostatectomy.Introduction: Prostate cancer affects a growing number of men. Although erectile dysfunction is a well-known side effect, its impact on sex life and sexuality is under-researched.Androgen deprivation therapy (ADT) is a common treatment for men with systemic

prostate cancer. However, ADT leads to sexual dysfunction, causing >80 % of couples to cease sexual activity completely. Here, we use a biopsychosocial framework to review factors that may influence the ability of patients on ADT to remain sexually active. We address sexual factors prior to ADT, neurobiological factors, intermittent ADT, sex aids, exercise, sleep, partner factors, masculinity, non-penetrative intimacy, depressive symptoms, and access to counselling or patient education programs. We make suggestions for future research in order to extend our understanding in this field with the goal of improving evidence-based treatment protocols and practice. Importantly, we suggest that clinicians should discuss options for sexual intimacy after ADT with both patients and their partners, as sexual inactivity is not inevitable for most, and strategies are available for helping maintain sexual intimacy.Objective: Prostate cancer and its treatments, particularly androgen deprivation therapy (ADT), affect both patients and partners. This study assessed how prostate cancer treatment type, patient mood, and sexual function related to dyadic adjustment from patient and partner perspectives.Focal therapy modalities achieved interest in the management of prostate cancer (PCa) over the last a few years. This systematic review was aimed to investigate erectile function after focal therapy for localized PCa. Twenty-six out of 1287 reports were identified through a database systematic search in MEDLINE, EMBASE, and Web of Science, supplemented with hand search, on June 1st, 2020, according to PRISMA guidelines. Focal therapy modalities investigated were cryotherapy, high-intensity focused ultrasound (HIFU), photodynamic therapy (TOOKAD), irreversible electroporation (IRE), and focal radiotherapy (RT) (i.e. brachytherapy or stereotactic RT). Overall, reported sexual function outcomes after these treatment modalities were generally good, with many studies reporting a complete recovery of EF at 1-year follow-up. However, the quality of current evidence is affected both by the lack of well-conducted comparative studies and by a significant heterogeneity in terms of study design, study population, erectile and sexual function assessment modalities.The clinical benefits of androgen-deprivation therapy (ADT) for men with prostate cancer (PC) have been well documented and include living free from the symptoms of metastases for longer periods and improved quality of life. However, ADT comes with a host of its own serious side effects. There is considerable evidence of the adverse cardiovascular, metabolic, and musculoskeletal effects of ADT. Far less has been written about the psychological effects of ADT. This review highlights several adverse psychological effects of ADT. The authors provide evidence for the effect of ADT on men's sexual function, their partner, and their sexual relationship. Evidence of increased emotional lability and depressed mood in men who receive ADT is also presented, and the risk of depression in the patient's partner is discussed. The evidence for adverse cognitive effects with ADT is still emerging but suggests that ADT is associated with impairment in multiple cognitive domains. Finally, the available literature is reviewed on interventions to mitigate the psychological effects of ADT. Across the array of adverse effects, physical exercise appears to have the greatest potential to address the psychological effects of ADT both in men who are receiving ADT and in their partners.A commonly used phrase describing aging is "60 is the new 40". Although in many aspects of life this may be correct, in discussing sexual health, challenges to maintaining excellent sexual health become more common around age 60. Biological aging challenges physical sexual activity and responsiveness. We commence by briefly surveying the extensive coverage of 'normal' physiological aging. We primarily focus on issues that arise in distinct disease and or pathophysiological states, including gynecological and breast cancer, as well as those associated with partners of men who are either prostate cancer survivors or who have taken therapy for erectile dysfunction (ED). Regrettably, there is a very modest literature on sexual health and associated possible interventions in older patients in these cohorts. We discuss a variety of interventions and approaches, including those that we have developed and applied in a clinic at our host university, which have generally produced successful outcomes. The extended focus to sexual relationship dynamics in partners of men with either prostate cancer or ED in particular is virtually unexplored, yet is especially timely given the large numbers of women who encounter this situation. Finally, we briefly discuss cross-cultural distinctions in older couples' expectations, which exhibit remarkable variation.Objectives: To evaluate, in a cross-sectional study, the relationships among physical activity, sexual functioning, and treatment type for 111 men who had undergone radiotherapy for localized prostate cancer within the past 18 months. Physical activity preserves the sexual functioning capacity of older men. However, little information exists regarding the association of physical activity with sexual functioning after treatment for localized prostate cancer.Objective: To evaluate long-term urinary, sexual and bowel functional outcomes after prostate cancer treatment at a median (interquartile range) follow-up of 12 (11-13) years.Introduction: Complications of prostate cancer treatments are responsible of a lower quality of life. We evaluated the prevalence and the

perceptions of sexual consequences of prostate cancer treatments.Purpose: We studied adjuvant daily sildenafil citrate during and after radiotherapy for prostate cancer for erectile function preservation.Purpose: The purpose of this study is to assess sexual function among patients with clinically localized prostate cancer referred for radiotherapy and to prospectively evaluate the effect of radiotherapy on sexual function, using the Brief Sexual Function Inventory (BSFI).Although there is little evidence that sexual behavior causes prostate cancer, men with prostate cancer often have sexual dysfunction before the cancer diagnosis is made. Each treatment for prostate cancer increases the prevalence of sexual problems. After nerve-sparing radical prostatectomy, the chance of recovering erections is better for men who are younger and in whom both neurovascular bundles can be spared. Definitions of "potency" after nerve-sparing surgery have not specified the rigidity of the erections achieved. Thus, some men classified as "potent" may wish additional sexual rehabilitation. The chance that definitive radiation therapy will cause erectile dysfunction probably has been overestimated. The prevalence rate may be closer to 25% of men with new problems compared with the 50% often cited in the literature. Men are more at risk to have erection problems after radiation therapy if the quality of erections before treatment was borderline. Hormonal therapy has an impact on the central mechanisms mediating sexual desire and arousability. Therefore, with most treatment methods, only approximately 20% of men remain sexually functional. Newer antiandrogenic drugs interfere less with sexual function, but their long-term ability to control prostate cancer is still under investigation. Sexual rehabilitation should be addressed by the primary care team. Sexual partners should be included in brief sexual counseling, even when a mechanical treatment for erectile dysfunction is prescribed.Introduction: Surgery for prostate cancer can result in distressing side effects such as sexual difficulties, which are associated with lower levels of dyadic functioning. The study developed and tested an intervention to address sexual, relational, and emotional aspects of the relationship after prostate cancer by incorporating elements of family systems theory and sex therapy.Introduction: Prostate cancer is the most common type of cancer found in American men. Patient adjustment to prostate cancer is not limited to attempts to restore sexual function, a process that can pose significant challenges to couples following most surgical and nonsurgical treatments. Patients often struggle with depression and other relational stressors. Partners also undergo psychosocial, relational, sexual, and quality-of-life changes and their responses to these changes may relate to patient adjustment.A cross-sectional survey was performed among partners and men who received treatment for prostate cancer to investigate whether demographic and clinical characteristics are associated with the extent of how difficult partners found it dealing with sexual side effects and the degree of having experienced sexual problems after treatment. Moreover, an aim was to determine whether sexual side effects have an impact on the relationship. A total of 171 partners were included. In all, 104 men (70.7%) experienced an increase in erectile complaints after treatment. Almost half of partners of men with an increase in erectile complaints (63.6%, n = 63) found it difficult to deal with sexual side effects and 63.5% (n = 66) experienced sexual problems. Partners with lower education levels experienced fewer sexual problems than partners with higher education levels ($p < .001$). Furthermore, no significant associations were found on demographic characteristics, number of comorbidities, clinical characteristics (prostate-specific antigen level; tumor, node, and metastasis staging; Gleason grading), and type of treatment. The majority of men (58.4%, n = 59) and partners (62.5%, n = 65) indicated to not have experienced the impact of sexual side effects on their relationship.Purpose/objectives: To determine the long-term effects of prostate cancer treatment on spouse quality of life (QOL) at 36 months following treatment.Background: Cancer-specific anxiety (CSA) can affect treatment decisions and is common in men following surgery for prostate cancer (PCa). We hypothesized that CSA is also associated with factors affecting quality of life. Herein, we examine the association of CSA with psychosocial factors and PCa aggressiveness in a cohort of men 1 year after prostatectomy for localized PCa.Purpose: The purpose of this study is to provide information about sexual function (SF) after three-dimensional conformal radiotherapy (3D-CRT) for prostate cancer while taking important factors into account that influence SF.It has been extremely difficult for men with prostate cancer to obtain reasonable estimates of the likelihood of remaining potent after first line therapy, partly because of differences in defining potency. If, as in more recent studies, the definition requires that men are usually (not just occasionally) able to get and sustain an erection, then the picture is not encouraging. Additional strategies are needed to help men sustain sexual activity. In this paper we draw on the experiences of a rather remarkable prostate cancer patient to help consider the possibilities for a different kind of intervention for men with ED--use of a strap-on dildo (an external prosthetic penis fastened by a harness around the hips). The dildo is a simple and inexpensive strategy for dealing with impotence and in certain circumstances it can work

better than more established medical treatments for ED. Use of a dildo potentially removes the fear of erectile failure, allows for increased stimulation of the glans, facilitates full-body contact between partners, and offers potential satisfaction to one's partner. Urologists (and other health professionals) are encouraged to explore dildos as an option during discussions with patients about sexual rehabilitation. The potential benefits are discussed of specialty sexuality clinics that facilitate introduction of innovative approaches like dildos.Purpose: Gay men with prostate cancer are an 'invisible species' in the research literature despite concerns that the impact of treatment may be more profound and in some ways unique compared to heterosexual men. The aim of this research is to explore the lived experience of gay men with prostate cancer.Background: Androgen deprivation therapy (ADT) added to radiation therapy (RT) in intermediate to high risk prostate cancer negatively impacts quality of life.Sexual dysfunction is the most significant long lasting effect of prostate cancer (PrCa) treatment. Despite the many medical treatments for erectile dysfunction, many couples report that they are dissatisfied with their sexual relationship and eventually cease sexual relations altogether. We sought to understand what distinguishes successful couples from those who are not successful in adjusting to changes in sexual function subsequent to PrCa treatment. Ten couples who maintained satisfying sexual intimacy after PrCa treatment and seven couples that did not were interviewed conjointly and individually. Interviews were transcribed and analyzed using grounded theory methodology. The theory that resulted suggests that individuals are motivated to engage in sex primarily because of physical pleasure and relational intimacy. The couples who valued sex primarily for relational intimacy were more likely to successfully adjust to changes in sexual function than those who primarily valued sex for physical pleasure. The attributes of acceptance, flexibility, and persistence helped sustain couples through the process of adjustment. Based on these findings, a new theory, the Physical Pleasure-Relational Intimacy Model of Sexual Motivation (PRISM) is presented. The results elucidate the main motives for engaging in sexual activity-physical pleasure and/or relational intimacy-as a determining factor in the successful maintenance of satisfying sexual intimacy after PrCa treatment. The PRISM model predicts that couples who place a greater value on sex for relational intimacy will better adjust to the sexual challenges after PrCa treatment than couples who place a lower value on sex for relational intimacy. Implications of the model for counselling are discussed. This model remains to be tested in future research.Objective: Prostate cancer (PCa) treatments often leave men with erectile dysfunction (ED). Even when ED treatments are effective in restoring men's ability to have an erection sufficient for intercourse, couples continue to struggle sexually. Effective treatments to help couples recover sexually are needed.Introduction: Because of improved prostate cancer detection, more patients begin androgen deprivation therapy (ADT) earlier and remain on it longer than before. Patients now may be androgen deprived for over a decade, even when they are otherwise free of cancer symptoms.Objective: The aim of this study was to prospectively assess the development of 24 urinary, gastrointestinal and sexual symptoms in patients with prostate cancer (PCa) during and after image-guided volumetric modulated arc therapy (IG-VMAT).Objectives: To evaluate the effects of treatment factors and other covariates on sexual health-related quality of life (HRQOL) after radiotherapy (RT) for prostate cancer. The effects of clinical and treatment factors on sexual health after external beam RT have not been fully characterized by patient-reported, validated questionnaires.Purpose: Few studies have evaluated changes in erectile function with time before and after prostate brachytherapy using the International Index of Erectile Function-15, a sensitive, validated tool for assessing male sexual dysfunction. In this prospective study we evaluated the natural history of erectile function after prostate brachytherapy without supplemental therapy (external beam radiotherapy, phosphodiesterase-5 inhibitors or androgen deprivation therapy) using the International Index of Erectile Function-15.Objectives: This prospective study was undertaken to assess sexual function according to a multidisciplinary comprehensive approach in patients with localized prostate cancer who were treated with radical prostatectomy.Objective: To explore the ways in which prostate cancer treatment-induced sexual changes are presented as viable topics for discussion in urology and radiotherapy clinics.Purpose: The recovery of potency following radical prostatectomy is complex and has a very wide range. In this study, we analyzed in detail the precise pattern of recovery of potency following robot-assisted radical prostatectomy (RARP).Purpose: We identified factors that affect sexual function in men 50 to 80 years old and, therefore, may confound the comparison among groups of elderly men. In particular, we identified factors that may influence a comparison between prostate cancer patients and the general population, or confound the relationship when comparing subgroups of patients in nonrandomized studies.Oncosexuality has recently become a new supportive care mission. Sexual morbidity is, routinely, underestimated and must be questioned. We report here the most

frequent disorders for men and for women, how to prevent them and how to treat them.Radical prostatectomy, the preferred treatment option for organ-confined prostate cancer, is associated with a wide variety of sexual dysfunctions including erectile and orgasmic dysfunctions. Climacturia is a type of orgasmic dysfunction that has been reported to occur in 20-60% of men after radical prostatectomy. Several treatment strategies for climacturia have been evaluated and recommended including behavioral changes, use of special devices, medications, specialized therapies, and surgeries. Inflatable penile prosthesis implantation might be the treatment of choice when conservative management approaches fail to treat erectile dysfunction. In this review article, the different options and approaches for the management of climacturia during inflatable penile prosthesis surgery will be discussed.Purpose: Erectile dysfunction is a common late complication patients may experience after external-beam radiotherapy for prostate cancer. The efficacy and safety of oral sildenafil to correct sexual dysfunction caused by external-beam radiotherapy was studied in patients participating in our prospective trial.Objectives: We developed a conceptual model to define key concepts associated with patients' experiences with the signs, symptoms, and impacts of non-metastatic castration-resistant prostate cancer (M0-CRPC).Background: In men with PCa, large variations of PROs after RP or high-dose RAD might be related to between-country differences of medical and sociodemographic variables, and differences in PROs before treatment in the sexual and urinary domains.Purpose: Erectile dysfunction is one of the most concerning toxicities for patients in the treatment of prostate cancer. The inconsistent evaluation of sexual function (SF) and limited follow-up data have necessitated additional study to clarify the rate and timing of erectile dysfunction after external beam radiotherapy (EBRT) for prostate cancer.Objective: To examine the rates of stress urinary incontinence (SUI) and erectile dysfunction (ED), and of associated bother, in men with no evidence of prostate cancer who participated in a prostate cancer-screening event.Background: Pretreatment urinary, bowel, and sexual dysfunction may increase the toxicity of prostate cancer treatments or preclude potential benefits. Using patient-reported baseline dysfunction from a prospective cohort study, we determined the proportion of patients receiving relatively contraindicated ('mismatched') treatments.Purpose: There is little information in the literature on health-related quality of life (HRQOL) changes due to high-dose-rate (HDR) brachytherapy monotherapy for prostate cancer.Androgen-deprivation therapy (ADT) is indicated for the treatment of metastatic prostate cancer and locally advanced disease. In addition to sexual side effects, long-term ADT results in several other changes, including hot flashes; gynecomastia; changes in body composition, metabolism, and the cardiovascular system; osteoporosis; anemia; psychiatric and cognitive problems; and fatigue and diminished quality of life. This review discusses these complications of ADT and treatments aimed at reducing them. It is important for clinicians to anticipate these effects and to initiate measures to prevent or minimize them in order to maintain quality of life in prostate cancer survivors.Objectives: To assess the impact of RP on patients' sexual desire and orgasm.Introduction: Radical prostatectomy is a standard approach to the management of prostate cancer. As the oncological outcome has improved, focus has drawn to the postoperative amelioration of health-related quality of life (HRQOL).Objectives: To determine the response to sildenafil citrate (Viagra) in patients with erectile dysfunction after radiation therapy for localized prostate cancer.Background: Radiation therapy is one of many treatment options for patients with prostate cancer.Background: Prostate cancer survivors in Alaska and elsewhere have unmet support needs. The Men's Prostate Cancer Survivorship Retreat, or "men's retreat," was developed targeting Alaska Native and non-Native men who were survivors of prostate cancer. The program brought together survivors in a supportive environment to discuss and share their experiences.Objective: To examine the effect of changes in quality of life (QoL) and levels of sexual function on decisional regret after surgical treatment of localized prostate cancer.Objective: To evaluate the impact of demographic, clinical, treatment and patient-reported parameters on satisfaction with prostate cancer care. Despite the significant worldwide impact of prostate cancer, few data are available specifically addressing satisfaction with treatment-related care.Cognitive and somatiform changes occur with ageing and are often attributed to late-onset hypogonadism. Testosterone replacement in older men remains controversial despite increasing evidence of symptomatic and clinical benefit in relation to improvements in sexual dysfunction, muscle mass, and diabetic control. The controversial areas related to cardiovascular safety and risk of prostate cancer need to be considered.Objectives: To characterize the association between potency and comprehensive sexual function. The accurate assessment of sexual function is critical for the evaluation of outcomes after treatment of prostate cancer. The assessments of potency typically used in this context, however, may be oversimplified.Background: Prostate cancer is the most common cancer in older men in the United

States (USA) and Western Europe. Androgen deprivation (AD) constitutes, in most cases, the first-line of treatment for these cases. The negative impact of CAD in quality of life, secondary to the adverse events of sustained hormone deprivation, plus the costs of this therapy, motivated the intermittent treatment approach. The objective of this study is to to perform a systematic review and meta-analysis of all randomized controlled trials that compared the efficacy and adverse events profile of intermittent versus continuous androgen deprivation for locally advanced, recurrent or metastatic hormone-sensitive prostate cancer.Purpose: The goal of this study was to determine the relationship between primary treatment, urinary dysfunction, sexual dysfunction, and general health-related quality of life (HRQOL) in prostate cancer.Background: The objectives of this survey were to describe the prevalence of using a treatment for erectile dysfunction (ED) among men after therapy for localized prostate carcinoma and to construct models explaining the variance in trying a treatment, treatment success, and adherence to treatment.Background: There is no consensus regarding how to assess oncological control following focal ablation of prostate cancer.Background: Patients following radical prostatectomy will encounter various symptoms that may vary depending on the recovery of surgery and the use of adjuvant treatments. However, few studies have used the scale developed for prostate cancer to longitudinally assess the course of symptoms in Chinese patients. This study aimed to identify the symptom trajectories and the influencing factors in the prostate cancer patients of our area.Objective: Androgen deprivation therapy (ADT) for the management of prostate cancer results in a range of side effects including sexual dysfunction. Exercise is proposed as a potentially effective therapy to counteract changes in sexual function. The current study explored the impact of ADT on men's sexuality and the effect of exercise on this experience.Objective: The aim of this study was to evaluate the late urinary, bowel and sexual function among men with localized or locally advanced prostate cancer treated with curative radiotherapy after the introduction of image-guided radiotherapy to 76 Gy using the Swedish BeamCath® technique.Background: We investigated long-term outcomes for men ≤60 years old treated with proton therapy (PT).Purpose: Prostate cancer treatment results in several sexually related side effects beyond the well studied erectile dysfunction. Climacturia (leakage of urine during orgasm) has been reported after prostatectomy but studies have been limited by multiple factors. In this study we examine the prevalence, causes and impact on orgasm function of climacturia after definitive treatment of prostate cancer with surgery or radiation.Introduction: The sexual problem after radical prostatectomy (RP) that has received the most focus in the current literature is erectile dysfunction. However, there are orgasmic complications that encompass orgasm-associated urinary incontinence (climacturia), anorgasmia, changes in orgasmic sensation, and painful orgasm (dysorgasmia). Although the body of research is still growing, there remains a need for physician and patient awareness of these potentially problematic complications.We evaluated changes in psychosocial adjustment over time and its associated factors in prostate cancer patients. A total of 69 patients with prostate cancer were surveyed at pre-diagnosis, 1 month and 6 months post-treatment. The questionnaires distributed to the patients consisted of the Psychosocial Adjustment to Illness Scale and the UCLA Prostate Cancer Index. The generalized estimating equations were used to analyse the collected data. The results of adjustments to psychological distress, the domestic environment and the social environment worsened post-treatment. However, the adjustment to health-care orientation was worst at the time of pre-diagnosis and improved during post-treatment. Patients who perceived an unfavourable health status reported poor adjustment in psychological distress. Patients exhibiting poor urinary function poorly adjusted to the domestic environment. Patients with sexual dysfunction exhibited poor adjustment to the social environment. Patients with low education demonstrated poor adjustment to health-care orientation. Further studies should assess the psychosocial adjustment among prostate cancer patients and provide interventions following pre-diagnosis.Purpose: Treatment for early prostate cancer produces problematic physical side effects, but prior studies have found little influence on patients' perceived health status. We examined psychosocial outcomes of treatment for early prostate cancer.The incidence of erectile dysfunction after radiotherapy for prostate cancer is high. A multifactorial aetiology has to be considered, taking into account pretreatment erectile function. Patients need to be informed about effective treatments such as sildenafil and intracavernosal injections.Objective: To evaluate the associations of non-steroidal anti-inflammatory drug (NSAID) use with risk of erectile dysfunction (ED), considering the indications for NSAID use.Background: Preferences, or utilities, for health outcomes are central in prostate cancer decision-making. Utilities can be elicited directly from patients using standard techniques, or indirectly, using questionnaires that incorporate preference weights from community members.Background: The incidence of erectile dysfunction (ED) and sexual problems after radical prostatectomy has differed greatly in reports from

different centers and countries; however, few studies have taken baseline factors into account. We compared the incidence of ED and sexual problems 2 to 3 years after radical prostatectomy in American, Norwegian, and Spanish men for whom selected clinically relevant demographic and medical pretreatment variables were available.Prostate cancer is the second most frequently diagnosed cancer in men in the United States. Many men with clinically localized prostate cancer survive for 15 years or more. Although early detection and successful definitive treatments are increasingly common, a debate regarding how aggressively to treat prostate cancer is ongoing because of the effect of aggressive treatment on the quality of life, including sexual functioning. We examined current research on the effect of post-prostatectomy radiation treatment on sexual functioning, and suggest a way in which patient desired outcomes might be taken into consideration while making decisions with regard to the timing of radiation therapy after prostatectomy.Men's enactment of traditional masculine norms may contribute to their adjustment to changes in sexual functioning following treatment for prostate cancer. In the present investigation, the authors test this hypothesis by examining the moderating role of sexual functioning on the relationship between men's adherence to masculine norms and their social, role, and mental health functioning. Results of regression analyses indicate that men with poor sexual functioning evince poor social, role, and mental health functioning when they more strongly adhere to traditional masculine norms. Participants with good sexual functioning, in contrast, exhibit positive social, role, and mental health functioning when they more strongly adhere to traditional norms of masculinity. Directions for future clinical research and treatment interventions are provided.Sexual function was evaluated in 34 patients with low-risk prostate cancer (PSA < or = 10, Gleason score < or = 6, clinical stage T1/T2) undergoing brachytherapy in a phase III prospective randomized trial comparing iodine-125 ((125)I) to palladium-103 ((103)Pd). The mean and median International Index of Erectile Function (IIEF) scores for the entire group were 14.2 and 16.5, respectively, and there was no difference between these scores when stratified by isotope. IIEF scores < 6, 6 to 11, and > or = 12 were recorded in 35% (12/34), 6% (2/34), and 59% (20/34) of patients, respectively. Hematospermia, orgasmalgia (pain at the time of orgasm), and alteration in intensity of orgasm were documented in 26% (9/34), 15% (5/34), and 38% (13/34) of patients, respectively, but these side effects were of limited duration for most patients. There was no relationship between radiation dose to the neurovascular bundles (NVB), which averaged 209% of the prescribed prostate dose, and the development of postbrachytherapy impotence. All four impotent patients who used sildenafil responded favorably. With a median follow-up of 13 months, 65% of patients undergoing prostate brachytherapy maintained sexual function without pharmacologic support. Including sildenafil responses, 76.5% of patients sustained erections sufficient for sexual intercourse.Prostate cancer patients sexual management and information must evaluate prediagnosis sexual life and impact of cancer on sexuality. Discovery of a pre-existent erectile dysfunction is frequent and must lead to a standard evaluation, involving nature, severity, risks factors (metabolic, cardiovascular and drugs) using a patient and couple centered approach. Advice from an other specialist (sexologist, cardiologist...) can be necessary before to prescribe a drug. Postoperative management of induced sexual dysfunction must be explained and decided according to the patient and couple wishes.It is well known that testosterone enhances sexual interest leading to an increased frequency of sexual acts and an increase in the frequency of sleep-related erections. However, it has little effect on fantasy- or visually induced erections. Exact contribution to erection from testosterone in men remains unclear. Animal studies have well demonstrated that testosterone plays critical physiological (activity of nitric oxide synthases and phosphodiesterases), biochemical (through an endothelial-independent pathway and adrenergic tonicity) and structural (change of fibroelasticity and hollow cell accumulation) roles in erectile function. The supplementation of testosterone to castrated animals can restore erectile function. Clinically, reports of patients with erectile dysfunction (ED) combined with hypogonadism who receive testosterone therapy have inconsistent results. However, testosterone may ameliorate the expression of the phosphodiesterase-5 (PDE5) inhibitor, and the use of testosterone in conjunction with the PDE5 inhibitor revealed convincing results. Because of potential risks in clinical use, testosterone therapy should be individualized, carefully considered and closely monitored, especially, in patients with possible occult prostate cancer, and large benign prostatic hyperplasia. Lower urinary tract symptoms might be worsened by this treatment, since the prostate is an androgen-dependent tissue.Introduction: Although there were marked racial differences in the clinical outcomes among Japanese men (JP), Caucasian men (CA), and Japanese American (JA) men with localized prostate cancer, the effect of race/ethnicity on sexual profiles remains unclear.Hormonal manipulation in the form of androgen-deprivation therapy for prostate cancer was introduced by Huggins and Hodges in

1941 and resulted in a Nobel Prize in 1966. Hormonal therapy initially had been used in metastatic prostate cancer, but the indications have been expanded including failed local therapy, locally advanced prostate cancer, and neoadjuvant or adjuvant therapy in high-risk localized prostate cancer. In view of the magnitude of the problem of prostate cancer and relatively frequent use of hormonal manipulation, it is important for clinicians to be aware of common side effects, prevention, and treatment to improve quality of life and reduce morbidity and mortality in patients with prostate cancer. This review focuses on the common side effects of hormonal treatment such as osteoporosis, anemia, hot flashes, erectile dysfunction, muscle wasting, gynecomastia, decline in cognitive function, depression, increase in body fat and metabolic changes, and their prevention and treatment.This article evaluates current sexual functioning in patients with prostate cancer who are awaiting treatment. One-hundred fifty-eight patients filled out a 15-item questionnaire regarding current sexual functioning. Median age was 67 years. Sixty percent reported to have spontaneous erections at least once a week, and 37% reported a good firmness. Thirty-five percent reported that during sexual activity they had no difficulty in getting erections, and 33% reported that they had no difficulty in maintaining an erection. After diagnosis, all patients reported a decrease in sexual interest, activity, and pleasure. Diagnosis of prostate cancer does have an impact on sexual functioning, therefore sexual counseling prior to treatment is advised.Objective: To evaluate retrospectively the potential influence of disease-related factors and transurethral resection of the prostate (TURP) on the sexual function of patients who had undergone curative radiotherapy for prostate cancer.Purpose: To analyze the correlation between dose-volume parameters of the corpora cavernosa and erectile dysfunction (ED) after external beam radiotherapy (EBRT) for prostate cancer.Many patients with prostate cancer for whom androgen deprivation therapy (ADT) is indicated are young and desire to remain sexually active. In such patients, the side effects of androgen therapy on sexual function can be a source of serious reduction in overall quality of life. Providing the appropriate treatment options in this patient population is therefore essential. Nevertheless, treating such patients is challenging and an understanding of the underlying mechanisms of sexual physiology and pathophysiology is crucial to optimal patient care. In this paper, we reviewed what was known regarding the effects of ADT on sexual function in animal models and we also provided a detailed review on the effects of ADT on sexual health in humans and its treatment.We review the effectiveness of androgen-deprivation therapy (ADT) in the management of prostate cancer, and the effect that this treatment has on a patient's quality of life (QoL), based on discussions held at a European symposium on the management of prostate cancer. The overall QoL is reduced in asymptomatic men, and there are known decreases in cognitive function, self-esteem, libido and sexual function. Hot flashes are also a frequent problem. Prolonged ADT can lead to osteoporosis and subsequently fractures. Various effective methods exist to manage and minimize these side-effects; some are specific to the side-effect, whereas other more general methods include lifestyle changes, specific drugs and added hormonal manipulations. Intermittent ADT for patients taking luteinizing hormone-releasing hormone agonists offers a promising method to reduce adverse effects, and possibly increases the time to androgen independence. Initial studies indicate that prostate-specific antigen-based progression with intermittent ADT is similar to that seen with continuous ADT, but there is a reduction in side-effects, leading to an improvement in QoL.Purpose: To assess the impact of high dose three-dimensional conformal radiotherapy (3D CRT) for prostate cancer on the sexual function-related quality of life of patients and their partners.Objectives: To systematically review erectile function (EF) outcomes following primary whole gland (WG) and focal ablative therapies for localized prostate cancer to ascertain whether the treatment modality or intended treatment volume affects the time taken to recover baseline EF.Objectives: To determine how men treated for localized prostate cancer and who had permanent side-effects, and healthy controls, would value five descriptions of health states associated with side-effects of treatment for localized prostate cancer, hypothesising that patients would value the health states as less detrimental than men with no prostate cancer.Nowadays, taking into account the sexuality is an essential component of the management of prostate cancer patients. This implies the necessity for providing accurate, clear and transparent information about the potential adverse effects on the sexual functioning for each proposed treatment. This information is not only given to the patient, but also to his female partner. The association of extended radical prostatectomy (without preservation of neurovascular bundles) and androgen suppression therapy will be proposed for men with locally advanced prostate cancer at high-risk for recurrence. The impact of such combined management regarding sexual functioning is high in terms of erection and sexual interest. Early pharmacological treatment of erectile dysfunction (within the three months following surgical treatment) with phosphodiesterase 5 inhibitors or intracavernous injections will allow an optimal

recovery of a certain quality of erection. Moreover, monotherapy with bicalutamide will be associated with significant advantage in terms of sexual interest. The sexuality after treatment will certainly be different but will be accomplished.Purpose: To determine the etiology of treatment-induced erectile dysfunction among patients who underwent surgery or radiotherapy for prostatic cancer.Objective: Prostate cancer is one of the mostly commonly diagnosed cancers in men. Unfortunately, the treatment for this cancer can have a number of negative side effects, both for the man himself and his partner. This study investigated the support needs of both men and partners throughout the prostate cancer journey and how this journey may be optimally managed.Androgen deprivation therapy (ADT) is being increasingly used to treat men with prostate cancer. ADT has been associated with many side effects that may persist for the lifetime of the patient and can have potentially devastating effects on the quality of life of both men and their intimate relationships. Despite U.S. estimates that more than 40,000 men begin ADT each year and live on average for 10 years, there have been few studies examining the effect of ADT on couples. This article reviews the emerging literature on the challenges faced by men and their partners while undergoing ADT. Loss of libido, erectile dysfunction, genital shrinkage, low self-esteem, and diminished masculinity are commonly associated with undergoing ADT. These losses frequently lead to changes in the marital relationship in areas such as roles and responsibilities, communication, and intimacy. Intervention strategies for helping couples maintain a strong relational bond need to be selected carefully for this population because of these unique and profound changes. Couples who succeed in maintaining sexuality and intimacy have been shown to have higher quality of life and more satisfying relationships.Objective: To quantify the risk and severity of negative effects of treatment for localised prostate cancer on long term quality of life.Background: Erectile dysfunction (ED) after treatment for prostate cancer with radiotherapy (RT) is well known, and pooled estimates of ED after RT will provide more accurate patient education.Objectives: We evaluated the response of sildenafil citrate in patients with prostate cancer treated with three-dimensional conformal radiation therapy (3DCRT) whose sexual function (SF) was known prior to therapy initiation.Prostate cancer is common in older men. Surgical treatment involving removal of the prostate can result in temporary or permanent erectile dysfunction (ED) and incontinence and have a major impact on men's masculine identity. Seven men were interviewed about their experiences and concerns following prostatectomy, and the transcripts were analysed employing Foucauldian Discourse Analysis to identify the ways in which they constructed their masculinity. Participants drew upon four main discourses when discussing the impact of surgical treatment on their sense of masculinity: masculine identity and sexual activity, ED as a normative experience, mental resilience and vulnerability. Penetrative sex was constructed as central to a masculine identity, but inability to achieve this was normalised in terms of the ageing process. Stereotypically masculine qualities of emotional control and rationality were drawn on in describing their reaction to the diagnosis and treatment of cancer but they also experienced a new-found sense of physical vulnerability. The findings are discussed in terms of their implications for the clinical management of ED post-surgery and helping men adjust to life following treatment.Changes in sexual bother (SB) following radical prostatectomy (RP) negatively affect health-related quality of life (HRQoL) of prostate cancer survivors. However, post-operative SB tends to be neglected whereas sexual function (SF) is thoroughly assessed in clinical practice and few studies have focused on and evaluated patients' SB. We retrospectively reviewed 2 345 consecutive patients who underwent RP between 2001 and 2009 at a single institution. SF and SB were assessed using Expanded Prostate Cancer Index Composite (EPIC) questionnaires. We stratified our cohort by SB recovery and post-operative SF status, including a subset of men who recovered SB despite persistent post-RP sexual dysfunction. Multivariable logistic regression analyses were conducted to identify factors for men who have SB recovery. Of 319 eligible patients, 133 (41.7%) recovered their SB at a mean of 20 months after RP. Among the 133 men who demonstrated SB recovery, 109 had post-operative sexual dysfunction. Patients with SB recovery despite post-RP sexual dysfunction were more likely to be old ($p = 0.004$), to have higher clinical T stage ($p < 0.001$), to have more non-nerve-sparing RP ($p < 0.001$), to have lower pre-operative EPIC-SF/SB scores ($p < 0.001$), to have more extracapsular extension ($p = 0.031$) and to be PDE5i non-users after surgery ($p < 0.001$). In multivariable analysis, predictors for this subset were lower comorbidity (OR 0.62, $p = 0.043$), higher clinical cancer stage (OR 2.35, $p = 0.026$), worse pre-operative SF (OR 0.98, $p = 0.010$), SB (OR 0.98, $p < 0.010$) and no PDE5i use (OR 0.37, $p = 0.002$); age was not related (OR 0.99, $p = 0.555$). As SB can influence patients' overall HRQoL, expectations of SB recovery should be provided to patients in the same way that SF recovery is presented. This study may help clinicians to discuss SB with patients and assess their potential for SB recovery following RP.Purpose: To explore the impact of prostate cancer treatment on: (a) the

experience of symptoms (i.e. sexual, urinary, and bowel), and (b) perceived health state of men with prostate cancer one month following their radiation treatment.Objective: Emotional adjustment to cancer survivorship may be influenced by how patients interpret treatment side effects and other cancer-related experiences. The current study examined cognitive representations of illness, as conceptualized by the Self-Regulatory Model (SRM), in men treated for localized prostate cancer (PC). More severe PC perceptions were hypothesized to predict poorer emotional well being, particularly among men experiencing greater post-treatment sexual dysfunction or general life stress.Introduction: Relations between sexual desire and testosterone are more complex than previously thought particularly in ageing males.Objective: The diagnosis and treatment of prostate cancer is followed by substantive sexual morbidity. The optimal approach for intervening remains unclear.Introduction: Different treatments for localized prostate cancer (PCa) may be associated with similar overall survival but may demonstrate important differences in health-related quality of life (HRQOL). Therefore, valid interpretation of cancer control outcomes requires adjustment for HRQOL.Primary prostate cancer treatment often results in suboptimal urinary, bowel and/or sexual function. These effects are not inevitable. After treatment patients typically report high health related quality of life (QoL) scores. This discrepancy between disease-specific and generic results raises the question which meaning side effects actually have to patients. In a qualitative study we explored two mechanisms which could possibly explain the discrepancy: insensitivity of generic QoL measures to these specific symptoms and adaptation to changed health (response shift). In semi-structured interviews with 33 prostate cancer patients in the Netherlands we collected data on their opinions regarding health and QoL, we observed how respondents behaved when completing health status and QoL questionnaires, and solicited comments on a QoL questionnaire, its items, and its content validity. We observed that patients trivialized sexual (dys) function referring to old age. We found that while they might consider sexual, urinary, and bowel dysfunctions as problems, they did not take such dysfunctions into account when completing QoL measures because they did not view these dysfunctions as aspects of health. This finding reveals a so far unidentified cause of the insensitivity of generic measures of health status. Furthermore, response shift appeared to be present: many patients accepted the side effects as inevitable consequences of having been treated for prostate cancer, a condition they perceived as life threatening. We conclude that generic QoL measures cannot reveal the impact of sexual, urinary and bowel dysfunctions on patients because such dysfunctions are not perceived as health problems. By presenting these findings we want to draw attention to issues that complicate QoL assessments in general and in prostate cancer patients in particular.Purpose: To describe men who agreed to be randomized to the Prostate Cancer Prevention Trial (PCPT), a 7-year, double-blind placebo-controlled study of the efficacy of finasteride in preventing prostate cancer.Objective: It is estimated that 600,000 men are currently living in North America with castrate levels of testosterone as a result of androgen deprivation therapy for prostate cancer. The goal of this study was to explore how patients and their partners adjust to changes associated with androgen deprivation therapy (ADT).Radical prostatectomy (RP) is a commonly used procedure in the treatment of clinically localized prostate cancer. For this report, the authors critically analyzed the factors associated with recovery of erectile function after surgery. A systematic review of the literature using the Medline and CancerLit databases was conducted. Keywords for the literature search included prostate cancer, radical prostatectomy, erectile dysfunction, impotence, treatment, and prophylaxis. Accurate patient selection (based on patient age, preoperative erectile function, and comorbidity profile) and adequate surgical technique (ie, the preservation of neurovascular bundles) were the major determinants of postoperative erectile function. Moreover, better results were achieved when an appropriate pharmacologic treatment using either oral or local approaches was given. Therefore, the authors concluded that, if patients are stratified correctly according to preoperative, intraoperative, and postoperative factors, then a satisfactory functional recovery may be expected after surgery. For these reasons, an ideal multivariate model predicting the restoration of erectile function after surgery should include patient, surgeon, and postsurgical treatment variables. The authors also concluded that the stratification of patients with regard to their risk of developing erectile dysfunction after surgery was feasible based on several parameters, which should be taken into account for correct patient treatment and counseling. To address this objective, accurate tools for predicting the likelihood of complete functional recovery after surgery are needed. Cancer 2009;115(13 suppl):3150-9. (c) 2009 American Cancer Society.Introduction: To characterize patient reported outcomes for urinary and sexual function using International Prostate Symptom Score (IPSS) and Sexual Health Inventory for Men (SHIM) comparing intensity modulated radiation therapy (IMRT), low dose rate brachytherapy (LDR), post-prostatectomy IMRT (PPRT), and radical prostatectomy

(RP).Researchers evaluated the acceptance and effectiveness of a group intervention that provided education about post-prostatectomy sexual recovery and peer support for couples. Couples valued the intervention and retained the information. Partners became accepting of erectile dysfunction and communicated more openly about upsetting topics.Purpose/objectives: To describe health-related quality of life (QOL), health status, and marital satisfaction of couples as many as 5.5 years after treatment for prostate cancer.Background: As the long-term efficacy of stereotactic body radiation therapy (SBRT) becomes established and other prostate cancer treatment approaches are refined and improved, examination of quality of life (QOL) following prostate cancer treatment is critical in driving both patient and clinical treatment decisions. We present the first study to compare QOL after SBRT and radical prostatectomy, with QOL assessed at approximately the same times pre- and post-treatment and using the same validated QOL instrument.Background: Despite the growing body of literature which highlights the potential for significant and enduring side-effects of prostate cancer treatment, there is limited research exploring the experience of living with the treatment-induced side-effects such as sexual dysfunction, and their repercussions for men and their partners. The aim of this qualitative study was to explore factors influencing psychosexual adjustment, self-perception, and unmet information and support needs of prostate cancer patients and their partners.This study describes sources of support utilised by men with localised prostate cancer in the first year after diagnosis and examines characteristics associated with help-seeking for men with unmet needs. A cross-sectional survey of 331 patients from a population-based sample who were in the first year after diagnosis (M = 9.6, SD = 1.9) was conducted to assess sources of support, unmet supportive care needs, domain-specific quality of life and psychological distress. Overall, 82% of men reported unmet supportive care needs. The top five needs were sexuality (58%); prostate cancer-specific (57%); psychological (47%); physical and daily living (41%); and health system and information (31%). Professional support was most often sought from doctors (51%). Across most domains, men who were older (Ps $\leq$ 0.03), less well educated (Ps $\leq$ 0.04) and more depressed (Ps $\leq$ 0.05) were less likely to seek help for unmet needs. Greater sexual help-seeking was related to better sexual function (P = 0.03), higher education (P $\leq$ 0.03) and less depression (P = 0.05). Unmet supportive care needs are highly prevalent after localised prostate cancer diagnosis with older age, lower education and higher depression apparent barriers to help-seeking. Interventions that link across medicine, nursing and community based peer support may be an accessible approach to meeting these needs. Clinical Trial Registry: Trial Registration: ACTRN12611000392965.Prostate cancer is a major health concern for Western men, but little is known about its consequent impact on sexual function for men and their partners. In this pilot study, the effect of the diagnosis and treatment of prostate cancer on sexual function as it affects men and their partners was investigated.Background: The number of cancer survivors is steadily increasing. Following completion of primary cancer treatment and many years thereafter, specific symptoms continue to negatively affect cancer survivors. The purpose of this article is to review the evidence of symptom burden following primary treatment for cancer in survivors of the most common types of cancer (breast, gynecological, prostate, and colorectal).Objective: Men's disinclination to seek medical help has been linked to higher rates of morbidity and mortality compared to women. However, previous studies were conducted predominantly with healthy, young, and middle-aged men. We explored the perceived medical barriers to help-seeking in older men with prostate cancer.Objective: To evaluate whether completing a decision aid, Personal Patient Profile - Prostate (P3P), prior to prostatectomy, affects self-reported bother from post-prostatectomy urinary incontinence and erectile dysfunction.Radical prostatectomy is a procedure performed with increasing frequency in patients with localized prostate cancer. Although, the operative morbidity is considerably low, urinary incontinence and erectile dysfunction remain an important and persistent problem. Since several years the impact of radical prostatectomy on the quality of life (HRQOL) is investigated. However, there are only few prospective studies dealing with rather small groups of patients. These studies indicate that urinary and sexual function have major impact on HRQOL. Although, there is a steady improvement in urinary function and decrease in urinary bother only about 65% of the patients reach the baseline at the end of the first year. In spite of this almost 90% of patients reach baseline in all other HRQOL domains such as general health perception, physical and social function after a mean period of 5 months. The importance of sexual desire and erectile capacity decreases with age; being important in 75 and 84% of men at the 5th decenium and 48 and 59% at the 6th decenium. After standard radical prostatectomy almost all of the patients are impotent. Applying so-called nerve sparing techniques erectile function may be preserved in careful selected patients. It is the common theme that preservation of the 'neurovascular bundles' equals a high rate, but still age depended postoperative

potency; however difficulties in regaining urinary control may embarrass the patient to such an extent to withdraw from sexual activity. Furthermore, the change of sexual ability and quality may have impact on the partner who do not want to initiate sexual activity because of the possible failure. This may cause an increased level of emotional distance, which again is deleterious for sexual activities. Patients who are sexually active prior to surgery report major distress in case of postoperative erectile impotence, but even in case of maintained erectile capacity some patients are bothered by the sexual dysfunction. Sexual counselling and providing the optimal erectile aid is therefore very important. Psychological distress of spouses may be significantly greater than that of the patients; general cancer distress, treatment related worries, concerns on physical limitations and pain are the main reasons. However, it may well be that women are willing to report their problems more often than their partners who may have a grin-and-bear-it attitude. In spite of this caveate, it is important to include the patient's spouse into the discussions on therapy and associated morbidity early on. Since radical prostatectomy for localized prostate cancer is only one of the possible treatment options, the patient has to be informed about the incidence and various types of morbidity which is associated with treatment and their possible impact on HRQOL. Appropriate and honest counselling will have significant influence on the well being of the patient after completing therapy.Background: Prostate cancer is the most common male cancer in the Western world. The most substantial long term morbidity from this cancer is sexual dysfunction with consequent adverse changes in couple and intimate relationships. Research to date has not identified an effective way to improve sexual and psychosocial adjustment for both men with prostate cancer and their partners. As well, the efficacy and cost effectiveness of peer counselling as opposed to professional models of service delivery has not yet been empirically tested. This paper presents the design of a three arm randomised controlled trial (peer vs. nurse counselling vs. usual care) that will evaluate the efficacy of two couples-based sexuality interventions (ProsCan for Couples: Peer support vs. nurse counselling) on men's and women's sexual and psychosocial adjustment after surgical treatment for localised prostate cancer; in addition to cost-effectiveness.Background: Increasingly, quality of life (QOL) assessments are receiving greater attention in the management of malignancies, including prostate cancer. We evaluated the impact of radical prostatectomy on patient QOL 12 months or longer after surgery.Purpose: To cure localized prostate cancer, the entire prostate must be eliminated, which is what all forms of treatment must achieve. Although there is no better way to cure localized disease than total surgical removal, the challenge is whether this can be accomplished with acceptable morbidity.Objective: To evaluate prospectively the sexual function of patients undergoing cryosurgery as a primary radical treatment for localized prostate cancer, as the development of 17 G cryotherapy probes has improved the delivery of this treatment, but one of the side-effects of cryosurgery is the development of erectile dysfunction (ED).Objective: Psychosexual morbidity is common after prostate cancer treatment, however, long-term prospective research is limited. We report 5-year outcomes from a couples-based intervention in dyads with men treated for localised prostate cancer with surgery.Objective: To document the Expanded Prostate cancer Index Composite (EPIC) results for men followed for 5 years after radical prostatectomy.Prostate cancer affects African Americans at a higher rate than any other ethnic group in the United States. Prostate cancer does not only affect the man with the disease but also affects those individuals who are closest to him, such as his family and friends. Open communication is valuable in coping with stressors that are affiliated with chronic illnesses. This article focuses on family and friend social support of men with prostate cancer. Data analysis revealed that support from family members and friends plays an important role in how men cope with their treatment and recovery from prostate cancer.Sexual function is diminished in the majority of men undergoing androgen deprivation therapy for prostate cancer. However, about 20% seem to retain some degree of libido and erectile function. In addition, the intimacy of sexual relations is important for many couples. Therefore, sexuality should be addressed when patients express an interest in this. In some men, erections can be re-established with normal erectogenic aids. Others will benefit from counselling on alternative sexual practices. The goal should be to make the couple as satisfied as possible with their situation.Objective: We aimed at developing and testing a Dutch health-related quality of life measure for localized prostate cancer patients.Background: Patients' perceptions of treatment outcomes are important in the management of early prostate cancer, but few studies have offered reliable and responsive measures to assess the likely side effects of the most common treatments.Men with prostate cancer (n=25) were interviewed, focusing on experiences of micturition problems, indwelling catheter treatment and sexual life consequences. Narrations were found to be practical and technical descriptions rather than emotional, and experiences were described with reduction and negligence regarding personal well-being and the impact of problems.

Phenomenological-hermeneutic analysis was used and findings ordered in subthemes and themes of meaning. Micturition problems, catheter treatment and sexual life problems were all phenomena that radically affected the clients' autonomy and life quality and changed the life continuum. Impact from the disease was either accepted or not and related to what had already been borne in life. Experiences were linked together, each of them giving rise to feelings of physical deterioration and fear of ridicule, and hidden from others. Maintaining self-image and social role was important and connected with the degree of perceived deprivation of life content. Responsibility for medical decisions was left to professionals while everyday problems with micturition, catheters and sexual life were regarded as the men's sole responsibility. Findings were interpreted to mean that comparing the personal situation with that of others worse off made the life situation look better. The clinical implication of this study was that because the men came forward with their problems when given time to talk in their own way these areas should be given time and interest in the nursing care. Interpretation did not provide a unified picture of problems. Thus, nurses will have to seek men's individual experience actively and give legitimacy to patients' problems by opening up opportunities to speak about otherwise concealed problems. Then it may be possible to provide solutions that may ease the men's burdens.Purpose: Understanding the distinctive patterns of treatment-related dysfunction after alternative initial treatments for early prostate cancer (PC) may improve patients' choice of treatment and later help them adjust to its consequences. We characterized the time course of treatment complications while adjusting for potentially confounding pretreatment factors hindering other observational studies.This study aimed to explore men's experiences of social support after non-nerve-sparing radical prostatectomy. A qualitative study based on Gadamer's hermeneutic phenomenology was designed. In-depth interviews were conducted with 16 men who had undergone a non-nerve-sparing radical prostatectomy. Data analysis was performed using ATLAS.ti software. From this analysis, two main themes emerged: "The partner as a source of support and conflict after a prostatectomy," which includes empathetic reconnection with the partner and changes in sexual and cohabitation patterns and "The importance of social and professional circles," which addresses the shortcomings of the healthcare system in terms of sexual information and counseling as well as the role of friends within social support. The study suggests the need to establish interventions that address interpersonal communication and attention to social and informational support and include both the patient and those closest to them.Purpose of review: Erectile dysfunction is a major source of morbidity for many men who undergo radical prostatectomy for localized prostate cancer annually. Few areas of urology remain as controversial as penile rehabilitation postprostatectomy, an ill defined treatment strategy designed to minimize the incidence and severity of erectile dysfunction.Background: Men who undergo surgery for prostate cancer frequently experience significant side-effects including urinary and sexual dysfunction. These difficulties can lead to anxiety, depression and reduced quality of life. Many partners also experience psychological distress. An additional impact can be on the couple relationship, with changes to intimacy, and unmet psychosexual supportive needs in relation to sexual recovery and rehabilitation. The aim of this exploratory randomised controlled trial pilot study is to determine the feasibility and acceptability of a novel family-relational-psychosexual intervention to support intimacy and reduce distress among couples following prostate cancer surgery and to estimate the efficacy of this intervention.Radical prostatectomy is the curative surgical management of organ confined prostate cancer. Erectile dysfunction may follow surgery as the most common complication decreasing the quality of life of the patient. Thanks to spreading PSA screening probability increases to detect prostate cancer in its early stage and so the expected number of surgery is increasing, too. Higher number of operation as well as surgery more frequently performed in younger age calls the attention to the importance of erectile dysfunction and its management. Nowadays the physiology of erectile dysfunction due to radical prostatectomy has been revealed, and as a consequence, the nerve sparing surgery for its prevention is already known. The paper presents the different kind of possible invasive and non-invasive treatments of erectile dysfunction, and surveys their history and effectiveness. The erectile function of patients who underwent radical prostatectomy between 1998 and 2007 at the Department of Urology and Uro-oncological Centre was assessed by IIEF- and MMM questionnaire and letters with questions of habit of medicine taking. The results show that 59% of patients who desire sexual activity are capable of it spontaneously or with medical management.Health-related quality of life must be a factor when treatment options are discussed with a patient. Quality of life is measured by validated questionnaires that include generic and disease-targeted measures. Urinary and rectal symptoms and sexual function are evaluated after treatment for prostate cancer. Quality of life is adversely affected in the early post-brachytherapy period primarily by the urinary morbidity. Urinary

symptoms peak 2 months after treatment and decline thereafter, although severe long-term urinary toxicity occurs in 3% to 12% of patients. Urinary symptoms are generally treated with alpha-blocker and anticholinergic drugs, but 2% to 5% of patients require transurethral resection of the prostate to relieve persistent obstruction. However, 6 months after treatment, overall satisfaction is excellent, and the majority of patients would recommend the procedure to a friend.Objective: Limited research has investigated the psychosocial processes that underpin the effect of physical symptoms on fear of cancer recurrence. Additionally, despite evidence of increased vulnerability of marginalized populations to negative outcomes, few studies have examined the unique experience of gay men coping with the cancer process. The goals of this study were to determine whether disease-related self-efficacy and satisfaction with medical care mediated the relationship between greater physical symptoms and worse fear of recurrence among gay or bisexual prostate cancer survivors.Objective: The outcomes of a 10-week cognitive-behavioral stress management (CBSM) group intervention were evaluated in prostate cancer survivors. A model was tested in which CBSM-related improvements in emotional well-being were attained through changes in men's perceptions of their condition, as conceptualized by information processing explanations of self-regulation theory. The model also tested whether life stress and treatment-related side effects moderated intervention effects.Aim: This study evaluated the process and outcome of a psychosocial intervention for men with prostate cancer and their partners. As more men survive prostate cancer, they and their partners need help and support to help them cope with the physical and psychosocial effects of the disease and treatment. There is a lack of psychosocial interventions for men with prostate cancer and their partners.Purpose: We expanded the clinical usefulness of EPIC-CP (Expanded Prostate Cancer Index Composite for Clinical Practice) by evaluating its responsiveness to health related quality of life changes, defining the minimally important differences for an individual patient change in each domain and applying it to a sexual outcome prediction model.Active surveillance is an important arrow in the quiver of physicians advising men with prostate cancer. Quality-of-life considerations are paramount for patient-centered decision making. Although the overall deleterious impact on health is less dramatic than for those who pursue curative treatment, men on active surveillance also suffer sexual dysfunction and distress. Five-year outcomes revealed more erectile dysfunction (80% vs 45%) and urinary leakage (49% vs 21%) but less urinary obstruction (28% vs 44%) in men undergoing prostatectomy. Bowel function, anxiety, depression, well-being, and overall health-related quality of life (HRQOL) were similar after 5 years, but at 6-8 years, other domains of HRQOL, such as anxiety and depression, deteriorated significantly for those who chose watchful waiting. Further research is needed to compare prospectively HRQOL outcomes in men choosing active surveillance and those never diagnosed with prostate cancer, in part to help weigh the potential benefits and harms of prostate cancer screening.Purpose: We determined whether the impact of phosphodiesterase inhibitors on sexual function and sexual bother is different after radical prostatectomy vs radiation therapy for localized prostate cancer.Objectives: To assess potency rate and patient attitudes regarding erectile dysfunction.Introduction: Lower urinary tract symptoms (LUTS) and erectile dysfunction (ED) are common problems in middle-aged and older men. Recently, epidemiologic studies have shown significant associations between severity of LUTS and male sexual dysfunction.Prostate cancer is the most common malignancy in older men. With the aging of the population, the number of older men with prostate cancer will grow rapidly. Androgen deprivation therapy (ADT) is the mainstay of treatment for men with systemic disease and is increasingly utilized as primary therapy or in combination with other therapies for localized disease. Side effects of therapy are multifold and include hot flashes, osteoporosis, and adverse psychological and metabolic effects. Recent research has illustrated that ADT can negatively impact the functional, cognitive, and physical performance of older men. Patients with prostate cancer, despite recurrence of the disease, have a long life expectancy and may be subjected to the side effects of ADT for many years. This review highlights the complications of ADT and approaches to management. We also provide recommendations for assessment and management of ADT complications among the most vulnerable and frail older male patients.Few, if any, qualitative studies aimed at gaining an understanding of the experience of patients with prostate cancer have been done. The purpose of this study was to illuminate the meaning of being a patient living with untreated localized prostate cancer. Seven men with untreated localized prostate cancer were interviewed in their homes. The interviews were tape recorded and transcribed into text. The text was analyzed using a phenomenologic-hermeneutic approach inspired by Ricoeur's philosophy. The meaning of living with untreated localized prostate cancer could be interpreted as living life under a dark shadow. The disease was described as a threat to the patient's life. When living under this shadow, many of the men studied had an ambivalent wish

both to share their experience with others and to be alone with their experiences of the disease. They believed that the disease had changed their lives, and their manhood was restricted by sexual dysfunctions and described as a burden. They used various coping strategies to manage this situation. Despite a positive relationship with their physicians, there is a risk that these patients will not be given the attention they need because of their good prognosis.Aim: The introduction of robotics in the operating room made its first major impact in the arena of prostate cancer. Robot assisted radical prostatectomy (RARP) is the most commonly performed surgery for prostate cancer in the United States.Erectile dysfunction is not the only sexual dysfunction that impact quality of life of patients following radical prostatectomy for prostate cancer. Patients must be informed about these consequences and also about the prevention and treatment modalities that could be proposed after surgery. Preoperative erectile function and couple motivation are predictive of the quality of the sexual relationship after radical prostatectomy. A preoperative erectile dysfunction must be investigated as well as if it was the main symptom (evaluation of comorbidities, cardiovascular and psychological risk factors). The quality of the preservation of the neurovascular bundles is the other main determinant that must be decided according to cancer characteristics and performed according to a mastered surgical technic.The current trends in favor of androgen deprivation therapy (ADT) for nonmetastatic prostate cancer at the stage of biochemical recurrence or increasing prostate-specific antigen (PSA) raises the issue of exposing otherwise asymptomatic patients to potential side effects over the longer term. Some of these side effects can have deleterious effects on quality of life, and others may contribute to increased risks for serious health concerns associated with aging. Sexual side effects are the most well-recognized adverse effects from ADT and include loss of libido, erectile dysfunction (ED), and hot flashes. Loss of libido is distressing to many men, and they may not pursue treatments for ED. However, for those who do maintain sexual interest, various remedies are available. The incidence of hot flashes, which may not abate over the course of ADT, is close to 80%. Estrogens, progestin megestrol acetate, medroxyprogesterone acetate, venlafaxine, and cyproterone acetate have been shown to alleviate hot flashes and associated symptoms. Physiologic effects, including gynecomastia, changes in body composition (weight gain, reduced muscle mass, increase in body fat), and changes in lipids, are less commonly recognized as side effects of ADT. These may lead to an exacerbation of potentially more serious conditions, such as hypertension, diabetes, and coronary artery disease. Loss of bone mineral density, anemia, and hair changes also may occur. Additionally, both the diagnosis of prostate cancer and the hormonal therapy can cause psychological distress. These side effects need more systematic study in clinical trials. Physicians should be aware of far-reaching consequences of ADT and should incorporate strategies for preventing and managing toxicities into routine practice.Background: Luteinizing hormone-releasing hormone (LHRH) agonists have been widely used as effective agents in endocrine therapy for prostate cancer. Continuous administration of the drug results in profound suppression of testicular androgen production. However, the side effects on erectile function have not been fully investigated.Objectives: We assessed the impact of nocturia on the general and disease-specific health-related quality of life (HRQOL) for men with localized prostate cancer.In both research and clinical settings, men who survive prostate cancer emphasize the need for more open communication about the challenges they face. They explain that symptomatic dysfunction associated with treatment is grounded in complex social situations and relationships. Yet, structured quality of life questionnaires preclude expressions of the elaborate accounts they often evoke. We explore this in the case of prostate cancer. Seventy-one patients who had undergone radical prostatectomy at a mid-Atlantic University Medical Center, a Veterans Affairs medical center affiliated with the same university, or were US members of an international prostate cancer support group completed a survey protocol including assessments of urinary morbidity, psychosocial adjustment to illness (PAIS), and health status (SF-36). At the conclusion, a single open-ended item was offered; 48 offered an extended response. The open-ended item was recorded and analyzed qualitatively. Data were summarized according to four main themes: (1) quality of patient-physician communication; (2) change in sexual identity; (3) fear of cancer; and (4) the humiliation of urinary incontinence. Future research on outcomes of treatment and clinical inquiry must focus on methods that systematically capture patients' experiences.Androgen deprivation therapy (ADT) has been an essential treatment option for treating prostate cancer (PCa). The role for hormonal treatment initially was restricted to men with metastatic and inoperable, locally advanced disease. Now it has been extended to neoadjuvant or adjuvant therapy for surgery and radiotherapy, for biochemical relapse after surgery or radiation, and even as primary therapy for non-metastatic disease. Fifty percent of PCa patients treated will receive ADT at some point. There is growing concern about the adverse effects and costs associated with more

widespread ADT use. The adverse effects on quality of life (QoL), including physical, social and psychological well-being when men are androgen-deprived, may be considerable. This review examines the QoL issues in the following areas: body feminisation, sexual changes, relationship changes, cognitive and affective symptoms, fatigue, sleep disturbance, depression and physical effects. Further suggestions for therapeutic approaches to reduce these alterations are suggested.Objectives: High-dose external radiation for localized prostate cancer results in favorable clinical outcomes and low toxicity rates. Here, we report long-term quality of life (QOL) outcome for men treated with conformal protons.Purpose: Our goal was to evaluate the effect of focal vs extended irreversible electroporation on side effects, patient-reported quality of life, and early oncologic control for localized low-intermediate risk prostate cancer patients.Background: The primary treatments for clinically localized prostate cancer confer equivalent cancer control for most patients but disparate side effects. In the current study, the authors sought to compare health-related quality of life (HRQOL) outcomes after the most commonly used treatments.Objective: The primary aim of this study was to examine the perceptions of older men with prostate cancer regarding their quality of life and physical activity post-diagnosis, and the potential benefits and risks associated with being physically active. A secondary aim was to gain some preliminary insight into how these perceptions may differ as a function of androgen deprivation therapy (ADT).Purpose: Health-related quality-of-life (HRQOL) concerns are pivotal in choosing prostate cancer therapy. However, concurrent HRQOL comparison between brachytherapy, external radiation, radical prostatectomy, and controls is hitherto lacking. HRQOL effects of hormonal adjuvants and of cancer control after therapy also lack prior characterization.Objectives: To explore an alternative approach to quantifying the burden of side effects at 1 year after treatment for prostate cancer among both patients and their partners.Objectives: The aim of this study was to identify the factors that contribute to psychological adjustment in prostate cancer patients two or more years post-treatment.Background: Androgen deprivation therapy (ADT) has become the cornerstone of treatment for men with metastatic prostate cancer. However, treatments are associated with a number of adverse effects that collectively are referred to as andropause syndrome, or the male menopause.Purpose: For patients with good urinary function and presenting with a low risk prostate cancer, prostate brachytherapy using iodine implants represents one of the techniques of reference. This retrospective analysis investigates urinary (U), digestive (D) and sexual (S) toxicities and their prognostic factors of duration.Localized cancer of the prostate can be treated by radical prostatectomy, external beam irradiation, or radioactive implantation with similar survival results. Radical prostatectomy, however, almost universally results in impotency, although a new, nerve-sparing procedure may preserve potency in B1 patients. External beam irradiation radiates a large volume of tissue with significant rectal and bladder morbidity, 23-47% risk of impotency, and requires prolonged treatment (6-8 weeks). Radioactive implantation may be done suprapubically or transperineally using iodine-125, gold-198, or radon-222 permanent implantation techniques and iridium-192 or radium-226 removable implantation techniques. Interstitial iodine-125 implantation is frequently employed since it is a short procedure and limits the morbidity to a 7% incidence of impotency, 20% urinary complications, and 5% rectal complications. The overall 5-year survival of patients with iodine-125 is 79%, the survival rate decreasing with increasing T or N stage or increasing grade of tumor.In all, 30% to 90% of prostate cancer patients undergoing radical prostatectomy (RP) recover their erectile capacity. No effective post RP erectile rehabilitation program exists to date. The aim of this exploratory qualitative study is to explore the needs of these patients and to develop a patient education program (PEP) which meets these needs. Interviews were carried out by a socio-anthropologist with prostate cancer patients treated by RP within the 6 previous months. The needs and expectations identified led to the choice of a logical model of change for the construction of the PEP. Nineteen patients were included in the study; 17 of them were living with a partner. Two categories of patients appeared during the interviews: informed patients resigned to lose their sexuality and patients misinformed about the consequences of the surgery. The tailored program was built on the Health Belief Model and provides six individual sessions, including one with the partner, to meet the needs identified. This study designed the first program to target comprehensively the overall sexuality of the patient and his partner, and not only erection issues. To demonstrate the effectiveness of this program, a controlled, multicentric clinical trial is currently ongoing.Background and purpose: To prospectively evaluate long-term urinary, bowel and sexual function after I-125 brachytherapy for localised prostate cancer using patient administered validated Quality of Life (QoL) instruments.Erectile dysfunction is a known adverse effect associated with prostate cancer treatment. Established nursing interventions can positively affect the sexual functioning of these individuals and improve their quality of

life.Purpose: We sought to compare changes in patient-reported quality of life (PRQOL) following stereotactic body radiation therapy (SBRT), high dose rate (HDR), and low dose rate (LDR) brachytherapy for prostate cancer.Objective: To evaluate a sexual rehabilitation service for men with prostate cancer and to use these results to inform the development of future care.Objective: To evaluate the prevalence of urological morbidity in patients with prostate cancer and its influence on global quality of life (QL).Introduction: The International Consultation for Sexual Medicine met in Lisbon in 2018 to review updated recommendations regarding testosterone deficiency (TD) and its treatment.Purpose: We evaluated associations between demographic and clinical characteristics, quality of life outcome measures and erectile aids in men treated for localized prostate cancer.Background: Many guidelines advocate the use of shared decision making for men with newly diagnosed prostate cancer. Decision aids can facilitate the process of shared decision making. Implicit in this approach is the idea that physicians understand which elements of treatment matter to patients. Little formal work exists to guide physicians or developers of decision aids in identifying these attributes. We use a mixed-methods technique adapted from marketing science, the 'Voice of the Patient', to describe and identify treatment elements of value for men with localized prostate cancer.Introduction: Although low sexual desire is 1 of the most common sexual dysfunctions in men, there is a lack of studies investigating associated factors in large, population-based samples of middle-aged men.Context: Sexual dysfunction is common in patients who undergo radical prostatectomy (RP) for prostate cancer (PCa).Commonly used measures of comorbidity assess comorbidity number and type but not severity. We sought to evaluate the impact of comorbidity severity on longitudinal health-related quality of life (HRQOL) in men treated with radical prostatectomy (RP) or radiation therapy (RT) using the Total Illness Burden Index for prostate cancer (TIBI-CaP). We sampled 738 men with non-metastatic prostate cancer treated with RP or RT from the Cancer of the Prostate Strategic Urologic Research Endeavor registry. We examined the impact of comorbidity severity on generic and disease-specific HRQOL at baseline and at 6, 12, 18 and 24 months post-treatment. Men with worse TIBI-CaP comorbidity had significantly lower baseline and post-treatment HRQOL in all domains at all time points. In a multivariate model, men with moderate or severe TIBI-CaP comorbidity had significantly worse HRQOL scores at 12 and 24 months after treatment in all domains except sexual and urinary function ($P<0.05$); in these domains, severe comorbidity was predictive of lower HRQOL ($P<0.05$). Comorbidity groups had similar absolute declines in HRQOL from baseline to 6 and 24 months after treatment. Although comorbidity groups experienced similar long-term declines from baseline HRQOL after treatment, men with more severe comorbidity had significantly lower baseline scores and therefore poorer long-term HRQOL.The experience of men who have completed cancer treatment and transitioned into survivorship is not well understood; therefore, a qualitative, descriptive, narrative analysis was conducted with open-ended questions that participants responded to annually during the course of a 10-year period. The participants expressed that the experience was complex and three themes were identified: "symptoms," "can't go back," and "needs." Time also emerged as an important concern. Participants indicated that sexual and physical symptoms impacted their entire life and that acknowledgment, information, and help from others were important to their recovery. Returning to baseline functioning was no longer possible; rather, a new normal now existed. The findings will help oncology nurses better understand the experience of being a prostate cancer survivor. The need for long-term interventions with information delivered prior to, during, and beyond the treatment process was identified. Clinical interventions should move toward a more integrated approach that helps men develop their new normal.Purpose: Negative physical functioning outcomes including incontinence and erectile dysfunction are relatively common following radical prostatectomy (RP) and are associated with treatment regret and compromised quality of life (QOL). The role that treatment regret may have in influencing the association between prostate-specific QOL (i.e., sexual, urinary, bowl functioning) and general QOL following RP has not been examined.Sexual health is compromised by the diagnosis and treatment of virtually all cancer types. Despite the prevalence and negative impact of sexual dysfunction, sexual health clinics are the exception in cancer centers. Consequently, there is a need for effective, efficient, and inclusive sexual health programming in oncology. This paper describes the development of the innovative Sexual Health Clinic (SHC) utilizing a hybrid model of integrated in-person and virtual care. The SHC evolved from a fusion of the in-person and virtual prostate cancer clinics at Princess Margaret. This hybrid care model was adapted to include six additional cancer sites (cervical, ovarian, testicular, bladder, kidney, and head and neck). The SHC is theoretically founded in a biopsychosocial framework and emphasizes interdisciplinary intervention teams, participation by the partner, and a medical, psychological, and interpersonal approach. Virtual

visits are tailored to patients based on biological sex, cancer type, and treatment type. Highly trained sexual health counselors facilitate the virtual clinic and provide an additional layer of personalization and a "human touch". The in-person visits complement virtual care by providing comprehensive sexual health assessment and sexual medicine prescription. The SHC is an innovative care model which has the potential to close the gap in sexual healthcare. The SHC is designed as a transferable, stand-alone clinic which can be shared with cancer centers.Background: Both the 5-item short version of the International Index of Erectile Function (IIEF-5) and the Expanded Prostate Cancer Index Composite (EPIC) have been used to assess erectile function. In this study, the authors compared various definitions of potency according to the IIEF-5 and the EPIC.Introduction: Our purpose was to: (1) assess the level of consistency between the quality-of-life (QOL) scores of men with prostate cancer for urinary/bowel/sexual bother, collected via telephone versus self-administered survey; (2) determine factors associated with variation in level of agreement; and (3) assess the efficacy of telephone interview as a mode of administration against the "gold standard" tool, EPIC-26.Objectives: To determine the responsiveness of the University of California-Los Angeles Prostate Cancer Index (UCLA-PCI) by studying its sensitivity to clinically perceptible changes in health over time in men treated for localized prostate cancer.Radical prostatectomy is the standard treatment for organ/specimen-confined prostate cancer, yet erectile dysfunction in selected series is still reported as high as 90% after this procedure. Thus, most men need adjuvant treatments to be sexually active following radical prostatectomy. These include vacuum constriction devices, intracorporeal injections of vasoactive drugs, and transurethral dilators, all of which have reported response rates of 50% to 70%. Unfortunately, long-term compliance is suboptimal, with a discontinuation rate of nearly 50% at one year. These non-oral options should be offered on an individual basis to patients who have failed oral therapy since efficacy and compliance vary. Also, these options should be considered in the early postoperative period to enhance sexual activity and penile oxygenation, which may prevent corporeal fibrosis. Early penile rehabilitation with intracavernosal injections or vacuum constriction devices should be encouraged to increase chances for recovery of rigid erections. In patients with some preservation of nerve tissue, oral sildenafil may be effective in promoting an earlier return of erectile function. The potential impact of sildenafil and other new oral therapies should encourage urologists to continue to perform and perfect the nerve-sparing approach.Purpose: To compare patient-reported disease-specific functional outcomes after external beam radiation therapy (EBRT) and EBRT combined with low-dose-rate brachytherapy prostate boost (EB-LDR) among men with localized prostate cancer.The importance of good sexual function for individuals, patients and their general health and well-being is well recognised. Testosterone is contributory to a healthy sexual life for both women and men. The British Society for Sexual Medicine (BSSM) has initiated and led the development of guidelines for the assessment and use of testosterone deficiency in both women and men for use within the UK and beyond. Clinical awareness of the possibility of testosterone deficiency and the impact this may have on an individual's sexual and somatic function and the need to make sufficient enquiry about the sex life of patients attending a broad clinical spectrum is emphasised. The management of testosterone deficiency is outlined in detail for both women and men.The purpose of this study was to examine differences in sexual attitudes and quality of life of White and African-American men who have undergone radical prostatectomy or radiation therapy for localized prostate cancer. Respondents included 1,112 White and 118 African-American men. Response rates differed by race, with 51% of White men and 28% of African-American men returning the questionnaire assessing demographics, medical history, sexual functioning, attitudes about seeking help for sexual problems, sexual self-schema, and health-related quality of life. African Americans were more likely than Whites to have undergone radiation therapy ($p < .0001$) and were more likely to indicate that a desire to maintain sexual functioning influenced their treatment choice ($p < .0001$). African-American men also had more positive attitudes than did White men toward seeking help for sexual problems and were more likely to report seeking past help and intending to seek future help. African-American men reported more problems with sexual desire ($p = .0003$), although their sexual function scores did not differ significantly from those of Whites. African-American men may be more at risk for distress when prostate cancer treatment causes sexual dysfunction.Introduction: There is growing interest in using exercise to treat. Although many studies have highlighted the relationship between better erectile function and exercise, black men have been underrepresented in the literature.Objective: To improve and individualise estimates of treatment outcomes for men diagnosed with prostate cancer, we examined the impact of baseline comorbidity on health-related quality of life (HRQL) outcomes in an analysis of two pooled, prospective cohort studies.Background: Male sexual dysfunction is an

increasing problem across a variety of general and clinical populations, such as cancer populations; especially among prostate cancer patients who tend to receive treatments that often result in erectile dysfunction (ED) and/or premature ejaculation (PE). Therefore, in order to diagnose ED and PE in these populations, adequate and efficient instruments such as the International Index of Erectile Function 5-item version (IIEF-5) and the Premature Ejaculation Diagnostic Tool (PEDT) are needed. However, since this is an important topic additional evidence of psychometric properties of the IIEF-5 and the PEDT in such samples are required. Thus the aim of the present study was to use Rasch models to investigate the construct validity, local dependency, score order, and differential item functioning (DIF) of both questionnaires in a sample of prostate cancer patients.Objective: To examine the effects of different treatments on the health-related quality of life (HRQoL) of men with localized prostate cancer.We use the word "tumour" both for a benign prostatic hypertrophy and for a prostatic cancer. The psycho-emotional reactions from a man suffering from these illnesses could be different depending on the kind of tumour, but could be similar especially concerning sexual problems connected with the specific affliction. Hence the necessity also to consider beneficial a psychotherapeutic and sexotherapeutic intervention.DHEA is a prohormone that is secreted by the corticoadrenal glands on a nyctohemeral rhythm alike to that of testosterone. Its plasmatic level gets reduced with ageing in a great amount of individuals, but not in all. Moreover, DHEA is a neurosteroid synthesized by certain neurons. As shown by correlation studies, lowered levels of DHEA wre linked to a higher death rate, in part of the studied population. Besides, an improvement in well being as well as in some mental functions, after a 50 mg daily intake, was shown in preliminary studies. Many well-conducted studies followed which only partially confirmed the previous ones. Nowadays, it seems to be taken for granted that DHEA becomes estrogens and androgens and that its action on women is mainly an androgenic one. DHEA becomes active after intracellular transformation, which varies according to the enzymatic set of cells. Some effect on elderly women's libido, and improvement in erectile dysfunction in men without vascular pathology but a lowered DHEA level, has been observed. Thus, using DHEA in order to cure sexual troubles might be considered, although the possible negative effects of DHEA, especially on breast and prostate, have not been discarded yet. The conditions under which it could have a beneficial effect on mental functions remains to be discovered. Acknowledgement of those pathological situations, in which DHEA could prove useful, as well as the administration posology is, therefore, crucial.Background and purpose: To assess the correlation between different general and organ specific quality of life and morbidity scoring methods in a cohort of men treated with radical radiotherapy for prostate cancer.We examined decisional regret among prostate cancer patients and its association with disease-specific quality of life. Patients (N = 793) completed questionnaires at diagnosis, at 6 months, and 12 months thereafter. Although levels of decisional regret were low, regret increased significantly between 6 and 12 months after diagnosis. The increase was substantial for patients treated with prostatectomy compared to patients treated with external beam radiation or brachytherapy. Cross-sectional, significant, and positive associations among regret, activity limitation attributed to urinary dysfunction, and bother with sexual and urinary dysfunction emerged. Longitudinally, the change in the level of regret was significantly associated with treatment modality and with the change in bother with sexual dysfunction over the first 6 months after diagnosis. Extensive discussions about disease-specific quality of life should be included when physicians counsel patients about treatment options.McKee and Schover have suggested that sexuality is an aspect of intimacy that is frequently compromised by cancer and its treatments. Cancer, both in terms of diagnosis and treatments, may have a dramatic impact on both intimacy and sexuality. There is a body of published research addressing sexual concerns among patients with prostatic, testicular, breast, and rectal cancers. This issue seems to be less well documented in patients who have undergone haematopoietic stem cell transplantation (HSCT). In this review, we seek to elaborate different points regarding sexuality and how it is affected in patients undergoing HSCT, with the aim of identifying optimum solutions for such patients in confronting such problems in the course of cancer treatment.Purpose of review: Although cure of prostate cancer is the primary goal of radical prostatectomy, preserving erectile function is also tantamount, given the indolent clinical course of most prostate cancers, particularly low-risk disease. In order to optimize postprostatectomy erectile function during a robotic-assisted radical prostatectomy, there must be a detailed understanding of pelvic anatomy to recognize the optimal nerve-sparing plane and technical finesse to minimize stretch injury to the neurovascular bundle.We assessed the longitudinal alteration of the quality of life (QOL) of patients with localized prostate cancer after radical prostatectomy or hormonoradiotherapy during 3-y follow-up. In addition, we examined the impact on QOL of initiation of second treatment after failure of primary

treatment. In all, 135 patients with localized prostate cancer who underwent radical retropubic prostatectomy (RP) (N=84) or external beam radiotherapy with neoadjuvant hormone (XRT) (N=51) at our institute and who had a minimum follow-up of 3 y were included in this study. Data were collected prospectively, at baseline, at 3 months after treatment, at 1 y, and annually thereafter. QOL, generic and disease-targeted was evaluated using the European Organization for Research and Treatment of Cancer Prostate Cancer QOL Questionnaire, the Sapporo Medical University Sexual Function Questionnaire, the International Prostate Symptom Index Quality of Life Score and similar questions regarding bowel function. Repeated-measures ANOVA revealed significantly different patterns of alteration in the domains of QOL, with the exception of several domains, between the RP and XRT groups. Rapid decline of sexual function and increase in sexual bothersomeness were followed by slight amelioration throughout follow-up in the RP group, and did not change thereafter in the XRT group. Overall satisfaction with urinary condition significantly improved after treatment and that with bowel condition was stable during follow-up in both of the groups. Failure of primary treatment and initiation of salvage treatment had no impact on QOL. This prospective study revealed longitudinal alteration of QOL status of patients undergoing treatment for localized prostate cancer, but did not yield any conclusions regarding effect of treatment failure and second treatment on QOL due to small sample size. It should be noted that different instruments for assessment of QOL can generate different outcomes.Objective: To assess the effectiveness of a progressive local treatment protocol for erectile dysfunction (ED) in patients after undergoing radical retropubic prostatectomy (RRP) for prostate cancer.Common genitourinary health issues that arise in the care of male patients include prostatitis, benign prostatic hyperplasia, urogenital cancers, premature ejaculation and erectile dysfunction. Bacterial infections are responsible for only 5 to 10 percent of prostatitis cases. Benign prostatic hyperplasia is present in 90 percent of men by the age of 85. Common urogenital cancers include prostate cancer, transitional cell carcinoma of the bladder and testicular cancer. Although an estimated 10 percent of men eventually develop prostate cancer, screening for this malignancy is one of the most controversial areas of health prevention. Premature ejaculation occurs in as many as 40 percent of men. Treatment with tricyclic antidepressants, selective serotonin reuptake inhibitors, counseling or behavioral therapy may be helpful. Erectile dysfunction affects up to 30 percent of men between 40 and 70 years of age. Stepped therapy is a useful approach to this common malady. Good treatment results have been obtained with orally administered sildenafil and intraurethrally administered alprostadil.Purpose: We performed a cross-cultural comparison of sexual function and bother in men with localized prostate cancer in the United States and Japan.As radical prostatectomy (RP) remains a commonly used procedure in the treatment of clinically localized prostate cancer, we critically analyzed the evidence suggesting the role of pharmacological prophylaxis and treatment of erectile dysfunction (ED) after surgery. Systematic literature review using Medline and Cancerlit from January 1997 to December 2006. Abstracts published in the journals European Urology, The Journal of Urology, The International Journal of Impotence Research and The Journal of Sexual Medicine as official proceedings of internationally known scientific Societies held in the same time period were also assessed. Patient selection and surgical technique (i.e., preservation of neurovascular bundles) are the major determinants of post-operative erectile function. Pharmacological treatment of post-operative ED, using either oral or local approaches, is effective and safe. Moreover, recent studies have shown that pharmacological prophylaxis early after RP can significantly improve the rate of erectile function recovery after surgery. Use of on-demand treatments for treatment of ED in patients subjected to RP has been shown to be highly effective, especially in case of properly selected young patients treated with a bilateral nerve-sparing approach by experienced surgeons. In this context, pharmacological prophylaxis may potentially have a significant expanding role in future strategies aimed at preserving post-operative erectile function.Purpose: Previous research has raised concerns that although salvage cryosurgery may be an effective treatment to prevent the progression of prostate cancer after radiotherapy failure, the quality of life cost many be so severe as to prevent its acceptance as a viable treatment. The present study's purpose was to further the understanding of the quality of life outcomes of salvage cryosurgery.Objectives: To identify the factors underlying prostate cancer (PCa) patients' depression-anxiety, sexual problems, urinary dysfunction and androgen deprivation therapy (ADT)-linked breast changes and hot flushes, and test these as predictors of loss of masculinity (LoM) over 36 months following diagnosis.Objective: This study aimed to estimate the proportion of patients with prostate cancer (PCa) meeting the National Physical Activity Guidelines of Australia (NPAGA) and determine sociodemographic and medical factors associated with meeting these guidelines. Secondary aims included examining physical activity (PA) levels by treatment type and domain (leisure, work,

transport and domestic) and establishing a predictive model of the likelihood that men with PCa would meet NPAGA.Purpose: We sought to elucidate long-term changes in health-related quality-of-life (HRQOL) outcomes by prospectively re-evaluating a well-characterized cohort of prostate cancer (PC) survivors 4 to 8 years after primary treatment.Introduction: Quality of life (QL) assessment should be an essential part of clinical practice and should also be included in every clinical trial of prostate cancer. The term QL describes a person's overall well-being comprising not only physical functioning but also psychological and social dimensions. It is important to remember that QL can be affected by the disease as well as by the therapeutic treatment adopted.Purpose: Comparing patient reported outcomes such as urinary and erectile function across institutions is critical for prostate cancer research and quality assurance. Such comparisons are complicated due to the use of different questionnaires. We aimed to develop a method to convert scores among 4 commonly used instruments.Background and purpose: Evaluate changes in bowel, urinary and sexual patient-reported quality of life following treatment with moderately hypofractionated radiotherapy (<5Gray/fraction) or stereotactic body radiation therapy (SBRT;5-10Gray/fraction) for prostate cancer.Patients treated for a prostate cancer and their partners agree to classify importance of quality of life domains as follow: first sexual life, vitality, irritative and obstructive urinary tract symptoms, urinary incontinence and bowel function. Each first line treatment of prostate cancer (radiotherapy, brachytherapy and surgery) is responsible for a specific quality of life domains modification profile. It is very difficult to predict, for a given patient, the importance of the sequellae and their perception by the patient and the partner. Information, prevention and early treatment of the sequellae allow improving quality of life.The objective of this study was to characterize changes in the quality of life (QOL) of Japanese patients following robot-assisted radical prostatectomy (RARP). This study included 298 consecutive localized prostate cancer (PC) patients undergoing RARP. The health-related QOL and disease-specific QOL were assessed using The Medical Outcomes Study 8-Item Short Form (SF-8) and The Extended Prostate Cancer Index Composite (EPIC), respectively, before and 1, 3, 6, 12 and 24 months after RARP. At 1 month after RARP, four (physical function, role limitations because of physical health problems, social function and role limitations because of emotional problems) of the eight scores in SF-8 were significantly impaired compared with those of baseline scores. However, all eight scores on all postoperative assessments, except for at 1 month after RARP, showed no significant differences from baseline scores. Although there were no significant differences in the bowel function, bowel bother, sexual bother, hormonal function or hormonal bother between baseline and postoperative assessments of EPIC at all time points, the urinary function, urinary incontinence and sexual function scores at 1, 3 and 6 months after RARP were significantly inferior to those of baseline scores, and urinary bother and urinary irritation/obstruction scores at 1 month after RARP were significantly impaired compared with those of baseline scores. These findings suggest that the health-related QOL of Japanese PC patients undergoing RARP may not be markedly deteriorated following RARP; however, as for the disease-specific QOL, urinary and sexual functions, particularly those early after RARP, appeared to be significantly impaired.The increase in the number of prostate cancer survivors and their relatively young age has prompted many urologists to concentrate on early penile rehabilitation to improve potency rates following radical prostatectomy. Positive results from various procedures range from 14% to 81% following bilateral nerve-sparing laparoscopic radical prostatectomy, to 43% to 97% following robotic-assisted laparoscopic prostatectomy. An early program with an erectaid improves erectile physiology and performance and logistically, the combination of a 5-phosphodiesterase inhibitor and a vacuum constriction device may prove to be the most user-friendly, cost-effective, and patient-compliant. Other issues that affect patient compliance, such as loss of interest and fear of undertaking sexual activity, will only be revealed through long-term patient follow-up and care.Objective: To evaluate the association between complementary and alternative medicine (CAM) use, satisfaction with treatment, and patient-reported outcomes after treatment.Background: To ascertain 3-year urinary continence (UC) and sexual function (SF) recovery following robot-assisted radical prostatectomy (RARP) for clinically high-risk prostate cancer (PCa).Male sexuality is a complex phenomenon shaped by personal, cultural,and social factors. This article has argued that male sexual function is an important consideration in conditions such as prostate cancer. There are surely other conditions where it is understood even more poorly. Although theorists tend to explore male sexuality in relation to vague concepts such as power, phallocentrism, and aggression, sexuality becomes a personal reality in illness contexts. Using insights from a study into prostate cancer, it has been suggested that men assess embodied risks, such as impotence, in highly individual ways. The uncertainty that characterizes this cancer further compounds the difficulties involved, despite attempts

of professionals to provide adequate levels of information and support. Researchers and practitioners alike should begin to question the gap between theoretical constructions of male sexuality and its reality in healthcare situations. More attention should be paid to understanding the importance of sexual function for men who are living with conditions such as prostate cancer. Those men who face up to the threat of such embodied changes, and who learn to cope with physical and emotional (and sexual) vulnerability, may learn to evaluate their lives in new ways. As Kenneth, one of the participants in this study said of his experience of cancer, "It just seems unnecessary for them to have to go through that to learn and understand themselves and be honest with themselves about what is really important."Aim: The treatment of prostate cancer using high intensity focused ultrasound (HIFU) is considered to be mini-invasive and normally has a low rate of morbidity. The aim of this study was to evaluate the quality of life of patients treated with HIFU.Objective: To investigate the impacts of leuprolide acetate on the quality of life (QoL) of patients with prostate cancer.Background: Treatment for localized prostate cancer (PCa) can cause long-term changes in erectile functioning. However, data on the importance of sexuality and possible consequences of altered erectile functioning on self-esteem in men with localized PCa are lacking.Radical prostatectomy commonly results in urinary, sexual, and bowel dysfunction that bothers men and may lead to depressive symptomatology (hereafter depression) that occurs at a rate 4 times greater for men with prostate cancer than healthy counterparts. The purpose of this study was to assess depressive symptoms in men shortly after radical prostatectomy and to identify associated risk factors. Seventy-two men were interviewed 6 weeks after surgery. Measured were depression (Geriatric Depression Scale), self-efficacy (Stanford Inventory of Cancer Patient Adjustment), social support (Modified Inventory of Socially Supportive Behaviors), physical and emotional factors (UCLA Prostate Cancer Index), and social function (SF-36 subscale). Results indicate that men with high self-efficacy and less sexual bother were 45% and 55% less likely to have depressive symptoms, respectively. Findings from this study add to the limited amount of information on the complex relationship between prostate cancer treatment and depression in men.We thank Robert McConkey for highlighting the effect of erectile dysfunction after prostate cancer treatment (art & science November 18).Objective: To explore patients' quality of life (QoL) during neoadjuvant hormone therapy (HT) using data from the Medical Research Council RT01 trial of standard- (64 Gy/32-fraction) and high- (74 Gy/37-fraction) dose radiotherapy (RT, both given conformally).The objective of this study is to compare the quality of life (QOL) outcomes between laparoscopic radical prostatectomy (LRP) and robot-assisted radical prostatectomy (RARP). Between July 2007 and July 2013, 229 patients with localized prostate cancer underwent LRP while 105 patients with localized prostate cancer underwent RARP between December 2012 and August 2014. We evaluated their QOL using the 8-item Short-Form Health Survey (SF-8) and Expanded Prostate Cancer Index of Prostate (EPIC) questionnaires at preoperative and at postoperative 3, 6 and 12 months. In the LRP and RARP groups, over 80 and 90% of patients answered questionnaires at each follow-up time, respectively. At baseline QOL of EPIC and SF-8, there was no significant difference between LRP and RARP groups. At postoperative 3 months, Physical and Mental Components of SF-8 and Urinary Summary (U), all Urinary Subscales, Sexual Function and Bowel Function of EPIC showed significantly better scores in RARP group than in LRP group. At postoperative 6 and 12 months, there were no differences between LRP and RARP groups in terms of all QOL scores. RARP group showed better scores in SF-8 as well as urinary and sexual function of EPIC at postoperative-3 months. These differences disappeared at postoperative 6 and 12 months.We prospectively assessed patients' erectile function (EF) using the International Index of Erectile Function (IIEF) and a global assessment questionnaire (GAQ) following permanent 125I-brachytherapy for localized prostate cancer. Of 378 treated patients, 220 had a minimal 2-y follow-up and 131/220 were sexually active prior to brachytherapy, with an EF domain score of > or = 11 (study group). Patients were allowed sildenafil at any time of the study. The patients' mean EF score, without excluding patients who used sildenafil, dropped within 3 months after brachytherapy, recovered at the end of the first year and remained unchanged for at least up to 2 y after treatment regardless of the addition of neoadjuvant hormone therapy to 125I-brachytherapy. Analysis of the GAQ revealed that 80% of the patients were satisfied with their sexual function up to 3 y after treatment. Any detrimental effect of permanent brachytherapy with or without the addition of hormone therapy on EF is reversible, and recovery is expected at 1 y after treatment in most patients.The quality of life of patients after radical prostatectomy is mainly influenced by erectile dysfunction (ED) and incontinence. New criteria for treatment and patient selection give us the opportunity to restore sexual function in more patients. When ED is present, we should not wait for 24 months for natural restitution. PDE-5-inhibitors, intracavernosal self injection

therapy and the vacuum constriction device are effective and conform to both patient and economic preference.Therefore, every urologists should be able to offer his patients an individual and successful approach to the therapy of ED after prostate cancer.Background: A recent randomized trial to compare external beam radiation therapy (EBRT) to cryoablation for localized disease showed cryoablation to be noninferior to external beam EBRT in disease progression and overall and disease-specific survival. We report on the quality of life (QOL) outcomes for this trial.Purpose: Both the diagnosis of prostate cancer (PCa) and the physiologic outcomes of surgical treatment impact the male's psychological sphere. However, current research advocates a refocusing of outcomes directed to the PCa "couple". Herein we acquire insight into perspective and concordance regarding male physiological function from the standpoint of a couple recovering from PCa surgery.Prostate carcinoma (PC) is the most commonly diagnosed cancer in men. Treatments for localized PC are associated with side effects including sexual dysfunction, which has been linked to decrements in health-related quality of life and elevated distress levels. In this study, we examined the relationship between 2 personality traits, interpersonal sensitivity and lack of sociability, assessed by the Inventory of Interpersonal Problems (IIP; Pilkonis, Kim, Proietti, & Barkham, 1996) and recovery of sexual functioning in 121 men (M age = 60.6 years) recently treated with radical prostatectomy. Interpersonal sensitivity refers to the predisposition to perceive and elicit criticism and rejection from others; lack of sociability refers to chronic difficulties taking the initiative in interpersonal situations. After adjusting for relevant covariates, interpersonal sensitivity, but not sociability, was significantly associated with lower levels of sexual functioning. Patient-physician communication and partner perceived social support were explored as mediators of this relationship. Although interpersonal sensitivity was significantly associated with both poorer patient-physician communication and lower levels of partner support, the results did not support mediation. This study provides preliminary evidence that certain IIP-assessed interpersonal styles may complicate the recovery of sexual functioning after surgical treatment for PC.Objective: To analyze expectations for sexual life after radical prostatectomy in patients and their partners, and its influence on sexual motivation and bothers in the postoperative period.Objective: To assess whether patients report a willingness to trade-off urologic adverse outcomes--urinary incontinence and total impotence--for a better chance of 5-year survival in the clinical setting of prostate cancer; and, if so, whether patients' current levels of symptoms of urinary incontinence, impotence, and frequency of sexual activity influence their decisions.Objective: To systematically review how sexuality is experienced by lesbian, gay, bisexual, transgender, queer or questioning, intersex plus (other gender identifies and sexual orientations) (LGBTQI+) persons living with chronic disease.Background/purpose: This study examined the relation of age to genitourinary functioning and depressive symptoms over time and examined how age influences the relation between genitourinary functioning and depressive symptoms over time in men treated for localized prostate cancer.Introduction: Prostate cancer is common and the incidence is increasing, but more men are living longer after diagnosis, and die with their disease rather than of it. Nonetheless, specific and substantial physical, sexual, emotional and mental health problems often lead to a poor quality of life. Urology services increasingly struggle to cope with the demands of follow-up care, and primary care is likely to play the central role in long-term follow-up. The present phase II trial will evaluate the feasibility and acceptability of a nurse-led, person-centred psychoeducational intervention, delivered in community or primary care settings.Context: Previous research has indicated that pretreatment response expectancies of side effects often predict subsequent toxicity severity. However, this has been largely based on female patients undergoing chemotherapy.Objectives: To evaluate the incidence and resolution of sexual adverse experiences (AEs) in men with benign prostatic hyperplasia treated with finasteride 5 mg compared with placebo.Aim: To evaluate the psychometrics of the EORTC QLQ-PR25, a questionnaire assessing the health-related quality of life of prostate cancer patients.Objectives: To identify the associations between socioeconomic status (SES) and health-related quality of life (HRQOL) and the explanatory contribution of disease, patient and healthcare factors among patients with prostate cancer.Introduction: A series of previously neglected sexually related side effects to radical prostatectomy (RP) has been identified over the recent years. These include orgasm-associated incontinence (OAI), urinary incontinence in relation to sexual stimulation (UISS), altered perception of orgasm, orgasm-associated pain (OAP), penile shortening (PS), and penile deformity.Background: Health-related quality of life (HR-QOL) is important when considering the treatment options for prostate cancer.Men can experience significant changes to their sexuality following the onset of cancer. However, research on men's sexuality post-cancer has focused almost exclusively on those with prostate and testicular cancer, despite evidence that the diagnosis and treatment for most cancers can impact on men's sexuality. This

Australian qualitative study explores the experiences of changes to sexuality for 21 men across a range of cancer types and stages, sexual orientations and relationship contexts. Semi-structured interviews were analysed with theoretical thematic analysis guided by a material discursive intra-psychic approach, recognising the materiality of sexual changes, men's intrapsychic experience of such changes within a relational context and the influence of the discursive construction of masculine sexuality. Material changes included erectile difficulty, decreased desire, and difficulty with orgasm. The use of medical aids to minimise the impact of erectile difficulties was shaped by discursive constructions of 'normal' masculine sexuality. The majority of men reported accepting the changes to their sexuality post-cancer and normalised them as part of the natural ageing process. Men's relationship status and context played a key role managing the changes to their sexuality. We conclude by discussing the implications for clinical practice.Objective: To assess the relationship between of androgen deprivation therapy (ADT) and the mood of prostate cancer (PCa) patients and partners of PCa patients.Objectives: We assessed if urinary, bowel, and sexual dysfunction and associated bother were part of the "normal" aging process in the general male Dutch population.Background: Patients on androgen deprivation therapy (ADT), a common treatment for prostate cancer, report significant declines in quality of life and detrimental impact on their intimate relationships. ADT depresses a man's testosterone to castrate levels, leading to declines in sexual function, and changes in mood. These changes can have profound impact on couples' intimate relationships.Brachytherapy for early prostate cancer can cause long-term urinary, bowel, and sexual dysfunction. Modifying technique may mitigate complications, but definitive outcome assessment requires long-term follow-up. Although radiation dose plausibly mediates all treatment-related toxicity, short-term symptoms may indicate long-term outcomes. We sought an early indication of whether a modified brachytherapy technique successfully decreased toxicity in the anticipated direction by assessing changes in symptoms and symptom distress 3 months after treatment. In a prospective study of clinically localized prostate cancer using a validated, patient-reported questionnaire, we assessed 85 men, whose primary treatment was brachytherapy alone, prior to treatment and 3 months after the procedure. Twenty-two men received standard ultrasound-guided brachytherapy (SB), and 63 men received magnetic resonance imaging-guided brachytherapy (MB), a technique intended to decrease urinary toxicity by reducing urethral irradiation. Patient age and other sociodemographic variables were similar in the 2 groups. The MB group experienced a greater increase in urinary obstruction/irritation symptoms ($P = 0.02$) and sexual function distress, but not sexual dysfunction ($P = 0.22$), whereas the SB group reported a smaller increase in bowel symptoms ($P = 0.04$) and bowel distress ($P = 0.02$). We found reduced short-term urinary obstruction/irritation and increased bowel problems after MB consistent with the hypothesized effects of the modified technique, although no obvious mechanism explains the decreased sexual function distress in MB patients. Whether these short-term changes predict long-term outcome differences will require much longer follow-up. However, these results suggest that measuring early symptoms may indicate whether an altered brachytherapy treatment technique has intended favorable consequences, potentially accelerating technology assessment.Background: The aim of this prospective study was to investigate factors influencing long-term health-related quality of life (HRQoL) in patients treated for prostate cancer with no signs of tumor relapse.Erectile function recovery after radical prostatectomy (RP) is an increasingly prominent quality-of-life outcome following surgery. Following RP many men, despite the advent of cavernous nerve-sparing surgical technique, have moderately or significantly impaired erectile function (EF). The term penile rehabilitation (PR) is used to define interventions that maintain the health of erectile tissue in the context of nervous, vascular, and structural tissue injury. The goal of PR is to regain, as closely re-approximate, preoperative erectile function. PR is based on an increasing volume of preclinical and clinical data, but conclusive evidence of efficacy has not been established, and therefore the concept of PR remains controversial. The optimal PR regimen has not been established, but all strategies rely on one or more erectile dysfunction treatments to be administered on a regular basis regardless of actual use for sexual activity. This review highlights recent studies and evidence related to PR.Background: Penile prosthesis surgery is last-line treatment to regaining erectile function after radical prostatectomy (RP) for localized prostate cancer.Purpose/objectives: To describe the complexities of the medical management of patients undergoing treatment of prostate cancer; discuss the sequelae of treatment options, including surgery, external beam radiation, and brachytherapy; outline the evolution of interstitial prostatic brachytherapy and the current use of transperineal ultrasound-guided prostate implants using palladium-103 (103Pd), and discuss the side effects of the 103Pd prostate implant as well as the nursing management of patients who receive the implants.Purpose: Although younger men have better health related quality of

life scores after radical prostatectomy, many have higher baseline function with more to lose than older men. We examined the impact of age on sexual and urinary function and bother during the first 2 years after radical prostatectomy.Purpose: We propose a strategic, computer based, prostate cancer decision making model based on the analytic hierarchy process. We developed a model that improves physician-patient joint decision making and enhances the treatment selection process by making this critical decision rational and evidence based.Purpose: The purpose of this study was to illuminate how men under 65 years of age experience their everyday Life one year or more after a radical prostatectomy for localised prostate cancer.Purpose: We evaluated health related quality of life (HRQOL) and the direct medical care cost (DMC) in young men receiving radical prostatectomy.Sexual histories were obtained in 51 men with prostatic cancer and their spouses, before and after pelvic lymphadenectomy and retropubic 125I implantation. The average age of the patients was 64.7 years. Sexual activity was retained in 40 of the 41 patients who were sexually active before operation. Ten patients had been sexually inactive before operation--4 with diminished potency and 6 with complete erectile impotence. Sexual dysfunction was most often pyschogenic. At six months after the operation, 5 of these patients had resumed satisfactory sexual intercourse as a result of reassurance, encouragement and education of the remaining sexual potential. No patient was rendered completely impotent as a result of the procedure. Preservation of sexual potency represents a significant advantage of 125I implantation over other therapeutic modalities in the treatment of localized prostatic carcinoma.A laudable trend in urologic surgical oncology is to minimize operative morbidity by anatomic and functional organ preservation without compromising radicality. An increasing number of authors have taken advantage of the sexual-function-preserving cystectomy for bladder cancer. The modified procedure includes cystectomy with sparing of prostate, vasa deferens, seminal vesicles, and resection of a prostatic adenoma to avoid bladder outlet obstruction and bladder reconstruction with an orthotopic reservoir. This article focuses on studies from the last 15 years and includes the results from 13 centers worldwide. Many of them report a pattern of failure (local versus distant) that is highly unusual. Although a local recurrence rate of 7 of 252 patients is to be expected in this combined series the distant failure rate of 34 of 252 patients is at least twice as high as expected for the given series of superficial or organ-confined TCC. The observed distant failure rate of sexuality-preserving cystectomy in this potentially lethal disease is more than 5% higher as compared with standard radical cystectomy. The precise underlying mechanism of this unexpected pattern of failure following sexuality-sparing cystectomy is not fully understood. Furthermore, surgeons considering procedures that preserve a portion of the prostatic urethra, the prostatic capsule, or the entire prostate should recognize a 6% risk of significant prostatic cancer in any residual tissue, and the potential risk of urethral tumor involvement with TCC. Daytime continence following radical versus sexuality-sparing cystectomy is identical. Data on nighttime continence of sexuality-sparing cystectomy are inconclusive. The continuous intermittent catheterization rate following sexuality-sparing cystectomy, however, seems to be higher than after standard cystectomy. The only advantage sexuality-preserving cystectomy has is indeed preservation of these functions in a much higher percentage than following standard or nerve-sparing cystectomy. This is at the cost of radicality, however, and results in a 10% to 15% higher oncologic failure rate. Consequently, sexuality-sparing cystectomy for bladder cancer is a step in the wrong direction and should be abandoned.Objective: To evaluate the impact of radical prostatectomy (RP) upon quality of life (QOL) in patients with prostate cancer.Introduction: The lower urinary tract symptoms (LUTS) related to benign prostatic hyperplasia (BPH) and the treatment of prostate cancer (PCa) are linked to erectile dysfunction (ED). The objective of this work was to evaluate the influence of prostatic diseases on ED.Patient-reported outcome instruments for erectile function often ask respondents about their experience over the previous 4wk. This is problematic for baseline assessment of patients with prostate cancer (PC) before treatment, as the previous 4wk would probably have involved procedures such as biopsy and considerable anxiety related to their diagnosis. At San Raffaele Hospital, the International Index of Erectile Function (IIEF-6) was used to ask new PC patients about function in both the previous 4wk and 6mo. We compared responses to these two timeframes. IIEF-6 scores were lower for the 4-wk period (median 24 vs 26; $p<0.0001$) predominately because approximately one in six of patients with good function in the 6-mo time frame had very poor function in the 4wk before completing the questionnaire (adequate erectile function 60% and 51%; absolute difference 9%, 95% confidence interval 8-10%). Results were further confirmed using a comparison group of 5395 patients with PC newly diagnosed at Memorial Sloan Kettering Cancer Center who had similar function in the previous 6mo. Erectile function evaluation for men presenting with PC should involve asking about typical function over a 6-mo period rather than focusing on the previous 4wk. PATIENT SUMMARY:

Questionnaires to assess erectile function often ask men about function in the previous 4wk. We found that this underestimates function in new prostate cancer patients and that such men should be asked about typical function over a 6-mo period.Introduction: The association between cigarette smoking and erectile dysfunction has been well established. Studies demonstrate improvements in erectile rigidity and tumescence as a result of smoking cessation. Radical prostatectomy is also associated with worsening of erectile function secondary to damage to the neurovascular bundles. To our knowledge, no previous studies have examined the relationship between smoking cessation after prostate cancer diagnosis and its effect on sexual function following robotic prostatectomy. We sought to demonstrate the utility of a smoking cessation program among patients with prostate cancer who planned to undergo robotic prostatectomy at Kaiser Permanente Southern California.Radical prostatectomy (RP) is deemed to be the most effective standard treatment option for men with prostate cancer (PC). However, RP is accompanied by a number of complications leading to a substantial decline in the quality of sexual life of operated patients. Major complications of RP include: decreased sex drive, deterioration of erectile function, deformation of the penis, abnormal ejaculation and orgasmic dysfunction. Based on the current literature, the article deals with the issue of prevention and rehabilitation of patients after radical prostatectomy, describes the methods of conservative and surgical correction of complications, associated with surgical treatment of PC.Background: To assess the relationship between dosimetric parameters and the quality of life (QL) outcomes of patients with low-intermediate-risk localised prostate cancer (LPC) treated with low-dose-rate brachytherapy (LDR-BT).Objective: To retrospectively evaluate the toxicity of low-dose-rate brachytherapy and to relate it to the dose-volume to organs at risk.The precise assessment of sexual dysfunction after treatment of prostatic cancer cannot be avoided in 2002. These iatrogenic complications may significantly alter the quality of life of the patients. In addition, sexual toxicity is progressively becoming a cardinal parameter for the treatment choice, both for the patient and the physician. Significant efforts allowed to reduce sexual toxicity after therapy in the recent years. As an example, nerve-sparing surgical techniques have been proposed, whenever reasonable. However, in spite of these surgical advances, data suggest that overall, the new irradiation techniques (conformal radiotherapy and brachytherapy) are responsible for less alteration of sexual life than surgery. Another potential advantage is that sildenafil (Viagra) is able to restore potency in a majority of cases after radiotherapy, while it is usually poorly effective after surgery.Study Type - Therapy (case series) Level of Evidence 4 What's known on the subject? and What does the study add? Biochemical control from series in which radical prostatectomy is performed for patients with unfavorable prostate cancer and/or low dose external beam radiation therapy are given remains suboptimal. The treatment regimen of HDR brachytherapy and external beam radiotherapy is a safe and very effective treatment for patients with high risk localized prostate cancer with excellent biochemical control and low toxicity.Background: Arousal incontinence (AI) occurs during physical or psychological sexual stimulation in men and has been described after radical prostatectomy (RP).Sexual histories were obtained from 51 patients (average age 67.7 years) with prostatic cancer and their spouses before and after pelvic lymphadenectomy and retropubic 125iodine implantation. Sexual potency was retained in 40 of the 41 patients who were sexually active preoperatively. Ten patients were sexually inactive preoperatively: 4 with diminished potency and 6 with complete erectile impotence. Sexual dysfunction was most often psychogenic in origin. At 6 months 5 of these patients had resumed satisfactory sexual intercourse as a result of reassurance, encouragement and education of remaining sexual potential. No patient suffered complete erectile impotence as a result of the procedure.Background and purpose: Initial results of Stereotactic Ablative Body Radiotherapy (SABR) in the treatment of localized prostate cancer appear promising however long-term quality of life (QOL) outcomes and dosimetric correlates are necessary.Few self-assessment cancer-specific questionnaires/modules have yet been developed for radiotherapy-induced side effects. The aim of the present study was to test the reliability and responsiveness of a prostate cancer (PC)-specific questionnaire. Thirty-one patients with PC graded their urinary and intestinal symptoms and their sexual function on the questionnaire. A doctor and a nurse performed a structured interview and graded the patient's symptoms with the same questions. The procedure was performed at both the start and the end of the treatment. A high concordance regarding symptom detection was seen between the patient, nurse and the doctor. The inter-rater test shows intraclass correlation coefficient (ICC) values above 0.60 in all scales. The internal reliability exceeded the lower limit (Cronbach a >0.70) for all scales. The test-retest gave acceptable reliability for all scales (ICC > or = 0.60). All scales indicated increased problems during radiotherapy. The questionnaire was proven to be valid for the evaluations of urinary and intestinal problems and for sexual function in PC patients.Background and purpose: To

investigate whether the type of collimation technique, target dose and treated volume influence the prevalence of intact erectile function after external beam radiation therapy for localized prostate cancer.What's known on the subject? and What does the study add? In addition to a higher prevalence and biological aggressiveness of prostate cancer, African-Americans tend towards narrower pelvises than Caucasians resulting in a potentially more difficult surgical dissection doing radical prostatectomy and increased positive surgical margins. In this study, there was no difference in urinary or sexual HRQL or overall satisfaction between African-Americans and Caucasians 2 years after radical prostatectomy, suggesting that the potential technical challenges of a narrower pelvis do not translate into poorer outcomes for African-Americans.We compared sexual function by the expanded prostate cancer index composite (sexual domains of EPIC), health-related quality of life (SF-8), and International Prostate Symptom Score (I-PSS) inpatients using tadalafil after prostate brachytherapy (PB). Forty-five patients who underwent PB between April 2011 and January 2014 were included in this study. Patients were divided into the tadalafil (20 mg,once/week or once/two weeks) treated and non-treated (NT) groups. Sexual function was assessed prior to PB treatment and followed up to 24 weeks after PB. SF-8, sexual domains of EPIC, IPSS and subjective symptoms were assessed pre-PB and at 4, 8, 16, and 24 weeks post-PB. Patients in the tadalafil group achieved higher sexual function scores compared to NT group at all time points. For SF8, the patients in the tadalafil group significantly improved in mental health by the eighth week, and significantly worsened in the NT group (8 w ; $p = 0.04$). The voiding domains of EPIC score were found to worsen significantly after 4 weeks from PB in both groups, but the score tended to improve over 24 weeks. There was no significant difference between two groups. The I-PSS total score was found to worsen significantly in both groups post-PB, but the tadalafil group had a tendency to worsen less. PB treatment of localized prostate cancer is preferred for the preservation of sexual function. Management of sexual dysfunction with tadalafil after PB does not worsen sexual functions. We concluded that tadalafil might be applicable to mental health care in the treatment of patients with a high interest in sexual function before PB.Objective: To evaluate the ability to obtain and the quality of orgasm after radical prostatectomy.Objectives: To measure health-related quality of life (HRQOL) after radical prostatectomy (RP) in Japanese men with localized prostate cancer.With the approaching of the aged society, the number of patients with BPH and those with prostate cancer is increasing, particularly the latter. As the gold standard for the treatment of the two diseases, prostate surgery falls into various types, each with its own characteristics in postoperative recovery of sexual function. In the past few years, the traditional laparotomy procedure has been gradually replaced by the laparoscopic technique. Doctors and patients are not merely satisfied with the improvement of micturition function any longer; they are beginning to pay more attention to the pre- and post-operative sexual function. This paper gives an overview of the influence of various types of prostatectomy on male sexual function.Introduction: Erectile function after radical retropubic prostatectomy (RRP) is extensively discussed in literature. However, less is known about orgasm after RRP.Purpose: To assess morbidity, side effects, and quality of life (QoL) in patients treated for localized prostate cancer with curative aim.Objective: To investigate the impact of penile rehabilitation on the recovery of erectile function after robot-assisted radical prostatectomy.Objective: We performed a 2 year longitudinal survey of health-related quality of life (HRQOL) after radical retropubic prostatectomy (RP) in Japanese men with localized prostate cancer.It was proposed by FDA that, the increase of survival rate and the improvement of quality of life must both be considered in cancer treatment. Based on the questionnaire designed by European Organization for Research and Treatment of Cancer (EORTC), the author studied the quality of life in 102 cases of prostate cancer and in 102 controls. With factor analysis method, a 30-item questionnaire was divided into six aspects to evaluate patients' quality of life: (1) activities of daily life; (2) family and social life; (3) physical symptoms of prostate cancer; (4) fatigue and malaise; (5) psychologic disturbance and distress and (6) sexual dysfunction. The results showed that there was statistical importance between each item when comparing case and control groups which proved the questionnaire an appropriate approach in assessing quality of life in patients with prostate cancer.Purpose: We assessed the rate and predictors of depressive symptoms and impaired sexual desire in patients who underwent open or robot-assisted radical prostatectomy.Background: Treatments for clinically localized prostate carcinoma are accompanied by sexual, urinary, and bowel dysfunction and other sequelae that can result in significant distress and reduced well being. Methods capable of improving quality of life are needed that can be integrated into clinical practice. To address this need, a nurse-driven, cancer care intervention was developed and tested.Purpose: We report a 1-year update of functional urinary and sexual recovery, oncologic outcomes and postoperative complications in patients who completed a randomized

controlled trial comparing posterior (Retzius sparing) with anterior robot-assisted radical prostatectomy.Objectives: To examine quality of life (QOL) for 3 years after radical retropubic prostatectomy (RRP) or permanent prostate brachytherapy (PPB) and to determine differences between the two procedures.Purpose: We combined the strengths of previous patient reported studies (that is use of a validated instrument) with the assets of previous single surgeon, physician reported series (that is prospective collection of operative data) by performing a multiple surgeon study to identify demographic and operative determinants of post-prostatectomy sexual health related quality of life outcomes.Forty-five patients undergoing radical retropubic prostatectomy by a standard technique modified by the author (JEP) were interviewed regarding their sexual function prior to and after the operation. Thirty-five patients were sexually potent prior to the surgery. Post-operatively, 19 patients retained erectile potency (54%), although in 15 partial erections of varying degrees were noted. In 4 of these patients, erections were not satisfactory for sexual intercourse. It is evident that a significant number of patients retained sexual function after radical prostatectomy, even when no particular attention was made to preserve the neurovascular supply.Several alterations of orgasmic function that occur after radical prostatectomy (RP) have never been assessed in robot-assisted RP (RARP) series. We sought to assess the prevalence and predictors of recovery from orgasm-associated incontinence (climacturia) and painful orgasm (PO) after RARP and open RP (ORP). Following surgery, sexually active patients who had undergone either RARP or ORP prospectively completed a 28-item questionnaire including sensitive issues regarding sexual function (eg, climacturia and PO). Rates of postoperative climacturia and PO were compared for RARP and ORP patients. Kaplan-Meier analysis was applied to assess estimated rates of recovery from either climacturia or PO after both procedures. Cox regression models tested predictors of recovery from those conditions. Overall, 221 (29.5%) of 749 patients reported climacturia, without differences between RARP and ORP. Conversely, PO was significantly more frequently reported after ORP than after RARP (46 [11.6%] vs 25 [7.1%] patients, respectively; p=0.04). At Kaplan-Meier analysis, recovery from climacturia over time was faster and greater after RARP than after ORP (8.5% vs 5%, respectively, at 24-mo assessment and 48% vs 15%, respectively, at 84-mo assessment; p<0.01). Conversely, no differences were found between groups in terms of postoperative recovery from PO. At multivariable analysis, only RARP achieved independent predictor status for recovery from climacturia after adjusting for other functional outcomes. Conversely, no variables were significantly associated with recovery from postoperative PO.The technique for radical retropubic prostatectomy has been modified to avoid injury to the branches of the pelvic plexus that innervate the corpora cavernosa. The surgical procedure is based on an understanding of the anatomical relationships between the branches of the pelvic plexus that innervate the corpora cavernosa, the capsular branches of the prostatic vessels that provide the scaffolding for these nerves, and the lateral pelvic fascia. The modifications involve two steps in the procedure: 1) the incision in the lateral pelvic fascia is placed anterior to the neurovascular bundle, which is located dorsolateral to the prostate along the pelvic sidewall; 2) the lateral pedicle is divided close to the prostate to avoid injury to the branches of the pelvic plexus that accompany the capsular vessels of the prostate. Pathologic evaluation of 16 prostatic specimens removed by this modified procedure demonstrated no compromise in the adequacy of the surgical margins. Postoperative sexual function was evaluated in 12 men who underwent the procedure 2-10 months previously. All have experienced erections and six have achieved successful vaginal penetration and orgasm. Of the six patients with sexual partners who have been followed 6 months or longer, five (83%) are fully potent. These data indicate that it is possible to cure localized prostatic cancer with surgery and maintain postoperative sexual function.Objective: To analyse the functional and oncologic outcomes at one year of focal therapy with HIFU compared with total prostatectomy in patients with localised prostate cancer (PCa).Introduction: Postprostatectomy orgasmic function (OF) remains poorly defined.Background: The diffusion of minimally invasive radical prostatectomy (MIRP) in the United States may have led to adverse patient outcomes due to rapid surgeon adoption and collective inexperience. We hypothesized that throughout the early period of minimally invasive surgery, MIRP patients had inferior outcomes as compared with those who had open radical prostatectomy (ORP).Background: We performed a longitudinal survey of health related quality of life (HRQOL) after radical retropubic prostatectomy (RP) in Japanese men with localized prostate cancer.Introduction: Radical prostatectomy (RP) remains the main treatment method of localized prostate cancer. Satisfactory functional results after RP are essential for both urologist and patient. Preservation of sexual function, particularly orgasmic function (OF) after RP is of the utmost importance today for patients and their sexual partners.The aim of this study was to compare health related quality of life (QoL) of patients with prostate cancer, who had undergone radical prostatectomy

(RP), with patients who were carefully monitored. This prospective study included 56 patients who had undergone the radical prostatectomy (RP) and 48 non-operated patients (watchful waiting, WW). All patients filled EPIC questionnaire at baseline, 1th, 3rd, 6th and 12th month. At baseline, mean scores were similar in both groups, but one month after the surgery in RP group, patients had statistically significant lower score of urinary incontinency, urinary function and sexual function compared with WW patients. These scores were significantly higher in the 3rd, 6th and 12th month in operated patients, but there was no improvement in the WW group. Radical prostatectomy does not significantly improve quality of life. Prostatectomized patients had worse scores on the QoL scale, with exception of the urinary disturbance dimension.Men with good functional results following radical retropubic prostatectomy (RRP) and requiring radical cystectomy (RC) for subsequent bladder carcinoma seldom receive orthotopic bladder substitution. Four patients aged 62-72 years (median 67 years), who had undergone RRP for prostate cancer of stage pT2bN0M0 Gleason score 6 (n = 1), pT2cN0M0 Gleason score 5 and 6 (n = 2) and pT3bN0M0 Gleason score 7 (n = 1) 27 to 104 months before, developed urothelial bladder carcinoma treated with RC and ileal orthotopic bladder substitution. After radical prostatectomy three were continent and one had grade I stress incontinence, and three achieved intercourse with intracavernous alprostadil injections. Follow-up after RC ranged between 27 and 42 months (median 29 months). At the 24-month follow-up visit after RC daily urinary continence was total (0 pad) in one patient, two used one pad for mild leakage, and one was incontinent following endoscopic incision of anastomotic stricture. One patient died of progression of bladder carcinoma, while the other three are alive without evidence of disease. The three surviving patients continued to have sexual intercourse with intracavernous alprostadil injections. Men with previous RRP have a reasonable chance of maintaining a satisfactory functional outcome following RC and ileal orthotopic bladder substitution.Purpose: To evaluate the effects of external beam radiotherapy (EBRT), with or without brachytherapy (BT) boost or brachytherapy monotherapy with and without short-term androgen ablation (<==6 months; STAD) on sexual function (SF) and sexual bother (SB) in men treated for localized prostate cancer.Background: There is limited information on outcomes of prostate carcinoma treatments given to screened patient populations for whom cancer is usually detected at an earlier stage.Between 20% and 25% of the patients seeing a doctor have sexual problems. These have various causes: somatopsychological, psychosomatic, social-somatic and psychological factors can play an important role. For an effective therapy, a biopsychosocial understanding of the development of these diseases is necessary. Tumor-patients belong to a special group who frequently develop sexual problems. There are many patients with prostate cancer who, after a radical prostatectomy, suffer from erectile dysfunction. As sexuality always has a social dimension, there is no sexual dysfunction which can be seen as separate from partnership and social environment. Hence the couple is the patient, not the malfunctioning penis. Sexual rehabilitation's main aim is therefore not the repair the malfunctioning organ but rather the improvement of the quality of the sexual relationship beyond penetration.Aim: To develop a management strategy (rehabilitation programme) for postsurgical erectile dysfunction (ED) among men experiencing ED associated with treatment of prostate, bladder or rectal cancer that is suitable for use in a UK NHS healthcare context.Sexual function in prostatic carcinoma patients was studied in 12 patients from each of three treatment groups: radiotherapy, orchiectomy and oestrogen treatment. Significant deterioration occurred in all groups. Although erectile potency was preserved in 9 of 12 patients treated with radiotherapy, 7 of these had a marked reduction in the frequency of sexual activity. Men subjected to orchiectomy or oestrogen treatment were seldom capable of having intercourse or of experiencing orgasm. However, oestrogen-treated men continued sexual activity with their partner more often than orchiectomised subjects. Patients receiving oestrogen treatment scored significantly higher for mental depression than those in the other two treatment groups.Aim: To investigate changes in health-related quality of life and sexual function in men after high dose rate (HDR) brachytherapy and external beam radiotherapy (EBRT), with or without androgen deprivation therapy, for localised prostate cancer.Background: Of the estimated 317,000 men in the United States diagnosed with prostate carcinoma in 1996, 57% will have localized disease, and their 5-year relative survival rate will be 98%. Limited information exists on patient-reported quality of life (QOL) and the incidence and severity of treatment-related side effects. The purpose of this study was to identify and compare patients' self-reported QOL and treatment side effects 1-5 years after radical prostatectomy or radiotherapy.Purpose: Patients with large prostate glands are underrepresented in clinical trials incorporating brachytherapy due to concerns for excessive toxicity. We sought to compare health-related quality of life (HRQOL) outcomes between small (<60 cc) and large (≥60 cc) prostates treated with high-dose-rate brachytherapy (HDR-B).Purpose: The American College of Surgeons

Oncology Group phase III Surgical Prostatectomy Versus Interstitial Radiation Intervention Trial comparing radical prostatectomy (RP) and brachytherapy (BT) closed after 2 years due to poor accrual. We report health-related quality of life (HRQOL) at a mean of 5.3 years for 168 trial-eligible men who either chose or were randomly assigned to RP or BT following a multidisciplinary educational session.Objective: A prospective longitudinal cohort study on the impact of anthropometric measures on the sexual function and continence recovery in patients treated with laparoscopic radical prostatectomy (LRP) is presented.Introduction: The long-term effects of long-acting testosterone undecanoate (TU) and androgen receptor CAG repeat lengths in Thai men with late-onset hypogonadism (LOH) have not been reported.Background and purpose: To study a four-point combined analysis (Quadrella) of optimal outcome among patients treated with exclusive permanent seed prostate brachytherapy (PB), as defined by the likelihood of achieving disease control and preserving normal urinary, gastro-intestinal (GI) and sexual function.The objective of the study was to apply an illness representations framework to examine patients' beliefs about erectile dysfunction (ED) and the association between those beliefs and reported quality of life. A total of 41 patients attending two secondary care clinics at a teaching hospital completed questionnaires examining quality of life, sexual functioning, illness representations (cause, time-line, coherence, consequences, cure, control and emotion) and perceptions of masculinity. Masculinity, sexual function, emotions and beliefs about consequences were found to be significantly correlated with quality of life. Multiple regression analysis revealed a model that accounted for almost 35% of the variance in quality of life of ED patients. The strongest predictor of higher quality of life was better sexual functioning (beta = -0.342, $P < 0.05$) followed by more positive beliefs about the effects of ED on masculinity (beta = 0.323, $P < 0.05$). The results suggest that when assessing the quality of life of men with ED, patients' illness representations should be considered along with their level of sexual functioning and the effects of ED on masculinity. Patients may benefit from an intervention programme that includes an educational component, thereby providing patients with more information about treatment options and available support.Objective: To assess the validity and reliability of a questionnaire assessing 'physiological potency'.Objective: To assess the quality of life (QoL) of patients with localized prostate cancer (LPC) after treatment by radical radiotherapy (RR).Purpose: To evaluate the use of a vacuum tumescence device in the treatment of impotence in couples wishing to restore coital function, whose male partners had unsatisfactory results from penile implants or in whom the man was impotent following treatment for prostate or colon carcinoma.Objective: To define the type of orgasmic dysfunction in men after radical prostatectomy (RP), as absence of orgasm and orgasmic pain are recognized complaints, and changes in orgasm may lead to significant sexual dissatisfaction.Background: The authors of this study previously evaluated pelvic irradiation-induced late side effects in patients with localized prostatic carcinoma 4 years after external irradiation by administering a validated self-assessment questionnaire (QUFW94), and compared the results with those of age-matched controls. The current study was designed to evaluate prospectively the patients' problems 8 years after radiotherapy and to compare them with those reported by the same controls.Background: The objective of this study was to test the efficacy of an individualized uncertainty management intervention delivered by telephone to Caucasian and African-American men with localized prostate carcinoma and directed at managing the uncertainties of their disease and treatment.Background: We investigated the changes in health-related quality of life (HRQOL) in patients who underwent prostatectomy (RP) with or without neoadjuvant hormonal therapy (NHT).Aim: The usual morbidity after radical prostatectomy (RP) implies, the possible need for inflatable penile prosthesis (IPP). This study aims to validate the efficacy and safety of a sling called "Mini-Jupette" concomitantly with the implantation of an IPP that will counteract mild UI (<2 pads/day) associated or not with climacturia for patients resistant to non-invasive therapeutic approach.In this study we report late bladder, gastrointestinal and sexual dysfunctions in 23 patients following radical radiotherapy (66Gy-70Gy/33-35fx, 5 fx/week) for prostate cancer. We interviewed the subjects by telephone and compared the results with those of 45 healthy population controls. In general, the patients' bladder function was well preserved. However, compared with the population controls, significantly more patients reported dysuria and hematuria. Twenty-six percent of the patients reported moderate distress from the gastrointestinal tract. Fecal urgency, incontinence and the use of sanitary pads, as well as diarrhoea, and blood and mucous were significantly more common among the patients. Thirty-nine percent of the patients reported moderate or worse distress upon sexual activity, and significantly more patients suffered from erectile impotence.The side effects of primary percutaneous radiotherapy in 100 patients with prostatic cancer were evaluated and classified into different degrees of gravity. It was shown that especially chronic side effects are benign in most of all

cases. Severe - but not vitally dangerous - complications in bladder and intestine are rare (3%); their percentage corresponds roughly to the average mortality rate of surgical intervention (radical prostatectomy). Contrary to operation, troubles of the sexual function appear only in one third of the patients. Taking into consideration the similar therapeutic results of surgical intervention and radiotherapy, radiotherapy is more favorable with respect to side effects. This essential aspect should be considered when making a decision whether to apply a surgical or a radiotherapeutic treatment treatment.Radical prostatectomy (RPE) is a widespread surgery in the world performed in patients with localized prostate cancer. Despite the widespread introduction of nerve-sparing radical prostatectomy techniques, erectile dysfunction after radical prostatectomy occurs very frequently, which seriously affect the quality of life of patients. At the present stage of development of medicine, differentiated approach to each patient is required. "Patient's expectation management" is an important prerequisite for successful sexual rehabilitation. The use of conventional methods for correction of erectile dysfunction after radical prostatectomy has its own characteristics. Currently, phosphodiesterase type 5 inhibitors, however, are still first-line agents for the recovery of erectile function. Their combined use with other methods has encouraging results.The objective of this study was to assess lower urinary tract symptoms (LUTS), urinary incontinence (UI), erectile dysfunction (ED) and quality of life after radical prostatectomy (RPE) and external beam radiation therapy (EBRT) in a "real-life" setting. A consecutive series of patients undergoing routine follow-up after RPE and EBRT at 28 Austrian institutions were analyzed. Men who received adjuvant therapy were excluded. All patients completed a questionnaire on (a) LUTS and UI, (b) sexual function and (c) quality of life. A total of 364 patients following RPE and 82 after EBRT entered this study and were compared in a matched pair analysis (1:1) based on age, PSA at diagnosis and follow-up (RPE: n=82; EBRT: n=82). Mean time-interval between treatment and current investigation was 4.6 years for RPE and 4.4 years for EBRT (n.s.). UI was reported by 41.3% after RPE and 18.8% after EBRT (P=0.001). Urgency was more frequent after EBRT, this difference, however, did not reach statistical significance. Moderate to severe ED (IIEF-5, <17) was present in 80.0% after RPE and in 80.8% after EBRT (n.s.). On a ten-point scale, RPE-patients rated their quality of life higher (7.3) than after EBRT (6.7) (P=0.01). In this "real-life" setting, RPE and EBRT had significant, yet divergent effects on LUTS, UI and sexual function. The respective numbers were substantially higher than those usually reported by physician-directed studies and centers of excellence.Radical prostatectomy is a useful procedure for the treatment of prostate cancer limited to the gland; however, failure may occur as a result of the immediate or delayed complications of surgery, or to disease recurrence related to incomplete tumour excision. Seventy-nine radical prostatectomies were performed between April 1985 and August 1991 in patients with prostate cancer (primarily stage B1) who averaged 63 years of age. Immediate post-operative complications included vesicocutaneous fistulae, cystic lymphangiomas, abdominal wall abscesses, extraperitoneal haematoma, acute cholecystitis, and enterocutaneous fistula. Massive pulmonary embolism accounted for 2 deaths. Of the 77 surviving patients followed up for an average of 34 months, 79.2% (61) were continent, 15.6% had stress-related incontinence or severe incontinence and 5.2% were lost to follow-up. Sexual potency was preserved in 13 of the 33 patients (39%) who were pre-operatively potent. A favourable outcome as defined by no recurrence was seen in 69 patients (87.3%). Four patients (5.1%) are living with recurring prostatic cancer and 1 patient has died of the disease 46 months after surgery.Objectives: To summarize black and minority ethnic (BME) patients' and partners experiences of prostate cancer by examining the findings of existing qualitative studies.Background: Men diagnosed with localized prostate cancer (LPC) can choose from multiple treatment regimens and are faced with a decision in which medical factors and personal preferences are important. The Personal Patient Profile-Prostate (P3P) is a computerized decision aid for men with LPC that focuses on personal preferences. We determined whether the P3P intervention improved the concordance of treatment choice with self-reported influential side-effects compared with a control group.Erectile function has been shown to decline as a function of increasing peripheral blood inflammatory markers, namely the neutrophil-to-lymphocyte ratio (NLR). We evaluated if the association between NLR and erectile dysfunction (ED) applies to patients with localised prostate cancer. We included 1,282 patients who underwent brachytherapy. ED was classified before treatment according to the Terminology Criteria for Adverse Event Scale version 3.0. ED was defined as the need for the use of oral pharmacologic or mechanical assistance to have satisfactory sexual function. We found that patients with ED were older ($p < .001$), more likely to have hypertension ($p = .002$), statin use ($p = .002$), diabetes ($p < .001$) or an IPSS ≥ 8 ($p < .001$). On univariable logistic regression analysis, an NLR of ≥ 3 was statistically significantly associated with ED (OR 1.32, $p = .029$). But on multivariable analysis, the

association between elevated NLR and ED was not statistically significant (p = .17). Significant were age (OR 1.12, p < .001), IPSS ≥ 8 (OR 1.50, p = .008), the presence of hypertension, hyperlipidemia and diabetes (OR 2.27, p < .001), and prostate volume (OR 0.99, p = .041). The NLR does appear to be a surrogate marker of chronic inflammation that causes baseline ED in patients with localised prostate cancer.Objectives: To investigate the effects of different management strategies for non-localized prostate cancer on men's quality of life and cognitive functioning.Introduction: Pharmacotherapies improve sexual function following treatments for localized prostate cancer; however, patterns of care remain unknown. Aim. To ascertain post-treatment utilization of pharmacotherapies for erectile dysfunction (ED) using a population-based approach.Context: Sexual dysfunction is common in patients following radical prostatectomy (RP) for prostate cancer (PCa).Gay and bisexual (GB) men with prostate cancer (PCa) have been described as an "invisible diversity" in PCa research due to their lack of visibility, and absence of identification of their needs. This study examined the meaning and consequences of erectile dysfunction (ED) and other sexual changes in 124 GB men with PCa and 21 male partners, through an on-line survey. A sub-sample of 46 men with PCa and seven partners also took part in a one-to-one interview. ED was reported by 72 % of survey respondents, associated with reports of emotional distress, negative impact on gay identities, and feelings of sexual disqualification. Other sexual concerns included loss of libido, climacturia, loss of sensitivity or pain during anal sex, non-ejaculatory orgasms, and reduced penis size. Many of these changes have particular significance in the context of gay sex and gay identities, and can result in feelings of exclusion from a sexual community central to GB men's lives. However, a number of men were reconciled to sexual changes, did not experience a challenge to identity, and engaged in sexual re-negotiation. The nature of GB relationships, wherein many men are single, engage in casual sex, or have concurrent partners, influenced experiences of distress, identity, and renegotiation. It is concluded that researchers and clinicians need to be aware of the meaning and consequences of sexual changes for GB men when designing studies to examine the impact of PCa on men's sexuality, advising GB men of the sexual consequences of PCa, and providing information and support to ameliorate sexual changes.Objective: To investigate the longitudinal alteration of health-related quality of life (HRQL) up to 5 years after radical perineal prostatectomy (RPP) among Japanese patients with localized prostate cancer.After having undergone a radical prostatectomy, 1 out of 5 men is dissatisfied about the functional results particularly because of complications like erectile dysfunction and urinary incontinence; these complications frequently do occur. During the first postoperative year, patient counselling and guidance are necessary aspects of the management of urinary incontinence and erectile dysfunction. In order to prevent irreversible erectile dysfunction, it is important that the patient resumes sexual activity soon after the operation; if necessary, a phosphodiesterase-5 (PDE-5) inhibitor or intracavernosal injection therapy may be used. Treatment of urinary incontinence in the first postoperative year consists of pelvic floor exercises and guidance on the use of collection devices, penile clamps or condom catheters. If urogenital functional disorders persist after one year, in a way that significantly affects patient's quality of life, the implantation of an erectile prosthesis or - depending on the amount of urine loss - a sling or sphincter prosthesis is indicated.Purpose To determine the demographic, clinical, decision-making, and quality-of-life factors that are associated with treatment decision regret among long-term survivors of localized prostate cancer. Patients and Methods We evaluated men who were age ≤ 75 years when diagnosed with localized prostate cancer between October 1994 and October 1995 in one of six SEER tumor registries and who completed a 15-year follow-up survey. The survey obtained demographic, socioeconomic, and clinical data and measured treatment decision regret, informed decision making, general- and disease-specific quality of life, health worry, prostate-specific antigen (PSA) concern, and outlook on life. We used multivariable logistic regression analyses to identify factors associated with regret. Results We surveyed 934 participants, 69.3% of known survivors. Among the cohort, 59.1% had low-risk tumor characteristics (PSA < 10 ng/mL and Gleason score < 7), and 89.2% underwent active treatment. Overall, 14.6% expressed treatment decision regret: 8.2% of those whose disease was managed conservatively, 15.0% of those who received surgery, and 16.6% of those who underwent radiotherapy. Factors associated with regret on multivariable analysis included reporting moderate or big sexual function bother (reported by 39.0%; OR, 2.77; 95% CI, 1.51 to 5.0), moderate or big bowel function bother (reported by 7.7%; OR, 2.32; 95% CI, 1.04 to 5.15), and PSA concern (mean score 52.8; OR, 1.01 per point change; 95% CI, 1.00 to 1.02). Increasing age at diagnosis and report of having made an informed treatment decision were inversely associated with regret. Conclusion Regret was a relatively infrequently reported outcome among long-term survivors of localized prostate cancer; however, our results suggest that better

informing men about treatment options, in particular, conservative treatment, might help mitigate long-term regret. These findings are timely for men with low-risk cancers who are being encouraged to consider active surveillance.Introduction: Interventions designed to help couples recover sexual intimacy after prostatectomy have not been guided by a comprehensive conceptual model.Background: Climacturia is an under-reported complication of definitive therapy for prostate cancer (PCa) - that is, radical prostatectomy (RP) and/or radiation therapy (RT).Purpose: To use data from a prospective quality-of-life study to assess differences in disease-specific and general health-related quality-of-life changes after treatment with different external-beam irradiation techniques for prostate cancer.Objective: To evaluate the change in quality of life (QoL) 3 years after high-dose intensity-modulated radiotherapy (IMRT) using gold fiducial marker-based position verification in patients with locally advanced prostate cancer.Prostate cancer is the most common cancer of men over 50 years old. Localized prostatic cancer treatment may be responsible of a decline of patient's quality of life. The main actors of treatment are now focused on minimizing functional consequences of treatments. The radiation oncologist has a central role in patient monitoring. The follow-up is codified by official recommendations of learned societies to enhance the post-cancer period. The main objective of this article is to review the recommendations for clinical and biological follow-up. An inventory of the functional consequences of the various treatments will be detailed, and particularly those caused by androgen deprivation therapy, with a review of precautions before implementation, adverse effects and their management, as well as monitoring recommendations. The analysis of quality of life after curative treatment and suggestions to improve monitoring will also be discussed.Purpose: Prior studies of postoperative outcomes following radical prostatectomy have been limited by selection bias and short-term followup. In this study we assessed temporal changes in urinary and sexual function up to 5 years following radical prostatectomy in a population based cohort.Objective: To explore ongoing symptoms, unmet needs, psychological wellbeing, self-efficacy and overall health status in survivors of prostate cancer.Objective: To develop and test a measure for assessing peer support for men attending prostate cancer support groups, and to describe socio-demographic, medical and adjustment characteristics of Australian men who attend these support groups.Objectives: To develop clinical prediction models estimating the probability of maintaining erections adequate for intercourse 2 years after prostate cancer treatment, based on pretreatment characteristics.Purpose: We evaluated the effect of three-dimensional conformal radiation therapy (3D-CRT) with or without hormonal therapy (HT) on sexual function (SF) in prostate cancer patients whose SF was known before all treatment.In our opinion, the attempt to save the sexuality and the erectile ability in a patient with a prostate cancer, in the respect of an absolute oncological radicality, should be recommended since potency represents for the patient a primary aspect in the quality of residual life. At the Institute of Urology of the University of Milan a study to identify pathogenetic mechanisms leading to erectile failure in the various phases of a prostate cancer was performed. From January 1988 to December 1993, 36 patients (range 50-60 years old) suffering from prostate cancer B1 stage (14 pts), B2 (20 pts) and C (2 pts) underwent to radical prostatectomy. Out of 24 pts reporting erectile ability before surgery, 10 was in B1 stage and underwent monolateral nerve-sparing technique. Out of these, 6 pts (60%) maintained the erection after the operation. The treatment with LHRH analogues weighted on loss of libido and erectile and erectile potent due to central androgenic delete. At our Institute 87 pts in treatment with LHRH analogues reported loss of erection in 80% of cases. In this group 22 underwent to an andrological examination. The exams (Dynamic penile Doppler, Dynamic Cavernosometry and stimulating test with intracavernous vasoactive drugs) confirm the absence of peripherical damages in the pathogenesis of the erectile dysfunction. Patient underwent radiotherapy develop a secondary impotence due to an obliterant progressive angioitis in a percentage ranging from 30 to 80%.(ABSTRACT TRUNCATED AT 250 WORDS)Background: The oncological outcomes in men with clinically significant prostate cancer following focal cryotherapy are promising, although functional outcomes are under-reported.Urinary and sexual function and bother are important outcomes following radical prostatectomy (RP). Since urinary and sexual function are age-related, post-operative bother may vary by age. This study explores the disease-specific quality-of-life outcomes in young men compared with older men undergoing RP. Using CaPSURE data, we identified men who underwent RP and completed the UCLA Prostate Cancer Index (PCI) before and 1-year post-RP. Men were stratified by age (< 55 years, 55-64, > or = 65). Multivariate regression models were created: a linear model for predictors of PCI scores and a logistic model for predictors of severe declines in PCI domains. Younger men scored significantly better than older men in urinary function (P=0.04), urinary bother (P=0.02) and sexual function (P<0.0001) 1-year post-RP. Severe declines in urinary bother (odds ratio (OR)=1.54, 1.01-2.35) and

sexual function (OR=3.20, 1.97-5.19) were more common in men > or = 65 years. Men with relationships had less urinary bother (P=0.03) and were less likely to experience severe worsening of urinary bother (OR=0.32, 0.17-0.60) while having a greater risk of severe worsening of sexual bother (OR=2.74, 1.28-5.89). The use of sexual aids was associated with worse sexual bother (P<0.0001) and greater risk of severe worsening of sexual bother (OR=2.29, 1.54-3.30). Baseline PCI scores were independent predictors in all models. One year after RP, younger men (age < 55) have similar, or better, urinary and sexual function and bother. Baseline scores are strongly associated with post-RP scores and severity of declines. Current relationships and use of sexual aids have significant roles in post-RP bother.Background and purpose: The Sexual Adjustment Questionnaire (SAQ) is used in National Cancer Institute-sponsored clinical trials as an outcome measure for sexual functioning. The tool was revised to meet the needs for a clinically useful, theory-based outcome measure for use in both research and clinical settings. This report describes the modifications and validity testing of the modified Sexual Adjustment Questionnaire-Male (mSAQ-Male).This review summarizes major biological aspects of andrology of andropause, deficiency in androgens/growth hormones, and molecular parameters; erectile dysfunction (ED), the use of malleable, mechanical, inflatable devices as well as the application of Viagra (Sildenafil), alprotadil (Caverject), Yohimbine, and other drugs not yet approved by FDA, such as Papaverine, phentolamine (Vasomax), and apormorphine (Uprima); osteopenia/osteoporosis: testosterone/osteoporesis; supplementation during andropause: administration of andiogens, possible risk factors of androgens, calcium supplement and muscle mass; prostate pathophysiology: consequences of prostatectomy, prostate cancer, benign prostatic hyperplasia (BPH), hormone-dependent cancers; bladder and urethral dysfunction: neurological parameter, urodynamics technology; models on aging in male animals: comparative physiology of prostate of laboratory animals/farm animals; future research: functional anatomy of male reproductive organs, pharmacokinetics of osteoporosis, endocrinology/neuroendocrinology/chromosome anomalies supplementation during andropause, experimental animal models and future multicenter multidisciplinary research.Purpose: Earlier studies evaluating the effect on quality of life (QoL) of localized prostate cancer interventions included patients receiving adjuvant hormone therapy, which could have affected their outcomes. Our objective was to compare the QoL impact of the three most common primary treatments on patients who were not receiving adjuvant hormonal treatment.Erectile difficulties are common after prostate cancer (PCa) treatment and are associated with sexual distress. However, the relationship between erectile function and sexual distress has yet to be carefully examined. This study had three goals: (1) examine the relationship between erectile function and sexual distress; (2) determine groups of men based on erectile function and sexual distress; and (3) examine the psychosexual characteristics of these groups. A cross section of 233 sexually active men after PCa treatment (age M = 64.90 years, SD = 7.50) completed an online survey containing demographic, health, and sexuality and relationship questionnaires. The relationship between erectile function and sexual distress was curvilinear. Four groups of men were found: good erectile function and low sexual distress, poor erectile function and high sexual distress, but also good erectile function yet high sexual distress, and poor erectile function and low sexual distress. Regardless of erectile function, men with greater sexual distress were more depressed, reported additional sexual concerns, placed less value on sex, were less sexually satisfied, and used protective buffering communication more frequently. They were also less likely to be satisfied with their adaptation to sexual changes and less likely to have found a solution to those changes. The relationship between erectile function and sexual distress is complex, characterized by a wide array of responses to erectile function (high and low distress) and multiple correlates of sexual distress. These results broaden the concept of sexual recovery after PCa treatment, which may assist clinicians and researchers to better address sexual problems after PCa treatment.Several endocrinological and physical activities orchestrate men's sexual activities. To determine whether body composition calculated by computed tomography measurements is useful for estimating sexual function, we evaluated sexual function of localised prostate cancer patients using the Sexual Health Inventory for Men score, an original questionnaire, and computed tomography and magnetic resonance imaging. The imaging was performed to determine body composition, particularly the psoas muscle. Univariate and multivariate analyses were performed to identify factors affecting sexual activity. The multivariate analysis showed that the volume of the psoas muscle was significantly correlated with sexual activity (odds ratio [95% confidence interval]) (2.507 [1.029-6.109], p = 0.043) and erectile dysfunction (0.261 [0.098-0.692], p = 0.006). We concluded that the psoas muscle is an important predictor of sexual activity and erectile function.Prostate cancer is the leading malignancy in men in the United States and causes more than 60,000 deaths annually.

Treatment of prostate cancer, whether it be with surgery, radiation therapy, cryotherapy, or medical treatment, is associated with significant life-altering morbidity. Incontinence and erectile dysfunction (ED) too often are sequelae of these treatment alternatives. ED can be a significant complication and can alter the life of the patient with prostate cancer and his partner. Newer modifications of the radical prostatectomy with nerve-sparing techniques are the cornerstone of erection preservation. Time following radical prostatectomy has been shown to increase erectile function such that more patients have functional erections at 3 years than 1 year after surgery. With the advent of phosphodiesterase-5 (PDE-5) inhibitors, many men can have improved functional erections and return to active coitus. Prevention of ED also is an important management technique. Evidence is gathering that prophylaxis with regular vasoactive injection or daily PDE-5 agents may be an integral part of preservation of corpus cavernosum smooth muscle function. Combination medical therapy and surgical penile prosthesis implantation also are options for patients who do not respond to oral PDE-5 inhibitors.Purpose: Evaluating quality of life outcomes following prostate cancer treatment is important because different treatments provide similar survival outcomes. A wide variety of quality of life surveys are used with an unknown correlation between domain specific and broad domain instruments. We compared the urinary and sexual outcome measures of the Expanded Prostate Cancer Index Composite, a broad domain instrument, to those of the Incontinence Symptom Index and the Sexual Health Inventory for Men, which are domain specific instruments.Recent neuroanatomical findings making it possible to intraoperatively identify the branches of the pelvic plexus that innervate the corpora cavernosa have been used to modify standard radical prostatectomy and cystoprostatectomy to prevent postoperative sexual dysfunction.Objective: We prospectively evaluated the effect of external beam radiotherapy on erectile function in patients with localized or locally advanced prostate cancer using the Japanese version of the International Index of Erectile Function (IIEF) survey.Introduction: Investigating preoperative sexual function of patients with prostate cancer (PCa) and their partners is needed for realistic functional outcome analyses after radical prostatectomy (RP).Prostate cancer (PCa) is the most common solid neoplasm diagnosed in developed countries. Nerve-sparing radical prostatectomy (NS-RP) has been widely accepted as the best choice treatment for localised PCa. However, erectile dysfunction (ED) and urinary incontinence are commonly observed after NS-RP. Using meta-analysis, we examined if phosphodiesterase type 5 inhibitors (PDE5-Is) could improve the symptoms of ED in patients undergoing NS-RP. This review contained seven randomised placebo-controlled trials with a total of 2,655 male patients. Patients in PDE5-Is group showed significant improvement in the International Index of Erectile Function-Erectile Function domain score (IIEF-EF), Global Assessment Questionnaire (GAQ), Sexual Encounter Profile question 2 (SEP-2) and SEP-3. Although the incidence of treatment-emergent adverse events (TEAEs) were high in both groups (56.44% vs. 40.63%), the safety profile were acceptable, with low incidence of discontinuation rate due to adverse events. Therefore, PDE5-Is are recommended for the treatment of post-NS-RP ED. Patients should be informed of possible adverse events.As treatments improve and survival time lengthens, the course of recovery and long-term quality of life (QoL) is of greater interest. The application of latent class growth models to longitudinal QoL data provides unique insights into recovery that are not evident with marginal analyses. We examine this approach in the context of a large population-based observational study. This is the first attempt to characterize individuals' recovery over time following prostate cancer surgery, and to determine factors associated with varying recovery experiences of prostate cancer patients. Four major patterns emerged that illustrate typical patterns of recovery following radical prostatectomy. Given a man's baseline data, this method produces estimates of the probability of belonging to each recovery class. The method is presented as a useful tool for identifying hypotheses associated with recovery and potential antecedents of importance.Purpose: We evaluated the influence of partner age on postoperative erectile function in patients who underwent bilateral nerve sparing radical prostatectomy for localized prostate cancer.Radical cystoprostatectomy includes en bloc excision of the prostate due to a high incidence of occult prostatic malignancy in patients with bladder cancer. Radical cystectomy has a considerable incidence of functional morbidity, and concerns regarding morbidity can delay initiation of cystectomy by the patient or physician, thereby affecting long-term prognosis. Some investigators have advocated prostate-sparing cystectomy to improve postoperative continence and potency rates, and enhance patient acceptance of timely cystectomy. While these prostate-sparing series describe excellent postoperative functional results, concerns are raised regarding the oncologic efficacy of this procedure. Prostate-sparing cystectomy is arguably one of the most controversial topics in the field of urology today.Background: Prostate cancer is the most common cancer in men, and radical prostatectomy (RP) often results in erectile dysfunction

(ED) and a substantially reduced quality of life. The efficacy of current interventions, principal treatment with PDE-5 inhibitors, is not satisfactory and this condition presents an unmet medical need. Preclinical studies using adipose-derived stem cells to treat ED have shown promising results. Herein, we report the results of a human phase 1 trial with autologous adipose-derived regenerative cells (ADRCs) freshly isolated after a liposuction.Introduction: Erectile dysfunction (ED) and urinary incontinence (UI) following radical prostatectomy (RP) adversely impact patients psycho-emotional status reducing the quality of life and treatment satisfaction.Purpose: We determined the effect of nerve sparing radical prostatectomy on sexual and urinary function in men at various levels of pretreatment sexual function.Objectives: Semen comprises prostatic fluid and seminal vesicle fluid, and seminal vesicle fluid contains various factors such as prostaglandin E2 (PGE2), zinc, and testosterone, which play important roles in sperm motility. It is not known whether these factors affect erectile function. In this study, we investigated factors in seminal vesicle fluid that may affect erectile function.Self-reported symptoms including urinary, bowel and sexual side effects were investigated prospectively at multiple assessment points before and after combined radiotherapy of prostate cancer including HDR brachytherapy and neoadjuvant androgen deprivation therapy. Between April 2000 and June 2003, patients with predominantly advanced localized prostate tumours subjected to this treatment were asked before treatment and on follow-up visits to complete a questionnaire covering urinary, bowel and sexual problems. The mainly descriptive analyses included 525 patients, responding to at least one questionnaire before or during the period 2-34 months after radiotherapy. Adding androgen deprivation before radiotherapy significantly worsened sexual function. During radiotherapy, urinary, bowel and sexual problems increased and were reported at higher levels up to 34 months, although there seemed to be a general tendency to less pronounced irritative bowel and urinary tract symptoms over time. No side effects requiring surgery were reported. Classic late irradiation effects such as mucosal bleeding were demonstrated mainly during the second year after therapy, but appear less pronounced in comparison with dose escalated EBRT series. In conclusion, despite the high radiation dose given, the toxicity seemed comparable with that of other series but long term (5-10 years) symptom outcome has to be determined.Introduction: The incidence of erectile dysfunction (ED) in men with organ-confined prostate cancer (PCa) submitted to hypofractionated radiotherapy (HRT) has been prospectively evaluated.Background: Potency recovery after radical prostatectomy (RP) has to be weighed against the risks of nerve-sparing surgery in relation to long-term cancer control.Background: Sexual dysfunction is an important side-effect after radiotherapy (RT) for prostate cancer (PCa). The aim of this study was to compare sexual functions of PCa patients before and after intensity-modulated RT and to analyze their correlation with penile bulb (PB) doses and patient characteristics.Background: While the optimal use and timing of secondary therapy after radical prostatectomy (RP) remain controversial, there are limited data on patient-reported outcomes following multimodal therapy.Background: Although patients with prostate cancer face many treatment options, to the authors' knowledge the comparative effects of different surgical and radiotherapy (RT) options on sexual function are unclear.Background: To present an overview of patient-reported sexual toxicity in sexually active long-term prostate cancer survivors treated with radiation therapy.In this narrative review we summarize neglected side effects of curative intended treatment for prostate cancer. They include climacturia, arousal incontinence (AI), orgasmic disturbances such as altered orgasmic sensation, anorgasmia, and orgasm-associated pain (dysorgasmia), ejaculatory dysfunction, and morphological penile alterations in the form of shortening and deformity. Even though they have not received as much interest as erectile dysfunction (ED) or urinary incontinence, these side effects have been shown to negatively impact patient's quality of life. They are common and rates of climacturia after radical prostatectomy (RP) range from 20% and 45%, less after external beam radiation therapy (EBRT). Decreased orgasmic sensation ranges from 3.9% to 60% after RP and between 36-57% after EBRT. Dysorgasmia ranges from 9.5-15% for both RP and EBRT. Anejculation after EBRT ranges from 11-71% and rates of penile shortening are reported between 0 and 100%. There are no internationally validated questionnaires that adequately asses these side effects. This is necessary if we are to align patient and partner expectations properly and consequently manage them optimally. Neglected side effects should be discussed with patients and their partners preoperatively, as they are associated with bother and may lead to patient's avoiding sexual activity.Objective: To investigate the incidence of patient-reported erectile (ED) and sexual dysfunction and response to treatment in men after the induction of androgen deprivation therapy (ADT) for prostate cancer, as ADT-induced changes in serum testosterone can result in changes in libido and sexual function.Purpose: A randomized phase II study was performed to measure the potential therapeutic effects of yoga on fatigue, erectile

dysfunction, urinary incontinence, and overall quality of life (QOL) in prostate cancer (PCa) patients undergoing external beam radiation therapy (RT).Prostate cancer is the most common non-skin cancer in men. It is fraught with both physical and psychological symptomatology. Depression, anxiety, stress, fatigue, pain and psychosocial factors all affect the patient with prostate cancer. Impotence, erectile dysfunction, sexual issues and incontinence in these patients complicate matters further. Anxiety may exist both before testing and while awaiting test results. Confusion over choosing from various interventions often adds to anxiety and depression in these patients. Various demographic factors and the developmental stage of the couple affect these psychological symptoms. The caregiver may undergo significant psychological turmoil while caring for a patient diagnosed with prostate cancer, which is addressed. The role of nurses in the management of prostate cancer is discussed. The present review looks at psychological issues in patients with prostate cancer from a clinical perspective, with the aim of highlighting these issues for the clinical urologist dealing with these patients. It also explores the consultation-liaison relationship between psychiatrists, psychologists and urologists as a team for the multimodal management of prostate cancer.Objective: We aimed to assess the long-term association of therapeutic strategies with urinary, sexual function and health-related quality of life (HR-QoL) for 5-year prostate cancer (PC) survivors. Materials & methods: The VICAN survey consisted of self-reported data prospectively collected, including living conditions, treatment side effects and quality of life (QoL) of cancer survivors. Results: Among the 434 PC survivors, 52.8% reported urinary incontinence (UI) and 55.8% reported erectile dysfunction (ED). Patients treated with radical prostatectomy with salvage radiotherapy reported significantly more UI ($p = 0.014$) and more ED ($p = 0.012$) compared with other strategies. UI was significantly associated with physical and mental health-related QoL ($p = 0.045$ and $p = 0.049$, respectively). Conclusion: Self-assessed functional outcomes 5 years after PC diagnosis remain poor and could have an impact on health-related QoL.Older adult patients with prostate cancer experience symptoms such as uncontrolled sexual and urinary dysfunction after radical prostatectomy, which lowers self-esteem. Lack of access to information about the illness increases uncertainty, requiring interventions from healthcare providers. This study aimed to identify factors affecting the self-esteem of older adult patients who underwent prostate cancer surgery and provided data for establishing nursing strategies to promote healthy lifespans. This cross-sectional study examined participants over 65 years old who underwent radical prostatectomy at two university hospitals in 2017. The results indicated that the most influential factor for self-esteem was inconsistency-related uncertainty, followed by postoperative symptom experience and healthcare provider support. These variables explained 43% of the variance in self-esteem. To improve self-esteem among older adult patients who undergo radical prostatectomy, integrated programs that include sexual-related symptom management, such as erectile dysfunction and incontinence, and healthcare provider support should be developed to reduce inconsistency-related uncertainty.Background: The impact of salvage radiotherapy (SRT) and its timing on health-related quality of life (HRQoL) in prostate cancer patients is still unclear.Objectives: The aim of the study was to comparatively evaluate the psychological and functional effect of different primary treatments in patients with prostate cancer.Purpose: To study the sexual quality of life for prostate cancer patients after stereotactic body radiotherapy (SBRT).Objective: To evaluate the effect of low-dose rate prostate brachytherapy on the sexual health of men with > or = 7 years of prospective evaluation and optimum sexual function before treatment.Background: Radical prostatectomy is a common surgical procedure performed to treat prostate cancer. Patient-reported outcomes after surgery include urinary incontinence, erectile dysfunction, decreased quality of life and psychological effects. Predictive tools to assess the likelihood of an individual experiencing various patient-reported outcomes have been developed to aid decision-making when selecting treatment.Introduction: Sexual health is an integral part of overall health. Sexual dysfunction can have a major impact on quality of life and psychosocial and emotional well-being.The influence of preservation or excision of the neurovascular bundles on return of sexual function is analyzed. Between 1982 and 1988, 600 men 34 to 72 years old underwent radical retropubic prostatectomy for prostate cancer. Of the 503 patients who were potent preoperatively and followed for a minimum of 18 months 342 (68%) are potent postoperatively. Three factors were identified that correlated with the return of sexual function: 1) age, 2) clinical and pathological stage, and 3) surgical technique (preservation or excision of the neurovascular bundle). In men less than 50 years old potency was similar in patients who had both neurovascular bundles preserved (90%) and patients who had 1 neurovascular bundle widely excised (91%). With advancing age of more than 50 years sexual function was better in patients in whom both neurovascular bundles were preserved than in patients in whom 1 neurovascular bundle was excised (p less than 0.05). When

the relative risk of postoperative impotence was adjusted for age the risk of postoperative impotence was 2-fold greater if there was capsular penetration or seminal vesicle invasion, or if 1 neurovascular bundle was excised (p less than 0.05). These data indicate that the return of sexual function postoperatively in men more than 50 years old is quantitatively related to preservation of autonomic innervation. In these men when it is necessary to excise the neurovascular bundle on 1 side, consideration in the future should be given to approaches that may restore autonomic function through nerve regeneration, for example partial excision of the bundle or cavernous nerve grafts.Background: Symptoms and treatment of benign prostatic hyperplasia (BPH) or erectile dysfunction (ED) may lead to prostate cancer workup, and patterns of prescriptions before diagnosis may affect findings of pharmacoepidemiological studies. Usage of BPH and ED drugs after diagnosis may be related to prostate cancer treatment. We investigated differences in prescription rates of BPH and ED drugs among prostate cancer patients and cancer-free comparisons and between patients with localized and non-localized disease.Objectives: To present a pilot study of laparoscopic unilateral sural nerve grafting during radical prostatectomy, with the aim of preserving sexual potency.Objective: To examine the relationship of 'symptom flare' with sexual function and lower urinary tract symptoms (LUTS) before brachytherapy, as we noted that after brachytherapy for prostate cancer, some patients had recurrent LUTS after an asymptomatic period; this secondary exacerbation of symptoms ('symptom flare') occurred at approximately 2 years after implantation and was transient in most patients.Objective: To evaluate health-related quality of life (HRQOL) after salvage high-intensity focused ultrasound (HIFU) for locally radiorecurrent prostate cancer (PCa).Objectives: There has been a call in the urological literature for standardized reporting of complications. To use strict criteria aiming to report our complications and other postoperative events in a cohort of men undergoing third-generation prostate cryosurgery.Purpose: We evaluated quality-of-life changes (QoL) in 907 patients treated with either radical prostatectomy (open or laparoscopic), real-time planned conformal brachytherapy, or high-dose intensity-modulated radiotherapy (IMRT) on a prospective IRB-approved longitudinal study.Objective: While androgen deprivation therapy (ADT) has been associated with decreased quality of life (QoL), controlled prospective studies are lacking. We aimed to assess QoL during ADT using two validated questionnaires and determine contributing factors.Importance: Understanding adverse effects of contemporary treatment approaches for men with favorable-risk and unfavorable-risk localized prostate cancer could inform treatment selection.Prostatic diseases and erectile dysfunction (ED) are common diseases in urology and andrology. Basic and clinical studies have proved that there is a close relationship between the two. This article reviews the mechanism, diagnosis and treatment of ED caused by several prostatic diseases, such as acute prostatitis, chronic prostatitis, benign prostate hyperplasia and prostate cancer.Background: Choice of prostate cancer treatment is frequently influenced by the expected chance of treatment-induced side effects such as erectile dysfunction (ED). However, great discrepancy in cited ED rates exists in the contemporary radiation therapy literature.Aim: To compare the functional outcomes of bilateral nerve-sparing robot-assisted radical prostatectomy (RARP) and radical retropubic prostatectomy (RRP) at 12 months after surgery.Objective: Focus on cancer survivorship and quality of life (QOL) is a growing priority. The aim of this study was to identify and describe the most salient psychosocial concerns related to sexual functioning among African-American (AA) prostate cancer survivors and their spouses.Objective: To assess the use of the International Index of Erectile Function (IIEF), routinely used in patients being treated for localized prostate cancer, including potency-preserving, nerve-sparing radical prostatectomy (RP), as many patients complain that the results of the IIEF over 4 weeks before RP are not representative.Objective: Sexual preservation is an important issue in the treatment of localized prostate cancer. A technique of irradiation was developed to better preserve this function and has been evaluated.Background: We examine the impact of nerve sparing technique on the sexual function after radical retropubic prostatectomy for localized prostate cancer.Objective: The aim of this study was to assess postprostatectomy erectile function compared to preoperative status by subjective patient perception and the abbreviated International Index of Erectile Function (IIEF-5) questionnaire.Because there are competing modalities to treat early-stage prostate cancer, the constraints or deficiencies of one modality may be erroneously applied to others. Some valid concerns arising from surgery and external beam therapy, which have been falsely transferred to brachytherapy, are constraints based on patient age, clinical and pathological parameters, patient weight, and size of prostate. Although the constraints have a valid basis in one modality, knowledge of the origin and mechanism of the constraint has provided a means to circumvent or overcome it in brachytherapy. Failures as measured by biochemical no-evidence of disease (bNED) survival may be attributed to extracapsular disease

extension. Such extension often expresses itself in surrogate parameters such as a high percentage of positive biopsies, perineural invasion, or the dominant pattern in Gleason score histology. Failures due to such factors may be prevented by implanting with consistent extracapsular dosimetric margins. Some presumed limitations on prostate brachytherapy originated from data on patients implanted in the first few years the procedure was being developed. Most of the urinary morbidity and a significant part of the decrease in sexual function observed may be avoided by controlling the dosimetry along the prostatic and membranous urethra and at the penile bulb.Background: Androgen deprivation therapy (ADT) for prostate cancer has numerous side effects. Clinical guidelines for side effect management exist; however, these are not always integrated into routine practice. What remains undocumented and therefore the objective of this study, is to describe patients' willingness to employ established strategies.Background: The Prostate Cancer Prevention Trial (PCPT) was a randomized, double-blind, placebo-controlled study of the efficacy of finasteride in preventing prostate cancer in 18,882 men aged 55 years or older. The PCPT offered an opportunity to prospectively study the effects of finasteride and other covariates on sexual dysfunction.Background and purpose: Stereotactic body radiotherapy (SBRT) is being used for prostate cancer, but concerns persist about toxicity compared to other radiotherapy options.During the past 15 years radical retropubic prostatectomy (RRP) has become the treatment of choice for localized prostate cancer. Before the 1980s the procedure was characterized by a significant number of intraoperative, postoperative and long-term complications. Since then the operation has evolved continuously, using the results from anatomical studies, and has resulted in a marked reduction in the morbidity and mortality associated with this procedure. The modern, anatomical approach to RRP emphasizes the principles of direct visualization and identification of the anatomical structures in the pelvis. Management of the dorsal vein complex and techniques for apical resection of the prostate, combined with improved understanding of the pelvic floor anatomy, have contributed to a reduced frequency of postoperative incontinence. The identification and localization of the "erectile nerves' (autonomic branches of the pelvic plexus to the corpora cavernosa) in the neurovascular bundles outside the prostatic capsule and Denonvilliers' fascia enables nerve-sparing surgery. In selected cases, sparing of the neurovascular bundles is possible to preserve sexual function without compromising cancer control as the principal goal of RRP.Introduction: Hypofractionated radiotherapy could increase the radiobiological tumor dose for localized prostate cancer. The effects of hypofractionation on sexual function are not well known.Purpose: To compare urinary, bowel, and sexual health-related quality-of-life (HRQOL) changes due to high-dose-rate (HDR) brachytherapy, low-dose-rate (LDR) brachytherapy, or intensity-modulated radiation therapy (IMRT) monotherapy for prostate cancer.Introduction: Phosphodiesterase type 5 inhibitor (PDE5) use is a treatment strategy for prostate cancer patients with post-radiation therapy (RT) erectile dysfunction (ED).Purpose: To assess complications of therapy for early (nonmetastatic) prostate cancer.Purpose: Ejaculatory disorders will be experienced in most men who are treated for localized prostate cancer. Baseline rates of ejaculatory disorders are unknown in men at risk for prostate cancer. Therefore, we explored the prevalence of those disorders and associated bother in men without evidence of prostate cancer who participated in an annual prostate cancer screening event.Purpose: The diagnosis of prostate cancer and the following treatment does not only affect the patient, but also his partner. Partners often suffer even more severely from psychological distress than the patients themselves. This analysis aims to describe the quality of life (QoL) after the cancer diagnosis over time and to identify the effects of possible predictors of partners' quality of life in a German study population.Background: The objective of this survey was to identify factors associated with good sexual outcomes in a large group of survivors of localized prostate carcinoma.The neuroanatomy of the pelvic space was studied in order to clarify the course of cavernous nerves responsible for erectile function. The cavernous nerves travel along the dorsolateral portion at the base toward the apex of the prostate, then penetrate urogenital diaphragm at the lateral aspect of the membranous urethra. According to the anatomical findings, nerve-sparing radical prostatectomy was performed through the antegrade approach in 28 patients with prostate cancer. No significant surgical complications were encountered in the present series. Of the 28, evaluable cases were limited to 22 in terms of erection. Fifteen patients (68%) recovered their erectile function after nerve-sparing surgery. Therefore, the present surgical technique seems to be effective for the preservation of male sexual function following radical pelvic surgery.Introduction: Androgen deprivation therapy (ADT) is commonly utilized in the management of both localized and advanced adenocarcinoma of the prostate. The use of ADT is associated with several adverse events, physical changes, and development of medical comorbidities/mortality.With the earlier detection of prostate cancer and the increasing demand for treatment of organ-confined dizease, quality of life issues are

becoming more important. Development of erectile dysfunction (ED) following radical therapy is a particular concern, and occurs in perhaps a third of patients treated by radiotherapy and 30-70% of patients treated by radical prostatectomy. Although it is assumed that the ED relates to damage to the nerves subserving erection, this view has been questioned recently and in at least a proportion of patients the cause appears to be vascular. Despite the likely cause of their ED, all patients presenting with ED after treatment for prostate cancer should undergo assessment by history and examination to ensure that there are no other correctable risk factors. Patients can then be considered for a number of treatment options, and currently sildenafil (Viagra, Pfizer) is usually used as first-line therapy assuming there are no contraindications, such as severe ischaemic heart disease or nitrate therapy. Sildenafil improves erectile function in 70% of patients with ED post-radiotherapy, but appears less effective in men after radical prostate surgery with a response rate of 40-50%. Other treatment options include self-injection or intra-urethral administration of alprostadil, and some patients are happy to use a vacuum erection device. Finally, if all else fails, patients may be suitable for penile implant surgery.Many men experience sexual difficulties after receiving prostate cancer treatment. We investigated sexual and relationship factors associated with management strategies to maintain sexual activity in prostate cancer patients. 210 prostate cancer patients (66.7 ± 7.4 years old) completed our survey online. Higher sexual function distress (Incidence rate ratio, IRR = 0.99, p = 0.005) and less frequent relationship strain (IRR = 1.01, p = 0.002) were associated with trying a higher number of sexual management strategies. Higher sexual function distress was associated with the use of oral medication (Odds Ratio, OR = 0.98, p = 0.026), vacuum erection device (OR = 0.98, p = 0.005), and vibrators (OR = 0.97, p = 0.005). Perceived importance of sexual interaction with a partner was associated with using oral medication (OR = 1.95, p = 0.027). Participant's higher ideal frequency of sexual interaction with a partner was a predictor for the use of vibrators (OR = 1.03, p = 0.024). Less frequent relationship strain was associated with the use of vacuum erection device (OR = 1.03, p = 0.002), and vibrators (OR = 1.02, p = 0.012). Lastly, patients' communication with their partner about sexual intimacy was also associated with use of vacuum erection device (OR = 3.24, p = 0.050, CI 1.0-10.5). Few participants (13-27%) were interested in trying penile implant, penile support device, external penile prosthesis, penile sleeve and anal devices. From our qualitative analyses, the main barriers to retaining sexual activity were erectile dysfunction and psychological issues. Three themes participants found useful to maintain sexual activity: preparatory behaviours for initiating or maintaining erections, adapting their sexual activity to fit with what was now possible, and the importance of the relationship or intimacy with their sexual partner. Psychological and relationship factors contribute to patients' motivation to remain sexually active after treatment.Aim: To evaluate the Oncological and functional results and to clear risk factors of biochemical recurrence in patients with prostate cancer treated by retropubic prostatectomy.Background: Most previous studies of prostate cancer (CaP) patients have focused on functional side effects. In the decision about treatment, the patients' subjective experience of function (bother) should also be considered. In this prospective study of CaP patients, we used both categorical and dimensional methods to examine changes of sexual, urinary, and bowel bother after robot-assisted prostatectomy (RALP), after high dose radiotherapy alone (RAD), or with adjuvant androgen deprivation therapy (RAD + ADT). We also studied the associations between psychosocial factors and post-treatment bother and the correlations between bother and function at the follow-up time points.Background: To evaluate the frequency of erectile dysfunction in patients submitted to radical prostatectomy due to prostate carcinoma and to the possibility, with appropriate treatment, of restoring adequate erections for a satisfactory sexual activity.Background: Men aged >65 yr are less likely to receive local therapy for prostate cancer (PCa), perhaps because of concerns about quality-of-life (QOL) outcomes.This is the first of a retrospective series in 2013 celebrating 40 years of the Oncology Nursing Forum. Each feature will focus on a single cancer and discuss the changes to the diagnosis and treatment of the disease since the 1970s.Incontinence is a known complication of radical prostatectomy for prostate cancer. Recently, climacturia, or orgasmic incontinence, has been reported after this procedure. Patients have occasionally reported some loss of urine during sexual foreplay, even when general daytime incontinence was not present. A review of questions on this subject was conducted in 45 men to better appreciate how often this occurred. Nine of twenty-four men (38%) with no daytime incontinence stated that they had some incontinence with sexual foreplay. These men involved have related that this causes embarrassment and frustration, with the effect of avoidance of sexual activity. This in turn causes relationship problems. The use of a rubber ring at the base of the penis during foreplay can help relieve this difficulty.Twenty-seven patients with adenocarcinoma of the prostate, and available partners, were interviewed to qualitatively and quantitatively assess their level

of sexual function prior to and 12 months after radiotherapy. Assessments were made using the Derogatis Interview for Sexual Functioning (DISF). Five domains of sexual functioning are measured: sexual fantasy, arousal, experience, orgasm, and drive. Prior to therapy 17 of 27 patients (62.9%) were considered impotent. There were eight patients with a DISF score of less than 20 who were impotent. Six patients had a DISF score of greater than 47 and were considered potent. Of the patients with DISF scores between 20-47 four were potent, and nine were impotent. Post radiation therapy three of the patients considered potent (with a score greater than 47) maintained their potent status. Four patients considered impotent prior to therapy became potent after therapy. All patients with a score less than 20 prior to radiation therapy remained impotent after therapy. Results indicate that an objective evaluation of sexual function pre treatment is necessary to determine the effect of radiotherapy. Our method of qualitative assessment of sexual function was easy to implement, was reproducible and could be used to evaluate long-term effects of radiotherapy on sexual function. Of the patients presenting for radiotherapy, 62.9% were impotent. Twelve months after radiation therapy 19 of 27 (70.3%) were impotent.Recent work shows a high prevalence of low testosterone and inappropriately low LH and FSH concentrations in type 2 diabetes. This syndrome of hypogonadotrophic hypogonadism (HH) is associated with obesity, and other features of the metabolic syndrome (obesity and overweight, hypertension and hyperlipidemia) in patients with type 2 diabetes. However, the duration of diabetes or HbA1c were not related to HH. Furthermore, recent data show that HH is also observed frequently in patients with the metabolic syndrome without diabetes but is not associated with type 1 diabetes. Thus, HH appears be related to the two major conditions associated with insulin resistance: type 2 diabetes and the metabolic syndrome. CRP concentrations have been shown to be elevated in patients with HH and are inversely related to plasma testosterone concentrations. This inverse relationship between plasma free testosterone and CRP concentrations in patients with type 2 diabetes suggests that inflammation may play an important role in the pathogenesis of this syndrome. This is of interest since inflammatory mechanisms may have a cardinal role in the pathogenesis of insulin resistance. It is relevant that in the mouse, deletion of the insulin receptor in neurons leads to HH in addition to a state of systemic insulin resistance. It has also been shown that insulin facilitates the secretion of gonadotrophin releasing hormone (GnRH) from neuronal cell cultures. Thus, HH may be the result of insulin resistance at the level of the GnRH secreting neuron. Low testosterone concentrations in type 2 diabetic men have also been related to a significantly lower hematocrit and thus to an increased frequency of mild anemia. Low testosterone concentrations are also related to an increase in total and regional adiposity, and to lower bone density. This review discusses these issues and attempts to make the syndrome relevant as a clinical entity. Clinical trials are required to determine whether testosterone replacement alleviates symptoms related to sexual dysfunction, and features of the metabolic syndrome, insulin resistance and inflammation.Objectives: To determine and compare quality-of-life (QOL) evaluations from patients who received external beam radiation therapy or radical prostatectomy for the treatment of localized prostate cancer, and to compare differences in QOL assessments for urinary and sexual function after radical prostatectomy as reported by patient and physician.Background: The purpose of this analysis was to compare long-term urinary, bowel, and sexual function after radical prostatectomy or external-beam radiation therapy.Introduction/background: Treatment-induced erectile dysfunction (ED) is a common side effect of radiotherapy and androgen deprivation therapy (ADT) that impacts on patient quality of life. Penile rehabilitation interventions including pharmacologic and physical therapies aim to reduce the impact of ED. Despite The National Institute for Health and Care Excellence guidelines recommending access to ED services, penile rehabilitation is not widely discussed or implemented. This systematic review aimed to appraise the evidence base for penile rehabilitation and identify evidence-based recommendations for practice.To compare adverse effects and toxicity in men with high-risk or locally advanced prostate cancer when adding intensity-modulated radiotherapy (IMRT) technique to the pelvis.Erectile dysfunction (ED) commonly affects the quality of life of men after treatment of prostate cancer. We conducted a placebo-controlled, crossover randomised trial to assess the efficacy and tolerability of sildenafil citrate in the treatment of ED developing after external beam radiation treatment (EBRT) of localized prostate cancer. Sixty-six patients who had developed ED following radiation treatment agreed to participate and were allocated to sildenafil or placebo to be taken prior to four sexual attempts. In the crossover period, subjects received the alternative tablet for a further four attempts. Allocation was centrally randomized, and researchers and patients were both blinded to the trial arm. Efficacy was assessed using the International Index of Erectile Function (IIEF) questionnaire and with a separate global efficacy question. Forty-three subjects completed the study. There was a significant increase in mean

scores from baseline for all domains of the IIEF with sildenafil compared with placebo (P < 0.001). Affirmative response to the global efficacy question was more common after taking sildenafil compared with placebo. In approximately half of the patients, the improvement in the erectile function domain score corresponded to a moderate improvement in ED (e.g. success 'sometimes' to 'most times'). Sildenafil was associated with mild flushing, nasal stuffiness or indigestion in 8-10% patients and moderate flushing in 10%. The current study adds to the evidence that phosphodiesterase inhibitors are an effective and well-tolerated treatment for ED after EBRT for prostate cancer.The technique for radical cystoprostatectomy was modified to avoid injury to the branches of pelvic plexus that innervate the corpora cavernosa (monolateral neurovascular bundle preservation or "Nerve sparing technique"). The studies of Walsh and coll. demonstrated that the branches of pelvic plexus that innervate the corpora cavernosa are situated between the rectum and urethra and penetrate the urogenital diaphragm near to the muscular wall of the urethra. Injuries to the pelvic plexus can occur during 1) division of posterior pedicle of bladder (the seminal vesicle can be used as a landmark intraoperatively to avoid injury to pelvic plexus), 2) during apical dissection of prostate with transection of the urethra. The return of sexual function postoperatively is related to preservation of autonomic innervation; the excision of the neurovascular bundle on one side may prevent impotence in 68% patients. Our study was undertaken to identify the cause of impotence in men undergoing radical cystoprostatectomy with "Nerve sparing technique" using bulbo cavernous reflex. Our results suggest that bulbo cavernosus reflex may not be a sensitive clinical tool to establish a diagnosis of neurogenic erectile dysfunction after pelvic surgery. The Authors examine the recent neuro-uro-physiological diagnostic methods for the study of neurogenic erectile dysfunction.Purpose: A higher radiation dose is believed to result in a larger probability of tumor control and a higher risk of side effects. To make an evidence-based choice of dose, the relation between dose and outcome needs to be known. This study focuses on the dose-response relation for prostate cancer.Purpose: The contemporary literature pertaining to erectile dysfunction after radical prostatectomy was evaluated. The limitations of this literature are discussed and recommendations are made for the reporting of erectile function outcomes after radical prostatectomy.Objective: Nerve-grafting surgery after resection of neuro-vascular bundles during radical prostatectomy is one of the promising resolutions for dilemma between cancer control and functional preservation. The objective of this study is to evaluate the effect of nerve-grafting surgery on health-related quality of life (HRQOL) in localized prostate cancer patients with special interest in the influence of sexual dysfunction on mental status.Objectives: To test the reliability of recollected International Index of Erectile Function (IIEF) domain scores before and after radical prostatectomy. Recall reliability can be affected by several biases. In men with localized prostate cancer (PCa), conflicting results have been reported.Objectives: To determine the efficacy of tadalafil (Cialis) in patients with erectile dysfunction after three-dimensional conformal external beam radiotherapy for prostate cancer in an extended open-label phase of the blinded trial.Objectives: To assess patient responses to radical prostatectomy and its effects.Purpose: Can focal laser ablation (FLA) of low to intermediate risk prostate cancer preserve sexual and urinary function with low morbidity while providing adequate oncologic outcomes.Purpose of review: Immune checkpoint therapy has grown in prominence in the last few decades and is being increasingly utilized in treatment of advanced cancers. Although information on toxicities of these drugs is forthcoming, not much is known regarding the toxicity profile of these drugs from a sexual function standpoint. We undertook the current review to appraise the literature for endocrine/sexual side effects of anti-PD-1/PD-L1 and anti-CTLA-4 therapy.Coming to terms with disease, chronic illness, and aging may be challenging for men who adhere to an inflexible gender schema. In this study of elder U.S. veterans' ideas about masculinity, we find that prostate cancer patients reaffirm a strongly moral normalizing discourse about "being a man" yet tend to separate roles and values from male physical and sexual attributes. Using systematic data collection methods taken from cognitive anthropology, we map veterans' schema of masculinity and examine the relative importance that cancer patients and non-patients give to gender attributes. The results demonstrate the complementarity between cognitive and narrative approaches in medical anthropology. This research also suggests the hypotheses that (1) coming to terms with iatrogenesis may involve a subtle reformulation of masculinity and that (2) men with a fixed view of masculinity may have worse health outcomes than do those who accept the changes accompanying their treatment for prostate cancer.Introduction: Erectile dysfunction (ED) is one of the most frequent sources of distress after treatment for prostate cancer (PCa), yet evidence suggests that men do not easily adjust to loss of sexual function over time. A hypothesized determinant of men's adaptation to ED is the degree to which they experience a loss of masculine identity in the aftermath of PCa treatment.Advances in prostate

cancer treatments since the 1990s have led to a growing proportion of patients living with the effects of the cancer. Various challenges face the man and his partner from the point of learning of the diagnosis: deciding among numerous diverse treatment options, dealing with side-effects of treatment and possibly facing the terminal phase of the illness. This invariably has an impact on the patient's family and, in view of the older age group of men usually affected, the experience of a partner is particularly relevant. A thorough review of the research literature reporting directly from partners of prostate cancer patients has not been undertaken previously. For this review, five databases were searched for the decade 1994-2005, during which most of the work in this field has been done. Very few evaluations of psychosocial interventions involving the partner were found, but there was a preponderance of qualitative studies involving small numbers of participants and quantitative surveys with little consistency in the measures used. The literature suggests that partners report more distress than patients, yet believe that patients are the more distressed, and the focus of concern of patients on their sexual function is not shared to an equal degree by their partners.Androgen deprivation therapy (ADT) has a deleterious effect on sexual functions and general well-being in men. Despite this evidence, however, patient and couple knowledge about ADT side effects as well as their management is poor. Similar considerations can be made for physician endorsement of management strategies. In this paper, we summarize and critically discuss available evidence regarding the possible associations between ADT and sexual dysfunction as well as the best therapeutical options. Preclinical data show that ADT is associated with penile contractility impairment as well as lower response to phosphodiesterase type 5 inhibitors (PDE5i). Available data indicate that ADT resulted in a five to sixfold increased risk of reduced libido and in a threefold increased risk of ED confirming the main role of testosterone in regulating sexual desire. Despite this evidence, sexuality remains an important aspect of health and well-being for men and their partner. The best therapeutical options depend on patient and couple desires and needs. When nonpenetrative erections are still possible, nonpenetrative activities should be encouraged to maintain sexual intimacy. A combined and personal educational program including the collaboration of different professional figures (including general physicians, oncologists, andrologists, sexologists, and psychologists) trained in sexual medicine is advisable in order to provide the best support to subjects undergoing ADT.Purpose: We evaluated agreement between patient reported urinary function and bother, and sexual function and bother in patients treated with radical prostatectomy to help inform possible nonfunctional, modifiable mechanisms for patient bother.Objective: To describe how demographic and diagnostic characteristics of men with prostate cancer in the United States have changed since 1999, using data from the Cancer of the Prostate Strategic Urologic Research Endeavor (CaPSURE) registry.Background: Erectile dysfunction (ED) is a prevalent side effect of prostate cancer treatment. We hypothesized that the previously reported rates of ED may have improved with the advent of modern technology. The purpose of this project was to evaluate modern external beam radiotherapy and brachytherapy techniques to determine the incidence of radiotherapy (RT) induced ED.Urinary and sexual dysfunctions are side effects of radical prostatectomy (RP) for prostate cancer (PC) that contribute to depression. Despite the effectiveness of support groups at reducing depression in cancer patients, men typically do not participate in them. The purpose of this pilot study was to test the effects of a dyadic intervention (one-to-one support) on social support (Modified Inventory of Socially Supportive Behaviors), self-efficacy (Stanford Inventory of Cancer Patient Adjustment), and depression (Geriatric Depression Scale). Subjects were randomized to group. Controls (N=15; Mage=59.7) received usual care. Experimentals were paired with long-term survivors (LTS) who had RP and who had treatment side effects in common. Experimentals (N=15; Mage=57.5) met with a LTS 8 times in 8 weeks to discuss concerns associated with survivorship. No significant differences were detected on social support, but after 4 weeks, significant differences were present on depression between controls and experimentals, however these differences were not seen at 8 weeks. After 8 weeks, there were also significant differences on self-efficacy between controls and experimentals. Weekly anecdotal data supported the feasibility and acceptance of the intervention that was a low cost strategy effective at reducing depression and increasing self-efficacy in men treated by RP. Future research directions and clinical application is presented.Objectives: Vasoactive drugs used for self-administered intracavernous injections are currently the reference treatments for erectile dysfunction after radical prostatectomy. The acceptability of and compliance with this treatment often limit their use. This study analysed these two parameters as a function of the type of andrological management decided before radical prostatectomy.Purpose: Erectile dysfunction is a common side effect in men treated for prostate cancer. Previously published studies document the incidence of erectile dysfunction in men treated for prostate cancer to be between 20% and 88%. To our knowledge

a prospective evaluation focused on the development of erectile dysfunction in men treated for prostate cancer has not elucidated components of its chronology or risk factors.Context: Whether focal therapy (FT) for prostate cancer (PC) jeopardizes outcomes from salvage treatments is a matter of debate still to be resolved.Objectives: To assess the baseline erectile function (EF) of patients with clinically localized prostate cancer (pCa), who are candidates for a bilateral nerve-sparing radical retropubic prostatectomy (BNSRRP) to (a) objectively rate the preoperative self-reported subjective patient's EF and (b) investigate possible correlations between preoperative EF and demographic data and comorbidities.Radical prostatectomy remains the treatment of choice for localized prostate cancer in age-appropriate and health-appropriate men. Although cancer control is the most important aspect of a radical prostatectomy, minimization of postoperative morbidity, especially urinary incontinence and erectile dysfunction, is becoming a greater concern. We reviewed recent data available on Medline regarding the incidence, pathophysiology, evaluation, and treatment of incontinence and sexual dysfunction after radical prostatectomy. Health-related quality of life issues have been specifically addressed. Although low incidences of incontinence and erectile dysfunction after radical prostatectomy have been reported in the hands of experienced surgeons, the literature review revealed a great variety, with incontinence rates ranging from 0.3-65.6% and potency rates ranging from 11-87%. Several factors contribute to this wide difference, the most important being the application of a meticulous surgical technique. General and cancer-specific health-related quality of life is not being affected after radical prostatectomy. The incidence of incontinence and erectile dysfunction is higher after radical prostatectomy when compared to the incidence observed when other therapies for localized prostate cancer are applied. However, the majority of the patients undergoing radical prostatectomy would vote for the operation again. Today, avoidance of major complications after radical prostatectomy depends mostly on a high-quality surgical technique. When incontinence or erectile dysfunction persists after radical prostatectomy, the majority of the treated patients can be managed effectively by various methods.Purpose: We determined whether serial prostate needle biopsies predispose men to erectile dysfunction and/or lower urinary tract symptoms over time.Introduction: The Journal of Sexual Medicine (JSM) held a debate at the annual fall meeting of the Sexual Medicine Society of North America (SMSNA). The motion was "Penile Rehabilitation Should Become the Norm for Radical Prostatectomy Patients." At the suggestion of several SMSNA members, it was requested that this debate might be of interest to JSM readers in the form of a published controversy.Purpose: Prospective evaluation of sexual outcomes after prostate brachytherapy with iodine-125 seeds as monotherapy at a tertiary cancer care center.Aim: The aim of this study was to explore urogenital dysfunction and associated risk factors after treatment of rectal cancer, in a large national cohort of patients 3 years after abdominoperineal excision, and to compare outcomes with a reference population and a cohort of patients operated for prostate cancer.Erectile dysfunction (ED) following transperineal prostate biopsy (TPB) was prospectively evaluated. From January 2011 to January 2014, 1050 patients were submitted to TPB: 18 core (extended TPB) in 610 cases, 28 core (saturation TPB) in 360 cases and 32 core (saturation plus magnetic resonance imaging (MRI) targeted TPB) in 210 cases. The indications for biopsy were increasing prostate-specific antigen (PSA) or PSA>10 ng ml(-1). All patients were prospectively evaluated with the 5-item version of the International Index of Erectile Function (IIEF-5) at time zero and at 1, 3 and 6 months from TPB. Prostate cancer was diagnosed in 385/1050 (36.6%) patients; 560 men (350 vs 110 vs 100) having benign histology and normal sexual activity also completed the study. Overall, IEEF-5 score at time zero and at 1, 3 and 6 months did not significantly worsen (P>0.05); in detail, at 1 month from biopsy 15 extended TPB (4.2%) vs 7 saturation TPB (6.4%) vs 7 saturation plus MRI targeted TPB (7%) men referred mild ED that disappeared after 3 months. Irrespective of method (18 vs 28 vs 32 core) TPB did not significantly worsen erectile function at 3-6 months from the procedure.Objective: To evaluate the psychometric properties of the Taiwan Chinese Version of the EORTC QLQ-PR25 health-related quality of life (HRQOL) questionnaire for patients with prostate cancer.Background: Radical prostatectomy is one option for treating localized prostate cancer, but it can cause functional impairment of the urogenital system.The maintenance of satisfactory quality of life is major concern in majority of patients who elect treatment for localized prostate cancer. We conducted a cross-sectional study to determine sexual function after radical prostatectomy (RP) and external beam radiotherapy (EBRT). Study population consisted of series of 57 patients with early-stage adenocarcinoma of the prostate, treated in our institution in the period from January 2003 till December 2003. Thirty three patients underwent radical retropubical prostatectomy and 24 patients were treated by primary radical radiotherapy. Patients have been given the full international index of erectile function (IIEF) questionnaire two to four and six

months after the treatment. Post treatment sexual function in patients treated by EBRT is significantly better than in patients treated by RP (48.5% vs. 21.57%, $p < 0.0001$). Subgroup analysis reveals that satisfaction with erectile function, maintaining of sexual intercourse and possibility of ejaculation is better in patients treated by EBRT than in patients treated by RP (44.67% vs. 11.57%, $p < 0.0001$) as well as general satisfaction with quality of sexual life (48.5% in EBRT group vs. 21.57% in RP group, $p < 0.0001$). On the other hand, sexual desire remains the same in both groups of patients (63.75% in EBRT group vs. 60.61% in RP group, $p = 0.71$). Six months after surgical or radiotherapy treatment erectile function is almost as twice as worse in patients treated by surgery than in patients treated by radiotherapy.Objectives: Outcome measures following radical prostatectomy are not standardized. Though excellent potency rates are widely reported, few studies address a return to baseline function. We analyze validated sexual health-related quality-of-life outcomes by a strict definition, a return to baseline function, and compare them to less stringent, yet more frequently referenced, categorical definitions of potency.Erectile dysfunction (ED) is an important cause of reduced quality of life for men and their partners. Recent studies have found that cavernous nerve injury (CNI) during prostate cancer surgery and other pelvic surgery results in medically induced CNIED in more than 80% of patients. The efficacy of first- and second-line treatment options for ED is poor. A great deal of research has been devoted to exploring new methods of neuroprotection and nerve regeneration to save erectile function in patients with CNIED, especially in patients with cavernous nerve injury after prostate cancer surgery. In addition, such as neuromodulatory proteins, proimmune ligands, gene therapy, stem cell therapy, and the current cutting-edge low-energy shock wave therapy have shown advantages in basic research and limited clinical studies. In the context of today's modern medicine, these new therapeutic techniques are expected to be new tools in the treatment of cavernous nerve injury erectile dysfunction. This article presents the main causes, mechanisms, and treatment of cavernous nerve injury erectile dysfunction and combines them with new treatment strategies.Purpose: High dose-rate (HDR) brachytherapy is commonly administered as a boost to external beam radiation therapy (EBRT). Our purpose was to compare toxicity with increasingly hypofractionated EBRT in combination with a single 15 Gy HDR boost for men with intermediate-risk prostate cancer.Objectives: With the maturity of cryotherapy for prostate cancer, the complications after operation are also decreasing, which can improve the prognosis of patients. However, erectile dysfunction (ED) is still one of the main complications after cryotherapy. Therefore, we performed a meta-analysis to evaluate the incidence of erectile dysfunction in patients after cryotherapy.Management of adverse events related to cancer therapies are seen as tertiary prevention. Concerning prostate cancer, dealing with secondary effects of treatments is crucial. Indeed, if recent advances in cancer therapy have lead to an acceptable overall prognosis, these results face increasing cases of adverse events that can dramatically impact quality of life. Localized prostate cancer management (by radical prostatectomy, brachytherapy, external radiation therapy, hormonal treatment) leads to two main secondary effects: bladder and urinary sphincter dysfunction on one hand and sexual disorders on the other hand. Urinary disorders are stress urinary incontinence (mainly after radical prostatectomy), storage symptoms and overactive bladder, and outflow obstruction (mainly after radiation therapy). Stress urinary incontinence can be managed by pelvic floor muscle training and behavioural treatment. In case of failure, and after one year of evolution, surgical options are indicated (periurethral injections, artificial urinary sphincter, tapes and balloons). Storage symptoms respond to medical management (anticholinergics), and obstructive symptoms are treated by alpha-blockers, self-catheterization or surgery if necessary. Sexual disorders are erectile dysfunction, pelvic floor discomfort, orgasm disorder, and penile retraction and fibrosis. Available options gather medical treatment by phosphodiesterase-5 inhibitors, Vacuum, and penile prosthesis. Recent advances in this field point out the role of early penile rehabilitation and prevention of sexual disorders. Although often associated in the same patients, sexual and urinary disorders following prostate cancer management are often considered separately. Their combined treatment should be an objective for both clinical practice and research. New treatments for stress urinary incontinence management (latero-urethral balloons, new male slings) and for erectile dysfunction (penile rehabilitation, treatment penile retraction and optimal use of phosphodiesterase-5 inhibitors) will extend the therapeutic options in the next future, and improve the level of care for patients with prostate cancer.Following definitive local treatment for early-stage prostate cancer, preservation of erectile function has been assumed to be most likely following brachytherapy. However, recent studies have demonstrated that brachytherapy-related erectile dysfunction (ED) is more common than initially reported. The exacerbation of brachytherapy-related ED is closely related to several clinical, treatment, and dosimetric parameters including pre-implant erectile function and radiation dose to the proximal

penis. The majority of patients with brachytherapy-induced ED respond favorably to oral erectogenic agents.Erectile dysfunction is a recognized complication of prostate and bladder radical surgery, although there is significant variation in the reported risk, much of this variability is related to the retrospective nature of most previous studies. Undoubtedly, the quality of life of bladder and prostate cancer patients would be much improved if both normal micturition and potency are preserved, which is the subject of this article. Quality of life studies can delineate sexual function after radical prostatectomy, including the use of sexual aids. Penile erection is a neurovascular event modulated by neurotransmitters and hormonal status. The penis is innervated by autonomic and somatic nerves. Both surgery and radiation therapy appear to affect such a mechanism. Radiation is thought to produce Erectile Dysfunction (ED) by accelerating microvascular angiopathy causing cavernosal fibrosis or stenosis of the pelvic arteries and by accelerating existing arteriosclerosis, leading to vascular impotence. Years may elapse before clinically significant ED occurs. Criteria that influence recovery of erections after surgery include younger patient age, stronger erections before operation, preservation of the neurovascular bundles, and attention to fine details in the surgical technique. Recovery of erections occurs in 68% of preoperatively potent men treated with bilateral nerve-sparing surgery and in 47% of those treated with unilateral nerve-sparing surgery.Radical prostatectomy (RP) remains the standard treatment for men with clinically localized prostate cancer, despite the range of alternative treatment modalities. Even with significant advances in surgical technique and superb results for cancer control and preservation of urinary function, erectile dysfunction (ED) following RP is a common complication. This is mainly attributed to temporary cavernous nerve damage (neuropraxia) resulting in penile hypoxia, smooth muscle apoptosis, fibrosis and veno-occlusive dysfunction. One of the most promising new approaches is the concept of early penile rehabilitation, which is thought to prevent ED after RP by countering post-RP pathophysiological changes during the period of neural recovery. Various treatments, such as vacuum constriction devices, intraurethral and intracorporal alprostadil, and phosphodiesterase type 5 (PDE5) inhibitors, might serve to facilitate recovery of erectile function. PDE5 inhibitors are considered as the first-line treatment for early penile rehabilitation, with superior erectile function outcomes compared to placebo. Definitive conclusions regarding the success of penile rehabilitation cannot be drawn at this time because of differences in study design, data acquisition, and definitions of potency. Continued prospective, rigorous study is needed to develop and bring forward this important field and to establish the best evidence basis for counseling and treating patients suffering from ED after RP.Background: Most studies of treatment outcomes in men with localized prostate carcinoma have emphasized sexual, urinary, and bowel symptoms with the assumption that they have an impact on quality of life. However, very few studies have directly examined and compared the impact of these symptoms on overall and cancer specific quality of life.Background: Preservation of erectile function is an important postoperative quality of life concern for patients after robot-assisted radical prostatectomy (RARP) for prostate cancer. Although erectile function may recover, many men continue to suffer from erectile dysfunction (ED).Objectives: To document the effects of pelvic radiotherapy on bowel, bladder, and sexual function, as reported by the patient.Purpose: Although measuring quality of life of patients with prostate cancer serves important research goals, its primary clinical purpose is informing patients. Sophisticated quality of life measures produce purely numerical results that patients have difficulty understanding. We present an approach that preserves the methodological strengths of validated multi-item measures but provides more accessible information for clinical use.Objectives: To prospectively examine whether changes in smoking, heavy alcohol consumption, sedentary lifestyle, and obesity are associated with the risk of erectile dysfunction.Purpose: Treatment of post-prostatectomy urinary incontinence (UI) and erectile dysfunction (ED) increases quality of life (QoL). Aim of our study was to evaluate the utilisation of care among patients with post-prostatectomy UI and ED in Germany.Introduction: The Expanded Prostate Cancer Index Composite (EPIC) is a validated and widely adopted instrument that measures patient quality of life. This study aims to describe and compare patient quality of life in the bowel, urinary, and sexual domains across different prostate cancer treatments.Recent advances in our understanding of the surgical anatomy of the prostate have led to an improved operative technique for radical prostatectomy. This technique achieves excellent results in terms of urinary continence and preservation of sexual function without compromising cancer control. It is therefore reasonable to offer radical prostatectomy for the cure of localized prostate cancer to patients who are otherwise well and have a life expectancy of more than 10 years.Objective: Several therapies for localised prostate cancer (PC) are available; all yield similar survival rates. However, each therapy has significant side effects that can influence patients' health-related quality of life (HRQoL) in the long run.Background: After

treatment for prostate cancer, multidisciplinary sexual rehabilitation involving couples appears more promising than traditional urologic treatment for erectile dysfunction (ED). The authors of this report conducted a randomized trial comparing traditional or internet-based sexual counseling with waitlist (WL) control.Purpose: The Radiation Therapy Oncology Group (RTOG) 0215 investigated the efficacy of sildenafil in improving erectile dysfunction following radiotherapy and neoadjuvant/concurrent androgen deprivation therapy among prostate cancer patients and found a significant improvement on drug but only in 21% of study participants. This paper reports on a secondary aim to investigate the effect of sildenafil on overall sexual and marital adjustment among both patients and their wives.Objective: To investigate the efficacy and safety of vacuum erection device (VED) for erectile dysfunction (ED) after radical prostatectomy (RP).Despite the neuroanatomy knowledge of the prostate described initially in the 1980's and the robotic surgery advantages in terms of operative view magnification, potency outcomes following robotic-assisted radical prostatectomy still challenge surgeons and patients due to its multifactorial etiology. Recent studies performed in our center have described that, in addition to the surgical technique, some important factors are associated with erectile dysfunction (ED) following robotic-assisted radical prostatectomy (RARP). These include preoperative Sexual Health Inventory for Men (SHIM) score, age, preoperative Gleason score, and Charlson Comorbidity Index (CCI). After performing 15,000 cases, in this article we described our current Robotic-assisted Radical Prostatectomy technique with details and considerations regarding the optimal approach to neurovascular bundle preservation.Purpose: We determine the impact of nerve sparing techniques on quality of life after radical retropubic prostatectomy for prostate cancer.Purpose: We analyzed the rate of preserved potency after prostate brachytherapy (PB) with radioactive seeds and the impact of patient comorbidities on post-PB erectile dysfunction (ED).Background: Bladder and sexual dysfunction are recognized complications of mesorectal resection. Their incidence following laparoscopic surgery is unknown.Objective: Androgen deprivation therapy (ADT) is the primary treatment for advanced prostate cancer (CaP). There is growing evidence that ADT negatively affects men's psychosocial well-being (e.g., causing sexual dysfunction, bodily feminization) and physical health (e.g., increasing the risk of osteoporosis and metabolic syndrome). Although strategies for managing the majority of side effects exist, it is not clear that patients are benefiting from this knowledge.Purpose: We evaluated urinary and sexual quality of life 1 year following robotic laparoscopic radical prostatectomy and identified preoperative variables predictive of a severe decrease from baseline.Objectives: Intraoperative nerve stimulation has been used to map the course of cavernosal nerve bundles to aid in nerve-sparing radical prostatectomy (RP). We sought to determine whether the intraoperative nerve stimulation response after removal of the prostate specimen predicts postoperative potency.Introduction: Despite the high prevalence of erectile dysfunction (ED) in men with prostate cancer, little is known about the use of ED drugs. Also, the possible influence of socioeconomic factors on ED drug use has not been studied previously.Objective: Prostate cancer is the most common malignancy among males, accounting for 19% of cancers, and the third most common cancer-related cause of death. Suicide rates in the United States have increased among males over the last decade. Further, suicide rates are higher in oncology patients, including patients with prostate cancer, compared to the general population. The objective of this article is to review the current literature and address the relationship between prostate cancer, depression, erectile dysfunction, and suicidal ideation.Prostate cancer developed in two male patients being treated with fluoxymesterone for erectile impotence. It is suggested that the current increased interest in and therapy for sexual dysfunction be accompanied by an awareness of a possible causal relationship between exogenous androgens and prostrate cancer.Purpose: Little is known about the toxicity of additional pelvic lymph node irradiation in men receiving intensity modulated radiation therapy (IMRT) for prostate cancer. The aim of this study was to compare patient-reported outcomes after IMRT to the prostate only (PO-IMRT) versus the prostate and pelvic lymph nodes (PPLN-IMRT).Objectives: Cryosurgical ablation of the prostate (CSAP) and interstitial radiotherapy (IR) are relatively new procedures intended to be less invasive than radical prostatectomy for the treatment of prostate cancer. Despite absence of long-term or intermediate data of efficacy, many patients choose one of these therapies because they presume their potency will be maintained. We report our experience with CSAP, IR, and post-procedure erectile dysfunction.Objectives: The Sexual Health Inventory for Men (SHIM) is a widely used scale for the screening and diagnosis of erectile dysfunction (ED). Our objective was to incorporate the SHIM into our prostate cancer screening program to estimate the prevalence of ED among men screened for prostate cancer.Background: Robot-assisted radical prostatectomy (RARP) is a rising minimally invasive treatment of localized prostate cancer (PC). We

present our multicenter experience of 1,499 consecutive cases with an analysis of complication rates, oncologic, and functional outcomes.Purpose: Prostate cancer can be associated with anxiety, depression and fears of recurrence and side effects of treatment. Support groups may help meet the needs of patients with cancer by providing treatment information and emotional support. We describe men in prostate cancer support groups and compare them to a national registry.Purpose: The aim of this study was to evaluate the impact of penile rehabilitation in restoring erectile function in patients submitted to anterior resection of the rectum (ARR) or radical prostatectomy (RP), comparing the results between these two groups.Purpose: To evaluate whether patients with prostate cancer have worse functional urinary recovery with focal brachytherapy (FBT) at the base versus the apex of the prostate.Objective: The aim of this study was to review regret following treatment for localized prostate cancer, including factors associated with higher levels of regret, regret after specific treatments and the use of interventions to modify the likelihood of regret.Prostate cancer (PCa) is one of the most common maligmancies and causes of death among men. Radical prostatectomy (RP) is optimal and recommended treatment modality for localized prostate cancer. More than half of all men undergoing surgery experience problems with erectile function and existing treatments do not provide a positive effect. Thus, there is a need for new approaches to the restoration of erectile function in patients after RP. One of these is the use of cell technologies, namely the stromal-vascular fraction and autologous platelet-rich plasma. This review examines the results of preclinical and clinical studies investigating the efficacy and safety of these treatment options in erectile dysfunction.Objective: • To identify predictors of sexual dysfunction using baseline data from the reduction by dutasteride of prostate cancer events (REDUCE) study.Psychosexual and functional disorders following genital surgery can be understood within the context of general adaptation/maladaptation with severe illness and cancer. The psychodynamics and phases of psychic crises are described. Genital surgery injures sexual identity. The specific sexual consequences are psychosexual disorders such as avoidance, inappetence, specific anxieties, and functional disorders. As etiologic factors, unspecific psychogenic effects, more individual psychogenic symptomatology, and specific physical impairment of sexual functions overlap, in accordance to type of illness and surgery. These aspects are demonstrated by clinical problems. The consequences for psychological counselling and information of patients are discussed.Background: Although the concept of penile rehabilitation after radical prostatectomy (RP) has been advocated for decades, there is little definitive evidence regarding its utility or the best strategy to optimize patient outcomes.Objective: To examine the early use of phosphodiesterase-5 inhibitor (PDE-5i; sildenafil citrate) in preventing subsequent erectile dysfunction (ED) after (monotherapy) prostate brachytherapy (PB, an accepted option for Gleason 6 or low-volume Gleason 7 prostate cancer), as PB is currently being offered more frequently in younger patients, and ED can be a side-effect often within the first 12 months after treatment.Background: Radical prostatectomy is curative surgical treatment of choice for localized prostate cancer. The objectives are cancer control, preservation of continence and preservation of sexuality, the combination of the three constituting the Trifecta.Introduction: Recovery of baseline erectile function (EF) after robotic radical prostatectomy in men with high-risk prostate cancer is under-reported. Published studies have selectively reported on low-risk disease using non-validated and poorly defined thresholds for EF recovery.Purpose: To assess long-term quality of life (QoL) impact of treatments in localized prostate cancer patients treated with radical prostatectomy, external beam radiotherapy or brachytherapy.Background: The development and anatomy of Denonvilliers' fascia have been controversial for many years and confusion exists about its operative appearance. Better appreciation of this poorly understood anatomy, and its significance for impotence after rectal dissection, may lead to further functional improvements in pelvic surgery.Objectives: To evaluate the quality of life after retropubic radical prostatectomy (RP) and its impact on global patient satisfaction concerning the treatment received.Objective: To investigate the effect of hypofractionated external beam radiation therapy (RT) on sexual function in patients treated for localized prostate cancer, and also to determine the effect of radiation dose to the penile bulb or crura of the corpus cavernosum on sexual function outcome.Background: Focal prostate cryoablation is the less-than-complete ablation of the gland with ice. Known tumor is ablated aggressively, whereas contralateral prostate tissue and surrounding structures are spared. This method offers targeted local cancer control aiming at sexual potency and urinary continence preservation in patients whose prostate cancer is believed to be unilateral.Objective: To evaluate the oncological outcome and functional results of prostate-sparing cystectomy (PSC), proposed for treating bladder cancer, used since 1999 in our institution in an attempt to preserve male sexuality and to increase continence after cystectomy.Purpose: To prospectively determine sexual function, bother, and potency preservation in men treated with prostate

brachytherapy and twice-weekly tadalafil.Context: Patients with prostate cancer and their physicians need knowledge of treatment options and their potential complications, but limited data on complications are available in unselected population-based cohorts of patients.Nerve-sparing radical prostatectomy is the therapy of choice in selected prostate cancer patients. In an internal quality control including a questionnaire, our nerve-sparing radical prostatectomies have been analysed for oncological and functional results as well as patient satisfaction. 171 consecutive nerve sparing radical prostatectomies have been analysed, 123 bilateral, 48 unilateral. The median follow-up was 26 (2-56) months. The operations were performed by 5 surgeons. In 27% the T-category and in 12% the Gleason score had been understaged preoperatively, 9% had positive margins and in 4% lymph nodes were positive. 99% of the patients stated that they would again prefer the operation as treatment of first choice. 95% were satisfied with their postoperative situation. 53% of the patients had erections sufficient for sexual intercourse following the bilateral, 25% following the unilateral nerve-sparing procedure. The time until recurrence of erections was 1 month in 42%, 6 months in 90% and 12 months in 100% of the potent men. 90% of all patients within the observation period are fully continent, 10% of the patients need more than 1 pad. The intersurgeon variability is 77-98% for continence and 25-60% for potency. Patient satisfaction, oncological and functional results are good. The understaging rate suggests the necessity for better patient selection including re-biopsy and reference histology. 27% would have been undertreated by brachytherapy as alternative treatment. Intensive surgeon teaching is mandatory.Background: This study sought to evaluate patient-reported health-related quality of life following proton therapy for prostate cancer in men ≤ 60 years old.Introduction: To investigate the efficacy, safety and postoperative outcomes of using tadalafil and low-intensity extracorporeal shock wave therapy (Li-ESWT) on penile rehabilitation and preventing urinary incontinence after radical prostatectomy.Objective: This systematic review was performed to evaluate the efficacy and safety of phosphodiesterase-5 inhibitors (PDE5i) in the treatment of erectile dysfunction (ED) after radiotherapy for prostate cancer (PCa).The preservation of NANC nerve fibers (producing nitric oxide, NO) is necessary for erection recovery after retropubic radical prostatectomy (RRP). Yet, it is impossible to establish when and if a patient will recover erections; therefore, we investigate the prognostic value of cavernous blood NO levels on this parameter. Nerve-sparing RRP was performed on 14 patients for localized prostate cancer. We evaluated all patients 3 months after surgery by IIEF score: no patients had erections. A cavernous blood sample was also taken to determine NO levels (as nitrite). Patients were evaluated again 18 months after surgery. In six cases, erectile function was compromised, whereas in seven cases, potency was restored. Statistical analysis showed a relationship between nitrite levels in cavernous blood 3 months after surgery and the recovery or erectile function at 18 months. We propose that cavernous NO blood levels are a prognostic index of erection recovery.Background: The purpose of this analysis was to compare long-term urinary, bowel, and sexual function after radical prostatectomy or external-beam radiation therapy.In 2009, the American Cancer Society (ACS) Prostate Cancer Advisory Committee began the process of a complete update of recommendations for early prostate cancer detection. A series of systematic evidence reviews was conducted focusing on evidence related to the early detection of prostate cancer, test performance, harms of therapy for localized prostate cancer, and shared and informed decision making in prostate cancer screening. The results of the systematic reviews were evaluated by the ACS Prostate Cancer Advisory Committee, and deliberations about the evidence occurred at committee meetings and during conference calls. On the basis of the evidence and a consensus process, the Prostate Cancer Advisory Committee developed the guideline, and a writing committee drafted a guideline document that was circulated to the entire committee for review and revision. The document was then circulated to peer reviewers for feedback, and finally to the ACS Mission Outcomes Committee and the ACS Board of Directors for approval. The ACS recommends that asymptomatic men who have at least a 10-year life expectancy have an opportunity to make an informed decision with their health care provider about screening for prostate cancer after they receive information about the uncertainties, risks, and potential benefits associated with prostate cancer screening. Prostate cancer screening should not occur without an informed decision-making process. Men at average risk should receive this information beginning at age 50 years. Men in higher risk groups should receive this information before age 50 years. Men should either receive this information directly from their health care providers or be referred to reliable and culturally appropriate sources. Patient decision aids are helpful in preparing men to make a decision whether to be tested.Impotence in patients is most probably age-related in the untreated case. The therapy of prostate cancer presents many hazards to the retention of sexual function which should be obvious to most urologists. What is now apparent is that surgical treatment of the disease does not

necessarily cause impotence in all who were potent before the start of treatment. Documentation during history taking is essential. Increased awareness of the increased chances of retaining potency by physicians and patients will lead to improved results.Objectives: Quality of life (QOL) issues are important for patients with prostate cancer because side effects from treatment are substantial, while the disease itself may be indolent. This article reviews prostate cancer QOL studies.Background: Patient-reported outcome measures (PROMs) have become widely adopted in the care of patients with prostate cancer, but there is no validated crosswalk between two commonly used instruments, the Expanded Prostate Cancer Index Composite Short Form (EPIC-26) and the Memorial Sloan Kettering (MSK) instrument, which consists of the International Index of Erectile Function-6 (IIEF-6) questionnaire and the MSK radical prostatectomy urinary outcome scale.Erectile dysfunction (ED) is common after radical prostatectomy (RP). ED has a negative impact on health-related quality of life. Penile rehabilitation is defined as the use of any drug or device at or after RP to maximize erectile function recovery. The purpose of penile rehabilitation is the prevention of corpus cavernosal smooth muscle structural alterations not only to maximize the chances of a man having recovery of functional erections but also returning him to his preoperative erectile function level. Appreciating the value of penile rehabilitation requires understanding five concepts: the pathophysiology of ED after RP, cavernosal oxygenation, venous leak, and both the animal and human data supporting this strategy. This paper gives an overview of these factors and attempts to give a common-sense, practical guide to a rehabilitation program.Nerve-sparing radical prostatectomy remains the optimal curative treatment of prostate cancer in patients who want to maintain erectile function. Since its development, there has been a gradual decline in its effectiveness concerning the prevention of ED, which was associated with the currently more objective assessment of erectile function at both the pre- and post-operative stage. There is a knowledge gap in the precise understanding of which specific neural structures should be preserved with the nerve-sparing technique. At the same time, there have been proposed effective methods for visualizing the elements of the preserved vascular-neural bundle and estimating the degree of nerve-sparing.With favorable prognosis, radical therapy for pelvic malignancy no longer is just about oncological control, but is important in achieving the trifecta of oncological clearance with acceptable sexual function and urinary outcomes. As we face the prospect of escalating urogenital dysfunction following our radical interventions, we need to carefully assess these functional outcomes and their impact on the quality of life of our patients. In men, this includes urinary impairments with stress urinary incontinence, various types of voiding dysfunction, and sexual impairments (primarily erectile dysfunction and orgasmic dysfunction). Based on appropriate clinical and diagnostic assessments of severity of adverse outcomes depending on patient preference, combination surgery for treatment of erectile dysfunction and stress urinary incontinence is effective and durable and has an established, definitive role to address this not uncommon problem. This article reviews the prevalence of the problem, the available therapeutic options, and evidence of efficacy of these therapies in combination.Objective: To identify trends of patients' urinary and sexual dysfunctions from a clinical and psychological perspective and understand whether sociodemographic and medical predictors could differentiate among patients following different one-year longitudinal trajectories.Purpose/objectives: To describe the percentages of men with and without changes in sexual function from the beginning to end of radiation therapy and evaluate for differences in demographic and clinical characteristics, mood states, and quality of life (QOL) among patients who did and did not experience changes in sexual function.Purpose: To assess the preferences and utilities for prostate cancer health state scenarios of men treated with three-dimensional conformal radiotherapy and the predictors of treatment preferences.Objective: To investigate the attitudes of prostate cancer (PCa) patients towards postoperative penile rehabilitation and their influencing factors.Erectile dysfunction remains a common complication following radical prostatectomy. The CaverMap Surgical Aid (UroMed, Boston, MA) was designed to aid the surgeon in identifying and preserving neurovascular bundles (NVBs). However, the size of the CaverMap nerve stimulator may make it difficult to trace the cavernous nerves before the prostate is removed, particularly in obese men or in patients who have a large prostate or a narrow pelvis. In a randomized, controlled study, the use of the CaverMap during radical prostatectomy resulted in improved nocturnal erections, but did not lead to improved overall sexual function. The CaverMap device, however, may be useful as a research tool in that it helps determine whether the NVBs have been successfully preserved after removing the prostate. However, preservation of the NVB does not guarantee recovery of potency, which may be prolonged despite successful stimulation of the cavernous nerves intraoperatively. This suggests that erectile dysfunction following radical prostatectomy is multifactorial.Quality of life is a major concern of patients when they are choosing

treatment for prostate cancer. Health-related quality of life is a patient-centered variable from the field of health services research that can be measured in a valid and reliable manner. Using standardized questionnaires specifically developed to capture health-related quality of life data in men with prostate cancer, the effect of treatments on patients' quality of life can be studied. Patients with localized disease who are undergoing radical prostatectomy tend to have more sexual and urinary dysfunction than men undergoing external beam radiation therapy, although both groups have more impairment in these areas than age-matched controls. Men undergoing external beam radiation therapy have worse bowel function and more urinary distress from irritative voiding symptoms than men undergoing radical prostatectomy or age-matched controls. Recent studies of men undergoing interstitial brachytherapy indicate that these patients have less urinary leakage than those who undergo radical prostatectomy, but experience considerably more irritating voiding symptoms, which often profoundly affect their quality of life. Better information regarding the potential impact of prostate cancer treatment on quality of life will improve medical decision-making.Purpose: The prevalence of erectile dysfunction (ED) and the utilization of inflatable penile prosthesis (IPP) among prostate cancer patients are understudied. The aim of the study was to examine the relationships between ED, prostate cancer treatment type and IPP implantation in a national cohort.Prostate cancer screening has led to the diagnosis of localized prostate cancer in increasingly young and sexually active men. Accordingly, the impact of cancer treatment on sexual function is gaining more attention. To prospectively evaluate the impact of radical prostatectomy (RP) on male, female and conjugal sexual function. Patients were prospectively assessed by an urologist and a sexologist before and 6 months after robot-assisted laparoscopic RP (RALP). RALP was performed with uni- or bilateral neurovascular bundle preservation by a single surgeon. Postoperatively, all patients were prescribed tadalafil 20 mg, 3 times a week during 6 months. Male and female sexual functions were evaluated by using the International Index of Erectile Function (IIEF-5), the Female Sexual Function Index (FSFI) and the Lock-Wallace Marital Adjustment Test (MAT). Continuous variables were analyzed with rank-sum and t-tests, as needed, and categorical variables with chi-squared tests. All tests were two-sided, with a P-value ■ 0.05 considered significant. Twenty-one couples were included. Mean patient male and female age was 62.4 and 60.7 years, respectively. Bilateral nerve sparing was performed in 12/21 (57%) patients. Median preoperative IIEF-5 was 20/25, corresponding to mild erectile dysfunction (ED). Median preoperative FSFI and MAT were both within normal range (28/36 and 114/158, respectively). Six months following surgery, both IIEF-5 (11/25) and FSFI (25/36) had significantly dropped (P=0.007 and 0.003, respectively). Postoperative decreases in IIEF-5 and FSFI scores were associated within couples. MAT scores (115/158), however, remained unaffected by RALP, showing an unmodified relationship satisfaction postoperatively. Finally, bilateral nerve sparing surgery preserved not only male but also female sexual function. This study shows that the expected short-term post-RALP ED is associated with a worsening of female sexual function, whereas nerve sparing surgery has a protective effect on both the patient's and his partner's sexual function with a significant effect of bilateral over unilateral neurovascular bundle preservation. Furthermore, we found that conjugal complicity remains stable throughout the first semestrial postoperative period despite the decrease in sexual function.With widespread use of PSA screening, radical prostatectomy has gained popularity among Japanese urologists over the last decade. Recent understanding of pelvic anatomy and improvement in surgical technique have substantially reduced its morbidity. Early recovery of urinary continence is possible and improvement of sexual function after surgery may be enhanced by use of sildenafil and nerve reconstructive surgery. As prostate cancer is increasingly diagnosed at early stages and therefore with more favorable survival outcomes, the basis on which patients select primary therapy has shifted toward considerations of health-related quality of life. Accordingly, QOL assessment has become an important form of outcomes based research that may weigh heavily on the treatment selection by patients.Prostate cancer is the most common cancer to affect men in the UK. Treatment options depend on the grade of tumour, the patient's co-existing diseases and choice of treatment. One potentially curative option is surgery, specifically a radical retropubic prostatectomy or variation thereof. As a consequence of the surgery, men commonly experience two side-effects: urinary incontinence and erectile dysfunction (ED). This paper outlines the clinical management of ED following surgery and aims to provide an overview of how to assess a man who has developed ED and discuss the various treatment options available, along with the efficacy in terms of recovery of erections.Objective: • To investigate orgasmic outcomes in patients undergoing robotic-assisted laparoscopic radical prostatectomy (RALP) and the effects of age and nerve sparing on these outcomes.With prostate cancer being diagnosed and treated in more than 300,000 men each year, the pool of long-term survivors is dramatically increasing. Because these

patients are usually elderly, they are often receiving follow-up care for unrelated problems in a primary care setting. This offers the physician an excellent opportunity to assist in management of any long-term complications of therapy and in monitoring for cancer recurrence. In addition to performing follow-up evaluations, the physician can provide counseling about a number of testing and treatment issues, including the variability of prostate-specific antigen levels, the appropriateness of a watchful waiting approach to some cancers, and the management of treatment-induced incontinence and impotence, which often have a deleterious effect on quality of life but may be amenable to therapy and psychosocial support.Impotence is a possible consequence of treatment of pituitary adenomas and prostatic carcinomas. Following pituitary irradiation, the effect has been attributed to decreased gonadotrophins, while a variety of mechanisms, primarily vascular and neurogenic, have been proposed to explain the impotence following irradiation of prostatic carcinomas. Men with impotence of any etiology have been entered on a program to evaluate prospectively the efficacy of intracavernosal injection of vasoactive compounds in producing a satisfactory erection with pharmacologic means. Ten of these men had developed impotence following therapy for pituitary adenomas (2) or prostatic carcinomas (8). Test doses of 0.1 to 0.5 ml of a phentolamine (1 mg/ml) and papaverine (30 mg/ml) mixture were used; the dose was titrated to produce an erection deemed sufficient for vaginal penetration. All patients achieved a satisfactory response (i.e., tumescence and rigidity) lasting 10 minutes to 3 hours. Seven patients have continued in the pharmacologic erection program, with six patients functioning normally, and the remaining patient noting decreased tumescence after 18 months of treatment, but adequate erections are maintained with supplemental penile ring. Two patients have discontinued intracavernosal injections due to inconvenience, and one patient was lost to follow-up. Recent substitution of prostaglandin E1 (PGE1) has produced similar results and has replaced the phentolamine-papaverine combination. These preliminary results indicate that pharmacologic erection can be achieved in patients with impotence related to the treatment of pituitary and prostatic neoplasms and represents a reasonable alternative to implanted penile prostheses.Purpose: We examined postprostatectomy orgasmic function and assessed for potential predictors.Background: Voiding and sexual function after treatment are major determinants of quality of life in prostate carcinoma patients. Erectile dysfunction, incontinence, and urinary symptoms, both obstructive and irritative, have a significant negative impact on patient quality of life. This prospective study was undertaken to evaluate voiding, sexual function, and their impact on patients with localized prostate carcinoma who were treated with radical retropubic prostatectomy (RP) and to compare these patients with patients who were undergoing hormonobrachytherapy with external bean radiotherapy (HBTC) and patients who were undergoing hormonobrachytherapy without external beam radiotherapy (HBT).Aim: We determine the efficacy of unilateral nerve-sparing radical perineal prostatectomy in preserving the sexual function.Purpose: To evaluate erectile function (EF) prospectively from 1 to 2 years post-brachytherapy in patients with a baseline IIEF5 score>16.Results after radical prostatectomy (RP) are generally judged by complete removal of the cancer, return of urinary control, and the ability to have intercourse. Given the complexity of the anatomy of the prostate and its relationship to the surrounding nerves, muscles, and fascia, RP is considered a challenging and technically demanding surgery. Here we propose multiple intraoperative strategies to optimize oncological and functional outcomes.Objective: To describe the functional results and treatment of functional dysfunctions after radical prostatectomy for localized prostate cancer.We present a first-hand account of a fully impotent, testosterone-suppressed prostate cancer patient who has satisfying, multiorgasmic sex using a strap-on dildo. We use his narrative to examine dildos as an alternative to erectile dysfunction treatments for men, such as this patient, who find selective inhibitors of PDE-5 ineffective and surgical intervention unacceptable. We explore what conditions allowed this man to progress from suspicious distrust of the dildo to full acceptance. In terms of making a dildo acceptable to other patients, we contrast offering it to them as a penile prosthesis in a formal medical setting versus treating it as a toy in fantasy sex play. Last, we present a neurobiological hypothesis involving sensory integration to help explain why sex with the strap-on dildo can be satisfying to a male.Importance: Tadalafil is used to treat erectile dysfunction after prostate cancer treatment, but its role as a preventive agent is undefined.Purpose: The purpose of this study was to compare treatment complications for early-stage prostate cancer managed by either brachytherapy or three-dimensional conformal radiotherapy (3D-CRT).Background: Tissue preservation by means of focal therapy offers some men with clinically significant prostate cancer an alternative to standard care that appears to confer favourable genito-urinary outcomes. The precise estimates of these outcomes have so far been based on small series.Background and purpose: We previously published research on 4- and 8-year follow-ups of

patient-reported sexual function after conventional external beam radiotherapy (EBRT) for localized prostate cancer (LPC) compared with age-matched controls. The current study is a prolonged 15-year follow-up with the same cohorts.Introduction: The literature on sexual bother in men with prostate cancer is conflicting. While some data indicate high bother from erectile dysfunction (ED) following prostate cancer treatments, other results suggest the life-saving nature of the treatment may mitigate ED concern.Introduction: We present our technique for clipless antegrade neurovascular bundle preservation during robotic laparoscopic radical prostatectomy, along with short-term follow-up of our patients' sexual function.Objectives: To review the current knowledge and treatment of incontinence and erectile dysfunction after treatment of localized prostate cancer.Purpose: We assess erectile function after prostate brachytherapy and analyze those factors affecting potency preservation.Androgen deprivation therapy is commonly used in men with advanced prostate cancer; however, it is associated with many short- and long-term side-effects. Intermittent androgen deprivation therapy was first suggested as an alternative regimen in the early 1990s and is now part of treatment guidelines as a result of its ability to reduce adverse events associated with continuous androgen deprivation therapy without decreasing its efficacy. Although many publications evaluated intermittent androgen deprivation therapy's efficacy, the safety and tolerability information of this regimen is relatively limited. The goal of this literature review was to analyze clinical trials that have reported safety and tolerability data in prostate cancer patients treated with intermittent androgen deprivation therapy, as well as assessing quality of life outcomes. A literature search was carried out using biomedical and pharmaceutical databases for published information comparing intermittent androgen deprivation therapy with continuous androgen deprivation therapy. A total of 13 randomized and non-randomized studies were selected and reviewed based on their relevance to the safety, tolerability and quality of life of intermittent androgen deprivation therapy. Benefits for intermittent androgen deprivation therapy were observed for the short-term side-effects (hot flushes and sexual functions) mainly during the off-treatment phase, whereas the data for the long-term side-effects were not as conclusive. Quality of life evaluations are more in support of intermittent androgen deprivation therapy. Although there are some safety, tolerability and quality of life benefits associated with intermittent androgen deprivation therapy, the overall evidence is still limited.Purpose: Erectile dysfunction (ED) and cardiovascular disease (CVD) share etiology and pathophysiology. The underlying pathology for preoperative ED may adversely affect survival following radical prostatectomy (RP). We examined the association between preoperative ED and survival following RP.Introduction: Erectile dysfunction (ED) is a common complication following prostate cancer treatment. Post-treatment erectile function (EF) preservation is strongly dependent on the baseline EF prior to treatment.Background: We evaluated the long-term health-related quality of life (HRQoL) after modern prostate brachytherapy (PB).Background: Combined long-term androgen deprivation (LTAD) and radiation conveys a prostate cancer-specific survival advantage over combined short-term androgen deprivation (STAD) and radiation. The seminal question is whether or not the gains are worth the adverse effects of LTAD with respect to patient preferences.Radical prostatectomy (RP) represents one of the most commonly used first-line treatment modalities in men with localized prostate cancer. One of the most feared post-surgical complications is erectile dysfunction (ED), usually caused by direct damage to the cavernous nerves or due to neuropraxia. Penile rehabilitation is an emerging concept that was proposed to stimulate and accelerate recovery of erectile function after RP. The goal is to improve blood flow to the penis, increasing cavernous oxygenation and avoiding fibrosis. The most common used modalities include oral phosphodiesterase type 5 inhibitors (PDE5-I), vacuum erection devices (VEDs), intracorporeal injection (ICI) therapy, medicated urethral system for erections (MUSE), and a combination of these treatments. For those patients with severe ED, ED refractory to medical therapy and/or seeking long term reliable results, the penile prosthesis implant remains an excellent alternative. We conducted a broad review of post-prostatectomy ED prevalence with different techniques and the success rates of the different therapeutic approaches.Objectives: To investigate the relationship between radiation doses in prostate brachytherapy and deterioration of erectile function in patients with localized prostate cancer.Purpose: High-dose-rate (HDR) brachytherapy alone is an effective treatment option for patients with early-stage prostate cancer. The purpose of this study was to quantify patient-reported short- and long-term toxicity and quality of life (QOL) after HDR monotherapy.Objective: To assess and quantify urinary and sexual function outcomes from a large scale cohort of Canadian men treated for localized prostate cancer.Purpose: To evaluate the technical feasibility, acute and late genitourinary (GU) toxicity, and gastrointestinal toxicity after high-dose-rate (HDR) brachytherapy as monotherapy in one fraction with transperineal hyaluronic acid injection into the perirectal fat to displace the rectal wall away

from the radiation sources to decrease rectal toxicity.Introduction: Radical prostatectomy results in greater persistence of urinary and sexual dysfunction (and to a minor degree, bowel dysfunction) than other forms of prostate cancer treatment. These physical side effects create bother, which is the degree of annoyance, dysfunction, or discomfort associated with treatment aftermath.Purpose: To determine whether the forecasted assessment of how someone would feel in a future health state can be predictive of utilities (e.g. as elicited by the time-trade-off method) and also predictive of optimal decisions as determined by a decision-analytic model.Background: Although subtle technical variation affects potency preservation during robot-assisted laparoscopic radical prostatectomy (RARP), most prostatectomy studies focus on achieving the optimal anatomic nerve-sparing dissection plane. However, the impact of active assistant/surgeon neurovascular bundle (NVB) countertraction on sexual function outcomes has not been studied or quantified.Introduction: Erectile dysfunction (ED) is a common adverse event associated with treatment for prostate cancer. This study aimed to identify whether early, regular use of sildenafil after radiation treatment for prostate cancer is effective at reducing the rate of ED at 2 years.Laparoscopic cholecystectomy has evolved from being a reluctantly accepted novelty to the most widely adopted procedure. It reached a high popularity even before randomized trials could be carried out. Open cholecystectomy was at one time considered the "gold standard", only to be replaced by laparoscopic cholecystectomy. Today the same is happening with radical prostatectomy. Open radical prostatectomy (ORP) was the reference standard. Afterwards, came laparoscopic radical prostatectomy (LRP), which matched ORP in terms of the trifecta of oncological, continence and sexual function outcomes. Robot-assisted radical prostatectomy (RARP) was the next step in the evolution. Since 2000, it has become very widespread because of private practice promotion among surgeons and marketing hype by the manufacturers. Furthermore, patients ask for this operation. In the last eight years, there has been a rise in conceptual changes, especially in operative techniques, to improve outcomes following RARP. This review will focus on some of the key concepts emerged in the field of robotic surgery, to improve outcomes following RARP. The lack of randomized controlled trials makes it difficult to make true comparisons with ORP, LRP and other methods of treating localized prostate cancer.In 1983, Walsh introduced anatomical radical retropubic prostatectomy. With the surgical modifications that preserve neurovascular bundles, excellent cancer control can be achieved, while preserving erectile function and urinary continence in most appropriately selected patients. Since them, radical prostatectomy has become the most common treatment for clinically localized prostate cancer. Treatment results following radical prostatectomy will most likely continue to improve in the future as early detection is more widely practiced.Purpose: We investigated racial/ethnic differences in functional outcomes up to 5 years after diagnosis among men with aggressively treated localized prostate cancer.Purpose: Radiation therapy (RT) for prostate cancer is commonly associated with erectile dysfunction (ED), although high-quality data on incidence of ED after brachytherapy (BT) are limited. We reviewed the literature on BT-related ED and propose a clinical pathway for maximal preservation of erectile function (EF) after treatment.Introduction: To analyze biochemical failure-free survival and erectile dysfunction (ED) in younger men treated with prostate seed brachytherapy (PB).Background and objective: Erectile dysfunction is one of the complications occurring after radical prostatectomy (RP), and recovery of erectile function is quantitatively related to the preservation of the neurovascular bundles (NVB).We evaluated the significance of NVB area on functional outcomes after RP.The PCPT is a chemoprevention trial of finasteride with a primary endpoint of biopsy-proven presence or absence of prostate cancer. A total of 18,000 healthy men, aged 55 years and older, will be randomized. Half will receive finasteride (5 mg/day) and half will receive placebo (one matching tablet per day) for 7 years. The trial is designed to have 92% power to detect a 25% reduction in period prevalence of biopsy-proven disease using a two-sided test with alpha = 0.05. The trial is complicated by the known impact of finasteride on the major screening test for prostate cancer, prostate specific antigen (PSA). This paper describes the PCPT design with reference to alternatives that were considered. The chosen design depends on five critical assumptions that must be monitored closely throughout the 9-year trial.Objectives: To evaluate urinary symptoms, potency, and quality of life in a group of patients with prostate cancer followed up with deferred treatment.Background: Robotic-assisted radical prostatectomy (RAP) is the dominant minimally invasive surgical treatment for patients with localized prostate cancer. Only a few large series have been published to date, with few long-term data available. The current study presents what to the authors' knowledge is the largest series of patients undergoing RAP with the longest follow-up to data available to date. Using a continuous quality improvement initiative, several technical refinements were adopted, evaluating the impact of this on patient outcome.Purpose: To analyze long-term quality-of-life

(QoL) changes related to postoperative radiation therapy (RT) after radical prostatectomy.Objective: To determine whether preoperative demonstrations of intracavernosal and vacuum therapies for erectile dysfunction (ED) influence the decision of treatment choice, reducing long-term regret.Objective: To collect and analyze quality-of-life (QOL) data from PROvenge Treatment and Early Cancer Treatment trial (PROTECT, NCT00779402), a phase III, randomized controlled trial of sipuleucel-T in patients with asymptomatic androgen-dependent prostate cancer.Large numbers of Australian men are diagnosed and treated for prostate cancer each year. The incidence is exceeding mortality, and men are living longer with prostate cancer and the common treatment[s] side effect of impotence. Despite these epidemiological trends there is little research about men's experiences of impotence following treatment. An ethnographic study of Anglo-Australian men with localized prostate cancer explored participants' experiences of impotence following prostatectomy. In-depth semi-structured interviews with 15 men were analyzed using a social constructionist gendered framework. In particular, the effect of impotence on participants' masculinity, sexuality and intimate relationships was explored. The findings show that participants rationalized forgoing potency prior to surgery as a way of living longer. However, diverse complex reactions accompanied impotence. Whilst most participants redefined masculine ideals of phallocentric sex, the way in which this occurred varied greatly. The findings disrupt essentialist constructions of male sexuality and impotence, and provide valuable insight for clinical practice.Purpose: In conjunction with the assignment to update the Guidelines for Management of Clinically Localized Prostate Cancer, the American Urological Association Prostate Cancer Guideline Update Panel performed a side analysis of the reporting of erectile function outcomes in this clinical context as published in the medical literature.Introduction: Orgasm-associated incontinence, climacturia, is one of the lesser studied radical prostatectomy (RP) complications. Little is known about patient bother related to this condition, specifically, its prevalence and predictors.Few diagnoses present as great a challenge to one's life as cancer. Many men each year are confronted with a diagnosis of early stage prostate cancer and find themselves making decisions about treatment in the face of side effects that present often devastating effects, including problems controlling one's urine and an inability to perform sexually. In this paper, we explore the narratives of men who, having chosen and undergone treatment for early stage prostate cancer, are living with the consequences. Faced with what Charmaz calls an 'identity dilemma', how do these men linguistically construct their identities in the face of challenges to their bodily, personal, and social integrity? Drawing upon theories of social languages and Discourses, we examine how men linguistically resolve the identity dilemmas they encounter and in turn construct an identity in response to a question about the quality of their lives in the face of the adverse event of prostate cancer. We present an analysis of the interview narratives of two men and show how they 're-collage' an identity in the face of fundamental changes in their functioning as men. We argue that these men draw upon alternative discourses to construct themselves as whole, competent, and 'no less a man'.Objectives: To determine the medium term efficacy and morbidity of patients who underwent cryoablation as primary therapy for localized prostate cancer followed by a penile rehabilitation regimen.Background: Although urinary adverse events after treatment of prostate cancer (CaP) are common, population-based studies on functional outcomes are scarce. The aim of this study is to evaluate the occurrence of urinary incontinence (UI) and erectile dysfunction (ED) in daily clinical practice using a nationwide Dutch cohort of patients with localized or locally advanced CaP.Background: Partial prostatectomy has been described as an alternative to focal therapy for the management of localized low- and intermediate-risk prostate cancer.Background: The last decade has seen several advances in radical prostatectomy (RP) technique and post-RP care that are relevant to erectile function (EF) recovery.The aim of this study was to assess the treatment patterns and 3-12-month complication rates associated with receiving prostate cryotherapy in a population-based study. Men >65 years diagnosed with incident localized prostate cancer in Surveillance Epidemiology End Results (SEER)-Medicare-linked database from 2004 to 2005 were identified. A total of 21,344 men were included in the study, of which 380 were treated initially with cryotherapy. Recipients of cryotherapy versus aggressive forms of prostate therapy (ie, radical prostatectomy or radiation therapy) were more likely to be older, have one co-morbidity, low income, live in the South and be diagnosed with indolent cancer. Complication rates increased from 3 to 12 months following cryotherapy. By the twelfth month, the rates for urinary incontinence, lower urinary tract obstruction, erectile dysfunction and bowel bleeding reached 9.8, 28.7, 20.1 and 3.3%, respectively. Diagnoses of hydronephrosis, urinary fistula or bowel fistula were not evident. The rates of corrective invasive procedures for lower urinary tract obstruction and erectile dysfunction were both <2.9% by the twelfth month. Overall, complications post-cryotherapy were modest; however, diagnoses

for lower urinary tract obstruction and erectile dysfunction were common.Objectives: To evaluate the late effects more than 2 years after radiotherapy using a patient-reported questionnaire in patients with prostate cancer enrolled in a randomized dose-response study comparing 70 Gy (conventional) and 78 Gy (conformal) radiotherapy (RT).Prostatic cancer (PC) became the first diagnosed cancer in western men and is the second leading cause of cancer death in men. Wide utilisation of serum PSA and free PSA measurements, identifies patients requiring transrectalultrasonography (TRUS) and TRUS guided biopsies. Most prostatic cancers diagnosed today are locally limited and may be treated by radical surgery or radiotherapy. In case of disseminated disease, hormonal manipulations remain the treatment of choice. In that field, many new drugs have been designed to allow medical castration with less complications, especially regarding sexual potency.Klinefelter syndrome is a common cause of hypogonadism. Testosterone replacement therapy has beneficial effects on bone, muscle and psychosexual function. However, it may remove the relative protection from adenocarcinoma of prostate, which is otherwise rare in uncomplicated Klinefelter syndrome. We report the case of a 55-year-old man with Klinefelter syndrome who developed prostate cancer after only 7 years of androgen supplementation. Androgen deprivation therapy was complicated by the presence of testosterone implants. The patient was treated with androgen blockade followed by radiation therapy. We recommend that serum prostate specific antigen (PSA) and digital rectal examinations be carried out during, as well as before androgen replacement.Radical prostatectomy is the current standard procedure for locally confined prostate cancer and accounts for the largest portion of invasive therapies. However, a major drawback of this approach remains the frequently ensuing postoperative erectile dysfunction. This aspect represents a frequent cause of fear and concern both for the patients and their partners and has a significant impact on the choice of therapy.After bilateral sparing of the neurovascular bundles, an average of 50% of the patients is likely to complain of erectile dysfunction. It is only in the course of the first 2 years after prostatectomy that rehabilitation of erectile dysfunction can be expected. It is all the more crucial to begin with rehabilitation therapy of the erectile tissue at an early postoperative stage to the prevent an irretrievable loss of erectile function. Application of PDE-5 inhibitors as well as prostaglandins, phentolamine, or papaverine can help to induce and to support penile blood perfusion and oxygenation, thus preserving structure and function of the corpora cavernosa. All efforts must be directed towards keeping the erectile function at the level ascertained prior to the intervention.Aim: Radical radiotherapy of prostate cancer requires a relatively high dose to achieve an optimal tumor control probability and a reduced dose to the critical structures related to the sexual function (S_OARs) in order to avoid erectile dysfunction. The aim of this study was to perform a planning feasibility analysis of a 3-level dose prescription with Simultaneous Integrated Boost (SIB) on the dominant intraprostatic lesion (DIL) and with S_OARs sparing.Radical prostatectomy (RP) is the most commonly employed curative intervention for the treatment of prostate cancer. However, due to the proximity of the cavernous nerves (CN) to the prostate, RP results in transient and/often permanent erectile dysfunction (ED). While the prevention of traction injuries during the RP is critical for the preservation of erectile function, several preclinical studies have demonstrated the beneficial effects of neuroprotective (or neuroregenerative) agents in mitigating neuronal injuries sustained during RP. The maintenance or restoration of erectile function after injury may be enhanced in the postoperative period by the stimulation of neurogenesis to protect and restore injured nerves from further deterioration. The present review aims to evaluate and summarize research of these treatment strategies as published in the National Library of Medicine (Pubmed) from 2000 to 2015. The keywords used for the search were ED, RP, CN injury, immunophilin ligands, neurotrophins and phosphodiesterase (PDE)5 inhibitors, and animal models. Current guidelines for treatment targeting CN recovery recommend the use of immunophilin ligands, neurotrophins, brain-derived neurotrophic factor, glial cell-line derived neurotrophic factor, sonic hedgehog (Shh), Rho-kinase, PDE5 inhibitors, erythropoietin (EPO), hyperbaric oxygen, gene, stem cells, and triiodothyronine (T3) therapy. Additionally, this review identifies remaining gaps in general knowledge and recent updates recognizing the need for further preclinical and clinical trials.Erectile dysfunction (ED) is a major adverse effect of radical prostatectomy (RP). We conducted a randomized controlled trial to examine the efficacy of aerobic training (AT) compared with usual care (UC) on ED prevalence in 50 men (n=25 per group) after RP. AT consisted of five walking sessions per week at 55-100% of peak oxygen uptake (VO2peak) for 30-60 min per session following a nonlinear prescription. The primary outcome was change in the prevalence of ED, as measured by the International Index of Erectile Function (IIEF), from baseline to 6 mo. Secondary outcomes were brachial artery flow-mediated dilation (FMD), VO2peak, cardiovascular (CV) risk profile (eg, lipid profile, body composition), and patient-reported outcomes (PROs). The prevalence of ED

(IIEF score ≤ 21) decreased by 20% in the AT group and by 24% in the UC group (difference: p=0.406). There were no significant between-group differences in any erectile function subscale (p>0.05). Significant between-group differences were observed for changes in FMD and VO2peak, favoring AT. There were no group differences in other markers of CV risk profile or PROs. In summary, nonlinear AT does not improve ED in men with localized prostate cancer in the acute period following RP.Purpose of review: Due to the increasing numbers of radical prostatectomies (RP) performed for prostate cancer, a substantial number of patients are now suffering from post-operative erectile dysfunction (ED). The aim of this study is to summarize the current literature on surgical techniques for managing post-prostatectomy erectile dysfunction.Background: Although the retrograde approach to nerve sparing (NS) aimed at maximizing NS during robot-assisted radical prostatectomy (RARP) has been described, its significant benefits compared to the antegrade approach have not yet been investigated.This study defines characteristics of delayed help-seeking in men who fail phosphodiesterase-5 inhibitors (PDE5I) treatment for their post radical retropubic prostatectomy (RRP) erectile dysfunction (ED). Medical charts were reviewed retrospectively. All men were offered second line treatment with vacuum devices or intracavernous injection (ICI) and sex therapy. This study included thirty one patients. Average age at surgery was 60 years (SD = 5.3, range 46-70). Average period for second line help-seeking was 25.9 months (SD = 12.9, range 3-111). All subjects believed that surgery would not affect their sexual function. Twenty men (65%) used ICI as a second line treatment. Eleven men (35%) declined treatment, waiting for spontaneous recovery. In ICI sub-group, 5 men (25%) regained spontaneous erection within 7-10 months after initial treatment (16-19 months post-surgery). Seven men (35%) responded positively to PDE5I 3-5 months after starting ICI. Three men (15%) used vacuum device. None regained spontaneous erection. All 7 men (23%) who met sex therapist with their partner reported improved sexual life, even if ED wasn't resolved. Patients should receive comprehensive information about sexual recovery, to encourage early ED treatment after RRP and to overcome unwanted misconceptions regarding spontaneous recovery.Objectives: To investigate the long-term changes in health-related quality of life (HRQOL), continence, and sexual function after curative therapy (CT) and watchful waiting (WW) for prostate cancer.Background: We evaluated inter-fraction penile bulb (PB) changes in prostate cancer (PCa) patients undergoing MR-guided RT in the post-radical prostatectomy (RP) setting.Introduction: To identify differences in acute urinary and sexual toxicity between a 6-fraction and 2-fraction high-dose-rate brachytherapy monotherapy regimen and correlate dosimetric constraints to short-term toxicity.Background: Radical prostatectomy is often followed by long-lasting erectile dysfunction and urinary incontinence, with adverse effects on the quality of life and intimate relationship of patients and partners. We developed the ProCan intervention to ameliorate sexual and urological dysfunction after radical prostatectomy and examined its feasibility, acceptability and changes in sexual function.Background: The majority of prostate carcinoma survivors experience enduring sexual difficulties and associated distress in the years after definitive treatment. A counseling intervention aimed at improving levels of sexual satisfaction and increasing successful utilization of medical treatment for erectile dysfunction (ED) was developed and pilot-tested for both the survivor of prostate carcinoma and his partner.Purpose: To share selected experiences of advanced practice nurses (APNs) who implemented a home-based nursing protocol related to psychosexual function for couples following radical surgery for prostate cancer.Background: Prostate cancer (PCA) is the most common form of neoplasm in men and various treatment options are available. Knowledge of health-related quality of life (HRQL) can provide information to support informed decision-making. In addition, information on factors influencing HRQL can provide indications for the further development of medical treatment. The aim of the study was to obtain data on HRQL after inpatient treatment of PCA and the identification of determinants of HRQL after PCA in routine healthcare.The relationship between lower urinary tract symptoms (LUTS) due to benign prostatic hyperplasia and sexual health in men participating in a national multicenter screening program was studied. A total of 12 679 men were screened for prostate cancer in the year 2003. Of these, 6641 men had completed both the American Urological Association Symptom Score (AUA-SS) and the Sexual Health Inventory for Men (SHIM) questionnaires. We assessed the apparent effect of comorbidities (ischemic heart disease, hypertension, hypercholesteremia and diabetes), smoking habits and testosterone level on the overall sexual health. Age and race were also assessed as factors affecting the SHIM score. We used a general linear multivariable regression analysis to express the effect of these variables on the sexual health in these men adjusting for the apparent effect of LUTS. The mean and median age of the population was 58.4 +/- 9.8 and 58 y, respectively. The median AUA-SS was 4/25 (mean=5.7 +/- 5.3) and SHIM score was 19/25 (mean=16.3 +/- 5.9). Of the men, 4948 (75%) were Caucasian and 1154

(17%) were from African-American racial origin. A high AUA-SS appears to have a negative effect on the overall sexual health (P<0.05) after adjusting for all other confounding factors. As expected, age showed a significant inverse correlation with SHIM score (P<0.05). Caucasian men on average appear to have a significantly higher SHIM score by 6.5 points when compared to African-American men after adjusting for age, comorbidities, smoking habits, and AUA-SS (P<0.05). However, with increasing age, the difference in SHIM score diminishes between the two groups. Further, smoking and comorbidities were strong predictors of poor sexual health performance. Interestingly, hypogonadism (testosterone <300 ng/dl) was not a significant risk factor (P=0.104) when adjusting for all other variables. Nonetheless, in a univariate analysis, testosterone levels significantly correlated with reported SHIM scores (P<0.05). The overall sexual health in aging men is substantially affected not only by age, but by the severity of their urinary symptoms after adjusting for the most common known risk factors, suggesting perhaps a common underlying pathophysiology. Moreover, race appears to constitute another neglected potential risk factor, which should be investigated further in future studies.Aim: We prospectively investigated health-related quality of life (HR-QOL), including sexual function and sexual bother, in patients who underwent nerve grafting during a radical prostatectomy in comparison with those who underwent a non-nerve-sparing radical prostatectomy.Purpose: This study is to compare the Mount Sinai Erectile Function Score (MSEFS), our brachytherapy program's physician-assigned scale, with patients' independently completed International Index of Erectile Function-5 (IIEF-5).This article aimed to review the clinical application and evidence of the therapeutic ultrasound in detail for urological diseases such as prostate cancer, kidney tumor, erectile dysfunction, and urolithiasis. We searched for articles about high-intensity focused ultrasound (HIFU), extracorporeal shock wave therapy, ultrasound lithotripsy, and extracorporeal shockwave lithotripsy (ESWL) in the MEDLINE and Embase. HIFU may be indicated as a primary treatment for low- or intermediate-risk prostate cancer, and salvage therapy for local recurrence as a promising way to address the limitations of current standard therapies. The application of HIFU in treating kidney tumors has scarcely been reported with unsatisfactory results. Evidence indicates that low-intensity shockwave therapy improves subjective and objective erectile function in patients with erectile dysfunction. Regarding the application of ultrasound in stone management, the novel combination of ultrasound lithotripsy and other energy sources in a single probe promises to be a game-changer in efficiently disintegrating large kidney stones in percutaneous nephrolithotomy. ESWL is losing its role in managing upper urinary tract calculi worldwide. The burst-wave lithotripsy and ultrasound propulsion could be the new hope to regain its position in the lithotripsy field. According to our investigations and reviews, cavitation bubbles of the therapeutic ultrasound are actively being used in the field of urology. Although clinical evidence has been accumulated in urological diseases such as prostate cancer, kidney tumor, erectile dysfunction, and lithotripsy, further development is needed to be a game-changer in treating these diseases.Purpose: We compare the quality of life after laparoscopic prostatectomy to that after standard radical prostatectomy.Objective: To assess treatment related changes in quality of life up to 15 years after diagnosis of localised prostate cancer.Purpose: The many years most men diagnosed with early prostate cancer live after diagnosis allow evolving assessments of their cancer control and their treatment choices, but little is known of these outcomes or the factors that influence them.The purpose of this study was to investigate the effects of radical prostatectomy (RP) for prostate cancer, transurethral resection of the prostate (TURP) for benign prostate hyperplasia (BPH), and the alterations induced by ageing on quality of life, urinary and sexual function, and bother. We evaluated 283 patients who filled in and returned the questionnaire used. A total of 105 were treated with RP and were selected prostate cancer patients with localised disease without recurrences. An additional 98 underwent TURP for BPH and a third group consisted of 80 apparently healthy men. The general quality of life was estimated by the Rand 36-Item Health Survey 1.0. Urinary function was estimated by the AUA Symptom Index and the UCLA Prostate Cancer Index (urinary function and bother scale). Sexual function and bother, were explored using the Brief Male Sexual Function Inventory for Urology. Patient outcome 2 years post treatment was compared to the pre-treatment status and to that of the matched control population. General quality of life was not affected by RP or TURP, with the exception of an increase in the emotional/well being domain in RP patients to control group levels. After RP there was more bother reported for the urinary function than urinary malfunction itself, while TURP, as expected, restored urinary function and bother to normal population norms. Elderly males had urinary function and bother similar to the operated patients. Estimating sexual function on RP patients, erectile dysfunction (ED) predominates, leading to decreased sexual life. TURP marginally affects sexual life, mainly due to the loss of ejaculation, while in men from the control group, sexual function, although

affected, was still present.The description of the nerve-sparing technique of radical prostatectomy by Walsh was one of the major breakthroughs in the surgical treatment of prostate cancer in the 20(th) century. However, despite this advance and consequent technological refinements to nerve-sparing surgery, a large proportion of men still suffer from erectile dysfunction (ED) as a complication of prostatectomy. A plethora of therapeutic approaches have been proposed to optimize erectile function recovery in these patients. Several preclinical and translational studies have shown benefits of therapies including PDE5 inhibitor (PDE5I) treatment, immunomodulation, neurotrophic factor administration, and regenerative techniques, such as stem cell therapy, in animal models. However, most of these approaches have either failed to translate to clinical use or have yet to be studied in human subjects. Penile rehabilitation with PDE5Is is currently the most commonly used clinical strategy, in spite of the absence of solid clinical evidence to support its use.Objectives: To address in a questionnaire-based study the frequency at which fertility is a concern for men when they consider their prostate cancer treatment options. A secondary aim was to assess the rate at which men were informed of the fertility implications of prostate cancer treatment by their physician before their selection of a treatment option.Background: For men with localised prostate cancer, surgery provides a survival benefit compared with watchful waiting. Treatments are associated with morbidity. Results for functional outcome and quality of life are rarely reported beyond 10 years and are lacking from randomised settings. We report results for quality of life for men in the Scandinavian Prostate Cancer Group Study Number 4 (SPCG-4) after a median follow-up of more than 12 years.Background: Phosphodiesterase type 5 inhibitor (PDE5i) use is common for management of erectile dysfunction. Single-institution studies have reported conflicting data on the relationship between PDE5i use and biochemical recurrence of prostate cancer (BCR) after radical prostatectomy.While the application of penile autonomic nerve-sparing techniques during radical prostatectomy for clinically localized prostate cancer has improved erection recovery rates after surgery, many men still experience delayed or incomplete recovery of erectile function. In recognition of neuropathy as a likely basis for erectile dysfunction after radical prostatectomy, investigators have begun exploring new strategies to promote the functional recovery of nerves responsible for penile erection in the course of this management. Primary efforts continue for preserving the integrity of the penile nerves, while the next frontier in clinical management has encompassed strategies directed toward maximally restoring their function. Such strategies include cavernous nerve interposition grafting and neurotrophic treatments that meet nerve reconstructive and nerve regenerative objectives, respectively. Early successes with both innovations preclinically and clinically suggest their feasibility and potential roles to reduce the incidence of erectile dysfunction after radical prostatectomy. The purpose of this report is to review strategies under development to promote post-prostatectomy erectile function, particularly with respect to preserving penile innervation involved in this function.Purpose: A substantial proportion of men with localized prostate cancer (lPCa) later regret their treatment decision. We aimed to identify factors contributing to decisional regret.Radical prostatectomy (RP) is preferred for many patients with clinically localized prostate cancer. Despite the introduction of the nerve sparing technique and progressive modifications on RP, postoperative preservation of penile erectile function remains a challenge to urologists. Earlier initiation of penile rehabilitation can significantly improve the patient's quality of life affected by erectile dysfunction (ED) following RP. Tadalafil, a long-acting PDE5 inhibitor with a unique clinical profile, has proved effective in penile rehabilitation in the treatment of RP-associated ED in both clinical trails and animal models. This article reviews current strategies for the management of ED after RP and evaluates the efficacy and safety of tadalafil in post-RP penile rehabilitation.Purpose: We conducted a 3-year longitudinal study assessing the impact of unilateral sural nerve graft on recovery of potency and continence following radical prostatectomy.Background: Although active surveillance is increasingly used for the management of low-risk prostate cancer, many eligible patients are still nonetheless subject to curative treatment. One argument for considering surgery rather than active surveillance is that the probability of postoperative recovery of erectile function is age dependent, that is, patients who delay surgery may lose the window of opportunity to recover erectile function after surgery.Objectives: To evaluate the effect of the dose to the bulb of the penis on postradiation potency.Stem cell-based therapies have been recently investigated in the field of organic erectile dysfunctions, such as those associated with diabetes or the treatment of prostate cancer. The overall aim is to repair the repair the underlying penile cellular damage. Here, we review the rationale behind the use of stem cells injection in post-radical prostatectomy erectile dysfunction (pRP-ED).Radical prostatectomy for prostate cancer induces complex neurologic and vascular injuries that cause one of the most difficult-to-treat forms of erectile dysfunction. Evidence from animal models replicating pRP-ED suggests that intracavernous

injection of autologous bone marrow mononuclear cells (BM-MNCs) may represent the first curative approach. Several clinical trials are ongoing and two of them have been completed with encouraging results.Purpose: We sought to measure utilities for prostate cancer health states in older men.Decision making for treatment of localized prostate cancer is often guided by therapeutic side-effect profiles. We sought to assess health-related quality-of-life outcomes for patients 48 months after treatment for localized prostate cancer. Men treated for localized prostate cancer (N = 475) were evaluated before treatment and at 11 intervals during the 48 months after intervention. Changes in mean health-related quality-of-life scores and the probability of regaining baseline levels of health-related quality of life were compared between treatment groups. All statistical tests were two-sided. Urinary incontinence was more common after prostatectomy (n = 307) than after brachytherapy (n = 90) or external beam radiation therapy (n = 78) (both P < .001), whereas voiding and storage urinary symptoms were more prevalent after brachytherapy than after prostatectomy (both P < .001). Sexual dysfunction profoundly affected all three treatment groups, with a lower likelihood of regaining baseline function after prostatectomy than after external beam radiation therapy or brachytherapy (P < .001). Bowel dysfunction was more common after either form of radiation therapy than after prostatectomy. These results may guide decision making for treatment selection and clinical management of patients with health-related quality-of-life impairments after treatment for localized prostate cancer.Androgen deprivation therapy (ADT) is increasingly used to treat advanced prostate cancer and is also utilised as adjuvant or neo-adjuvant treatment for high-risk disease. The resulting suppression of endogenous testosterone production has deleterious effects on quality of life, including hot flushes, reduced mood and cognition and diminished sexual function. Cross-sectional and longitudinal studies show that ADT has adverse bone and cardio-metabolic effects. The rate of bone loss is accelerated, increasing the risk of osteoporosis and subsequent fracture. Fat mass is increased and lean mass reduced, and adverse effects on lipid levels and insulin resistance are observed, the latter increasing the risk of developing type 2 diabetes. ADT also appears to increase the risk of incident cardiovascular events, although whether it increases cardiovascular mortality is not certain from the observational evidence published to date. Until high-quality evidence is available to guide management, it is reasonable to consider men undergoing ADT to be at a higher risk of psychosexual dysfunction, osteoporotic fracture, diabetes and cardiovascular disease, especially when treated for extended periods of time and therefore subjected to profound and prolonged hypoandrogenism. Health professionals caring for men undergoing treatment for prostate cancer should be aware of the potential risks of ADT and ensure appropriate monitoring and clinical management.The cyclic nucleotide signalling pathway mediates the smooth-muscle relaxing effects of nitric oxide necessary for normal erectile function. Down-regulation of this pathway is central to the pathophysiology of many forms of erectile dysfunction (ED), which is often associated with other chronic diseases (e.g. hypertension, type 2 diabetes mellitus) and treatments (e.g. certain drugs, radical prostatectomy). Conversely, selective inhibition of the enzyme that catalyses the degradation of cGMP (phosphodiesterase type 5, PDE-5) promotes erectile responses to sexual stimulation. The successful launch and commercialization of the selective PDE5 inhibitor (PDE5I) sildenafil transformed the treatment of ED, not only by providing an effective, well tolerated oral ED therapy, but also by fostering greater candour about the problem among men. Sildenafil is highly effective in promoting erectile responses across a wide spectrum of severity and causes of ED, including patients with ED that is often refractory to treatment. The recent advent of vardenafil, which has the highest in vitro potency of all available PDE5Is, and tadalafil, which has a prolonged half-life that may enable couples to have sexual activity with less planning, represent further advances. Other PDE5Is offering further potential improvements are under active investigation.A TRIAD OF FACTORS CAN FAVORABLY INFLUENCE THE MAINTENANCE OF SEXUAL POTENCY AFTER RADICAL PROSTATECTOMY: the surgical avoidance of cavernous neurovascular bundles, the preoperative interest of the surgeon in broaching the subject with the patient and the continued encouragement given the patient by his attending physician as to probable preservation of sexual competency following the surgical procedure.Objective: To explore safety in adipose-derived regenerative cells (ADRC) therapy, treating erectile dysfunction (ED).It is well known that the administration of phosphodiesterase type-5 inhibitors (PDE5-Is) may improve erectile function (EF) recovery after bilateral nerve-sparing radical prostatectomy (BNSRP). The aim of our study was to identify predictors of the use of a high number of PDE5-Is (one or more per week) after surgery among 184 patients taking proerectile medications on demand. At a mean follow-up of 22.7 months, 116 patients (63%) recovered EF. Overall, EF recovery rates at 1- and 2- year follow-up were 47.3% and 65.4%, respectively. Overall, 43 (23.4%) patients used one or more PDE5-Is per week. Preoperative EF was the only predictor of the

use of one or more PDE5-Is per week after BNSRP. This held true even after adjusting our analyses for age at surgery, body mass index and EF at 1 month after surgery. Particularly, patients fully potent before surgery had roughly 2.1-fold higher probability of using one or more pills per week compared with their counterparts with some degree of preoperative erectile dysfunction (ED; odds ratio: 2.16; 95% confidence interval: 1.03-4.37). In conclusion, preoperative EF represents the only determinant of the use of a higher number of PDE5-Is after surgery. Patients with better preoperative EF might represent individuals more motivated to achieve satisfactory sexual function after surgery. These observations should provide physicians with better preoperative patient counseling and management of postoperative ED.Purpose of review: This review will discuss erectile dysfunction in prostate cancer patients following radical prostatectomy . It will focus on the prevalence and current treatments for erectile dysfunction as well as the emotional impact of erectile dysfunction and the current psychosocial interventions designed to help patients cope with this side effect.Prostate cancer is a widely common and treatable disease, and functional outcomes can greatly affect survivor quality of life. A retrospective review of the SEER-Medicare database was performed to identify patients who underwent prostate cancer treatment between January 1, 2004 and December 31, 2013 and review the rates of diagnosis and treatment of common functional side effects of surgery, radiation, or a combination of the 2 and perform a comparison of the outcomes. A total of 67,527 patients were included in the analysis. Radiation therapy (RT)-only compared to radical prostatectomy (RP)-only had lower rates of diagnosis of erectile dysfunction (30.4%, 95% CI 29.9%-30.9% vs. 56.1%, 95% CI 55.1%-57.04%, P < 0.0001), UI (29.7%, 95% CI 29.0%-30.3% vs. 44.5%, 95% CI 43.3%-45.6%, P < 0.0001), but higher rates of urethral stricture disease (8.44%, 95% CI 8.1%-8.8% vs. 5.35%, 95% CI 4.9%-5.9%, P < 0.0001), cystitis (33.1% 95% CI 32.4%-33.7% vs. 20.3%, 95% CI 19.2%-21.4%, P < 0.0001), and proctitis (14.7%, 95% CI 14.3%-15.1& vs. 2.75%, 95% CI 2.3%-3.3%, P < 0.0001). Compared to either single modality, the RP-then-RT group had higher incontinence medication use (12.0% 95% CI 10.8%-13.2% vs. 9.8%, 95% CI 9.5%-10.1% for RT-only and 8.3%, 95% CI 7.8%-8.8% for RP-only, P < 0.0001), overall incontinence therapy (18.5%, 95%CI 17.1%-20.0% vs. 10.2%, 95%CI 9.9%-10.5% for RT-only and 14.9%, 95% CI 14.3%-15.5% for RP-only, P < 0.0001), and stricture therapy (12.7%, 95% CI 11.5%-13.9% vs. 8.2%, 95% CI 8.0%-8.5% for RT-only and 9.1% 95% CI 8.6%-9.6% for RP-only, P < 0.0001). The RT-then-RP group had higher rates of stricture (25.4% compared to 8.2% for RT-only, 9.1% for RP-only, and 12.7% for RP-then-RT) and fistula (1.0% compared to 0.07% for RT-only, 0.18% for RP-only, and 0.092% for RP-then-RT) treatment than all the other groups. Multimodality therapy is generally associated with higher treatments rates for conditions such as erectile dysfunction , incontinence, urethral stricture disease , irritative cystitis and proctitis in patients older than 65. Radiation therapy followed by prostatectomy is associated with significantly worse functional outcomes. Patients undergoing or anticipating undergoing multimodality therapy for prostate cancer should be counseled regarding the possibility of increased risk of declining functional outcomes.Background: Vascular-targeted photodynamic therapy (VTP) is an approved treatment option for unilateral low-risk prostate cancer (PCa).Introduction: Erectile dysfunction (ED) is common in older men and can be worsened by prostate cancer (PCa) treatment. True ED rates before PCa treatment are mandatory, in order to assess the rate of ED attributable to PCa treatment. Data derived from population-based studies or from patients surveyed after PCa diagnosis, as well as just prior to treatment may not represent a valid benchmark, as health profiles of the general population might be different to those undergoing PCa screening or as anxiety may worsen existent ED.Purpose: Anatomical nerve sparing radical prostatectomy provides excellent cancer control, although the recovery of sexual function is variable. We recently described a technique to preserve the prostatic fascia (veil of Aphrodite) that appears to enhance the quality of nerve preservation during robotic prostatectomy. In January 2003 we initiated a prospective study comparing patients undergoing prostatic fascia preservation with those undergoing conventional nerve sparing robotic radical prostatectomy. We report results at 12 months of followupContext: Sexual function is the health-related quality of life (HRQOL) domain most commonly impaired after prostate cancer treatment; however, validated tools to enable personalized prediction of erectile dysfunction after prostate cancer treatment are lacking.Erectile dysfunction (ED), the second most common male sexual disorder, has an important impact on man sexuality and quality of life affecting also female partner's sexual life. ED is usually related to cardiovascular disease or is an iatrogenic cause of pelvic surgery. Many non-surgical treatments have been developed with results that are controversial, while surgical treatment has reached high levels of satisfaction. The aim is to evaluate outcomes and complications related to prosthesis implant in patients suffering from ED not responding to conventional medical therapy or reporting side effects with such a therapy. One hundred

eighty Caucasian male suffering from ED were selected. The patient population were divided into two groups: 84 patients with diabetes and metabolic syndrome (group A) and 96 patients with dysfunction following laparoscopic radical prostatectomy for prostate cancer (group B). All subjects underwent primary inflatable penile prosthesis implant with an infrapubic minimally invasive approach. During 12 months of follow-up, we reported 3 (1.67%) explants for infection, 1 (0.56%) urethral erosion, 1 (0.56%) prosthesis extrusion while no intraoperative complications were reported. Mean International Index of Erectile Function-5 (IIEF-5) was 8.2 ± 4.0 and after the surgery (12 months later) was 20.6 ± 2.7. The improvement after the implant is significant in both groups without a statistically significant difference between the two groups (P-value 0.65). Mean Erectile Dysfunction Inventory of Treatment Satisfaction (EDITS) score 1 year after the implant is 72.2 ± 20.7, and there was no statistically significant difference between groups A and B (P-value 0.55). Implantation of an inflatable prosthesis, for treatment of ED, is a safe and efficacious approach; and the patient and partner satisfaction is very high. Surgical technique should be minimally invasive and latest technology equipment should be implanted in order to decrease after surgery common complications (infection and mechanical failure).Bladder function and sexual potency were studied before and after surgery for rectal carcinoma. Urinary voiding after postoperative removal of indwelling catheter was impaired in seven of 22 men, leading to prostatic surgery in four. Two years later, eight of 16 men reported disturbed voiding, but no significant changes were found in bladder capacity, residual volume, flow rate, or detrusor pressure. Sexual potency was reduced in five of ten men, in one with retrograde ejaculation; and three did not achieve erection. Objective postoperative bladder disturbance was surprisingly rare. Symptoms of denervation were more commonly attributable to sympathetic rather than parasympathetic lesions, possibly as a result of more energetic dissection in the anteroposterior plane than along the lateral pelvic walls. No patient had total autonomic denervation. Wide indications are advocated for prostatic resection in patients who have prostatic symptoms in association with surgery for rectal carcinoma.This review is dedicated to orgasmic function which is one of the most intimate and crucial aspects of quality of life in patients who underwent radical prostatectomy for prostate cancer. The main risk factors that affect orgasmic function and recovery period after surgery are described.Radical surgery that is intended to cure cancer disease tends to cause some damage to the operated organ and the quality of life of the patient. It is now a worldwide trend to preserve the function and minimize the operative damage to the patient, without compromising the oncological outcome. In urologic cancers, nephron-sparing surgery for kidney tumors, and nerve-sparing procedures in radical cystectomy and radical prostatectomy for retaining potency are now more frequently used for providing better quality of life after surgery. New constructive surgeries such as neobladder formation and nerve graft techniques after complete removal of the cavernous nerve have been developed for recovering the lost function.Objective: The aim of this study was to study the effect of postoperative physiotherapist-guided pelvic floor muscle training (PFMT) on health-related quality of life (HRQoL) parameters in patients treated with radical prostatectomy (RP).The two major long-term concerns associated with different options for the management of prostate cancer, (including surgery, radiotherapy, brachytherapy, cryotherapy, HIFU, etc.) include difficulties with lower urinary tract symptoms (LUTS) and/or erectile dysfunction. LUTS can be in the form of stress urinary incontinence (SUI), urge urinary incontinence (UUI), frequency/urgency, and/or voiding difficulties. While surgery is mostly associated with SUI and radiation mostly results in UUI, there can be an overlap. Incontinence rates after cryotherapy and high intensity focused ultrasound (HIFU) are generally very low. Voiding difficulties can also happen after the above-mentioned options. Treatment of SUI can start with pelvic floor muscle exercises (PFME), penile clamps or urethral plugs. If these fail to provide satisfactory results the surgical options could include: urethral bulking agents, male slings, and artificial urinary sphincter (AUS). Surgical options are usually not recommended during the first 6-12 months after radical prostatectomy. Management of frequency, urgency and/or UUI can also be started with lifestyle modifications and PFME. Oral agents (anticholinergics and β3-agonists) are also considered before proceeding to third line options, such as Botox injection or sacral neuromodulation. The treatment options for ED resulting from the treatment of prostate cancer can include oral PDE5-I as the first line, local therapy as the second (such as MUSE, intracavernosal injections, and perhaps low intensity shock wave therapy) and finally surgery as the third line. Standard questionnaires and patient reported outcome measurement tools should be used for the assessment of LUTS and erectile dysfunction prior and after initiation of treatment to guide the management.Prostate cancer is now a chronic condition. Screening, diagnosis, and treatment pose specific psychosocial challenges for men diagnosed and surviving with prostate cancer. Depression, anxiety, and cognitive impairment lead to emotional distress and difficulty coping. Treatments for

psychosocial distress are targeted at couples and individuals. Lifestyle modification may improve coping and quality-of-life indicators.We identified patient and disease characteristics associated with (1) "current" physical side-effects of any severity; and (2) "severe" physical side-effects "ever" experienced by 3,348 (54%) prostate cancer (PCa) survivors in Ireland diagnosed 2-18 years previously. Postal questionnaires collected symptoms at diagnosis, post-biopsy complications, comorbidities, primary treatments and physical side-effects post-treatment (urinary incontinence, erectile dysfunction, libido loss, bowel problems, breast changes, hot flushes, and fatigue, "ever" and "current" at time of questionnaire completion). Men were grouped by "early" (localised) and "late" (locally advanced/advanced) disease at diagnosis. Multivariable logistic regression analysis identified patient and disease-related factors associated with post-treatment side-effects. Complications post-biopsy were associated with higher risk of "current" libido loss and impotence. Radical prostatectomy was associated with higher risk of "current" and "severe" incontinence, libido loss and impotence in both early and late disease. In early disease, brachytherapy was associated with lower risk of "current" fatigue and "severe" impotence. Comorbidities were associated with higher risk of "current" experience of four side-effects (incontinence, libido loss, bowel problems, fatigue). Men on active surveillance/watchful-waiting reported lower risk of sexual dysfunction. These findings could inform development of tailored information on side-effects, which, in turn, could inform treatment decision-making and post-treatment monitoring.Background: To examine one-year trajectories of urinary and sexual outcomes, and correlates of these trajectories, among prostate cancer patients treated by radical prostatectomy (RP).Objective: Increased long-term survival rates have led to a greater focus on the health-related quality of life (HRQL) of prostate cancer survivors. This study assessed the motivations of prostate cancer survivors for disclosing their diagnosis and treatment to close others, and their perceptions of their own and others' responses to the disclosure.Objective: To evaluate the impact on erectile and ejaculatory function following transrectal ultrasound-guided biopsies of the prostate (TRUS-Bx) in sexually active men.Introduction: Only few reports addressed the outcome of patients submitted to anatomical radical retropubic prostatectomy (RRP) with an indwelling inflatable penile prosthesis (IPP).Objective: Radical prostatectomy is the most effective treatment for localized prostate cancer. With increasing use of minimally invasive treatment methods, clinical outcomes are becoming important assessment tools to compare one option to another. Perineal prostatectomy is modified to incorporate contemporary surgical ideas, including preservation of cavernosal nerve bundles, sphincteric urethra at the prostatic apex, and the bladder neck.Erectile Dysfunction (ED) is a relatively common complication after radiotherapy for prostate cancer. The etiology of ED is unclear. It is likely related to age, pretreatment erectile function, androgen deprivation therapy, and the volume of tissue irradiated. It is unclear whether the dose to various parts of the penis, such as the penile bulb and corpora cavernosa, is related to the development of ED. Following radiotherapy, the early use of phosphodiesterase inhibitors probably reduces the risk of ED.Background: Men diagnosed with localized prostate cancer seek information on how treatment options may impact their health-related quality of life (HRQOL). The authors used latent profile analysis (LPA) to group men according to their symptom burden and functional status and to identify patient characteristics associated with each HRQOL profile.Objectives: • To report the potency and oncological outcomes of patients undergoing robot-assisted radical prostatectomy (RARP) using a risk-stratified approach based on layers of periprostatic fascial dissection. • We also describe the surgical technique of complete hammock preservation or nerve sparing grade 1.Objective: To assess testosterone and haemoglobin kinetics in the Postoperative Adjuvant Androgen Deprivation (PAAD) trial, and correlate these with quality of life (QoL) in this prospective randomized study.Introduction: Provoked and spontaneous nocturnal erections are thought to play a role in maintenance of male sexual health through oxygenation of the corpus cavernosa. Conversely, hypoxia is thought to be an etiological factor in the pathogenesis of cavernosal fibrosis and long-term erectile dysfunction. It has been hypothesized that the early penile hypoxia after radical prostatectomy (RP) may lead to fibrosis and consequently a decrease in stretched penile length and long-term erectile dysfunction.Prostate cancer (PCa) poses a large health burden globally. Research indicates that men experience a range of psychological challenges associated with PCa including changes to identity, self-esteem and body image. The ways in which sexual orientation plays a role in the experience of PCa, and the subsequent impact on quality of life (QoL), body image and self-esteem have only recently been addressed. By addressing treatment modality, where participant numbers were sufficient, we also sought to explore whether gay (homosexual) men diagnosed with PCa (PCaDx) and with a primary treatment modality of surgery would report differences in body image and self-esteem compared with straight (heterosexual) men with PCaDx with a primary

treatment modality of surgery, compared with gay and straight men without PCaDx. The results of our study identified overall differences with respect to PCaDx (related to urinary function, sexual function and health evaluation), and sexual orientation (related to self-esteem), rather than interactions between sexual orientation and PCaDx. Gay men with PCaDx exhibited higher levels of urinary functioning than straight men with PCaDx, the difference being reversed for gay and straight men without PCaDx; but this result narrowly failed to achieve statistical significance, suggesting a need for further research, with larger samples.Introduction: The International Index of Erectile Function (IIEF) is the predominant patient-reported outcomes instrument for assessing male sexual function. There are obvious problems with the use of the IIEF in the assessment of an individual patient, such as for men who use injections and men who do not engage in intercourse.Prostate cancer is the most prevalent solid tumor malignancy and second-leading cause of death from cancer for American men. As a consequence of treatment-related side effects, men living with prostate cancer experience various obstacles to positive mental health. Unfortunately, relatively little is known about factors that promote or impede men's adjustment to these obstacles. In this article, the authors identify three masculine gender scripts that may contribute to men's adjustment following treatment for prostate cancer. To organize the discussion, the authors review related literature and, through case examples, illustrate how masculine gender scripts may influence men's adjustment. Directions for gender-sensitive interventions and future clinical research are provided.Erectile dysfunction is commonly reported after radical prostatectomy. Besides the loss of erections, sexual life after prostatectomy is impacted by urinary incontinence, orgasmic dysfunction, and psychological stress. In this review, we describe classical medical therapies used for erectile function rehabilitation such as PDE5 inhibitors and injection therapy. A vast amount of data support the idea of focusing on restoration of sexual function on top of erectile function after prostatectomy. The important strategies described to rehabilitate sexual function include pelvic floor muscle therapy, couple therapy, appropriate preoperative counseling, and focusing on non-penetrative alternatives. A multidisciplinary approach and including the partner is important. Erectile function alone is not sufficient for satisfactory sexual experience and may not be used as a proxy for sexual quality of life. Adding full-spectrum sexual rehabilitation to a standard penile rehabilitation regimen has the highest chances of obtaining satisfactory sexual outcomes in men and their partners after radical prostatectomy.Objective: To evaluate the effect of the early use of the vacuum erection device (VED) on erectile dysfunction (ED) and penile shortening after radical retropubic prostatectomy (RP), as these are important concerns for men choosing among treatment alternatives for localized prostate cancer.Purpose: The Health Policy Survey and Research Committee of the American Urological Association and the Gallup organization have performed 9 surveys of American urologists since 1992 for the purpose of assessing demographics and practice patterns. The results of the 2001 survey are presented.Relatively little attention has been focused on the reproductive and sexual function issues faced by men with inflammatory bowel disease (IBD). Infertility in men with IBD can be caused by medications used to treat the disease (most notably sulfasalazine), by active inflammation, and by the poor nutritional status that can result from IBD. Sexual function can be adversely affected by some medications used to treat IBD, by the depression that can accompany active IBD, and by proctocolectomy. When men with IBD do father children, there appears to be no increased rate of adverse fetal outcomes. Screening for prostate cancer after proctocolectomy can be challenging, but current data support the use of prostate-specific antigen screening for these patients. This review serves as an outline to assist the clinician in discussing sexual and reproductive issues in male patients with IBD.Purpose: NCCN Guidelines® recommend annual prostate biopsies for men with low risk prostate cancer on active surveillance. We determined whether erectile function decreases with the number of biopsies experienced.Introduction: The relationship between erectile dysfunction (ED) and depressive symptoms is well established. However, this relationship is not well explored in men with prostate cancer. Limited data suggest men with prostate cancer may experience less ED bother than men with ED who do not have prostate cancer, implying that ED and depressive symptoms may not be associated in men with prostate cancer.WHAT'S KNOWN ON THE SUBJECT? AND WHAT DOES THE STUDY ADD?: Removing of prostate for the treatment of localized prostate cancer is associated with a variable loss of erectile function due to injury of the nerves of erection during operation. Some researchers have reported that after nerve-sparing radical prostatectomy (RP), the natural recovery time of erectile function is at least 2 years. Factors such as thermal damage, ischaemic injury, mechanically induced nerve stretching and the local inflammatory effects of surgical trauma may also impair the cavernous nerves during RP. The concept of penile rehabilitation was first studied by Montorsi et al. in 1997. They showed that the use of any drug or device at or after RP could maximize

the recovery of erectile function. Penile rehabilitation programmes (PRPs) with vasoactive agents, such as oral phosphodiesterase-5 inhibitors (PDE5Is), intraurethral and intracavernosal vasoactive agents, and vacuum erection devices (VEDs) can protect erectile tissue integrity and prevent corporal smooth muscle atrophy and diminish collagen formation. The present findings are consistent with previous reports that PRPs have a significant beneficial effect on early erectile function recovery and that preoperative erectile function is one of the important predictors of erectile function after RP. Patients can be referred for penile rehabilitation if they have any degree of erectile function (mild, moderate or normal) before operation. We also showed that the combination of PDE5Is and VEDs for PRPs offers the shortest erectile function recovery period.Background: Previous studies on the effects of different prostate cancer treatments on quality of life, were confounded because patients were not comparable. This study examined treatment effects in more comparable groups.Objective: To gain insight into patients' experiences of follow-up care after treatment for prostate cancer and identify unmet psychosexual needs.Objective: To determine if heterosexual and nonheterosexual men treated for prostate cancer differ in diagnostic and treatment outcomes and in various measures of physical health, sexual function, and well being, before and after the treatment.Introduction: The reliability of reported postoperative data in patients undergoing nerve-sparing radical retropubic prostatectomy is often limited because the degree of sexual function (SF) has not been assessed objectively both before and after treatment. Most reports include only a retrospective chart review, and there is a question of whether such data are accurate.Background: Prostate cancer (PC) is the most common type of male-specific cancer in North American men, and many men choose radical prostatectomy (RP) to remove their cancer. Although penile length shortening (PLS) occurs in a reported 68% to 71% of men undergoing RP, little is known about it. In an electronic journal search, only 9 medical articles (with no nursing publications) were published between 1980 and 2007.Purpose: To determine which health care provider and what timing is considered most suitable to discuss sexual and relational changes after prostate cancer treatment according to the point of view of men and their partners.Spina bifida has traditionally been regarded as a pediatric health issue with little regard to adult consequences of the disorder. The congenital neurologic and urologic anomalies, as well as sequelae of bladder management, can have a profound impact on adult male sexual function. Abnormalities in testicular descent, development, and function; fertility; penile sensation; erectile function; ejaculatory function; and orgasmic function are common. Prostate cancer has been diagnosed in men with spina bifida, but little data are available to guide screening, diagnosis, and treatment efforts. The Spina Bifida Association has supported development of guidelines for health care providers to address male health issues in individuals with spina bifida throughout their lives.Background: The age-adjusted rate of radical prostatectomy, the most common treatment of early (nonmetastatic) prostate cancer, increased almost sixfold between 1984 and 1990. This increase was due in part to reported improvements in postoperative sexual potency after the use of newly developed "nerve-sparing" procedures. However, published estimates from physicians of impotence following various types of radical prostatectomy may be low, since not all patients may report treatment-related complications accurately and completely to their doctors. In contrast, direct surveys of patients indicate much higher rates of postoperative sexual and urinary dysfunction. One problem with most physician and patient surveys is that they have been performed retrospectively, and pretreatment impotence and incontinence prevalent in older men cannot be assessed accurately in retrospective studies.Objectives: To assess patient-reported prostate cancer-specific quality of life 2 and 3 years after radiotherapy to the prostate in a randomized dose-escalation trial of 70 versus 78 Gy conducted from 1993 to 1998.Open radical retropubic prostatectomy is the most popular operative technique for the treatment of clinically localized prostate cancer. Key elements to achieve convincing functional results are a sphincter-preserving ligation of the distal part of Santorini's plexus and the subtle preparation of the neurovascular bundle. This article gives a detailed description of our operative technique. Furthermore, a strategy for patient selection and tumor selection for the indication of a nerve-sparing radical prostatectomy is suggested.Objective: The objective of this study was to evaluate the impact of body mass index (BMI) on overall survival, freedom from distant metastases, rates of therapeutic intervention (TI), and quality of life (QOL) in active surveillance (AS) prostate cancer patients.Background: The authors investigated the prevalence of pretreatment urinary, sexual, hormonal, and bowel dysfunction in a contemporary, population-based prostate cancer cohort. They also explored the associations between baseline function and age, comorbidity, and timing of baseline survey completion with respect to treatment.Purpose: We describe the efficacy of radical prostatectomy to achieve complete primary tumor excision while preserving erectile function in a cohort of patients with high risk features in whom surgical resection was tailored

according to clinical staging, biopsy data, preoperative imaging and intraoperative findings.Purpose: The reporting of quality of life outcomes after prostate cancer treatment has improved with the use of validated instruments and third party data collection, and yet widely disparate continence and potency rates persist among providers. We assessed how well various definitions of these outcomes correspond with each other in the same patients.Androgen deprivation therapy (ADT) is indicated for the treatment of metastatic prostate cancer and locally advanced disease. In addition to sexual side effects, long-term ADT results in several other changes, including hot flashes; gynecomastia; changes in body composition, metabolism, and the cardiovascular system; osteoporosis; anemia; psychiatric and cognitive problems; and fatigue and diminished quality of life. This review discusses these complications of ADT and treatments aimed at reducing them. It is important for clinicians to anticipate these effects and to initiate measures to prevent or minimize them in order to maintain quality of life in prostate cancer survivors.Background: Many clinicians believe that preparedness before surgery for possible post-surgery side effects reduces the level of bother experienced from urinary incontinence and decreased sexual health after surgery. There are no published studies evaluating this belief. Therefore, we aimed to study the level of preparedness before radical prostatectomy and the level of bother experienced from urinary incontinence and decreased sexual health after surgery.To evaluate the efficacy of a novel, multi-modal, preoperative approach to postprostatectomy penile rehabilitation (PR), we performed a retrospective review of patients who underwent nerve-sparing robotic-assisted laparoscopic prostatectomy (NS-RALP). All patients were evaluated at a comprehensive, academic sexual medicine clinic between 2016 and 2017. The "prehabilitation" PR group (n = 106) consisted of men who were seen in the pre-op period and began tadalafil and L-citrulline 2 weeks prior to surgery. Vacuum erectile device (VED) therapy was started at 1-month post-op. These interventions were continued throughout the 12-month follow-up period. Individuals refractory to these therapies could start treatment with intracavernosal injections. The postprostatectomy PR group (n = 25) consisted of men who were not seen in the pre-op period and started the above therapies immediately following their first visit. A higher percentage of men in the prehabilitation group reported return of erectile function within 12 months (56% vs. 24%, P = 0.007). The prehabilitation group also showed better compliance with PR (PDE5i [96% vs. 64%, P < 0.001], L-citrulline [93% vs. 49%, P < 0.001], and VED [55% vs. 20%, P < 0.001]). Seventy-eight percent of men who attended 4-5 follow-up visits reported return of erectile function. Our results suggest that men undergoing a preoperative protocol show superior recovery of erectile function following NS-RALP. Further studies with prospective designs are warranted.Objectives: To assess the long-term sexual potency and attrition in sexual function after iodine-125 ((125)I) seed radiotherapy and the effect of sildenafil on radiation-induced erectile dysfunction (ED).Objective: This study aimed to evaluate the relationship between sexual activity and sexual function using questionnaires distributed to middle-aged Japanese patients with localized prostate cancer.In this prospective, longitudinal study the authors examined changes in cognitive, emotional, and interpersonal components of prostate cancer-related quality of life in 71 men who underwent robotic-assisted prostatectomy for prostate cancer. They identified significant changes across several quality-of-life domains from presurgery to 3-months and 1-year postsurgery. Although some components of quality of life returned to baseline by one year postsurgery, decrements in sexual intimacy, sexual confidence, and masculine self-esteem were enduring. These data can be used to guide patients in their expectations for quality of life following robotic prostatectomy and highlight the need for multidisciplinary approaches aimed at improving men's sexual adjustment after this procedure.Introduction: Little stress has been placed on patients' satisfaction with regard to management of erectile dysfunction (ED) after radical prostatectomy (RP) and on how physicians' and patients' views may differ in this respect.Radical prostatectomy (RP) represents one of the most commonly used first-line treatment modalities in men with localized prostate cancer (PCa). Despite efforts to preserve the neurovascular bundles with nerve sparing (NS) surgery, erectile dysfunction (ED) remains common after RP and this may significantly affect patients' quality of life (QoL). The aim of this paper is to evaluate the outcome of simultaneous placement of penile prosthesis and RP. The ideal candidates for simultaneous penile prosthesis implantation are those who report pre-existent refractory ED and patients in whom there is a high risk of extracapsular disease, such as any cT2c or cT3, and undergo non-nerve sparing RP. If the patient chooses to undergo PPI to treat his refractory ED it is clear that this procedure will be associated with higher patients' satisfaction rates, if carried out simultaneously with RP rather than at a later stage. A simultaneous procedure would avoid two admissions, reduce hospitalization time and guarantee a faster recovery of sexual function, preventing the otherwise unavoidable loss of penile length. Since the urologist does not need to preserve the

neurovascular bundles, as the penile implant will take care of postoperative rigidity, RP can be performed more radically from an oncological point of view, thus reducing the risk of recurrence and metastasis, especially in patients with high risk of locally advanced disease. In conclusion, simultaneous PPI with RP provides early sexual rehabilitation, improving patients' quality of life, without compromising surgical outcomes. However, larger series will be necessary, to better identify the patients who are more likely to benefit from nerve sparing surgery and postoperative penile rehabilitation from those who would are more likely to develop refractory ED post RP and would therefore benefit from simultaneous implantation of a penile prosthesis.Objective: To characterize the effect of preserving the neurovascular bundle (NVB) and of potency on urinary continence after open radical retropubic prostatectomy (ORRP).Purpose: We evaluated the efficacy and safety of hyperbaric oxygenation therapy to preserve erectile function as part of penile rehabilitation after robot assisted bilateral nerve sparing radical prostatectomy for prostate cancer.Radical prostatectomy has maintained a cardinal role in the treatment of localized carcinoma of the prostate. The combination of refinements in surgical technique and better definition of the anatomy have decreased the morbidity from surgery. Nonetheless, concerns about treatment-related side effects remain the primary limitation of surgical therapy for prostate cancer. Laparoscopic prostatectomy, with or without robotic assistance, is playing an increasing role in surgical treatment of prostate cancer. However, the minimally invasive aspect of laparoscopy may have less relevance for radical prostatectomy because the open surgical procedure requires a limited infraumbilical incision. In the present series comparing robotically assisted laparoscopic prostatectomy with open radical retropubic prostatectomy, no difference was seen in postoperative pain, length of stay, or requirement for blood replacement. However, the most important outcome measures are tumor control, continence, and sexual potency. The outstanding visibility and precision afforded by the robotic approach may offer advantages in each of these areas.Introduction: The effects of intracavernous alprostadil injection (IAI), a primary treatment for post-radical prostatectomy (RP) erectile dysfunction (ED) (pRPED), on the sex life of women partnered with men who have undergone RP have received little attention.Improved selection criteria have led to an increasing number of nerve-sparing radical retropubic prostatectomies (RRP) in patients with clinically localized prostate cancer. The results based on patient questionnaires regarding postoperative erectile function are described. Between January 1992 and March 1999, 366 patients (mean age: 62.5 years) underwent uni- or bilateral nerve-sparing RRP at our institution. For evaluation of postoperative patient-reported rates of sexual and erectile function, a questionnaire was used after a follow-up of at least 12 months. Data of five operation periods were analyzed. The results of the unilateral procedure for the five operation periods revealed consistent rates of 13-29% for erections sufficient for intercourse. Bilateral nerve-sparing procedures were almost exclusively performed in periods 3 to 5; only four patients from period 2 underwent the bilateral procedure. The rates of intercourse-sufficient erections were 25% (period 2), 61% (period 3), 50% (period 4), and 52% (period 5), respectively. The results of the unilateral procedure were disappointing. However, the bilateral nerve-sparing method achieved much better results inasmuch as about 50% of the patients reported recovery of erections sufficient for sexual intercourse.The management of prostate cancer continues to evolve rapidly, with substantial advances being made in understanding the genomic landscape and biology underpinning both primary and metastatic prostate cancer. Similarly, the emergence of more sensitive imaging methods has improved diagnostic and staging accuracy and refined surveillance strategies. These advances have introduced personalised therapeutics to clinical practice, with treatments targeting genomic alterations in DNA repair pathways now clinically validated. An important shift in the therapeutic framework for metastatic disease has taken place, with metastatic-directed therapies being evaluated for oligometastatic disease, aggressive management of the primary lesion shown to benefit patients with low-volume metastatic disease, and with several novel androgen pathway inhibitors significantly improving survival when used as a first-line therapy for metastatic disease. Research into the molecular characterisation of localised, recurrent, and progressive disease will undoubtedly have an impact on clinical management. Similarly, emerging research into novel therapeutics, such as targeted radioisotopes and immunotherapy, holds much promise for improving the lives of patients with prostate cancer.The treatment landscape of metastatic prostate cancer has evolved significantly over the past two decades. Several landmark phase 3 trials led to new drug approvals and rapid changes in therapy options for patients, including drugs with distinct mechanisms of action (e.g., hormonal, chemotherapy, radionuclide, immunotherapy, and targeted therapies). Therapies initially developed in later stages of the disease (metastatic castration resistant prostate cancer) have started to move earlier in the prostate cancer continuum, with new standards of care for metastatic hormone naive prostate

cancer and non-metastatic castration resistant prostate cancer. Overall, patients are living longer with a better quality of life. However, despite these significant advances, prostate cancer remains a leading cause of cancer death globally. Disease heterogeneity and the emergence of therapy resistance remain significant barriers, and the identification and application of molecular biomarkers to guide the choice and sequencing of systemic agents are still in early stages. Here we discuss the current treatment landscape of metastatic prostate cancer, clinical challenges, and the emerging role of molecular biomarkers for targeting biologic subsets of advanced disease and co-targeting heterogenous resistance patterns.Prostate-specific membrane antigen (PSMA)-ligand PET imaging provides unprecedented accuracy for whole-body staging of prostate cancer. As PSMA-ligand PET/CT is increasingly adopted in clinical trials and routine practice worldwide, a unified language for image reporting is urgently needed. We propose a molecular imaging TNM system (miTNM, version 1.0) as a standardized reporting framework for PSMA-ligand PET/CT or PET/MRI. miTNM is designed to organize findings in comprehensible categories to promote the exchange of information among physicians and institutions. Additionally, flowcharts integrating findings of PSMA-ligand PET and morphologic imaging have been designed to guide image interpretation. Specific applications, such as assessment of prognosis or impact on management, should be evaluated in future trials. miTNM is a living framework that evolves with clinical experience and scientific data.Inherited genetic mutations can significantly increase the risk for prostate cancer (PC), may be associated with aggressive disease and poorer outcomes, and can have hereditary cancer implications for men and their families. Germline genetic testing (hereditary cancer genetic testing) is now strongly recommended for patients with advanced/metastatic PC, particularly given the impact on targeted therapy selection or clinical trial options, with expanded National Comprehensive Cancer Network guidelines and endorsement from multiple professional societies. Furthermore, National Comprehensive Cancer Network guidelines recommend genetic testing for men with PC across the stage and risk spectrum and for unaffected men at high risk for PC based on family history to identify hereditary cancer risk. Primary care is a critical field in which providers evaluate men at an elevated risk for PC, men living with PC, and PC survivors for whom germline testing may be indicated. Therefore, there is a critical need to engage and educate primary care providers regarding the role of genetic testing and the impact of results on PC screening, treatment, and cascade testing for family members of affected men. This review highlights key aspects of genetic testing in PC, the role of clinicians, with a focus on primary care, the importance of obtaining a comprehensive family history, current germline testing guidelines, and the impact on precision PC care. With emerging evidence and guidelines, clinical pathways are needed to facilitate integrated genetic education, testing, and counseling services in appropriately selected patients. There is also a need for providers to understand the field of genetic counseling and how best to collaborate to enhance multidisciplinary patient care.Purpose of review: To review current evidence for prostate cancer prevention with nutrition, physical activity, and lifestyle interventions and identify future research directions.Purpose of review: To summarize the literature on the predictors of quality of life (QoL) of patients with prostate cancer (PCa) on active surveillance and to highlight both risk factors of poor QoL and resilience factors that facilitate decision-making and promote adherence to active surveillance.Purpose: Due to recent treatment advances, men are increasingly living longer with advanced prostate cancer (PCa). This study sought to understand men's experiences of living with and adjusting to advanced hormone-responsive PCa and how this influenced their quality of life (QoL), in order to highlight how support could be optimized.Objectives: To review the current knowledge on living with bodily changes in hormone refractory prostate cancer (HRPC), treatment options, and common symptoms, and suggestions for improving our understanding of the experience of HRPC.Purpose: Men affected by prostate cancer are a patient population in need of on-going person-centred supportive care. Our aim was to synthesise current available evidence with regard to the unmet supportive care needs of men living with and beyond prostate cancer.Background: Prostate cancer has been shown to be susceptible to significant stigmatisation, because to a large extent it is concealable, it has potentially embarrassing sexual symptoms and has significant impact on the psychosocial functioning.Aim: Previous research has identified how newly diagnosed prostate cancer affects men's daily lives, including daily activities and existential issues. The aim of this qualitative study was to provide information if and how prostate cancer affects men's daily lives 2 years after the diagnosis.Prostate cancer incurs a substantial incidence and mortality burden, similarly to breast cancer, and it ranks among the top ten specific causes of death in the United States. It is inherent as we maximize the detection of early prostate cancer that we increase the detection of both nonaggressive (slow growing) and aggressive (faster growing) prostate cancers. The evidence clearly supports the use of PSA

screening in conjunction with DRE as a means of early detection of prostate cancer. Widespread implementation of prostate cancer screening in the United States has led to the phenomenon of stage migration with more cancers being detected at a lower stage. Such a trend has decreased the incidence of metastatic disease at diagnosis and paralleled the decrease of the mortality rate from prostate cancer. Our understanding of the natural history of prostate cancer is progressing over time, but the question of its length is unanswerable. The relatively long doubling time (on average) of early prostate cancer of 3 to 4 years or more indicates a relatively good prognosis for many men with this disease, even without early detection and treatment. Unfortunately, the poor specificity of the PSA test in men with benign prostatic hyperplasia (BPH) leads to high rates of prostate biopsy and attendant illnesses and costs. Early detection is more apt to detect a slow-growing prostate cancer than a faster growing cancer that is associated with a more rapid course of progression to metastatic disease. Hence, the launching of mass screening programs for the early detection of prostate cancer is premature. However, in the absence of solid evidence of benefit, one reasonable approach to screening at the individual level is to involve the patient in decisions about whether or not to perform a PSA test. Thus, "offering" PSA testing must be accompanied by informed discussion within the context of an ongoing patient-physician relationship. This is to be distinguished from the use of PSA testing for the purpose of "mass screening." Concepts that must be explored with the patient include: 1. The long-term ramifications of screening 2. The relatively high probability of further evaluation and biopsy with positive results 3. Potentially difficult decisions that may arise about using treatments that are associated with considerable morbidity and uncertain benefits (at the time) if cancer is discovered We should identify a future path that is evidence-based, focused on the issues that make a difference to patients, and results in better and longer lives of those with the disease and those who are at risk of getting it. If that path leads to treating fewer patients in the future, even if sometimes more aggressively, we should pursue it definitely and consequently.Objective: Clinical options for managing nonmetastatic prostate cancer (PCa) vary. Each option has side effects associated with it, leading to difficulty in decision-making. This study aimed to assess the relationship between patient involvement in treatment decision-making and subsequent decision regret (DR), and quantify the impact of health-related quality of life (HRQL) outcomes on DR.Prostate cancer is the second most common cause of cancer-related death in men in the USA, but the effect of prostate cancer diagnosis and treatment on men in a sexual minority group, including men who have sex with men and transgender women, is poorly understood. Efforts to study this population are complicated, as cancer registries do not routinely collect information on sexual orientation. As a result, epidemiological data regarding this population have come from small studies that have included disparate rates of prostate cancer screening, diagnosis and treatment. Qualitative studies indicate that prostate cancer is experienced differently by sexual minorities, with distinct health-care needs that arise owing to differences in sexual practices, social support systems and relationships with the medical community. Notably, sexual minorities have been reported to experience poorer health-related quality of life outcomes than heterosexual men, and tend to have less robust social support systems, experience increased psychological distress caused by sexual dysfunction (areas of which are unmeasured after treatment), experience isolation within the health-care system and express increased levels of dissatisfaction with treatment. The incidence of prostate cancer actually seems to be decreased in men from sexual minorities living with HIV, despite there being no differences in screening and treatment, with poor cancer-specific mortality. Although the literature on patients with prostate cancer in men from sexual minority groups has historically been sparse, peer-reviewed research in this area has grown considerably during the past decade and has become an important field of study.Introduction: Differences in the incidence and mortality rates for prostate cancer between East and West are clearly defined, with higher rates in the West and lower rates in the East. Treatment methods are generally selected in accordance with general practice guidelines, but the current reality in Asia is that there is not sufficient clinical data to set Asia-specific guidelines for treatment. This leads to a situation whereby for the large part guidelines based on scientific evidence accumulated in Western countries are followed, but from time to time cases are encountered when such guidelines may not be considered to be the most appropriate for the case at hand.Prostate cancer is the most common malignancy diagnosed in North American men. Although medical advances have improved survival rates, men treated for prostate cancer experience side-effects that can reduce their work capacity, increase financial stress, and affect their career and/or retirement plans. Working-age males comprise a significant proportion of new prostate cancer diagnoses. It is important, therefore, to understand the connections between prostate cancer and men's work lives. This scoping review aimed to summarize and disseminate current research evidence about

the impact of prostate cancer treatment on men's work lives. Electronic databases were searched to identify peer-reviewed articles published between 2006 and 2020 that reported on the impact of prostate cancer treatment on men's work. Following scoping review guidelines, 21 articles that met inclusion criteria were identified and analyzed. Evidence related to the impact of prostate cancer on work was grouped under three themes: (1) work outcomes after prostate cancer treatment; (2) return to work considerations, and (3) impact of prostate cancer treatment on men's finances. Findings indicate that men's return to work may be more gradual than expected after prostate cancer treatment. Some men may feel pressured by financial stressors and masculine ideals to resume work. Diverse factors including older age and social benefits appear to play a role in shaping men's work-related plans after prostate cancer treatment. The findings provide direction for future research and offer clinicians a synthesis of current knowledge about the challenges men face in resuming work in the aftermath of prostate cancer treatment.Introduction: Screening for prostate cancer remains controversial because of conflicting results from the two major trials: The Prostate, Lung, Colorectal and Ovarian Cancer (PLCO) screening trial and the European Randomized Study of Screening for Prostate Cancer (ERSPC).Context: Prostate cancer remains highly prevalent and has a poor clinical outcome once metastatic. Sipuleucel-T is an autologous cellular immunotherapy approved for the treatment of metastatic castration-resistant prostate cancer (mCRPC). Sipuleucel-T treatment extends survival but is independent of traditional short-term markers of treatment response observed with chemotherapy and contemporary hormonal treatments. Therefore, it is essential that clinicians understand the mechanism of action of sipuleucel-T and how this can translate in the clinic.The goal of the Norwegian Ministry of Health and Care Services is to offer an equal health-care service with the same outcomes wherever people are living within the country. The aim of this study was to evaluate whether this was true for patients diagnosed with metastatic prostate cancer (mPC) and living in Nordland County, a region with a challenging geography and climate and having, several small and remote communities and only 1 department of oncology. The latter is located in the main city, Bodø. We also compared a subgroup living in communities having lower average annual income (less than NOK 240,000 (equivalent to USD 28,600)) with patients living in Bodø (NOK 285,000 (USD 33,900)). Overall 288 patients were included and stratified into 3 subgroups (favourable distance and income, unfavourable distance and income, and unfavourable distance and favourable income). No statistically significant differences were observed regarding patient characteristics. There was no indication towards under-treatment among patients from the distant regions or the lower income region. Given that disparities were not observed, it was not surprising to see comparable survival outcomes (p=0.35). In conclusion, these results suggest that the health-care system in Nordland County successfully delivers state-of-the-art oncology care to patients with mPC.Purpose of review: The role of testosterone in the development of prostate cancer and the safety of testosterone therapy (TTh) after prostate cancer treatment, or in the setting of active surveillance, remains controversial. There are many concerns about using TTh in men, particularly those with a history of prostate cancer, ranging from a possible increased risk of cardiovascular disease to cancer progression or recurrence. With many prostate cancer patients living longer, and hypogonadism having significant morbidity, much care must go into the decision to treat. Here, we review the literature investigating the effects of testosterone on the prostate as well as the efficacy and safety of exogenous testosterone in men with a history of prostate cancer.Few, if any, qualitative studies aimed at gaining an understanding of the experience of patients with prostate cancer have been done. The purpose of this study was to illuminate the meaning of being a patient living with untreated localized prostate cancer. Seven men with untreated localized prostate cancer were interviewed in their homes. The interviews were tape recorded and transcribed into text. The text was analyzed using a phenomenologic-hermeneutic approach inspired by Ricoeur's philosophy. The meaning of living with untreated localized prostate cancer could be interpreted as living life under a dark shadow. The disease was described as a threat to the patient's life. When living under this shadow, many of the men studied had an ambivalent wish both to share their experience with others and to be alone with their experiences of the disease. They believed that the disease had changed their lives, and their manhood was restricted by sexual dysfunctions and described as a burden. They used various coping strategies to manage this situation. Despite a positive relationship with their physicians, there is a risk that these patients will not be given the attention they need because of their good prognosis.Prostate cancer is a heterogeneous disease characterised by a long natural history relative to other solid tumours. With the diagnosis of prostate cancer being made earlier, the emphasis of treatment has shifted from palliation of symptoms to altering disease-related morbidity and mortality and thus improving overall survival. Treatment of prostate cancer increasingly involves an

approach that combines local therapies directed at the primary tumour together with systemic therapies to potentiate their effect and to control subclinical metastatic disease. Patients with localised tumours who are at high risk of relapsing with radiation therapy alone are surviving longer because of the addition of adjuvant hormonal therapy. Although a survival benefit in similar patients undergoing prostatectomy has not yet been established, preliminary results indicate that adjuvant hormonal therapy delays relapse. Chemotherapy is an effective palliative modality for patients with hormone- refractory metastatic disease, and recently completed phase III trials will determine if chemotherapy can prolong survival for this group. The role of chemotherapy in patients with locally advanced tumours is also being investigated in randomised clinical trials. Because bone is the dominant site of metastases for most patients with prostate cancer, the development of therapies that can slow tumour growth specifically within bone is a logical strategy. Bisphosphonates and bone-targeted radionuclides are two such approaches that have shown encouraging results even in the most advanced stages of the disease. Although one can now reasonably hypothesise that survival has improved because of recent therapeutic advances, it remains to be conclusively established that cytotoxic or other systemic therapy can extend survival of patients with prostate cancer. Only the results of ongoing randomised trials can definitely establish that more patients with locally advanced and metastatic prostate cancer are living longer.The lack of clear roles for prostate cancer survivorship care providers places prostate cancer survivors at significant risk of inappropriate use of services delivered piecemeal by different providers, persistent bothersome symptoms, and silent suffering. Optimizing quality of care for prostate cancer survivors hinges on decreasing fragmentation of care, and providing quality symptom management. This is achieved through comprehensive, appropriate medical, surgical, pharmacological and psychosocial care, coupled with self-management, as highlighted in several recent resources addressing long-term and late effects of treatment. Although further study is warranted, prostate cancer survivors engaging in self-management may reduce the negative impact of prostate cancer in their lives through better quality of care (better symptom management and efficient use of services) and quality of life.Background: Men diagnosed with localized prostate cancer must make a choice between treatment strategies that differ considerably in their side effects and have different long-term requirements for coping with the disease. The aim of this study was to describe how men perceive their treatment decision retrospectively and which coping strategies they use.The 22nd Annual Prostate Cancer Foundation (PCF) Scientific Retreat was convened in Washington, D.C. from October 8 to 10, 2015. This event is the foremost scientific conference in the world focusing on basic, translational, and clinical prostate cancer research with the highest potential for accelerating the understanding of prostate cancer biology and improving the lives and outcomes of prostate cancer patients. Topics highlighted during the 2015 Retreat included: (i) new strategies and treatments for localized high-risk, hormone-naïve, oligometastatic, castrate-resistant, and treatment-refractory prostate cancer settings; (ii) the biology and genomics of tumor heterogeneity and tumor evolution; (iii) new understandings on the mechanisms and targeting of oncogenic drivers of prostate cancer; (iv) bioengineering of novel therapies and drug delivery methods; (v) innovative approaches to tumor immunotherapy; (vi) emerging molecular imaging technologies with improved sensitivity and specificity; and (vii) advancements in prognostic and predictive biomarkers and precision medicine strategies. Prostate 76:1037-1052, 2016. Purpose: Despite the high prevalence of prostate cancer, little information is available on the quality of life of men and their spouses during the phases of illness. This study assessed patients' and spouses' quality of life, appraisal of illness, resources, symptoms, and risk for distress across three phases of prostate cancer: newly diagnosed, biochemical recurrence, and advanced.Background: We sought to assess variation in the primary treatment of prostate cancer by examining the effect of population density of the county of residence on treatment for clinically localized prostate cancer and quantify variation in primary treatment attributable to the county and state level.Background: Patients with prostate cancer suffer significant sexual dysfunction after treatment which negatively affects them and their partners psychologically, and strain their relationships.Introduction: The supportive care needs of men with prostate cancer (PCa) have been well documented, but little is known about how an online portal may address these. This study sought to determine priority issues facing men with PCa, barriers and enablers to accessing care and whether health professionals (HPs) and men would support the inclusion of a patient-reported outcome (PRO) comparator tool.Background: Previous studies of living with prostate cancer have shown that the illness and the treatment cause physical as well as psychosocial problems.Purpose: Patients with metastatic cancer can experience debilitating symptoms, which may influence attitudes towards and engagement in physical activity. This study aimed to examine the attitudes of patients living with metastatic prostate

cancer towards physical activity.Background: In 2012, the United States Preventative Services Task Force issued new guidelines recommending that male U.S. residents, irrespective of race, no longer be screened for prostate cancer. In African American men, the incidence of prostate cancer is almost 60 % higher and the mortality rate is two to three times greater than in Caucasians. The purpose of this study is to reduce African American men's prostate cancer burden by demonstrating they need separate screening guidelines.Background: This study reviewed the published evidence as to how prostate cancer outcomes vary across geographical remoteness and area level disadvantage.Docetaxel is an anti-microtubular agent in the family of the taxanes, now FDA approved as first line chemotherapy for the treatment of hormone refractory metastatic prostate cancer. Recent data from two large randomized Phase III trials showed a survival advantage in hormone refractory prostate cancer patients treated with docetaxel. This discovery changed the perceptions about utilization of chemotherapy for this devastating disease and introduced a new paradigm/standard of care treatment for this patient population. The management of elderly patients with metastatic prostate cancer is an important issue because according to data from the Surveillance, Epidemiology, and End Results (SEER) program, the American Cancer Society, and the United Nations, the incidence of prostate cancer in elderly men is expected to increase since people are living longer. In this paper we will review the results of trials evaluating docetaxel in hormone refractory prostate cancer and the implications of these trials as they relate to diagnosis and management of this disease in the elderly man.Purpose: The purpose of this study was to examine how men without partners make decisions about prostate cancer treatment, manage treatment side effects, and obtain information and support.Introduction: While multiple therapies exist that prolong the lives of men with advanced prostate cancer, none are curative. This had led to a search to uncover novel targets for prostate cancer therapy, distinct from those of traditional hormonal approaches, chemotherapies, immunotherapies and bone-targeting approaches. The process of tumor angiogenesis is one target that is being exploited for therapeutic gain.Prostate cancer is a disease typical of the elderly with a peak of incidence at 80 years. As most patients aged > or = 70 years show impairment of physical and/or cognitive performance, a complete geriatric assessment should be mandatory before planning any oncological treatment, in order to remove treatable conditions and to estimate the individual cancer-independent survival probability. In unfit patients with early prostate cancer watchful waiting represent the best strategy when the chance of living <10 years and the benefit from any upfront active treatment would be poor. Radiotherapy should be sometimes offered to vulnerable patients having high risk prostate cancer. Even in locally advanced prostate cancer active treatment could be deferred in asymptomatic patients, with short individual cancer-independent survival and well or moderately differentiated tumour. When hormonal deprivation therapy is administered a great attention should be paid to potential adverse events, that could precipitate the physical performance and accelerate the development of severe frailty. In the metastatic setting, the best supportive care, including bisphosphonates, should have the priority in the management of unfit patients. Chemotherapy, with Docetaxel as the standard regimen, should be reserved to patients showing diffuse symptoms, rapidly increasing PSA and/or presence of visceral metastasis, after all steps of endocrine therapy were covered. As regard the second line, a number of possibilities are available, but none have been tested in vulnerable and frail patients. At the present a number of issues about prostate cancer in unfit senior adults patients are still unsolved and should be debated in the light of results from dedicate prospective trials.Background: The New South Wales Central Cancer Registry (NSW CCR) is the only population-based cancer registry in Australia that has routinely collected summary stage at diagnosis since its inception in 1972. However, a large proportion of prostate cancer cases have "unknown" stage recorded by the registry. We investigated the characteristics of prostate cancer cases with "unknown" stage recorded by the NSW CCR, and examined survival for this group.This review outlines current international patterns in prostate cancer incidence and mortality rates and survival, including recent trends and a discussion of the possible impact of prostate-specific antigen (PSA) testing on the observed data. Internationally, prostate cancer is the second most common cancer diagnosed among men (behind lung cancer), and is the sixth most common cause of cancer death among men. Prostate cancer is particularly prevalent in developed countries such as the United States and the Scandinavian countries, with about a six-fold difference between high-incidence and low-incidence countries. Interpretation of trends in incidence and survival are complicated by the increasing impact of PSA testing, particularly in more developed countries. As Western influences become more pronounced in less developed countries, prostate cancer incidence rates in those countries are tending to increase, even though the prevalence of PSA testing is relatively low. Larger proportions of younger men are being diagnosed with prostate cancer and living longer

following diagnosis of prostate cancer, which has many implications for health systems. Decreasing mortality rates are becoming widespread among more developed countries, although it is not clear whether this is due to earlier diagnosis (PSA testing), improved treatment, or some combination of these or other factors.Introduction: During their lives, 1 in 8 men will be diagnosed with prostate cancer. Several drugs have been shown to decrease prostate cancer risk, but have not been widely used in prostate cancer prevention because of concerns about side-effects and cost-effectiveness. Statins are indicated for prevention of cardiovascular disease, have an excellent benefit to risk profile, and some studies suggest that statins may reduce the risk of prostate cancer.Goals: This paper is one of five interrelated papers about cancer, drawn from a larger study exploring the experiences of 66 people diagnosed with cancer. Findings are reported separately because the way in which people experience cancer can vary by cancer type. Here, we determine the utility of liminality and biographical disruption as explanatory theories in relation to men's experiences of prostate cancer. We situate and explore notions of liminality and disruption in relation to self, identity and context to inform debate about the provision of supportive care and highlight the contribution this study makes to the understandings of men's health.Prostate cancer is the most commonly diagnosed cancer and the second-leading cause of death from cancer in U.S. men. For older men with early-stage prostate cancer, watchful waiting (also referred to as surveillance, expectant management, deferred/delayed therapy, or active monitoring) is a reasonable approach to aggressive therapy. The purpose of this article is to critically review published studies on the watchful waiting management option for prostate cancer within the past 5 years. The review of documented reports on watchful waiting reveals that there are both negative and positive indications toward watchful waiting. Further research is needed to change the perception of watchful waiting as a "do nothing" approach to the management of prostate cancer or a "death sentence" and to develop interventions that assist men to manage the uncertainty associated with living with prostate cancer to improve health and advance quality of life.Objective: Online prostate cancer communities (OPCaCs) have emerged as a new source of support, not bounded by geographic barriers, for men living with prostate cancer. This scoping review mapped the existing literature to explore the characteristics and benefits of OPCaCs, identify knowledge gaps, and direct future research.Background: Prostate cancer is the most common male cancer in developed countries and diagnosis and treatment carries with it substantial morbidity and related unmet supportive care needs. These difficulties may be amplified by physical inactivity and obesity. We propose to apply a multimodal intervention approach that targets both unmet supportive care needs and physical activity.Context: Active Surveillance (AS) is a preferred treatment option for low-risk prostate cancer (LPC) in current practice guidelines. Limited data as to factors influencing men's decision to choose AS. Objective: To identify determinants of initial treatment choice and whether race and geographical location influence the AS decision. Design: Longitudinal cohort study. Setting: Population-based sample recruited from two cancer registries. Patients: Black and white men with newly diagnosed LPC. Instrument: Mailed survey. Main Outcome Measure: Initial treatment choice (AS vs. curative treatment). Results: Of the 1688 eligible patients, 925 (54.8%) recruited from metro-Detroit and 763 (45.2%) from Georgia. Overall, 79.4% were White and 20.6% were Black, with a mean age of 62.8 years (SD=6.9, range 39-78). Regarding initial treatment choice, 56.9% of men chose AS, 23.4% surgery, 16.6% radiation, 1.1% watchful waiting, and 1.7% other treatment. In multivariable analysis, men who reported that their Urologist recommended AS were 56 times more likely to choose AS (OR=56, 95%CI 33-94) compared to men who reported that their Urologist recommended treatment. Similarly, men who reported that the decision was made jointly by doctor and patient or predominately by doctor, were about 2 times more likely to choose AS (OR=1.9, 95%CI 1.2-3.0) compared to men who made the decision alone. Men who believed their "cancer is small", had better health, higher yearly income (>=$70,000), higher prostate cancer knowledge, higher decisional conflict, and lived in metro-Detroit, were more likely to choose AS. In contrast, men who expected to "live longer" with chosen treatment, had friends "with good treatment results", and were influenced by "curing cancer", were less likely to choose AS. There was an interaction between race and "curing cancer" (p=0.005). White men were more likely (OR=3.2, 95%CI 1.2-8.9) to choose AS than Black men when "curing cancer" was not influential in their decision. When "curing cancer" was highly influential, White men were less likely than Black men to choose AS (OR 0.5, 95%CI 0.2-0.9). Conclusions: In this population-based sample, more than half of patients with LPC chose AS. Many factors influenced patient's AS decision with Urologist's AS recommendation being the strongest predictor of patient's AS decision.Background: Men with low- to intermediate-risk prostate cancer are typically asked to choose from a variety of treatment options, including active surveillance, radical prostatectomy, or brachytherapy. The Prolaris cell cycle progression test is intended to provide

additional information on personal risk status to assist men with prostate cancer in their choice of treatment. To assist with assessing that new technology, this report synthesizes qualitative research on how men with prostate cancer use information to make decisions about treatment options.Background: Prebiopsy magnetic resonance imaging (MRI) of the prostate improves detection of significant tumors, while decreasing detection of less-aggressive tumors. Therefore, its use has been increasing over time. In this study, the use of prebiopsy MRI among Medicare beneficiaries with prostate cancer was examined. It was hypothesized that patients of color and those in isolated areas would be less likely to undergo this approach for cancer detection.Advances in prostate cancer treatments since the 1990s have led to a growing proportion of patients living with the effects of the cancer. Various challenges face the man and his partner from the point of learning of the diagnosis: deciding among numerous diverse treatment options, dealing with side-effects of treatment and possibly facing the terminal phase of the illness. This invariably has an impact on the patient's family and, in view of the older age group of men usually affected, the experience of a partner is particularly relevant. A thorough review of the research literature reporting directly from partners of prostate cancer patients has not been undertaken previously. For this review, five databases were searched for the decade 1994-2005, during which most of the work in this field has been done. Very few evaluations of psychosocial interventions involving the partner were found, but there was a preponderance of qualitative studies involving small numbers of participants and quantitative surveys with little consistency in the measures used. The literature suggests that partners report more distress than patients, yet believe that patients are the more distressed, and the focus of concern of patients on their sexual function is not shared to an equal degree by their partners.What's known on the subject? and What does the study add? Most men who are diagnosed with favourable-risk prostate cancer undergo some form of active intervention, despite evidence that treatment will not improve health outcomes for many. The decision to undergo treatment after diagnosis is, in part, related to the inability to precisely determine the long-term risk of harm without treatment. Nevertheless, physicians should consider patient age, overall health, and preferences for living with cancer and the potential side effects of curative treatments, before recommending a management option. This is especially important for older men, given the high level of evidence that those with low-risk disease are unlikely to accrue any benefit from curative intervention. What is known on the subject: Over treatment of favourable-risk prostate cancer is common, especially among older men. What does the study add: A review of the natural history of favourable-risk prostate cancer in the context of choices for management of the disease. • The management of favourable-risk prostate cancer is controversial, and in the absence of controlled trials to inform best practice, choices are driven by personal beliefs with resultant wide variation in practice patterns. • Men with favourable-risk prostate cancer diagnosed today often undergo treatments that will not improve overall health outcomes. • A shared-decision approach for selecting optimal management of favourable-risk disease should account for patient age, overall health, and preferences for living with cancer and the potential side effects of curative treatments.Men with prostate cancer have various treatment options depending upon their stage of disease, age and presence of comorbidity. However, these treatments typically induce side effects, which generate currently ill-defined supportive care needs. This study examined the supportive care needs of men with prostate cancer within England. A postal questionnaire survey was conducted in six acute NHS Trusts. Seven hundred and forty-one men with prostate cancer participated. They had been diagnosed 3-24 months prior to the survey and had received various treatments. Men surveyed had specific and significant unmet supportive care needs. Areas of greatest need are related to psychological distress, sexuality-related issues and management of enduring lower urinary tract symptoms. High levels of psychological distress were reported, and those reporting psychological distress reported greater unmet supportive care needs. Unmet sexuality-related need was highest in younger men following radical prostatectomy. Lower urinary tract symptoms were almost universal in the sample. Perceived quality of life varied; men unsure of their remission status reported lowest quality of life. Psychological distress impacts significantly on perceived unmet need and is currently not being assessed or managed well in men living with prostate cancer in England.Purpose/objectives: To investigate the lived experience of prostate cancer from a patient perspective.Purpose: Endocrine therapy for prostate cancer causes substantial side effects, and previous studies have focused on the impacts on sexuality and masculinity. Little is known about how men experience bodily alterations in everyday life through the course of the prostate cancer and treatment. The aim of this study was to show how men with prostate cancer experience bodily changes and how these alterations influence daily life.In Australia prostate cancer is the most commonly diagnosed cancer in men, with around 20,000 diagnosed each year (AIHW 2013, 2014). The many who

survive it often battle with significant side-effects from treatment such as incontinence, loss of sexual function, fatigue and psychology issues.Purpose: Gay men with prostate cancer are an 'invisible species' in the research literature despite concerns that the impact of treatment may be more profound and in some ways unique compared to heterosexual men. The aim of this research is to explore the lived experience of gay men with prostate cancer.The major issue currently being faced in the management of prostate cancer is the inability to distinguish between indolent prostate tumors that will not present clinically from more aggressive and metastatic prostate cancers that will impact on men's lives. Only a small proportion of prostate cancers can be accounted for by unmistakable hereditary cancer syndromes and the predominant contribution to the progression of most sporadic cancers is thought to be environmental, with nutrition having the greatest influence. Population studies have clearly implicated metabolic factors as contributors to disease progression and poor response to therapy. It is well established that the IGF system is key in regulating growth and metabolism and mediates the effects of nutrition on these processes. It consists of two ligands (IGF-I and IGF-II), two receptors [type 1 IGF-IR and IGF-II/mannose 6-phosphate receptor], and six high affinity IGF-binding proteins (IGFBP-1 to -6). This review provides evidence from in vitro, in vivo, clinical and epidemiology studies that indicates an important role for the IGF axis in the development of prostate cancer and the likely role that it plays in mediating the effects of nutrition on disease progression. We suggest that the IGF axis is central to understanding how lifestyle impacts on prostate cancer and we highlight this by describing numerous strategies being developed to target this axis.Background: Prostate cancer is the most common non-skin cancer in men and sexual dysfunction is the most frequently reported long-term side effect of prostate cancer surgery or radiation. The aim of this study was to examine the experiences of men with sexual dysfunction and their partners following prostate cancer treatment.Having advanced prostate cancer means living with considerable bodily problems, a living we know little about. Thus, the aim of this study was to illuminate meanings of living with bodily problems, as narrated by men with advanced metastasized hormone refractory prostate cancer. Eighteen participants were interviewed, and the text was analyzed using a phenomenological-hermeneutic approach. Findings show that meanings of living with bodily problems are to live in cyclical movements between experiencing wellness and experiencing illness. New, or changed, bodily problems mean losing wellness and experiences of being ill. Understanding and, to some extent, being in control of bodily problems, make it possible to reclaim wellness and to experience oneself as being well. Findings also show that pain and fatigue are the most prominent problems and that they have different meanings. Pain being a threat of dying in agony, whereas fatigue is more of an emissary of death. Reclaiming wellness versus adaptation and enduring versus suffering deriving from 2 different perspectives, the inside or life world perspective and the outside or professional perspective, are questions discussed in the article. One clinical implication for nursing is the risk of obstructing the patients' possibility of reclaiming wellness by focusing on symptoms and disease.Introduction: The purpose of the current article is to summarize the existing literature focusing on the current status of prostate cancer screening behavior in Greece.The purpose of this review is to provide information on the molecular basis of prostate cancer biology and to identify some of the targets for therapy, and highlight some potential strategies for molecular treatment. Here we give a synopsis of what we have learned regarding molecular biology of cancer in general and the directions research might take in the future in order to impact prostate cancer specifically. This work is certainly not encyclopedic in nature and we apologize in advance to colleagues whose work we were no able to include. Hope lies in learning to utilize some of these molecular workings for better prevention, diagnosis, and treatment of the most common solid organ cancer in men. Prostate cancer is a formidable disease and at current rates of diagnosis will affect one-in-six men living in the United States (Greenlee et al., 2000) Many of these men are diagnosed at an early stage of the disease and can be effectively treated by surgery or radiation. However, a significant fraction of men are diagnosed with later stage disease or progress despite early curative therapeutic attempts. Unfortunately, many of these men succumb to prostate cancer, as management options are limited and not always successful. Through an understanding of the molecular processes that occur in the development and progression of prostate cancer, novel therapies will arise that will provide longer survival, better quality of life, and a chance for cure in men afflicted with this disease.Context: Prostate cancer is the most frequent male cancer. Since the median age of diagnosis is 66 yr, many patients require both geriatric and urologic evaluation if treatment is to be tailored to individual circumstances including comorbidities and frailty.Objective: To assess whether the use of complementary and alternative medicines therapies (CAMs) for prostate cancer and/or its treatment side effects by long-term survivors is associated with selected socio-demographic, clinical,

health-related quality-of-life (HRQOL) and/or psychological factors.Background: Spouses play an important role in how well patients with prostate cancer manage their illness. Whereas earlier studies mostly included both patients and spouses, this study focuses on the spouses' experiences during the course of the illness.As a result of the growing incidence of cancer as well as increased survival of patients, an increasing number of people are living longer with cancer. In recent years, research has shown that physical activity not only protects against a number of cancer types, but is also valuable for patients undergoing cancer treatment and during the rehabilitation phase, as well as for improving function and quality of life. Regular physical activity is an effective way to reduce the side effects of cancer, resulting in part from physical inactivity and in part from the disease itself. Too much rest can lead to a decrease in aerobic fitness, strength, mobility and unwanted weight gain in the patient. In prostate cancer patients, hormonal treatment especially accelerates this process. In this paper we summarize the available evidence concerning the role of exercise in prostate cancer prevention, treatment and rehabilitation.Prostate cancer is the most common malignancy in American men, accounting for > 29% of all diagnosed cancers and approximately 13% of all cancer deaths. Nearly 1 of every 6 men will be diagnosed with the disease at some time in their lives. In 2003 alone, an estimated 221000 men in the United States will be diagnosed with prostate cancer and > 28000 will die of the disease. An elevated level of prostate-specific antigen (PSA) is correlated with the presence of prostate cancer, and since 1989 we have been living in the "PSA era," in which the PSA screening test is widely used in clinical practice. This article summarizes what has been learned about the use of PSA screening, including the intricacies of free PSA, PSA doubling time, and various factors that may affect PSA and confound screening in young men. Although population-based screening for prostate cancer has yet to be definitively proven to affect disease-specific mortality, PSA testing is detecting cancers in younger men and at earlier stages of disease progression and, partly as a result, 5-year cancer-specific survival is increasing. Even though this lead-time effect may not translate into long-term improvement, these changes are very promising and are a necessary prerequisite to effective screening. For patients at high risk with a family history of the disease and for black men, a strategy consisting of an annual PSA blood test and digital rectal examination for men >or=40 years of age appears to be prudent. Use of age- and race-specific reference ranges for PSA based on sensitivity, or maximal cancer detection, is the most appropriate approach in this high-risk group. Specifically among black men 40-49 years of age, those with a PSA value > 2.0 ng/mL should consider further evaluation. Many men at low/average risk aged 40-49 years also request testing and it is reasonable to offer testing and risk assessment to these young men. The exact screening threshold for total PSA in these men is unknown, but 95% of these men will have a PSA < 2.5 ng/mL. Prostate-specific antigen velocity, percentage of free PSA, and perhaps complexed PSA may be used to help determine risk, but further study of young men is needed. In the future, a risk-stratified approach using molecular biomarkers and/or proteomics in young men is anticipated.Prostate cancer is the most prevalent cancer in men and predominantly affects older men (aged >or=70 years). The median age at diagnosis is 68 years; overall, two-thirds of prostate cancer-related deaths occur in men aged >or=75 years. With the exponential ageing of the population and the increasing life-expectancy in developed countries, the burden of prostate cancer is expected to increase dramatically in the future. To date, no specific guidelines on the management of prostate cancer in older men have been published. The International Society of Geriatric Oncology (SIOG) conducted a systematic bibliographic search based on screening, diagnostic procedures and treatment options for localized and advanced prostate cancer, to develop a proposal for recommendations that should provide the highest standard of care for older men with prostate cancer. The consensus of the SIOG Prostate Cancer Task Force is that older men with prostate cancer should be managed according to their individual health status, which is mainly driven by the severity of associated comorbid conditions, and not according to chronological age. Existing international recommendations (European Association of Urology, National Comprehensive Cancer Network, and American Urological Association) are the backbone for localized and advanced prostate cancer treatment, but need to be adapted to patient health status. Based on a rapid and simple evaluation, patients can be classified into four different groups: 1, 'Healthy' patients (controlled comorbidity, fully independent in daily living activities, no malnutrition) should receive the same treatment as younger patients; 2, 'Vulnerable' patients (reversible impairment) should receive standard treatment after medical intervention; 3, 'Frail' patients (irreversible impairment) should receive adapted treatment; 4, Patients who are 'too sick' with 'terminal illness' should receive only symptomatic palliative treatment.Prostate cancer is a significant impediment in men's lives as this condition often exacerbates stress and reduces quality of life. Faith can be a resource through which men cope with health crises; however, few studies examine how

religion or spirituality can have implications for racial disparities in health outcomes among men. The purpose of this study is to assess the associations between religious coping and quality of life among black and white men with prostate cancer. Data for this investigation were drawn from the Diagnosis and Decisions in Prostate Cancer Treatment Outcomes Study that consisted of 624 black and white men with complete information on the primary outcome and predictor variables. The primary outcome for this study was overall quality of life as measured by the Functional Assessment of Cancer Therapy-Prostate questionnaire. The main independent variable was religious coping measured by 2 subscales capturing positive and negative forms of coping. Black men in the study had lower overall quality of life scores (134.6 ± 19.6) than their white peers (139.8 ± 14.1). Black men in the sample also had higher average positive religious coping scores (12.9 ± 3.3) than white men (10.3 ± 4.5). Fully adjusted linear regression models of the total sample produced results indicating that positive religious coping was correlated with an increase in quality of life (β = .38, standard error [SE] = 0.18, P < .05). Negative religious coping was associated with a reduction in quality of life (β = -1.48, SE = 0.40, P < .001). Faith-oriented beliefs or perceptions can have implications for quality of life among men with prostate cancer. Sensitivity to the role of religion, spirituality, and faith should be seen by providers of health care as potential opportunities for improved outcomes in patients with prostate cancer and survivors.Currently, most men are diagnosed with prostate cancer (PCa) after a prostate-specific antigen (PSA) test shows an elevated level of the PSA protein. An elevated level suggests cancer may be present. If an elevation is detected, a biopsy to detect cancer is followed. But the PSA test is controversial. An elevated level does not always mean there is cancer present. The test often leads men to having unnecessary biopsies and treatments. Even if cancer is found on biopsy, many of these cancers are slow growing and would not impact the lives of the men who have them. Current advances in molecular techniques have provided new tools facilitating the discovery of new biomarkers for PCa. The purpose of this review is to examine the advances in PCa biomarkers and implication for possible improving disease outcome. The future of cancer prognosis may rely on small panels of markers that can accurately predict PCa presence, stage, and metastasis and can serve as prognosticators, targets, and/or surrogate endpoints of disease progression and response to therapy.Background: Prostate cancer is a risk for men aged 40+ even if it is rarely seen among men under the age of 50. It is asymptomatic disease in its early period and if the person does not have an enlarged prostate it will be overlooked without screening. Consequently, the only way to diagnose prostate cancer in its early period is to determine the serum PSA (prostate-specific antigen) level of men aged 40+ and to do a digital rectal examination (DRE).Purpose: In this review, we address adherence rates in clinical settings, barriers to compliance with dosing schedules, and potential strategies to overcome challenges in maintaining high levels of adherence.Active surveillance is now an accepted management strategy for men with low-risk localized prostate cancer, in recognition of the knowledge that the majority of men with such cancers are likely to die from other causes. The most obvious benefit of active surveillance is the reduction of morbidity associated with surgery by delaying or avoiding radical gland therapy. Other advantages include lower overall costs to the health-care system and potentially a better quality of life. These advantages should be balanced against the risks of delayed therapy, the most considerable of which being development of more-aggressive disease. Appropriate selection criteria and the definition of triggers for intervention with radical therapy are critical components of an active surveillance protocol. The ability to accurately identify and cure the men whose cancers will progress using clinical, biopsy and imaging data is yet to be resolved, as is the psychological burden of living with an untreated cancer. The benefit of 5α-reductase inhibitors as secondary chemoprevention in men on active surveillance is a new avenue of research. Focal therapy, which has the similar aim of reducing morbidity while maintaining oncological control, is an emerging competitor for active surveillance. Nevertheless, active surveillance is an appealing management option for selected men with prostate cancer.Prostate cancer is the most common male malignancy and the second or third leading cause of cancer death among men in the West. The descriptive epidemiology of prostate cancer suggests that it is a preventable disease. Prevention has the theoretical advantage of not only saving lives, but also reduce the morbidity of radical prostate cancer therapy. This article reviews the past, present, and future of prostate cancer prevention. In particular, the evidence and scientific data of a variety of prevention strategies are reviewed. Strategies reviewed include dietary fat reduction and supplementation with vitamins D and E, and selenium. Dietary intake of soy, green tea, and tomato-rich products (lycopene) are also reviewed. Data regarding pharmacological intervention with cyclo-oxygenease inhibitors, antiestrogens, and in particular 5-alpha reductase inhibitors are reviewed. The results of the Prostate Cancer Prevention Trial including the controversy surrounding higher-grade

cancers among men randomized to finasteride are also summarized. Finally, a variety of trial designs as well as a roster of current phase 2 trials are presented. Probably no cancer is being investigated more thoroughly in the context of prevention as prostate cancer in 2007. Definitive answers to pivotal phase 3 trials will be available in the coming 2 to 7 years.Introduction: There is no obvious criterion about kidney transplantation for patients with pretransplant malignancy. Minimum tumor-free waiting periods differ according to type of cancer, staging, site of occurrence, response to therapy, and risk of cancer recurrence. We report a case of living donor kidney transplantation (LDKT) in a patient after brachytherapy for prostate cancer.Importance: Several studies have assessed the negative effect of the COVID-19 pandemic on cancer screening and diagnosis rates. However, this has not been evaluated for prostate biopsy and prostate cancer (PC) diagnosis in an equal-access health care system.Objective: Prostate cancer and type 2 diabetes mellitus (DM2) are both common diseases found in the elderly male population. The diabetic drug, metformin, has been shown to have antineoplastic properties and demonstrated better treatment outcomes when used as adjuvant therapy in patients with breast cancer. The hormonally-sensitive cancer analogous to breast cancer in men is prostate cancer. We investigated improved survival, lower risks of recurrences, and lower, more stable levels of prostate-specific antigen (PSA) in patients with DM2 along with prostate cancer on metformin.Purpose of review: As strides have been achieved in cancer control, issues faced by survivors have become increasingly relevant. Currently, there are more than 10 million cancer survivors living in the US and consequently cancer survivorship has become a major health priority. Approximately 2 million prostate cancer survivors face a host of long-term and late effects following cancer therapy. Although progress has been made in recognizing many of the issues faced by survivors, gaps in comprehensive surveillance and management still exist.The risk for prostate cancer increases with age, with a family history of the disease and with living in a Westernized society, especially for blacks. Although there is no doubt that genetic factors are important, and might explain some of the geographical variation in rates, the differences between populations are so large that environmental factors must also be important. The evidence suggesting that dietary fat and/or meat may increase risk is quite consistent. The observed relative risks are small (about a 30% increase for high v. low consumption) but may have been underestimated because of inaccurate measurement of diet and further study of this topic is needed. The evidence does not support the hypothesis that carotene intake is associated with risk. There is reasonably consistent evidence suggesting that an increased risk for prostate cancer is associated with a high level of sexual activity and/or a history of sexually transmitted disease, and with vasectomy. These observations need further investigation to eliminate the possibility that they are due to biases. Much more information is needed. Prospective studies, with dietary and lifestyle questionnaires and stored blood samples, are needed to answer the outstanding questions.Background: Active surveillance is a management strategy for men diagnosed with early-stage, low-risk prostate cancer in which their cancer is monitored and treatment is delayed. This study investigated the primary coping mechanisms for men following the active surveillance treatment plan, with a specific focus on how these men interact with their social network as they negotiate the stress and uncertainty of their diagnosis and treatment approach.Purpose: To examine variation in men's long-term regret of treatment decisions, ie, surgical versus chemical castration, for metastatic prostate cancer and its associations with quality of life.Prostate cancer is a significant health problem for middle-aged and elderly men. In the United States (US), it is the most frequently diagnosed cancer and is the second leading cause of cancer death. While men of all racial and ethnic backgrounds are at risk, black men of African descent are at especially high risk. African-Caribbean men, particularly Jamaican men, have the highest rate of prostate cancer in the world. The term "African-American" has been used to describe all black people living in the US. Use of such broad categorization ignores the existence of subcultures within the black community. While members of the black race may share similar primary, genetic characteristics, skin color cannot be equated with attitudes, knowledge, and behaviors of particular cultural groups. Therefore, prostate cancer interventions developed for African-American men may not be effective for men of African-Caribbean descent.Background: The 2015 Coffey-Holden Prostate Cancer Academy Meeting, themed: "Multidisciplinary Intervention of Early, Lethal Metastatic Prostate Cancer," was held in La Jolla, California from June 25 to 28, 2015.Context: The optimal management of screen-detected, localised prostate cancer remains controversial, related to overtreatment issues of screening and the nonrandomised evidence base. Active surveillance (AS) aims to delay or avoid curative therapy but may potentially harm patients' well-being through living with untreated prostate cancer.Purpose of review: Prostate cancer remains the commonest nondermatological cause of cancer in Western men

and the second leading cause of cancer death in these men. While low and intermediate-risk prostate cancers make up the vast bulk of prostate cancer diagnoses, it is high-risk prostate cancer that is a much larger killer. Management paradigms for such disease are changing and thus we review the current state of play with the management of these cancers and what the future might hold.In the United States, men aged 65 and older are at particular risk for prostate cancer. Treatments for prostate cancer may result in erectile dysfunction, which can affect the older man's sense of self as well as his relationship with his intimate partner. Research has shown a range of factors associated with sexuality for men who have had prostate cancer and their partners. The PLISSIT model can be applied to nursing assessment and intervention of sexuality and prostate cancer. Nurses must acknowledge the sexuality of older men and their partners and the potential effect that prostate cancer can have on this multifaceted aspect of their lives.Prostate cancer is the most common type of solid tumor and a leading cause of cancer-related death of men living in the developed world. In recent years, the molecular mechanisms involved in prostate cancer development and/or progression have been intensely studied and several genes have been identified. TGIFLX/Y (TGIFLX and TGIFLY) are members of the homeobox superfamily of genes whose function(s) is unknown. To investigate TGIFLX/Y mRNA expression in prostate cancer, we studied two different types of clinical samples, namely 60 prostate tumors and 15 cases of benign prostate hyperplasia (BPH), by RT-PCR. Our results revealed that most prostate tumors (73.5%) express at least one of these genes, although different patterns of TGIFLX/Y mRNA expression were observed. In some tumor samples the expression of both genes was detected, while in others no expression of either gene was observed. Notably, there was a significant correlation between expression of both TGIFLX and TGIFLY and a Gleason score of >or=6 (P = 0.038). By contrast, expression of TGIFLX/Y mRNA in BPH samples could not be detected. These results suggest an association of TGIFLX/Y expression with the progression of prostate cancer.Purpose of review: Through the prostate-specific antigen era, the proportion of men less than 55 years old with newly diagnosed prostate cancer more than doubled to almost 15%. As increasing numbers of men are living longer with prostate cancer, larger proportions will eventually present to our collective practices with rising prostate-specific antigen levels. Such prostate-specific antigen relapses, conservatively estimated to affect approximately 50 000 men each year, have become the most common form of advanced prostate cancer in the current period.Men living in regional and remote areas experience disparities in prostate cancer (PrCa) diagnosis, clinical characteristics and treatment modalities. We sought to determine whether such disparities exist in PrCa patients from Tasmania; a regional state of Australia with the second-highest rate of diagnosis and where over a third of residents live in outer regional and remote areas. Our study included clinicopathological data from 1526 patients enrolled in the Prostate Cancer Outcomes Registry-Tasmania. Regression analyses were undertaken to determine whether demographic, clinical and treatment variables differed between inner regional and outer regional/remote patients. Men from outer regional/remote areas were significantly more likely to reside in lower socio-economic areas, be diagnosed at a later age and with more clinically aggressive features. However, in contrast to previous studies, there were no overall differences in diagnostic or treatment method, although men from outer regional/remote areas took longer to commence active treatment and travelled further to do so. This study is the first to investigate PrCa disparities in a wholly regional Australian state and highlights the need to develop systematic interventions at the patient and healthcare level to improve outcomes in outer regional and remote populations in Australia and across the globe.Introduction Metastatic prostate cancer is incurable and causes significant morbidity. The focus of treatment should be on improving quality of life through appropriate oncological treatment and palliative care. The National Institute for Clinical Excellence guidelines for urological cancer recommends palliative care for all patients with prostate cancer, according to need. This paper outlines the principles of modern palliative care in patients with metastatic prostate cancer within the UK. Discussion We highlight the main physical symptoms encountered in metastatic prostate cancer and their management. We also introduce the UK Department of Health's 'End-of-Life Care Programme'. This initiative intends to improve the lives and deaths of all patients with incurable disease and should be a priority for all health care professionals, within any setting. Conclusion Clearly, we have addressed the management of metastatic prostate cancer within the UK setting, though any of these government initiatives may provide a resource and framework in other countries.Background: The incidence of prostate cancer increases with age, with a median age at diagnosis of 68 years. Owing to increased life expectancy, the management of prostate cancer in senior adult men (i.e., aged 70 years or older) represents an important public health concern and a major challenge for the future. No specific guidelines have previously been published on the management of prostate cancer in older men. The

SIOG has developed a proposal of recommendations in this setting.Prostate cancer claimed an estimated 136,500 lives globally in 2011. Ironically, the best existing treatment strategies provide survival benefits and missed opportunities to further improve outcomes. Prostatectomy provides the greatest survival benefit, albeit the risk of systemic recurrence increases dramatically with extracapsular involvement. To date, further systemic treatment is not generally prescribed for these 'high-risk' patients until such time as advanced disease is diagnosed based on persistent high PSA levels and/or when larger tumors are confirmed by imaging. This recurrent form of the disease is most often terminal. Androgen deprivation therapy (ADT) provides outstanding early control for these patients, which is rather tragic as the early benefits of ADT are lost within 2 years for most men, as the cancer again progresses to an incurable 'late-stage' castration-resistant form of the disease with a median survival of approximately 18 months. We review the potential of targeted α-therapy as an adjuvant with minimal side effects for early-stage high-risk patients to be administered immediately following prostatectomy and/or during ADT.As a result of demographic evolution, oncologists will treat more and more elderly patients with prostate cancer. Aging is frequently associated with the coexistence of several medical complications that can increase the complexity of cancer treatment decision-making. Unfortunately, clinical oncologists need to be more familiar with the multidimensional assessment of elderly patients. To acquire this skill, we implemented a multidimensional geriatric assessment program at our cancer center. This instrument prospectively assessed 60 elderly patients with prostate cancer. Herein, we describe geriatric aspects detected in our patient sample and report treatment options proposed to elderly patients with prostate cancer at different disease stages. The minimal comprehensive geriatric assessment (mini-CGA) procedure revealed that 66% of our patient population was dependent in one or more of the Katz Activities of Daily Living and 87% were dependent in 1 or more of the Lawton Instrumental Activities of Daily Living; all patients had significant comorbidity according to the Cumulative Illness Rating Scale-Geriatrics, 75% having at least one severe comorbidity. We identified 19 cases of drug interaction. We also observed that half of these patients had a risk of falling and some physical disability; 45% had cognitive disorders requiring more investigation; one third had depressive symptoms. Finally, 65% of the patients were either malnourished or at risk of malnutrition. Many of these problems were unknown before the mini-CGA processing and may interfere with cancer and cancer treatment. Thus, the correct management of elderly patients with cancer requires comprehensive geriatric assessment as well as relevant disease staging at diagnosis. This approach will help us to propose the most appropriate treatment with the main aim of preserving quality of life.Objective: To explore men's lived experience of advanced prostate cancer (PCa) and preferences for support.Objective: To explore the perceptions of patients living with different stages of prostate cancer across the Asia-Pacific (APAC) region, as while extensive quantitative research has been undertaken into outcomes of treatments for prostate cancer, little in the way of qualitative research has been performed looking at subjective perceptions of patients in regard to their perceived deficits in the treatment of this condition and such research is particularly lacking in reference to the APAC region.Men diagnosed with low- to intermediate-risk, clinically localized prostate cancer (PCa) often face a daunting and difficult decision with respect to treatment: active surveillance (AS) or radical therapy. This decision is further confounded by the fact that many of these men diagnosed, by an elevated PSA, will have indolent disease and never require intervention. Radical treatments, including radical prostatectomy and whole-gland radiation, offer greater certainty for cancer control, but at the risk of significant urinary and/or sexual morbidity. Conversely, AS preserves genitourinary function and quality of life in exchange for burdensome surveillance and the psychological impact of living with cancer.Objectives: To review the challenges and concerns experienced by couples who are living as survivors of prostate cancer is substantial.Background: Prostate-specific antigen (PSA) screening for prostate cancer remains controversial. Most groups recommend informed decision making for men with 10 years of remaining life expectancy. The primary objective of this observational cohort study was to investigate the association between predicted 9-year mortality and prostate cancer screening among American men aged ≥65 years in 2005 and 2010. The second objective was to analyze the proportions of men who discussed screening with their physicians.To identify individual and contextual factors contributing to overall mortality among men diagnosed with prostate cancer in Florida, a random sample of patients (between October 1, 2001, and December 31, 2007) was taken from the Florida Cancer Data System. Patient's demographic and clinical information were obtained from the Florida Cancer Data System. Comorbidity was computed following the Elixhauser Index method. Census-tract-level socioeconomic status and farm house presence were extracted from Census 2000 and linked to patient data. The ratio of urologists and radiation oncologists to prostate

cancer cases at the county level was computed. Multilevel logistic regression was conducted to identify significance of individuals and contextual factors in relation to overall mortality. A total of 18,042 patients were identified, among whom 2,363 died. No racial difference was found in our study. Being older at diagnosis, unmarried, current smoker, uninsured, diagnosed at late stage, with undifferentiated, poorly differentiated, or unknown tumor grade were significantly associated with higher odds of overall mortality. Living in a low-income area was significantly associated with higher odds of mortality ($p = .0404$). After adjusting for age, stage, and tumor grade, patients who received hormonal, combination of radiation with hormone therapy, and no definitive treatment had higher odds of mortality compared with those who underwent surgery only. A large number of comorbidities were associated with higher odds of mortality. Although disease-specific mortality was not examined, our findings suggest the importance of careful considerations of patient sociodemographic characteristics and their coexisting conditions in treatment decision making, which in turn affects mortality.Patients diagnosed with clinically localized prostate cancer face a daunting variety of management choices, including conservative management, brachytherapy, external-beam irradiation therapy with or without neoadjuvant hormonal therapy, as well as surgery. As we have learned to characterize the nature of each cancer, we can now "risk-adjust" treatment decisions. Physicians have long sought to guide patients through these choices based on their best judgment about the threat posed by the cancer, the effectiveness of treatment, the side effects of therapy, and the life expectancy of the patient. Today, many patients wish to participate more actively in decisions about their care, weighing the risks of treatment-related complications and the anxiety of living with an untreated or uncontrolled cancer. Patient utilities measure the value patients place on a health state, such as living with cancer or becoming incontinent, allowing quantitative assessments of risks and benefits of different therapeutic options specific for each patient's own preferences and the nature of his cancer and life expectancy. As early detection programs for prostate cancer expand, men are being diagnosed with prostate cancer earlier in its natural history. Some of these cancers may not require immediate treatment but rather a period of active surveillance with definitive curative therapy being administered only if there are signs of cancer progression. This review summarizes our current understanding of active surveillance with selective delayed definitive therapy.Prostate cancer (PCa) is the second most commonly diagnosed malignancy in men and has an extremely heterogeneous clinical behaviour. The vast majority of PCas are hormonally driven diseases in which androgen signalling plays a central role. The realization that castration-resistant prostate cancer (CRPC) continues to rely on androgen signalling prompted the development of new, effective androgen blocking agents. As the understanding of the molecular biology of PCas evolves, it is hoped that stratification of prostate tumours into distinct molecular entities, each with its own set of vulnerabilities, will be a feasible goal. Around half of PCas harbour rearrangements involving a member of the ETS transcription factor family. Tumours without this rearrangement include SPOP mutant as well as SPINK1-over-expressing subtypes. As the number of targeted therapy agents increases, it is crucial to determine which patients will benefit from these interventions and molecular pathology will be key in this respect. In addition to directly targeting cells, therapies that modify the tumour microenvironment have also been successful in prolonging the lives of PCa patients. Understanding the molecular aspects of PCa therapeutics will allow pathologists to provide core recommendations for patient management.Early detection of cancer is a key ingredient for saving many lives. Unfortunately, cancers of the urogenital system are difficult to detect at early stage. The existing noninvasive diagnostics of prostate cancer (PCa) suffer from low accuracy (< 70%) even at advanced stages. In an attempt to improve the accuracy, a small breath study of 63 volunteers representing three groups: (1) of 19 healthy, (2) 28 with PCa, (3) with 8 kidney cancer (KC) and 8 bladder cancer (BC) was performed. Ultrabroadband mid-infrared Fourier absorption spectroscopy revealed eight spectral ranges (SRs) that differentiate the groups. The resulting accuracies of supervised analyses exceeded 95% for four SRs in distinguishing (1) vs (2), three for (1) vs (3) and four SRs for (1) vs (2) + (3). The SRs were then attributed to volatile metabolites. Their origin and involvement in urogenital carcinogenesis are discussed.Purpose/objectives: To explore the experiences of couples living with prostate cancer, the impact of the illness on their quality of life, their ability to manage symptoms, and their suggestions for interventions that would help them to improve their daily experiences.Approximately 1 man in 6 will be diagnosed with prostate cancer during his life lifetime, and over 200,000 men in the U.S. are diagnosed with prostate cancer annually. Since the widespread adoption of PSA testing, about 60-70% of men at risk in the U.S. have had a blood test for prostate cancer. With this, prostate cancer death rates have decreased, yet only slightly. Thirty thousand men still die each year from this disease. PSA testing fails to identify a small but significant

proportion of aggressive cancers, and only about 30% of men with a "positive" PSA have a positive biopsy. Additionally, of men who are treated for prostate cancer, about 25% require additional treatment, presumably due to disease recurrence. Also of concern is the growing evidence that there are some prostate cancers for which treatment may not be necessary. Very long-term studies from the U.S. and Europe, following men with prostate cancer have found that some tumors do not progress over time. In these individuals, prostate cancer treatment is unnecessary and harmful as these men do not benefit from treatment but will be at risk of treatment-related side effects and complications. They suggest a fundamental problem with prostate cancer: it is not possible, at this time, to predict the natural history of the disease. It is for these reasons that the most important challenge in prostate cancer today is the inability to predict the behavior of an individual tumor in an individual patient. Here we review issues related to performance and validation of biomarkers with a focus on "doing no harm", and bearing in mind that it is the ultimate goal of early detection to save lives. Improved diagnostic and prognostic biomarkers are needed for prostate cancer, and the use of these markers should ultimately translate into increased life span and quality of life. The ultimate goal would be to not only have accurate biomarkers suitable for early diagnosis, but also biomarkers that identify men at greatest risk of developing aggressive disease. Technology has been brought to bear on this problem, and the major approaches are genomics, expression analysis, and proteomics. Proteomics and DNA methylation assays may soon be used in sensitive and specific diagnostic testing of serum and tissues for cancer. Expression arrays may be used to establish both a more specific diagnosis and prognosis for a particular tumor. The proteome is only beginning to be understood, and alternative splicing and post-translational modifications of proteins such as glycosylation and phosphorylation are challenging areas of study. Finally, risk assessment and prognosis are being pursued through analysis of genomic polymorphisms (single nucleotide polymorphisms, SNPs). This huge task is only beginning, and requires the combined expertise of molecular epidemiologists, oncologists, surgeons, pathologists, and basic scientists.Sociodemographic and lifestyle factors may play a role in determining whether patients with clinically localized prostate cancer (PC) are managed with active surveillance (AS), radical prostatectomy (RP), or radiation therapy (RT); however, these relationships have not been well examined. In a cross-sectional study conducted within an equal access healthcare system, multivariable adjusted regression analysis revealed that living with a spouse or partner was associated with a 65% lower chance of being managed by RT (P = 0.001) and 57% lower risk of being managed by AS (P = 0.042) compared with RP. No other sociodemographic or lifestyle factors were independently associated with treatment modality.The diagnosis and subsequent treatment of prostate cancer is followed by a range of significant disease specific and iatrogenic sequelae. However, the supportive care needs of men with prostate cancer are not well described in the literature. The present study assesses the supportive care needs of men with prostate cancer who are members of prostate cancer self-help groups in Queensland, Australia. In all, 206 men aged between 48 and 85 years (mean=68) completed the Supportive Care Needs Survey (SCNS) (62% response). The SCNS is a validated measure assessing perceived need in the domains of psychological needs, health system and information needs, physical and daily living needs, patient care and support, and sexuality. Items assessing need for access to services and resources were also included. One third of the sample reported a moderate to high need for help for multiple items in the sexuality, psychological and health system and information domains. Younger men reported greater need in the sexuality domain; living in major urban centres was predictive of greater psychological need; being closer to the time of diagnosis was related to greater need for help in the physical and daily living domain; having prostate cancer that is not in remission, having received radiation therapy, and lower levels of education were predictive of greater need for help in patient care and support. Of the total sample, 55% of men had used alternative cancer treatments in the past 12 months, with younger and more educated men more likely to use alternative therapies. Interventions in sexuality, psychological concerns and informational support are priorities for men with prostate cancer.Objectives: To develop a procedure to be used to find, identify, and characterize the living prostate cancer cells in the blood of patients with prostate cancer.Background: Prostate cancer is the second most common reason of mortality due to cancer among men in Poland. The study aimed to determine the waiting time for diagnosis and treatment of prostate cancer. Methods: The study was carried out on patients treated for prostate cancer from May 2014 to February 2015 at five oncological centres in Poland. The median waiting time was measured from the time cancer was suspected to the histopathological diagnosis (SDI), from the cancer suspicion to the start of treatment (STI) and from the diagnosis to the start of treatment (DTI). Results: 123 males treated for prostate cancer were included for analysis. The median time for SDI, STI and DTI was 7.7,

18.7 and 8.7 weeks, respectively. Place of residence was the only factor which influenced STI ($p = 0.003$). For patients, who started treatment with radiation therapy DTI was longer than for other patients ($p < 0.001$). Conclusions: Median times of STI, SDI and DTI for prostate cancer patients in Poland are similar to the intervals described in other countries. Patients, who lived further from an oncology centre waited longer for treatment. The impact of waiting time in the case of prostate cancer on improving the prognosis is still unclear.Cancer related fatigue (CRF) is a common and debilitating symptom that can influence quality of life (QoL) in cancer patients. The increase in survival times stresses for a better understanding of how CRF affects patients' QoL. This was a cross-sectional descriptive study with 148 randomly recruited prostate cancer patients aiming to explore CRF and its impact on QoL. Assessments included the Cancer Fatigue Scale, EORTC QLQ-C30, and EORTC QLQ-PR25. Additionally, 15 in-depth structured interviews were performed. Quantitative data were analyzed with simple and multiple regression analysis and independent samples t-test. Qualitative data were analyzed with the use of thematic content analysis. The 66.9% of the patients experienced CRF with higher levels being recorded for the affective subscale. Statistically significant differences were found between the patients reporting CRF and lower levels of QoL (mean = 49.1) and those that did not report fatigue and had higher levels of QoL (mean = 72.1). The interviews emphasized CRF's profound impact on the patients' lives that was reflected on the following themes: "dependency on others," "loss of power over decision making," and "daily living disruption." Cancer related fatigue is a significant problem for patients with advanced prostate cancer and one that affects their QoL in various ways.Objectives: To investigate, in a cross-sectional study, the prevalence of anxiety and depression in patients with localised prostate cancer managed by active surveillance, compared with those receiving immediate treatment, as active surveillance is a relatively new approach to managing this disease, designed to avoid 'unnecessary' treatment, but it is unclear whether the approach contributes to psychological distress, given that men are living with untreated cancer.A few past clinical and recent case-control studies of statin use, for example, in patients with and without prostate cancer have not demonstrated its potential for reducing or preventing the risk for this disease, and the potential for benefit may have been a confounding coincidence. Data from larger continuing and future studies will be needed to resolve this issue, but the recent data on cholesterol or dyslipidemia and risk increase or reduction with treatment are interesting, especially because of other potential improvements with therapy in nonprostate cancers. In addition, the finding that some available cancer treatments improve some parameters of the lipid profile is fascinating, and some cancer drugs are being used in a specific cardiovascular disease treatment setting to improve outcome. Even if CHD, dyslipidemia, and the treatment of these conditions has no role in preventing prostate cancer or its progression, what has been lost? CVD is still the leading cause of death of men, and a heart-healthy program for the patient concerned about prostate disease would reduce this primary cause of death. Patients would take a step forward in improving all-cause mortality. Recent data from surveys, however, continue to demonstrate that men have an inadequate understanding of cholesterol and heart disease. Crisis creates opportunity, and individuals working in urology have ample reasons not only to discuss the overall benefits of reducing lipid markers, but to improve cholesterol and CHD awareness as much as health professionals working in other fields of medicine. The marriage between general preventive medicine and urology seems to be inevitable, and in the authors' opinion, this merger will provide the foundation for novel research that could affect patients' lives dramatically.Background: There is scant data regarding disease presentation and treatment response among black men living in Africa. In this study we evaluate disease presentation and early clinical outcomes among Ghanaian men with prostate cancer treated with external beam radiotherapy (EBRT).With five novel therapies shown to improve survival in metastatic castration-resistant prostate cancer (CRPC) in the last 3 years, patients are now living longer and experiencing better quality of life. Since docetaxel became standard of care for men with symptomatic metastatic CRPC, three artificial treatment "spaces" have emerged for prostate cancer drug development: pre-docetaxel, docetaxel combinations, and following docetaxel. Multiple therapies are currently under development in both early and late stage CRPC. Additionally, the novel agents abiraterone, radium-223, cabazitaxel, and enzalutamide have all been approved in the post-docetaxel setting. Strategies for patient selection and treatment sequencing are therefore urgently required. In this comprehensive review, we will summarize the preclinical and clinical data available with regards to sequencing of the novel treatments for CRPC.Importance: The diagnostic activity for prostate cancer has increased during the past decades. However, the benefit and harm of the increased diagnostic activity have not been quantified in detail for a country or a large region.Prostate cancer affects men in all adult life stages. As couples age, they face developmental tasks specific to

their age. The combination of disease-related stressors and ongoing developmental changes may negatively affect the dyad's adjustment to prostate cancer and, consequently, their quality of life (QOL). In spite of this, a life stage perspective has not been used to understand the impact of diagnosis and treatment on patients and their partners across the aging life span. The purpose of this literature review was to explore the relationship between developmental age and disease-specific issues that may affect a couple's QOL as they adapt to a prostate cancer illness. The stages of aging are examined in 3 phases: late middle age (50-64 years); the young-old (65-74); and the old-old (75 years and older). More specifically, these 3 phases were addressed first by presenting the normative developmental challenges of each phase, then disease-related issues from the perspective of the patient, and finally from the perspective of the spousal caregiver. The literature review found that few studies considered age as a relevant factor in the analysis of outcomes of treatment; however, some differences among the groups for both the patient and the caregiver were identified. Ages of participants in the various studies covered a large span of time (50-86 years); consequently, recommendations from these studies do not consider the effect of developmental challenges on the couple's ability to adapt to a prostate cancer diagnosis. Knowledge gaps and implications for research using a developmental approach are identified.Purpose: There is growing interest in the role of local therapies, including external beam radiotherapy (RT), for men with metastatic prostate cancer (mPCa). We used the National Cancer Database (NCDB) to evaluate the overall survival (OS) of men with mPCa treated with androgen deprivation (ADT) with and without prostate RT.Background: Patients with disabilities represent a unique minority population. The incidence of prostate-specific antigen (PSA) testing among this population is unknown.Background: Prostate cancer is the most commonly diagnosed cancer and the second leading cause of cancer deaths among men in the United States. Patients with advanced prostate cancer are vulnerable to difficult treatment decisions because of the nature of their disease.Background: The initial impact of treatments for men with prostate cancer is well reported in the literature. Less is known about the psychosocial needs of these men as their journey after diagnosis and treatment continues into the months and years.Purpose: Living with untreated prostate cancer (PCa) may cause anxiety and uncertainty in men undergoing active surveillance (AS). Developing a psychosocial support program for such patients might promote psychosocial well-being and patient engagement. This review aims to identify interventions with the potential to influence the psychosocial burden of prostate cancer patients undergoing AS.It has been found that the composition of intestinal microbiota can indicate the risk of disease to each individual. The concepts of biodynamics as used by the Benziger Winery in California, which treats every part of an agricultural environment as a living, breathing entity, can be usefully used in the construction of a system for cancer prevention, which seeks to use the relationship of coexistence (symbiosis) shared between people and intestinal symbiosis, that is, microbiota. Changes in the incidence rate of cancer among Japanese emigrants to Hawaii demonstrate the effect of the changes in the living environment. This leads to the hypothesis that an intake of soy-derived food products and the metabolization of the isoflavones they contain by intestinal microbiota is one of the factors for the significant difference in the incidence rate of prostate cancer among Asian and European/North American populations. It is further hypothesized that isoflavones, particularly equol, are a key factor in the difference in incidence rate between Asia and the West. It is suggested that not having equol converting bacteria in the intestine (non-equol producers) can be a risk factor for prostate cancer and that one direction for future research will be to examine the possibility of improving the intestinal environment to enable equol production.High dose rate (HDR) afterloading brachytherapy in the management of localised prostate cancer has practical, physical and biological advantages over low dose rate seed brachytherapy. There are no free live sources used, no risk of source loss and since the implant is a temporary procedure following discharge no issues with regard to radioprotection use of existing facilities. Adequate coverage of extracapsular and seminal vesicle tumour is possible for advanced cases and HDR brachytherapy is the most efficient means of obtaining dose escalation in terms of biological dose based on a low alpha/beta ratio. Selection for HDR brachytherapy includes patients with any prostate specific antigen (PSA) level provided there is no demonstrable metastasis, any Gleason score and stages T1B to T3B. The results of a randomised trial show that HDR brachytherapy is an effective means of dose escalation with a favourable therapeutic ratio when compared with standard external beam radiotherapy. Current studies are evaluating HDR brachytherapy as monotherapy delivering a radical dose in two to four fractions. The acute toxicity with HDR brachytherapy is short-lived and far less severe than seen with low dose rate brachytherapy and late toxicity rates are low.Background: An elevated risk of suicide after a diagnosis of prostate cancer has been reported previously in the USA and Sweden. We aimed to identify whether

prostate cancer survivors resident in New South Wales Australia are at higher risk of suicide and if so, who is most at risk.Background: There are several effective treatments for prostate cancer. To what extent a patient's functional status influences the treatment decision is unknown. This study examined the association between functional status and treatment among older men with prostate cancer.Aim: This qualitative study aimed to reveal symptoms and impacts among bone metastatic castration-resistant prostate cancer (or mCRPC) Japanese patients, prior to Radium-223 (Ra-223) treatment. Materials & Methods: Twenty-three mCRPC patients designated to receive Ra-223 and three treating physicians (Ra-223 prescribers) in Japan, were interviewed. All interview data were assessed for concept frequency, themes and saturation. Results: Forty-five percent of the patients (mean age: 75.8 years) were symptomatic at the time of enrollment. Interviews with all patients revealed 47 mCRPC symptoms, including back pain and bone-specific pain, and 45 life impacts, including worry about disease progression and the impact on daily, physical activities. Conclusion: The symptoms and impacts of living with mCRPC and the associated burden of bone metastasis and skeletal-related symptoms are varied and are important considerations for treatment.Men with prostate cancer experience side effects for which a supportive social environment may be beneficial. We examined the association between four measures of social connectedness and mortality after a prostate cancer diagnosis. Male participants in the Melbourne Collaborative Cohort Study in 1990-1994, who developed incident prostate cancer and attended follow-up in 2003-2007, were eligible for the study. Information on social connectedness, collected at follow-up, included (i) living arrangement; (ii) frequency of visits to friends/relatives and (iii) from friends/relatives; (iv) weekly hours of social activities. A total of 1,421 prostate cancer cases was observed (338 all-cause deaths, 113 from prostate cancer), including 867 after follow-up (150 all-cause deaths, 55 from prostate cancer) and 554 before follow-up (188 all-cause deaths, 58 from prostate cancer). Cox models stratified by tumour Gleason score and stage, and sequentially adjusted for socioeconomic, health- and lifestyle-related confounders, were used to calculate hazard ratios (HR) and 95% confidence intervals (95% CI) for the association between social connectedness and all-cause mortality after prostate cancer. Men who reported living alone before diagnosis had higher overall mortality (HR = 1.6, 95% CI: 1.0-2.5), after adjustment for socioeconomic, health and lifestyle confounders. Lower mortality was observed for men with more social activities (p-trend = 0.07), but not in comprehensively adjusted models. Consistent with these findings, men living alone after prostate cancer diagnosis had higher mortality (HR = 1.3, 95% CI: 0.9-1.9). Lower mortality was observed with increasing socializing hours in the age-adjusted model (p-trend = 0.06) but not after more comprehensive adjustment. Our findings suggest that living with someone, but not other aspects of social connectedness, may be associated with decreased mortality for men with prostate cancer.Background: A prostate cancer diagnosis affects the patient and his spouse. Partners of cancer patients are often the first to respond to the demands related to their husband's illness and thus are likely to be the most supportive individuals available to the patients. It is therefore important to examine how spouses react and handle their husband's prostate cancer diagnosis.Objective: This study examines whether socioeconomic status (SES), measured at both the individual and neighborhood levels, is associated with receipt of definitive treatment for localized prostate cancer and whether these associations mediate racial differences in treatment between non-Hispanic White and non-Hispanic Black men.Prostate cancer impacts on the daily lives of men, particularly their physical and emotional health, relationships and social life. This paper highlights how men cope with disease and treatment and the strategies they employ to manage their diagnosis alongside daily life. Twenty-seven men were interviewed at different stages in their disease pathway: nine men prior to radiotherapy, eight men at 6-8 months post radiotherapy and 10 men at 12-18 months post radiotherapy. A grounded theory approach was used to collect and analyse the data. Regardless of the point at which they were interviewed four areas emerged as important to the men: the pathway to diagnosis; the diagnosis; the impact of prostate cancer and its treatment on daily life; and living with prostate cancer. Prostate cancer was diagnosed using the prostate-specific antigen (PSA) test, rectal examination and biopsy. Many men did not understand the consequences of a high PSA reading before they undertook the test. Painful investigative biopsies were viewed as the worst part of the disease experience. Radiotherapy was considered less invasive than other treatments, although preparatory regimes were associated with stress and inconvenience. Men used various strategies to deal with treatment-induced threats to their masculinity in the long term.Quality of life assessment is significant to health care providers because it helps us understand the experience of well-being as it relates to an illness and its severity, symptoms, and co-morbidities. Attempting to deduce the influence of illness on quality of one's life is complex; however, this area of research has demonstrated that the measurement

of quality of life is as important in providing comprehensive care as the treatment itself. Prostate cancer is the most prevalent cancer in American men. Radical prostatectomy is frequently considered the treatment of choice for localized prostate cancer. Despite its widespread use, considerable morbidity exists, including erectile dysfunction and urinary incontinence. Although not all men who undergo radical prostatectomy will experience urinary incontinence, those who do find that it influences their daily lives, affecting the clothes they wear, their activities, sleep patterns, social relationships, and self-esteem. Based on the compelling nature of this problem, this article will focus on the effects that urinary incontinence has on the quality of life in men who undergo surgical treatment for prostate cancer.Tyrosine kinases play significant roles in tumor progression and therapy resistance. Inhibitors of tyrosine kinases are on the forefront of targeted therapy. For prostate cancer, tyrosine kinases play an additional role in the development of castration-resistant disease state, the most troubling aspect of prostate cancinogenesis which presently defies any effective treatment. Among the 30 or so tyrosine kinases expressed in a typical prostate cancer cell, nearly one third of them have been implicated in prostate carcinogenesis. Interestingly, most of them channel signals through a trio of non-receptor tyrosine kinases, Src/Etk/FAK, referred here as Src tyrosine kinase complex. This complex has been shown to play a significant role in the aberrant activation of androgen receptor (AR) mediated by growth factors (e.g., epidermal growth factor (EGF)), cytokines (interleukin (IL)-6), chemokines (IL-8), and neurokines (gastrin-releasing peptide). These factors are induced and released from the prostate cancer to the stromal cells upon androgen withdrawal. The Src kinase complex has the ability to phosphorylate androgen receptor, resulting in the nuclear translocation and stabilization of un-liganded androgen receptor. Indeed, tyrosine kinase inhibitors targeting Src can inhibit androgen-independent growth of prostate cancer cells in vitro and in preclinical xenograft model. While effective in inducing growth arrest and inhibiting metastasis of castration-resistant tumors, Src inhibitors rarely induce a significant level of apoptosis. This is also reflected by the general ineffectiveness of tyrosine kinase inhibitors as monotherapy in clinical trials. One of the underlying causes of apoptosis resistance is "autophagy," which is induced by tyrosine kinase inhibitors and by androgen withdrawal. Autophagy is a self-digesting process to regenerate energy by removal of long-lived proteins and retired organelles to provide a survival mechanism to cells encountering stresses. Excessive autophagy, sometimes, could lead to type II programmed cell death. We demonstrated that autophagy blockade sensitizes prostate cancer cells toward Src tyrosine kinase inhibitor. Thus, a combination therapy based on Src tyrosine kinase inhibitor and autophagy modulator deserves further attention as a potential treatment for relapsed prostate cancer.Receiving a diagnosis of and treatment for prostate cancer often results in significant physical side-effects and associated psychosocial stressors that can interfere with the experience of sexual intimacy for couples. Despite the fact that prostate cancer affects mainly older men, the maintenance of sexual intimacy is an important issue to consider, as the majority of older adults continue to value, engage in, and enjoy sexual activity throughout their lives. While the current research identifies the challenges that many men face, little is known about the strategies that couples use to successfully maintain sexual intimacy after prostate cancer treatment. In this review article, the existing literature on sexual intimacy after prostate cancer is reviewed, a critical analysis of current limitations in our knowledge and understanding is provided, and directions for further research are suggested.Background: To understand the threat posed by localized prostate cancer and the potential impact of surgery or radiation, patients and healthcare providers require information on long-term outcomes following conservative management.Spirituality is often regarded as being helpful during an unwell person's journey but definitions of the concept can be confusing, and its use synonymously with religion can be misleading. This research sought to answer the question, "What is the nature of spirituality in men with advanced prostate cancer," and to discover the role spirituality may have in these men as they face the challenges of living with their disease. A qualitative approach and narrative method was used to explore the spirituality of nine men with advanced prostate cancer who volunteered to participate and to tell the story of their cancer journey with particular focus on their spirituality. The study found that spirituality for these men, who were all Caucasians, was a "holistic thing" that involved physical, psychosocial, and spiritual matters that enabled them to transcend the everyday difficulties of their journey. Through their spirituality they obtained greater comfort and peace of mind during what was for many of them a very traumatic time. The central theme in the men's stories was that of connectedness-to themselves, to their partners, sometimes to a higher being, to other people such as their family and friends, and to other aspects of their lives.Active surveillance is a valuable treatment option in patients with newly diagnosed low-risk prostate cancer. Studies considering a watchful waiting approach showed favourable cancer-specific survival rates in such

patients and it is assumed that patients benefit from a definitive therapy if life expectancy exceeds 10-15 years. Therefore active surveillance is especially valuable in older men and in patients with an elevated comorbidity profile. Precise identification of histologically and clinically insignificant prostate cancers is still not possible today. Active surveillance includes regular PSA measurements combined with follow-up biopsies; however, no standardized protocol exists so far. Histological progression in the follow-up biopsy and PSA elevation are the most important criteria for initiating definitive therapy. Today only a minority of low-risk patients join an active surveillance protocol and a substantial proportion of these men leave such a protocol early without evidence of progression. The psychological burden of living with an untreated cancer seems to be responsible for this. Active surveillance has the potential to lead to undertreatment as there is some evidence that prolonged treatment delay might adversely affect outcome of definitive therapy.Prostate cancer is currently one of the most common malignancies that endanger the lives and health of elderly men. In recent years, immunotherapy, which exploits the activation of anti-cancer host immune cells to accomplish tumor-killing effects, has emerged as a new study avenue in the treatment of prostate cancer. As an important component of immunotherapy, cancer vaccines have a unique position in the precision treatment of malignant tumors. Monocyte cell vaccines, dendritic cell vaccines, viral vaccines, peptide vaccines, and DNA/mRNA vaccines are the most often used prostate cancer vaccines. Among them, Sipuleucel-T, as a monocyte cell-based cancer vaccine, is the only FDA-approved therapeutic vaccine for prostate cancer, and has a unique position and role in advancing the development of immunotherapy for prostate cancer. However, due to its own limitations, Sipuleucel-T has not been widely adopted. Meanwhile, owing to the complexity of immunotherapy and the specificity of prostate cancer, the remaining prostate cancer vaccines have not shown good clinical benefit in large randomized phase II and phase III trials, and further in-depth studies are still needed.Prostate cancer is a heterogeneous disease with marked variability in its natural progression and response to therapeutic interventions. It is the most commonly diagnosed visceral cancer of men living in western countries, yet it is life-threatening in only a minority of cases. Thus, appropriate patient selection for treatment based on tumor as well as patient characteristics is essential to achieve optimal outcomes. The combination of early cancer detection and technical improvements in local treatment has led to a reduction in disease burden and an increase in cancer survivorship. However, treatment failure remains common among high-risk cases.Objectives: Cancer is a complicated issue both medically and psychosocially, and the process of the disease affects the whole human being. Fatigue is the commonest symptom associated with cancer and its treatment. Prostate cancer is the third commonest male cancer worldwide and the leading cause of male cancer death. The aims of this study were: (i) to identify whether fatigue is found in men with newly diagnosed localized prostate cancer (predominantly early-stage, very low tumour burden asymptomatic patients); and (ii) to gain a perception of whether fatigue has an influence on these men and to try to find out what the cause of this fatigue was.Because of the broad incidence, morbidity and mortality associated with prostate-derived cancer, the development of more effective new technologies continues to be an important goal for the accurate detection and treatment of localized prostate cancer, lymphatic involvement and metastases. Prostate-specific membrane antigen (PSMA; Glycoprotein II) is expressed in high levels on prostate-derived cells and is an important target for visualization and treatment of prostate cancer. Radiolabeled peptide targeting technologies have rapidly evolved over the last decade and have focused on the successful development of radiolabeled small molecules that act as inhibitors to the binding of the N-acetyl-l-aspartyl-l-glutamate (NAAG) substrate to the PSMA molecule. A number of radiolabeled PSMA inhibitors have been described in the literature and labeled with SPECT, PET and therapeutic radionuclides. Clinical studies with these agents have demonstrated the improved potential of PSMA-targeted PET imaging agents to detect metastatic prostate cancer in comparison with conventional imaging technologies. Although many of these agents have been evaluated in humans, by far the most extensive clinical literature has described use of the 68Ga and 177Lu agents. This review describes the design and development of these agents, with a focus on the broad clinical introduction of PSMA targeting motifs labeled with 68Ga for PET-CT imaging and 177Lu for therapy. In particular, because of availability from the long-lived 68Ge (T1/2=270days)/68Ga (T1/2=68min) generator system and increasing availability of PET-CT, the 68Ga-labeled PSMA targeted agent is receiving widespread interest and is one of the fastest growing radiopharmaceuticals for PET-CT imaging.Background: Prostate cancer is the most common cancer among American men, with an incidence of approximately 233,000 cases per year. Intracranial metastases are rare and, specifically, metastasis to the pineal gland has only been reported in 2 postmortem cases in the literature.Background: The aim of this study was to analyze the causes of death and risk factors of

prostate-cancer-specific mortality (PCSM) and other-cause mortality (OCM) at different clinical stages using data from the Surveillance, Epidemiology, and End Results database.Active surveillance for favorable risk prostate cancer has become increasingly popular in populations where prostate cancer screening is widespread, because of evidence that prostate cancer screening results in the detection of disease that is not clinically significant in many patients (i.e., untreated, would not pose a threat to health). This approach is supported by data showing that patients who fall into the category of clinically insignificant disease can be identified with reasonable accuracy, and that patients who are initially classified as low-risk who reclassified over time as higher-risk and are treated radically are still cured in most cases. Active surveillance means 1) identifying patients who have a low likelihood of disease progression during their lifetime, based on clinical and pathologic features of the disease, and patient age and comorbidity; 2) close monitoring over time; 3) developing reasonable criteria for intervention, which will identify more aggressive disease in a timely fashion and not result in excessive treatment; and 4) meeting the communication challenge to reduce the psychological burden of living with untreated cancer. This article reviews the results of active surveillance, the criteria for patient selection, and the appropriate triggers for intervention.Spirituality plays a powerful role in cancer treatment and recovery; it has been identified by hospitalized patients as one of their top priorities of care. However, health care providers struggle to find ways to address the spirituality of their patients. The purposes of this study were to discover what spirituality means for men with prostate cancer and how it influences their treatment. Eleven men, ages 54 to 71, with prostate cancer were interviewed within several days following radical prostatectomy with bilateral lymph node staging. This grounded theory methodology generated three categories of spirituality: (a) praying, (b) receiving support, and (c) coping with cancer. The basic social process, coping with cancer, occurred in four phases: facing cancer, choosing treatment, trusting, and living day by day. These results were validated by four of the participants for truthfulness. The findings of this study provide holistic nurses with knowledge and a midrange theory of spirituality that can be used in building a research-based practice.Objectives: To examine differences in sexual, urinary and bowel function, and bother, in patients with prostate cancer after treatment with radical prostatectomy (RP) or external beam radiation (EBRT), compared to a convenience sample of men with no diagnosis of prostate cancer, as little is known about the disease-specific health-related quality of life (HRQoL) of men in Australia after treatment for clinically localized prostate cancer.As increasing numbers of men are living longer with prostate cancer, larger proportions will eventually present to our collective practices with increasing prostate-specific antigen (PSA) levels. Such PSA relapses, conservatively estimated to affect approximately 50,000 men each year, have become the most common form of advanced prostate cancer. Salvage radiation therapy and salvage prostatectomy have important roles in our therapeutic armamentarium and should be valid options for young, healthy men. Counseling patients regarding expectations for cancer control and treatment morbidity has become better because of reports from larger series of patients who have had salvage radiation therapy and surgery. Some patients may not be appropriate candidates for salvage local therapies. A growing body of evidence suggests early hormonal therapy improves progression-free survival (PFS) and could alter cancer-specific survival. This benefit seems to be greatest when hormonal therapy is initiated while PSA levels are low, before clinically measurable disease becomes apparent. However, there is a cost to be paid in side effects and health care dollars when androgen deprivation is administered over prolonged periods. The nonsteroidal antiandrogen agent bicalutamide could offer PFS equivalent to that seen with castration without the complications of androgen deprivation. Observational data seem to indicate that individuals at high risk could also receive benefit from therapy administered before PSA detection. The potential opportunities for novel therapeutic agents with low associated morbidity are great.Objectives: To assess the ability of men with adenocarcinoma of the prostate to recall aspects of testing leading to their diagnosis, recall of the informed consent process, and their satisfaction with treatment and that treatment's impact on their lives.Active surveillance for favorable risk prostate cancer has become increasingly popular in populations where prostate cancer screening is widespread, due to evidence that prostate cancer screening results in the detection of disease that is not clinically significant in many patients (i.e., untreated, would not pose a threat to health). This approach is supported by data demonstrating that patients who fall into the category of clinically insignificant disease can be identified with reasonable accuracy, and that patients who are initially classified as low risk who reclassify over time as higher risk and are then treated more aggressively are in most cases still cured. An active surveillance approach means (1) identifying patients who have a low likelihood of disease progression during their lifetime, based on clinical and pathologic features of the disease and patient age and comorbidity; (2) monitoring closely over time, (3)

establishing reasonable criteria for intervention, which will both identify more aggressive disease in a timely fashion, and not result in excessive treatment, and (4) meeting the communication challenge to reduce the psychological burden of living with untreated cancer. The results of active surveillance, the criteria for patient selection, and the appropriate triggers for intervention are reviewed.Urinary incontinence is a common adverse effect associated with treatment for early stage prostate cancer. The influence of this factor on treatment selection decisions by patients and their partners has been explored only minimally in the literature. Data regarding the actual incidence of incontinence associated with prostate cancer treatment are confusing because of the lack of standardized definitions of incontinence. Radical prostatectomy is associated with higher rates of urinary adverse effects than is radiation therapy. Brachytherapy appears to be associated with a low risk of incontinence, whereas cryosurgery is associated with significant urinary adverse effects. Including incontinence, urethral sloughing, and bladder neck obstruction. The influence of these adverse effects on decision making regarding prostate cancer treatment selection is difficult to ascertain. Research indicates that both men and their partners appear to have difficulty processing information presented to them regarding the probability of urinary adverse effects and the degree to which these adverse effects may have an impact on their daily lives.Exosomes are small membrane-enclosed vesicles that are released by most living cells and harbor a diverse array of proteins, nucleic acids, and lipid cargos. These exosomes offer valuable biomarkers that may offer insights regarding as a range of physiological and pathological processes, including immune responses, cancer development, pregnancy, and diseases of the central nervous system. With the development of high-throughput technologies, the vital functions of long non-coding RNAs (lncRNAs) have been gradually entered people's vision and become new research hotspots. Nowadays, lncRNAs can play important roles in cancer progression by combining with miRNAs, activating molecular targets and other ways, and are also related to the diagnosis, treatment and prognosis for cancer, such as prostate cancer. Current review focused on the summary of diagnostic roles and mechanistic functions about exosomal lncRNAs in prostate cancer.Advanced prostate cancer is responsive to hormone therapy that interferes with androgen receptor (AR) signalling. However, the effect is short-lived, as nearly all tumours progress to a hormone-refractory (HR) state, a lethal stage of the disease. Intuitively, the AR should not be involved because hormone therapy that blocks or reduces AR activity is not effective in treating HR tumours. However, there is still a consensus that AR plays an essential role in HR prostate cancer (HRPC) because AR signalling is still functional in HR tumours. AR signalling can be activated in HR tumours through several mechanisms. First, activation of intracellular signal transduction pathways can sensitize the AR to castrate levels of androgens. Also, mutations in the AR can change AR ligand specificity, thereby allowing it to be activated by non-steroids or anti-androgens. Finally, overexpression of the wild-type AR sensitizes itself to low concentrations of androgens. Therefore, drugs targeting AR signalling could still be effective in treating HRPC.Purpose: To investigate factors associated with job loss and early retirement in men diagnosed with prostate cancer (PCa) 18-42 months previously.To conduct a systematic review of the risks of short-term outcomes after major treatments for clinically localised prostate cancer. MEDLINE, EMBASE and the Cochrane Library were searched from 2004 to January 2013. Study arms that included ≥100 men with localised prostate cancer in receipt of surgery, radiotherapy or active surveillance and reported symptomatic and quality-of-life (QoL) data from 6 to 60 months after treatment were eligible. Data were extracted by one reviewer and checked by another. In all, 64 studies (80 treatment cohorts) were included. Most were single treatment cohorts from the USA or Europe. Radiotherapy was the most common treatment (40 cohorts, including 31 brachytherapy cohorts) followed by prostatectomy (39 cohorts), with only one active surveillance cohort. Most frequently measured symptoms were urinary, followed by sexual, and bowel; QoL was assessed in only 17 cohorts. Most studies used validated measures, although poor data reporting and differences between studies meant that it was not possible to pool data. Data on the precise impact of short-term symptomatic and QoL outcomes after treatment for localised prostate cancer are of insufficient quality for clear guidance to men about the risks to these aspects of their lives. It is important that future studies focus on collecting core outcomes through validated measures and comply with reporting guidelines, so that clear and accurate information can be derived for men considering screening or treatment for prostate cancer.Prostate cancer (PCa) is the most commonly diagnosed cancer among Nigerian men. The prevalence of PCa varies within Nigeria, with the highest prevalence of 1046 per 100,000 in men over the age of 40 reported in Lagos. Unfortunately, 40% of these men are diagnosed with locally advanced disease and 35% with metastatic disease. Given the ability to screen for PCa among high-risk individuals, late stage diagnosis of PCa could be potentially reduced through

education of men so that they seek screening. Along these lines, it is important to assess a population's knowledge and awareness on PCa and screening. Our study addresses this issue by evaluating awareness and attitudes of Nigerian men in Abuja on PCa and screening. Our results revealed gaps in awareness and perception of susceptibility to PCa and low levels of PCa screening. Factors such as age, education level, and income affected PCa awareness. In conclusion, our study points to the need to educate younger men of lower education and socioeconomic status in Nigeria with the aim to increase screening and earlier detection of PCa.Introduction: The 24th Annual Prostate Cancer Foundation (PCF) Scientific Retreat was held from October 5-7, 2017, at the Omni Shoreham Hotel in Washington, DC.Although lycopene intake and risk of prostate cancer have been explored for decades, recent studies show that Non-Hispanic Black Prostate Cancer (PCa) patients benefit less than Non-Hispanic White patients from a lycopene intake intervention program. This study examined whether a lycopene intake-related racial disparity exists in reducing the risk of PCa in healthy adults. Data on healthy, cancer-free Non-Hispanic Black (NHB) men (n = 159) and Non-Hispanic White (NHW) men (n = 478) from the 2003 to 2010 NHANES dataset were analyzed. Total lycopene intake from daily diet, age, living status, race/ethnicity, education level, poverty income ratio, body mass index, and smoking status were studied as independent variables. The combination of total Prostate-Specific Antigen (PSA) level and the ratio of free PSA was set as criteria for evaluating the risk of PCa. Multivariable logistic regression was used in race-stratified analyses to compute odds ratios (OR) and 95% confidence intervals (95% CI) comparing high PCa risk with low PCa risk. We found, in the whole population, race/ethnicity was the only factor that influenced lycopene intake from the daily diet. NHB men consumed less lycopene than NHW men (3,716 vs. 6,487 (mcg), p = 0.01). Sufficient lycopene intake could reduce the risk of PCa (OR: 0.40, 95% CI: 0.18-0.85, p = 0.02). Men aged between 66 and 70 had high PCa risk (OR: 3.32, 95% CI: 1.12-9.85, p = 0.03). Obesity served as a protective factor against the high risk of PCa (OR: 0.25, 95% CI: 0.12-0.54, p = 0.001). NHW men aged between 66 and 70 had a high risk of PCa (OR: 4.01, 95% CI: 1.02-15.73, p = 0.05). Obese NHW men also had lower risk of PCa (OR: 0.18, 95% CI: 0.07-0.47 p = 0.001). NHB men had a high risk of PCa compared to NHW men (OR: 2.27, 95% CI: 1.35-3.81 p = 0.004). NHB men who were living without partners experienced an even higher risk of PCa (OR: 3.35, 95% CI: 1.01-11.19 p = 0.07). Sufficient lycopene intake from daily food could serve as a protector against PCa. Such an association was only observed in NHW men. Further studies are needed to explore the dose-response relationship between lycopene intake and the association of PCa risk in NHB men.Background: The use of radiographic imaging (bone scan and computerized tomography) is only recommended for men diagnosed with high-risk prostate cancer characteristics. The authors sought to characterize utilization patterns of imaging in men with newly diagnosed prostate cancer.Objective: To provide a current and evidence-based clinical review of practical value to primary care physicians encountering men with hormone-refractory prostate cancer (HRPC) in their practice.Background: Large databases focused on genetic susceptibility to prostate cancer have been accumulated from population studies of different ancestries, including Europeans and African-Americans. Arab populations, however, have been only rarely studied.Objectives: To review the psychosocial needs of men undergoing active surveillance (AS, the monitoring of early prostate cancer, with curative intervention only if the disease significantly progresses) for prostate cancer, and barriers to its uptake.Prostate cancer (PCa) is the most frequently diagnosed malignancy in men worldwide, largely as a result of the increased use of the annual serum prostate-specific antigen (PSA) screening test for detection. PSA screening has saved lives, but it has also resulted in the overtreatment of many patients with PCa because of a limited ability to accurately localize and characterize PCa lesions through imaging. High-resolution magic angle spinning (HRMAS) (1)H MRS has proven to be a strong potential clinical tool for PCa diagnosis and prognosis. The HRMAS technique allows valuable metabolic information to be obtained from ex vivo intact tissue samples and also enables the performance of histopathology on the same tissue specimens. Studies have found that the quantification of individual metabolite levels and metabolite ratios, as well as metabolomic profiles, shows strong potential to improve accuracy in PCa detection, diagnosis and monitoring. Ex vivo HRMAS is also a valuable tool for the interpretation of in vivo results, including the localization of tumors, and thus has the potential to improve in vivo diagnostic tests used in the clinic. Here, we primarily review publications of HRMAS (1)H MRS and its use for the study of intact human prostate tissue.Background: Prostate cancer is for many men a chronic disease with a long life expectancy after treatment. The impact of prostate cancer therapy on men has been well defined, however, explanation of the consequences of cancer treatment has not been modelled against the wider variables of long-term health-care provision. The aim of this study was to explore the parameters of unmet

supportive care needs in men with prostate cancer in relation to the experience of nursing care.We reviewed the current evidence for three novel prostate tumor markers (PCA3, TMPRSS2:ERG and proPSA) that have been recently reported predominantly in Western countries. We focus our attention on Asian men in both clinical and basic research studies. There have been no reports on the clinical usefulness of these three markers for Asians living in Western countries. In Asian countries, evidence for the clinical usefulness of PCA3 and proPSA-related indices including Prostate Health Index is being accumulated, mainly in Japan. The process for how a novel marker is approved in the clinical setting is also discussed.Prostate cancer poses a challenge to society and to physicians. It is a remarkably prevalent tumor, perhaps the most common cancer in the world in its histologic manifestation. In its clinically apparent form, it is notably heterogeneous. Some patients live out their lives with a prostate cancer that remains stable for decades without treatment. In other cases, the cancer grows aggressively, responds poorly to therapy, and causes death within a few years. The median loss-of-life expectancy for men diagnosed with prostate cancer has been estimated at 9 years. Important advances have been made in the past two decades in the treatment of prostate cancer. Further progress will require more accurate characterization of the primary tumor in each individual patient to tailor treatment--whether conservative or aggressive, surgery or radiation--more accurately to the nature of the individual cancer. Imaging studies in particular must be improved if we are to have better, noninvasive ways to identify the presence of a cancer and to define its volume, location, and extent. Substantial progress against this disease will require major breakthroughs in our understanding of the etiology of prostate cancer, the development of effective chemopreventive agents, more accurate ways to assess the biological potential of the tumor, and more effective systemic agents to treat metastatic cancer.Background: Men diagnosed with prostate cancer (PCa) in specific regional areas in Victoria, Australia have a poorer five-year survival rate compared to men living elsewhere in Victoria. This study aims to describe patterns-of- presentation and -care for men diagnosed with PCa in a specific regional Victorian area, and compare the outcomes with other Victorian regions.Background: Previous findings have suggested that patient educational attainment is related to cancer stage at presentation and treatment for localized prostate cancer, but there is little information on education and quality of life outcomes. Patient education level and quality of life were examined among men diagnosed with prostate cancer and cared for within an equal-access health care system, the Department of Veterans Affairs Veterans Health Administration (VA).A 70-year-old woman who experienced a long period of depression after her first husband's death from prostate cancer at the age of 63 has become increasingly anxious about her own health and that of her close family. A few years ago she married a man her own age; he is in good physical condition. Last year the family spent much of the winter in Florida, where the woman noticed several studies in the media suggesting that an epidemic of prostate cancer is occurring in North America and that because early detection can save lives men of retirement age should be checked by their physicians as soon as possible. In addition, 2 close friends recently diagnosed with prostate cancer. On his latest fishing trip her husband learned from a friend that 1 in 8 men get prostate cancer. He has not seen his family physician for several years, but his wife has booked an appointment for them to discuss their concerns.Objective: It is well established that exercise and lifestyle behaviours improve men's health outcomes from prostate cancer. With 3.8 million men living with the disease worldwide, the challenge is creating accessible intervention approaches that lead to sustainable lifestyle changes. We carried out a phase II feasibility study of a lifestyle intervention delivered by nine community pharmacies in the United Kingdom to inform a larger efficacy study. Qualitative interviews explored how men experienced the intervention, and these data are presented here.In spite of the slow progression rates common to most prostate cancers, it is well recognized that a subset of patients will experience a more aggressive course with many losing their lives to this malignancy. As the number of patients diagnosed with prostate cancer continues to increase, there is a growing pressure to refine and supplement the three most important prognostic parameters for this disease (tumor pathologic stage, its histologic differentiation (Gleason score) and the level of prostate specific antigen). While this review emphasizes the value of these factors in stratifying patients into risk groups, it also explores the prognostic significance of additional commonly used and evolving non-traditional markers (DNA ploidy, proliferation, tumor angiogenesis, and the status of tumor suppressor genes).This study aims to examine racial differences in all-cause mortality between African American (AA) and non-African American localized prostate cancer patients. This study advances academic discussion by being among the first to use a sample more representative of the general population that is different from certain subpopulations examined in literature. This study adopted a retrospective cohort study design using the Florida Cancer Data System. The hierarchical logistic

regression was employed to analyze mortality in 2004 among living patients with localized prostate cancer from baseline 2000. Among 9617 patients, the odds of mortality in AAs were 57.6% higher than the non-AAs (Adjusted OR = 1.576, 95% CI: 1.243-1.999). Among prostate cancer patients, AA, older age, unmarried status, conservative treatment, Medicaid, and tumor grade III diagnosis predicted higher mortality relative to the reference group. Screening programs at a younger age can be considered, family and community support and aggressive treatments are suggested to prevent AA against adverse health outcomes.Introduction: Understanding the effects of socioeconomic status on cancer incidence and their trends over time will help inform public health interventions for cancer control. This study sought to investigate trends in socioeconomic inequalities in prostate cancer incidence among Canadian males.The purpose of this study was to illuminate the experience of living after radical prostatectomy (RP) for localized prostate cancer (LPC). Ten men were interviewed after RP. The interview text was qualitatively analyzed using the content analysis. The men suffered from worry, anxiety, and distress, and longed for life as they had lived it before the diagnosis. Changes in bodily functions after RP include urine incontinence (UI) and/or erectile dysfunction (ED) making the patient feel like a changed man with a lost sex life, with changes in his intimate relations with his wife, and with lowered self-esteem. Most men choose to cope on their own. Coping strategies in our study population included finding new areas of interest and a new focus in the present. In the present study, living after RP meant striving to gain control over, and become reconciled with, the new life situation as a changed man living with an altered self.Background: Patient travel distances, coupled with variation in facility-level resources, create barriers for prostate cancer care in the Veterans Health Administration integrated delivery system. For these reasons, the authors investigated the degree to which these barriers impact the quality of prostate cancer care.Purpose: Few studies have examined positive and negative affect and prostate cancer-specific anxiety in prostate cancer patients and their partners. Thus, this study explored positive and negative affect and prostate cancer-specific anxiety as well as their associated factors in prostate cancer patients and their partners.Background: The Danish Cancer Registry (DCR) is the oldest nationwide population-based cancer registry in the Nordic countries. At the time of the study the DCR recorded date of diagnosis, tumor stage and initial treatment. The validity of the clinical information reported to the DCR has never been analyzed.Background: Studies conducted in Swedish populations have shown that men with lowest prostate-specific antigen (PSA) levels at ages 44-50 years and 60 years have very low risk of future distant metastasis or death from prostate cancer. This study investigates benefits and harms of screening strategies stratified by PSA levels.Background: Prostate cancer is a prominent form of cancer diagnosed in men living in developed countries, for which radical prostatectomy is a common frontline treatment. The aim of this systematic review was to determine whether robot-assisted laparoscopic radical prostatectomy (RALP) is more effective in the treatment of localised prostate cancer, compared to laparoscopic radical prostatectomy (LRP).Prostate cancer was a neglected area in psycho-oncology. There is now a growing number of studies on the psychosocial aspects of having prostate cancer and the possibilities to reduce these problems in educational and group interventions. In this issue of Patient Education and Counseling, studies are presented on several psychosocial and educational aspects in prostate cancer patients: screening events and outcomes, assessing the unmet information, support and care delivery needs, reacting to the diagnosis of prostate cancer, informational needs of men on hormonal therapy, changes in health-related quality of life three months after the diagnosis, information-seeking behaviors and information needs of partners, quality of leaflets, video information in decision making, and patient perceptions and priorities in a rehabilitation program. Conclusions are presented on neglected research areas in psychosocial and educational aspects of living with prostate cancer.Background: Geographic barriers and limited availability of cancer specialists may influence early prostate cancer treatment options for rural men. This study compares receipt of different early prostate cancer treatments between rural and urban patients.The androgen receptor (AR) is one of the main components in the development and progression of prostate cancer (PCa), and treatment strategies are mostly directed toward manipulation of the AR pathway. In the metastatic setting, androgen deprivation therapy (ADT) is the foundation of treatment in patients with hormone-sensitive prostate cancer (HSPC). However, treatment response is short-lived, and the majority of patients ultimately progress to castration-resistant prostate cancer (CRPC). Surmountable data from clinical trials have shown that the maintenance of AR signaling in the castration environment is accountable for disease progression. Study results indicate multiple factors and survival pathways involved in PCa. Based on these findings, the alternative molecular pathways involved in PCa progression can be manipulated to improve current regimens and develop novel treatment modalities in the management of CRPC. In this review, the interaction

between AR signaling and other molecular pathways involved in tumor pathogenesis and its clinical implications in metastasis and advanced disease will be discussed, along with a thorough overview of current and ongoing novel treatments for AR signaling inhibition.Background: Long-term population-based cohort studies of men diagnosed with prostate cancer are limited. However, adverse outcomes can occur many years after treatment. Herein, we aim to assess the utility of using claims data to identify prostate cancer progression 10-15 years after diagnosis.Cancer of the prostate is one of the most commonly diagnosed solid malignancies and the fourth leading cause of cancer-related deaths in men living in Italy. With an ageing population, the number of men living with early stages of prostate cancer is expected to increase. There is an impelling need to prevent the onset of the cancer or delay the progression of carcinogenesis in this organ. The chemoprevention of cancer is a relatively new concept defined as the administration of pharmacological agents (drug or diet-derived supplements) to prevent, delay or reverse the carcinogenesis. Epidemiological data showing ethnic and geographic variations in the incidence of, and mortality from, prostate cancer have suggested that the consumption of dietary factors may be protective. There is increasing evidence that diet (particularly dietary fat intake) may play a significant role in early prostate carcinogenesis. Dietary micronutrients and antioxidants are under intense scrutiny. These factors include the vitamin D and E, lycopene, selenium, zinc, poliphenols, isoflavonoids, and phytoestrogens (especially soy products and green tea). The old Mediterranean diet (based on cereals, vegetables, polyunsaturated fats, fruits, fish and low quantities of dairy products and meat) is now sparingly adopted because of the globalisation of the food chain which now involves also our country. Nevertheless, our traditional dietary habits are considered of great value in the prevention of cardiovascular or cancerous diseases and particularly of prostate cancer.Background: Prostate cancer is a life-threatening disease that is not curable but can be controlled through treatment. Current treatments can result in unpleasant and distressing side effects for patients. Little was known until the 1970s about the psychological and psychosocial effects of these treatments, but studies have now been conducted on patient identity, self-esteem, incontinence, impotence and social support.Purpose: Men with castration-resistant prostate cancer (CRPC) experience disease progression at different rates. The purpose of this study was to quantify the strength of patient preferences for delaying prostate cancer progression utilizing a discrete choice experiment (DCE) and valuing 3 health states in the continuum of CRPC.Purpose: The main purpose of this study was to investigate the effects of a 12-week, clinician-referred, community-based exercise training program with supervised and unsupervised sessions for men with prostate cancer. The secondary purpose was to determine whether androgen deprivation therapy (ADT) modified responses to exercise training.Background: This cross-sectional study aimed to determine the prevalence of unmet supportive care needs among prostate cancer patients.Background: To assess: (a) cancer treatment in prostate cancer survivors (PCS) by age at diagnosis (ADx) and prostate cancer (PC) aggressiveness; (b) potential impact on PC mortality; and (c) these results in the context of environmental/behavioral risk factors on PCS in Pennsylvania.In an attempt to determine the role of environmental factors in the etiology of prostate cancer, we compared the clinical-pathological findings of prostate cancer among Japanese Americans in Hawaii and Japanese living in Japan. Our study showed that prostate cancer in Japanese living in Japan is more advanced than in Japanese Americans. The findings indicate that screening for prostate cancer in Japan is far behind that in the USA. The difference in level of cancer screening also precluded our attempt to analyse environmental factors contributing to prostate cancer progression in the two groups. The variation in method of clinical detection of prostate cancer between the USA and Japan is also likely to contribute to the apparent difference in the incidence of the disease.Purpose: While the dissemination of robotic prostatectomy and intensity modulated radiotherapy may fuel the increased use of prostatectomy and radiotherapy, these new technologies may also have spillover effects related to diagnostic testing for prostate cancer. Therefore, we examined the association of regional technology penetration with the receipt of prostate specific antigen testing and prostate biopsy.Objectives: To examine the effects of racial residential segregation and structural racism on the diagnosis, treatment, and outcomes of patients with prostate cancer.Background: No prior study has measured or compared self-reported and objectively measured physical activity trajectories in prostate cancer survivors before and after treatment.African-American (AA) women could be instrumental in communicating positive prostate screening behavior to the significant males in their lives. However, little is known about AA women's prostate cancer attitudes, perceived behavioral control, subjective norms, intentions, behaviors, and knowledge regarding prostate cancer screening. This study describes the development and psychometric testing of the Eastland Prostate Cancer Survey (EPCS). A nonexperimental, correlational study with 200 AA women

was used to test the psychometric properties of the six-subscale EPCS with 66 items. Construct validity, internal consistency, and test-retest reliability for the EPCS were acceptable and resulted in an eight-subscale EPCS with 56 items. Cronbach's alphas for the subscales ranged from 0.69 to 0.92. The EPCS is a culturally sensitive, gender-relevant instrument that could be used by community health providers to develop community health programs aimed at engaging AA women in the promotion of prostate cancer screening for AA men.Introduction: Current research on prostate cancer is heavily focused on early detection and new treatments. There is a lack of research on the overall morbidity prostate cancer survivors face and the amount of healthcare treatment they receive toward the end of their lives. Identifying these care needs will allow appropriate healthcare modeling, resource allocation and service re-design to ensure higher quality care toward the end of life. The aim of this study is to quantify and analyze the use of healthcare services by patients dying with but not necessarily of prostate cancer.Background: The Prostate cancer is the 2nd most common cancer worldwide for males, and the 5th most common cancer overall, with an estimated 900,000 new cases diagnosed in 2008 (14% of the total in males and 7% of the total overall) aim of this study was to assess some of the most proposed environmental factors influencing the incidence of prostate cancer among Iranian men. Smoking, opioids, occupation and living location were considered as studied risk factors of the prostate cancer in this research.Although neo-adjuvant radiotherapy is generally successful in treatment of advanced prostate cancer, radioresistance is still a major therapeutic problem in many patients. In the current study, we investigated the effects of metformin (1,1-dimethylbiguanide hydrochloride), a widely used antidiabetic drug, on tumor cell radiosensitivity in prostate cancer. Through clonogenic survival assays, we found that metformin treatment enhanced radiosensitivity of prostate cancer cells with a dose enhancement factor. Moreover, irradiation of subcutaneous C4-2 tumors in mice treated with metformin resulted in an increase in radiation-induced tumor growth delay (17.3 days to 29.5 days, $P < 0.01$), which indicates that the tumor radiosensitivity increased by metformin in vivo. We also measured the sublethal damage repair and analyzed double-strand breaks (DSBs) in X-irradiated cells. γ-H2AX, as an indicator of DSBs, had significantly more foci per cell in the group treated with metformin and radiation compared to groups treated with metformin or irradiation, respectively. Moreover, mice with subcutaneous tumor implants lived longer after a combined treatment of metformin and radiation. In addition, the reduced phosphorylation of DNA-PKcs caused by EGFR/PI3K/Akt down-regulation is essential for metformin to induce radiosensitivity in prostate cancer cells. Our results indicate that metformin enhances prostate cancer cell radiosensitivity in vitro and in vivo. Exposure to metformin before radiation therapy could be a beneficial option for the treatment of prostate cancer.Objectives: This paper demonstrates the value of a narrative approach for health psychology. It focuses on the lives of two Black men with prostate cancer, drawn from a larger study investigating the links between masculinities and prostate cancer.Approximately 5-10% of prostate cancer cases are caused by dominantly inherited susceptibility to the disease. Although advances have been made in research concerning the genetic mechanisms of hereditary prostate cancer, little is known about the psychological consequences for men at high risk of developing the disease. The aims of the present study were to examine risk perception, interest in genetic investigations, cancer-specific worry, and screening practice among unaffected men, aged 40-72 years old, with a pedigree consistent with hereditary prostate cancer and an estimated lifetime risk of prostate cancer of 35-45%. A questionnaire was sent by mail to 120 subjects, of whom 110 responded. Most of the men (n = 90, 82%) worried about having an inherited susceptibility to prostate cancer, and 34 (31%) claimed that worry about prostate cancer affected their daily life (3 (3%) fairly much, 31 (28%) slightly). As many as 40% of the study subjects perceived their lifetime risk of prostate cancer as 67% or more. Perceived high risk was associated with symptoms of depression and with cancer worry affecting daily living. Two-thirds of the men aged 50 years old or more were regularly screened for prostate cancer. Subjects with high levels of cancer-specific stress, as measured by the avoidance subscale of the Impact of Event Scale, were less likely to opt for screening. Almost all of the men (94%) were interested in presymptomatic genetic testing (84 (76%) "definitely yes" and 20 (18%) "probably yes"). We conclude that hereditary susceptibility to prostate cancer has significant psychological consequences although it rarely causes psychiatric morbidity. The present study underlines the importance of giving thorough, repeated information to men at high risk of prostate cancer.Breast and prostate cancer share similar intrinsic and extrinsic risk factors. Based on laboratory, ecologic/international comparison, and case-control studies, the impact of dietary fat or other fat subtypes has been suggested as a potential route to reduce risk. Recent large-scale prospective studies have failed to find an association between fat and breast cancer risk. These studies may provide some insight for researchers examining the relation between fat and

prostate cancer. Prospective studies to date have also failed to find a consistent association between prostate cancer and fat intake. Some fat subtypes (eg, saturated fat) or other lifestyle changes (eg, obesity, physical activity) may affect risk and progression of these cancers when examining the sum total of the research, but more precise and specific investigations in humans are needed to address these issues. Other concerns, such as the impact of excess energy or overall caloric consumption on carcinogenesis, still need to be addressed, as well as other methodologic limitations of past investigations. Large gaps exist in environmental (eg, diet, lifestyle) and heritable causes of these diseases. Regardless, until more extensive research is completed, lifestyle changes should be recommended based on reducing morbidity and mortality from cardiovascular disease-the number 1 cause of death in the United States. Additionally, cardiovascular disease remains the number 1 or 2 cause of death in patients diagnosed with breast or prostate cancer. Practical and simple dietary changes should be encouraged by health professionals because they could improve the overall longevity and quality of patients' lives. Numerous ongoing prospective studies of diet and cancer should provide researchers and the public with much-needed answers in this area.Prostate cancer is the most prevalent non-cutaneous cancer in men worldwide. As a result of increased survival rates, men and their partners are living longer with the sexual sequelae of active treatments for prostate cancer, including surgery, radiotherapy and hormone therapy. The effect of erectile dysfunction on the patient and his partner is complex; many men experience psychosocial effects influenced by their hegemonic masculine beliefs. Some men experience difficulties in addressing their needs and require support while they attempt to reframe their beliefs about masculinity. The PLISSIT model can be used to guide healthcare practitioners in assessing and addressing the needs of this group of patients. The man's partner should be included in assessment and interventions where appropriate.Purpose: Combined androgen blockade therapy (CAB) has been shown to have a small survival advantage over luteinizing hormone releasing hormone LH-RH agonists (LH-RHa) alone in men with metastatic prostate cancer. The goal of this study was to assess the cost-effectiveness of CAB with bicalutamide and LH-RH agonist therapy to LH-RH agonist therapy alone.Background: There exists a north-south pattern to the distribution of prostate cancer in the U.S., with the north having higher rates than the south. The current hypothesis for the spatial pattern of this disease is low vitamin D levels in individuals living at northerly latitudes; however, this explanation only partially explains the spatial distribution in the incidence of this cancer. Using a U.S. county-level ecological study design, we provide evidence that other meteorological parameters further explain the variation in prostate cancer across the U.S.Purpose: We aimed to explore the knowledge, attitudes, and practices towards prostate cancer (PCa) risk factors and prevention amongst men living in the southern Italian peninsula.Background: Hispanics are more likely than other racial/ethnic groups in the United States to be diagnosed with later stage of prostate cancer, yet they have lower prostate cancer mortality rates. The authors evaluated the impact of nativity and neighborhood-level Hispanic ethnic enclave on prostate cancer survival among Hispanics.Purpose: To assess the risk of prostate cancer (PCa) specific mortality (PCSM) compared to cardiovascular disease mortality (CVDM), or other-cause mortality (OCM) of men with nonmetastatic PCa according to PCa risk groups, primary treatment, and age.Background: It is unknown whether the rate of psychiatric disorders and cardiovascular disease increases during the diagnostic workup of suspected prostate cancer.Purpose: It is important to meet the supportive care needs of cancer patients to ensure their satisfaction with their care. A population-wide sample of men younger than 70 years and newly diagnosed with prostate cancer was surveyed to determine their unmet needs in five domains and the factors predicting them.Objective: To assess the feasibility of performing national, randomized trials of dietary interventions for localized prostate cancer.The dramatic increase during the past decade in prostate-specific antigen (PSA) testing and prostate biopsies has resulted in the detection of large numbers of small lesions, an increase in the incidence of prostate cancer, and an increasing incidence-to-mortality ratio. Currently, the risk of being diagnosed with prostate cancer is increasingly greater than the risk of dying of it. The currently available treatments for prostate cancer are not well suited to treating small or indolent tumors. Radical treatment, whether surgery or radiotherapy, can eradicate cancer effectively, but these techniques, as well as hormonal manipulations, can have adverse effects on patients' health and quality of life. Watchful waiting, or "active surveillance," has the advantage of avoiding the deleterious effects on quality of life, but it confronts patients with the emotional burden of living with an untreated cancer that could progress and metastasize. For active surveillance, no established, objective criteria are available for progression that would signal the optimal time for therapeutic intervention. PSA levels in patients with low-risk, small-volume cancers are more indicative of the size of the benign prostate or the presence of inflammation than of changes in

the volume or growth of the cancer, and PSA levels inherently fluctuate, creating a low signal-to-noise ratio until the cancer is very large. Little risk exists in waiting to confirm a sustained increase in the PSA level before proceeding with a diagnostic biopsy. This policy would decrease the number of unnecessary biopsies, but still diagnose men within a safe timeframe. In studies controlled for age and comorbidity, the survival rate for patients with low-risk prostate cancer mirrors that expected in the general population. This holds true across cohorts of patients, whatever the treatment used. Because no strong medical or scientific evidence supports any particular ablative technique for low-risk prostate cancer, no standard of care has been universally accepted. Therefore, practice patterns are heterogeneous and depend more on the availability of treatments than on the features of the disease itself.The diagnosis of prostate cancer at any age can strike fear in a man and his family. One treatment for early stage prostate cancer that is gaining renewed popularity is ultrasonically guided permanent iodine-125 or palladium-103 interstitial brachytherapy or seed implantation. This procedure permits concentrated, accurate radiation to the prostate while reducing the probability of radiation injury to adjacent tissue. A well-tolerated outpatient procedure, it is associated with negligible complications, and is the most overall cost-effective treatment option for early stage prostate cancer today. Nurses who are knowledgeable about the treatment plan and procedure play a pivotal role in teaching, preparing, and caring for patients during all phases of the treatment process. Their care and reassurance help reduce anxiety for patients and families during a difficult time in their lives.Purpose: Contemporary cancer treatments have resulted in patients living longer but with the risk of disease recurrence. Studies suggest that fear of recurrence is a significant burden. We described fear of cancer recurrence in patients with prostate cancer undergoing treatment with radical prostatectomy (RP), radiation (XRT) or brachytherapy (BT).Background: In this paper we study the Free/Total PSA kinetics in patients with clinically localized prostate cancer undergoing radical prostatectomy.Aim: The aim was to improve the knowledge and understanding of how newly diagnosed advanced prostate cancer affects the men and their life situation and perhaps causes fatigue before the side effects of any treatment has an impact on them.Objective: To assess differences in trends for prostate cancer mortality, radical prostatectomy and prostate-specific antigen (PSA) testing for Australian men aged 50-79 years living in capital cities compared with regional and rural areas.Purpose: There is a rising interest in measuring the societal burden of malignancies including prostate cancer. However, population-based studies reporting incidence costs of prostate cancer in the long term are lacking in Europe. The objectives of the study are to analyse the long-term costs and survival of prostate cancer patients treated by radical prostatectomy (RP) or conservative management (nRP).Established therapeutic approaches for clinically localized prostate cancer include watchful waiting (active surveillance), radical prostatectomy, and radiotherapy. The risk of progression during surveillance is related to the initial cancer stage and grade; reasonable evidence has supported the safety and feasibility, during a period of 5-10 years, of an active surveillance regimen for men with low-risk prostate cancer. The progression rates at >10 years have not yet been studied in modern trials. Patients with low-risk tumor characteristics can be actively monitored without sacrificing the possibility of cure and without being exposed to an undue risk of disease progression, although some patients will not accept the emotional burden of living with an untreated cancer. Focal ablation might be an attractive alternative to active surveillance for some patients with low-risk cancer, if it proves to have minimal adverse effects on their quality of life. Radical prostatectomy is an effective form of therapy for patients with clinically significant prostate cancer; however, outcomes are highly sensitive to variations in surgical technique. Because of the risks of perioperative complications and urinary and sexual dysfunction, which appear to be as great with robotic-assisted prostatectomy as with any other technique, patients with low-risk cancer, especially those >60 years, might be attracted to more conservative alternatives, including active surveillance, radiotherapy, and focal ablation. External beam radiotherapy is an effective, noninvasive form of therapy, but it carries the long-term risks of troublesome bowel and sexual and urinary dysfunction. It might be too aggressive for many low-risk cancers detected in screened populations. For more aggressive cancers, local recurrence after radiotherapy carries substantial morbidity and low rates of long-term cancer control. Brachytherapy, a convenient, effective form of radiotherapy, is targeted at selected patients with clinically confined cancer and a prostate size of <60 g without evidence of extraprostatic extension on imaging. However, excellent outcomes require meticulous technique; acute urinary symptoms are frequent; and the long-term risks of proctitis and erectile dysfunction are comparable to the risks associated with external beam radiotherapy. Androgen-deprivation therapy is not recommended for men with localized prostate cancer who would otherwise be candidates for surgery or radiotherapy, because, even with short-term

use, the risk of side effects, including osteopenic fracture and major cardiovascular events, serious. For locally extensive cancer, androgen-deprivation therapy should be used alone only for the relief of local symptoms in men with a life expectancy of <5 years who are not eligible for more aggressive treatment.Objectives: Qualitative studies nested within clinical trials can provide insight into the treatment experience, how this evolves over time and where improved supportive care is required. The purpose of this qualitative study is to describe the lived experiences of men with advanced prostate cancer participating in the TheraP trial; a randomised trial of 177Lu-PSMA-617 compared with cabazitaxel chemotherapy.Background: The U.S. Preventive Services Task Force recently concluded that the harms of existing prostate-specific antigen (PSA) screening strategies outweigh the benefits.Objective: Prostate cancer is a common malignancy and patients may progress to castration-resistant prostate cancer (CRPC). Among patients with CRPC, fatigue is a common symptom associated with current treatments. The aim of this real-world study was to describe patient-reported fatigue in Japanese patients treated with androgen receptor-axis-targeted therapies for CRPC.Five recent randomized studies demonstrate that treatment of localized prostate cancer saves lives. Since prostate cancer grows insidiously without signs or symptoms until it reaches the bones-when cure has become an exception-screening is essential to diagnose the disease at an earlier stage when cure is possible in the majority of patients. At 7 years' median follow-up with continuous hormonal therapy, cancer-specific death was observed in less than 5% of patients with treatment started at the stage of clinically localized disease, compared to 70% to 90% when treatment is started in patients with bone metastases. With appropriate screening, 99% of prostate cancers can be diagnosed at the localized stage with no sign of bone metastases. Starting androgen blockade at time of diagnosis of localized disease can achieve long-term control of the disease in close to 100% of patients and even cure the disease in the majority of them, as evidenced by maintenance of undetectable PSA in 85% of patients after cessation of long-term combined hormonal therapy. The available data indicate that the use of regular PSA screening and immediate treatment can markedly reduce mortality rates among prostate cancer patients. Next steps toward improving the quality of life for prostate cancer patients including more tolerable treatments and prevention steps are underway.Objectives: Metastatic prostate cancer is a serious disease that affects both men and their intimate partners. We explored the perceptions of men who have been treated for metastatic prostate cancer and the views of their wives regarding the changes that were caused by prostate cancer and its treatment.Objective: To critically evaluate the evidence for recommending the screening of asymptomatic men for prostate cancer with a blood test to detect a prostate-specific antigen (PSA).The prostate cancer incidence and mortality of black Americans is among the highest in the world. The reasons have not been adequately explained. Similar disparities have been noted for men of sub-Saharan origin living in Brazil and the Caribbean. Avenues of investigation have assessed racial and ethnic differences in diet as well as possible differences in the prevalence of genetics (both polymorphisms and mutations). There are studies to suggest that there are no racial differences in outcome when there is equal treatment. Several studies show that there are racial differences in patterns of care in the US and it has been hypothesized that this contributes to some of the racial disparity in survival after diagnosis.Carcinoma of the prostate is the leading source of solid-organ cancer in U.S. men. When the disease is discovered early, survival rates are high; survivorship, however, is commonly complicated by disease-specific treatment side effects that challenge a man's physical, mental, and social well-being and life satisfaction. This review comprises a search of scientific literature published between 1970 and March 2004 with the aims of 1) identifying the terms used to define the psychosocial consequences unique to men treated for prostate cancer and 2) describing the research aimed at improving the lives of survivors through psychosocial interventions.Purpose: SEER recently released patient Gleason scores at biopsy/transurethral resection of the prostate. For the first time this permits accurate assessment of prostate cancer presentation and treatment according to clinical factors at diagnosis.Prostate cancer (PCa) is the leading cause of cancer-related death among men worldwide. Knowledge of the prognostic factors of PCa and the bone metastasis pattern of patients would be helpful for patients and doctors. The data of 177,255 patients with prostate cancer diagnosed between 2010 and 2013 with at least five years of follow-up were retrieved from the Surveillance, Epidemiology, and End Results (SEER) database. Multivariate Cox regression analysis was used to determine the predictive value of patients' characteristics for survival after adjusting for other variates. Multivariate logistic regression analysis was used to evaluate the odds ratio of bone metastasis in PCa patients. The predictive value of age, race, marital status, and tumor characteristics were compared. The survival of patients with different socioeconomic statuses and bone metastasis

statuses was compared by Kaplan-Meier analysis. A total of 1,335 patients with prostate cancer diagnosed between 2009 and 2015 were enrolled from the Second Affiliated Hospital of Zhejiang University School of Medicine. The survival of patients with different prostate-specific antigen (PSA) levels, Gleason scores, marital statuses and bone metastasis statuses was compared by Kaplan-Meier analysis. In SEER database, 96.74% of patients were 50 years of age or older. Multivariate Cox analysis revealed that for PCa patients, age at presentation, older age, single marital status, lower socioeconomic status, higher PSA level, T1 and N0 stage, and bone metastasis were independent risk factors for increased mortality. Multivariate logistic regression analysis revealed that patients who were married, were living in urban areas, had lower PSA levels, underwent surgery, and radiation had lower OR factors for bone metastasis. Asian or Pacific Islander, better socioeconomic status, lived in urban areas, married marital status, lower PSA levels and lower Gleason scores were better prognostic factors in PCa. Additionally, patients with single or divorced marital status, who were living in rural places had higher PSA levels, and T1 and N0 stages have a high OR for bone metastasis.Context: Most newly diagnosed prostate cancers are clinically localized, and major treatment options include surgery, radiation, or conservative management. Although conservative management can be a reasonable choice, there is little contemporary prostate-specific antigen (PSA)-era data on outcomes with this approach.Background: There are very limited data concerning survival from prostate cancer among Asian subgroups living in the U.S., a large proportion of whom reside in California. There do not appear to be any published data on prostate cancer survival for the more recently immigrated Asian subgroups (Korean, South Asian [SA], and Vietnamese).Following a diagnosis of, and treatment for prostate cancer, there is an expectation that men will cope with, adjust to and accept the psychosocial impact on their lives and relationships. Yet, there is a limited qualitative world literature investigating the psychosocial experience of prostate cancer, and almost no literature exploring how masculinity mediates in such an experience. This paper will suggest that the experience of prostate cancer, the process by which it is investigated, and the way in which it is understood has been shaped by an essentialist interpretation of gender, exemplified by hegemonic masculinity as the archetypal mechanism of male adaptation. In response to this static and limiting view of masculinity, this paper will offer a reframe of hegemonic masculinity. This reframe, being more aligned with common experience, will portray masculinity as a dynamic and contextual construct, better understood as one of a number of cultural reference points around which each man organises and adopts behaviour. It will be suggested that the extant literature, in being organised around hegemonic masculinity, obfuscates the experience of prostate cancer and acts to render covert any collateral masculinities, public or private, that may also be operating.The objective of this study was to examine the effect of socioeconomic status and insurance status on health-related quality of life (HRQOL) outcomes in men with prostate cancer. The design was a retrospective cohort study using multiple sites, including both academic and private practice settings. A cohort of 860 men with newly diagnosed, biopsy-proven prostate cancer of any stage was identified within CaPSURE, a longitudinal disease registry of prostate cancer patients. HRQOL was assessed with validated instruments, including the RAND 36-item Health Survey (SF-36) and the UCLA Prostate Cancer Index. Covariates included insurance status, education level, annual income, age, stage, comorbidity, Gleason grade, baseline PSA, marital status, ethnicity and primary treatment. HRQOL measurements were taken at 3-6-month intervals. Analysis of covariance was used to determine the effect of SES and insurance status on the HRQOL domains at baseline and over time. Patients with lower annual income had significantly lower baseline HRQOL scores in the all of the domains of the SF-36 and four of eight disease-specific HRQOL domains. No relationship was seen between annual income and HRQOL outcomes over time. Conversely, health insurance status was associated with HRQOL over time, but not at baseline. Health insurance status appears to have a unique effect on general HRQOL outcomes in men after treatment for prostate cancer. This study confirms the commonly held belief that patients of lower SES tend to have worse quality of life at baseline and following treatment for their disease. These findings have important ramifications for clinicians, researchers and policy makers.The rise in breast cancer in women and prostate cancer in men in Western societies this century, stimulated a search for any possibly reversible aetiological associations common to both. Apart from more citizens living to an older age the most significant associated factor in common is the dietary practices of communities most at risk, particularly a decreasing Western dependence on plant foods with increasing dietary animal fats. Plant foods, especially legumes like soy, contain phytoestrogens (plant oestrogens). They are natural hormone modifying agents and give balance to levels of circulating hormones in both sexes. Animal fats hinder hormone modulation. They retain and slowly release unwanted stored hormones. To reverse this

situation Western communities could revert to Asian type diets with high soy content but a more practical approach might be to add concentrated soy or other phytoestrogen product to a fat reduced Western diet.Rationale, aims and objective: This study aimed to determine if urologists' feelings on prostate cancer screening with prostate-specific antigen (PSA) and treatment on themselves are consistent with what they recommend to patients.The treatment of prostate cancer induces adverse effects. Although quantitative studies have evaluated the influence of these adverse effects on the quality of life, few studies have tried to gain a deeper understanding of how men live after external beam radiotherapy of localized prostate carcinoma, which is the purpose of this study. Ten men were interviewed in their homes. The narrative interviews were tape recorded and transcribed into a text. The text was analyzed qualitatively by a content analysis. To bear the emotional experience of the illness by oneself is a self-chosen strategy. Some men expressed a sense of being exposed in meetings with female caregivers. The treatment induced changes in body functions influencing daily life. In this new life situation these men are striving to reach a sense of having control, which includes control over disease progression and waning body function. Despite the negative influence of the treatment, the men are striving to become reconciled with their new life. The experience of living after external beam radiotherapy of localized prostate carcinoma could be understood as striving to reach a sense of control and becoming reconciled with a new way of life.Prostate cancer (PC) has become the most frequently diagnosed neoplasm and the second leading cause of cancer-related mortality in men. Its incidence rate has continued to increase rapidly during the past two decades, especially in men over the age of 50 years as they are living longer. The prostate in aging males is highly susceptible to benign and malignant proliferative changes. About two/thirds of all cancers, however, could have been prevented based upon lifestyle choices. The preventative and therapeutic options available to men prone to prostate cancer (both benign and malignant) are limited. How environment, diet and genetics interact to either induce or prevent prostate cancer (PC) is not known. Free radicals, called reactive oxygen species (ROS), play a significant but paradoxical role acting as a "double-edged sword" to regulate cellular processes. Recent in vitro studies using benign prostate hyperplasia (BPH) and PC cell lines grown under various oxidative stress conditions confirm this theory. This manuscript describes key signal transduction mechanisms involved in ROS induced effects on prostate cell growth, cell-cycle checkpoints, apoptosis and transcription factors and the role of potential dietary antioxidants on these mechanisms. It is important to understand underlying signaling mechanisms affected by oxidative stress so as to scientifically prove the efficacy and safety of potential antioxidants in PC prevention. Thus by identifying several potential preventive and therapeutic molecular targets in prostate and by devising better chemo-preventive and chemotherapeutic strategies for controlling PC progression, one can envision significant drop in number of deaths, cut down health care costs and improve the quality of life.Purpose: Many patients with prostate cancer receive androgen deprivation therapy for long periods. We compared physical and cognitive function, and quality of life in a cross-sectional study of 57 patients receiving androgen deprivation therapy for nonmetastatic prostate cancer and 51 healthy age matched controls.Background: The Victorian Prostate Cancer Registry (Australia) revealed poorer rates of survival for men diagnosed with prostate cancer in one Victorian regional area than for men in metropolitan Melbourne. We sought to explore the perceptions and experiences of prostate cancer diagnosis, treatment, and care of men diagnosed with prostate cancer who lived in regional or metropolitan areas and of men who had not been so diagnosed. Our goal was to contribute to the evidence from which can be built continuing improvements in prostate health care.The lives of African American men with prostate cancer are greatly influenced by the information available to them, some of which is accessed on the Internet. Research indicates that the Internet can enhance consumer health knowledge but has not reached socioeconomic groups at highest risk for health disparities, such as African American men with prostate cancer. In this study, focus groups were used to explore the perceptions and uses of the Internet as a patient education tool among 39 African American men aged 39 years and older with diverse socioeconomic backgrounds. Nineteen (49%) participants reported using the Internet, 15 (38%) reported no use but indicated it was used on their behalf, and 5 (13%) reported no use and no use on their behalf. The findings revealed varying degrees of Internet use for information and social support. Prostate cancer diagnosis, poor patient-doctor communications, and accessibility influenced Internet use. Accessibility related more to lack of ease and familiarity with Internet use than lack of computer access. With training and awareness, the Internet has potential as a patient education tool among African American men with prostate cancer.Objectives: Data from the California Cancer Registry were used to model the effect of race/ethnicity, census-derived socioeconomic status (SES), age, year, and stage at diagnosis on prostatectomy utilization in men

diagnosed with prostate cancer from 1990 through 1993. Treatment received was compared with the National Cancer Institute's Physician Data Query (PDQ) to evaluate concordance.As researchers recognize the value in considering gender dynamics within the cancer experience, a majority of the masculinities work has centered on men with prostate cancer. This focus has positioned prostate cancer as the flagship of men's cancer (and perhaps men's health). There is value in this research. However, as 78% of men experience cancers of a different type, a narrow focus on prostate cancer does not necessarily account for broader intersections of cancer and masculinity. Argued here are the benefits to expanding the focus of research on men's cancer experiences. As researchers consider patterns and diversities among men managing an array of cancers, there is opportunity to broaden understanding of the challenges "cancer" can present for men, disrupt assumptions that the study of men's gendered experience of cancer must be tethered to male sex-specific biology, and enhance the relevance and impact of psychosocial interventions for men living with cancer.Much controversy still surrounds the diagnosis and treatment of localized prostate cancer. Urologists generally believe that early detection and aggressive surgical therapy saves lives despite the absence of confirmatory randomized trials. Furthermore, a recent survey of radiation oncologists and urologists revealed marked polarization toward their own specialties when asked how they would counsel patients on therapy for newly diagnosed localized disease. Some issues are not controversial, however. There is general agreement that pretreatment tumor characteristics, including serum prostate-specific antigen level at diagnosis, tumor grade, and clinical stage as judged by digital rectal examination, are important prognosticators for treatment outcomes independent of the type of treatment. Also, there is sufficient experience with standard therapies (radical prostatectomy and external beam radiotherapy) to counsel patients on the chance for cure and the expected incidence of acute and chronic toxicities. A comparative evaluation of various therapies for prostate cancer should include consideration of cancer control, acute toxicity, treatment-related quality of life issues, salvage of treatment failures, and cost. Within this context, we believe that newly diagnosed patients should be counseled on all available treatment options before embarking on a course of therapy.Objective: To characterize the clinicopathological findings and the outcome of human immunodeficiency virus (HIV)-infected patients diagnosed and treated for prostate carcinoma, as HIV-positive men being treated with highly active antiretroviral therapy (HAART) are living longer and thus are more likely to develop cancers such as prostate cancer.Surgical prostate cancer (PCa) treatment delay (TD) may increase the likelihood of recurrence of disease, and influence quality of life as well as survival disparities between Black and White men. We used latent class analysis (LCA) to identify risk profiles in localized, malignant PCa surgical treatment delays while assessing co-occurring social determinants of health. Profiles were identified by age, marital status, race, county of residence (non-Appalachian or Appalachian), and health insurance type (none/self-pay, public, or private) reported in the Tennessee Department of Health cancer registry from 2005 to 2015 for adults ≥18 years (N = 18,088). We identified three risk profiles. The highest surgical delay profile (11% of the sample) with a 30% likelihood of delaying surgery >90 days were young Black men, <55 years old, living in a non-Appalachian county, and single/never married, with a high probability of having private health insurance. The medium surgical delay profile (46% of the sample) with a 21% likelihood of delay were 55-69 years old, White, married, and having private health insurance. The lowest surgical delay profile (42% of the sample) with a 14% likelihood of delay were ≥70 years with public health insurance as well as had a high probability of being White and married. We identified that even with health insurance coverage, Blacks living in non-Appalachian counties had the highest surgical delay, which was almost double that of Whites in the lowest delay profile. These disparities in PCa surgical delay may explain differences in health outcomes in Blacks who are most at-risk.Objective: The effects of a 6-week psychoeducational group intervention on the distress, coping, personal growth, and marital communication of wives of men diagnosed with prostate cancer were evaluated using a randomized clinical trial.The objective was to explore the psychosocial adaptation of female partners living with men with a diagnosis of either localized or metastatic prostate cancer. Semi-structured qualitative interviews were conducted with 50 women at two time points (baseline and 6 months later). The interviews examined emotions, experiences, attitudes to sexual and continence issues and treatment decision making. As part of a larger prospective observational study, demographic data and scores for depression and anxiety were collected. Initial analysis demonstrated that the group of 11 women assessed as distressed on the anxiety and depression measures described reduced coping skills and poorer adaptation after 6 months. In contrast, the 39 women in the non-distressed group reported emotional adaptation that fitted the Lazarus and Folkman pattern of coping through appraisal of the impact of the diagnosis on their

partner and themselves, appraisal of coping strategies and reappraisal of the situation. A surprise finding was the high level of resilience displayed by majority of these women. Results suggest that a psychosocial intervention could strengthen healthy adaptation and provide better coping skills for distressed couples.Whether the African American race remains a significant predictor of poorer prostate cancer survival after adjusting for other sociodemographic and treatment-related factors remains unclear. We examined whether disparities in survival among 18,900 African American and Caucasian men diagnosed with prostate cancer in Kentucky remained after adjusting for health insurance (payor source), cancer treatment, cancer stage at diagnosis, prostate-specific antigen (PSA) level, smoking status, and Appalachian region. After adjusting for these predictors, African American men living in Kentucky had poorer prostate cancer survival after 5 years (hazard ratio [HR] = 1.33; 95% confidence interval = 1.11, 1.59) and 10 years (HR = 1.39; 95% CI = 1.18, 1.28) of follow-up, and for the entire follow-up period (HR = 1.41; 95% CI = 1.26, 1.65) compared to their Caucasian counterparts. Thus, health insurance status, cancer treatment, cancer stage at diagnosis, PSA level at diagnosis, smoking status, and geographic location did not explain the racial gap in survival in Kentucky.Background: Aging of population in Macau has become a serious problem and we are diagnosing more and more patients with prostate cancer. To investigate the effect of ethnicity and environment on incidence of prostate carcinoma, we compared the difference of biopsy and postoperative pathology of prostate between indigenous Chinese (Chinese) and Chinese of Portuguese descent (Portuguese) with elevated serologic prostate specific antigen (PSA) and incidence of prostate carcinoma in Macau.Purpose/objectives: To compare the quality-of-life (QOL) perceptions of men treated for prostate cancer with surgery to those of men treated for prostate cancer with radiation therapy.Non-invasive imaging and transcriptional targeting can improve the safety of therapeutic approaches in cancer. Here we demonstrate the ability to identify metastases in a human-prostate cancer model, employing a prostate-specific adenovirus vector (AdPSE-BC-luc) and a charge-coupled device-imaging system. AdPSE-BC-luc, which expresses firefly luciferase from an enhanced prostate-specific antigen promoter, restricted expression in the liver but produced robust signals in prostate tumors. In fact, expression was higher in advanced, androgen-independent tumors than in androgen-dependent lesions. Repetitive imaging over a three-week period after AdPSE-BC-luc injection into tumor-bearing mice revealed that the virus could locate and illuminate metastases in the lung and spine. Systemic injection of low doses of AdPSE-BC-luc illuminated lung metastasis. These results demonstrate the potential use of a non-invasive imaging modality in therapeutic and diagnostic strategies to manage prostate cancer.Data on initial treatment of 8232 cases of localized prostate cancer diagnosed in 2004 were obtained by medical record abstraction (including hospital and outpatient locations) from seven state cancer registries participating in the Centers for Disease Control and Prevention's Breast and Prostate Cancer Data Quality and Patterns of Care Study. Distinction was made between men receiving no therapy with no monitoring plan (no therapy/no plan [NT/NP]) and those receiving active surveillance (AS). Overall, 8.6% received NT/NP and 4.7% received AS. Older age at diagnosis, lower clinical risk group, and certain registry locations were significant predictors of use of both AS and NT/NP. AS was also related to having more severe comorbidities, whereas nonwhite race was predicted receiving NT/NP. Men receiving AS lived in areas with a higher number of urologists per 100 000 men than those receiving NT/NP. In summary, physician and clinical factors were stronger predictors of AS, whereas demographic and regional factors were related to receiving NT/NP. Physicians appear reluctant to recommend AS for younger patients with no comorbidities.Purpose of review: To summarize the literature on psychosocial responses to active surveillance as well as educational and support strategies to promote adherence.Background: We sought to evaluate prostate cancer (PCa) characteristics and outcomes of Hispanics living in the United States by country of origin in the Surveillance, Epidemiology and End Results (SEER) program.Objectives: Prostate cancer treatment is a significant source of morbidity and healthcare spending. Evolving clinical data have supported expanding surveillance as a means to "right-size" treatment. Integrated delivery systems afford the possibility of hastening this objective.Aim: This study explores the problems and uncertainties of older men, with prostate cancer, who have undergone watchful waiting and the strategies they use to manage their concerns.Objectives: We developed a conceptual model to define key concepts associated with patients' experiences with the signs, symptoms, and impacts of non-metastatic castration-resistant prostate cancer (M0-CRPC).Background: The ability to identify men at genetically high-risk of prostate cancer (PrCa) would enable screening to be targeted at those most in need. This study explored the psychological impact (in terms of general and PrCa-specific worry and risk perceptions) on men with a family history

of PrCa, undergoing prostate screening and genetic-risk profiling, within a research study.Active surveillance for favorable risk prostate cancer has become increasingly popular in populations in which prostate cancer screening is widespread because of evidence that prostate cancer screening results in the detection of disease that is not clinically significant in many patients (ie, untreated, would not pose a threat to health). The approach is supported by data showing that patients who fall into the category of clinically insignificant disease can be identified with reasonable accuracy and that patients who are initially classified as low risk who reclassify over time as higher risk and are treated radically are still cured in most cases. This means (1) identifying patients who have a low likelihood of disease progression during their lifetime based on clinical and pathologic features of the disease and patient age and comorbidity, (2) close monitoring over time, (3) reasonable criteria for intervention that will both identify more aggressive disease in a timely fashion and not result in excessive treatment, and (4) meeting the communication challenge to reduce the psychological burden of living with untreated cancer. The results of active surveillance, the criteria for patient selection, and the appropriate triggers for intervention are reviewed.Purpose: Men are living longer with prostate cancer. In a two-country study, we investigated the health-related quality of life (HRQoL) of prostate cancer survivors up to 18 years post-diagnosis.Background: Appropriate depression care is a cancer-care priority. However, many cancer survivors live with undiagnosed and untreated depression. Prostate cancer survivors may be particularly vulnerable, but little is known about their access to depression care. The goal of this study was to describe patterns and predictors of clinical diagnosis and treatment of depression in prostate cancer survivors.Background: Black prostate cancer patients are less likely to receive aggressive therapy (AT) than Whites: reported rates for patients ≥ 65 years old are about 55% versus 65%. Little is known about treatment rates in socioeconomically deprived states with large Black populations like Alabama.Active surveillance for favorable-risk prostate cancer has become increasingly common in populations in which screening for prostate cancer is widespread, owing to evidence that in many patients screening results in the detection of disease that is not clinically significant (i.e. untreated, it would not pose a threat to health). The approach is supported by data demonstrating that patients who have clinically insignificant disease can be identified with reasonable accuracy, and that patients who are initially classified as low risk but reclassified over time as higher risk and are treated radically are still cured in most cases. It is important to identify patients who have a low probability of disease progression during their lifetime according to clinical and pathologic features of the disease, patient age and comorbidity. Close monitoring of patients over time and availability of reasonable criteria for intervention, which will both identify more-aggressive disease in a timely fashion and not result in excessive treatment, are crucial. It is also important to communicate appropriately with the patient, to reduce the psychological burden of living with untreated cancer. The results of active surveillance, the criteria for patient selection and the appropriate thresholds for intervention are reviewed in this article.Aberrant expression of miR-96 in prostate cancer has previously been reported. However, the role and mechanism of action of miR-96 in prostate cancer has not been determined. In this study, the diagnostic and prognostic properties of miR-96 expression levels were investigated by qRT-PCR in two well documented prostate cancer cohorts. The miR-96 expression was found to be significantly higher in prostate cancer patients and correlate with WHO grade, and decreased overall survival time; patients with low levels of miR-96 lived 1.5 years longer than patients with high miR-96 levels. The therapeutic potential was further investigated in vitro, showing that ectopic levels of miR-96 enhances growth and cellular proliferation in prostate cancer cells, implying that miR-96 has oncogenic properties in this setting. We demonstrate that miR-96 expression decreases the transcript and protein levels of FOXO1 by binding to one of two predicted binding sites in the FOXO1 3'UTR sequence. Blocking this binding site completely inhibited the growth enhancement conveyed by miR-96. This finding was corroborated in a large external prostate cancer patient cohort where miR-96 expression inversely correlated to FOXO1 expression. Taken together these findings indicate that miR-96 plays a key role in prostate cancer cellular proliferation and can enhance prostate cancer progression. This knowledge might be utilized for the development of novel therapeutic tools for prostate cancer.18F-labeled prostate-specific membrane antigen (PSMA) PET tracers are increasingly used in preference to 68Ga-PSMA-11 for restaging biochemical recurrence (BCR) of prostate cancer. They are associated with longer half-lives, larger-scale production, and lower positron range than their 68Ga-labeled counterparts. Here, we describe the efficacy of an 18F-labeled radiohybrid PSMA, rhPSMA-7, a novel theranostic PSMA-targeting agent for imaging BCR of prostate cancer. Methods: Datasets from 261 consecutive patients with noncastrate BCR after radical prostatectomy who underwent 18F-rhPSMA-7 PET/CT at our institution between June 2017 and March 2018 were

reviewed retrospectively. All lesions suspected of being recurrent prostate cancer were recorded. The detection rate for sites of presumed recurrence was correlated with patients' prostate-specific antigen (PSA) level, primary Gleason score, and prior therapy (androgen deprivation therapy and external-beam radiation therapy). Results: The 261 patients had a median PSA level of 0.96 ng/mL (range, 0.01-400 ng/mL). The median injected activity of 18F-rhPSMA-7 was 336 MBq, with a median uptake time of 76 min. In total, 211 patients (81%) showed pathologic findings on 18F-rhPSMA-7 PET/CT. The detection rates were 71% (42/59), 86% (44/51), 86% (42/49), and 95% (76/80) at PSA levels of 0.2 to <0.5 ng/mL, 0.5 to <1 ng/mL, 1 to <2 ng/mL, and ≥2 ng/mL, respectively. In 32% patients (7/22) with a PSA of less than 0.2 ng/mL, suggestive lesions were present. 18F-rhPSMA-7 PET/CT revealed local recurrence in 43% of patients (113). Lymph node metastases were present in the pelvis in 42% of patients (110), in the retroperitoneum in 17% (45), and in a supradiaphragmatic location in 8.0% (21). Bone and visceral metastases were detected in 21% (54) and 3.8% (10), respectively. Detection efficacy was not influenced by prior external-beam radiation therapy (79.1% vs. 82.1%, P = 0.55), androgen deprivation therapy within the 6 mo preceding imaging (80.6% vs. 80.9%, P = 0.54), or primary Gleason score (77.9% for ≤7 vs. 82.6% for ≥8, P = 0.38). Conclusion:18F-rhPSMA-7 PET/CT offers high detection rates in early BCR after radical prostatectomy, especially among patients with low PSA values.Gay and bisexual (GB) men with prostate cancer (PCa) have been described as an "invisible diversity" in PCa research due to their lack of visibility, and absence of identification of their needs. This study examined the meaning and consequences of erectile dysfunction (ED) and other sexual changes in 124 GB men with PCa and 21 male partners, through an on-line survey. A sub-sample of 46 men with PCa and seven partners also took part in a one-to-one interview. ED was reported by 72 % of survey respondents, associated with reports of emotional distress, negative impact on gay identities, and feelings of sexual disqualification. Other sexual concerns included loss of libido, climacturia, loss of sensitivity or pain during anal sex, non-ejaculatory orgasms, and reduced penis size. Many of these changes have particular significance in the context of gay sex and gay identities, and can result in feelings of exclusion from a sexual community central to GB men's lives. However, a number of men were reconciled to sexual changes, did not experience a challenge to identity, and engaged in sexual re-negotiation. The nature of GB relationships, wherein many men are single, engage in casual sex, or have concurrent partners, influenced experiences of distress, identity, and renegotiation. It is concluded that researchers and clinicians need to be aware of the meaning and consequences of sexual changes for GB men when designing studies to examine the impact of PCa on men's sexuality, advising GB men of the sexual consequences of PCa, and providing information and support to ameliorate sexual changes.Objective: To assess the public awareness of prostate cancer and willingness to seek medical attention for urinary symptoms, and to determine associated factors.Objective: To examine recreational physical activity (PA) and prostate cancer risk in a large cohort of men living in Washington State, focusing on frequency and type of physical activity at various times throughout life.Causes of high mortality of prostate cancer in men of African ancestry living in the French West Indies are still debated, between suspicions of environmental factors and genetic susceptibility. We report an integrated genomic study of 25 tumour tissues from radical prostatectomy of aggressive (defined by International Society of Urological Pathology ≥3) prostate cancer patients (10 African Caribbean and 15 French Caucasian) using single nucleotide polymorphism arrays, whole-genome sequencing, and RNA sequencing. The results show that African Caribbean tumours are characterised by a more frequent deletion at 1q41-43 encompassing the DNA repair gene PARP1, and a higher proportion of intrachromosomal rearrangements including duplications associated with CDK12 truncating mutations. Transcriptome analyses show an overexpression of genes related to androgen receptor activity in African Caribbean tumours, and of PVT1, a long non-coding RNA located at 8q24 that confirms the strong involvement of this region in prostate tumours from men of African ancestry. Patient summary: Mortality of prostate cancer is higher in African Caribbean men than in French Caucasian men. Specificities of the former could be explained by genomic events linked with key genes such as DNA damage pathway genes PARP1, CDK12, and the oncogenic long non-coding RNA gene PVT1 at the 8q24 prostate cancer susceptibility locus.Objectives: To evaluate the efficiency of occupational therapy relative to a home program in improving quality of life (QoL) among men who were treated for metastatic prostate cancer (MPC).Prostate Cancer Patient Associations (PCPAs) have become common. The aim of this study was to evaluate the quality of life of patients belonging to PCPAs. Members of 10 PCPAs in Sweden with prostate cancer completed 2 quality of life questionnaires (Quality-of-Life Questionnaire [QLQ-C30] and Prostate Cancer Symptom Scale). Of 2,028 members, 1,301 (64%) responded to the survey. Sixty

percent of the members felt "healthy," and 38% were "free from the cancer." Ninety-five percent scored >80 on the physical function scale compared with 44% on the overall quality of life/health scale. The most severe symptom was sleeping disturbances (mean = 29). Seventeen percent scored "Quite a bit/Much" tiredness. More than 50% did not report any bladder or bowel problems. Fifty percent had "Much" sexual problems, and almost 80% did not have sufficient erection. Those reported as being "disease free" scored higher on the functioning scales than those with "metastatic disease." Those with an experience of a "metastatic disease" had more symptoms than those with less advanced disease. This is the first descriptive study of quality of life in members of Swedish PCPAs with prostate cancer. These findings show that it is possible to gain valid data to further study the situation of patients living with prostate cancer by collecting data from PCPAs.Following a diagnosis of prostate cancer, men require information and support from healthcare providers which is tailored to their individual needs. Studies reporting on the needs of gay men with prostate cancer, and their experiences of healthcare provision, are lacking. This study highlights the issues affecting this group of men and the implications for healthcare delivery in the United Kingdom. In-depth interviews were conducted with 12 gay men who had been diagnosed with prostate cancer. A phenomenological approach was used to collect and analyse data. Participants wanted, and expected, candid discussions with healthcare professionals, about how prostate cancer could affect their lives, sexual function, and how to access culturally relevant support before and after treatment. Participants perceived that their healthcare team had little knowledge about their needs, and if, or how, their experience differed due to their sexual orientation. Information provided was perceived as being misplaced or informed by heteronormative assumptions. Consideration should be given to requesting sexual orientation when recording patient information, if patients are willing to disclose. Training should be provided for healthcare professionals to enable them to provide information and support that is culturally relevant at all stages of the consultation.Introduction: Quality of life in prostate cancer survivorship is becoming increasingly important, with mental and social wellbeing recognised as key components. However, limited global evaluation of psychosocial challenges experienced after treatment exists. Therefore, we aimed to explore the lived experiences of men who underwent radical treatment, and its psychosocial impact.Approximately a third of the patients diagnosed with prostate cancer will present with advanced disease. Metastasis commonly occurs to the regional lymph nodes and/or the bony skeleton. Total androgen ablation by means of castration, antiandrogens or luteinizing hormone-releasing hormone analogs remains the standard of care for patients. However, responses are short-lived in most patients with progression of hormone refractory disease being inevitable over the course of 2 to 3 years. Advances in molecular and cellular biology have led to an improved understanding of prostate biology and the characteristics of prostate cancer. Based on this improved understanding, several new approaches are being developed for the treatment of metastatic prostate cancer. These range from traditional dietary modifications to altering the microcellular environment of the prostate cancer cell and gene therapy. This article provides an overview of some of the more promising novel therapeutic approaches being investigated in prostate cancer. While many of these treatments are still experimental, some are undergoing preliminary clinical trials and will hopefully result in new management choices for these patients in the near future.Objective: To determine whether the distance between a prostate cancer patient's home and treatment facility was related to the choice of treatment received among those opting for surgery or radiation.This study describes sources of support utilised by men with localised prostate cancer in the first year after diagnosis and examines characteristics associated with help-seeking for men with unmet needs. A cross-sectional survey of 331 patients from a population-based sample who were in the first year after diagnosis (M = 9.6, SD = 1.9) was conducted to assess sources of support, unmet supportive care needs, domain-specific quality of life and psychological distress. Overall, 82% of men reported unmet supportive care needs. The top five needs were sexuality (58%); prostate cancer-specific (57%); psychological (47%); physical and daily living (41%); and health system and information (31%). Professional support was most often sought from doctors (51%). Across most domains, men who were older (Ps $\leq$ 0.03), less well educated (Ps $\leq$ 0.04) and more depressed (Ps $\leq$ 0.05) were less likely to seek help for unmet needs. Greater sexual help-seeking was related to better sexual function (P = 0.03), higher education (P $\leq$ 0.03) and less depression (P = 0.05). Unmet supportive care needs are highly prevalent after localised prostate cancer diagnosis with older age, lower education and higher depression apparent barriers to help-seeking. Interventions that link across medicine, nursing and community based peer support may be an accessible approach to meeting these needs. Clinical Trial Registry: Trial Registration: ACTRN12611000392965.Objectives: To describe the impact of prostate-specific antigen (PSA)

screening on the health-related quality of life (HRQOL) and anxiety of men with a family history of prostate cancer.This study sought to explore the lived experiences of physically active prostate cancer survivors on androgen deprivation therapy (ADT), who exercise individually. Three older men (74-88 years old) with prostate cancer, using ADT continuously for at least 12 months and regularly exercising for at least 6 months, participated in this qualitative pilot study, informed by interpretive phenomenology. Data were gathered using individual semi-structured interviews, audio recorded and transcribed verbatim. Coherent stories were drawn from each transcript and analyzed using iterative and interpretive methods. van Manen's lifeworld existentials provided a framework for interpreting across the research text. Three notions emerged: Getting started, Having a routine and Being with music. Together they reveal what drew the participants to exercising regularly despite the challenges associated with their cancer and treatments. This study provides insights into the benefits of, and what it means for, older men with prostate cancer to regularly exercise individually. These findings may assist cancer clinicians and other allied health professionals to be more attuned to prostate cancer survivors' lived experiences when undergoing ADT, allowing clinicians to better promote regular exercise to their patients as a foundational component of living well.Study Type - Therapy (case series) Level of Evidence 4 What's known on the subject? and What does the study add? Active surveillance is a management option in patients with localized prostate cancer. One concern is the possible psychological burden and quality-of-life effects caused by consciousness of living with untreated cancer. Previous studies have reported controversial results about the impact of active surveillance on patient's health-related quality of life. The data of the present study support the idea that patients with low-risk prostate cancer manage well on active surveillance and do not develop short-term mental or physical quality-of-life sequelae.Purpose: We sought to measure utilities for prostate cancer health states in older men.Epidemiologic studies revealed that there are variations in the geographic and ethnic distribution of cancer of the prostate (CaP) gland. This cancer varies dramatically between being very common in black American men, to rare in Asian and Chinese men. Genetic, familial predisposition and environmental factors in addition to methods of cancer detection and reporting contribute to these variations. Prostate cancer is the ninth most commonly diagnosed cancer in the world yet it ranks first in the United States of America (USA) where resources allow large epidemiological studies. The health policy makers take major decisions such as mass population screening according to data derived from such studies that include information on disease specific mortality rates and incidence rates for each of the ethnic sub-populations living in the USA. Until now, we do not have similar information in the Kingdom of Saudi Arabia (KSA); therefore, policy decisions should consider the possibility of the difference in situations since genetic, familial and environmental conditions are different. Our current local data, although little, indicates that prostate cancer occurs at a lower incidence rate than western countries. The objective of this article is to provide all the available information on the different aspects of CaP gland in KSA. A second more important objective is to attract the attention of the future expectations that need preparation since the possibility of disease prevention does exist.The large population of men who will develop metastatic prostate cancer creates a strong need for good palliative care. For many men, androgen ablation works well; however, when this fails, the quality of a man's life can quickly degrade. Pain from skeletal metastases, neurologic involvement, bleeding, and obstruction can all occur. Radiotherapy has long been the gold standard for palliation of symptomatic disease. However, a new approach using hemibody irradiation (HBI) earlier in the disease course, as well as more effective and tolerable dose and fractionation schemes for local field radiation, are providing excellent amelioration of symptoms and the possibility of living longer and more comfortably to many men with metastatic prostate cancer. The indications and use of therapeutic systemic radioisotopes to help achieve these objectives are also discussed.Objective: To determine whether rural residents were at a disadvantage compared with urban residents with regard to the receipt of curative therapy for prostate cancer.Androgen ablation therapy is widely used for the treatment of advanced prostate cancer. However, the effectiveness of this intervention strategy is generally short-lived as the disease ultimately progresses to a hormone-refractory state. In recent years, it has become clear that even in antiandrogen-resistant cancers the androgen receptor (AR) signaling axis is intact and is required for prostate cancer growth. Thus, there is a heightened interest in developing small molecules that function in part by down-regulating AR expression in tumors. Paradoxically, AR expression has been shown to be important in preventing the transdifferentiation of epithelial prostate cancer cells toward a neuroendocrine phenotype associated with tumor progression. Consequently, we have evaluated the relative effect of prostate cancer therapeutics that function in part by depleting AR levels on neuroendocrine differentiation in established cellular models of prostate

cancer. These studies reveal that although histone deacetylase inhibitors can down-regulate AR expression they increase the expression of neuroendocrine markers and alter cellular morphology. Inhibition of AR signaling using classic AR antagonists or small interfering RNA-mediated AR ablation induces incomplete neuroendocrine differentiation. Importantly, the Hsp90 inhibitor geldanamycin effectively down-regulates AR expression while having no effect on neuroendocrine differentiation. Taken together, these data show that the phenotypic responses to pharmacologic agents used in the clinic to prevent the progression of prostate cancer are not equivalent, a finding of significant therapeutic importance.Urological problems especially connected with prostate diseases appear in older men: prostatitis, benign prostatic hyperplasia, prostate cancer and others. Prostate cancer is the most common cancer in men and the second leading cause of deaths in male population. Therefore, it seems important to early detect prostate cancer in general practice setting due to screening procedures such as digital rectal exam and prostate-specific-antigen test. The aim of the study was to examine the character of diagnoses of a prostate disease among 1,004 men of the Lublin district who reported to a doctor during screening procedure carried out in urology outpatient clinic at Clinical Hospital in Lublin in the year 2000. After physical examination urologists initially diagnosed a prostate disease and sent men suspected to have a prostate cancer to further investigations. There was studied age and place of living. Benign prostate hyperplasia was the most common diagnosis made in 77.1% of subjects. It occurred most often in men aged 51-70 years. Prostate cancer was suspected in 3.5% of subjects. Frequency of benign prostate hyperplasia and prostate cancer suspicion increased with age. On the basis of studies screening procedures seem beneficial in the early detection of prostate cancer in men over 50.A 82-year male consulted us for elevation of prostate specific antigen, diagnosed as prostatic adenocarcinoma (moderated differentiated). We decided to observe him under androgen deprivation therapy. During the 8 months of treatment, left hemi-paresis started to appear. Brain magnetic resonance imaging revealed the multiple brain metastases, suspected to have originated from the prostate cancer. Total 30 Gy radiotherapy could not establish the improvement of activity of daily living. We discuss the cases of brain metastasis associated with prostate cancer.Background: Patients with advanced prostate cancer eventually cease to respond to hormonal therapy and thus progress to hormone refractory prostate cancer (HRPC). Prednisone has been used in this setting; however, limited data is available for this monotherapy in the asymptomatic HRPC population.Background: Qualitative research on cancer patients' survivor-identity and lived experiences in low- and middle-income countries is scarce. Our study aimed at exploring the concept and experience of survivorship for Mexicans living with breast, cervical, and prostate cancer.Purpose: National attention has focused on whether urology-radiation oncology practice integration, known as integrated prostate cancer centers, contributes to the use of intensity modulated radiation therapy, a common and expensive prostate cancer treatment.Background: New biomarkers for early detection of cancer must pass through several phases of development. Early phases provide information on diagnostic properties but not on population benefits and harms. Prostate cancer antigen 3 (PCA3) is a promising prostate cancer biomarker still in early development. We use simulation modeling to project the impact of adding PCA3 to prostate-specific antigen (PSA) screening on prostate cancer detection and mortality in the United States.Prostate cancer patients with inherited BRCA2 mutations have a survival disadvantage. However, it is unknown whether progression is associated with BRCA2 protein expression in diagnostic prostate cancer tissue, among men without inherited mutations. We conducted a nested case-control study within the Swedish Watchful Waiting cohort. The case group included all 71 patients who died from prostate cancer within 5 years from diagnosis and controls were all patients (n = 165) who lived at least 7 years after diagnosis. Tissue microarrays were stained using antibodies for C- and N-terminal domains of the BRCA2 protein. Location (nuclear, cytoplasmic and membranous) and magnitude (intensity and percentage) of expression were assessed. Logistic regression models produced odds ratios (OR) and 95% confidence intervals (CI) adjusted for age, year of diagnosis and Gleason score. Positive BRCA2 staining at the cell membrane was associated with reduced risk of death within 5 years (N-terminal: OR = 0.47, 95% CI = 0.21-1.04, P = 0.06; C-terminal: OR = 0.41, 95% CI = 0.18-0.91, P = 0.03) and low Gleason scores (P = 0.006). Positive cytoplasmic C-terminal staining was associated with higher Gleason scores and increased lethality (OR = 3.61, 95% CI = 1.61-8.07, P = 0.002). BRCA2 protein expression at the cell membrane and lack of C-terminal expression in the cytoplasm were associated with a reduced risk of rapidly fatal prostate cancer. BRCA2 protein expression in prostate cancer tissue may have independent prognostic value. The potential biological significance of BRCA2 expression at the cell membrane warrants further investigation.Background: The treatment of prostate cancer has been impeded by the lack of both clinically relevant disease models and metabolic markers

that track tumor progression. Hyperpolarized (HP) (13) C MR spectroscopy has emerged as a new technology to investigate the metabolic shifts in prostate cancer. In this study, we investigate the glucose reprogramming using HP (13) C pyruvate MR in a patient-derived prostate tissue slice culture (TSC) model.Objective: To present long-term survival data from the Victorian Radical Prostatectomy Register (VRPR), 1995-2000, and analyse the effect of rural residence on survival.Background: Active surveillance (AS) is emerging as an alternative approach to limit the risk of overtreatment and impairment of quality of life (QoL) in patients with low-risk localised prostate cancer. Although most patients report high levels of QoL, some men may be distressed by the idea of living with untreated cancer.Purpose: In this article, the authors describe the experiences of men with prostate cancer and their spouses between diagnosis and surgery.Purpose/objectives: To summarize the recent literature and report the issues and controversies surrounding watchful waiting as a management option for prostate cancer.Objective: To characterize men presenting to a tertiary care safety-net hospital with prostate-specific antigen (PSA) values ≥100 ng/mL and to identify a potential population for targeted PSA screening.Background: Despite the growing body of literature which highlights the potential for significant and enduring side-effects of prostate cancer treatment, there is limited research exploring the experience of living with the treatment-induced side-effects such as sexual dysfunction, and their repercussions for men and their partners. The aim of this qualitative study was to explore factors influencing psychosexual adjustment, self-perception, and unmet information and support needs of prostate cancer patients and their partners.Context: Psychosocial factors have been linked to the development and progression of cancer and shown to be relevant in cancer care. However, the evidence that psychosocial interventions affect cancer survival is less conclusive. Few methodologically sound studies have addressed this issue.Objectives: To improve the treatment of locally advanced prostate cancer (Stages B2 and C), a prospective randomized trial was conducted to compare radical prostatectomy versus external beam radiotherapy with the combination of endocrine therapy in both modalities.Background: Recent studies in prostatic tissue suggest that Propionibacterium acnes (P. acnes), a bacterium associated with acne that normally lives on the skin, is the most prevalent bacterium in the prostate and in men with benign prostatic hyperplasia. Its prevalence is higher in samples from patients subsequently diagnosed with prostate cancer. The aim of our study was to test whether circulating levels of P. acnes antibodies are associated with prostate cancer risk and tumour characteristics using plasma samples from a population-based case-control study.Background: Several prostate cancer (PCa) early-detection biomarkers are available for reflex testing in men with intermediate prostate-specific antigen (PSA) levels. Studies of these biomarkers typically provide information about diagnostic performance but not about overdiagnosis and lives saved, the primary drivers of associated harm and benefit.Background: Radical prostatectomy is one option for treating localized prostate cancer, but it can cause functional impairment of the urogenital system.Background: Survivors' testimonies can reveal much about men's experiences of prostate cancer and impacts on their quality of life (QOL) during the clinical trajectory of the disease. These survivors' shared thoughts and views were hypothesized to reflect salient features of their lived social representation of prostate cancer.Purpose: Treatment for early prostate cancer produces problematic physical side effects, but prior studies have found little influence on patients' perceived health status. We examined psychosocial outcomes of treatment for early prostate cancer.Objective: To characterize the use of multiparametric magnetic resonance imaging (mpMRI) in male Medicare beneficiaries electing active surveillance for prostate cancer. mpMRI has emerged as a tool that may improve risk-stratification and decrease repeated biopsies in men electing active surveillance. However, the extent to which mpMRI has been implemented in active surveillance has not been established.Objectives: To compare the loss of working time due to sick leave by treatment strategy for localised prostate cancer.Since the development and growth of the prostate cancer is highly dependent on androgens, androgen deprivation therapy continues to be the treatment of choice for patients with advanced prostate cancer. The therapy is very effective, but responses are often short-lived. We describe here a novel molecular mechanism that may explain why prostate cancer cells become resistant to hormonal therapy. Amplification of the androgen receptor (AR) gene was found to be selected for during androgen deprivation therapy in 23% of prostate cancer patients who experienced local tumor recurrence. Amplification leads to increased expression of the AR gene, which enables the cancer cells to more effectively utilize the residual low levels of androgens for sustaining cell growth. Discovery of AR amplification as a possible molecular mechanism of therapy resistance in prostate cancer should prove useful for development of more effective endocrine therapy regimens as well as diagnostic and predictive tests for therapy failure.Objective: To describe treatments for localized prostate cancer:

surgery, external radiation therapy, and brachytherapy; watchful waiting might also be appropriate. Patients trying to decide about treatment ask family physicians for advice. This article sets out a framework to aid patients (and physicians) in the decision.Background: Little is known regarding how patients select treatment for localized prostate cancer. This study examined determinants of patients' preferences for health states related to prostate cancer, and assessed whether preferences and/or other factors predict treatment choices.Aim: We examined how sociodemographic, clinical and area-level factors are related to short-term prostate cancer mortality versus mortality from other causes, a crucial distinction for this disease that disproportionately affects men older than 60 years.Purpose: We sought to determine whether further distance from a radiation center is associated with lower utilization of external beam radiation therapy (XRT).Objective: Prostate cancer, one of the most common cancers in men, is often treated with radiotherapy, which strains both physical and mental health. This study aimed to describe the experiences of men living with prostate cancer shared within conversational support groups during a course of radiotherapy.Objective: To review the development, methodology and difficulties of evaluating the quality of life (QoL) in patients with hormone-resistant prostate cancer, and to analyse the subjective effect of palliative radiotherapy among these patients.Adoptive immunotherapy has demonstrated efficacy in a subset of clinical and preclinical studies, but the T cells used for therapy often are rendered rapidly nonfunctional in tumor-bearing hosts. Recent evidence indicates that prostate cancer can be susceptible to immunotherapy, but most studies using autochthonous tumor models demonstrate only short-lived T-cell responses in the tolerogenic prostate microenvironment. Here, we assessed the efficacy of sublethal whole-body irradiation (WBI) to enhance the magnitude and duration of adoptively transferred CD8(+) T cells in the transgenic adenocarcinoma of the mouse prostate (TRAMP) model. We demonstrate that WBI promoted high-level accumulation of granzyme B (GzB, Gzmb)-expressing donor T cells both in lymphoid organs and in the prostate of TRAMP mice. Donor T cells remained responsive to vaccination in irradiated recipients, but a single round of WBI-enhanced adoptive immunotherapy failed to affect significantly the existing disease. Addition of a second round of immunotherapy promoted regression of established disease in half of the treated mice, with no progression observed. Regression was associated with long-term persistence of effector/memory phenotype CD8(+) donor cells. Administration of the second round of adoptive immunotherapy led to reacquisition of GzB expression by persistent T cells from the first transfer. These results indicate that WBI conditioning amplifies tumor-specific T cells in the TRAMP prostate and lymphoid tissue, and suggest that the initial treatment alters the tolerogenic microenvironment to increase antitumor activity by a second wave of donor cells.Recent advances in detection combined with increasingly effective treatment for prostate cancer has led to significant improvements in life expectancy. More men are living longer with the significant physical and emotional after-effects of prostate cancer treatment.Prostate cancer (PCa) affects 1 in 8 men, but exercise therapy has been shown to be a very effective intervention not only to induce physiological benefits but to also reduce the side effects of cancer treatments typically administered during PCa. The COVID19 pandemic has restricted access to exercise clinics, a problem which always existed for people living in rural and remote areas. This caused many exercise physiologists and researchers to transition their clinic-based exercise to online, home-based exercise. We would like to propose that researchers and exercise physiologists should consider the use of elastic tubes in both research and the clinical management of PCa, when exercise programs are administered remotely, as their characteristics make them an ideal exercise equipment. In this article, the characteristics, considerations, and information on quantifying exercise dosage when using elastic tubes in remote exercise delivery are discussed.Introduction: Exploring symptom experiences of older men during metastatic prostate cancer treatment can help clinicians identify unmet supportive care needs that, if addressed, could improve toxicity management and enhance patient wellbeing. Previous qualitative studies of older adults with advanced prostate cancer have focused on the psychological experience rather than the overall symptom experience. Therefore, the objective of this study was to understand the lived experience of symptoms and supportive care needs in older men undergoing treatment for metastatic prostate cancer.Circulating tumor cells (CTC) mediate metastatic spread of many solid tumors and enumeration of CTCs is currently used as a prognostic indicator of survival in metastatic prostate cancer patients. Some evidence suggests that it is possible to derive additional information about tumors from expression analysis of CTCs, but the technical difficulty of isolating and analyzing individual CTCs has limited progress in this area. To assess the ability of a new generation of MagSweeper to isolate intact CTCs for downstream analysis, we performed mRNA-Seq on single CTCs isolated from the blood of patients with metastatic prostate cancer and on single prostate cancer

cell line LNCaP cells spiked into the blood of healthy donors. We found that the MagSweeper effectively isolated CTCs with a capture efficiency that matched the CellSearch platform. However, unlike CellSearch, the MagSweeper facilitates isolation of individual live CTCs without contaminating leukocytes. Importantly, mRNA-Seq analysis showed that the MagSweeper isolation process did not have a discernible impact on the transcriptional profile of single LNCaPs isolated from spiked human blood, suggesting that any perturbations caused by the MagSweeper process on the transcriptional signature of isolated cells are modest. Although the RNA from patient CTCs showed signs of significant degradation, consistent with reports of short half-lives and apoptosis amongst CTCs, transcriptional signatures of prostate tissue and of cancer were readily detectable with single CTC mRNA-Seq. These results demonstrate that the MagSweeper provides access to intact CTCs and that these CTCs can potentially supply clinically relevant information.Cancer is the second most important non-communicable disease worldwide and disproportionately impacts low- to middle-income countries. Diet in combination with other lifestyle habits seems to modify the risk for some cancers but little is known about South Americans. Food habits of Argentinean men pre- and post-diagnosis of prostate cancer (n = 326) were assessed along with other lifestyle factors. We studied whether any of the behaviors and risk factors for prostate cancer were found in men with other cancers (n = 394), compared with control subjects (n = 629). Before diagnosis, both cases reported a greater mean consumption of meats and fats and lower intakes of fruits, green vegetables, cruciferous vegetables, legumes, nuts, seeds, and whole grains than the controls (all $p < 0.001$). After diagnosis, cases significantly reduced the intake of meats and fats, and reported other dietary modifications with increased consumption of fish, fruits (including red fruits in prostate cancer), cruciferous vegetables, legumes, nuts, and black tea (all $p < 0.001$). Additional lifestyle aspects significantly predominant in cases included a reduced quality of sleep, emotional stress, low physical activity, tobacco smoking, alcohol consumption, living in rural areas, and being exposed to environmental contaminants. Argentinian men were predisposed to modify their unhealthy dietary habits and other lifestyle factors after cancer diagnosis.Background: Within the cluster of self-report methodologies, ecological momentary assessment (EMA) is a method used in health services research whereby a participant repeatedly reports on affect, behaviors, symptoms, and cognitions as they occur in real time in the participant's natural environment. However, little is known about the impact of participating in an EMA study on individuals' experiences who are affected by prostate cancer.The number of men living with prostate cancer in the UK is predicted to rise from 255,000 to 416,000 in 2020 and 620,000 by 2030. More than 80% of men diagnosed with prostate cancer can expect to survive for at least five years. Up to 87% of men with prostate cancer may have unmet supportive care needs. Patients regularly cite psychological and sexual issues as the most significant. Poor functional outcomes after treatment such as incontinence and erectile dysfunction have a major impact on quality of life. The traditional model of hospital follow-up fails to deliver optimum patient-centred cancer care. Holistic aspects of care such as psychological needs and factors which may facilitate full rehabilitation of patients back into society may be missed. The key elements of a survivorship programme are: education, intervention, surveillance and co-ordination of care. Interventions which may improve immediate care include: structured holistic needs assessment and care planning, treatment summaries and cancer care reviews, patient education and support events and advice about, and access to, physical activity schemes. Urologists and GPs need to collaborate to establish shared care pathways for prostate cancer patients. Elements of these innovative pathways will include clear follow-up protocols for prostate cancer survivors discharged into the community and rapid access arrangements for patients about whom GPs are concerned.Purpose: The authors describe the experience of men with prostate cancer and their spouses in the early recovery period after surgery.Background: The management of elderly patients with prostate cancer is an important issue because the incidence of prostate cancer is high in old men, and people are also living longer today. The present retrospective study was therefore conducted to evaluate the long-term clinical outcome of elderly patients with prostate cancer and to analyze the prognostic factors.Objectives: We aimed to evaluate the feasibility and efficacy of surgical prostatectomy in renal transplant recipients (RTRs).Background: Few studies have measured longitudinal changes in health-related quality of life (HRQOL) among patients with prostate cancer starting before their cancer diagnosis or have provided simultaneous comparisons with a matched noncancer cohort. In the current study, the authors addressed these gaps by providing unique estimates of the effects of a cancer diagnosis on HRQOL accounting for the confounding effects of ageing and comorbidity.Background: Recent evidence has suggested that the introduction of rapid access prostate cancer programs has led to a more streamlined pathway for patients, and was

designed to ultimately reduce referral delays.Purpose/objectives: To identify and describe decision-making influences on men who decide to manage their low-risk prostate cancer with active surveillance.In a cross-sectional study design, a disease free sample of 57 lung, 117 colon, and 104 prostate cancer survivors who represented short, intermediate and long-term survivors completed a detailed assessment of quality of life (QOL) and rehabilitation needs using the CAncer Rehabilitation Evaluation System (CARES). Demographic and medical data, social support, and a global QOL rating were also assessed. Lung cancer patients showed no differences in QOL with respect to their period of survival. QOL improved for survivors of colon cancer as they lived for longer periods, but declined with time for survivors of prostate cancer. The best predictor of QOL for all groups was KPS, although other variables such as type of hospital, gender, and work status were predictive for survivors of colon cancer. For survivors of prostate cancer comorbidity with other medical illnesses, time since diagnosis and comorbidity due to psychiatric difficulties were predictive of QOL. All groups had significant rehabilitation problems in the domains of physical, psychosocial, sexual, medical interaction, and marital relationships. Lung cancer survivors had more problems than the other cancer survivors. We conclude that patients who survive cancer do not return to a state of normal health. They demonstrate a variety of difficulties with which they must cope as they continue to survive. Greater efforts need to be made early in diagnosis and treatment to understand rehabilitation problems and target interventions in the hope of reducing later sequelae.Introduction: We report the largest known cohort of South Asian (SA) men treated by radical prostatectomy living in the United States. Our objective was to characterize this sub-population and compare them to our wider cohort of prostate cancer patients treated with radical prostatectomy in the United States.Background: Although the prognosis of localised prostate cancer is good, the negative effects of prostate cancer treatment often impair patient quality of life. A growing number of men experience these negative effects over a longer time because of the increased incidence of and prolonged survival in prostate cancer, and the ageing of the population. Only a few studies have investigated the adverse effects of different prostate cancer treatments using large population-based samples.Dietary patterns reflect combinations of dietary exposures, and here we examine these in relation to prostate cancer risk. In a case-control study, 80 incident primary prostate cancer cases and 334 urology clinic controls were enrolled from 1997 through 1999 in Kingston, Ontario, Canada. Food-frequency questionnaires were completed prior to diagnosis and assessed intake in the 1-year period 2-3 years prior to enrollment. Among controls, dietary intake was used in principal components analyses to identify patterns that were then evaluated with all subjects in relation to prostate cancer risk using unconditional logistic regression, controlling for age. Four dietary patterns were identified: Healthy Living, Traditional Western, Processed and Beverages. Increased prostate cancer risk is apparent in relation to the Processed pattern, composed of processed meats, red meats, organ meats, refined grains, white bread, onions and tomatoes, vegetable oil and juice, soft drinks and bottled water. The OR for the highest tertile compared to baseline is 2.75 (95% CI 1.40-5.39), with a dose-response pattern (trend test $p < 0.0035$). Our results suggest that a dietary pattern including refined grain products, processed meats and red and organ meats contributes to increased prostate cancer risk. Since dietary information was collected before subjects knew their diagnosis, recall bias was avoided.In a population-based case-referent study, carried out in The Netherlands, the relationship between socioeconomic status (SES) and urbanization grade on the one hand and prostate cancer incidence on the other has been investigated. Two explanations for a potential association have been taken into account. First, there is a relationship with SES class (or with urbanization grade) in the past, referring to an effect on the induction or promotion of prostate cancer caused by variation in exposure to particular risk factors. Second, there is a relationship with current SES (or urbanization grade), resulted in differences in medical screening. Study data were obtained by means of a validated mailed questionnaire, which has been completed and returned by 345 cases (with histologically confirmed prostate cancer) and 1,346 referents (patients with benign prostate hyperplasia). The response was 79%. No clear relationship was observed with SES, based on the major job held between 1960-1970 (the period of cancer induction), nor was this the case with SES based on the longest-held job (as a proxy for current SES). A slight, but statistically nonsignificant, trend was found of higher risks in subjects living in rural areas, with an urban/rural ratio of 0.79. Considering the results of this study and those of previous studies reviewed in this paper, it might be doubted that any relationship is to be found between prostate cancer risk and SES or urbanization grade.Understanding how the mechanical properties of cells alter with disease may help with the development of novel diagnostics and treatment regimes. The emergence of tools such as the atomic force microscope (AFM) has enabled us to physically measure the mechanical properties of cells. However, suitable models for the analysis of real

experimental data are either absent, or fail to provide a simple analysis tool in which experimental data can be analyzed quickly and reliably. The Hertz model has been widely used to study AFM data on living cells, however it makes assumptions that are untrue for cells, namely that cells behave as linear elastic bodies. This article presents and evaluates an alternative nonlinear Hertz model, which allows the Young's modulus to vary according to a second order polynomial function of indentation depth. Evaluation of the model revealed that prostate cancer cells (PC3) responded more uniformly to force compared to the normal PNT2 cells. Also, more energy (J) was needed to deform the normal prostate cells compared to the prostate cancer cells. Finally, the model described here suggests that overall the normal prostate cells behave in a more linear fashion to applied force compared to the prostate cancer cells.Objective: To reinvestigate whether South Asian men in the UK are at lower risk of being diagnosed with prostate cancer in a UK-based retrospective cohort study and to examine possible reasons that may explain this.Objective: To evaluate the role of tobacco and alcohol consumption in the aetiology of prostate cancer.Objective: This study explores men with advanced prostate cancers' own practices for promoting and maintaining emotional well-being using Interpretative Phenomenological Analysis.Introduction: This study aimed to examine the impact of advanced prostate cancer and its treatments on patients' perceptions of their health and to better understand concerns not captured by currently available health-related quality of life (HRQL) instruments.Objective: The cost of radical prostatectomy (RP) compared to watchful waiting (WW) has never been estimated in a randomized trial. The goal of this study was to estimate long-term total costs per patient associated with RP and WW arising from inpatient and outpatient hospital care.Objectives: To determine if the place of residence and the level of social marginalization are associated with prostate cancer survival.Introduction: In the last century, there have been major changes within the population structure in Germany. The aim of this study was to determine the impact of a changing population structure on identification of familial prostate cancer (PCa), and to investigate how many and which types of other cancers have occurred in patients and their first-degree relatives.Background: There is a discrepancy in tumor node metastasis (TNM) staging of capsular attachment and invasion; the condition was classified as pT3 in 1987, then as pT2 in 1992. Because capsular finding associated with radical prostatectomy is an important prognostic factor, the present study was conducted to characterize clinicopathological states of cancer tissues attached to and invading the capsule.Inasmuch as treatments for advanced prostate cancer may have identical clinical outcomes but very different meanings to patients, we sought to compare the impact of surgical and medical castration (orchiectomy versus injected goserelin acetate Zoladex) on quality of life and psychosocial status. A total of 147 men with Stage D prostate cancer participated in the study: 115 selected treatment with goserelin acetate, and 32 chose orchiectomy. Quality of life, as measured by the Functional Living Index: Cancer (FLIC), improved at both the 3 and the 6 month follow-up in the goserelin acetate group ($p = 0.0001$), but did not change from baseline at 6 months in the orchiectomy group ($p = 0.54$). These findings were paralleled by improvement from baseline in psychosocial status, as measured by the Profile of Mood States (POMS), at 6 month follow-up ($p = 0.01$ in the goserelin acetate group versus $p = 0.60$ in the orchiectomy group). This investigation, which is among the first to evaluate patients' appraisals of their lives following treatment choices for advanced prostatic cancer, argues compellingly for including quality of life in assessments of therapy.To explore the value of antiandrogen therapy for advanced prostate cancer, two clinical trials of similar design were recently conducted in six countries throughout Europe. A total of 550 patients with previously untreated metastatic prostate cancer were randomized either to treatment with an antiandrogen or castration. While time to treatment failure, objective tumour response and survival were expected to be similar between study treatments, their effects on health-related quality of life (HRQOL) were expected to differ and were therefore a focus of concern in this trial. To assess these effects, we developed a brief self-administered patient questionnaire covering 10 domains of HRQOL (general health perceptions, pain, emotional well-being, vitality, social functioning, physical capacity, sexual interest, sexual functioning, activity limitation and bed disability), which we translated from English into several other languages. In this paper, we describe the development, content and translation of this survey instrument and report on its reliability and validity in six countries based on data collected for the first 487 patients to complete questionnaires at study entry.Androgen deprivation treatment is the current standard first-line treatment for metastatic prostate cancer. For several years, docetaxel was the only treatment with a proven survival benefit for castration-resistant prostate cancer (CRPC). Since docetaxel became standard of care for men with symptomatic metastatic castration-resistant prostate cancer (CRPC), three treatment virtual spaces, for treatment and drug development in CPRC, have emerged: pre-docetaxel, docetaxel combinations and post-docetaxel.

Sipuleucel-T, cabazitaxel, abiraterone, enzalutamide and radium-223 have been approved in the pre- or post-docetaxel setting in metastatic CRPC during the last few years. Patients are now living longer and experiencing better quality of life. Strategies for patient selection and treatment sequencing are therefore urgently required.Background: Europa Uomo initiated the Europa Uomo Patient Reported Outcome Study (EUPROMS) to collect prostate cancer (PCa) patient-reported outcome (PRO) data as a primary endpoint.Prostate cancer is a uniquely problematic male health issue. Findings from a study employing an ethnographic approach are presented to describe the ways in which 14 men's lives were changed as a result of this experience. The theoretical basis of the study centered on embodiment to explore the personal impact of prostate cancer, its treatment, and its side effects. The findings suggest that cancer was experienced sequentially, beginning at the time of diagnosis with the problematizing of the normally "silent" male body. This trajectory of experience progressed to emphasize the importance placed on treatment side effects, embodied vulnerability, and the impact of the cancer on men's "embodied" lives. In this article, I focus on the final phase of the illness experience and illustrate how the men confronted existential threat alongside physical changes, and the way each change resulted in a new outlook on life and its priorities following cancer.Objective: Negative intrusive thoughts about one's prostate cancer have been associated with depressive mood and impaired quality of life among prostate cancer patients. However, little is known about possible predictors for negative intrusive thoughts among this group. We aimed to identify health- and care-related predictors for such thoughts among a population of men newly diagnosed with prostate cancer and undergoing radical prostatectomy.The small-molecule, water-soluble molecular beacon probe 1 is hydrolyzed by the lysate and living cells of human prostate cancer cell lines (LNCaP), resulting in strong green fluorescence. In contrast, probe 1 does not undergo significant hydrolysis in either the lysate or living cells of human nontumorigenic prostate cells (RWPE-1). These results, corroborated by UV-Vis spectroscopy and fluorescent microscopy, reveal that probe 1 is a sensitive and specific fluorogenic and chromogenic sensor for the detection of human prostate cancer cells among nontumorigenic prostate cells and that carboxylesterase activity is a specific biomarker for human prostate cancer cells.Background: A better understanding of how cancer treatments affect patient's employment may help patients and physicians make more informed choices between treatment alternatives. This study examined the number of days employed patients undergoing treatment for either breast or prostate cancer were absent from their jobs.Prostate cancer is a significant cause of death among men of all races in the United States, and it does disproportionately affect Black men. This disease poses a number of questions that desperately need answers. These questions involve not just the cause and prevention of the prostate cancer, but a very real and valid question is "does screening for and aggressive treatment of prostate cancer save lives." Almost all questions in prostate cancer are not questions unique to blacks or whites, or any specific population. These questions can only be answered through well-designed basic and clinical research studies. This research must be supported by both physician and patient participation. Conveying truthful, accurate information in this disease in which so much is unanswered is imperative. In American medical history, black men have often been misled or misinformed oftentimes by well-meaning paternalistic individuals. Physicians and laymen teaching about this disease must themselves realize and then truthfully convey "what is known, what is not known, and what is believed." This will allow the layman to make educated decisions regarding screening, treatment, and participation in clinical studies.In Western populations prostate cancer was probably rare in the past, yet in many populations the mortality rate has risen 3-5-fold since 1910. The disease now affects 1 man in 20. While the incidence in Third World populations living traditionally remains low, it increases with urbanization and prosperity, as in South African blacks. While the disease is age-related, more common in married than in single men and family-orientated, knowledge of specific aetiological factors is meagre. Abnormal hormonal status may well be involved, and possibly diet (Western v. Third World diet). There is a strong hormonal influence on tumour development. Treatment, according to the stage of the disease, includes prostatectomy, hormonal manipulation, external irradiation and chemotherapy; 70% of patients are surgically incurable at the time of presentation. Survival is greatly affected by the stage at diagnosis; the percentage surviving 5 years is 3 times higher for patients at stage A than for those at stage D. Little can be done to avoid prostate cancer because of inadequate understanding of risk factors. Annual rectal examination between 40 and 65 years is urged, since surgical cure is possible when metastases are absent.Objective: To investigate the impact of race on the effectiveness of hormonal therapy in patients with prostate cancer, by comparing the outcomes of Caucasian men (CM) and Japanese-American men (JAM) treated with hormonal therapy at one institution.Background: The study objective was to examine changes in prognosis and treatment of prostate cancer patients

over 20 years and to evaluate their impact on survival.Aim: This paper reports a study on how men cope with the side-effects of radiotherapy and neo-adjuvant androgen deprivation for prostate cancer up to 1 year after treatment.Whether definitive radiotherapy (RT) is still an option for patients with clinically prostate-confined prostate cancer treated with androgen deprivation (AD) alone who develop a rising prostate-specific antigen (PSA) is not clear. In this retrospective series, we report the outcome of 29 such patients treated with "curative" radiotherapy at our institution between 1991 and 2000. At initial diagnosis, all patients had evidence of prostate-confined disease and for several reasons underwent AD alone. Afterward all patients developed rising PSA, but again, without clinical evidence of distant/pelvic node disease. All underwent RT with curative intent up to 70 Gy (66 to 76 Gy). Median follow-up after radiotherapy is 33.1 month (range: 7-134.2 months). For living patients, minimum and median follow-ups are 30.4 and 55.4 months, respectively. Twenty-three patients (79%) developed overt clinical disease, most of which (19/23, 83%) involved distant sites, whereas isolated locoregional failure was observed in only 4 patients (4/23, 17%). The estimates of locoregional control rate (LRC), actuarial incidence of distant metastases, and overall survival at 5 years are 89 +/- 7%, 68 +/- 9%, and 28 +/- 9%, respectively. Although we were unable to find any predictor of LRC at univariate analysis, patients with low Gleason score at diagnosis, lower PSA at RT, lower risk category and advanced age were less likely to develop distant disease. RT has a palliative role, because most patients with still presumed localized hormone refractory prostate cancer will develop distant metastases. A subset of patients, those with more differentiated tumor at diagnosis and with pre-RT PSA less than 20 ng/mL, might be considered for a more aggressive locoregional approach.Background: Understanding how low-income, uninsured African American/black men use faith to cope with prostate cancer provides a foundation for the design of culturally appropriate interventions to assist underserved men cope with the disease and its treatment. Previous studies have shown spirituality to be a factor related to health and quality of life, but the process by which faith, as a promoter of action, supports coping merits exploration.Aims: The aims of this study were to: quantify the levels and predictors of physical activity in prostate cancer survivors on androgen-deprivation therapy (ADT); gain some insight into the effect of physical activity on the quality of life of prostate cancer survivors on ADT; and compare the quality of life of prostate cancer survivors on ADT with matched controls.There is a growing need to understand how nutritional and lifestyle practices may optimize quality of life (QOL) and health after diagnosis for the 1.5 million men living with prostate cancer in the United States. We are establishing a clinical cohort of men with prostate cancer at the University of California San Francisco. Men completed detailed dietary and lifestyle questionnaires annually and provided consent for blood and tissue specimens to be stored for research if they underwent radical prostatectomy. We examined the feasibility of establishing this cohort and analyzepreliminary baseline data on participant demographics, lifestyle habits, and QOL using c2 and t-tests and logistic regression models. Between February 2002 and July 2004, we enrolled 343 men with prostate cancer into the survey portion of this cohort. The response rate was approximately 85% via in-clinic enrollment and 30% via mail enrollment. Based on analysis of the first 193 men enrolled, there was a high level of treatment satisfaction in this population (88% of men were satisfied or extremely satisfied with treatment) and positive reports of general health perception (73% of men perceived themselves to be in excellent [34%] or very good [39%] health). Whether treatment interfered with diet was an independent predictor of health perception and treatment satisfaction. Use of dietary supplements was high (90%) in this well-educated population. In conclusion, we demonstrated good feasibility for conducting this longitudinal study and observed initial indications that diet and other lifestyle practices were important predictors of patient QOL.Purpose: The purpose of this study was to identify and describe the impact of prostate cancer and its treatment on men's sexuality and intimate relationships from the perspective of the men's lived experiences.Prostate cancer is currently diagnosed in more than 34,000 men every year and claims more than 10,000 lives per annum in the UK. Recently, prostate specific antigen (PSA) population screening has been evaluated in two major randomised, controlled studies. Even though the more mature European study confirmed that PSA screening is capable of reducing prostate cancer mortality, anxieties still persist, particularly surrounding the issue of overdiagnosis of clinically insignificant cancer. The recent identification of 29 genetic variants that predispose towards prostate cancer offers another, more targeted, opportunity to reduce mortality. It also raises the possibility of the identification of a sub-group of men who are especially susceptible to prostate cancer. In lower-risk patients with localised cancer active surveillance may be sufficient. In fitter men, with more clinically significant disease, eradication of the cancer by surgical removal of the gland is often involved. This is the only treatment which has been proven in a randomised controlled trial to reduce the rate of metastases and mortality compared with watchful

waiting. Metastatic prostate cancer is associated with high mortality--approximately 70% within 5 years. Androgen deprivation, which has become the mainstay of treatment, effectively lowers intraprostatic DHT by more than 80%, resulting in reduced androgen receptor stimulation and increased prostate cancer apoptosis.Prostate cancer is the second most common type of cancer in men living in the United States and the most common type of malignancy in Canadian men, accounting for 186,320 new cases in the United States and 24,700 in Canada in 2008. Uncertainty, a component of all illness experiences, influences how men perceive the processes of treatment and adaptation. The Reconceptualized Uncertainty in Illness Theory explains the chronic nature of uncertainty in cancer survivorship by describing a shift from an emergent acute phase of uncertainty in survivors to a new level of uncertainty that is no longer acute and becomes a part of daily life. Proper assessment of certainty and uncertainty may allow nurses to maximize the effectiveness of patient-provider communication, cognitive reframing, and problem-solving interventions to reduce uncertainty after cancer treatment.Several predisposition loci for hereditary prostate cancer (HPC) have been suggested, including HPC1 at 1q24-q25 (OMIM #601518) and HPCX at Xq27-q28 (OMIM #300147). Genetically homogeneous populations, such as that of Finland, and distinct subsets of families may help to minimize the genetic heterogeneity that complicates the genetic dissection of complex traits. Here, the role of the HPC1, and HPCX loci in a series of Finnish prostate cancer families was studied, especially in subgroups of families defined by age, number of affected cases, and the mode of disease transmission. DNA samples were collected from 57 Finnish HPC families with at least two living prostate cancer patients. Linkage analysis was carried out with 39 microsatellite markers for the HPC1 region and 22 markers for the HPCX region. The maximum two-point LOD score for the HPCX was 2.05 (marker DXS1205, at theta = 0.14), whereas HPC1 LOD scores were all negative. In HOMOG3R analyses, significant evidence of heterogeneity was observed. Subgroup analyses performed to explore the nature of this heterogeneity indicated that families with no male-to-male (NMM) transmission and a late age of diagnosis (>65 years) accounted for most of the HPCX-linked cases. The maximum HPCX LOD score in this subgroup was 3.12 (theta = 0.001). Nonparametric sibling pair analyses gave a peak LOD score of 3.04 ($P < 0.000093$) for the NMM transmission subgroup. No subgroup showed any positivity for HPC1. This study suggests that the HPCX-linked prostate cancer families represent a distinct subgroup characterized by NMM transmission of disease and late age of diagnosis.Morbidity and mortality of prostate cancer (PCa) have increased in recent years worldwide. Currently existing methods for diagnosis and treatment do not make the situation improve, especially for hormone refractory prostate cancer (HRPC). The lack of molecular probes for PCa hindered the early diagnosis of metastasis and accurate staging for PCa. In this work, we have developed a new aptamer probe Wy-5a against PCa cell line PC-3 by cell-SELEX technique. Wy-5a shows high specificity to the target cells with dissociation constants in the nanomolar range, and does not recognize other tested PCa cell lines and other tested tumor cell lines. The staining of clinical tissue sections with fluorescent dye labeled Wy-5a shows that sections from high risk group with metastasis exhibited stronger fluorescence and sections from Benign Prostatic Hyperplasia (BPH) did not exhibit notable fluorescence, which suggests that aptamer Wy-5a may bind to protein related to the progression of PCa. The high affinity and specificity of Wy-5a makes this aptamer hold potential for application in diagnosis and target therapy of PCa.Background and objective: Little research exists which investigates the contextual factors and hidden influences that inform surgeons and surgical teams decision-making in preoperative assessment when deciding whether to or not to operate on older adult prostate cancer patients living with aging-associated functional declines and illnesses. The aim of this study is to identify and examine the underlying mechanisms that uniquely shape preoperative surgical decision-making strategies concerning older adult prostate cancer patients.Introduction: Prostate cancer (PCa) in many patients remains indolent for the rest of their lives, but in some patients, it progresses to lethal metastatic disease. Gleason score is the current clinical method for PCa prognosis. It cannot reliably identify aggressive PCa, when GS is ≤ 7. It is shown that oxidative stress plays a key role in PCa progression. We have shown that in cultured human PCa cells, an activation of spermidine/spermine N(1) -acetyl transferase (SSAT; EC 2.3.1.57) enzyme initiates a polyamine oxidation pathway and generates copious amounts of reactive oxygen species in polyamine-rich PCa cells.Purpose: To examine the agreement between prostate cancer patients' utilities for selected health states and their rankings of the importance of six attributes of the health states and the clinicians' judgements of what would be in the patients' best interests.Objectives: To develop a psychometrically valid and clinically useful questionnaire to assess health-related quality of life (HRQOL) in patients with prostate cancer (PCa) undergoing external beam radiotherapy. The most important factors in three

dimensions (bowel function [BF], urinary function [UF], and sexual function [SF]) were identified by patient survey.Background: Three prostatic cell lines, PC3, LNCaP, and DU 145, are used as established models to study cell signaling in prostate cancer. Recently, stromal cell lines of the prostate, such as P21, were also introduced. Here we investigate a basic and important mechanism of living cells: Ca(2+) homeostasis in PC3, DU 145, and P21.High levels (>50%) of anxiety are reported in patients undergoing screening for prostate cancer, which may affect health-related quality of life. We aimed to determine the level and prevalence of anxiety and depression and to identify those aspects of the diagnostic pathway that induce the most stress in men being investigated for prostate cancer. A total of 159 prostate-specific antigen-unscreened men undergoing a transrectal ultrasound-guided biopsy of the prostate (TRUS-B) completed two questionnaires, prior to their biopsy and before receiving results, containing the Hospital Anxiety and Depression Scale (HADS) and a 10-point Visual Analogue Scale (VAS). Median scores and prevalence of anxiety (4-5, 4-7%) and depression (1-2, 1.4%) respectively were low for both questionnaires. Waiting for biopsy results received the highest median VAS score (6) and was the most stressful event in 65% of men. There is a low incidence of clinically significant anxiety and depression in men being investigated for prostate cancer but questionnaires such as HADS identify patients with psychological distress who may benefit from early counselling. Uncertainty about the future while awaiting biopsy results after TRUS-B seems to be the most stressful event in patients' lives and minimizing this wait should help optimize patient care.The disease trajectory of living with incurable cancer is characterized by increasing bodily deterioration and problems. In this paper, we have focused on the change in temporal awareness as manifested in the narrations of two men with hormone refractory prostate cancer and skeletal metastases as they approach death. The two men participated in in-depth research interviews during the last part of their lives, sharing a similar disease trajectory with increasing bodily change and decreasing physical function. Both died a lingering, cancer-related death. The first and last research interviews were analyzed using a discourse analytic method. Findings show that the temporal awareness in the interviews changes as the illness progresses and death approaches. In the last interviews, the present is flooded with bodily problems; the past and the future are hardly present except for the future beyond the men's own deaths. Pain, fatigue, nausea, and other symptoms figure largely in this change, and there is no time for much more than attending to bodily needs in a present that is dominated by problems. Here, the importance of alleviating bodily problems once again becomes paramount, and two questions are raised: Is the often reported withdrawal from life, when death is imminent, a physical necessity rather than a psychological one, and is it possible to free time from the time-consuming problems of the present by means of a more concentrated attempt to alleviate these problems?Eleven men with prostate cancer were randomly chosen and interviewed during an in-patient period at a southern Swedish hospital. The interview focused on functional health status in relation to daily life and life quality. In addition the sense of coherence scale was used, as well as the European Organization or Research and Treatment of Cancer (EORTC) QLQ C-30 questionnaire. The interview findings were analysed from a phenomenological-hermeneutic perspective and interpreted within the concept of transition. The entry to transition was marked by the men when experiencing an altered life continuum in terms of physical and existential fatigue, pain, micturition problems and an altered sex life. The passage phase was marked by descriptions of a new lifestyle where hope was a central internal resource, creating a positive illusion of life in order to endure. Their external resources were wives and family who supported physically (household matters, gardening) and psycho-logically (comfort, encouragement). The exit phase meant continuously adapting to a new life style, living with a slowly deteriorating functional health status, a new sense of dependency on others, daily life routine broken by in-patient hospital periods and contacts with primary health care. Thus the findings pointed more at continuously facing new passages than a stable exit, i.e. an ongoing transition. The areas of life imbalance described may serve as a basis for care assessment and intervention as well as supplying support of the transitional process.The article presents a methodical approach for prediction of life expectancy for people diagnosed with prostate cancer based on the kinetic theory of aging of living systems. The life expectancy is calculated by solving the differential equation for the rate of aging for three different stage of life - «normal» life, life with prostate cancer and life after combination therapy for prostate cancer. The mathematical model of aging for each stage of life has its own parameters identified by the statistical analysis of healthcare data from the Zharinov's databank and Rosstat CDR NES databank. The core of the methodical approach is the statistical correlation between growth rate of the prostate specific antigen level (PSA-level) or the PSA doubling time (PSA DT) before therapy, and lifespan: the higher the PSA DT is, the greater lifespan. The patients were grouped under the «fast PSA

DT» and «slow PSA DT» categories. The satisfactory matching between calculations and experiment is shown. The prediction error of group life expectancy is due to the completeness and reliability of the main data source. A detailed monitoring of the basic health indicators throughout the each person life in each analyzed group is required. The absence of this particular information makes it impossible to predict the individual life expectancy.We undertook a population-based case-control study to investigate early life risk factors for prostate cancer. Information on dietary habits during childhood and adolescence, childhood environment, pubertal development, and physical activity was collected by face-to-face interviews with 256 (74.6%) of all eligible cases and 252 (76.6%) of all selected controls, frequency matched by age. All potential controls were screened for prostate cancer with negative findings. Odds ratios with 95% confidence intervals were estimated by logistic regression. Analyses of localized (T0-2' M0) and more advanced cancers were made separately. In general, there was no clear association between diet and prostate cancer risk. An increased risk associated with childhood living in more densely populated, compared with rural, areas was found (odds ratio = 2.1; 95% confidence interval = 1.3-3.5); this effect was most apparent for localized cancers (odds ratio = 3.2' 95% confidence interval = 1.7-6.2). There was no substantial association between adult height or body mass index and prostate cancer, but exercise appeared negatively associated with risk (P value for trend, 0.13). We conclude that our study provides some indications that exposures early in life are important in the etiology of prostate cancer.Background: Although prostate-specific antigen (PSA) testing is common, little is known about the pattern of retesting by either PSA values or subsequent prostate biopsies. Poor follow-up of high PSA values may lead to delayed diagnosis.Background: Improvements in detection and treatment of prostate cancer (PCa) translate into more men living with PCa, who are therefore potentially at risk of a secondly diagnosed primary tumour (SDPTs). Little is known about potential biochemical mechanisms linking PCa with the occurrence of SDPTs. The current study aims to investigate serum biomarkers of glucose and lipid metabolism and gamma-glutamyl transferase (GGT) measured prior to PCa diagnosis and their association with the occurrence of SDPTS.This cross-sectional and quantitative study was carried out with 88 traditionalist gauchos, who took part in the Farroupilha Camp in 2009. It verified their adherence to prostate cancer examination, also analyzing which variables influence in the adherence to digital rectal examination. Participants had an average age of 58.5 years, with high income and schooling level. Most (92%) lived longer in urban areas, had healthfollow-up at private health services (70.5%) and have had some preventive examination for prostate cancer (83%). The ones who had preventive examination had higher education, income and access to private health services. There was lower demand for preventive exams by those who lived most of their lives in the rural area. However, there was no relationship between the place where participants lived longer and adherence to digital rectalexamination. Findings indicate correspondence in the adherence to preventive examinations with other studies carried out in Brazil.Aim: To report a study measuring the quality of life and side effects in men receiving radiotherapy and hormone ablation for prostate cancer up to 1 year after treatment.Metastatic dissemination continues to be a major cause of prostate cancer (PCa) mortality, creating a compelling need to understand factors that play a role in the metastatic cascade. Since hypoxia plays an important role in PCa aggressiveness, we characterized patterns of hypoxia in the primary tumor and metastatic environments of a human PCa xenograft. We previously developed and characterized an imaging strategy based on the hypoxia response element (HRE)-driven expression of long-lived enhanced green fluorescent protein (EGFP) and short-lived luciferase (luc) fused to the oxygen-dependent degradation domain in human PCa PC-3 cells. Both reporter proteins were placed under the transcriptional control of a five-tandem repeat HRE sequence. PC-3 cells also constitutively expressed the tdTomato red fluorescent protein, allowing cancer cell detection in vivo. This "timer" strategy can provide information on the temporal evolution of HIF activity and hypoxia in tumors. Here, for the first time, we performed in vivo and ex vivo imaging of this dual HIF reporter system in PC-3 metastatic tumors implanted orthotopically in the prostate and PC-3 nonmetastatic tumors implanted subcutaneously. We observed distinct patterns of EGFP and luc expression in subcutaneous and orthotopic tumors, and in metastatic nodules, that provide new insights into the presence of hypoxia at primary and metastatic tumor sites, and of the role of hypoxia in metastasis.Prostate cancer is the most common malignancy, and the second most common cause of cancer among men in the United States. The treatment of localized prostate cancer is highly controversial, with many treatment options. Brachytherapy is the permanent implantation of radioisotopes directly into the tumor. Impotence, urinary and bowel dysfunction, as well as disease progression have frequently been utilized as disease-specific measurements of quality of life (QoL) among those with localized prostate cancer. The

purpose of this qualitative study was to explore the impact brachytherapy has on QoL from the patient's perspective. Themes emerged from the data that surrounded the physical changes attributed to the treatment, treatment choices, knowledge of the disease, receiving the diagnosis, and use of medications to control symptoms post treatment. The findings from this study can be used for patient education and to assist patients in making appropriate treatment choices.Following tumor surgery, urinary incontinence challenges prostate cancer patients' functional health. Adjustments of functional goals (lines of defense [LoDs]) were examined during rehabilitation from incontinence. A conceptual model proposing stepwise and distinct upward adjustments of LoDs, ranging from minimizing discomfort (lowest LoD) to protecting self-reliance (highest LoD), was investigated. Within 7 months following the onset of incontinence, 175 patients completed questionnaires at 4 occasions. A theory-based hierarchy was imposed on time-invariant latent classes of LoD-endorsements. As incontinence receded, patients transitioned upward through the hierarchy of LoD-classes, matched LoDs to concurrent incontinence levels, and thus promptly claimed independent functioning with physical improvements.Purpose: The relationship between obesity and prostate cancer (CaP) treatment failure is complex and may vary by patient- and neighborhood-level educational attainment. We evaluated whether patient- and neighborhood-level education is associated with the effect of obesity on biochemical recurrence.The management of localized prostate cancer is controversial, and in the absence of comparative trials to inform best practice, choices are driven by personal beliefs with wide variation in practice patterns. Men with localized disease diagnosed today often undergo treatments that will not improve overall health outcomes, and active surveillance has emerged as one approach to reducing this overtreatment of prostate cancer. The selection of appropriate candidates for active surveillance should balance the risk of harm from prostate cancer without treatment, and a patient's personal preferences for living with a cancer and the potential side effects of curative treatments. Although limitations exist in assessing the potential for a given prostate cancer to cause harm, the most common metrics used today consider cancer stage, prostate biopsy features, and prostate-specific antigen level together with the risk of death from nonprostate causes based on age and overall state of health.Purpose: Unmet support needs are prevalent in men affected by prostate cancer. Moreover, little is known about the optimal type of social support, or its mechanism effect between coping and emotional outcome in men affected by this disease to identify areas for clinical intervention. This study aimed to empirically test the propositions of social support theory in "real time" within individual men living with and beyond prostate cancer.Background: Radium-223 dichloride (Ra-223) is now frequently used to treat prostate cancer that has metastasized to bone, although patient selection continues to be suboptimal for determining who will benefit most from this novel treatment modality.Purpose: A single nucleotide polymorphism, rs10486567, in JAZF1 has consistently been associated with increased risk of prostate cancer. The physical interaction of zinc finger proteins, such as JAZF1, with heavy metals may play a role in carcinogenesis. This study assessed potential gene-environment statistical interactions (G×E) between rs10486567 and heavy metals in prostate cancer.Objective: Documentations of the experiences of patients with advanced prostate cancer and their partners are sparse. Views of care and treatment received for metastatic castrate-resistant prostate cancer (mCRPC) are presented here.Pathologic fractures, spinal compression, and pain take a great toll on the healthcare costs and well-being of men with prostate cancer metastatic to the bone. For almost 10 years, the only drug proven to prevent these skeletal-related adverse events was the bisphosphonate zoledronic acid. In a study published by Fizazi et al. in The Lancet, the monoclonal antibody to RANKL, denosumab, is shown to be superior to zoledronic acid in the prevention of these events. The only notable adverse event more frequent in either arm was increased hypocalcemia in the denosumab arm. There was a greater frequency of osteonecrosis of the jaw in the denosumab treatment group that did not reach statistical significance, but is of great concern. While further analysis is needed to determine the value of denosumab in preventing adverse events and improving quality of life, this new therapy is a significant addition to the treatment of men living with metastatic prostate cancer.The utility of reporter genes has gained significant momentum over the last three decades. Reporter genes are used to understand the transcriptional activity of a gene both in vitro and in vivo, and in pathway analysis and drug screening for diseases involving protozoan parasites, and in anti-cancer drug developments. Here, using a human prostate cancer xenograft model (PC3), we describe a method to construct and validate hypoxia reporter genes with different half-lives. Using molecular biology and optical imaging techniques, we have validated the expression of long half-life enhanced green fluorescence protein (EGFP) expression and short half-life luciferase gene expression to report on the spatial and temporal evolution of hypoxia in vivo.Background: Three randomized trials

demonstrated that postprostatectomy adjuvant radiotherapy improves biochemical disease-free survival for patients with adverse pathologic features, and 1 trial found adjuvant radiotherapy improves overall survival. We sought to determine whether postprostatectomy radiotherapy (PPRT) utilization changed after publication of the survival benefit in March 2009.Background: To our knowledge, no previous study has examined state-level geographic variability and its predictors in clinical practice patterns to screen for prostate cancer in the United States.The study of pollutant effects on living organisms provides information about the possible biological and environmental response to a contaminant. Progression of prostate cancer may be related to exposure to pesticides or other chemical substances. In this work, the effect of the pesticide aldrin on human prostate cancer cells (DU145) is studied using Raman spectroscopy and chemometric techniques. Prostate cancer cell line DU145 has been exposed acutely the pesticide aldrin. Individual Raman spectra coming from control and treated cell populations have been acquired. Partial least squares discriminant analysis (PLSDA) has been used to assess differences among treated and control samples and to identify spectral biomarkers associated with pollutant stress. Some preprocessing methodologies have been tested in order to improve the capability of discrimination between fingerprints. Partial least squares discriminant analysis results suggest that the best normalization-scaling preprocessing combination is provided by Euclidean normalization (EN)-SIMPLISMA-based scaling (SBS). SIMPLISMA-based scaling has been proposed as a scaling method focused on the classification objective, which enhances variables with high relative variation among samples. The most relevant spectral variables related to aldrin effect on DU145 seem to be mainly related to lipids, proteins, and variations in nucleic acids.Watchful waiting is a reasonable alternative to treatment for some older men with localized prostate cancer, but it inevitably brings uncertainty. This study tested the effectiveness of the watchful waiting intervention (WWI) in helping men cognitively reframe and manage the uncertainty of watchful waiting. Based on Mishel's Reconceptualized Uncertainty in Illness Theory (Image. 1990; 256-262), the WWI was tested with a convenience sample of 41 men. Experimental subjects received 5 weekly intervention calls from a nurse. Control subjects received usual care. Outcomes were new view of life, mood state, quality of life, and cognitive reframing. Repeated measures of analysis of variance were used to test the effectiveness of the WWI. The sample was 86% Caucasian and 14% African American, with an average age of 75.4 years. Intervention subjects were significantly more likely than controls to view their lives in a new light (P = .02) and experience a decrease in confusion (P = .04) following the intervention. Additionally, intervention subjects reported greater improvement in their quality of life than did controls (P = .01) and believed their quality of life in the future would be better than did controls (P = .01). This study's findings document the benefits of the WWI for patients living with uncertainty.Benign prostatic hyperplasia is probably the most common neoplasm in man, and carcinoma of the prostate now leads the list of newly diagnosed malignancies in males. Even though there is no known direct etiologic relationship between these disorders, they are by no means mutually exclusive; if a man lives long enough, he is likely to be afflicted by one or both. Although most men will not require surgery, the increasing size of the geriatric population and the frequency of these disorders result in a problem of impressive magnitude from both a medical and a socioeconomic standpoint. Newer diagnostic and therapeutic modalities continue to evolve in this rapidly changing field. In many areas, further investigation is required to determine the true value of certain techniques, such as transrectal ultrasonography for screening or magnetic resonance imaging for staging of prostate cancer. Controversy now exists regarding the relative safety of transurethral and open surgical techniques for benign disease, and further comparisons will need to be made with the newer, less invasive interventional and pharmacologic techniques that are being developed. Will the advances in radical surgery result in improved survival of patients with localized prostate cancer? These and other questions will need to be addressed by the primary care physicians, geriatricians, and urologists who care for these patients.The incidence of prostate cancer among African-Caribbean men in the UK is three times that among men from the majority population. Little attention, however, has been given to the perceptions and experiences of treatment and care of men from these communities with prostate cancer. This qualitative study is the first such investigation, situating men's accounts within the context of their personal history and social environment. Using a community-based, snowball sampling method, 16 first generation African-Caribbean men living in Central England were recruited. Similarities and divergence in men's experience were identified through thematic analysis of interview transcripts. Men's responses to their situation were influenced by aspects of migration and historical context as well as culture. While medical treatment was highly valued, common difficulties were compounded by problems of health professional-patient communication, stereotyping and insensitivity of some staff.

Lack of coordination between services and agencies adversely affected the well-being of frail men and widowers. Findings suggest the need for a more proactive approach to giving and eliciting information combined with cultural diversity training. More systematic referral procedures and information exchange between African-Caribbean men with prostate cancer and their general practitioner, hospital, social care and voluntary agencies, churches and community organisations are indicated.Despite a growing awareness that prostate cancer is a "couple's disease," the coping strategies, subjective distress, and emotional needs of partners are not adequately addressed. To better understand wives' experiences and processes they enact, we recruited 28 low-income Latinas caring for husbands recovering from prostatectomies to participate in interviews at three time points. Their narratives destabilize a common focus on physical side effects and an implicit bias toward men's reactions. We critically examine an overarching process of normalization, with underlying themes working both toward and against normality. We identified dissonance between detailed accounts of major lifestyle changes and professed normalization. We detail the women's purposeful methods to counteract negative impacts on their lives while seeking support externally. A better understanding of women's strategies and coping is critical to design interventions and education to both capitalize on partners' role in recovery while also addressing hidden causes of increased subjective distress.Prostate cancer is the most frequent cancer in men living in industrialized countries. Numerous epidemiological and laboratory studies suggest that various hereditary, toxic, hormonal, and dietary factors may be involved in the development and/or progression of prostate cancer lesions. Several large prospective randomized trials for the chemo-prevention of prostate cancer are currently ongoing. In this review, data regarding the implication of dietary factors have been analyzed under the light of recent literature in order to determine whether proven efficient prevention is available today.Background: Prostate cancer (PCa) is a leading cause of cancer death of men worldwide. In hormone-sensitive prostate cancer (HSPC), androgen deprivation therapy (ADT) is widely used, but an eventual failure on ADT heralds the passage to the castration-resistant prostate cancer (CRPC) stage. Because predicting time to failure on ADT would allow improved planning of personal treatment strategy, we aimed to develop a predictive personalization algorithm for ADT efficacy in HSPC patients.Purpose: African-Americans have a higher age-adjusted incidence and a higher disease-specific mortality than whites. Two potential causes are differences in biology or socioeconomic status, the latter leading to differences in access, delivery, or utilization of health care. In this study, we compare serum prostate-specific antigen (PSA) levels for comparable stage and grade-disease, as well as individual insurance status. PSA is a demonstrated indicator of the size and virulence of tumor and is correlated with prognosis. Insurance status has been linked with income and education and is an indicator of access to medical care.Objective: Evidence suggests that treatment side-effects of prostate cancer (CaP) substantially affect the psychosocial well-being of affected men and their partners. However, this phenomenon is poorly understood among high risk (1 in 4) Black African (BA)/Black Caribbean (BC) men and their partners, as they are currently under-represented in global research on CaP survivorship. This study explored the psychosocial experiences of BA/BC men with CaP and their partners in the United Kingdom as they lived through the side effects of CaP treatment within their own sociocultural and marital contexts.Purpose/objectives: To describe the perspectives of men with recurrent prostate cancer regarding their experiences with the disease, its impact, and the help they received and to compare these individuals to men without recurrent prostate cancer.Stereotactic body radiotherapy (SBRT) is a new treatment modality for prostate cancer. The current study evaluates CyberKnife SBRT and reports toxicity and early Prostate-Specific Antigen (PSA) kinetics. From June 2006 to August 2009, 45 low-and intermediate-risk prostate cancer patients received Cyberknife SBRT of 35 Gy in five fractions with 95% minimum target coverage. Median follow-up was 20-months (range 6-42-months). Seventeen patients received androgen-deprivation therapy also. Acute complications were mild, short-lived and no greater than Grade 2 by RTOG scale. Late toxicities consisted of one patient (2.2%) experiencing Grade 2 rectal, one patient (2.2%) Grade 3 and four patients (8.8%) with Grade 1 urinary toxicity. PSA in all patients progressively declined from a mean 4.7 ng/ml baseline to 1.48 ng/ml at three months, to 0.68 ng/ml at 12 months and to 0, 35 ng/ml at 24 months. The 28 hormon-naive patients had the mean PSA value of 1.1 ng/ml at one year from a mean 6.65 ng/ml baseline. There was a significant PSA value reduction in 11 hormone therapy patients with low baseline PSA value (< or = 1 ng/ml) from 0.37 down 0.14 ng/ml (p value 0.0068) at one year. Moreover, 14 low risk patients gave better results of mean PSA value than 17 Intermediate risk patients 0.43 ng/ml vs. 0.93 ng/ml (p value 0.02) at one year. No patient had biochemical failure at last follow-up. Hypofractionated SBRT appears to have potential against prostate cancer. Low toxicity and encouraging biochemical control support its use in early-stage prostate

cancer. Results encourage further follow-up and larger studies.Background: The central role of prostate-specific antigen (PSA) testing in the diagnosis of prostate cancer leads to the possibility that observational studies that report associations between risk factors and prostate cancer could be affected by detection bias. This study aims to investigate whether reported risk factors for prostate cancer are associated with PSA testing in a large middle-aged population-based cohort in the UK.The aim of this qualitative study was to investigate the experiences of female partners to men with prostate cancer. The women found the capacity to manage their lives through mutual love in the family and through their faith.Background: We investigated the impact of skeletal-related events (SREs) on health-related quality of life (HRQoL) in patients with metastatic castration-resistant prostate cancer (mCRPC) in phase III trials of enzalutamide versus placebo.The development of androgen-independent growth in advanced carcinoma of the prostate (CaP) is associated with poor prognosis and few therapeutic options. Chemotherapeutic drugs offer the afflicted patient palliative benefits, but these are short-lived because of the chemoresistant nature of hormone-refractory prostate cancer. Given the high percentage of CaP patients with mutations in the PTEN tumor suppressor gene, we sought to determine the involvement of the phosphatidylinositol 3'-kinase (PI3K) cascade in the development of CaP drug resistance. PTEN-negative PC3 cells were observed to have increased resistance to both doxorubicin and paclitaxel when compared with PTEN-positive DU145 cells. Furthermore, modulation of PI3K activity with the use of constitutively active and dominant-negative inhibitors was found to affect the ability to CaP cells to respond to chemotoxic treatments. Additionally, inhibition of PI3K with a small molecular weight inhibitor (LY294002) was able to potentiate the antineoplastic activity of both doxorubicin and paclitaxel in CaP cells. Interestingly, multidrug resistance protein-1 (MRP-1) expression, but not MDR-1 (p-glycoprotein), was observed to be induced as a consequence of PI3K activation in these cell types. Inhibition of MRP-1 expression via siRNA was observed to synergistically sensitize CaP cells to chemotoxic drugs while having no appreciable effect on cell growth in the absence of these compounds. Taken together, these data suggest that PI3K activation can lead to the development of chemoresistant cells in prostatic carcinomas through the up-regulation of MRP-1. Thus, inhibition of PI3K activity with concomitant administration of chemotoxic compounds may prove beneficial in preventing the development of drug resistance in patients with hormone-refractory prostate cancer.This study examined African-American cancer patients' attitudes toward cancer and their relationship with long-term mental health outcomes. Using mixed methods, 74 breast and prostate cancer patients including 34 depressed and 23 nondepressed African-Americans and 17 depressed Whites were interviewed. The interviews were audiotaped and transcribed. Qualitative data analysis identified themes that were coded. The codes were entered into SPSS software. Fisher's exact test was performed to examine group differences in the identified themes. Nondepressed African-Americans more frequently reported cancer as an adaptive experience ($p = 0.047$) and less frequently as a struggle ($p = 0.012$) than the depressed African-Americans and Whites. Groups did not significantly differ in the belief that cancer has no cure ($p = 0.763$), but depressed African-Americans more frequently reported unwillingness to share a cancer diagnosis with family or friends than depressed Whites ($p = 0.50$). African-Americans' adaptive attitudes to cancer exhibit a pragmatist approach and a worldview shaped by their lived experience. Participants' narratives were examined to illuminate the meanings of these findings. Adaptive attitudes to cancer are associated with better long-term mental health outcomes, and conversely, unpreparedness and inability to cope are associated with a higher risk of depression among African-American cancer patients. Education about cancer and supports for treatment navigation are important measures for improving the long-term mental health of African-Americans living with cancer.Few diagnoses present as great a challenge to one's life as cancer. Many men each year are confronted with a diagnosis of early stage prostate cancer and find themselves making decisions about treatment in the face of side effects that present often devastating effects, including problems controlling one's urine and an inability to perform sexually. In this paper, we explore the narratives of men who, having chosen and undergone treatment for early stage prostate cancer, are living with the consequences. Faced with what Charmaz calls an 'identity dilemma', how do these men linguistically construct their identities in the face of challenges to their bodily, personal, and social integrity? Drawing upon theories of social languages and Discourses, we examine how men linguistically resolve the identity dilemmas they encounter and in turn construct an identity in response to a question about the quality of their lives in the face of the adverse event of prostate cancer. We present an analysis of the interview narratives of two men and show how they 're-collage' an identity in the face of fundamental changes in their functioning as men. We argue that these men draw upon alternative discourses to construct themselves as whole, competent, and 'no less

a man'.Since the early 1990s, screening with prostate-specific antigen (PSA) testing has increased the incidence of prostate cancer. Any decrease in mortality will not be seen for at least a decade, due to the long natural history of prostate cancer. Death due to prostate cancer is rare, while the prevalence oflocalised tumours is high. The prognosis of these early-detected localised tumours is uncertain, because most patients will die from other causes. Complications of prostate-cancer therapy are common, with high rates of impotence, incontinence and gastrointestinal problems after prostatectomy or radiotherapy. Randomised trials of prostate-cancer screening, notably the 'European randomised screening for prostate cancer' (ERSPC) trial, began with the consent of ethical committees. There is a real uncertainty regarding the benefits of prostate-cancer screening. However, it is clear that these benefits are limited, because prostate-cancer death is rare before the age of 75 years. There is no real uncertainty about the harms of prostate-cancer screening. High prevalence and high rates of treatment complications deduct many disease- and disability-free years from the eligible population (men aged 55-74 years). Therefore, there has been no real uncertainty over the balance of harms and benefits in prostate-cancer screening trials. Days may be added to old age, at the cost of months of disease- and disability-free living. It is not in the best interest of eligible men to participate in these trials. Randomised trials evaluating prostate-cancer screening violate in principle and practice the Helsinki Declaration of the rights of human subjects in medical research.Background: Ethnic variation in patient-reported outcomes such as health-related quality of life (HRQoL) and satisfaction with care are understudied areas in the management of elderly prostate cancer (PCa) patients.Ten patients with hormonally refractory symptomatic metastatic prostate carcinoma underwent palliative hemibody irradiation (HBI). Four of the patients also had had previous irradiation to symptomatic focal sites. Two of the patients underwent upper body HBI with 5 Gy, while 6 patients underwent lower body HBI with 7 Gy. Two patients received sequential lower body HBI followed by upper body HBI. All 10 patients reported subjective pain relief within the immediate forty-eight to ninety-six hours following therapy. The average response lasted four months. Therefore the majority of our patients achieved symptomatic pain relief for the remainder of their lives which averaged five months (range 1.5-12 months). All 10 patients suffered transient but clinically insignificant hematologic toxicity. There was no death or other significant morbidity attributable to the treatment. We conclude that HBI is safe and effective palliation of bone pain in patients who have failed conventional therapy for prostate cancer.Since 1975 mass screening for prostate cancer has been performed in Japan. The Prostate Research Foundation has analysed the data every year that collected from all institutes performing a mass screening. Up to 1993, 67, 225 subjects were examined. The detection rate of prostate cancer was 0.69%. Approximately half of the cancer were stage B, and the subjects who have metastatic stage were only 20% and the pattern of stage seemed to be different from that of patients who visited hospitals. In Chiba prefecture the subjects lived in a district of south Boso peninsula received a mass screening for prostate cancer with total of 1,964 men from 1985, and 17 cancers were diagnosed (0.87%). The distribution of prostate-specific antigen (PSA) assayed with Tandem-R kit was examined using the stocked sera (n = 976) of the screening for prostate cancer in Chiba prefecture. The percentage of 0.05-4.0 ng/ml, 4.1-9.9 ng/ml, over than 10.0 ng/ml of the PSA, were 89.6%, 7.0%, 3.4%, respectively. This distribution is approximately as same as the previous reports by the United States and Canada.Background: Japanese-American (J-A) men who have immigrated to the U.S.A. and acquired the Western lifestyle usually have more invasive prostate cancer (PCa) than native Japanese (NJ) living in Japan. The specific reasons for these differences remain unknown. The objective of this study was to examine immunostainings of cathepsin B (CB) and its endogenous inhibitor stefin A (SA) in tissue microarray (TMA) and radical prostatectomy (RP) tissue sections in the hope of obtaining insights into the invasiveness of PCa in Japanese patients.Radical treatments of prostate cancer often lead to a pervasive liminal state that is characterised by multiple uncertainties that relate both to a possible recurrence of cancer and recovery from side effects, such as erectile and urinary dysfunctions. Liminality can make it difficult for cancer patients to narrate their experiences, as their stories lack a definite ending. After interviews with 22 Finnish men who had undergone radical prostatectomy, we analysed how men produce closure in their illness narratives. Focusing on the timelines of control visits or their anticipated recovery from side effects, these interviewees sought provisional certainty within a seemingly chaotic future. By locating erectile dysfunction in the wider context of a life-course and interpreting their fading sexuality as a 'natural' consequence of ageing, these men were adjusting to their post-operative lives. Our study further shows that the inability to adjust personal experiences to positive culturally available storylines that provide a chance for the narrative reconstruction of life, can cause materialised negative consequences, such as relationship breakdowns.Although breast and

prostate cancer are those most frequently diagnosed in Canada, information about the ways in which gender, class, race, culture, and other social determinants impact the experience of African Canadians living with cancer is lacking. This study began to address this gap by exploring cultured and gendered dimensions of African Nova Scotians' experiences of these two cancers. Using a participatory action research approach, data were collected in two phases of focus group discussions in five African Nova Scotian communities from a total of 57 people, including those with breast or prostate cancer and their families and associates. Findings provide insight into how gender and meanings of masculinity and femininity in the African Nova Scotian community unavoidably interact with other social structures such as race and class to affect women and men's perceptions and experiences of these two cancers. These insights point to the need for culturally appropriate and meaningful health interventions. As a prerequisite, health care professionals need to have an understanding of the overlapping and contextualized nature of gender, class, and race and be willing and able to work in partnership with African Nova Scotian communities to identify and develop strategies that reflect the realities of peoples' lives.Prostate cancer is an important disease causing a considerable number of new cases, deaths and premature loss of life each year. Three screening tests have been suggested: DRE, TRUS and PSA measurement in venous blood. From aggregated data from studies examining the performance of these tests, DRE or PSA measurement look the most promising with respect to their estimated detection rates and false positive rates (detection rate [DR] = 68%, false positive rate [FPR] = 5% for DRE and DR = 79%, FPR = 8% for PSA with a cut off of > 4 micrograms/l). However, these results are tentative-more research is needed on the performance of these screening tests. In particular, the prevalence of prostate cancer in the studies was considerably higher than that expected in the general population and so the OAPR estimates derived are more favourable than predicted. A randomized controlled trial of prostate cancer screening is needed to know whether screening reduces mortality from this disease, although this would take about 10 years to perform. Current stage distribution and 5 year survival data suggest that if screening could increase the proportion of cancers diagnosed at the localized clinically inapparent stage from 23% (currently diagnosed) to 100%, this would represent an equivalent reduction in mortality of 48%-about 1500 lives saved per year if screening were offered to 55-74 year old men. When more substantive information is available on the potential screening tests, it may be appropriate to conduct a randomized controlled trial. In the meantime, any ad hoc screening should be strongly discouraged.Goals of work: Treatments for early-stage prostate cancer (PCa) are highly effective; therefore, research studies that explore quality of life (QOL) issues associated with different treatments are important. The purposes of this study were to (a) examine differences among treatment groups of men treated with either radiation therapies or radical prostatectomy for PCa and (b) examine quality of life outcomes over time.Aims: Most men with low-risk localised prostate cancer prefer treatments with high control rates and minimal disruption to their lives. Hypofractionating external radiation treatments can theoretically maintain high bioequivalent tumour doses, decrease treatment visits and decrease acute and late toxicities. The aim of this study was to assess the toxicity and feasibility of a hypofractionated accelerated regimen for these patients.Two versions of the time-tradeoff (TTO) method were compared. In the personal TTO version, 31 prostate cancer patients decided whether they personally would give up some longevity to have perfect health rather than a longer life in a state of poor health associated with prostate cancer. In the impersonal version, 28 patients compared two hypothetical friends, one of whom has perfect health but will live less time than the other who is in poor health, and decided which person they would rather be. All patients evaluated three hypothetical health states. The two TTO methods were assessed by examining 1) how well they distinguished three health states of varying degrees of dysfunction and 2) patients' willingness to trade time for quality of life. Patients using the impersonal TTO version were more likely than those using the personal version to order the three health states appropriately (68% vs 16%, $p < 0.0001$) and were more willing to trade off length of life for quality of life ($p < 0.05$).Objective: To describe values of serum prostate-specific antigen (PSA) in older men without diagnosed prostate cancer, categorised by age and country of birth, and to describe self-reported prostate cancer screening.It was proposed by FDA that, the increase of survival rate and the improvement of quality of life must both be considered in cancer treatment. Based on the questionnaire designed by European Organization for Research and Treatment of Cancer (EORTC), the author studied the quality of life in 102 cases of prostate cancer and in 102 controls. With factor analysis method, a 30-item questionnaire was divided into six aspects to evaluate patients' quality of life: (1) activities of daily life; (2) family and social life; (3) physical symptoms of prostate cancer; (4) fatigue and malaise; (5) psychologic disturbance and distress and (6) sexual dysfunction. The results showed that there was statistical importance between each item when

comparing case and control groups which proved the questionnaire an appropriate approach in assessing quality of life in patients with prostate cancer.Prostate cancer is the most prevalent solid tumor malignancy and second-leading cause of death from cancer for American men. As a consequence of treatment-related side effects, men living with prostate cancer experience various obstacles to positive mental health. Unfortunately, relatively little is known about factors that promote or impede men's adjustment to these obstacles. In this article, the authors identify three masculine gender scripts that may contribute to men's adjustment following treatment for prostate cancer. To organize the discussion, the authors review related literature and, through case examples, illustrate how masculine gender scripts may influence men's adjustment. Directions for gender-sensitive interventions and future clinical research are provided.Background: Prostate-specific antigen (PSA) screening for prostate cancer has high risks of overdiagnosis, particularly among older men, and reports from screening trials indicate that it saves few lives after 11 to 13 years of follow-up. New clinical guidelines recommend against PSA screening for all men or for men aged >70 years, but, to the authors' knowledge, the expected population effects of these guidelines have not been studied to date.Introduction: This study was designed to evaluate the quality of life after external beam radiotherapy for localized prostate cancer using the UCLA/RAND Cancer Prostate Index questionnaire.In this study the usefulness of the MTT assay for the quantitation of growth modulating effects on cultured prostate cancer lines (PC-3, PC-93, and LNCaP) was investigated. The MTT test is based on the enzymatic reduction of the tetrazolium salt MTT [3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl-tetrazoliumbromide++ +] in living, metabolically active cells but not in dead cells. The reaction is carried out in situ in multiwell plates, and the reaction product, a purple-colored formazan soluble in dimethylsulfoxide, is measured colorimetrically, using a multiwell plate reader. Optimal test conditions were established for each of the cell lines used. With the hormone-sensitive cell line LNCaP, and stimulatory effect of the synthetic androgen R1881 was demonstrable by the MTT test. A sharp optimum occurred at a concentration of 10(-10) M R1881. Treatment of cells of either cell line with antineoplastic agents resulted in a dose-dependent reduction of MTT converting activity, reflecting the impaired survival of the drug-treated cells. Good correlations of the results obtained with the MTT-test, as compared with a thymidine incorporation assay or with direct DNA measurements, were observed. As the MTT test offers a high degree of precision and is easy to do, it is suitable for the purpose of (large-scale) chemosensitivity testing. Moreover, serial measurements might easily be performed in order to provide additional information on the mode of action of the drugs tested, i.e., to discriminate between cytostatic and cytotoxic drug effects.This is a report on a National Cooperative study of Radiotherapy for inoperable patients with cancer of the prostate: 372 patients with adenocarcinoma of the prostate, stage C, received radiotherapy from 1967 to 1973, according to a very strict protocol. With minor variations, all patients received the same total dose: 7000 cGy in 47 days or 7500 cGy in 54 days. Mild episodes of hematuria and rectal bleeding were observed in a number of patients: urethral and rectal strictures also resulted in a few cases, but were no life-threatening complications. A total of 177 patients (47%) died from prostatic cancer, mostly bony metastases that may have been present when the patients were first seen; death from prostatic cancer decreased as the years went by. Only 4 patients (1%) were lost to follow-up, only one before ten years, and none had evidence of cancer when last seen. However, 167 (44%) of the 372 patients lived for various periods of times and died without ostensible evidence of prostatic cancer. In addition 24 were still living after 20 years. Thus, more than half of these elderly inoperable patients treated by radiotherapy lived to die of something else.We review new data on the epidemiology of chronic prostatitis. These population-based studies used reasonable case-definitions to survey various populations from North America, Europe and Asia. Overall, 2-10% of adult men suffer from symptoms compatible with chronic prostatitis at any time and approximately 15% of men suffer from symptoms of prostatitis at some point in their lives. Other epidemiologic data suggest that chronic prostatitis may be associated with an increased risk for development of benign prostatic hyperplasia and prostate cancer. These data suggest that chronic prostatitis is an important international health care problem that merits increased priority from clinicians and researchers.This study investigated the association between prostate cancer risk and energy restriction during childhood. The authors examined the hypothesis among 58,279 men aged 55-69 years enrolled in the Netherlands Cohort Study on Diet and Cancer. Information on diet and risk factors was collected by questionnaire in 1986. Additional information was collected on residence during the Dutch Hunger Winter (1944-1945) and the World War II years (1940-1944) and father's employment status during the economic depression of 1932-1940, used as indicators of exposure. A case-cohort approach was used. After 7.3 years of follow-up (through December 1993), 903 prostate cancer cases

were available for analysis. Analyses were carried out for all prostate cancer cases. The prostate cancer rate ratio for men who had lived in a western Netherlands city in 1944-1945 was 1.15 (95% confidence interval (CI): 0.80, 1.31), and the rate ratio for men who had lived in a western rural area in 1944-1945 was 1.30 (95% CI: 0.97, 1.73). Residence during the war years (1940-1944) and father's employment in 1932-1940 showed no relation to prostate cancer risk. In subgroup analyses in which exposure before, during, and after the adolescent growth spurt was evaluated, the same pattern as that of the overall data was shown. The authors found no evidence for the hypothesis that energy restriction early in life decreases prostate cancer risk later in life.Providing effective care for individuals with prostate cancer is an important issue for oncology nurses. However, the paucity of empirical work regarding the impact of prostate cancer presents a limitation in designing and implementing appropriate nursing interventions. This article presents the findings from a national survey of 621 Canadian men living with prostate cancer regarding the impact of their disease and the availability of support. The most frequently identified problems included sexual function, side effects, fear of dying, incontinence, anger and pain. Approximately one-third of the respondents experienced a lifestyle change, but relatively few indicated experiencing a negative impact from the changes they experienced. The majority of respondents indicated they had been informed accurately about their treatment, but dissatisfaction was expressed regarding lack of information about emotional reactions, alternative therapies, how to speak with other prostate cancer patients and the availability of counselling and self-help groups. Clearly these results have implications for oncology nurses.Purpose: Growth factors such as fibroblast growth factor 2 (FGF-2) and hepatocyte growth factor (HGF) appear at high levels in prostate cancer (PC). Abiraterone is an androgen biosynthesis inhibitor which is currently in use as a standard treatment in clinics to impair tumor growth. Development of resistance to anticancer therapies is unfortunately a very common feature of cancer cells that threatens the patient lives. This study aimed to investigate whether FGF-2 and HGF act as a possible resistant mechanism to the abiraterone activity on the androgen synthesis pathway in PC.In the last few years the EORTC has conducted multiple clinical studies on the therapy of prostate cancer. In most cases with incidental unifocal prostate cancer, no therapy is necessary, as the disease is rarely progressive or the cause of death. Current EORTC studies are evaluating the timing of hormone therapy, as it is still unknown whether therapy should be started at the time of diagnosis or when the patient becomes symptomatic. Different hormone therapies are useful for locally progressive prostate cancer and as effective than radiotherapy in the case of progression and survival. The preliminary results of a current study on total androgen blockade for 3 months before radical prostatectomy show a positive effect for some of the patients with a T2 carcinoma. Inconclusive results in studies on total androgen blockade versus orchiectomy in metastasising prostate cancer have lead to a meta-analysis of 22 studies by the EORTC. This only showed a trend towards better survival time and longer interval till progression with total androgen blockade but the group of patients with small volume metastatic disease benefit greatly from this treatment. The importance of estrogen therapy and the treatment with high dose non steroidal antiandrogens as well as the use of intermittent hormonal therapy in progressive disease will have to be assessed in future studies. Chemotherapy is not very effective due to its low response rate and its short lived effect.Male sexuality is a complex phenomenon shaped by personal, cultural,and social factors. This article has argued that male sexual function is an important consideration in conditions such as prostate cancer. There are surely other conditions where it is understood even more poorly. Although theorists tend to explore male sexuality in relation to vague concepts such as power, phallocentrism, and aggression, sexuality becomes a personal reality in illness contexts. Using insights from a study into prostate cancer, it has been suggested that men assess embodied risks, such as impotence, in highly individual ways. The uncertainty that characterizes this cancer further compounds the difficulties involved, despite attempts of professionals to provide adequate levels of information and support. Researchers and practitioners alike should begin to question the gap between theoretical constructions of male sexuality and its reality in healthcare situations. More attention should be paid to understanding the importance of sexual function for men who are living with conditions such as prostate cancer. Those men who face up to the threat of such embodied changes, and who learn to cope with physical and emotional (and sexual) vulnerability, may learn to evaluate their lives in new ways. As Kenneth, one of the participants in this study said of his experience of cancer, "It just seems unnecessary for them to have to go through that to learn and understand themselves and be honest with themselves about what is really important."Increasingly evident is the important role of partners in patients' adaptation to diagnosis, treatment, and recovery. Yet, little is known about partners' adaptation when patients reach the benchmark known as long-term survival. This study describes elderly wives of prostate cancer

survivors' perspectives of adaptation to the enduring challenges of prostate cancer survival and considers their experience in the context of ethnicity. Content analysis and grounded theory methods guided data collection and analysis of two waves of in-depth interviews with 26 elderly Asian/Pacific Islanders (Chinese, Filipino, Japanese, Native Hawaiian) living in Hawai'i. Continuous learning was the most common phenomenon as reflected in four types of adaptive work: involvement in husband's health, affirmation of the marital bond, normalization of adversity, and participation in personally meaningful acts. Issues are highlighted for consideration in developing culturally relevant, age-appropriate, and strengths-based interventions.Androgen deprivation for prostate cancer use to be applied only in the latter stage of the disease process, thus, the issue of promoting general health during this time was not a concern because the subject of life and death was more paramount. However, thanks to earlier detection of prostate cancer, there has been a general stage migration in this disease. Men are choosing these traditionally late stage therapies earlier and earlier. Therefore, the subject of quality of life on this treatment has now garnered as much attention as the survival issues. Cognitive or mental health concerns, cholesterol changes, hot flashes, osteoporosis, and other side effects are being addressed and treated with a variety of conventional medicines. However, the issue of the role of the patient or what men can do personally to promote better mental and physical health is desperately needed in this area. A variety of beneficial lifestyle changes and over-the-counter agents may have an enormous impact on men's health during androgen deprivation. Calcium and vitamin D supplements, aerobic and resistance exercise, cholesterol awareness and reduction, weight loss, and other individual changes could have an enormous impact on the quality and quantity of a man's life. Some of these so called "bottom line" recommendations are reviewed in this article to empower the patient during this time, and to send clearly the message that he has a role to play apart from just picking up and using a prescription drug for side effects, and his role is just as critical for improving the probability of living longer and better.Objectives: To determine the completeness of the examination of cancer patient cases in a multidisciplinary team meeting (MDTM), to study the factors that can affect this examination and to assess the quality of the MDTM concerning prostate cancer in Tarn.Release of ROS from prostate cancer (PC3) cells was studied using scanning electrochemical microscopy (SECM) and fluorescence microscopy. One-directional lateral scan SECM was used as a rapid and reproducible tool for simultaneous mapping of cell topography and reactive oxygen species (ROS) release. Fluorescence microscopy was used in tandem to monitor the tip position, in addition to providing information on intracellular ROS content via the use of ROS-reactive fluorescent dyes. A unique tip current (iT) vs lateral distance profile was observed when the tip potential (ET) was set at -0.65 V. This profile reflects the combined effects of topographical change and ROS release at the PC3 cell surfaces. Differentiation between topographical-related and ROS-induced current change was achieved by comparing the scans collected at -0.65 and -0.85 V. The effects of other parameters such as tip to cell distance, solvent oxygen content, and scan direction on the profile of the scan were systematically evaluated. Cells treated with tert-butyl hydroperoxide, a known ROS stimulus, were also evaluated using the lateral scanning approach. Overall, the SECM results correlate well with the fluorescence results. The extracellular ROS level detected at the SECM tip was found to be similar to the intracellular ROS level monitored using fluorescence microscopy. While the concentration of each contributing ROS species has not been determined and is thus part of the future study, here we have successfully demonstrated the use of a simple two-potential lateral scan approach for analysis of ROS released by living cells under real physiological conditions.Aims and objectives: To evaluate the symptoms and self-assessment of quality of life in men with localised prostate cancer after having had a radical prostatectomy or brachytherapy treatment.Background: The HAROW project was founded by the Stiftung Männergesundheit to have a closer look at the situation of patients who suffer from prostate cancer, especially focusing on their situation regarding supply and services.Largely a disease of older men, prostate cancer is likely to become a growing burden in the developed world as the population ages and overall life expectancy increases. Furthermore, prostate cancer management in older men is not optimal, reflecting the lack of training dedicated to senior adults in fellowship programs and the lack of specific guidelines to manage senior adults. The International Society of Geriatric Oncology (SIOG) convened a multidisciplinary Prostate Cancer Working Group to review the evidence base and provide advice on the management of the disease in senior age groups. The Working Group reported that advancing age, by itself, is not a reliable guide to treatment decision making for men with either localized or advanced prostate cancer. Instead, the SIOG guidelines advise health care teams to assess the patient's underlying health status, which is largely dictated by associated comorbid conditions, but also by dependency in activities of daily living and nutritional status, and to use the

findings to categorize the individual into one of four groups: healthy, vulnerable, frail, or terminally ill. The guidelines recommend that a patient categorized as healthy or vulnerable (i.e., with reversible problems following geriatric intervention) should receive the same approach to treatment as a younger patient. Frail patients should be managed using adapted treatment strategies, and the terminally ill should receive symptomatic/palliative care only. The guidelines may have ongoing relevance as the treatment options for prostate cancer expand.Objective: To evaluate retrospectively the potential influence of disease-related factors and transurethral resection of the prostate (TURP) on the sexual function of patients who had undergone curative radiotherapy for prostate cancer.As part of a larger postal survey, 320 survivors of prostate cancer who reported they were likely to seek help in the next year for a sexual problem were interviewed by phone about their strategies for finding help and the types of treatment that would help resolve post-cancer sexual problems. In addition, 164 sexual partners (including 160 wives, three female partners in committed relationships, and one gay male partner) were interviewed. Educational materials were used by patients and partners to answer questions about sexual dysfunction but were less useful in helping to find professional referrals or in actually resolving sexual problems, particularly for African-American couples. Men's preferred method of finding help was to consult a urologist or prostate cancer specialist to find a medical treatment for erectile dysfunction. Ninety-one percent of men had already tried to find medical help for erectile dysfunction, but previous attempts remained unsuccessful. Men wanted an oral medication that would resolve their sexual problem naturally, without major side effects. Only 43% of men said their partners had encouraged them to find help, and indeed a large minority of women had resigned themselves to having unsatisfying sex lives. These data suggest that including the partner in counseling about medical treatments for sexual function, and giving both men and partners realistic expectations about the limitations of existing treatments could boost the success of sexual rehabilitation after prostate cancer.Background: pp32 is a differentiation-regulated nuclear phosphoprotein that is highly expressed in many cancers, but is restricted to self-renewing and long-lived normal cell populations. During murine embryogenesis, pp32 is expressed in primitive cell populations, diminishing as tissues terminally differentiate. Functionally, pp32 confers resistance to programmed cell death and, paradoxically, inhibits transformation mediated in vitro by a broad range of oncogenes, suggesting that pp32 is a multifunctional molecule with potentially complex activities in cancer.Background: Due to rapidly developing knowledge guidelines should be regularly, i.e. annually, checked for validity and amended.Purpose/objectives: To describe the complexities of the medical management of patients undergoing treatment of prostate cancer; discuss the sequelae of treatment options, including surgery, external beam radiation, and brachytherapy; outline the evolution of interstitial prostatic brachytherapy and the current use of transperineal ultrasound-guided prostate implants using palladium-103 (103Pd), and discuss the side effects of the 103Pd prostate implant as well as the nursing management of patients who receive the implants.Introduction: Each year more than 60,000 German men are diagnosed with prostate cancer. The incidence nearly doubled in the last 10 years due to intensified use of PSA testing for early detection. To date, either radical prostatectomy or radiotherapy is recommended for treatment of localized prostate cancer. Both strategies have similar survival chances (83-94%), but show different side effects. In view of the good prognosis implications for health-related quality of life (QoL) may play an important role in the therapy decision-making process and should be discussed with patients.Objective: to estimate the standard performance measures of prostate-specific antigen (PSA) screening as implemented in the existing health care system and to compare the observed results with those fom the European Randomized Screening for Prostate Cancer (ERSPC) trial.The most appropriate time to introduce androgen deprivation therapy for prostate cancer remains controversial. Our aim was to evaluate the effects of early versus delayed surgical castration on prostate cancer progression and survival in the transgenic adenocarcinoma of the mouse prostate (TRAMP) model. TRAMP mice were randomly divided into three groups: the early castration group (on which castration was performed at the age of 4 weeks), the delayed castration group (on which castration was performed when abdominal tumours could be palpated), and the sham-castrated group. Mice were monitored daily throughout their lives until cancer-related death or the development of an obviously moribund appearance, at which time the individual mouse was killed. Androgen receptor expression in prostate tumours was also evaluated. The results shows that the average lifespan in early castration, delayed castration and sham-castrated groups were 54.1 weeks, 59.9 weeks and 39.1 weeks, respectively. Both early castration and delayed castration conferred a statistically significant survival advantage when compared with the sham-castrated group ($P<0.001$). However, the difference in lifespan between the early castration group and the delayed castration group was not statistically

significant (P=0.85). The increase in lifespan in the TRAMP mice that received either early or delayed castration correlated with lower G/B value (genitourinary tract weight/body weight) at death than the sham-castrated mice. In conclusion, early and delayed castrations in TRAMP mice prolonged survival to a similar extent. This finding may provide a guide for clinical practice in prostate cancer therapy.Purpose: Screening with prostate specific antigen (PSA) only to detect prostate cancer was started in Tokushima City from 2001 as one of health check lists. We evaluated the first year result.Health promotion interventions in African American communities are frequently delivered in church settings. The Men's Prostate Awareness Church Training (M-PACT) intervention aimed to increase informed decision making for prostate cancer screening among African American men through their churches. Given the significant proportion and role of women in African American churches, the M-PACT study examined whether including women in the intervention approach would have an effect on study outcomes compared with a men-only approach. The current analysis discusses the men's participation rates in the M-PACT intervention, which consisted of a series of 4 bimonthly men's health workshops in 18 African American churches. Data suggest that once enrolled, retention rates for men ranged from 62 to 69 % over the workshop series. Among the men who were encouraged to invite women in their lives (e.g., wife/partner, sister, daughter, friend) to the workshops with them, less than half did so (46 %), suggesting under-implementation of this "health partner" approach. Finally, men's participation in the mixed-sex workshops were half the rate as compared to the men-only workshops. We describe recruitment techniques, lessons learned, and possible reasons for the observed study group differences in participation, in order to inform future interventions to reach men of color with health information.Objective: To report on the structure and outcomes of a new 'One Stop' Prostate Clinic (OSPC) designed specifically for rural and remote men.Introduction: Blacks have the highest incidence of and death from prostate cancer in the United States. Screening with prostate-specific antigen (PSA) may decrease mortality. Repeated testing allows for the calculation of PSA velocity (change of PSA over time), which may be a more clinically useful test for prostate cancer than a single PSA measurement. The objective of this study was to examine whether blacks were as likely as whites to report having had repeated PSA testing.The hormonal treatment of advanced prostate cancer involves life disruptive side-effects, such as impotence, libido loss and bodily feminisation. Conflicting views on the weight of the disruption they cause as against the therapy's survival benefits currently underlie debates over its appropriate mode of administration and its optimal timing in cases that do not necessitate immediate intervention. On the basis of a study of the disruptions caused to various life domains of 15 Israeli patients receiving such treatment, the present paper illustrates an integrated approach to their analysis that sheds new light on their intensity. The study was conducted by means of in-depth interviews and its data were processed according to the constant comparative analysis method. Its findings indicate that the therapy allowed the patients to regain their strength, to retain their need of love, basic masculine self-identification and spousal ties, and to renew their past social contacts. On the other hand they could no longer define themselves as healthy, sexually competent and 'male' in all respects, and their pre-treatment relationships with partners and friends lost the sense of closeness. Further psychosocial costs that were detected include patients' deprivation of their sense of continuity, excitements, hopes and coping capabilities. An integrated analysis of the concurrent normalisation and deviantisation processes undergone by them yielded the conclusion that the therapy subjects them to a liminal state, that is, the inability to classify themselves into culturally available categories. The difficulties entailed in this state highlight the need to take them into consideration when patients' condition allows a choice between alternative forms of hormonal therapy and between its early or deferred commencement. The interpretation of the disruption to their lives in terms of liminality also clarifies former studies' confusing reference to this subject and points to issues that still await investigation.The carboranyl nucleotides beta-D-5-o-carboranyl-2'-deoxyuridine (D-CDU), 1-(beta-L-arabinosyl)-5-o-carboranyluracil (D-ribo-CU) and the nucleotide base 5-o-carboranyluracil (CU), were developed as sensitizers for boron neutron capture therapy (BNCT). A structure activity study was initiated to determine the agent most suitable for targeting prostate tumors. Cellular accumulation studies were performed using LNCaP human prostate tumor cells, and the respective tumor disposition profiles were investigated in male nude mice bearing LNCaP and 9479 human prostate tumor xenografts in their flanks. D-CDU achieved high cellular concentrations in LNCaP cells and up to 2.5% of the total cellular compound was recovered in the 5'-monophosphorylated form. In vivo concentrations of D-CDU were similar in LNCaP and 9479 tumor xenografts. Studies in 9479 xenografted bearing mice indicated that increasing the number of hydroxyl groups in the sugar moeity of the carboranyl nucleosides corresponded with an increased rate and extent of renal elimination,

shorter serum half-lives and an increased tissue specificity. Tumor/normal prostate ratios were greatest with the nucleoside base CU. These studies indicate that similar nucleoside analogues and bases may have different tissue affinities and retention properties, which should be considered when selecting agents for sensitizing specific tumors for eventual BNCT treatment. CU was found to be the most suitable compound for further development to treat prostate cancer.Most professional organizations, including the American College of Physicians and U.S. Preventive Services Task Force, emphasize that screening for prostate cancer with the prostate-specific antigen (PSA) test should only occur after a detailed discussion between the health-care provider and patient about the known risks and potential benefits of the test. In fact, guidelines strongly advise health-care providers to involve patients, particularly those at elevated risk of prostate cancer, in a "shared decision making" (SDM) process about PSA testing. We analyzed data from the National Cancer Institute's Health Information National Trends Survey 2011-2012-a nationally representative, cross-sectional survey-to examine the extent to which health professionals provided men with information critical to SDM prior to PSA testing, including (1) that patients had a choice about whether or not to undergo PSA testing, (2) that not all doctors recommend PSA testing, and (3) that no one is sure if PSA testing saves lives. Over half (55 %) of men between the ages of 50 and 74 reported ever having had a PSA test. However, only 10 % of men, regardless of screening status, reported receiving all three pieces of information: 55 % reported being informed that they could choose whether or not to undergo testing, 22 % reported being informed that some doctors recommend PSA testing and others do not, and 14 % reported being informed that no one is sure if PSA testing actually saves lives. Black men and men with lower levels of education were less likely to be provided this information. There is a need to improve patient-provider communication about the uncertainties associated with the PSA test. Interventions directed at patients, providers, and practice settings should be considered.Objective: Prostate cancer is the commonest cancer in men in France, and its incidence increases with age. It occupies 4th place in terms of mortality. The Limousin region, with the oldest population in France, established a regional registry of new cases of cancers in 1998. The objective of this study was to analyse the prostate cancer incidence and mortality data in the Limousin region for 1998.Prostate cancer incidence and mortality are highest among African-American men, and coupled with the controversy around routine prostate cancer screening, reaching African-American men with interventions to help them make an informed decision about whether or not to be screened is critical. This study compares two approaches to delivering a church-based peer community health advisor intervention consisting of a series of four men's health workshops on informed decision-making for prostate cancer screening. In the men-only group, male community health advisors teach group workshops consisting only of men. In the health partner group, male-female pairs of community health advisors teach workshops in a mixed-gender format in which enrolled men are asked to invite a significant woman in their lives (e.g., wife/partner, sister, daughter, friend) with them to the workshops. Eighteen African-American churches were randomized to receive one of the two approaches, and 283 eligible men enrolled in the intervention. Main findings suggested that the workshops had an impact on stage of decision-making, and this increased significantly over time in the health partner group only. The intervention was highly rated by men in both groups, and these ratings increased over time, with some study group differences. Within-workshop study group differences favored the health partner group in some instances; however, men in the men-only groups reported greater increases in their ratings of trust in the workshops over time. The health partner intervention strategy appears to be promising for reaching men of color with health information.We report here in the interim analysis of an ongoing randomized clinical trial designed to test whether androgen priming enhances tumor chemosensitivity in men with stage D prostate cancer refractory to orchiectomy. All patients are continuously treated with aminoglutethimide and hydrocortisone, to lower adrenal androgen secretion, and are given cyclic chemotherapy. Patients in the stimulation arm receive also the synthetic androgen, fluoxymesterone, for 3 days before and on the day of chemotherapy. Of 57 patients entered to date, 41 have received adequate treatment to be evaluable. Response to therapy (objective remissions + stabilizations of disease) occurred in 17 of 18 evaluable patients (94%) randomized to the stimulation arm, and in 16 of 23 evaluable patients (70%) in the control group (p less than 0.025). Duration of response was not significantly different in the two groups (median: 9 months in the stimulation and 12 months in the control arm). With 30% of the total of 57 patients still alive, survival is not significantly different in the stimulation (median: 13 months) and control arm (median: 16 months). As expected, patients who responded to treatment lived significantly longer than those who failed to benefit. Two episodes of reversible spinal cord compression occurred during androgen administration. (The risk of this serious side effect may be reduced by performing a screening myelogram to rule out

subclinical spinal metastasis). Our preliminary data suggest that androgen priming may enhance the tumoricidal effect of cytotoxic drugs in advanced prostate cancer. The lack of improvement in duration of response and survival may be explained by the large fraction of hormone-independent cells probably present in patients with tumors refractory to orchiectomy.Prostate cancer, bladder cancer, renal cancer and testicular cancer are the most frequent malignancies in urology. Additional to parameters such as patient age, course of the disease, different forms of therapy and survival rates, quality of life is gaining more importance. This parameter is usually evaluated using general and disease-specific questionnaires. The SF-36 and the QLQ-C30 (EORTC) questionnaires are well established to determine quality of life in general. Disease-specific questionnaires for renal cancer and testicular cancer are currently under development. Bladder cancer can be evaluated by two EORTC modules investigating parameters such as voiding, bowel function and sexual function. The QLQ-BLS24 is made for patients with superficial bladder cancer and contains 24 questions. Also, side effects from intravesical therapy and repeated cystoscopies are determined. The QLQ-BLM30 is used for invasive bladder cancer. There are 30 questions to determine the impact of a urostoma (<>) or repeated catheterization. For prostate cancer many disease-specific questionnaires are available, however, only few are translated into German. One is the prostate cancer module QLQ-PR25 with 25 questions highlighting side effects (voiding, bowel function, sexual function) from prostatectomy, radiotherapy or antihormonal therapy. Despite problems when comparing different studies concerning quality of life in patients with localized prostate cancer one finds that radical prostatectomy is inferior in terms of continence, inferior or equal concerning sexual function and superior with respect to bowel function when compared with radiotherapy. It is noteworthy that there is no difference between prostatectomy and radiotherapy with respect to overall quality of life. Beside the development of disease-specific questionnaires, a future major issue is the standardized determination of the parameter quality of life to achieve a basis to compare the results of different studies.When paraplegia occurs as a result of malignant disease, it generally means that the patient's survival is limited to a few months. The exceptions to this rule include patients with paraplegia or quadraplegia as a result of metastases from carcinoma of the prostate. This study concerns 24 men with paraplegia, 20 of whom lived for over 5 years following the onset of paralysis, 18 being rehabilitated. The prostatic cause of paralysis may not be obvious at the first, and conventional X-rays of the spine may be negative. The serum acid phosphatase was raised in several cases, confirmation of the diagnosis could either be made by biopsy of the prostate gland or, if laminectomy is performed, by examining the tissue that compresses the spinal cord. Laminectomy is recommended only in patients with rapidly advancing neurological signs. The treatment of choice is orchidectomy rather than hormonal treatment in the elderly age group, as oestrogens cause cardio-vascular complications.The proteasome inhibitor Velcade (bortezomib/PS-341) has been shown to block the targeted proteolytic degradation of short-lived proteins that are involved in cell maintenance, growth, division, and death, advocating the use of proteasomal inhibitors as therapeutic agents. Although many studies focused on the use of one proteasomal inhibitor for therapy, we hypothesized that the combination of proteasome inhibitors Lactacystin (AG Scientific, Inc., San Diego CA) and MG132 (Biomol International, Plymouth Meeting, PA) may be more effective in inducing apoptosis. Additionally, this regimen would enable the use of sublethal doses of individual drugs, thus reducing adverse effects. Results indicate a significant increase in apoptosis when LNCaP prostate cancer cells were treated with increasing levels of Lactacystin, MG132, or a combination of sublethal doses of these two inhibitors. Furthermore, induction in apoptosis coincided with a significant loss of IKKalpha, IKKbeta, and IKKgamma proteins and NFkappaB activity. In addition to describing effective therapeutic agents, we provide a model system to facilitate the investigation of the mechanism of action of these drugs and their effects on the IKK-NFkappaB axis.Objective: The purpose of this study is to examine differences in survival after diagnosis with distant stage prostate cancer by decade of diagnosis.Introduction: Geographic and racial/ethnic variability in prostate cancer incidence rates and stage distribution may be partly attributed to differences in screening and early detection.This study explored men's experiences of transrectal prostate biopsy. Fifty men who had had a prostate biopsy talked about the experience as part of an in-depth interview; 36 were interviewed in 2000 about all aspects of prostate cancer, and 14 in 2005 about their experience of prostate-specific antigen testing, subsequent investigations and treatment. Men were recruited via urologists, general practitioners and support groups. In both studies, we aimed to include men of various ages, from different backgrounds, who lived, and had been investigated and treated, in different parts of the UK. A qualitative interpretive approach was taken, combining thematic analysis with constant comparison. Most men described the procedure as merely 'uncomfortable', but

some found it stressful, exhausting and extremely painful. Worries included the fear that cancer cells might pass from a man to his wife during ejaculation, and that a biopsy might spread cancer cells to other parts of the body. Men should be given detailed information before a biopsy, so that they are well aware of what might happen. They should also be given the opportunity to voice their fears, so that they can be reassured, and offered some form of pain relief.The visualization of the long noncoding RNA of prostate cancer gene 3 (lncRNA PCA3), a specific biomarker for androgen receptor-positive prostate cancer, in living cells not only directly reflects the gene expression and localization but also offers better insight into its roles in the pathological processes. Here, we loaded an entropy-driven RNA explorer (EDRE) on the TAT peptide-functionalized titanium carbide MXenes (Ti3C2-TAT) for the imaging of nuclear lncRNA PCA3 in live cells. The EDRE was condensed on the Ti3C2-TAT (Ti3C2-TAT@EDRE) by electrostatic interaction. Ti3C2-TAT@EDRE enables the entering of cells and release of TAT peptides and EDRE in the cytoplasm by the glutathione (GSH)-triggered cleavage of the disulfide bonds in Ti3C2-TAT. The released EDRE is delivered into the nucleus by the nucleus-targeted guidance of TAT peptides, and initiated by the target lncRNA PCA3, subsequently leading to the continuous accumulation of fluorescence signals. Consequently, fluorescence analysis of lncRNA PCA3 at low-picomolar concentrations in vitro as well as sensitive live cell imaging of lncRNA PCA3 in the nucleus of androgen receptor-positive LNCaP prostate cancer cells were achieved, providing a versatile strategy for the monitoring of nucleic acid biomarkers in the nucleus of living cells.Today's older generation of men were raised to believe that men and boys do not cry or talk about their feelings. Fear, anger, confusion and depression are common reactions to all cancers. Prostate cancer carries the additional concerns of impotence, incontinence, and loss of self-esteem. Through support and self-help groups such as Us Too, survivors of prostate cancer, their families, and the medical community are coming together to share their feelings and concerns and learn from each other. By keeping up-to-date with accurate information relative to the disease, survivors of prostate cancer are better able to work through the dilemmas of their disease and move forward with their lives. An informed survivor is an informed patient. Working with the American Foundation for Urologic Disease, Us Too has grown into a nationwide network of family-centered prostate support groups. The motto "learning to cope though knowledge and hope" succinctly describes how these support groups have transformed the lives of survivors of prostate cancer and their families from coast to coast.Recent reports have called into question the reproducibility, validity and translatability of the preclinical animal studies due to limitations in their experimental design and statistical analysis. To this end, we implemented a matching-based modelling approach for optimal intervention group allocation, randomization and power calculations, which takes full account of the complex animal characteristics at baseline prior to interventions. In prostate cancer xenograft studies, the method effectively normalized the confounding baseline variability, and resulted in animal allocations which were supported by RNA-seq profiling of the individual tumours. The matching information increased the statistical power to detect true treatment effects at smaller sample sizes in two castration-resistant prostate cancer models, thereby leading to saving of both animal lives and research costs. The novel modelling approach and its open-source and web-based software implementations enable the researchers to conduct adequately-powered and fully-blinded preclinical intervention studies, with the aim to accelerate the discovery of new therapeutic interventions.Background: The objectives of this survey were to describe the prevalence of using a treatment for erectile dysfunction (ED) among men after therapy for localized prostate carcinoma and to construct models explaining the variance in trying a treatment, treatment success, and adherence to treatment.Although African-American men have a greater burden of prostate cancer than whites and other racial and ethnic groups, few studies on the burden of prostate cancer have focused on African Americans specifically. We used a sample of African-American men (N = 736) who participated in the 2000 National Health Interview Survey to explore their awareness of the prostate-specific antigen (PSA) test. Among African-American men aged > or = 45 with no history of prostate cancer, 63% had heard of the PSA test and 48% had been tested. Bivariate analyses showed significant associations between sociodemographic, family composition, health status and perceived risk with having heard of the PSA test and having been tested. The multivariate model showed significant associations between having heard of the PSA test and age, level of education, living in an MSA, and having private or military health insurance. For ever being tested, the multivariate model showed significant associations for age, private or military health insurance, being in fair or poor health, and having a family history of prostate cancer. Some of the correlates, such as age, increased levels of education and being married, were consistent with previous studies, but other correlates, such as metropolitan statistical area, health status and perceived risk, differed from previous studies.Cancer

cells frequently show high constitutive activity of the antiapoptotic transcription factor nuclear factor kappaB (NF-kappaB), which results in their enhanced survival. Activation of NF-kappaB classically depends on degradation of its inhibitor IkappaBalpha by the 26s proteasome. Specific proteasome inhibitors induce apoptosis in cancer cells and, at nonlethal concentrations, sensitize cells to the cytotoxic effects of ionizing radiation and chemotherapeutic drugs. Recently, the protease coded by the HIV-I virus has been shown to share cleavage activities with the proteasome. For this reason, we investigated whether the HIV-I protease inhibitor saquinavir can inhibit NF-kappaB activation, block 26s proteasome activity in prostate cancer cells, and promote their apoptosis. The effect of saquinavir on LPS/IFN-gamma-induced activation of NF-kappaB was assessed by gel-shift assays and by Western analysis of corresponding IkappaBalpha-levels. Its effect on 20s and 26s proteasome activity was analyzed with a fluorogenic peptide assay using whole cell lysates from LnCaP, DU-145, and PC-3 prostate cancer cells pretreated with saquinavir for 9 h. Proteasome inhibition in living cells was assessed using ECV 304 cells stably transfected with an expression plasmid for an ubiquitin/green fluorescence protein fusion protein (ECV 304/10). Apoptosis was monitored morphologically and by flow cytometry. Saquinavir treatment prevented LPS/IFN-gamma-induced activation of NF-kappaB in RAW cells and stabilized expression of IkappaBalpha. It inhibited 20s and 26s proteasome activity in lysates from LnCaP, DU-145, and PC-3 prostate cancer cells with an IC(50) of 10 micro M and caused the accumulation of an ubiquitin/green fluorescence protein fusion protein in living ECV 304/10 cells. Incubation of PC-3 and DU-145 prostate cancer, U373 glioblastoma, and K562 and Jurkat leukemia cells with saquinavir caused a concentration-dependent induction of apoptosis. In the case of PC-3 and DU-145, saquinavir sensitized the surviving cells to ionizing radiation. We conclude that saquinavir inhibits proteasome activity in mammalian cells as well as acting on the HIV-I protease. Because saquinavir induced apoptosis in human cancer cells, HIV-I protease inhibitors might become a new class of cytotoxic drugs, alone or in combination with radiation or chemotherapy.Prostate Specific Antigen (PSA) is becoming the preferred tumor marker in the management of prostate cancer. Prostate Specific Antigen levels fall exponentially after radical prostatectomy with a half-life of between 2 and 3 days. Persistently elevated Prostate Specific Antigen levels beyond 7 half-lives suggest occult residual disease and may serve as an indication for post operative adjunctive therapy. The change in Prostate Specific Antigen levels during a course of radical external beam radiotherapy for prostate cancer has not been described. In this study of 81 patients receiving radiotherapy for primary prostate cancer, 47 had elevated Prostate Specific Antigen levels prior to therapy and 35 had serial measurement of Prostate Specific Antigen during their course of treatment. Working on an assumption that in patients with radioresponsive localized prostate cancer Prostate Specific Antigen levels will fall exponentially during the radiotherapy, a half-life of 43 +/- 11 days was derived. Prostate Specific Antigen half-life appears independent of stage, grade, or pretreatment Prostate Specific Antigen level and may be an independent prognostic indicator. A prolonged Prostate Specific Antigen half-life may suggest untreated or resistant disease and serve as an indication for adjuvant hormonal treatment in patients receiving radiotherapy for primary prostate cancer.A questionnaire was used to assess the quality of life (QOL) of forty-two outpatients with prostate cancer. Most of the patients were old, so reduced physical comfort was correlated with bodily factors other than those caused by prostate cancer. Many patients with progressive disease reported disease--and treatment--related physical problems that tended to be correlated to the extent of the disease. Many patients treated with female hormones complained of breast induration or discomfort. Patient's sexual life was impaired remarkably. Our treatment for cancer pain would be especially inadequate to cancer pain relief. We must give positive aid to cancer pain relief from now on. Most patients lost sexual interest after developing prostate cancer. Only three of the patients were able to have sexual intercourse. Some of the patients who underwent radical prostatectomy suffered from urinary incontinence after the operation. Thus, the patients' social life was remarkably affected for relative good performance status. Many patients lived only with other elderly individuals. Therefore, it is also important to manage patients in the light of their living environment.Second-line palliative treatment of patients who have failed hormone therapy for advanced prostate cancer remains an important challenge in this disease. Very few agents have been shown to have a positive impact on survival, and toxicity is often therapy limiting in this elderly group of patients. Improvements in pain and performance status with maintenance of a reasonable functional status are worthwhile goals of any therapy at this stage. The earlier diagnosis of progressive disease from a rising prostate-specific antigen (PSA), and the use of validated quality of life questionnaires, can lead to useful improvements in the quality of the lives of these patients whose quantity we cannot at present lengthen.Because there is no cure for metastatic adenocarcinoma of the prostate, diagnosis

before the tumor spreads is imperative. In this article, Dr Mueller discusses the prognosis of the various tumor stages and strongly advises yearly digital rectal examinations to ensure early detection.Purpose/objectives: To examine the lived experience of individuals when confronted with a life-threatening disease.Objective: To investigate the diagnosis and treatment of incidental prostate cancer (IPC) following transurethral plasma kinetic vaporization prostatectomy (TUPVP).This paper reviews a range of issues related to the assessment of subjective response and quality of life in prostate cancer clinical research. With regard to subjective response criteria, the Karnofsky performance status scale and the subjective components of the World Health Organization acute and subacute toxicity scales appear to hold certain advantages over competing measurement systems. Nevertheless, the available evidence suggests that further developmental work is needed to improve the precision of these instruments. In the area of quality of life assessment, there does not appear to be a clear choice among the array of available measures. Although there are several promising instruments, none has undergone sufficient field testing to justify widespread adoption in clinical research settings. A number of suggestions are offered to facilitate further development in quality of life instrumentation and research implementation.Here we have developed a hypoxia response element driven imaging strategy that combined the hypoxia-driven expression of two optical reporters with different half-lives to detect temporal changes in hypoxia and hypoxia inducible factor (HIF) activity. For this purpose, human prostate cancer PC3 cells were transfected with the luciferase gene fused with an oxygen-dependent degradation domain (ODD-luc) and a variant of the enhanced green fluorescent protein (EGFP). Both ODD-luciferase and EGFP were under the promotion of a poly-hypoxia-response element sequence (5xHRE). The cells constitutively expressed tdTomato red fluorescent protein. For validating the imaging strategy, cells were incubated under hypoxia (1% O2) for 48 hours and then reoxygenated. The luciferase activity of PC3-HRE-EGFP/HRE-ODD-luc/tdtomato cells detected by bioluminescent imaging rapidly decreased after reoxygenation, whereas EGFP levels in these cells remained stable for several hours. After in vitro validation, PC3-HRE-EGFP/HRE-ODD-luc/tdtomato tumors were implanted subcutaneously and orthotopically in nude male mice and imaged in vivo and ex vivo using optical imaging in proof-of-principle studies to demonstrate differences in optical patterns between EGFP expression and bioluminescence. This novel "timer" imaging strategy of combining the short-lived ODD-luciferase and the long-lived EGFP can provide a time frame of HRE activation in PC3 prostate cancer cells and will be useful to understand the temporal changes in hypoxia and HIF activity during cancer progression and following treatments including HIF targeting strategies.A 67-year-old man with metastatic prostate cancer and underlying asymptomatic pancytopenia presented with a 1-week history of general malaise, left leg weakness and facial numbness. Initial brain imaging demonstrated two rim-enhancing lesions felt to represent intracerebral metastasis. Following neurosurgical referral, a multidisciplinary meeting decision was made for best supportive care and dexamethasone was given. He developed multiple cutaneous lesions, which on incision and drainage revealed Nocardia farcinica Repeat brain imaging showed enlargement of the existing cavitating lesions and appearance of new lesions, now typical of cerebral abscesses. A diagnosis of disseminated nocardiosis with cutaneous and intracerebral infection was reached. He started taking empirical treatment with intravenous meropenem, co-trimoxazole and subsequent addition of amikacin, with little improvement. On further review of sensitivities, moxifloxacin was added. Following over 1 month of antimicrobial treatment, his neurological symptoms, cutaneous lesions and repeat MRI of the brain had improved.Purpose: The impact of radical prostatectomy and external beam radiotherapy on the quality of life of patients was compared.It's the No. 2 cancer killer in men--and it will strike almost every male who lives long enough to get it. But when a seasoned science journalist was diagnosed with it, doctors gave him confusing and contradictory advice. In his painful journey through the maze, he learned that where doctors disagree--as they do over how to treat many life-threatening diseases--an educated patient can help educate them.Background: Androgen deprivation therapy (ADT) is commonly used to treat prostate cancer. However, side effects of ADT often lead to reduced quality of life and physical function. Existing evidence demonstrates that exercise can ameliorate multiple treatment-related side effects for men on ADT, yet adherence rates are often low. The method of exercise delivery (e.g., supervised group in-centre vs. individual home-based) may be important from clinical and economic perspectives; however, few studies have compared different delivery models. Additionally, long-term exercise adherence and an understanding of predictors of adherence are critical to achieving sustained benefits, but such data are lacking. The primary aim of this multi-centre phase III non-inferiority randomized controlled trial is to determine whether a home-based delivery model is non-inferior to a group-based delivery model in terms of benefits in fatigue and fitness in this population. Two other key

aims include examining cost-effectiveness and long-term adherence.Background: When patients recover from disease-related functional limitations, support received from partners may not always match patients' changing independence goals. The lines of defense (LoD) model proposes a hierarchy of independence goals (LoDs), ranging from minimising discomfort by disengagement (lowest LoD) to protection of self-reliance (highest LoD). Prostate cancer patients' LoDs were examined as moderators of the association between partner support and patients' and partners' affect during patients' recovery from postsurgical functional limitations.Introduction: The rationale for mass screening for prostate cancer remains controversial. Apart from the scientific debate, we wanted to evaluate the opinion of prostate cancer screening candidates concerning the practical modalities of this screening and assess the impact of various personal, medical or social factors on their replies.In the current immunosuppression era, most renal transplant recipients with a functioning allograft are living healthier and longer lives. In men, because of prostate-specific antigen screening, more patients are diagnosed with early prostate cancer and offered curative treatment with radical prostatectomy. Laparoscopic radical prostatectomy is an accepted minimally invasive treatment for a middle-aged man with organ-confined prostate cancer. To our knowledge, laparoscopic prostatectomy has not yet been reported in renal transplant recipients. This is a case report of laparoscopic prostatectomy for biopsy-proven localized prostate cancer in a renal transplant recipient.Since the advent of PSA screening, the detection of early (organ confined) prostate cancer has improved. Although some indolent cancers in the elderly may be safely watched, the early diagnosis in younger men requires curative treatment. Two exciting modernized radiation therapy methods provide alternatives to major surgery and lead to cure rates equivalent to surgery. Modern intensity modulated external beam radiotherapy (IMRT) allows high-dose treatment to the prostate (+/- seminal vesicles) while maximally sparing the rectum (due to the extraordinary capability of creating a concavity in a high-dose radiation therapy volume). This has allowed escalation in the therapy dose to the prostate and improved cure rates. We have recently compared two different IMRT methods. Our introduction of "axial limits" rectal definition allows more accurate quantitation of relevant rectal sparing. Prostate radiation seed brachytherapy (Seattle 125-iodine method) provides a sophisticated, single-session radiation therapy method that has become the most popular curative method by busy men who want minimum interruption to their lives. The implant is "tailored" for the individual's gland size and shape, and in the London adaptation of the method there is interoperative monitoring of seed implantation, such that if any seed is slightly misplaced the information of deposition site is relayed back to a computer, which reconfigures the deposition of all subsequent seeds such that an ideal plan is achieved-dynamic, iterative, computer assisted implantation. The popularity of these two radiation techniques is largely due to the lesser rate of morbidity compared to surgery and the usual fast return to everyday life.The very high sensitivity and increased specificity of breast and prostate MRI, due to recent technical advances, enables more lives to be saved due to earlier diagnosis. Demand for breast MRI continues to increase due to the American Cancer Society's 2007 guidelines, recognition of its benefit by breast surgeons, and requests from patients at high risk due to dense breast tissue, family history, or other factors. With these more recent additions of perfusion,diffusion,and spectroscopy to anatomic information, prostate MRI is being more readily accepted by urologists as part of the staging evaluation for the appropriate subset of patients with prostate cancer, or pre-diagnosis evaluation for specific subsets of patients. Imaging facilities contemplating a breast and/or prostate MRI program need to consider potential demand, staffing, necessary equipment, a CAD system for study interpretation and reporting, and insurance reimbursement management.To determine whether a 2,700-year-old tumor can be reliably diagnosed using microscopic and proteomic techniques and whether such prostate carcinomas show the same morphological pattern at the micro-level as modern-day carcinomas, this case was investigated. A 40-50-year-old Scythian king who lived during the Iron Age in the steppe of Southern Siberia (Russia) suffered from macroscopically visible osteoblastic and osteoclastic lesions throughout his entire skeleton. Macro-morphological (macroscopy, endoscopy, radiology) and micro-morphological techniques (histology, scanning-electron microscopy) as well as proteomic techniques (1-D- and 2-D-electrophoresis, Western blot) were applied. The results of the morphological and biochemical investigation proved that this mature male suffered for many years from and probably died of a carcinoma of the prostate. The diagnosis mainly rests on the results of the microscopic examination of the lesions and the positive evidence of PSA, which is an important marker for the diagnosis of prostate cancer. It is remarkable that, in this ancient case, the morphological pattern at the microlevel is the same as in recent cases. The loss of the spongy bone substance (red bone marrow) provoked chronic anemia during the final months of the life of this king. The proteomic techniques

applied are new for the investigation of recent and ancient macerated bones. Sensitive and reliable biochemical markers (PSA) are an important precondition to detect such tumors in recent and ancient materials. Currently, this is the oldest known case of prostate cancer diagnosed reliably by morphological and biochemical techniques.The 111In-labeled monoclonal anti-prostatic acid phosphatase (PAP) monoclonal antibody F(ab')2 fragment was used for the radioimmunodetection of prostate cancer in two different patient groups: 15 patients with surgically verified T1-2 prostate cancer were imaged prior to staging lymphadenectomy and total prostatectomy using lymphatic administration (intraprostatic (ipr) injection), and 15 patients with verified metastatic prostatic cancer were imaged after intravenous (i.v.) injection. The patients were studied on several occasions (at 0-180 hours) after injecting a 1 mg MoAb fragment labeled with 75-150 MBq111In (DTPA-chelation). The extirpated tissues were counted for radioactivity, and studied immunohistochemically (IHC) and histologically. The anti-PAP MoAb was labeled with high efficiency (87-99%) and it demonstrated good immunoreactivity (90-95%) and a high affinity to the target antigen. In the excised prostates, cut into 12-18 smaller pieces, there was a clear correlation between the PAP content (as detected by IHC) and absolute radioactivity (% ID of 111In anti-PAP/g prostate). However, there was no correlation between radioactivity and the amount of cancer tissue (% of histological slices) inside the removed prostate tissue. In the pharmacokinetic studies, maximum activity in the serum was obtained within 3-5 hours after ipr injection; after that the kinetic behavior was similar to that after i.v. injection. After i.v. injection, two components could be distinguished the pharmacokinetic curves; the half-lives for mean distribution and elimination were 0.62 and 35.6 hours, respectively. The mean distribution half-life as well as the AUC from the pharmacokinetic curves correlated significantly with serum PAP ($p < 0.05$).(ABSTRACT TRUNCATED AT 250 WORDS)The study is designed to investigate the effect of edema on the delivered dose, tumor cell surviving fraction (SF), and tumor control probability (TCP) in the patients of prostate cancer who underwent (131)Cs permanent seed implantation. The dose reduction, the SF, and the TCP for edematous prostate implants were calculated for 31 patients who underwent real-time (131)Cs permanent seed implantation for edema half-lives (EHL), ranging from 4 days to 34 days and for edema magnitudes (M0) varying from 5% to 60% of the actual prostate volume. A dose reduction in (131)Cs implants varied from 1.1% (for EHL = 4 days and M(0) = 5%) to 32.3% (for EHL = 34 days and M(0) = 60%). These are higher than the dose reduction in 125I implants, which vary from 0.3% (for EHL = 4 days and M(0) = 5%) to 17.5% (for EHL = 34 days and M(0) = 60%). As EHL increased from 4 days to 34 days and edema magnitude increased from 5% to 60%, the natural logarithmic value of SF increased by 4.57 and the TCP decreased by 0.80. Edema induced increase in the SF and decrease in the TCP in (131)Cs seed implants, is significantly more pronounced in a combination of higher edema magnitude and larger edema half-lives than for less edema magnitude and lower edema half-lives, as compared for M(0) = 60% and EHL = 34, and M(0) = 5% and EHL = 4 days.Objectives: To analyse the survival rate among prostate cancer patients with conservative treatment. To compare survival between individuals with localised and invasive tumours, as well as between subjects below and above 70 years old at the time of diagnosis.Subjective quality-of-life assessments obtained from investigators and patients were compared in a subset of 76 patients from an EORTC study (protocol 30853) on metastatic prostatic carcinoma. In this study the therapeutic effect of orchiectomy was compared with a luteinizing hormone-releasing hormone analogue depot preparation and flutamide in 327 patients in total. Pretreatment, 6- and 12-month quality-of-life assessments revealed large variations between the patients' and the investigators' evaluation of performance status and sexual status (potency). Correlation analysis showed that reduced social life, impaired sexual potency and fatigue played important roles in overall psychological well-being. It was concluded that quality-of-life assessments obtained by self-administration questionnaires is a feasible approach and provides a tool to evaluate the benefits of treatment in prostate cancer.Radical prostatectomy is a useful procedure for the treatment of prostate cancer limited to the gland; however, failure may occur as a result of the immediate or delayed complications of surgery, or to disease recurrence related to incomplete tumour excision. Seventy-nine radical prostatectomies were performed between April 1985 and August 1991 in patients with prostate cancer (primarily stage B1) who averaged 63 years of age. Immediate post-operative complications included vesicocutaneous fistulae, cystic lymphangiomas, abdominal wall abscesses, extraperitoneal haematoma, acute cholecystitis, and enterocutaneous fistula. Massive pulmonary embolism accounted for 2 deaths. Of the 77 surviving patients followed up for an average of 34 months, 79.2% (61) were continent, 15.6% had stress-related incontinence or severe incontinence and 5.2% were lost to follow-up. Sexual potency was preserved in 13 of the 33 patients (39%) who were pre-operatively potent. A favourable outcome as defined by no recurrence was seen in 69 patients

(87.3%). Four patients (5.1%) are living with recurring prostatic cancer and 1 patient has died of the disease 46 months after surgery.Background: Analysis of serum PSA (prostate-specific antigen) is used for diagnosis and follow-up of prostate cancer. The aim of this study was to estimate the current use of PSA analysis in the population.In a multicentre study, 101 consecutive patients with advanced prostate cancer were offered the choice of orchiectomy or treatment with an LHRH analogue. Together with the cancer diagnosis the patients were given verbal information about the treatment alternatives, and detailed written information to peruse at home. One week later the patients informed the attending physicians of their choice. Information as to the reasons for the patients' choice, and their views on their choice after the start of treatment were elicited by questionnaire. Of the 101 patients, 48 chose orchiectomy, and 48 treatment with an LHRH analogue, five patients being excluded owing to their inability to decide. Mean age was about 73 years in both treatment groups, and about two thirds of each group lived with a partner. The level of education was higher among those who chose medical treatment. The predominant reasons for the choice of treatment were as follows: Orchiectomy, simpler (31 per cent), troublesome having to have monthly injections (19 per cent), simple to perform (15 per cent); medical treatment, possibility of change in treatment (27 per cent), simpler (17 per cent), fear of surgery (15 per cent). Most patients in both groups had no difficulty deciding, chose quickly, felt sure about their choice, appreciated the opportunity of choosing, and had discussed their choice with their partners or intimates. Three months after the start of treatment, almost all patients were still satisfied with their choice, and had no wish to change their choice even if that were possible.(ABSTRACT TRUNCATED AT 250 WORDS)Background: Comparisons of prostate cancer in blacks living in different countries can shed light on factors responsible for high rates of the disease among blacks in America. Since the prognostic value of the Gleason grading system is well established, we assessed agreement between pathologists in countries where black populations of the African Diaspora reside.A series of 59 consecutive patients with inoperable carcinoma of the prostate were entered into a national cooperative study and treated under the tenets of a strict protocol with competent dosimetric control. Twenty-one of these men are living and well 5--10 years after treatment; nine others who lived without cancer from 5 to 10 years died of other diseases. Local recurrences were not demonstrated in several cases which came to autopsy. Failures are often due to the development of osseous metastases outside of the effective area of radiotherapy. Untoward effects are the exception and may be minimized by fractionation.Background: No randomized controlled trial of prostate cancer screening has been reported and none is likely to be completed in the near future. In the absence of direct evidence, the decision to screen must therefore be based on estimates of benefits and risks. The main risk of screening is overdetection--the detection of cancer that, if left untreated, would not cause death. In this study the authors estimate the level of overdetection that might result from annual screening of men aged 50-70.Prostate cancer, once it has progressed from its local to metastatic form, is a disease with poor prognosis and limited treatment options. Here we demonstrate an approach using nanoscale liposomes conjugated with E-selectin adhesion protein and Apo2L/TRAIL (TNF-related apoptosis-inducing ligand) apoptosis ligand that attach to the surface of leukocytes and rapidly clear viable cancer cells from circulating blood in the living mouse. For the first time, it is shown that such an approach can be used to prevent the spontaneous formation and growth of metastatic tumors in an orthotopic xenograft model of prostate cancer, by greatly reducing the number of circulating tumor cells. We conclude that the use of circulating leukocytes as a carrier for the anti-cancer protein TRAIL could be an effective tool to directly target circulating tumor cells for the prevention of prostate cancer metastasis, and potentially other cancers that spread through the bloodstream.Purpose: The purpose of this study was to illuminate how men under 65 years of age experience their everyday Life one year or more after a radical prostatectomy for localised prostate cancer.Purpose: Screening with prostate specific antigen (PSA) to detect prostate cancer was started in Ikeda City Osaka from 2003 as part of the city's health program. We evaluated the first year's result.Introduction: Mass screening modalities remained controversial and made necessary large studies. The European Randomized study of Screening for Prostate cancer (ERSPC) was initiated in 1994. Eight countries including France are participating.Purpose: To determine the change in volume of the prostate as a result of neoadjuvant androgen deprivation prior to prostate implant and in the early postimplant period following transperineal ultrasound guided palladium-103 brachytherapy for early-stage prostate cancer.Background: Localised prostate cancer affects patient's quality of life in many ways. The aim of this study was to explore factors related to self-rated health and life satisfaction for patients treated for prostate cancer, and to compare the results of these generic quality-of-life measures to the prostate cancer-specific quality-of-life measure (UCLA Prostate Cancer Index), which focuses on physical

functioning.Study objectives: Public health burden of disease is often measured using prevalence statistics. Prevalence of invasive prostate cancer in the United States is presented according to age at diagnosis, time from diagnosis, geographical area, and two races (white and black).Monitoring the expression of therapeutic genes in targeted tissues in disease models is important to assess the effectiveness and safety of systems of gene therapy delivery. In the present study, we employed a CCD (charge-coupled-device) imaging system to monitor how a prostate-specific adenovirus vector (AdPSA-Luc) mediated the long-term, sustained expression of firefly luciferase (Luc) in living human prostate cancer mouse models. The in vivo bioluminescence imaging revealed significantly high levels of luciferase expression up to 1 month, not only in prostate tumours, but also in lungs after intratumoural injection. Systemic tail vein injection of AdPSA-Luc revealed significant luciferase expression in lungs of both human prostate cancer mouse models and naïve mice, but significantly higher in the former, while the control virus, AdCMV-Luc, containing CMV (cytomegalovirus) promoter and luciferase gene, just restricted expression in the livers. Our findings demonstrate the ability of the cooled CCD camera to sensitively and non-invasively track the location, magnitude and persistence of luciferase gene expression in human prostate cancer mouse models. Monitoring of gene therapy studies in small animals may be aided considerably with further extensions of this technique.Introduction: Nearly 60% of cancer survivors are of working age, making inquiries into work-related disabilities particularly relevant. This paper describes work-related physical and cognitive disability estimates 12 and 18 months after diagnosis and treatment in a sample of employed breast and prostate cancer patients.Advanced prostate cancer patients often undergo androgen deprivation therapy (ADT). Advanced disease and adverse ADT side effects are often debilitating and negatively impact mood. Social support has been shown to mitigate detrimental effects of stress on mood.Background: Cancer patients experience many physical, psychosocial, and existential problems and worries during their illness. To support patients in managing their illness, we implemented an online patient-nurse communication (OPNC) service, where breast and prostate cancer patients could ask questions and receive advice from oncology nurses.Ecological studies implicate a "Western" diet in prostate cancer development, but whether dietary patterns measured in individuals are associated with risk has not been studied previously. We examined this issue using prospective data from the nationally representative United States Health Examination Epidemiological Follow-up Study. Among 3,779 men followed from 1982-84 to 1992, 136 incident cases were identified. Using principal component analysis on responses to a 105-item dietary questionnaire, the following three distinct patterns were identified: a vegetable-fruit pattern; a red meat-starch pattern characterized by red meats, potatoes, cheese, salty snacks, and desserts; and a Southern pattern characterized by such foods as cornbread, grits, sweet potatoes, okra, beans, and rice. In adjusted proportional hazards models, prostate cancer risk was not associated with the vegetable-fruit or red meat-starch pattern, but higher intake of the Southern pattern showed a reduction in risk (3rd versus 1st tertile relative risk, 0.6; 95% confidence interval, 0.4-1.1; trend P = 0.08) that approached statistical significance. The inverse association was observed in black and non-black men and was not attributable to intake of any individual foods or nutrients. A Southern dietary pattern may reflect a history of living in the South and serve as an integrative marker of sunlight exposure and protection through 1,25-dihydroxyvitamin D production. Further evaluation and better characterization of the pattern would offer more information on potentially beneficial features of the diet or its associated lifestyle.Background: To the authors' knowledge, few studies to date have examined racial differences in prostate cancer survival while controlling for socioeconomic status (SES). No such studies have examined this association in Texas, a large state with significant ethnic and racial diversity. The objective of this analysis was to determine whether racial disparities in survival for men diagnosed with prostate cancer in Texas from 1995 through 2002 remained after adjusting for SES, rural residence, and stage of disease.Background: Stereotactic body radiotherapy (SBRT) has emerged as an effective treatment for localized prostate cancer. However, prostate specific antigen (PSA) kinetics after prostate SBRT have not been well characterized. The purpose of this study was to analyze the trend in PSA decline following robotic SBRT from a prospective cohort of patients.Quality of life (QoL) is now commonly studied in prostate cancer. However, little is known about the appropriateness of the various QoL instruments in this group of patients. The purpose of this work was to study the baseline QoL assessment of patients with prostate cancer who were randomised into three EORTC phase III studies. The three trials included locoregional prostate cancer patients, poor prognosis metastatic patients and hormone resistance patients, respectively. In the three trials, patients were asked to complete a questionnaire assessing their physical and psychosocial functioning and their symptom levels. These questionnaires included questions from the EORTC QLQ-C30 (version 1): the

physical functioning, role functioning, global health/QoL scales and a single pain item. The psychometric properties of the scales were assessed and an analysis was performed to investigate if differences existed in the scale scores between the three groups of patients, 638 baseline questionnaires were available for patients entered into the three trials. The Gutman coefficients of reproducibility and scalability were 0.94 and 0.71, respectively, for the physical functioning scale and 0.97 and 0.90, respectively, for the role functioning scale. The Cronbach's alpha reliability coefficients were 0.68, 0.48 and 0.90 for the physical functioning, role functioning and global health/QoL scales, respectively. The four scales were able to distinguish clearly between the patient populations under study. The physical functioning, role functioning, global health/QoL scales and the single pain item scale from the EORTC QLQ-C30 (version 1) are valid measures when used in the setting of prostate cancer.Prostate cancer is the most common type of cancer (other than skin cancer) among men in the United States. Although prostate cancer is one of the few cancers that grow so slowly that it may never threaten the lives of some patients, it can be lethal once metastasized. Indium-111 capromab pendetide (ProstaScint, Cytogen Corporation, Princeton, NJ) imaging is indicated for staging and recurrence detection of the disease, and is particularly useful to determine whether or not the disease has spread to distant metastatic sites. However, the interpretation of 111In-capromab pendetide is challenging without correlated structural information mostly because the radiopharmaceutical demonstrates nonspecific uptake in the normal vasculature, bowel, bone marrow, and the prostate gland. We developed an improved method of imaging and localizing 111In-Capromab pendetide using a SPECT/CT imaging system. The specific goals included: i) development and application of a novel iterative SPECT reconstruction algorithm that utilizes a priori information from coregistered CT; and ii) assessment of clinical impact of adding SPECT/CT for prostate cancer imaging with capromab pendetide utilizing the standard and novel reconstruction techniques. Patient imaging studies with capromab pendetide were performed from 1999 to 2004 using two different SPECT/CT scanners, a prototype SPECT/CT system and a commercial SPECT/CT system (Discovery VH, GE Healthcare, Waukesha, WI). SPECT projection data from both systems were reconstructed using an experimental iterative algorithm that compensates for both photon attenuation and collimator blurring. In addition, the data obtained from the commercial system were reconstructed with attenuation correction using an OSEM reconstruction supplied by the camera manufacturer for routine clinical interpretation. For 12 sets of patient data, SPECT images reconstructed using the experimental algorithm were interpreted separately and compared with interpretation of images obtained using the standard reconstruction technique. The experimental reconstruction algorithm improved spatial resolution, reduced streak artifacts, and yielded a better correlation with anatomic details of CT in comparison to conventional reconstruction methods (e.g., filtered back-projection or OSEM with attenuation correction only). Images produced with the experimental algorithm produced a subjective improvement in the confidence of interpretation for 11 of 12 studies. There were also changes in interpretations for 4 of 12 studies although the changes were not sufficient to alter prognosis or the patient treatment plan.Prostate cancer is the most common cancer in men and one of the leading causes of cancer-related deaths in Western countries. The extraordinary biological heterogeneity, the increasing incidence of this disease, and the presence of putative premalignant conditions make prostate cancer a crucial pathology to study and test pharmacological or nutritional chemopreventive strategies. It has been demonstrated that the incidence of prostate cancer is lower in Asian people, and that it increases in Asian men living in Western countries; these data point to a pivotal role of diet in the onset of prostate cancer. A large amount of work has been done in investigating chemopreventive properties of dietary compounds widely used in Asian countries (i.e. soy, soybeans, green tea, fish) in respect of the oxidants- and meat-rich diet typical of Western people, particularly of central and northern Europe. Some dietary products appear promising as chemo-preventive agents for prostate cancer, because they display both anti-oxidant and anti-inflammatory activity - and inflammation is crucial for the aetiology of adeno-carcinoma of the prostate. There is increasing evidence for close correlation between inflammation, the microenvironment and tumour-associated neo-angiogenesis causing the adverse outcomes of prostate cancer. It may thus be useful to develop new strategies to couple the treatment of inflammation-related prostate cancer and the generation of angiopreventive or antiinflammatory molecules to prevent this disease. The search for compounds with few or no adverse effects - particularly cardiovascular - as compared with the agents currently in use is therefore of greatest relevance.The incidence of prostate cancer is increasing and the patients are generally of relatively advanced age. There has been an increase in the use of hormonal therapy in such cases. However, hormonal therapy for prostate cancer increases the risk of fracture. Bisphosphonates have been

reported to prevent the bone loss caused by hormonal therapy. Therefore, oral bisphosphonates will play an important role in preventing bone loss in prostate cancer patients undergoing hormonal therapy.Objective: To evaluate the role of peripheral inflammation (leukocyte differential count, the proinflammatory cytokines IL-beta, TNF-α, IL-6, IL-8, and the inflammatory markers fibrinogen and C-reactive protein [CRP]) in frailty syndrome in patients with prostate cancer (CaP) undergoing antiandrogen therapy (ADT).Background: Prostate carcinoma poses a significant public health problem. Although a minority of men with newly diagnosed prostate carcinoma manifest bone metastases or skeletal abnormalities, a significant proportion of men will develop these complications over the course of their lives. Patients at highest risk for bone metastases include those with high grade, high stage neoplasms, those who fail primary curative therapies such as radical prostatectomy or radiation therapy, and those who develop biochemical recurrence after hormonal therapy.Objective: To analyse health-related quality of life (HRQoL) and satisfaction with care across potential curative treatments for older patients newly diagnosed with prostate cancer.The purpose of this study was to develop a psychometrically reliable and valid questionnaire to assess the disease-specific dimensions of health-related quality of life (HRQOL) in the urinary function (UF), bowel function (BF), and sexual function (SF) domains of prostate cancer (PCa) patients treated with radiation therapy. Patients were given a six-page questionnaire using Likert-type questions assessing three HRQOL dimensions during their follow-up visits after completing radiotherapy. Scales created from an earlier study were utilized and tested for reliability and validity. In addition, we assessed the relationship between these dimensions and the degree to which a decreased HRQOL increases the degree to which patients feel bothered about their symptoms. There are two scales within each dimension: BF, Urgency and Daily Living; UF, Urgency and Weakness of Stream; SF, Interest/Satisfaction and Impotence. Internal-consistency reliability coefficients (Cronbach's alpha) for the proposed scales range from 0.48 to 0.92, and all item-scale correlations and divergence correlations validate the use of the scales, ranging from 0.49 to 0.89. The validity of these scales is also confirmed by the rising median scores with rising reported levels of patient-perceived "bother." The different dimensions have differing quantitative influences on patients. We have developed a prostate-specific HRQOL instrument that is an adequate and suitable tool for measuring HRQOL along three distinct dimensions for patients who have completed radiotherapy for PCa. Psychometric standards for reliability and validity were met for the proposed scales. Moreover, positive correlations were found between these dimensions and how bothered patients were by their symptoms, suggesting important relationships that should be followed in PCa patients after radiotherapy. Certain scales have strong influences on patient-perceived "bothersomeness" of symptoms, such as loss of control of BF, urgency of BF, urgency of urination, and level of interest/satisfaction in sex. Compared to our earlier study on patients being treated with radiotherapy for PCa, this study produced very similar results. With some modification, the same questionnaire could be used for both groups of patients. Int. J. Cancer (Radiat. Oncol. Invest.) 90, 163-172 (2000).Purpose: Prostate-specific membrane antigen (PSMA)-targeted PET/CT has become increasingly important in the management of prostate cancer, especially in localization of biochemical recurrence (BCR). PSMA-targeted PET/CT imaging with long-lived radionuclides as 89Zr (T1/2 = 78.4 h) may improve diagnostics by allowing data acquisition on later time points. In this study, we present our first clinical experience including preliminary biodistribution and dosimetry data of [89Zr]Zr-PSMA-617 PET/CT in patients with BCR of prostate cancer.The transgenic adenocarcinoma of mouse prostate (TRAMP) model is widely used in prostate cancer research because of rapid tumor onset and progression. The transgenic mouse is on a C57BL/6 (B6) background and expresses SV40 T-antigen under the probasin promoter. The strong genetic component of susceptibility to prostate cancer in humans prompted us to investigate the effect of mouse strain background (FVB and B6) on incidence, progression, and pathology of prostate cancer in this model. Because TRAMP lesions are unique but differ from conventional prostatic intraepithelial neoplasia because the epithelium and stroma are affected diffusely, we designated them as "atypical hyperplasia of Tag." Although the incidence and severity of atypical hyperplasia of Tag is similar, FVB-TRAMP mice live significantly shorter lives than B6-TRAMP mice because of the rapid development and progression of neuroendocrine carcinomas. This is associated with an increased frequency of neuroendocrine precursor lesions in young TRAMP mice, detectable at 4 weeks after birth. These lesions show properties of bipotential stem cells and co-express markers of epithelial (E-cadherin) and neuroendocrine (synaptophysin) lineages, as well as the transcription factors Foxa1 and Foxa2. Transplantation studies using TRAMP prostatic ducts suggested that neuroendocrine carcinomas arise independently from atypical hyperplasias or other epithelial lesions. Adenocarcinomas were not seen in

our cohort. Thus, neuroendocrine carcinomas are the principal malignancy in this model and may develop from bipotential progenitor cells at an early stage of prostate tumorigenesis.Background: We developed a decision aid for patients with curable prostate cancer based on Svenson's DiffCon Theory of Decision Making. This study was designed to determine if surrogate patients using the aid could understand the information presented, complete all tasks, show evidence of differentiation, and arrive at a preferred treatment choice.Individuals living with cancer are faced with numerous treatment decisions that encompass both conventional therapies and complementary and alternative medicine (CAM). Although a beginning body of research has explored the CAM decision-making process by cancer patients, the social context of these treatment decisions has been largely ignored. As a part of a larger grounded theory research project exploring CAM decision-making processes of cancer patients living in British Columbia, Canada, the purpose of this secondary inquiry was to explore how significant others were involved in patients' decisions related to CAM. In total, 61 patients with early and advanced-stage breast and prostate cancer and 31 significant others participated in semi-structured interviews. Using constant comparative analysis, four main types of decisional involvement by significant others were identified: creating a safe place for the patient to make a decision, "becoming a team": collaborative decision-making, moving the patient towards a decision, and making the decision for the patient. Significant others were often found to engage in more than one type of decision involvement as a consequence of several key factors. Within the types of decisional involvement, nine distinct roles in the CAM decision-making process were described by the significant others. The findings of this inquiry extend previous research by highlighting the importance of significant others in cancer patients' CAM decisions and challenge past conceptualizations of autonomy in treatment decision making.A novel experimental method was developed to study the origin of the voltammetric response of human prostate cancer (PC-3) cell suspension as a model in consideration of the biological characters of living cells. The presence of guanine and xanthine in the cell eluent secreted by the living cells was verified by HPLC assay with a DAD system and chemometric method. Comparative studies of voltammetric behaviors of the PC-3 cell suspension, the PC-3 cell eluent, and the PC-3 cell sediment re-suspension showed that the voltammetric response of the PC-3 cells was given by xanthine and guanine bases in the PC-3 cell eluent, not by the cells. Linear relationship between the peak currents of guanine and xanthine in the cell eluent and the cell concentrations was found. Other factors, such as the cell secretion time and the immersion time of the multiwalled carbon nanotubes modified glassy carbon electrode (MWCNTs-modified GCE) in the cell eluent, also influenced the intensity of the peak currents. The biochemical mechanisms of the voltammetric behavior for the cell suspension were proposed.The introduction of PSA screening has led to confirming a shift towards an earlier pathological stage in the diagnosis of prostate cancer. Consequently, the proportion of detecting early stage prostate cancer has clearly been increasing. On the other hand, progressive cancers in the form of distant metastases and locally advanced ones that have been confirmed at the initial diagnosis exhibit a constant rate. In addition, there have been a lot of cases where hormonal resistance was acquired during hormonal therapy which resulted in advanced metastases of the prostate. Prostate cancer has a tendency to be metastatic to bones. Combining the fact that the survival period of patients undergoing treatment is prolonged after metastases, the length of suffering caused by complications, such as ostealgia, pathological fracture and myelopathy, becomes an issue in which QOL and ADL of the patient are sacrificed for a long time. As for treatment of prostate cancer with metastases, a palliative treatment is common in the clinical scene. However, we can extend a life prognosis with use of radiotherapy and surgical treatment in addition to the palliative treatment at an appropriate time. It appears that a combination of new chemotherapy and hormonal therapy will be promising. In the future, we believe that the appearance of new anticancer drugs, endocrine therapies, bisphosphonates and strontium treatment could be used as a part of the treatment strategy for prostate cancer with bone metastases.Objective: To describe the lived experience of a possible prostate cancer overdiagnosis in men who resisted recommended treatment.Objective: To evaluate the outcomes of men diagnosed with prostate cancer (CaP) following implanted treatments for advanced heart failure. Given the increasingly favorable 10-year life expectancy, MedStar Washington Hospital Center screens heart transplant (HT) candidates for CaP and other malignancies prior to intervention.This study aimed at confirming the increased growth inhibition (GI) of human prostate tumors produced by a intentionally palliative combination treatment of cryochemotherapy, i.e., partial cryoablation (CA) followed by intratumor partial chemotherapy with injection of microencapsulated 5-fluorouracil (MCC/5FU) at the ice ball (IB) periphery. We report the local effectiveness of cryochemotherapy compared to chemotherapy only with using multiple injections of MCC/5FU spaced out to maximize cumulative effect of sustained

release of 5-fluorouracil (5FU) during a 21-day period. Prostate bioluminescent tumor cells - DU145 Luc+ - were implanted sub-cutaneously and bilaterally in each flank of nude mice. Tumors were treated with: (i) cryoablation alone (CA), causing necrosis in approximately 45% of the tumor volume; (ii) cryo-chemotherapy (CA+MCC/5FU), a combined regimen consisting of partial CA followed immediately and on day 14 by ultrasound assisted, intra-tumor injections (40 mul) of MCC/5FU(0.81 ng/mm3 of tumor) containing Ethiodol (IPO) an imaging contrast agent, on two opposite sides of the unfrozen part of tumor; (iii) intratumor chemotherapy (MCC/5FU), consisting of three successive intra-tumor injections of microencapsulated 5FU on two opposite sides on Day 0, 4, and 11, and (iv) control series (MM), consisting of a single injection of echogenic microcapsules (mucaps) containing IPO but no 5FU. Tumor growth and viability were followed during a 21-day period with using biometric measurements, bioluminescent imaging (BLI) and ultrasonography (US), and then animals were sacrificed. CA, spared 54.4% of the tumor volume and the IB kill ratio was 0.4 +/-0.9. The maximum tumor volume reduction observed by Day 3 was short-lived as re-growth became significant by Day 6. CA+ MCC/5FU spared 55.6% of the tumor volume and the IB kill ratio was 0.54 +/- 0.12. The viable tumor cells, as measured by BLI remained at preoperative levels. After 11 days CA+ MCC/5FU limited the growth of the partially ablated tumors to only 10.6% of the growth of CA treated tumors (p=0.04). By Day 18 the CA+MCC/5FU had inhibited tumor growth by 78% compared to the CA treated tumors (p=0.05) and after 21 days the growth was inhibited by 71% (p=0.04) compared to more than 650% growth in the MM group and 600% growth in the CA treated group. The two injections of MCC/5FU produced a visible focal necrosis in 55% of the tumors. MCC/5FU proved effective by themselves and reduced the growth of prostate tumor volumes by 51% (p=0.025) compared to MM controls during the 21 days. Focal necrosis was macroscopically visible at the site of 66% of the tumors injected only with MCC/5FU. The BLI clearly showed zones of reduced tumor cell viability at the injection sites. The mean number of bioluminescent (viable) tumor cells, remained below preoperative levels for the first 6 days and then increased at a rate approximately 20% that of the growth of control tumor cells. The chemoablative effects of intentionally limited doses of MCC/5FU injected within the IB margin augment the effects of incomplete cryoablation in this prostate tumor model, with dramatic tumor GI and directionally increased necrosis dimensions compared to CA alone, confirming the results of a previous study. Our results indicate the potential advantages of our combination cryochemotherapy that utilizes different mechanisms to kill tumor cells and retard tumor growth in the region surrounding the IB where tumor cells escape the lethal effects of cryosurgery. The study suggests that cryochemotherapy may become a more predictable technique that could be indicated as an adjuvant or an alternative to palliative therapy of hormone refractory prostate cancer (HRPC).Hormonal therapy occasionally produces long-term survival of men with metastatic carcinoma of the prostate. To identify which patients will benefit for long intervals a retrospective analysis was done on 56 men with stage D carcinoma of the prostate treated between 1963 and 1968. Of this group 5 patients lived longer than 10 years. We were unable to identify clinical or pathologic characteristics that would have indicated which patients would have done well.Purpose: We sought to explore the symptomatic experience of men recently told their castration-resistant prostate cancer has metastasized (mCRPC); the impact and emotional response to this; the emotional burden of monitoring development to metastatic status; and the emotional impact on the primary support person (PSP).Background: Fatty acid synthase (FASN) is highly upregulated in human prostate carcinomas. Inhibition of FASN could arrest cell cycle and trigger apoptosis rapidly, implying the reliance of cancer cell survival on FASN. However, little is known about the effect of C75, a FASN inhibitor, and siFASN (that is, small interfering RNA targeted at FASN) on prostate cancer in living subjects.Objective: To examine socioeconomic and clinical factors that may predict a longer interval between prostate biopsy and radical prostatectomy (RP).Cancer is on the rise in Sub-Saharan Africa. In South Africa, where cancer detection, intervention, and care are available for many citizens, cancer is poorly detected and understood among politically and economically marginalized communities in rural and urban centers. These trends are reflected in a history of systematic marginalization of such contexts from public resources, including education and health care, stemming from racism and wealth inequity. This article investigates how Black South Africans residing in Soweto, a township of Johannesburg, perceive and experience breast and prostate cancers amidst multiple, concurrent medical conditions. We used convenience sampling to recruit 80 study participants already enrolled in longitudinal studies of breast and prostate cancers at a tertiary hospital in Soweto between June and August 2017. This included 50 women diagnosed with breast cancer and 30 men diagnosed with prostate cancer; three-quarters of the sample had two or more comorbidities, including HIV, hypertension, diabetes, anxiety, and others. Many described sickness in terms of any physical ill-health

that affected daily routines, but rarely was it associated exclusively with a specific disease. Men and women described more fear associated with cancer than HIV or hypertension-two of the most common diseases. We found that this may be in part a reflection of how people feared and demonized their cancer diagnoses, calling it "a demon!", and framing cancer through the trauma of aggressive treatments like chemotherapy ("the red devil!") and physical disfiguration from mastectomy. In contrast, men's prostate cancer treatments were often hormonal therapy and men associated cancer to a normal side effect of aging. Intervening in how people think about cancer may improve how people live well with the condition amidst other cascading social and health problems they face.Background: Prostate cancer is the most common cancer in male in most Western countries, including France. Despite a significant morbidity and mortality to a lesser extent, the etiology of prostate cancer remains largely unknown. Indeed, the only well-established risk factors to date are age, ethnicity and a family history of prostate cancer. We present, here, the rationale and design of the EPIdemiological study of Prostate CAncer (EPICAP), a population-based case-control study specifically designed to investigate the role of environmental and genetic factors in prostate cancer. The EPICAP study will particularly focused on the role of circadian disruption, chronic inflammation, hormonal and metabolic factors in the occurrence of prostate cancer.Autophagy is a double-edged sword that affects tumor progression by promoting cell survival or death depending on different living contexts. The concrete mechanism by which autophagy modulates the efficacy of radiotherapy for prostate cancer (PC) remains unclear. We exposed RM-1 PC cells to X-ray and explored the role of autophagy in radiation injury. Our results showed increased apoptosis and autophagy levels in RM-1 cells after radiation. Pharmacological inhibition of autophagy by chloroquine significantly mitigated radiation-induced apoptosis, while the enhancement of autophagy by rapamycin aggravated apoptosis. Sirt1, a member of sirtuin family, deacetylates various transcription factors to trigger cell survival in response to radiation injury. We found that radiation led to Sirt1 downregulation, which was reversed by the inhibition of autophagy. On the contrary, enhanced autophagy further diminished protein level of Sirt1. Notably, overexpression of Sirt1 by plasmid significantly alleviated radiation-induced apoptosis, but silenced Sirt1 by siRNA further induced apoptosis, indicating the radioprotective effect of Sirt1 on RM-1 cells. In summary, our findings suggested that autophagy-mediated Sirt1 downregulation might be a promising therapeutic target for PC.Background: Genetic variants in antioxidant pathways might decrease the efficacy of radiation therapy (RT) by suppressing the generation of reactive oxygen species. We studied the association between single nucleotide polymorphisms (SNPs) in the antioxidant gene superoxide dismutase-2 (SOD2) and cancer-specific outcomes after RT.Objective: To estimate the risk of prostate and other types of cancer among relatives of Icelandic men diagnosed with prostate cancer over a 5-year period.High-grade prostatic intra-epithelial neoplasia (HGPIN) is the most likely precancerous lesion for prostatic carcinoma. A high incidence of its association with cancer has been reported in Western countries. On the other hand, information regarding its incidence is limited in Japan, where the mortality due to prostate cancer is much lower. We reviewed 53 clinical stage T2 or T3 prostatic cancers of Japanese patients living in Osaka, Japan (mean age, 67.2 years). These cases were subdivided into a pre-operatively non-castrated group (34 cases) and a medically or surgically castrated group (19 cases). HGPIN was found in 27 cases. The incidence of HGPIN was significantly lower in the castrated group (21.0%) compared with the non-castrated group (67.6%). In the non-castrated group, patient age, pathological stage, Gleason score, tumor size and serum prostate-specific antigen showed no significant correlation with HGPIN. Advanced pathological stage and tumor size tended to decrease the incidence of HGPIN, although this was not statistically significant. When the study group was limited to stage T2 tumors of the non-castrated group, the incidence of HGPIN was 81.0%. HGPIN in Japan may also be clinically and etiologically significant as a precursor of clinical cancer.Aim/background: The aim of this study was to evaluate the feasibility and efficacy, in terms of overall survival, of intensified upfront systemic therapy in patients with metastatic hormone-sensitive prostate cancer who lived in rural Nordland County, Norway.Background: Prostate cancer is prevalent worldwide. In England, men living with this malignancy often report unmet psychological, informational, urological and sexual needs. Their experience of care is correspondingly lower than that of other patient groups with cancer. To address this, prostate cancer clinical nurse specialist posts were established across England and Scotland. Their intent was to support men with this form of cancer, enhance symptom management and improve quality of service provision.Purpose: After radical prostatectomy, men with adverse pathologic features or a persistent postoperative detectable prostate-specific antigen (PSA) are candidates for postoperative radiation therapy (PORT). Previous data have suggested disparities in receipt of adjuvant radiation therapy for adverse pathologic features according to travel distance. Among patients without

adverse pathologic features (pT2 disease and negative margins), the main indication for PORT is a persistent postoperative detectable PSA. However, it remains unknown whether the rate of receipt of PORT in this cohort of men with persistently detectable PSA is related to travel distance from the treating facility.Background: Disparities in cancer defined by race, age, or gender are well established. However, demographic metrics are surrogates for the complex contributions of genotypes, exposures, health care, socioeconomic and sociocultural environment, and many other factors. Macroenvironmental factors represent novel surrogates for exposures, lifestyle, and other factors that are difficult to measure but might influence cancer outcomes.The goal of cancer screening is the early detection and treatment of disease, with a consequent reduction in the mortality rate. Evaluation of whether a particular screening program can achieve this goal is a difficult task. Two components of the screening process must be assessed. The first is the ability of the screening test to detect cancer early while minimizing the number of false-positive results. In this regard, the specificity of the test ordinarily must be very high, approaching 99%. No screening test for prostate cancer has yet been reported to have a specificity this high, indicating that any prostate cancer screening program using currently available tests will have to deal with the problem of a large number of false-positive findings. To evaluate the overall impact of a screening program, the best procedure is the randomized controlled trial with cancer-specific mortality as the endpoint. This endpoint is used because it avoids the lead time and length biases inherent in other outcome variables such as stage shift and case survival. The screening randomized controlled trial must be carefully planned and implemented, because it is lengthier and more costly than the usual therapy trial because of differences in study populations, trial design relative to the planned population intervention, and the extent of knowledge of disease natural history. A further important component of screening evaluation is cost. The decision to implement or continue a screening program can be aided by using cost-effectiveness analysis, which bases a decision on the ranking of cost-to-benefit ratios for the various programs contending for limited funds. Screening cost includes the cost of the test, the cost of side effects of the test, and the costs of biopsy and treatment, while screening benefit can be measured in terms of lives saved, life years saved, or quality-adjusted life years.Cell theranostics is a new approach that unites diagnosis, therapy and confirmation (guidance) of the results of therapy in one single process at cell level, thus principally improving both the rapidity and precision of treatment. The ideal theranostic agent will support all three of the above functions in vivo with cellular resolution, allowing individual assessment of disease state and the elimination of diseased cells while leaving healthy cells intact. We have developed and evaluated plasmonic nanobubbles (PNBs) as an in vivo tunable theranostic cellular agent in zebrafish hosting prostate cancer xenografts. PNBs were selectively generated around gold nanoparticles in cancer cells in the zebrafish with short single laser pulses. By varying the energy of the laser pulse, we dynamically tuned the PNB size in a theranostic sequence of two PNBs: an initial small PNB detected a cancer cell through optical scattering, followed by a second bigger PNB, which mechanically ablated this cell without damage to surrounding tissue, while its optical scattering confirmed the destruction of the cell. Thus PNBs supported the diagnosis and guided ablation of individual human cancer cells in a living organism without damage to the host.Objective: Prostate cancer is the most common cancer in German men and associated with various physical and psychosocial problems. This study investigated the association between mental distress and the subjective need for psychosocial support comparing subgroups of patients with different treatments and disease stages.Purpose: Matriptase-1 has been implicated as playing an important role in various types of cancer progression through many different cancer related pathways. In the current study we assessed the efficacy of targeting matriptase-1 using ribozyme technology in vitro and in vivo.Purpose: The risk of prostate cancer among persons living with human immunodeficiency virus (PWH) is not well understood and may be obscured by different opportunities for detection.This study aims to determine if younger men, across racial and ethnic groups, discussed the benefits/risks/harms of PSA screening with health care professionals. Publicly available data were obtained from the Health Information National Trends Survey https://hints.cancer.gov/ in March 2019. Cross-sectional analysis of 518 men between the ages of 18 and 49 years from men who completed the survey between October 2011 and February 2012 (HINTS cycle 4) was performed. We used logistic regression to evaluate the association between race/ethnicity and discussions around PSA. Less than 10% of the participants reported a prior PSA; Black and Hispanic men were more likely compared with White men. Compared with White men, Black and other race men reported receiving less communications from some doctors recommending PSA screening (ORblack: 0.16, 95% CIblack: 0.07-0.38; ORother: 0.10, 95% CIother: 0.04-0.25), and that no one is sure PSA testing saves lives (ORblack: 0.49, 95% CIblack: 0.04-6.91; ORother: 0.17, 95% CIother:

0.06-0.48). Minority men, while more likely to have had a PSA, were less likely to be told of the harms and benefits of PSA testing, compared with White men. Increasing communication surrounding screening advantages and disadvantages between providers and patients can increase awareness and knowledge among younger men. In a post-COVID-19 environment, communication regarding the return to preventative screenings within vulnerable populations is an important message to convey. Research shows preventive screenings have dropped across all population groups due to the pandemic yet the decline disproportionately affects Black and other minority men.Objective: To explore perceptions of the impact of erectile dysfunction on men who had undergone definitive treatment for early nonmetastatic prostate cancer.Objective: To investigate the readiness of patients to address emotional needs up to 18 months following a diagnosis of breast, lung or prostate cancer.Prostate cancer is the most common nonskin cancer in the United States, with more than 2 million men currently living with the disease (Prostate Cancer Foundation, 2005). Hormone ablation therapy has resulted in much improved outcomes for thousands of men with this disease; however, there are often side effects that impact patients' quality of life. An overview of the use of hormone ablation therapy and the critical role nurses play for patients undergoing this treatment is provided.Introduction: Prostate cancer is the most common type of cancer found in American men. Patient adjustment to prostate cancer is not limited to attempts to restore sexual function, a process that can pose significant challenges to couples following most surgical and nonsurgical treatments. Patients often struggle with depression and other relational stressors. Partners also undergo psychosocial, relational, sexual, and quality-of-life changes and their responses to these changes may relate to patient adjustment.Objective: We undertake qualitative research with men treated in a Pretoria, South Africa Oncology clinic to address men's self-reported experiences on androgen deprivation therapy (ADT).Objectives: To use a contingent valuation method to compare the willingness of well-informed and ill-informed men to pay for PSA screening. Prostate cancer screening by analysis of prostate-specific antigen (PSA) levels has recently been confirmed to reduce prostate cancer death. However, PSA screening is associated with considerable risks, and men should be well informed about the risks before deciding to undergo the test.Photo elicitation studies have attracted modest attention in qualitative health research. However, few researchers have focused exclusively on men's health and/or illness experiences. In this article, the authors discuss the benefits of using photo elicitation among a sub-cohort of 19 prostate cancer survivors from a larger ethnographic study. Specifically, participants were asked to imagine that they were being paid to mount a photographic exhibition entitled Living With My Prostate Cancer, an exhibition that would show prostate cancer from their unique perspective. The authors subsequently discussed the photographs with the participants during individual interviews using photo elicitation techniques. The methods provided some unique and unanticipated benefits, the details of which the authors share to guide researchers considering similar approaches. In addition, the authors make specific recommendations for future photo elicitation applications to men's health research.Background: Androgen-deprivation therapy (ADT) causes bone loss and fractures. Guidelines recommend bone density testing before and during ADT to characterize fracture risk. The authors of the current report assessed bone density testing among men who received ADT for ≥ 1 year.African Americans' greater access to mobile phones makes short messaging service technology a promising complement to health promotion interventions. Short messaging service text messages were added to the Men's Prostate Awareness Church Training project, a men's health intervention for African American men. We report on the feasibility and acceptability of the use of short messaging service text messages in the intervention. Short messaging service text messages served as (1) workshop reminders; (2) post-workshop message reinforcement; (3) spiritual/motivational messages; and (4) participant retention. At workshop 4, over 65 percent of participants wished to continue receiving the messages. While there was an increase in recall over time, more than one-third of the participants did not recall receiving the 53 text messages. However, recall was considerably greater among men who attended the Men's Prostate Awareness Church Training workshops. Overall, the inclusion of text messages in health promotion interventions targeting mature African American men was found to be feasible and acceptable.We measured the histologic stromal and epithelial tissue components of the benign (normal) and malignant tissue compartments of Japanese-Americans (J-A) and native Japanese (NJ) men living in Japan. The patient cohort included 25 NJ men undergoing radical prostatectomy (RP) in Nagoya, Japan and 25 J-A (second or third generation US born). We conducted tissue image quantitation (in-house image software) of the stromal and epithelial compartments in malignant and adjacent normal tissue areas from a tissue microarray (TMA) selected from radical prostatectomy (RP) blocks. Stromal-epithelial (S-E) areas were determined using immunohistochemical stains for CAM-5.2 epithelial cytokeratin marker and the Masson trichrome

stain to measure the stroma component. We observed differences in the volumes of normal and cancer epithelium and stroma within both the J-A and NJ study populations (P<0.01). Only the individual average cancer epithelium (CE) volume (JA=24.1 vs NJ=29.9) differed significantly between the NJ and J-A study populations (P=0.03). Consequently, the S-E ratio in NJ group was significantly different from that of J-A population (P=0.05). The decrease in S-E ratio noted in the malignant tissues of NJ prostate tissue may provide a biological marker for differentiation of the two groups and suggests a need for further investigations into the molecular basis for these histologic differences.In a follow-up study of a cohort of 50-year-old men who were born in 1913 and were living in Gothenburg, Sweden, we found an association between birthweight and prostate cancer. Of 366 men with known birthweight, there were 21 patients with prostate cancer. The incidence is about five times higher in the highest quartile of birthweight than in other birthweight groups. The findings indicate that aspects of the pre- and perinatal period may affect the risk of subsequent prostate cancer.Objectives: To determine the incidence of suicide risk in a group of patients who have been diagnosed with localized prostate cancer (PC) and to identify the factors that affect suicidal behavior.Objective: To assess the quality of life (QoL) of patients with localized prostate cancer (LPC) after treatment by radical radiotherapy (RR).Objective: To investigate the circulating tumour cells (CTCs) capture abilities of two technologies that are not dependent on cell-surface marker expression: a selection-free platform [AccuCyte® -CyteFinder® system (Rarecyte)] and a size-based platform [fluid-assisted separation technology (FAST)]. In addition, the combination of the two systems to more completely assess CTCs was investigated.Purpose of the research: As the number of men living with prostate cancer is increasing worldwide, the requirement for follow up care also grows. This study was undertaken to evaluate nurse-led, telephone follow up, for men with low to intermediate risk prostate cancer treated with radical radiotherapy when compared with medical follow up.Objectives: Although prostate cancer is probably the most frequent cancer in men, little is known about its etiology. Clear evidence exists about variations in the incidence of prostate cancer between populations living in different countries. These variations could be explained by differences in lifestyle and a possible association with a set of substances that are able to intervene in the origin of the disease.Purpose: Clinical judgement may not be sufficient to detect relevant problems in older cancer patients. We investigated what Geriatric Assessment tools (GA) are used by Canadian radiation oncologists (CROs) to treat non-metastatic prostate cancer patients aged 80 years and older.Background: While effective treatment of prostate cancer with radiotherapy and hormones increase survival, adverse effects may reduce quality of life (QoL). The aim of this study was to investigate frequency and severity of self-assessed late adverse effects, and identify the patients most exposed.Purpose: Retrospective analyses of cancer registry and institutional data have consistently found better survival after radical prostatectomy versus radiation therapy, which contrasts with findings from a randomized trial. This is likely because of the inability of retrospective studies to fully account for comorbidity differences across treatment groups because of the lack of detailed data in the registries. We use a unique population-based data set with detailed data regarding comorbidities and functional limitations to assess whether this can provide valid comparisons of survival across prostate cancer treatment groups.Prostate cancer is the commonest solid-organ cancer diagnosed in males and represents an important source of morbidity and mortality worldwide. Imaging plays a crucial role in diagnosing prostate cancer and informs the ongoing management of the disease at all stages. Several novel molecular imaging technologies have been developed recently that have the potential to revolutionise disease diagnosis and the surveillance of patients living with prostate cancer. These innovations include hyperpolarised MRI, choline PET/CT and PSMA PET/CT. The major utility of choline and PSMA PET/CT currently lies in their sensitivity for detecting early recurrence after radical treatment for prostate cancer and identifying discrete lesions that may be amenable to salvage therapy. Molecular imaging is likely to play a future role in characterising genetic and biochemical signatures in individual tumours, which may be of particular significance as cancer therapies move into an era of precision medicine.Background: Prostate cancer is presently diagnosed by transrectal ultrasound (TRUS)-guided sextant needle biopsy. While echo texture of the tissue can prompt localization of tumor, it is presently imprecise. From 50-75% of men biopsied, based on an abnormal digital rectal examination (DRE) or elevated prostate-specific antigen (PSA) level, have negative biopsy results. Improvements in tumor localization during TRUS-guided prostate biopsy are greatly needed. Bioimpedance is an electrical property of biologic tissue. Electric current is limited in living tissue by highly insulating cell membranes; however, different tissue architecture such as cancer may impede current differently and allow detection of differences between normal and abnormal or malignant prostate tissue. Our goal was to assess the utility of bioimpedance measurements in differentiating

tumor from normal prostatic tissue in an ex vivo model.Standard treatments for adenocarcinoma of the prostate, such as surgery, hormones, radiation and chemotherapy, often achieve a clinical response, but this is usually short-lived. Prostate cancer frequently recurs and second-line therapies have a poor response rate. Many clinicians seem comfortable in limiting their philosophy of treating advanced recurrent disease merely to new regimens of failed therapies, such as combination chemotherapy. However, other medical researchers have chosen to pursue novel approaches, including immunotherapy, several of which are summarised in this review. Although ranging widely in antigen specificity, all attempt to exploit the body's natural antitumour immunity. Furthermore, all aim to stimulate immunity above a threshold level necessary for tumour regression or to induce stability in the face of progression. The goal of in vivo or ex vivo gene therapy is the modification of gene expression within an antigen-presented cell by the introduction of a vector, DNA, or RNA. Within that field, much progress has been made and is ongoing currently concerning gene delivery systems, target identification and characterisation. Comparatively, monoclonal antibodies are an established type of cancer immunotherapy. However, the more recent development of humanized or fully human antibodies, as well as novel moieties they can be coupled to, renews their prospects for clinical impact. Lastly, various cell-based therapies are the focus of several recent clinical studies demonstrating tumour regression or stabilisation. Immune cells, for example, T-lymphocytes and dendritic cells, have already demonstrated treatment benefit, as well as the ability to maintain an excellent quality of life for participants. Overall, there is a multitude of approaches being considered for the treatment of prostate cancer. The following review concentrates on those approaches that are currently in human or animal studies and have a specific emphasis on prostate cancer.Purpose: Given the bone tropism of prostate cancer, conventional imaging modalities poorly identify or quantify metastatic disease. (89)Zr-huJ591 positron emission tomography (PET) imaging was performed in patients with metastatic prostate cancer to analyze and validate this as an imaging biomarker for metastatic disease. The purpose of this initial study was to assess safety, biodistribution, normal organ dosimetry, and optimal imaging time post-injection for lesion detection.Background: Prostate cancer (PC) is one of the leading causes of death, especially in developed countries. The human development index (HDI) and its dimensions seem correlated with incidence and mortality rates of PC. This study aimed to assess the association of the specific components of HDI (life expectancy at birth, education, gross national income per 1000 capita, health, and living standards) with burden indicators of PC worldwide.Prostate cancer continues to affect an increasing number of men in the United States. When diagnosed, these men may not have access to information that differentiates the long-term outcomes of one method of treatment from another. This study evaluated the impact of external beam radiation on several domains of quality of life, including physical, social/family, emotional, and functional well-being domains.Objective: The aims of this study were to measure the real-life health-related quality of life (HRQoL) of newly diagnosed prostate cancer (PCa) patients, to compare it with that of the general male population and to explore factors affecting HRQoL.Objective: To investigate to what extent prostate cancer patients confide their emotional concerns, and whether having no one to confide in affects well-being.A patient with stage D3 prostate cancer was given 11 separate doses of samarium-153 lexidronam (Sm-153 ethylenediaminetetramethylene phosphonate) of 1 mCi/kg (37 MBq/kg) in a period of 28 months for bone pain from metastases. With the first five doses, Sm-153 lexidronam clearly reduced his bone pain and improved his quality of life, as determined by pain-assessment scores and the patient's self-assessment of its effect on his ability to perform activities of daily living. With doses 6 through 11, pain at baseline was on average less, and as a result beneficial effects after treatment were not as apparent. Samarium-153 lexidronam produced transient decreases in the leukocyte and platelet counts, but these never became low enough to cause clinical concern. This case shows both the efficacy and the safety of Sm-153 lexidronam in repeated treatments for metastatic bone pain in patients with prostate cancer.Despite many recent advances in the therapy for metastatic castration-resistant prostate cancer (mCRPC), the disease remains incurable, although men suffering from this disease are living considerably longer. In this review, we discuss the current treatment options available for this disease, such as taxane-based chemotherapy, the novel hormone therapies abiraterone and enzalutamide, and treatments such as radium-223 and sipuleucel-T. We also highlight the need for ongoing research in this field, because, despite numerous recent advances, the prognosis for mCRPC remains poor. Furthermore, as a growing body of evidence shows the increasing heterogeneity of the disease, and highlights the ongoing need for disease molecular stratification and validation/qualification of predictive biomarkers, we explore this burgeoning research space that is likely to transform how we treat this disease. We describe putative predictive biomarkers, including androgen

receptor splice variants, phosphatase and tensin homolog (PTEN) loss, homologous recombination repair defects, including BRCA2 loss, and mismatch repair defects. The development of next-generation sequencing techniques and the routine biopsy of metastatic disease have driven significant advances in our understanding of the genomics of cancer, and are now poised to transform our treatment of this disease.Egr1 is a multifunctional transcription factor regulating a remarkable spectrum of cellular responses from survival to apoptosis, growth to growth arrest, differentiation to transformation, senescence as well as memory and learning effects. In prostate cancer, Egr1 levels are constitutively high and closely linked to cancer development and progression. This zinc-finger protein is a short-lived, immediate early growth response gene known to be induced by a large number of extracellular stimuli such as irradiation (all wavelengths tested), hypoxia, hyperoxia, chemotherapy agents, and more. Therefore the target genes that Egr1 regulates in prostate cancer cells play an important role in generating many of the cellular responses that characterize these cells. After Egr1 binds to its binding sites on gene promoters, specificity of response is determined by whether Egr1 transcriptionally up- or downregulates the target genes. Expression microarray analyses combined with binding data promise new ways to identify stage specific cancer markers, to aid in patient risk assessment and in therapeutic choices.The M-PACT study compared an all-male with a mixed-sex intervention to increase informed decision-making for prostate cancer screening among African-American men in church settings. We recruited 262 men in 18 churches randomized to the two intervention approaches. Trained and certified lay peer community health advisors in each church led a series of four men's health workshops on informed decision-making for prostate cancer screening. African-American male workshop participants completed baseline, post-workshop, and 12-month follow-up surveys. Contrary to our expectations, including women in the workshops did not result in increased intervention efficacy for the informed decision-making outcomes as both groups showed significant improvement over time in several study outcomes including stage of decision-making for prostate cancer screening, preference for role in decision-making, prostate cancer knowledge, and self-reports of prostate specific antigen testing. Finally, men who attended multiple workshops had better informed decision-making outcomes on several indicators. The current findings suggest mixed results from including women in this men's health educational intervention. Future work should consider optimal ways of providing family support for African-American men's health promotion.The aim of the study was to evaluate the effectiveness and toxicity of CyberKnife (CK) stereotactic radiosurgery (SRS) and stereotactic ablative radiation therapy (SABR) of patients with prostate cancer bone metastases. Analysis of prognostic and predictive factors was also performed. Material consisted of 51 patients with 71 bone oligometastases treated using CK SRS/SABR. In half of the patients single lesion was treated, in half 2-5 lesions. Median PSA concentration at the time of metastasis detection was 5.75 ng/ml. Total dose of 6-45Gy (median 20) was delivered with 1-5 fractions of 6-15 Gy (median 9). Biologic equivalent dose (BED) (α/β=1.6) over 100 Gy was delivered to 45 lesions (63%) in 38 patients (75%). In statistical analysis Kaplan-Meier method, log-rank test and the Cox proportional hazard model were used. One-, two- and three-year overall survival (OS) was 90%, 76% and 70%, respectively. All patients having PSA concentration lower that 1 ng/ml at last control lived at least three years. One-, two- and three-year local control (LC) was 97%, 70% and 30%. Patients with PSA below 20 ng/ml at the time of metastasis detection had better local control of lesions and lower PSA at the last control. Median of PSA concentration after CK based SRS/SABR remains stable during first 12 months of follow-up, dropped during the next months and at last control was comparable to initial level. Median PSA at last control in patients without disease progression was 1.67ng/ml and 20 patients had PSA below 1.0ng/ml. At the last control 59% of patients had no other metastases. Rapid pain decrease was observed in analysed group and during each control about 90% of patients had pain relief. No major toxicity was observed, 3 patients suffered from fracture of irradiated bone.SRS/SABR of prostate cancer bone oligometastases provides good LC of lesions, excellent pain control without additional toxicity. Patients with PSA concentration below 20ng/ml at the time of metastasis detection have better LC and PSA concentration response.Background: Increased osteolysis usually accompanies sclerotic bone metastases from prostate cancer. This provides a rationale for the use of bisphosphonates to treat bone pain and prevent skeletal complications.Background: The serum kinetics of prostate-specific antigen (PSA) after radiation therapy for prostate cancer are not well characterized, and the potential prognostic significance of serum half-lives and of serum doubling times is unclear. This study was designed to address those issues.Background: Several new prostate cancer treatments have emerged since 2000, including 2 radiotherapies with similar efficacy at the time of their introduction: intensity-modulated radiotherapy (IMRT) and stereotactic body radiation therapy (SBRT). The

objectives of this study were to compare their early adoption patterns and identify factors associated with their use.Purpose: To evaluate the utility of targeted photoacoustic imaging (PAI) in providing molecular information to complement intrinsic functional and anatomical details of the vasculature within prostate lesion.Two factors help explain increases in the lifetime risk of developing cancer: (a) decreasing overall mortality rates such that people are now living to older ages when cancer rates rise rapidly; and (b) increasing numbers of cancer cases discovered by new medical procedures, screening tests, and changes in the population risk factors. Prostate cancer lifetime risk estimates are particularly influenced by improved mortality rates and increased detection of asymptomatic disease. In this study, we report trends in lifetime risk estimates of developing prostate cancer in white and black men in the United States, from 1975 to 1993, and focus on the effects of changing mortality and screening. For the study period 1975-1977 to 1991-1993, the lifetime risk of developing invasive prostate cancer increased from 7.3 to 19.6% for whites and from 8.5 to 18.6% for blacks. When we recalculated these estimates using age-specific incidence trends from 1975 through 1989 (thereby controlling for the effect of prostate-specific antigen serum testing on prostate cancer incidence rates), the lifetime risk estimates in 1991-1993 fell to 13.8% for whites and 12.5% for blacks. When we made an additional assumption, basing lifetime risk estimates on higher 1975-1977 mortality rates, the lifetime risk estimates in 1991-1993 became 11.3% for whites and 11.8% for blacks. It is also shown that although mortality rates have improved for white and black men over the study period, they are much larger for blacks than whites in younger age groups, when the prevalence of prostate cancer is relatively low. As a result, fewer blacks survive to older ages when age-specific prostate cancer rates are large. It is of note that blacks have higher incidence rates for prostate cancer than do whites at every age-specific interval. Hence, increasing trends in lifetime risk of prostate cancer suggest, in large part, longer life expectancy and better detection methods.Objectives: To compare the efficacy of oral liarozole, the first retinoic acid metabolism-blocking agent (RAMBA) to be developed as differentiation therapy for human solid tumors, with that of cyproterone acetate (CPA), an antiandrogen for the treatment of metastatic prostate cancer. Liarozole promotes differentiation of cancer cells by increasing the intratumoral levels of retinoic acid.Purpose: Routine imaging for staging low risk prostate cancer is not recommended according to current guidelines. We characterized patterns of care and factors associated with imaging overuse.Purpose: Prior studies conducted primarily among white men find a reduced risk of prostate cancer associated with time since developing diabetes. While biologic explanations are plausible, the association may in part arise from more frequent prostate cancer screening among those with a diabetes diagnosis. The purpose of the present study was to investigate the association between diabetes and prostate cancer screening.Background: There is no available evidence from randomized trials that early detection of prostate cancer improves health outcomes, but the prostate-specific antigen (PSA) test is commonly used to screen men for prostate cancer.Herpes simplex virus type-2 (HSV-2) has been identified as a possible aetiological agent of cancer in humans, especially prostate cancer, but results remain controversial. Here, we have addressed this question using a medical geography approach based on the national incidence of various cancers and seroprevalence of HSV-2 in 64 countries worldwide. We corrected reports of cancer incidence for national gross domestic product (GDP) because living in a wealthy nation likely increases the probability of having a cancer detected. Data were also corrected for latitude and diet. Our analysis not only confirms that prostate cancer and HSV-2 seroprevalence are positively associated, but it also reveals the existence of a positive relationship between HSV-2 and melanoma incidence in both men and women. These results, though correlational, suggest that HSV-2 should continue to be investigated as a possible oncogenic pathogen of humans.We have shown that adenovirus-mediated manipulation of apoptotic genes such as bax could be a therapeutic option for prostate cancer. Unfortunately, the response of experimental prostate tumors to a single therapeutic gene of the apoptotic pathway is short-lived, and most of these tumors relapse after a short period of time. In this investigation we present data generated with adenovirus AvARR(2)PB-Bad, in which the apoptotic gene bad was placed under the control of the dihydrotestosterone (DHT)-inducible third-generation probasin-derived promoter ARR(2)PB. This therapeutic virus was given alone or in combination with other therapeutic viruses to a variety of in vitro and in vivo experimental models of prostate cancer. On infection with AvARR(2)PB-Bad, DHT-induced Bad overexpression occurred specifically in androgen receptor-positive (AR(+)) cells of prostatic derivation. The apoptotic effect of AvARR(2)PB-Bad (group 1) was compared with that of AvARR(2)PB-Bax (which overexpresses the apoptotic protein Bax) (group 2), with that of the combination AvARR(2)PB-Bad plus AvARR(2)PB-Bax (group 3), and with that of the control virus AvARR(2)PB-CAT (group 4) in the cell line LNCaP. In addition to identifying the modality of apoptosis

induction by overexpressed Bad, the results suggested that group 3 contained more apoptotic cells than any other group. In additional studies, AR(+) androgen-dependent LNCaP cells or AR(+) and androgen-independent C4-2 cells were injected subcutaneously into nude mice. Four groups of six LNCaP or C4-2 tumors were treated with the same combinations of viruses discussed above for groups 1, 2, 3, and 4. Treatment resulted in decreased tumor size in groups 1, 2, and 3 compared with group 4. There was a better response in group 3 compared with group 2, and in group 2 compared with group 1. A better response in group 3 was confirmed during a 8-week follow-up period, in which no treatment was administered. Two LNCaP and C4-2 tumors of group 3 disappeared at the end of treatment and did not recur after an 8-week follow-up period. The data suggest that polygene therapy with apoptotic molecules is more effective in experimental models of androgen-dependent or -independent prostate cancer than monogene therapy.Introduction: Prostate cancer is common and the incidence is increasing, but more men are living longer after diagnosis, and die with their disease rather than of it. Nonetheless, specific and substantial physical, sexual, emotional and mental health problems often lead to a poor quality of life. Urology services increasingly struggle to cope with the demands of follow-up care, and primary care is likely to play the central role in long-term follow-up. The present phase II trial will evaluate the feasibility and acceptability of a nurse-led, person-centred psychoeducational intervention, delivered in community or primary care settings.Purpose: To evaluate the effect of 3 vs. 8 months of neoadjuvant hormonal therapy before conventional-dose radiotherapy (RT) on disease-free survival for localized prostate cancer.A 71-year-old man, living with metastatic castrate-resistant prostate cancer to the lymph nodes, spine and skull, presented with acute on chronic left eye vision loss. Examination revealed no-light-perception vision, a relative afferent pupillary defect and optic disc cupping. MRI brain revealed optic canal narrowing from metastatic sphenoid bone expansion and extraosseous tumour compressing the intracanalicular optic nerve. The optic disc cupping and excavation without significant pallor of the remaining neuroretinal rim was likely secondary to chronic compression of the optic nerve. The patient was treated with radiation therapy, but did not regain vision and was referred to palliative care as his condition continued to worsen. As patients live longer with advanced cancer, there is a greater risk of metastasis to atypical areas of the body including the optic nerve. This case demonstrates the unique combination of optic disc cupping from optic canal metastasis due to prostate cancer.Background: Screening for prostate cancer (PC) may save lives, but overdiagnosis and overtreatment are serious drawbacks. We aimed to determine men's preferences for PC screening, and to elicit the trade-offs they make.The clinical benefits of androgen-deprivation therapy (ADT) for men with prostate cancer (PC) have been well documented and include living free from the symptoms of metastases for longer periods and improved quality of life. However, ADT comes with a host of its own serious side effects. There is considerable evidence of the adverse cardiovascular, metabolic, and musculoskeletal effects of ADT. Far less has been written about the psychological effects of ADT. This review highlights several adverse psychological effects of ADT. The authors provide evidence for the effect of ADT on men's sexual function, their partner, and their sexual relationship. Evidence of increased emotional lability and depressed mood in men who receive ADT is also presented, and the risk of depression in the patient's partner is discussed. The evidence for adverse cognitive effects with ADT is still emerging but suggests that ADT is associated with impairment in multiple cognitive domains. Finally, the available literature is reviewed on interventions to mitigate the psychological effects of ADT. Across the array of adverse effects, physical exercise appears to have the greatest potential to address the psychological effects of ADT both in men who are receiving ADT and in their partners.Fluorescence gene reporters have recently become available for excitation at far-red wavelengths, enabling opportunities for small animal in vivo gene reporter fluorescence tomography (GRFT). We employed multiple projections of the far-red fluorescence gene reporters IFP1.4 and iRFP, excited by a point source in transillumination geometry in order to reconstruct the location of orthotopically implanted human prostate cancer (PC3), which stably expresses the reporter. Reconstruction was performed using a linear radiative-transfer-based regularization-free tomographic method. Positron emission tomography (PET) imaging of a radiolabeled antibody-based agent that targeted epithelial cell adhesion molecule overexpressed on PC3 cells was used to confirm in vivo GRFT results. Validation of GRFT results was also conducted from ex vivo fluorescence imaging of resected prostate tumor. In addition, in mice with large primary prostate tumors, a combination of GRFT and PET showed that the radiolabeled antibody did not penetrate the tumor, consistent with known tumor transport limitations of large (~150 kDa) molecules. These results represent the first tomography of a living animal using far-red gene reporters.Objective: It is estimated that 600,000 men are currently living in North America with castrate levels of testosterone

as a result of androgen deprivation therapy for prostate cancer. The goal of this study was to explore how patients and their partners adjust to changes associated with androgen deprivation therapy (ADT).Background: Although androgen receptor-targeted agents prolong the lives of patients with metastatic prostate cancer, patients develop therapy resistance and most ultimately succumb to the disease. The PI3K/AKT/PTEN pathway has been associated with the development of resistance, raising the possibility that pathway inhibitors may produce a clinical benefit. This open-label phase Ib study examined the safety, tolerability, pharmacokinetics (PK) and preliminary clinical activity of adding capivasertib - a potent, selective inhibitor of AKT1/2/3 - to approved abiraterone acetate therapy.Purpose: To evaluate the evolution of living conditions (LC) in long-term survivors of localised prostate cancer 10 years after treatment compared with those of a same-age control group from the general population.Prostate cancer (PCa), next only to skin cancer, is the most commonly occurring malignancy in men in the US. Aging is recognized as a major risk factor for this neoplasm as a man's chance for developing this disease significantly increases with increasing age. Because aging is inevitable, Americans are living longer, and the existing treatments have not been able to manage this neoplasm, novel mechanism-based approaches are needed. We have recently shown that Sirt1, a sirtuin class III histone deacetylases (HDACs) originally linked to aging and longevity in yeast, was overexpressed in human PCa cells and PCa tissues obtained from patients. We also found that chemical inhibition and/or genetic knockdown of Sirt1 caused a FoxO1-mediated inhibition in the growth and viability of human PCa cells. Since p53 is a target for deacetylation by Sirt1, we wanted to determine the involvement of p53 in Sirt1 inhibition mediated responses in PCa. To achieve our objective, we utilized a pair of isogenic PCa cell lines viz. PC3 and PC3-p53, which differ only in p53 status. Our data demonstrated that Sirt1 inhibition caused a decrease in cell growth, cell viability and the colony formation ability of both cell lines. Further, Sirt1 inhibition resulted in an increase in FoxO1 acetylation and subsequent transcriptional activation in both cell types regardless of p53 status. However, an interesting observation of our study was that Sirt1 inhibition resulted in an increase in senescence in PC3-p53 cells whereas it resulted in an increase in apoptosis in PC3 cells. The results of this study compliment our previous study and suggest that Sirt1 inhibition may have different downstream targets in cells with active p53 versus cells where p53 is inactive.Background: Early stage prostate cancer patients may be allocated to active surveillance, where the condition is observed over time with no intervention. Living with a cancer diagnosis may impose stress on both the men and their spouses. In this study we explore whether the scores of and verbal responses to a Health Literacy Questionnaire can be used to identify individuals in need of information and support and to reveal differences in perception and understanding in health related situations within couples.The crucial role of microtubules in the mitotic-related segregation of chromosomes makes them an excellent target for anticancer microtubule targeting drugs (MTDs) such as vinflunine (VFL), colchicine (COL), and docetaxel (DTX). MTDs affect mitosis by directly perturbing the structural organisation of microtubules. By a direct assessment of the biomechanical properties of prostate cancer DU145 cells exposed to different MTDs using atomic force microscopy, we show that cell stiffening is a response to the application of all the studied MTDs (VFL, COL, DTX). Changes in cellular rigidity are typically attributed to remodelling of the actin filaments in the cytoskeleton. Here, we demonstrate that cell stiffening can be driven by crosstalk between actin filaments and microtubules in MTD-treated cells. Our findings improve the interpretation of biomechanical data obtained for living cells in studies of various physiological and pathological processes.Available evidence suggests that there may be qualitative differences in the natural history of PrCA by race. If this is true then additional etiologic research is needed to identify places in the causal chain where we can intervene to lower PrCA rates in AA men. South Carolina may prove to be a useful context in which to study prostate cancer etiology, because of the presence of unique environmental exposures. For example, soil selenium and cadmium concentrations unique to South Carolina might have a differential affect in the rural areas of the state where ground water use is more common and where AAs are more likely to live. These metals are important in terms of prostate metabolism and cancer. The possible interaction of geological factors with underlying biological factors such as metal transporter gene expression by race needs to be explored in South Carolina. Diet and exercise are consistently seen as possible primary prevention strategies for prostate and other cancers, as noted above. There may be very good reasons to intervene on diet and physical activity, but if the intention is to make a health claim with real, specific meaning for PrCA prevention and control then studies must be designed to test the effect of these modalities in rigorous ways at specific points in the natural history of prostate carcinogenesis. Nutrition and exercise programs need to be developed in South Carolina that are seen as acceptable by people

at risk of PrCA; and they will need to focus on effective ways to prevent the development of PrCA, other cancers, and other health outcomes. Implementing diet and nutrition programs in rural parts of the state, possibly through schools or churches, offer benefit to both youth and adults alike. So, it would be possible, indeed it would be desirable, to create programs that may be used for research in one part of the population (e.g., men with PrCA), but are equally beneficial for others (e.g., their spouses and children). Organizing studies that can focus on promising new areas of research and changing the paradigms under which the research community currently operates probably will require re-conceptualizing research strategies employing methods that entail CBPR approaches. Because much of South Carolina's African-American population resides in rural parts of the state, outreach presents a challenge for both researchers and clinicians. Individuals living in rural areas are more likely than urban residents to live in poverty, report poorer health status, and not have private health insurance. Americans living in rural areas face disparities in access to basic public health services compared to those living in metropolitan areas. In very practical ways, local public health departments are absent in many rural communities, and rural hospitals continue to close, removing needed services. Closing of public hospitals has been shown to significantly increase the percentage of people without a primary health care provider as well as the percentage of people denied care. Public health departments are of particular importance to rural residents as they serve as the main avenue for public health and clinical care for this group. Issues such as access to care, lack of frequent physician's visits and quality of medical care have a negative impact on outcomes for men with PrCA, particularly in relationship to staging. If better outcomes are to be achieved in South Carolina, then more must be done to reach the community and provide better access to care in more rural areas of the state. Small media interventions, such as those presented in churches and barbershops may be an effective means for reaching the rural AA population. Our ability to reach out to and interact with the high-risk pockets in the state will be necessary for screening, treatment, and research (which, if conducted competently, will affect screening efficacy, treatment effectiveness, and primary prevention). It is believed that currently available decision-making materials for PrCA screening may not be appropriate due to socioeconomic as well as health literacy differences present in all male groups. It is unclear whether men in the lower socioeconomic groups are given appropriate information that allows them to make educated, informed decisions around PrCA screenings. Considering the number of males in the lower socioeconomic groups in South Carolina and the large AA male population, research evaluating the appropriateness of the existing materials could have an impact --both within the state and in national efforts. Patient education is a promising strategy, but educating the patient in the context of his family seems to be a more effective strategy for this population. Family networks and faith-based networks offer a strong support base for the patient when making health-related decisions, particularly for the African-American male. In collaboration with the SCCDCN, the South Carolina Cancer Alliance (SCCA) is currently developing a proposal to create a decision guide for prostate screening that is targeted toward the African-American male. The SCCA plans to pilot test new, culturally appropriate materials in the Low Country of South Carolina because of its comparatively large African-American population and its high rate of residential stability. South Carolina is one of only a few states to adopt expanded Medicaid coverage for the treatment of breast cancer. PrCA needs to receive equal recognition. This year alone in South Carolina 3,290 women will be diagnosed with breast cancer and 630 will die from the disease. Likewise, the American Cancer Society estimated 3,770 men in South Carolina would be diagnosed with prostate cancer and 440 will die from the disease in 2006. The 1 million dollars set aside in South Carolina budget by lawmakers for treatment of breast and cervical cancer patients makes no mention of prostate cancer, which is an unfair omission. Finally, there currently exists a number of high-quality PrCA treatment, research, and referral resources in the state. Collaborations across agencies, institutes and organizations throughout South Carolina would prove to be beneficial in reaching the most rural (and therefore hardest to reach) populations. Collaborative arrangements will be pursued to increase positive outcomes and better futures for South Carolinians.Introduction: The purpose of this analysis was to provide a better understanding of the experiences of partners of prostate cancer survivors. Concerns and needs of women who are partners of prostate cancer survivors are often not acknowledged or addressed in clinical practice. By increasing their awareness of the impact of this situation on women, primary health care providers can offer more holistic, individualized, woman-centered care.The purposes of this study were to identify the number and types of symptom clusters using yes/no responses from the Memorial Symptom Assessment Scale, identify the number and types of symptom clusters using severity scores from the Memorial Symptom Assessment Scale, compare the identified symptom clusters derived using severity scores to those derived using

occurrence ratings, and evaluate for differences in symptom cluster severity scores between patients with breast and prostate cancer at the end of radiation therapy. Separate exploratory factor analyses were performed to determine the number of symptom clusters based on symptom occurrence rates and symptom severity ratings. Although specific symptoms within each symptom cluster were not identical, 3 very similar symptom clusters (ie, "mood-cognitive" symptom cluster, "sickness-behavior" symptom cluster, "treatment-related" symptom cluster) were identified regardless of whether occurrence rates or severity ratings were used to create the symptom clusters at the end of radiation therapy. However, the factor solution derived using the severity ratings fit the data better. Significant differences in severity scores for all 3 symptom clusters were found between patients with breast and prostate cancer. For all 3 symptom clusters, the patients with breast cancer had higher symptom cluster severity scores than the patients with prostate cancer.Background: Patients with prostate cancer suffer significant sexual dysfunction after treatment which negatively affects them and their partners psychologically, and strain their relationships.Introduction: Multiple genetic studies have confirmed association of 8q24 variants with susceptibility to prostate cancer (CaP). However, the risk conferred in men living in Russia is unknown.Benign prostate hypertrophy (BPH) could be associated with low urinary symptoms requiring medical treatment: 5-alpha-reductase inhibitors (5-ARI) or ■-blockers. Two clinical trials investigating 5-ARI use in prostate cancer (PCa) primary prevention highlighted a potential safety signal with an increased risk of high-grade PCa. Later observational studies failed to show similar results but have some limits. This paper focuses on describing the protocol of the CANARI study and its feasibility, as regards the matching process of two pseudo-anonymous databases. The study concerned patients living in the Brittany region (France) between 2010 and 2013. We designed a case-control study nested within a cohort of men treated by medical drugs licensed for symptomatic BPH between 2010 and 2011. Cases were patients with incident PCa diagnosed between 2012 and 2013 identified through French Health database (SNIIRAM). Gleason score was searched through Brittany pathology laboratories. Controls were patients without PCa diagnosis. Local pathology laboratories database was constituted in Brittany, gathering Gleason scores. No unique identification number is available in France; linkage of SNIIRAM and Brittany pathology laboratories database was made by deterministic matching. We matched 859 cases to Gleason grading (119 had Gleason score ≥8 and 740 had Gleason <8); around 22% of cases received 5-ARI and 78% α-blockers or phytotherapy. The CANARI study investigated in a population of men treated for BPH the risk of PCa with 5-ARI, according to Gleason grade thanks to SNIIRAM database enriched by local pathological results.In the past thirty years, the mortality rate from prostate cancer has not declined. This is due in part to the small number of tumors diagnosed while they are still curable by surgery or radiation. Recent studies have demonstrated that transrectal sonography can detect nonpalpable tumors, which are usually potentially curable. As a result, some physicians now recommend routine screening of all men over age fifty. The main goal of a cancer screening test is to help reduce mortality. To date, it has been shown that screening can increase early detection and survival, but there is no experimental evidence that screening reduces mortality. Therefore, screening for prostate cancer may not be worthwhile. The large number of prostate tumors found on autopsy series indicates that only a small fraction of patients with prostate cancer actually die of it. The risk of screening is that many insignificant tumors may be diagnosed and patients may be treated unnecessarily, resulting in significant morbidity, mortality, and expense. For now, it may be appropriate to let patients choose whether or not to have the test performed, after informing them screening can increase early detection, but could also result in overdiagnosis and treatment. However, screening should not be advocated across-the-board until a randomized, carefully controlled, large-scale clinical trial has shown that it saves lives.Objectives: The aim of this study was to monitor the impact of prostate cancer screening in a natural experiment by comparing prostate cancer mortality in Tyrol, Austria, where prostate-specific antigen (PSA) testing was made available at no charge, with the rest of Austria, where this screening was not introduced.Screening serum levels of prostate-specific antigen (PSA) is now a major strategy for early detection of prostate cancer (PC). Quantification of the lead time thus obtained is important both for understanding the development of PC and for evaluating the advantages and disadvantages of widespread screening. In our study, 1,233 randomly selected men living in Stockholm in 1988 were invited to participate in an early detection (ED) program, in which suspicious findings provided by digital rectal examination (DRE), transrectal ultrasonography (TRUS) and/or a PSA value >/=10.0 ng/mL were followed up by biopsy. The cumulative incidence (Kaplan-Meier) of PC in the 946 participants (ED) during 12 years of follow-up was compared to that of an age-matched, randomly selected reference population (RP) of 657 men for whom PSA values (from frozen serum samples) could also be obtained.

The PC incidence in men in the RP with PSA values >/=3.0 ng/mL reached the corresponding level for the ED group after 10.6 years (the "catch-up" point). After 12 years of follow-up, the estimated median lead time for men with PSA values in this interval was 4.5 years in the ED population, compared to 7.8 years in the RP. With 20 years of follow-up, the estimated median lead time of the RP was enhanced to 10.7 years. The lead time in connection with PC was influenced by the initial PSA level (although with large variations), length of follow-up and sensitivity of the ED procedure employed. The ED program described here was not associated with major overdetection.Cancer screening is the subject of much debate; while screening has the potential to save lives by identifying and treating cancers in early stages, it is also the case that not all cancers cause symptoms, and the diagnosis of these cancers can lead to unnecessary treatments and subsequent side-effects and complications. This paper explores the relationships between epistemic risks in cancer diagnosis and screening, the social organization of medical research and practice, and policy making; it does this by examining 2018 recommendations by the United States Preventative Services Task Force that patients make individualized, autonomy-based decisions about cancer screening on the basis of discussions with their physicians. While the paper focuses on prostate cancer screening, the issues that it raises are relevant to other cancer screening programs, especially breast cancer. The paper argues that prostate cancer screening-and, more generally, the process of risk assessment for prostate cancer-is pervaded by epistemic risks that reflect value judgments and that the pervasiveness of these epistemic risks creates significant and under-explored difficulties for physician-patient communication and the achievement of autonomous patient decision making.Purpose: We investigated the potential for improvement in disease control by use of autologous peripheral blood stem cell transplant (PBSCT) to permit administration of high activities of (186)Re-hydroxyethylidene diphosphonate (HEDP) in patients with progressive hormone-refractory prostate cancer (HRPC).In 2004-2008 the Khabarovsk Region was considered as a territory of an increased risk for prostate cancer with the incidence rate of 22.2 +/- 1.6 per 100000 males. The epidemiologic situation in Khabarovsk city corresponded to an average incidence rate registered in the Khabarovsk Region (20.5 +/- 2.3 per 100000 males in 2004-2008). A prostate cancer incidence rate in Komsomolsk-on-Amur city was 1.9 times higher than in Khabarovsk city. An impact of an occupational factor on the risk of prostate cancer in males working in Komsomolsk-on-Amur industry was found.Objectives: To investigate a comprehensive geriatric assessment (CGA) with subsequent investigation of healthcare patterns in older patients with urological cancers undergoing initial surgery or radiotherapy, to verify the usefulness of the incorporation of geriatric principles in future care plans.Objective: To update our previous analysis of trends for prostate-specific antigen (PSA) testing, prostate cancer incidence, radical prostatectomy and prostate cancer mortality to assess whether men in rural and regional areas of Australia now have more equitable access to prostate cancer services, and improved outcomes.This study was undertaken to test the effect of immunization against luteinizing hormone-releasing hormone (LHRH) fusion proteins on the development and progression of prostate cancer in the transgenic adenocarcinoma mouse prostate (TRAMP) model. Two LHRH fusion proteins, ovalbumin with seven LHRH peptides (OV-LHRH-7), and thioredoxin with seven LHRH peptides (TH-LHRH-7) were used in a cocktail vaccine. Two groups of male TRAMP mice were immunized with the cocktail. Primary immunizations were at either 4 or 8 weeks of age. LHRH immunized mice (n=19) were compared with castrated (n=19) and intact mice (n=18) for testosterone concentration, tumor weight, and lifespan. Immunization against LHRH in the TRAMP mice resulted in significant production of antibodies to LHRH compared with surgically castrated and intact control mice. Testicular weight was significantly reduced in the LHRH immunized groups compared with intact control mice. Serum testosterone was reduced ($P<0.05$) in the immunized mice compared with intact control mice and was not different from that of castrated mice ($P>0.05$). Tumor weight was variable and inconsistent throughout all treatment groups. Lifespan was not increased by immunization against LHRH or castration. Intact control mice (lived the longest (227+/-11 days), whereas immunized mice lived 206+/-11 days and castrated mice lived 213+/-13 days. Tumors from immunized TRAMP mice appeared more aggressive than tumors of castrated and intact mice, as demonstrated by 35% expression of gross lung tumors in the immunized mice whereas none were observed in the castrated or intact TRAMP mice. Prostate cancer is initially dependent upon androgens for growth and development, but cells have the ability to escape androgen dependence and progress to an androgen independent state, which was evident in this study. The TRAMP mouse model immunized against LHRH may have utility in future studies and treatments of the androgen independent prostate cancer.In the phase II TOPARP-A clinical trial, patients with metastatic castrate-resistant prostate cancer who were treated with the PARP inhibitor olaparib lived nearly three times longer without their cancer

worsening if their tumors had mutations in at least one of 12 DNA repair genes. However, physicians say that a larger trial is needed to confirm olaparib's effectiveness against the disease before they start routinely sequencing tumors and prescribing the drug.Prostate cancer is the leading form of malignancies among men in the U.S. While surgery carries a significant risk of impotence and incontinence, traditional chemotherapeutic approaches have been largely unsuccessful. Hormone therapy is effective at early stage, but often fails with the eventual development of hormone-refractory tumors. We have been interested in developing therapeutics targeting specific metabolic deficiency of tumor cells. We recently showed that prostate tumor cells specifically lack an enzyme (argininosuccinate synthase, or ASS) involved in the synthesis of the amino acid arginine(1). This condition causes the tumor cells to become dependent on exogenous arginine, and they undergo metabolic stress when free arginine is depleted by arginine deiminase (ADI)(1,10). Indeed, we have shown that human prostate cancer cells CWR22Rv1 are effectively killed by ADI with caspase-independent apoptosis and aggressive autophagy (or macroautophagy)(1,2,3). Autophagy is an evolutionarily-conserved process that allows cells to metabolize unwanted proteins by lysosomal breakdown during nutritional starvation(4,5). Although the essential components of this pathway are well-characterized(6,7,8,9), many aspects of the molecular mechanism are still unclear - in particular, what is the role of autophagy in the death-response of prostate cancer cells after ADI treatment? In order to address this question, we required an experimental method to measure the level and extent of autophagic response in cells - and since there are no known molecular markers that can accurately track this process, we chose to develop an imaging-based approach, using quantitative 3D fluorescence microscopy(11,12). Using CWR22Rv1 cells specifically-labeled with fluorescent probes for autophagosomes and lysosomes, we show that 3D image stacks acquired with either widefield deconvolution microscopy (and later, with super-resolution, structured-illumination microscopy) can clearly capture the early stages of autophagy induction. With commercially available digital image analysis applications, we can readily obtain statistical information about autophagosome and lysosome number, size, distribution, and degree of colocalization from any imaged cell. This information allows us to precisely track the progress of autophagy in living cells and enables our continued investigation into the role of autophagy in cancer chemotherapy.Background and methods: Circulating tumor cells (CTCs) constitute a useful approach for personalized medicine. Nevertheless, the isolation of these cells remains very challenging because they rarely circulate in the blood. Another current problem is the cancer-specific characterization of these cells, which requires a method that allows for the molecular and immunocytochemical profiling of all captured cells. The purpose of our proof of concept study was to investigate the use of a medical wire (CellCollector, GILUPI) to isolate CTCs in the blood of prostate cancer (PCa) patients, which allowed CTCs to be counted and molecularly characterized. Forty-three PCa patients in different stages and 11 control subjects were studied. Some randomized samples were used to detect tumor-associated transcripts, such as prostate-specific membrane antigen (PSMA), prostate-specific antigen (PSA) and epidermal growth factor receptor (EGFR), in the isolated CTCs.Frequently knowledge of elemental content of human organs and tissues is required for a variety of applications. These can include brachytherapy and radiotherapy planning, radiation dosimetry and radiation protection. Revised reference values of chemical element mass fractions in normal and cancerous prostate tissues of the Reference (European Caucasian) Man are suggested as a result of this work. Autopsies of 37 apparently healthy males (mean age 55 ± 11 years, range 41-87 years) provided the prostatic tissues studied. The investigated individuals lived in a non-industrial, Central European region of Russia and had suffered sudden death. Also, tissues were studied from 62 subjects with prostate cancer (mean age 65 ± 10 years, range 40-79 years). Sixty-seven elemental mass fractions were determined in each of these 99 prostates. Analytical methods employed were inductively coupled plasma atomic emission spectrometry, neutron activation analysis with high-resolution spectrometry of short-lived and long-lived radionuclides, energy dispersive X-ray fluorescence analysis, and inductively coupled plasma mass spectrometry. Whichever method was employed, the necessary quality control measures were utilized. Results presented here include a systematic analysis of both the prostatic data presented here for 67 elements and also others' published findings, to make a total of 71 elemental mass fraction values.Purpose: The overall purpose of this preliminary study to a clinical trial is to explore the feasibility of recruiting men receiving androgen ablation therapy (AAT) for locally advanced prostate cancer to a future strength training study for the prevention of osteoporosis. The threefold specific purpose of this comparative and correlational study is to (a) describe the prevalence of risk factors for osteoporosis, (b) compare functional status and symptom distress between those interested and not interested in a future strength training study, and (c) examine relationships among

self-efficacy for strength training, functional status, symptom distress, years since cancer diagnosis, and cumulative dose of AAT in this at-risk population.Estrogen receptor β (ERβ) is activated in the prostate by 5α-androstane-3β,17β-diol (3β-Adiol) where it exerts antiproliferative activity. The proliferative action of the androgen receptor is activated by 5α-dihydrotestosterone (DHT). Thus, prostate growth is governed by the balance between androgen receptor and ERβ activation. 3β-Adiol is a high-affinity ligand and agonist of ERβ and is derived from DHT by 3-keto reductase/3β-hydroxysteroid dehydrogenase enzymes. Here, we demonstrate that, when it is expressed in living cells containing an estrogen response element-luciferase reporter, 17β-hydroxysteroid dehydrogenase type 6 (17βHSD6) converts the androgen DHT to the estrogen 3β-Adiol, and this leads to activation of the ERβ reporter. This conversion of DHT occurs at concentrations that are in the physiological range of this hormone in the prostate. Immunohistochemical analysis revealed that 17βHSD6 is expressed in ERβ-positive epithelial cells of the human prostate and that, in prostate cancers of Gleason grade higher than 3, both ERβ and 17βHSD6 are undetectable. Both proteins were present in benign prostatic hyperplasia samples. These observations reveal that formation of 3β-Adiol via 17βHSD6 from DHT is an important growth regulatory pathway that is lost in prostate cancer.Both male-to-female transsexuals and advanced prostate cancer (PCa) patients are treated with androgen-suppressing drugs that have emasculating effects. Additionally, transsexuals take estrogenic compounds to feminize their bodies. We explore the quality of life of these populations, based on interviews with 12 individuals from each group. Overall, the transsexuals had a better psychological response to chemical castration than the PCa patients. The transsexuals showed more enthusiasm about the changes in their life; they viewed their lives as beginning anew, accepted their reduced libido, and were more comfortable with their increased emotionality. Different responses in the two groups are not surprising given that they undergo androgen deprivation under very different medical contexts. However, the fact that the transwomen are able to conceptualize the effects as positive suggests that some androgen-deprived PCa patients may benefit from reconceptualizing their changes within a positive framework. Additionally, difference in the two populations may be attributed, in part, to the fact that the transsexuals take supplemental estrogen. Circumstantial evidence suggests that estrogen in androgen-deprived males may improve sleep quality, help retain sexual interest, and protect cognitive function. This suggests that PCa patients may benefit from using estradiol for androgen suppression.Advanced prostate cancer (PCa) patients with bone metastases are treated with androgen pathway directed therapy (APDT). However, this treatment invariably fails and the cancer becomes castration resistant. To elucidate resistance mechanisms and to provide a more predictive pre-clinical research platform reflecting tumor heterogeneity, we established organoids from a patient-derived xenograft (PDX) model of bone metastatic prostate cancer, PCSD1. APDT-resistant PDX-derived organoids (PDOs) emerged when cultured without androgen or with the anti-androgen, enzalutamide. Transcriptomics revealed up-regulation of neurogenic and steroidogenic genes and down-regulation of DNA repair, cell cycle, circadian pathways and the severe acute respiratory syndrome (SARS)-CoV-2 host viral entry factors, ACE2 and TMPRSS2. Time course analysis of the cell cycle in live cells revealed that enzalutamide induced a gradual transition into a reversible dormant state as shown here for the first time at the single cell level in the context of multi-cellular, 3D living organoids using the Fucci2BL fluorescent live cell cycle tracker system. We show here a new mechanism of castration resistance in which enzalutamide induced dormancy and novel basal-luminal-like cells in bone metastatic prostate cancer organoids. These PDX organoids can be used to develop therapies targeting dormant APDT-resistant cells and host factors required for SARS-CoV-2 viral entry.Purpose: Positron Emission Tomography is an important molecular imaging technique for detection and diagnoses of various disease states. This work aims to develop novel titanium-45 (t½ = 3.08 h) PET tracers using Prostate Specific Membrane Antigen (PSMA) targeting vectors for imaging of prostate cancer as proof of concept for this relatively unexplored isotope.Purpose: The correlation between glutamine metabolism and oncogene expression in cancers has led to a renewed interest in the role of glutamine in cancer cell survival. Hyperpolarized [5-(13) C]glutamine is evaluated as a potential biomarker for noninvasive metabolic measurements of drug response in prostate cancer cells.Purpose: We report on the follow-up of 24 patients with a prior history of inflammatory bowel disease (IBD) treated with brachytherapy for early-stage prostate cancer.Purpose: The extent and severity of hemoglobin decline after the initiation of androgen deprivation therapy (ADT) is unclear, and predictors of hemoglobin decline in older men with prostate cancer (PC) are not well-characterized.Background: Evidence suggests that minimally invasive radical prostatectomy (MRP) and open radical prostatectomy (ORP) have similar short-term clinical and

functional outcomes. MRP with robotic assistance is generally more expensive than ORP, but it is not clear whether subsequent costs of care vary by approach.Multifunctional nanoparticle probes based on semiconductor quantum dots (QDs) are developed for simultaneous targeting and imaging of cancer cells in living animals. The structural design involves encapsulating luminescent QDs with an ABC triblock copolymer, and linking this polymer to tumor-targeting ligands, such as antibodies and drug-delivery functionalities. In vivo targeting studies of human prostate cancer growing in nude mouse show that the QD probes can be delivered to tumor sites by both enhanced permeation and retention (passive targeting) and by antibody binding to cancer-specific cell surface biomarkers such as prostate-specific membrane antigen (active targeting). Using both subcutaneous injection of QD-tagged cancer cells and the systemic injection of multifunctional QD probes, multicolor fluorescence imaging of as few as 10-100 cancer cells can be achieved under in vivo conditions. The use of spectrally resolved imaging can efficiently remove autofluorescence background and precisely delineate weak spectral signatures in vivo. These results suggest that QD probes and spectral imaging can be combined for multiplexed imaging and detection of genes, proteins, and small-molecule drugs in single living cells, and that this imaging modality can be adopted for real-time visualization of cancer cell metastasis in live animals.Background: Quality-of-life outcomes are important in the choice of treatment strategy for men with localized prostate cancer.The purpose of the study was to explore racial differences related to treatment-based beliefs (trust in physician, physician bias, access to care, and self-efficacy) and coping (religious coping and social support). The study was conducted in a 33-county area located in southwest Georgia (SWGA). Men living in SWGA and newly diagnosed with prostate cancer were invited to participate in the study. Men were also required to be 75 years of age or younger at the beginning of the study and free of dementia. In collaboration with the Georgia Cancer Registry, potentially eligible participants were identified through pathology reports. Participants completed three interviews during a 12-month period post-diagnosis. The 320 participants in this analysis ranged in age from 44 to 75 years with a mean age of 63 years, and 42% were African American. After controlling for confounders, African American participants were more likely to report physician bias, financial problems with access to care, and use of religious coping strategies. These results, based on a largely rural patient population, support those of other studies noting differences in perception of care, access to care, and coping strategies between African American and white men with prostate cancer.Purpose: Studies in disease specific populations have emphasized disease specific quality of life with little study of general quality of life. Furthermore, studies of general quality of life in disease specific populations have mostly examined the importance of disease specific variables, and have generally yielded poor correlations of such variables and general quality of life. We attempted to model the emotional component of general quality of life in patients with prostate disease.Objective: To systematically develop a framework to improve sexual wellbeing communication in routine prostate cancer care.Prostate cancer (PC) is the second leading cause of cancer death for men worldwide. The serum prostate-specific antigen level test has been widely used to screen for PC. This method, however, exhibits a high false-positive rate, leading to over-diagnosis and over-treatment of PC patients. Extracellular microRNAs (miRNAs) recently provided valuable information including the site and the status of the cancers and thus emerged as new biomarkers for several cancers. Among them, miR141 and miR375 are the most pronounced biomarkers for the diagnosis of high-risk PC. Herein, we report an attomolar detection of miR141 and miR375 released from living PC cells by using a plasmonic nanowire interstice (PNI) sensor. This sensor showed a very low detection limit of 100 aM as well as a wide dynamic range from 100 aM to 100 pM for all target miRNAs. In addition, the PNI sensor could discriminate perfectly the diverse single-base mismatches in the miRNAs. More importantly, the PNI sensor successfully detected the extracellular miR141 and miR375 released from living PC cell lines (LNCaP and PC-3), proving the diagnostic ability of the sensor for PC. We anticipate that the present PNI sensor can hold great promise for the precise diagnosis and prognosis of various cancer patients as well as PC patients.Background: In 2012, the U.S. Preventive Services Task Force released a hotly debated recommendation against prostate-specific antigen testing for all men. The present research examines African Americans' beliefs about their susceptibility to prostate cancer (PCa) and the effectiveness of prostate-specific antigen testing in the context of the controversy surrounding this recommendation.Background: Colorectal cancer (CRC) screening is recommended as an integral part of cancer survivorship care. We compared the rates of CRC screening among breast and prostate cancer survivors by primary cancer type, patient, and geographic characteristics in a community-based health-care system with a mix of large and small metro urban areas.Background and purpose: To determine the kinetics of serum prostate-specific antigen (PSA) after radiation therapy of localized

prostate cancer and to evaluate whether such kinetics provide prognostic information.By drawing on a narrative analysis of 11 autobiographical illness memoirs, this article investigates the complexities of what it means to live with prostate cancer over a period of time. Acknowledging how cancer disrupts everyday life, we focus on the day-to-day experiences and struggles that take place inside and outside the hospital. By building on illustrative quotes from the memoirs, we discuss different facets of cancer as a lived experience. Our findings show that men reconstruct their identity in the memoirs in response to the disruptive nature of cancer by including various identities from previous times. They describe a relationship with their cancer that is fluid and fitful and often depends on place, time and circumstances. We also found that the 'not knowing' of prostate cancer creates uncertainty, which can take different forms, transcends time and is shaped through medical technologies, continual testing and disagreeing doctors. Prostate cancer is often seen as easily treatable, but our findings call for a different way of looking at its impact. We argue that memoirs, written by men themselves, make it palpable what it means to live with cancer. As such, illness memoirs offer a way to advance our sociological understanding of cancer-as-a-lived experience.Hormotherapy and chemotherapy are still the most important palliative therapeutic approaches for androgen-sensitive prostate cancer (PCa). Recently, the combination of hormotherapy and chemotherapy, namely, chemohormonal therapy has aroused considerable attention. Although synergistic chemohormonal therapy can improve PCa suppression efficacy and prolong the lives of patients, it also leads to severe adverse effects, that is, hormonal tolerance caused by hormotherapy, and leukemia or neutropenia caused by chemotherapy. Therefore, alleviating the adverse effects and improving anti-PCa efficacy are the focuses of the chemohormonal therapy for future researches. In this study, the commercial androgen-deprivation therapy (ADT), polyester microsphere Enantone (ENT), and polypeptide micelles loaded with a clinical antitumor agent mitoxantrone (MTO) are employed for micro/nanocarrier-assisted chemohormonal therapy. Encouragingly, the combined chemohormonal therapy significantly boosts antitumor efficacy and ameliorates side effects in preclinical assessments. With these benefits, the micro/nanocarrier-assisted chemohormonal therapy can be incorporated as an efficient clinical strategy for PCa patients.Purpose: To understand the role of routine follow-up visits in addressing prostate cancer survivors' supportive care and information needs.Purpose: Obesity (body mass index 30 kg/m2 or greater) is associated with better overall survival in metastatic prostate cancer. Conversely, low muscle mass (sarcopenia) and low muscle radiodensity (myosteatosis) are associated with worse overall survival in many cancers. This study seeks to evaluate the relationship of sarcopenia, myosteatosis and obesity with overall survival in men with metastatic or castrate-resistant prostate cancer.Trans-1-amino-3-(18)F-fluorocyclobutanecarboxylic acid (anti-(18)F-FACBC) is an amino acid PET tracer that has shown promise for visualizing prostate cancer. Therefore, we aimed to clarify the anti-(18)F-FACBC transport mechanism in prostate cancer cells. We also studied the fate of anti-(18)F-FACBC after it is transported into cells.Prostate cancer affects the lives of millions of Americans each year. Since the advent of prostate-specific antigen testing, many cancers are found in initial stages and have the potential for curative resection; however, choosing which type of surgery to undergo can be a difficult task. This article reviews the outcomes of robotic prostatectomy in comparison with laparoscopic or open procedures. A PubMed search was performed to identify specific articles describing intraoperative details, surgical complications, cancer control, and continence and potency outcomes. Articles that revealed pertinent data were included in this study comparing robotic with laparoscopic or open prostatectomies.Purpose: Androgen deprivation therapy is a common treatment in men with prostate cancer that may cause fatigue, functional decline, increased body fatness, and loss of lean body tissue. These physical changes can negatively affect health-related quality of life. Resistance exercise may help to counter some of these side effects by reducing fatigue, elevating mood, building muscle mass, and reducing body fat.Background: We previously found no significant differences in mortality between men who underwent surgery for localized prostate cancer and those who were treated with observation only. Uncertainty persists regarding nonfatal health outcomes and long-term mortality.Purpose: Proliferative activity defined by Ki-67 staining index (SI) has been correlated with progression and prognosis in a number of malignant tumors including prostate cancer. However, few studies have examined Ki-67 SI in pretreatment diagnostic material from patients treated with definitive radiotherapy. In a prior study, we found that a Ki-67 SI of >3.5% was associated with poorer patient outcome. The goals of this analysis were to validate the prognostic value of Ki-67 SI and this cut point.Introduction: Men living with prostate cancer represent a large, at-risk population deserving access to comprehensive follow-up services stemming from chronic aspects of living with the disease. Current research about the quality and accessibility of prostate cancer follow-up services is

limited.Purpose: To evaluate long-term outcome after dose-escalated, moderately hypofractionated radiotherapy for prostate cancer.Background: As the incidence of prostate cancer has, until recently, increased in most developed countries, the rates of prostate biopsies, required for histological diagnosis, will also have increased. Little is known about the physical after-effects of prostate biopsy outside randomised control trials. We investigate reports on the physical effect of prostate biopsy undertaken in men in routine practice.Purpose: Several life-prolonging treatment options have recently become available for metastatic castration-resistant prostate cancer. However, research regarding patient experiences while undergoing these treatments is scarce. The aim was to explore the perspectives of men when facing life-prolonging treatment of metastatic castration-resistant prostate cancer.Background: Guidelines for PSA screening in subgroups with increased risk of prostate cancer diagnosis due to race or genotype are underdeveloped. Our goal was to investigate types of increased prostate cancer risk and implications for targeted screening.Background: Our recently reported finding of rapid bi-exponential elimination of free prostate-specific antigen (PSA) after radical retropubic prostatectomy in patients with moderately elevated PSA levels, which contrasted a very slow, linear elimination of PSA complexed to alpha-1-antichymotrypsin (ACT), prompted us to study whether these elimination rates were applicable for patients selected for castration treatment with very high pretreatment concentrations of PSA in serum. In addition, serum concentrations of hK2, the activator of proPSA, were measured.Background: Living with an untreated cancer may alter quality of life (QoL) in the long term.Purpose: Several definitive treatment options are available for prostate cancer, but geographic access to those options is not uniform. We created maps illustrating provider practice patterns relation to patients and assessed the influence of distance to treatment receipt.Prostate cancer is a serious illness warranting appropriate screening measures. However, current screening tests that include prostate-specific antigen and digital rectal examination must be proven to save lives to be considered truly legitimate and appropriate public health tools. Even though these tests are associated with the diagnosis of disease, important questions remain as to how well these tests identify all disease and whether screening leads to interventions that save lives. Prostate cancer is undoubtedly a killer, yet there appear to be large numbers of detectable prostate cancers that are of little threat to life. Some men with this grade of cancer receive curative treatment, even though their disease does not require treatment. Some studies suggest that more than three of four men with screen-detected localized disease may not need treatment. One of the great challenges of cancer communications is how to convey the hope of prostate cancer screening while adequately acknowledging the boundaries of our knowledge. The current absence of an appropriate informed consent tool points to the necessity to develop an easy to understand informed consent that allows men to evaluate screening decisions with a clear understanding of what is known, what is not known, and what is believed to be true about prostate cancer screening.Aims: To demonstrate the magnitude of the potential problem caused by the trend towards using positron emission tomography prostate-specific membrane antigen scans on men in rural Australia.The disorders of the erectile dysfunction are well-known complication connected with the operating interventions of abdominal and pelvic surgery. Radical treatment of the malignancy, vascular operations and transurethral resection can lead to the rise of these disorders. The majority of these interventions is carried out at patients in the old age at which the disorders of the erection already existed about the various degree of intensification before treating operating how also the presence of the illnesses of the leaders to their rise or intensification after finishing the treatment (diabetes, arterial hypertension, arteriosclerosis). Patients in the young aged wait not only curing from the malignancy from second side, but also the behaviour of the quality of the life (QOL - quality of life), which the correct erection enabling is one of elements satisfying living together.In all, 30% to 90% of prostate cancer patients undergoing radical prostatectomy (RP) recover their erectile capacity. No effective post RP erectile rehabilitation program exists to date. The aim of this exploratory qualitative study is to explore the needs of these patients and to develop a patient education program (PEP) which meets these needs. Interviews were carried out by a socio-anthropologist with prostate cancer patients treated by RP within the 6 previous months. The needs and expectations identified led to the choice of a logical model of change for the construction of the PEP. Nineteen patients were included in the study; 17 of them were living with a partner. Two categories of patients appeared during the interviews: informed patients resigned to lose their sexuality and patients misinformed about the consequences of the surgery. The tailored program was built on the Health Belief Model and provides six individual sessions, including one with the partner, to meet the needs identified. This study designed the first program to target comprehensively the overall sexuality of the patient and his partner, and not only erection issues. To demonstrate the effectiveness of this program, a controlled, multicentric clinical trial is currently

ongoing.Prostate cancer is a significant cause of morbidity and mortality in men in all adult life stages. Normative developmental tasks of aging combined with disease-related stressors may negatively affect adjustment to prostate cancer and, consequently, affect the quality of life of both the man and his spouse. The purpose of this study was to examine the experiences of men with prostate cancer and their partners according to their life cycle cohort: 50-64 (late middle age), 65-74 (young-old), and 75-84 (old-old). Qualitative interviews with 15 couples were used to provide information about the dyad's experiences with prostate cancer. Interview data were analyzed to identify preliminary coding schemas, which were subsequently refined and modified into themes. Three major themes were identified from the data. Across all age groups, prostate cancer had a significant effect on: (1) couples' daily lives, (2) their dyadic and family relationships, and (3) their developmental stage. There were also differences in age groups. Couples in the late middle age group reported greater disappointment and anger at their inability to reach life goals and establish financial security. Couples in the young-old group made more spontaneous comments about being satisfied with their life than the couples in the other 2 groups. Couples in the old-old group reported slower recovery from the illness than the younger couples. Results indicate that although prostate cancer may have some universal effects on couples, it also may have differential effects by age cohort. Hence, targeted interventions by age cohort may be warranted.Prostate cancer (PCa) is the most prevalent cancer with a high mortality rate. The early and accurate detection of PCa can significantly reduce mortality and saves lives. Hence, the nanomaterials based electrochemical nano-biosensors for PCa biomarkers will be the excellent alternative for diagnosis, detection and management of disease condition. In this review, we present a concise summary of the latest attainment and advancement in the use of nanoparticles for the diagnosis of PCa biomarkers. This review highlighted the importance of applying specific biomarkers along with nanomaterials like gold, magnetic, carbon nanotubes, and many other materials for developing electrochemical nanobiosensors in PCa detection. In addition to a summary on PCa detection, we further ensure future perspectives in PCa biomarkers detection, sensitivity, simplicity, rapidity, accuracy, cost-effectiveness and succeeding optimizations of novel technologies for more feasibility. Finally, closing remarks and an outlook conclude the review.Prostate cancer (PCa) is the most prevalent among men, and psychological symptoms may affect many patients. This study aims to describe the prevalence of probable anxiety and depression before PCa treatments and after one year and to identify sociodemographic and clinical factors associated with these outcomes. Between February 2018 and March 2020, 292 patients recently diagnosed with PCa were recruited at the Instituto Português de Oncologia-Porto. The Hospital Anxiety and Depression Scale (HADS) was used to define probable anxiety and depression (cutoff = 11). The prevalence of probable anxiety remained stable from baseline to one year (7.8% vs. 8.5%, p = 0.866) while there was an increase in probable depression (3.1% vs. 6.8%, p = 0.012). After one year, probable depression persisted in 55.6% of patients with probable depression at baseline and 47.8% of those with probable anxiety at the first assessment had normal anxiety scores. At baseline, anxiety was more frequent among dwellers in rural areas (adjusted odds ratio-aOR, 95%CI: 2.80, 0.91-8.58) and less frequent in patients with body mass index 25-29.9 kg/m2 (aOR, 95%CI: 0.33, 0.12-0.91) compared to 18.5-24.9 Kg/m2, while those living alone had higher odds of depression (aOR, 95%CI: 6.35, 1.43-28.30). The frequency of anxiety and depression fluctuated during the course of treatment. Monitoring these symptoms would identify the most affected patients, contributing for a better use of mental health services.Prostate cancer is the most common malignancy and the second leading cause of cancer death in American men. One of the most intriguing aspects of prostate cancer is that despite the similar high incidence of latent forms of prostate cancer detected in men throughout the world, remarkable disparity exists in the rate of clinical progression of this disease. Men living in North America have significant disease progression, whereas men living in Japan or China do not. In this article, the potential epigenetic factors that may play a critical role in determining the rate of prostate cancer growth and progression is discussed. We propose that stromal-epithelial interaction may be of fundamental importance to prostate cancer growth and expression of its invasive phenotypes. Furthermore, we have demonstrated that delivering appropriate growth factor(s) and/or extracellular matrice(s) to an established non-tumorigenic prostatic epithelial cell line (but not normal prostatic epithelial cells) may accelerate disease progression and may irreversibly affect prostatic epithelial cell behavior.Heat shock protein 70 (Hsp70), a protein induced in cells exposed to sublethal heat shock, is present in all living cells and has been highly conserved during evolution. The aim of the current study was to determine the role of heat shock proteins in the resistance of prostate carcinoma cell line spheroids to hyperthermia. In vitro, the expression of Hsp70 by the DU 145 cell line, when cultured as monolayer or multicellular spheroids, was studied using

Western blotting and enzyme-linked immunosorbent assay methods. The level of Hsp70 in spheroid cultures for up to 26 days at 37 degrees C remained similar to monolayer cultures. However, in samples treated with hyperthermia at 43 degrees C for 120 min, the spheroid cultures expressed a higher level of Hsp70 as compared to monolayer culture. Under similar conditions of heat treatment, the spheroids showed more heat resistance than monolayer cultures as judged by the number of colonies that they formed in suspension cultures. The results suggest that cells cultured in multicellular spheroids showed more heat resistance as compared to monolayer cultures by producing higher levels of Hsp70.Background: Factors associated with being hospitalized with indications of prostate cancer were examined. A secondary analysis of the older men in the Longitudinal Study on Aging (LSOA) used baseline (1984) interview data and Medicare hospital claims for 1984 through 1991.Background: Men with West African ancestry living in Europe and North America are at higher risk of being diagnosed with prostate cancer, are diagnosed at a younger age, and have more severe disease characteristics. Published reports present a conflicting picture of the disease in sub-Saharan Africa. We aimed to study the clinical and pathological features of men undergoing prostate biopsy from different racial backgrounds in South Africa in an attempt to characterise the disease locally. Our hypothesis was that black African men presenting to our service had more severe disease characteristics than other patients.This review article aims to overview modern prostate brachytherapy in Japan. Permanent transperineal prostate brachytherapy with I-125 started in September, 2003 in Japan. Brachytherapy has several advantages: the dose is adapted precisely to the tumor shape and size, and the long-lived isotope gives a higher tumor dose with less damage to normal tissue; less-time consuming for patients and staff: long-term results comparable to surgery or external beam series in the USA; and quality of life after brachytherapy also appealing. These advantages have brought about increasing use in Japan as well. Patients with a high probability of organ-confined disease and a low-risk group are appropriately treated with brachytherapy. Brachytherapy candidates with a significant risk of extraprostatic extension should be treated with supplemental external beam radiation therapy. High-dose-rate (HDR) brachytherapy with Ir-192 has preceded seed implants in Japan. HDR has some theoretical advantages. Long-term results of brachytherapy in the USA are comparable with surgery or external beam irradiation so far. We should develop more sophisticated brachytherapy techniques in Japan.Purpose: Pain, fatigue and depression are common sequelae of a cancer diagnosis. The extent to which these occur together in prostate cancer survivors is unknown. We (i) investigated prevalence of the pain-fatigue-depression symptom cluster and (ii) identified factors associated with experiencing the symptom cluster among prostate cancer survivors.Background: There is a growing interest in the contextual effect of neighborhood linking social capital on different health outcomes, including cancer.Prostate cancer is the most common visceral malignancy in men. As the tumor is testosterone dependent, a frequent treatment modality involves therapy with GnRH agonists (GnRH-a) resulting in hypogonadism. Because testosterone is essential for the maintenance of bone mass in men, we postulated that GnRH-a therapy would negatively impact skeletal integrity. We compared bone mineral density (BMD), biochemical markers of bone turnover, and body composition in 60 men with prostate cancer (19 men receiving GnRH-a therapy and 41 eugonadal men) and BMD in 197 community-living healthy controls of similar age. BMD was assessed by dual energy x-ray absorptiometry and ultrasound. Biochemical markers of bone turnover, included markers of bone resorption (urinary N-telopeptide) and bone formation markers (bone-specific alkaline phosphatase and osteocalcin). Body composition (total body fat and lean body mass) was assessed by dual energy x-ray absorptiometry. Significantly lower BMD was found at the lateral spine (0.69 +/- 0.17 vs. 0.83 +/- 0.20 g/cm(2); $P < 0.01$), total hip (0.94 +/- 0.14 vs. 1.05 +/- 0.16 g/cm(2); $P < 0.05$), and forearm (0.67 +/- 0.11 vs. 0.78 +/- 0.07 g/cm(2); $P < 0.01$) in men receiving GnRH-a compared with the eugonadal men with prostate cancer. Significant differences were also seen at the total body, finger, and calcaneus (all $P < 0.01$). BMD values in eugonadal men with prostate cancer and healthy controls were similar. Markers of bone resorption (urinary N-telopeptide) and bone formation (bone-specific alkaline phosphatase) were elevated in men receiving GnRH-a therapy compared with those in eugonadal men with prostate cancer. Men receiving GnRH-a also had a higher percent total body fat (29 +/- 5% vs. 25 +/- 5%; $P < 0.01$) and lower percent lean body weight (71 +/- 5% vs. 75 +/- 5%; $P < 0.01$) compared with eugonadal men with prostate cancer. In conclusion, men with prostate cancer receiving androgen deprivation therapy have a significant decrease in bone mass and increase in bone turnover, thus placing them at increased risk of fracture.In many developed countries, prostate cancer is the most frequently diagnosed malignancy in men. The extent to which the marked racial/ethnic difference in its incidence rate is attributable to screening methods, environmental, hormonal, and/or genetic factors remains

unknown. A positive family history is among the strongest epidemiological risk factors for prostate cancer. It is now well recognized that association of candidate genetic markers to this multifactorial malignancy is more difficult than the identification of susceptibility genes for some common cancers such as breast, ovary, and colon cancer. Several reasons may explain such a difficulty: 1) prostate cancer is diagnosed at a late age, thus often making it impossible to obtain DNA samples from living affected men for more than one generation; 2) the presence within high-risk pedigrees of phenocopies, associated with the lack of distinguishing features between hereditary and sporadic forms; and 3) the genetic heterogeneity of this complex disease along with the accompanying difficulty of developing appropriate statistical transmission models taking into account simultaneously multiple susceptibility genes, frequently showing moderate or low penetrance. Despite the localization of seven susceptibility loci, there has been limited confirmatory evidence of linkage for currently known candidate genes. Nonetheless, the discovery of the first prostate cancer susceptibility gene characterized by positional cloning, ELAC2 was achieved taking advantage of the Utah Family Resource. Moreover, common missense mutations in the ELAC2 gene were found to be significantly associated with an increased risk of diagnosis of prostate cancer in some studies. More recently, recombination map-ping and candidate gene analysis were used to map several genes, including the 2'-5'-oligoadenylate-dependent ribonuclease L (RNASEL) gene, to the critical region of HPC1. Two deleterious mutations in RNASEL segregate independently with the disease in two of the eight HPC1-linked families. Additional studies using larger cohorts are needed to fully evaluate the role of these two susceptibility genes in prostate cancer risk. Although a number of rare highly penetrant loci contribute to the Mendelian inheritance of prostate cancer, some of the familial risks may be due to shared environment and more specifically to common low-penetrance genetic variants. In this regard, it is not surprising that analyses of genes encoding key proteins involved in androgen biosynthesis and action, led to the observation of a significant association between a susceptibility to prostate cancer and common genetic variants, such as those found in 5alpha-reductase type 2 and AR genes.Objective: To fully assess the true risk of prostate cancer transmission in during renal transplantation.Context: As patients are now living with prostate cancer for longer, the long-term impact of hormonal treatment on bone health is an increasingly debated subject.In clinical practice, few prostate cancer (PCa) patients are associated with metabolic syndrome (MetS), while few others acquire MetS during treatment. Whether the treatment of PCa increases the occurrence of MetS remains to be confirmed. This study reviewed the changes in MetS patients before and after PCa treatment to evaluate the effects of various treatment methods on MetS. We analyzed data of 1162 PCa patients, whether or not diagnosed with MetS, and changes in MetS patients after PCa treatment. Data of lower urinary tract symptoms, C-reactive protein (CRP), platelet distribution width (PDW), prostate-specific antigen (PSA), Gleason score, clinical stage, treatment methods, and progressive incidents were evaluated using logistic regression according to MetS diagnosis. The results showed significant differences in the prevalence of MetS before (17.38%) and after (23.67%) PCa treatment ($P < 0.001$). Bad diet, living habits, and prostate cancer treatment were considered as risk factors for MetS (OR = 1.731, 95%CI 1.367-2.193, $P < 0.001$). Radical prostatectomy (RP), androgen deprivation therapy including surgical castration and medical castration, iodine-125 seed brachytherapy (125I limited), and chemotherapy were independent risk factors of MetS. The MetS incidence rates after treatment in ADT+125I limited+chemotherapy compared to RP+TURP+EBRT were statistically significant at the corresponding risk grade (all $P < 0.001$). After treatment, the occurrence rates of progressive incidences were higher in MetS-PCa patients compared to non-MetS-PCa patients (all $P < 0.001$). So, the findings suggested that among PCa patients, multiple factors contribute to the occurrence of MetS, and PCa treatment is one among them. ADT+125I limited+chemotherapy may be the most influential treatment for MetS.Purpose: Informal care plays an important role in the overall care for people with cancer. This study estimates lost productivity and informal caregiving and associated costs among partner caregivers of localized prostate cancer patients within 1 year after diagnosis.Background: Androgen deprivation therapy (ADT) has become the cornerstone of treatment for men with metastatic prostate cancer. However, treatments are associated with a number of adverse effects that collectively are referred to as andropause syndrome, or the male menopause.Background: For over 15 years, studies have been done to evaluate the elimination kinetics of the prostate-specific antigen (PSA) after radical prostatectomy. Even though evaluation of PSA regression in the two-compartment model has become established, no clear data are currently available as to whether a statement can be made with regard to tumor prognosis from a computation of the PSA half-life (PSA-HL). This study focuses on the determination of the PSA-HL in the two-compartment model and on its correlation with the biochemical recurrence-free survival. In

addition, a computer program is being developed to simplify the determination of PSA-HL.Objectives: To describe patterns of care in New South Wales for men with prostate cancer, and to ascertain factors associated with receiving different types of treatment.Objectives: To evaluate the feasibility of implementing a diet-based intervention in men with prostate cancer.Purpose: The purpose of this study was to explore the experiences and perspectives of men who have had prostate cancer to better understand the effect of prostate cancer and associated stigmas on men in the Canadian province Newfoundland and Labrador (NL).Here, we describe immuno-Cerenkov luminescence imaging (immuno-CLI) with a specific monoclonal antibody-based tracer for the detection of prostate tumors, which is used in preclinical positron emission tomography (PET) imaging. As PET isotopes generate a continuous spectrum of light in the ultraviolet/visible (UV/vis) wavelength range (Cerenkov luminescence, CL) in dielectric materials and consequently inside living tissues, these isotopes can also be detected by luminescence imaging performed with optical imaging (OI) systems. Imaging tumors with tracers that are specifically binding to a tumor-associated antigen can increase diagnostic accuracy, enables monitoring of treatment efficacy, and can be advantageous compared to radiolabeled small molecules used in PET-oncology such as 2-deoxy-2-[18F]-fluoro-D-glucose ([18F]FDG; glucose metabolism) or [11C]choline (membrane synthesis) which was used to image prostate cancer. In this study, we compared on three consecutive days immuno-CLI and -PET of the applied 64Cu-labeled and well described monoclonal antibody 3/F11 in prostate-specific membrane antigen (PSMA)-positive (C4-2, PSMA+) and -negative (DU 145, PSMA-) prostate tumor xenografts, inoculated in SCID mice. In vivo immuno-CLI and -PET measurements demonstrated linear correlation of both modalities, in line with ex vivo analysis performed with CLI and γ-counting. As CLI is also able to trace radioisotopes used for theranostic approaches, immuno-CLI could be an interesting, low-cost imaging alternative to immuno-PET.Aim of the study: The aim of this study is to adapt an instrument suitable for assessment of the informational needs of men with prostate cancer.Prostate cancer is a leading cause of death worldwide and new estimates revealed prostate cancer as the leading cause of death in men in 2021. Therefore, new strategies are pertinent in the treatment of this malignant disease. Macroautophagy/autophagy is a "self-degradation" mechanism capable of facilitating the turnover of long-lived and toxic macromolecules and organelles. Recently, attention has been drawn towards the role of autophagy in cancer and how its modulation provides effective cancer therapy. In the present review, we provide a mechanistic discussion of autophagy in prostate cancer. Autophagy can promote/inhibit proliferation and survival of prostate cancer cells. Besides, metastasis of prostate cancer cells is affected (via induction and inhibition) by autophagy. Autophagy can affect the response of prostate cancer cells to therapy such as chemotherapy and radiotherapy, given the close association between autophagy and apoptosis. Increasing evidence has demonstrated that upstream mediators such as AMPK, non-coding RNAs, KLF5, MTOR and others regulate autophagy in prostate cancer. Anti-tumor compounds, for instance phytochemicals, dually inhibit or induce autophagy in prostate cancer therapy. For improving prostate cancer therapy, nanotherapeutics such as chitosan nanoparticles have been developed. With respect to the context-dependent role of autophagy in prostate cancer, genetic tools such as siRNA and CRISPR-Cas9 can be utilized for targeting autophagic genes. Finally, these findings can be translated into preclinical and clinical studies to improve survival and prognosis of prostate cancer patients.Purpose/objectives: To develop a better understanding of how older adult survivors of early-stage breast and prostate cancer managed the work of recovery. .At the Utrecht University Hospital Netherlands the preliminary results of perineal implantation of I-125 seeds in patients with cancer of the prostate were evaluated prospectively. In the period from October 1989 to December 1998, a total of 249 patients with localized carcinoma of the prostate were treated with perineal implantation of I-125 seeds. Follow-up was every 3-6 months. Results regarding progression and complicantions were collected prospectively. Progression of the disease was observed in 54 patients: 13 died from carcinoma, 41 are living with proven relapse. 18 died from intercurrent disease. 25 developed a local recurrence, 22 a distant relapse, 19 patients only showed a rise of prostate specific antigen level, without further symptoms. Acute side effects from the urethra were observed in 22 patients: prolonged dysuria in 18, acute retention in 4 and urethral stenosis in 3.9 patients had surgical treatment of micturition disorders. Four patients suffered from reversible intestinal problems. Summarizing perineal I-125 implantation causes few complications and may constitute an alternative to external irradiation as well as to radical prostatectomy in the treatment of localized carcinoma of the prostate.Purpose: Although the pretreatment serum prostate-specific antigen level (PSAL) is the single-most significant predictor of local and biochemical control in prostate cancer patients treated with radiotherapy, it is relatively insensitive for patients with a PSAL in the

intermediate range (4-20 ng/ml). PSA density (PSAD) has been shown to be slightly more predictive of outcome than PSAL for this intermediate risk group; however, this improvement is small and of little use clinically. PSA cancer volume (PSACV), an estimate of cancer volume based on PSA, has recently been described and has been purported to be more significant than PSAL in predicting early biochemical failure after radiotherapy. We report a detailed comparison between this new prognostic factor, PSAL, and PSAD.What is this summary about?: This is a summary of a research article originally published in European Journal of Cancer. The PROSPER study involved men who had a type of advanced prostate cancer called nonmetastatic castration-resistant prostate cancer (nmCRPC). In men with nmCRPC, their cancer has progressed on traditional hormone therapy but scans show that it has not spread to other parts of the body. The main results of the PROSPER study showed that patients treated with enzalutamide lived longer than patients treated with placebo. For this analysis, researchers looked at whether this was different depending on patients' traits.Purpose: To investigate quality of life in prostate cancer patients after radical retropubic prostatectomy.Background: Impairments in geriatric domains adversely affect health outcomes of the elderly. The Comprehensive Geriatric Assessment (CGA) is a key component of the treatment approach for older cancer patients, but it is time consuming. In this pilot study, the authors evaluated the validity of a brief, functionally based screening tool, the Vulnerable Elders Survey-13 (VES-13), for identifying older patients with prostate cancer (PCa) with impairment in the oncology clinic setting.Prostate cancer and its outcomes are a real threat for health and well-being for men living in the Western world. The number of men with a diagnosis of prostate cancer, before the age of 65 years, has increased in recent decades. The aim of this study was to explore how some of these Swedish men experienced and talked about their sexuality. Four focus group discussions were performed in the context of associations for prostate cancer. Using qualitative content analysis, it was identified how the diagnosis was a threat to their male identity; the men's vulnerability as a group in society was made explicit. Their sexuality was diminished by their illness experiences. These experiences were difficult to share and talk about with others and therefore connected with silence and sorrow. As a result of this, the informants often played a passive role when or if they discussed issues related to sexuality with someone in the health care organizations. The possibility of voluntarily joining a cancer association was probably highly beneficial for these men. During the sessions, several men expressed the opinion that "it is always great to talk."Little is known about the pathological features of radical prostatectomy among men living in the Middle East. Although prostate cancer became the most common malignancy among males in some countries in the Middle East, the incidence is much lower compared to western populations. The aim of this study is to analyze pathological features and biochemical recurrence in men who underwent robotic-assisted radical prostatectomy (RARP) in Kuwait. The data on all RARP cases performed by a uro-oncologist (SA) were recorded. A comprehensive database was collected, including demographic, clinical, and pathological data. Between February 2014 and November 2019, 65 RARP cases were performed out of a total of 200 robotic urological procedures. The median follow-up was 41.5 months [inter quartile range (IQR) 27.6-52.7]. Eleven (17%) complications occurred in 7 patients, 64% were early (< 30 days post-operatively) and minor (Clavien I-II). Thirty-five (54%) patients had ≥ pT3 disease. Overall, 12 (18%) patients had a positive surgical margin (PSM), and all had ≥ pT3 disease. Potency and continence rates at 12 months were 82% and 97%, respectively. The mean and SD of the hospital stay were 2.7 ± 1.1 days. Biochemical recurrence (BCR) rate was 10%. Men with prostatic adenocarcinoma treated with RARP in Kuwait show a high incidence of pT3 disease. PSM and BCR rates were similar to multiple reports in the literature. To our knowledge, this is the first report of RARP pathological outcomes in the gulf cooperation council (GCC) region of the Middle East.Background: Long term dietary consumption of genistein by Chinese men is associated with decreased PCa metastasis and mortality. Short term treatment of US men with prostate cancer (PCa) with genistein decreases MMP-2 in prostate tissue. MEK4 regulates MMP-2 expression, drives PCa metastasis, and genistein inhibits MEK4, decreases MMP-2 expression and dietary dosing inhibits human PCa metastasis in mice. This study examines short- versus long-term treatment effects of genistein in humans and in vitro.Background: Peroxiredoxins (Prxs) are antioxidant enzymes expressed by most free-living organisms, often in multiple isoforms. Because mammalian Prxs have not been experimentally deleted or inhibited, it is not known how much they contribute to antioxidant defense, nor whether the multiple isoforms afford redundant or additive protection.Objective: To describe recent trends in the use of radical prostatectomy (RP) in England, as there is currently no consensus on the most effective treatment for localized prostate cancer, although RP is the treatment of choice among urological surgeons for men aged < 70 years.Purpose: There are inequalities in cancer treatment. This study

aimed to investigate whether receipt of specialized palliative care (SPC) is affected by typical female and male diagnoses (breast and prostate cancer), age, socioeconomic status (SES), comorbidities as measured by the Charlson Comorbidity Index (CCI), or living arrangements (home vs nursing home residence). Furthermore, we wanted to investigate if receipt of SPC affects the place of death, or correlated with emergency department visits, or hospital admissions.One of the key issues hampering the development of effective treatments for prostate cancer is the lack of suitable, tractable, and patient-specific in vitro models that accurately recapitulate this disease. In this review, we address the challenges of using primary cultures and patient-derived xenografts to study prostate cancer. We describe emerging approaches using primary prostate epithelial cells and prostate organoids and their genetic manipulation for disease modelling. Furthermore, the use of human prostate-derived induced pluripotent stem cells (iPSCs) is highlighted as a promising complimentary approach. Finally, we discuss the manipulation of iPSCs to generate 'avatars' for drug disease testing. Specifically, we describe how a conceptual advance through the creation of living biobanks of "genetically engineered cancers" that contain patient-specific driver mutations hold promise for personalised medicine.One in eight men will be affected by prostate cancer (PCa) in their lives. While the current clinical standard prognostic marker for PCa is the Gleason score, it is subject to inter-reviewer variability. This study compares two machine learning methods for discriminating between cancerous regions on digitized histology from 47 PCa patients. Whole-slide images were annotated by a GU fellowship-trained pathologist for each Gleason pattern. High-resolution tiles were extracted from annotated and unlabeled tissue. Patients were separated into a training set of 31 patients (Cohort A, n = 9345 tiles) and a testing cohort of 16 patients (Cohort B, n = 4375 tiles). Tiles from Cohort A were used to train a ResNet model, and glands from these tiles were segmented to calculate pathomic features to train a bagged ensemble model to discriminate tumors as (1) cancer and noncancer, (2) high- and low-grade cancer from noncancer, and (3) all Gleason patterns. The outputs of these models were compared to ground-truth pathologist annotations. The ensemble and ResNet models had overall accuracies of 89% and 88%, respectively, at predicting cancer from noncancer. The ResNet model was additionally able to differentiate Gleason patterns on data from Cohort B while the ensemble model was not. Our results suggest that quantitative pathomic features calculated from PCa histology can distinguish regions of cancer; however, texture features captured by deep learning frameworks better differentiate unique Gleason patterns.Background: Recommendations against prostate-specific antigen (PSA) testing in 2012 have increased advanced-stage diagnosis and prostate cancer-specific mortality rates.Aims: Guidelines recommend the discussion of adjuvant radiotherapy post-prostatectomy for prostate cancer patients with high-risk pathology to consider all of their treatment options. We determine whether patterns of radiotherapy referral and treatment post-prostatectomy reflect guideline-based use in a contemporary prostatectomy cohort.Background: Androgen deprivation therapy is commonly used to treat prostate cancer, the most common visceral cancer in men. However, various side effects often worsen physical functioning and reduce well-being among men on this treatment. Based on existing evidence, both resistance and aerobic training provide benefits for this population yet adherence rates are often low. The method of exercise delivery (supervised in-center or home-based) may be important, yet few studies have compared different models. Additionally, long-term exercise adherence is critical to achieve sustained benefits but long-term adherence data and predictors of adherence are lacking. The primary aim of this phase II, non-inferiority randomized controlled trial is to determine whether three exercise training delivery models are equivalent in terms of benefits in quality of life and physical fitness in this population. Secondary aims include examination of long-term adherence and cost-effectiveness.Objective: To evaluate the impact of radical prostatectomy (RP) upon quality of life (QOL) in patients with prostate cancer.Prostate cancer is one of the most common cancers in the world, and its early detection is vital to saving the lives of patients. In this research, a novel label-free photoelectrochemical immunosensor was designed for sensitive detection of prostate specific antigen (PSA). Ag2S sensitized on Ag/AgBr/BiOBr heterojunction could effectively inhibit photogenic holes recombination and improve photocurrent response and sensitivity. Ascorbic acid was an effective electron donor, which can effectively eliminate photo-generated holes. The photocurrent reduced linearly with the logarithm of PSA concentration ranged from 0.001 to 50 ng·mL-1 and the limit of detection was 0.25 pg·mL-1. The designed sensor had the advantages of wide linear range, good stability, high reproducibility, and good selectivity. This study not only provided a method for efficient and sensitive detection of PSA, but also provided valuable reference ideas for the detection of other tumor markers.Although prostate cancer is one of the most common cancers in the male population, its basic biological function at a cellular level remains to be fully understood. This lack of in depth

understanding of its physiology significantly hinders the development of new, targeted and more effective treatment strategies. Whilst electrophysiological studies can provide in depth analysis, the possibility of recording electrical activity in large populations of non-neuronal cells remains a significant challenge, even harder to address in the picoAmpere-range, which is typical of cellular level electrical activities. In this paper, we present the measurement and characterization of electrical activity of populations of prostate cancer cells PC-3, demonstrating for the first time a meaningful electrical pattern. The low noise system used comprises a multi-electrode array (MEA) with circular gold electrodes on silicon oxide substrates. The extracellular capacitive currents present two standard patterns: an asynchronous sporadic pattern and a synchronous quasi-periodic biphasic spike pattern. An amplitude of ±150 pA, a width between 50■300 ms and an inter-spike interval around 0.5 Hz characterize the quasi-periodic spikes. Our experiments using treatment of cells with Gd^{3}■, known as an inhibitor for the Ca^{2}■ exchanges, suggest that the quasi-periodic signals originate from Ca^{2}■ channels. After adding the Gd^{3}■ to a population of living PC-3 cells, their electrical activity considerably decreased; once the culture was washed, thus eliminating the Gd^{3}■ containing medium and addition of fresh cellular growth medium, the PC-3 cells recovered their normal electrical activity. Cellular viability plots have been carried out, demonstrating that the PC-3 cells remain viable after the use of Gd^{3}■, on the timescale of this experiment. Hence, this experimental work suggests that Ca^{2}■ is significantly affecting the electrophysiological communication pattern among PC-3 cell populations. Our measuring platform opens up new avenues for real time and highly sensitive investigations of prostate cancer signalling pathways.The objective of this analysis is to identify baseline covariates that predict which patients will be long-term survivors with metastatic prostate cancer. We analyzed data from Southwest Oncology Group (SWOG) S8894, a clinical trial in men with newly diagnosed metastatic prostate cancer, to evaluate pretreatment characteristics associated with 10-year survival. There were 1286 eligible patients randomized to this study. Of these, 794 have been followed for > or = 10.5 years and are included in the analyses. Proportional odds models were used to predict 3 survival categories (survival for < 5 years, 5 up to 10 years, and > or = 10 years). Baseline patient and disease characteristics investigated were protocol treatment (flutamide vs. placebo), severity of disease, SWOG performance status (PS), bone pain, Gleason score, race, age, and prostate-specific antigen (PSA) level at study entry. Of the 794 evaluable patients, 77% lived < 5 years, 16% lived 5 up to 10 years, and 7% lived > or = 10 years. Factors predicting a statistical significant association with longer survival (P < 0.05) included minimal disease, better PS, no bone pain, lower Gleason score, and lower PSA level. All but PS were also significant in multivariate analyses. However, only 13% of patients (5 of 38) who lived > or = 10 years were correctly predicted in their survival category based on the model, whereas 98% (405 of 414) who died within the first 5 years were correctly predicted. Although statistically significant baseline characteristics were identified in this clinical trial, they did not accurately predict the survival interval to which a patient belonged.Objectives: To investigate whether functionally based resistance exercise could improve strength, physical function, and disability among prostate cancer survivors (PCS) on androgen deprivation therapy (ADT); and to explore potential mediators of changes in outcomes from exercise.Introduction: Given the discordant prostate cancer screening recommendations in the United States, shared decision-making (SDM) has become increasingly important. The objectives of this study were to determine who made the final decision to obtain prostate-specific antigen (PSA)-based screening and identify factors associated with the screening decision made by both patients and their health care providers.Background: Androgen-deprivation therapy (ADT) by either a gonadotropin-releasing hormone (GnRH) agonist or bilateral orchiectomy improves disease-related outcomes of men with prostate cancer but has a variety of adverse metabolic effects including obesity, increased abdominal girth, increased triglycerides, and insulin resistance. Each is a risk factor for gallstone disease. Additionally, GnRH agonist treatment was recently shown in metabolomic analyses to increase plasma levels of some bile acids.Background: Recent debate about prostate-specific antigen (PSA)-based testing for prostate cancer screening among older men has rarely considered the cost of screening.Purpose: We assessed the relationship between provider volume and outcomes following brachytherapy in a population based cohort of men.Ureterneoimplantation (unilateral in 6 cases) was performed as palliative urinary diversion in 8 patients (age 64-81 years) due to locally advanced prostate cancer and bilateral ureteral obstruction (serum creatinine 2.1 to 9.8 mg. per dl.) between 1991 and 1995. In these cases the application of a double-J-catheter had failed or a percutaneous nephrostomy was refused. Postoperative time of survival (237 days, 2 patients still living for 20 and 21 months after therapy), mortality (1 of 8 patients), morbidity and time to hospital discharge (26 days) are compared to the results of the published

retrospective investigations concerning percutaneous nephrostomy. The opportunity of a natural micturition without external urinary diversion could be gained for a longer period of time (5 and 20 months) in 2 of 3 patients. The other patients with in situ double-j-catheters were drained sufficiently by a suprapubic cystostomy (serum creatinine postoperatively 1.3 to 2.0 mg. per dl.). Bilateral ureterocystoneostomy being more invasive than unilateral diversion showed no benefits and was no more performed since 1991. Uretemeoimplantation with comparable postoperative results to percutaneus nephrostomy seems to be a sufficient therapeutic possibility in patients with natural micturition, repeated catheter complications, refusal or failure of alternative urinary diversion.A series of 59 consecutive patients with locally inoperable adenocarcinomas of the prostate were irradiated following a strict protocol and controlled dosimetry in a national cooperative study in the USA. Twenty-one of these patients are living without signs of recurrence or recurrence or metastases. Additional patients who lived 5 to 10 years after treatment without recurrence or metastases died of other causes. Autopsies in several of these cases failed to show residual or metastatic tumor. The failures are primarily due to bone metastases outside of the irradiated territory. The urethral and rectal complications are rare; they can be reduced by further fractionation.Aim: The aim of this study was to evaluate the feasibility and efficacy, in terms of overall survival, of sequential systemic therapy in patients with metastatic castration-resistant prostate cancer (MCRPC) who lived in Nordland County, Norway, a large region with a challenging geography, yet only one department of oncology located in the main city, Bodø.Patients and methods: Overall 77 patients who had received at least 2 lines of treatment were included in this retrospective study.Results: Management included docetaxel in 69 patients (90%), often prescribed in first line. Only 12 patients (16%) started their treatment with a sequence of two endocrine drugs (enzalutamide or abiraterone acetate). Thirty-two patients (42%) were not eligible for treatment beyond second line, while 31 (40%) received 3 lines, and 14 (18%) more than 3 lines (for example cabazitaxel or Ra-223). Distance to the department of oncology did not predict for treatment with more than 2 lines. Only two factors were statistically significant: age <75 years and not initiating treatment with two lines of endocrine drugs. Survival increased with increasing number of lines of treatment. None of the five individual drugs available to these patients was significantly associated with survival.Conclusions: There was no indication toward under-treatment with systemic therapy among patients from the distant regions. Sequential treatment was feasible and survival increased with each additional line.Prostate cancer (PCa) is a common malignant tumor among adult males, and convenient intraoperative detection of PCa would reduce the risk of leaving positive surgical margins, especially during nerve-sparing procedures. To achieve rapid, fluorescence-based visualization of PCa, we focused on the glutamate carboxypeptidase (CP) activity of prostate-specific membrane antigen (PSMA), a type II transmembrane glycoprotein that is attracting attention as a PCa biomarker. Based on our finding that aryl glutamate conjugates with an azoformyl linker are recognized by PSMA and have a sufficiently low LUMO (lowest unoccupied molecular orbital) energy level to quench the fluorophore through photoinduced electron transfer, we designed and synthesized a first-in-class activatable fluorescence probe for CP activity of PSMA. The developed probe allowed us to visualize the CP activity of PSMA in living cells and in clinical specimens from PCa patients and is expected to be useful for rapid intraoperative detection and diagnosis of PCa.Background: The National Research Council (CNR) prostate cancer monitoring project in Italy (Pros-IT CNR) is an observational, prospective, ongoing, multicentre study aiming to monitor a sample of Italian males diagnosed as new cases of prostate cancer. The present study aims to present data on the quality of life at time prostate cancer is diagnosed.Objective: The purpose of this study was to estimate the relationship between remoteness and the initial chosen treatment (active surveillance/watchful waiting (AS/WW), radiation therapy (RT), surgery, chemotherapy (CT), or hormonal therapy (HT) for prostate cancer (PCa).Introduction: The practices of screening and the parameters influencing these practices are not well known in France. The objectives of the Edifice study were to analyze a large cohort of patients and doctors in order to further characterize these parameters.Introduction: Controversy persists about whether men should be screened for prostate cancer. On the other hand, the benefit of colorectal cancer screening has been proven for men starting at age 50. We aimed to examine the rate of exposure to previous screening tests for prostate cancer and colorectal cancer in a cohort of men living in Quebec.Objective: Previous reports on the risk of stroke after androgen deprivation therapy for prostate cancer were largely based on Caucasians. We investigated the risk of ischemic stroke after androgen deprivation therapy for prostate cancer in the Chinese population.Men living in Fiji and drinking kava have low incidence of prostate cancer (PCa). However, the PCa incidence among Fijian men who had migrated to Australia, increased by 5.1-fold. We therefore examined the potential effects

of kava root extracts and its active components (kavalactones and flavokawains) on PCa growth and androgen receptor (AR) expression. PCa cell lines (LNCaP, LAPC-4, 22Rv1, C4-2B, DU145 and PC-3) with different AR expression, and a transformed prostate myofibroblast cell line (WPMY-1), were treated with a commercial kava extract, kavalactones (kawain, 5'6'-dehydrokawain, yangonin, methysticin) and flavokawain B. Expression of AR and its target genes (PSA and TMPRSS2) was examined. Two novel patient-derived PCa xenograft models from high grade PCa specimens were established by implanting the specimens into nude mice and passing tumor pieces through subcutaneous injection in nude mice, and then treated with kava extract and flavokawain B to examine their effects on tumor growth, AR expression and serum PSA levels. The kava extract and flavokawain B effectively down-regulated the expression of both the full-length AR and AR splice variants. The kava extract and kavalactones accelerated AR protein degradation, while flavokawain B inhibited AR mRNA transcription via decreasing Sp1 expression and the binding of Sp1 to the AR promoter. The kava root extract and flavokawain B reduce tumor growth, AR expression in tumor tissues and levels of serum PSA in the patient-derived PCa xenograft models. These results suggest a potential usefulness of a safe kava product or its active components for prevention and treatment of advanced PCa by targeting AR.Background: Prostate cancer mortality rates for African-Americans are much higher than Caucasians and a similar trend is observed for prostate cancer survival. Data on recently immigrated African-descent men are lacking.Introduction: Chronic inflammation may be important in prostate carcinogenesis. Several epidemiologic studies have reported inverse associations between nonsteroidal anti-inflammatory drugs (NSAIDs) and prostate cancer risk, although many studies are limited by assessment of short-term use only.African American men participated in a screening initiative and completed the 22-item Barriers to Prostate Cancer Screening Checklist. Forty-three men received a digital rectal exam (DRE) and prostate specific antigen (PSA) laboratory test. The age of the males was M = 56.4 (range = 45-76) years; 47% were compliant with the American Cancer Society annual screening guidelines for high-risk individuals. Nineteen men from the screened group completed a 22-item Response to Barriers Checklist. The barrier ranked a "big problem" for not getting a prostate exam, and the highest by 32% (n = 6) of the sample was "Too many things going on in their lives." The lowest ranked problem by 100% of the participants was "Takes too long to get an appointment." Two individuals reported taking the over-the-counter supplement, saw palmetto. It is important that when planning a health screening in the community, both barriers and advantages be evaluated during the planning and before the implementation phase of the project.Objectives: Following radical prostatectomy (RP), adjuvant radiation therapy (RT) decreases biochemical recurrence and potentially improves metastasis-free and overall survival for patients with high-risk pathologic features. Since adjuvant RT typically occurs daily over several weeks, the logistical challenges of extensive traveling may be a significant barrier to its use. We examined the association between distance to treatment facility and use of adjuvant RT.New insights regarding the biology of hormone resistant CaP have shown that major growth factors other than testosterone are responsible for cellular proliferation of androgen resistant prostate cancer cells. In vitro studies have confirmed the efficacy of growth factor inhibitors such as suramin in reducing cellular proliferation of androgen dependent LNCaP and independent PC-3 CaP cell lines as well as CaP cells obtained by primary culture. Initial clinical trials using high dose suramin (peak serum concentration 250-300 micrograms/ml) as monotherapy in patients with hormone resistant CaP have shown some promise, but the duration of response to therapy has been short lived and suramin toxicity is a problem. To minimize toxicity without reducing anti-tumour activity, studies evaluating its use in combination with other cytotoxic drugs are attractive in CaP. Suramin and doxorubicin, tumour necrosis factor and EMP have shown synergy in vitro. However, in a phase II clinical trial using combination therapy with low dose suramin (140 micrograms/ml) and mitomycin C in 32 patients, there was one complete response and six partial responses, and in 15 patients, the disease had stabilized. The median time to treatment failure was 103 days, and the median survival was 209 days. This regimen caused significant toxicities. The present study has shown that the combination of EMP 280 mg twice a day and suramin 1 g weekly infusions for 6 weeks, compared to EMP 280 mg alone, showed a statistically significant difference in the rate of depression of PSA levels after 3 and 6 months of treatment ($p < 0.01$) and a statistically significant reduction in bone pain and requirement for analgesics in patients on combination therapy-100% compared to 0% for patients on EMP alone.Monitoring of exosome dynamics in living organisms is essential to demonstrate the real functions of cancer-derived exosomes. Currently, these have been elucidated in vitro or under non-physiological conditions in vivo in most cases. To overcome these limitations, we developed an imaging method using Antares2-mediated bioluminescence resonance

energy transfer (BRET) for observing long-term accumulation of exosomes in vivo. Ectopic expression of CD63-Antares2 effectively labeled exosomes with Antares2, which emitted intense, long-wavelength luminescence suitable for in vivo monitoring. Transplantation of CD63-Antares2-expressing prostate cancer cells into mice allowed determining the amount of cancer-derived exosomes released from primary tumors into the bloodstream and visualizing the long-term homing behavior of exosomes to their target organs or tissues. Interestingly, secreted exosome was decreased upon administration of low dose of dasatinib, an approved tyrosine-kinase inhibitor. The CD63-Antares2 xenograft mouse model will be useful for elucidating the dynamics of cancer-derived exosomes in vivo and evaluating the therapeutic efficacy and mechanism of exosome production inhibitors.Androgen has been shown to promote the proliferation of prostate cancer through the action of the androgen receptor (AR). Mutation (T877A) of the AR gene found in an androgen-sensitive prostate cancer cell line, LNCaP, has been postulated to be involved in hypersensitivity and loss of specificity for androgen. In the present study, trafficking of AR and AR (T877A) in living prostate and non-prostate cancer cell lines under high and low concentrations of androgen and antiandrogen was investigated by tagging green fluorescent protein (GFP) to the receptors. In the presence of a high concentration of androgen, AR-GFP localized in the nucleus by forming discrete clusters in all cell lines. AR (T877A)-GFP was also translocated to the nucleus in LNCaP and COS-1 cells by the addition of a high concentration of androgen. In contrast, in the presence of a low concentration of androgen, the translocation of AR-GFP and AR (T877A)-GFP was observed in LNCaP cells, but not in COS-1 cells. Upon the addition of antiandrogen, AR-GFP was translocated to the nucleus but did not form subnuclear foci in both COS-1 and LNCaP cells, whereas AR (T877A)-GFP in both cells was translocated to the nucleus with subnuclear foci. The present study demonstrates the differential response of nuclear trafficking of AR and its mutant in prostate cancer cell lines and COS cells, and the subcellular and subnuclear compartmentalization provide important information on the sensitivity of the AR mutation.Introduction: Different patterns in the use of prostate-specific antigen (PSA) testing might explain socioeconomic differences in prostate cancer incidence and mortality. We examined the association between socioeconomic position, measured as education and first-time PSA testing in general practice.Material and Methods: A population-based cohort study of men aged 45-79 years without prior prostate cancer diagnosis living in the Capital Region of Denmark between 2000 and 2014. Information on socioeconomic indicators (education, income, cohabitation status and work market affiliation), prostate cancer diagnoses, and vital status were obtained from national registries. Date of first PSA test was obtained from the Copenhagen Primary Care Laboratory database. Temporal trends of PSA testing were calculated as annual age-standardised incidence rates and the association was examined by a multivariable Cox proportional hazards model.Results: The cohort consists of 431,997 men of which 105,476 (24%) had a first-time PSA test in the study period. Men with longer education, higher income, living with a partner, and employed had higher rates of PSA testing. For men with short education, the rate of PSA test was 28.3 tests per 1000 person-years compared to 31.2 tests among men with long education. The fully adjusted hazard ratio for a first PSA test among men with short education was 0.87 (95% CI, 0.85-0.89) compared to men with long education.Conclusion: The association between education and first-time PSA testing indicates socioeconomic disparities in health care utilisation, which could explain part of the observed socioeconomic difference in prostate cancer incidence and mortality.Radiation therapy prior to surgery has increasingly become the standard of care for locally advanced prostate cancer, however tumor radioresistance remains a major clinical problem. While restoration of microRNA-145 (miR-145) expression reduces chemoradioresistance in glioblastoma and suppress prostate cancer proliferation, migration and invasion, the role of miR-145 in response to radiation therapy for prostate cancer is still unknown. The aim of this study was to investigate the role of miR-145 in determining the tumor response to radiation treatment in prostate cancer. Human prostate cancer cells LNCAP and PC3 were transfected with miR-145 mimic. Clonogenic assay was used to determine whether overexpression of miR-145 could alter radiation response in vitro. Immunofluorescence of γ-H2AX and flow cytometric analysis of phosphorylated histone H3 were performed to investigate the potential mechanisms contributing to the enhanced radiation-induced cell killing induced by miR-145. In addition, a qPCR-based array was used to detect the possible miR-145-mediated regulated genes involved. Tumor growth delay assays and survival curves were then analyzed in an animal model to investigate whether miR-145 induced radiosensitivity in vivo. Furthermore, miR-145 expression was assessed in 30 prostate tumor tissue biopsies taken prior to neoadjuvant radiotherapy using miRNA arrays. Our current study suggested that ectopic expression of miR-145 significantly sensitized prostate cancer cells to radiation and we used γ-H2AX phosphorylation as a surrogate marker of radiotherapy response

versus miR-145 expression levels. We observed significantly more foci per cell in the group treated with miR-145 and radiation. In addition, mitotic catastrophe was significantly increased in cells receiving miR-145 and radiation. The above results suggest that miR-145 appears to reduced the efficiency of the repair of radiation-induced DNA double-strand breaks in cells. A detailed examination of the involvement of the DNA repair pathway showed that miR-145 reduced the expression of 10 genes involved in DNA repair according to a qPCR-based array data. Irradiation of subcutaneous PC3 tumors in mice treated with R11-miR-145 (a cellular permeable peptide, previously reported) resulted in an increase in radiation-induced tumor growth delay and lived the longest after combination treatment. Moreover, miR-145 expression was significantly increased in patients demonstrating good response (PSA < 2.0 ng/ml/year) to neoadjuvant radiotherapy, while expression of the miR-145-regulated DNA repair genes was significantly decreased. In conclusion, these data suggest a possible mechanism for miR-145 radiosensitivity, potentially through down regulating of DNA repair. This novel study shows a role for miR-145 in modulating radiosensitivity in vivo and highlights the need for further study investigating the potential role of miR-145 as both a predictive marker of response and a novel therapeutic agent with which to enhance the efficacy of radiation therapy.Objective: To evaluate outcomes of intermediate- and high-risk prostate cancer patients on a prospective dose-escalation study of pelvic external-beam radiation therapy (EBRT) combined with high-dose-rate (HDR) brachytherapy boost.Background and purpose: Uncertainty is an aversive experience and plays an important role in the lives of men undergoing active surveillance (AS; earlier referred to as watchful waiting) for early-stage prostate cancer. Yet reliable and valid measures of uncertainty have not been fully tested in this population. This secondary analysis therefore tested the reliability of the Mishel Uncertainty in Illness Scale Community Form (MUIS-C; M.H. Mishel, 1997b) for use with men undergoing AS for prostate cancer.1alpha,25-Dihydroxyvitamin D(3) (1alpha,25(OH)(2)D(3)) is known to inhibit prostate cancer cells in vitro. Its effects on proliferation in the presence of living bone have not been reported, but are especially relevant since much of the morbidity and mortality associated with prostate cancer is due to metastatic bone disease. We investigated the effect of 1alpha,25(OH)(2)D(3) on MatLyLu-beta(2) cells (MatLyLu cells), a rat prostate cancer line, co-cultured in transwells with living rat calvaria. Cultures of MatLyLu cells with living calvaria treated with 1alpha,25(OH)(2)D(3) exhibited a statistically significant increase in proliferation (range 1.4 to 1.7-fold; $p<0.05$). Cultures of MatLylu cells alone, with spleen cells, muscle tissue, or with living or inactivated calvarial bone showed no differences in proliferation. To investigate the mechanism for enhanced proliferation, Galardin, a matrix metalloproteinase (MMP) inhibitor, or pamidronate, an antiresorptive agent, was added. Enhanced proliferation was prevented by either agent, but not to an equal extent. The presence of 1alpha,25(OH)(2)D(3) may lead to proteolytic release or activation of growth factors from bone. These results may explain the variability in reports on the in vivo effects of Vitamin D and suggest a potential concern in using Vitamin D or its analogs alone in patients with metastatic prostate cancer.Objectives: Cancer screening exists to save lives. However, the mortality-reducing effect of prostate cancer screening has not yet been sufficiently demonstrated. Therefore, screening should only be performed in men well informed about the disease. We hypothesized that having sufficient information will reduce men's desire for screening. To verify this hypothesis, we measured the willingness to pay (WTP) for prostate-specific antigen screening using the contingent valuation method.Objective: We conducted this study with the aim of demonstrating the feasibility and efficacy of speed-feedback therapy with a bicycle ergometer on cognitive function in elderly cancer patients.Objective: To assess whether long-term cancer survivors (≥5 years after diagnosis) are at an increased risk of experiencing an opioid-related emergency department (ED) visit or hospitalization compared with persons without cancer.Asymptomatic men with low-risk, early-stage prostate cancer are eligible for active surveillance (AS), which offers a means to monitor the cancer while delaying treatment. However, AS operates within a unique set of circumstances that advocate monitoring, rather than immediate treatment, and men's health practices are central to coping with the inherent uncertainty of living with an untreated cancer. A qualitative study was completed to describe the range of men's self-management strategies used to overcome AS-related uncertainty. The study findings reveal two strategies. First, positioning prostate cancer as benign through stoicism and solitary discourses were common to men intent on "living a normal life." Second, men committed to "doing something extra" complemented AS protocols, and often collaborated with their wives to focus on diet as an adjunct therapy. Although most participants exhibited typical men's health practices, it is clear that tailored AS psychosocial interventions will benefit men and their families.Chronic sorrow often affects not only an individual who has a chronic illness or disability but the family members as well. This is the story of how chronic sorrow

affected the life of a man diagnosed with prostate cancer and the family members who lived through it with him. It is told in the first person by his daughter not only as a tribute to her father, but also as a prospective learning experience for anyone involved with an individual moving through a chronic or terminal illness or disability. It integrates theory, research, and personal experience in an effort to understand this common human response to a chronic or terminal illness.A 72-year-old man came to our clinic as a candidate of the donor of renal transplantation for his 44-year-old daughter. However, his serum PSA was found elevated, and he was diagnosed with stage C prostate cancer. He received neoadjuvant androgen deprivation therapy and subsequent IMRT as a definitive curative therapy. Since his PSA remained at a very low level after IMRT for three years, we performed systematic 16-site prostate biopsy, which revealed no viable prostate cancer cells. His renal function seemed to be normal and no functional difference was noted between the two kidneys. Then, his left kidney was harvested by hand-assisted retroperitoneal laparoscopic approach, and transplanted to his daughter successfully. The suitability of a donor with two potential problems-advanced age and a history of prostatic cancer-was discussed, together with a review of the literature.Background: Afro-Caribbeans from Tobago are at high risk of developing prostate cancer. This elevated risk of prostate cancer is shared by populations of African ancestry living in diverse environments in the Western hemisphere. Variation in the ribonuclease L (RNASEL) gene has recently been reported to be associated with an increased risk of prostate cancer. However, whether RNASEL variation contributes to the increased risk of prostate cancer observed in populations of African ancestry remains unclear.Objectives: With modern reconstructive surgical techniques and better neonatal intensive care unit care, patients with the bladder exstrophy-epispadias complex are now living much longer than they did previously. As these patients age, the men will begin to seek out adult urologists for common conditions such as benign prostatic hyperplasia and prostate cancer screening. We present the first known man with the exstrophy-epispadias complex to be diagnosed with prostate cancer.Purpose/objective: Image-based dose evaluation of permanent brachytherapy implants for prostate cancer is important for optimal patient management after implantation. Because of edema caused by the surgical procedure in the implantation, if the dose evaluation is based on the images obtained too early after implantation, dose coverage will usually be underestimated. Conversely, if the images are obtained too late, the dose coverage will be overestimated. This study uses a biomathematical model to simulate edema and its resolution on 29 patients, so that the optimum time to obtain image scans and perform dose evaluation can be investigated and estimated.Lower incidence and mortality rates from prostate cancer (PCa) have been shown in Asian men in general compared to Westerners. This is the first study detailing the clinicopathologic features of resected prostate cancer in Filipino men living in the Philippines (PH). This study investigated the supposed "lower risk" Filipino and "higher risk" American PCa patients from the PH and the United States of America (USA), respectively. We examined 348 (176 from PH, 172 from USA) radical prostatectomy cases. The clinicopathologic features of both groups (age at time of diagnosis, preoperative prostate-specific antigen [pre-op PSA] level, Gleason score [GS], Grade groups [GG], margin involvement, extraprostatic extension [EPE], seminal vesicle invasion [SVI], and regional lymph node [RLN] metastasis) were compared. Six of seven prognosticators examined were more strongly associated with Filipinos than with Americans. Filipinos were older at diagnosis (PH: 64.32 ± 6.56 years vs USA: 58.98 ± 8.08 years) and had higher pre-op PSA levels (PH: 21.39 ± 46.40 ng ml-1 vs USA: 7.63 ± 9.19 ng ml-1). Filipino men had more advanced grade, GG 2 with minor pattern 5 (PH: 6.2% vs USA: 2.9%) and GG 5 (PH: 14.8% vs USA: 3.5%). Likewise, other adverse pathological features in margin positivity (PH: 52.3% vs USA: 23.8%), focal EPE (PH: 14.2% vs USA: 2.3%), and SVI (PH: 17.1% vs USA: 5.8%) were more commonly observed in Filipinos. This study reveals the prognostic disadvantage of Filipinos versus Americans and highlights an important difference of Filipinos from other studied Asian ethnicities that have repeatedly been shown to have lower-risk PCa. This study, the first on Filipino PCa patients with RP, suggests the need to modify Western-based risk stratification when employed in other countries like the PH.The incidence of prostate cancer (PCa) in men globally increases as the standard of living improves. Blood serum biomarker prostate-specific antigen (PSA) detection is the gold standard assay that do not meet the requirements of early detection. Herein, a solution-gated graphene transistor (SGGT) biosensor for the ultrasensitive and rapid quantification detection of the early prostate cancer-relevant biomarker, miRNA-21 is reported. The designed single-stranded DNA (ssDNA) probes immobilized on the Au gate can hybridize effectively with the miRNA-21 molecules targets and induce the Dirac voltage shifts of SGGT transfer curves. The limit of detection (LOD) of the sensor can reach 10-20 M without amplification and any chemical or biological labeling. The detection linear range is from 10-20 to 10-12 M. The sensor can

realize real-time detection of the miRNA-21 molecules in less than 5 min and can well distinguish one-mismatched miRNA-21 molecule. The blood serum samples from the patients without RNA extraction and amplification are measured. The results demonstrated that the biosensor can well distinguish the cancer patients from the control group and has higher sensitivity (100%) than PSA detection (58.3%). Contrastingly, it can be found that the PSA level is not directly related to PCa.Purpose: The purpose of this study was to examine racial differences in patient portal activation and research participation among patients with prostate cancer.Background: Prostate cancer is a frequently diagnosed cancer and made up 6% of male cancer deaths globally in 2008. Its incidence varies more than 25-fold worldwide, which is primarily attributed to the implementation of the prostate-specific antigen (PSA) test in developed countries. To reduce harm of overdiagnosis, most international guidelines recommend surveillance programmes. However, this approach can entail negative psychosocial consequences from being under surveillance for an (over)diagnosed prostate cancer.Objectives: The study aimed to investigate the behavioral and social factors that underlie the risk perception and screening behavior of prostate cancer (PCa) among rural men in Southwest Nigeria.Purpose of review: The field of prostate cancer therapeutics has undergone a rapid and dramatic change in the last few years. Multiple agents with very distinct mechanisms of actions and unique toxicities and efficacies have become available for clinical use. The focus of this review is to give a summary of clinical perspectives of the indications, including pros and cons of the currently approved regimens. The next generation of novel targets and agents is also highlighted.The Sirtuin family of proteins (SIRT) encode a group of evolutionarily conserved, NAD-dependent histone deacetylases, involved in many biological pathways. SIRT1, the human homologue of the yeast Silent Information Regulator 2 (Sir2) gene, deacetylates histones, p300, p53, and the androgen receptor. Autophagy is required for the degradation of damaged organelles and long-lived proteins, as well as for the development of glands such as the breast and prostate. Herein, homozygous deletion of the Sirt1 gene in mice resulted in prostatic intraepithelial neoplasia (PIN) associated with reduced autophagy. Genome-wide gene expression analysis of Sirt1(-/-) prostates demonstrated that endogenous Sirt1 repressed androgen responsive gene expression and induced autophagy in the prostate. Sirt1 induction of autophagy occurred at the level of autophagosome maturation and completion in cultured prostate cancer cells. These studies provide novel evidence for a checkpoint function of Sirt1 in the development of PIN and further highlight a role for SIRT1 as a tumor suppressor in the prostate.Objectives: Improvements in quality of life (QoL) and disease-related symptoms are key goals in the treatment of hormone refractory prostate cancer (HRPC). Our aim was to evaluate the impact of gefitinib on QoL of patients with HRPC.Background: Although several previous case-control studies have investigated associations between sexually transmitted infections (STI) and prostate cancer, most have focused on gonorrhea and syphilis, two well-recognized, symptomatic STIs. Another STI of interest for prostate carcinogenesis is trichomonosis, a less well recognized and frequently asymptomatic STI with known prostate involvement. We investigated this infection in relation to incident prostate cancer in a nested case-control study within the Health Professionals Follow-up Study.Background: Patients with localized prostate cancer (PCa) experience biochemical recurrence (BCR) despite a curatively intended radical prostatectomy (RP). The aim of this study was to describe the quality of life (QoL) of patients with a BCR while identifying predictors of early (ER) and late recurrence (LR).Purpose of review: Androgen deprivation therapy is a cornerstone in the treatment of advanced prostate cancer and has extended the lives of countless patients. Unfortunately, many of these patients eventually succumb to metastatic castration-resistant prostate cancer (mCRPC). The efficacy of abiraterone acetate (AA, Zytiga) and enzalutamide (Enza, Xtandi) in the mCRPC setting prove that these tumors remain androgen-driven. We review recent studies that have shown that intratumoral androgen biosynthesis plays a significant role in the ever-evolving mCRPC tumor and we discuss the therapeutic implications of these findings.Of 447 patients who underwent radical perineal prostatectomy and were examined during the 54 years of study only those with a 1 to 2 cm. nodule within an otherwise clinically normal prostate have, on the average, done well. When the current staging segregation has been used, these cases were labeled B1 or occasionally B1n, and were nearly always grade 1 or 2, although 77 per cent were diffuse microscopically within the gland. No patient with a grade 3 cancer has lived 15 years free of disease. Biopsy is mandatory for diagnosis and for eliminating grade 3 cancer. The immunochemical determination of prostatic acid phosphatase in the bone marrow, not used in these reported cases, may prove to be the most sensitive test for otherwise unrecognized osseous metastases. So far no non-invasive test is infallible in detecting micrometastases in lymph nodes but these are rare when the tumor is a 1 to 2 cm. nodule. In such

cases the operation, so far, provides a 15-year survivorship better than that of any other modality.Research indicates that cancer-related health problems persist for decades among survivors. The combination of late effects of cancer or its treatment and age-related health problems may add to the vulnerability of older survivors. This research reports on the health and functioning of a sample of long-term (5+ years), older-adult (>60 years) survivors of breast, prostate, and colorectal cancer. Data were derived from 321 in-person interviews with a sample randomly selected from a tumor registry at a comprehensive cancer center. Descriptive data analyzed comorbid health conditions and continued cancer symptoms reported by survivors. Correlational analysis examined the association among demographic cancer-related factors and a range of health quality-of-life outcomes, including functioning and illness impact. Nearly 40% of respondents have at least 1 symptom attributed to cancer/treatment. Pain was the most commonly reported symptom, with 21% attributing it to cancer. More than 40% of breast cancer survivors and nearly 20% of prostate cancer survivors reported pain. Being African American or female was significantly associated with more current symptoms and greater functional difficulty. Survivors who had chemotherapy and survivors with more types of treatment reported significantly more symptoms both during treatment and currently. Many older-adult survivors are more vulnerable due to both cancer-related symptoms and comorbid health conditions. Women and African Americans are at special risk. This combined vulnerability is an important factor for clinicians treating long-term survivors.Background: In the past years, there has been significant progress in anticancer drug development for patients with metastatic castration-resistant prostate cancer (CRPC). However, the current instruments to assess clinical treatment response have limitations and may not sufficiently reflect patient benefit. Our objective was to systematically identify tools to evaluate both patient benefit and clinical anticancer-treatment response as basis for an international consensus process and development of a specific pragmatic instrument for men with CRPC.Background: Understanding factors that impact patient satisfaction with cancer care within the growing population of older adults living with cancer will contribute to tailoring programs that address patient needs and expectations. Further, patient satisfaction is a determinant of healthcare organizations' institutional performance. The purpose of this study was to investigate the relationship between patient satisfaction with care and health-related quality of life (HRQoL) among Medicare recipients with common cancers types (breast, prostate, or lung cancer).Elimination kinetics of serum total and free prostate-specific antigen were studied for a ten days course after radical retropubic prostatectomy on 11 patients suffering from organ confined prostate cancer. Samples were taken before operation, immediately after finishing the operation and 1, 2, 3, 4, 5, 6 h after prostatectomy and then once a day for the following ten days. The measurements were performed with AxSym assays from Abbott Laboratories. The elimination of both total and free prostate-specific antigen followed a biphasic kinetics. In the fast phase, the average of the individual elimination half-lives of total and free prostate-specific antigen amounted to 6.3 h (SD = 6.1 h; range: 0.55 to 37.1 h) and 0.57 h (SD = 0.18 h; range: 0.22 to 0.89 h), respectively. In the slow phase, total prostate-specific antigen disappeared with an average half-life of 85.6 h (SD = 11 h; range: 47.2 to 261.7 h) and free prostate-specific antigen with an average half-life of 14.4 h (SD = 10.4 h; range: 2.4 to 30.3 h). These results might be significant for the use of free and total prostate-specific antigen and its ratio as a diagnostic and prognostic tool.Combination chemotherapy with Adriamycin and cyclophosphamide was administered to 22 men with progressive tumor following hormonal treatment for metastatic carcinoma of the prostate. Objective partial response was documented in 7 patients (32%); an additional four (18%) had stable disease for a minimum of four months, and 11 (50%) were non-responders. Patients with partial response had a median survival of 14 months and lived significantly longer than those with no response (median five months); survival of men with stable disease approximated that of partial responders. Serial utilization of multiple staging procedures during chemotherapy demonstrated that although no single test allowed identification of all patients with objective tumor response or progression, improvement in median of five parameters could be documented in responding patients. In patients adequately studied at the time of disease progression, deterioration in a median of six tests was found. Serum acid phosphatase radionuclide bone scan, and plasma carcinoembryonic antigen were the most sensitive procedures which detected both objective tumor response and progression. Toxicity of chemotherapy was acceptable except in patients with prior radiation therapy. Administration of Adriamycin and cyclophosphamide was associated with clinical benefit in half of our patients with hormone-resistant prostatic cancer. Tumor response and progression can best be objectively assessed if several staging procedures are serially employed during treatment.Background: Chemotherapy regimens that target microtubular trafficking were repeatedly found to be active in the treatment of hormone refractory prostate cancer patients, but disease

responses were reportedly short-lived on average.Objective: The aim of this study was to determine employment outcomes after radiotherapy (RT) for prostate cancer (PCa).Importance: Guidelines endorsing vegetable-enriched diets to improve outcomes for prostate cancer survivors are based on expert opinion, preclinical studies, and observational data.Three-dimensional (3D) cell cultures allow the mimic of functions of living tissues andprovide key information encoded in tissue architecture. Considered the pivotal role of epithelial-tomesenchymaltransition (EMT) in carcinoma progression, including prostate cancer (PCa), weaimed at investigating the effect of the 3D arrangement on the expression of some key markers ofEMT in cultured human prostate cancer (PCa) cells, to better understand PCa cell behavior. PC3 andDU145 PCa cells were cultured in RPMI cell culture medium either in 2D-monolayers or in 3Dspheroids.The main EMT markers E-cadherin, N-cadherin, α-smooth muscle actin (αSMA),vimentin, Snail, Slug, Twist and Zeb1 were evaluated by confocal microscopy, real-time PCR andWestern blot. Confocal microscopy revealed that E-cadherin was similarly expressed at the cellboundaries on the plasma membrane of PCa cells grown in 2D-monolayers, as well as in 3Dspheroids,but resulted up-regulated in 3D-spheroids, compared to 2D-monolayers, at the mRNAand protein level. Moreover, markers of the mesenchymal phenotype were expressed at very lowlevels in 3D-spheroids, suggesting important differences in the phenotype of PCa cells grown in 3Dspheroidsor in 2D-monolayers. Considered as a whole, our findings contribute to a clarification ofthe role of EMT in PCa and confirm that a 3D cell culture model could provide deeper insight intothe understanding of the biology of PCa.Objective: To test the hypothesis that the screening-detected prevalence of prostate cancer is higher among men of African descent than among men of Asian-Indian descent living in Trinidad & Tobago.Background: Low prostate cancer incidence and high soy intake in Asian countries suggest a possible protective effect of soy foods against prostate cancer. The goal of this pilot study was to evaluate the feasibility of a randomized, crossover soy trial among men and to investigate the effects of daily soy intake on serum prostate-specific antigen (PSA) and testosterone levels.Background: The most appropriate treatment for men with prostate cancer and positive pelvic nodes, N+, is an area of active controversy. We report our 5-years outcomes in men with locally advanced prostate cancer (T1-T4N0-N1M0) treated with definitive radiotherapy encompassing the prostate and pelvic lymph nodes (intensity modulated radiotherapy, IMRT) and long-term androgen deprivation therapy (ADT).This study investigated differences in physical functioning and physical role limitations according to cancer site and treatment modality in a sample of 590 patients 65 years and older diagnosed with breast, colon, lung or prostate cancer. Analysis of covariance procedures were utilised to test for differences in levels of physical functioning and physical role limitations according to cancer site and treatment modality, adjusting for differences in age, comorbid conditions and retrospective physical functioning. Physical functioning and physical role limitations were measured using two subscales of the Medical Outcomes Studies MOS 36-item Short Form Health Survey (SF-36). Physical functioning prior to diagnosis, and to a lesser degree comorbidity, contributed significantly to current levels of physical functioning and physical role limitations. Patients with lung cancer reported lower physical functioning and physical role limitation scores than patients with prostate cancer, and patients treated with surgery only reported lower physical functioning and physical role limitation scores than patients treated with neither surgery nor radiation. No gender differences were observed among the reduced sample consisting of patients with colon or lung cancer. It is important not only that physicians and oncologists are cognizant of the fact that some cancers (particularly lung cancer) may be more physically debilitating than others, but that the patient's history of comorbid conditions and pre-existing physical limitations may be important factors in predicting current physical functioning.Background: Large-scale prostate cancer (PCa) database reviews have found a consistent discrepancy in the mortality rate in Black patients compared to their White counterparts. Furthermore, differences in PCa treatment and outcomes among Black men of different ethnic origins have also been identified. Due to the heterogeneity of PCa-impacted communities and the unclear impact of patient immigration status on treatment outcomes, we sought to determine the demographic factors associated with treatment choice for definitive treatment of PCa in our single institution's patient population of Black immigrants.Prostate cancer predominantly affects older men, with a median age at diagnosis of 68 years. Due to the increased life expectancy, management of prostate cancer in senior adults (aged >70 years) represents a major public health problem. This patient population may not receive optimal therapy for their disease, if decisions are made based on their chronological age alone. More so than age alone, health status is a major factor affecting individual life expectancy. Comorbidity is the key predictor of health status and should weigh more heavily on the treatment decision than age alone. Other important parameters to consider in senior

adults are the degree of dependence in activities of daily living, the nutritional status and the presence or not of a geriatric syndrome. Although clinical trials are rarely designed specifically for senior adults, evidence suggests that healthy senior adults have similar treatment outcomes to their younger counterparts. The urological approach in senior adults with advanced prostate cancer should be fundamentally the same as in younger patients. In hormone-sensitive metastatic prostate cancer, androgen deprivation represents the first-line treatment. In senior adults, care should be given to the increased risk of metabolic syndrome, cardiovascular mortality and bone fracture. In hormone-refractory metastatic prostate cancer, chemotherapy with docetaxel (75 mg/m(2) every 3 weeks) plus low-dose prednisone is the standard and shows the same efficacy in healthy senior adults as in younger patients. The tolerance of docetaxel (3-weekly schedule) has not been specifically studied in vulnerable and frail senior adults. The place of weekly docetaxel in this setting should be further evaluated. Palliative treatments (palliative surgery, radiopharmaceutics, radiotherapy, medical treatments for pain and symptoms, pharmacological palliative therapies) should also be integrated in the global management of these patients. In conclusion, treatment decisions in senior adults should be adapted to health status. Healthy senior adults should be treated the same as younger patients. The development of guidelines for the management of localized and advanced prostate cancer in senior adults is underway.Objective: We aimed to assess the long-term association of therapeutic strategies with urinary, sexual function and health-related quality of life (HR-QoL) for 5-year prostate cancer (PC) survivors. Materials & methods: The VICAN survey consisted of self-reported data prospectively collected, including living conditions, treatment side effects and quality of life (QoL) of cancer survivors. Results: Among the 434 PC survivors, 52.8% reported urinary incontinence (UI) and 55.8% reported erectile dysfunction (ED). Patients treated with radical prostatectomy with salvage radiotherapy reported significantly more UI ($p = 0.014$) and more ED ($p = 0.012$) compared with other strategies. UI was significantly associated with physical and mental health-related QoL ($p = 0.045$ and $p = 0.049$, respectively). Conclusion: Self-assessed functional outcomes 5 years after PC diagnosis remain poor and could have an impact on health-related QoL.Age-adjusted rates of mortality from prostate cancer during 1950-69 were correlated by race with demographic, industrial, and agricultural data from 3,056 U.S. countries. Mortality among nonwhites was 50% higher than that among whites in all parts of the country where blacks comprise most of the nonwhite population. The rising rate associated with population density among nonwhites, but not whites, suggested that environmental exposures related to urban living may account for the predisposition of American blacks to prostate cancer. Despite a clustering of counties with elevated mortality in certain North Central and Northeastern States, the geographic variation among whites with prostate tumors was considerably less than that among whites with other tumors. Mortality was elevated in counties with a high percentage of residents of Scandinavian descent, in counties with metal-using and textile industries, and in regions with high consumption of high-fat foods.Increasing evidence suggests that Human epidermal growth factor receptor 2 (HER2/neu) is involved in progression of prostate cancer. Recently, sarcosine was reported to be highly increased during prostate cancer progression, and exogenous sarcosine induces an invasive phenotype in benign prostate epithelial cells. The aim of this work was to investigate the effect of sarcosine on HER2/neu expression in prostate cancer cell lines LNCaP (androgen dependent), PC-3 and DU145 (both androgen independent). Relative amounts of HER2/neu and androgen receptor (AR) transcripts were determined using RT-qPCR. Total expression of HER2/neu was confirmed by Western blot (WB). HER2/neu protein on the surface of living LNCaP cells was visualized by confocal microscopy using a HER2/neu-specific fluorescent probe. Exposure of LNCaP cells to 50 μM sarcosine for 24 h resulted in a 58% increase of the HER2/neu mRNA level ($P < 0.001$) indicating that sarcosine effects HER2/neu expression on the level of transcription. Control experiments with alanine, an isomer of sarcosine, showed no significant effect on HER2/neu transcription. The upregulation of HER2/neu mRNA preceded the corresponding increment of the protein level after the 48-h exposure to sarcosine as shown by WB and confocal microscopy. Interestingly, sarcosine had no effect on the activated (phosphorylated) form of HER2/neu. No significant change in AR expression was observed after exposure to sarcosine. This is the first report indicating that sarcosine is involved in the regulation of the oncoprotein HER2/neu. Thus, sarcosine may induce prostate cancer progression by increased HER2/neu expression. However, detailed information on cellular mechanisms remains to be elucidated.Nanomechanical properties of living cells, as measured with atomic force microscopy (AFM), are increasingly recognized as criteria that differentiate normal and pathologically altered cells. Locally measured cell elastic properties, described by the parameter known as Young's modulus, are currently proposed as a new diagnostic parameter that can be used at the early stage of cancer detection. In this

study, local mechanical properties of normal human prostate (RWPE-1) cells and a range of malignant (22Rv1) and metastatic prostate cells (LNCaP, Du145 and PC3) were investigated. It was found that non-malignant prostate cells are stiffer than cancer cells while the metastatic cells are much softer than malignant cells from the primary tumor site. Next, the biochemical properties of the cells were measured using confocal Raman (RS) and Fourier-transform infrared (FT-IR) spectroscopies to reveal these cells' biochemical composition as malignant transformation proceeds. Nanomechanical and biochemical profiles of five different prostate cell lines were subsequently analyzed using partial least squares regression (PLSR) in order to identify which spectral features of the RS and FT-IR spectra correlate with the cell's elastic properties. The PLSR-based model could predict Young's modulus values based on both RS and FT-IR spectral information. These outcomes show not only that AFM, RS and FT-IR techniques can be used for discrimination between normal and cancer cells, but also that a linear correlation between mechanical response and biomolecular composition of the cells that undergo malignant transformation can be found. This knowledge broadens our understanding of how prostate cancer cells evolve thorough the multistep process of tumor pathogenesis.Purpose: This study aims to explore how agency is constructed in everyday life with cancer in relation to daily activities and habits. Agency is approached as a key element of daily life existence, and it is constructed in terms of ''acting in the world'', self-behaviour, changing routines, identity expectations and life course.Methods: The study is based on a social constructionist approach and the data of 32 participants were gathered through a public call for narratives on ''everyday life with breast and prostate cancer'' in Finland in 2009. The analysis was conducted by utilizing a discursive research approach and coding.Results: Three categories of agency were identified: stable-where agency continues fluently after cancer; fragile-where the ability to take care of daily activities has deteriorated; and recreated-where living with cancer adapts or creates a new basis for daily living.Conclusions: The findings of the study suggest that everyday life activities and habits define and (de)construct agency, and that these constructions are tightly linked to the ill person's overall life situation, physical abilities and cultural context. Having cancer can create new challenges to agency in daily life but does not suppress agency.Objective: Many older adults (aged 75+) continue cancer screening despite guidelines suggesting they should not. Using mixed-methods, we examined psychosocial and clinical factors associated with continued breast/prostate screening.During the past decade, molecularly targeted drugs have had a transformative impact on the treatment of several cancer types. Although the clinical benefits of these drugs are impressive, their effects are generally short-lived due to the acquisition of resistance. Unlike most cytotoxic agents, for which resistance mechanisms have remained obscure despite decades of clinical use, an understanding of the molecular basis of resistance to most targeted agents has emerged quickly. This rapid progress has been possible due to advances in molecular technologies that allow genome-wide profiling of patient samples. One important and consistent theme is that resistance is almost invariably associated with restoration of the signaling pathway inhibited by the targeted agent. Here I review examples from three diseases--chronic myeloid leukemia, prostate cancer, and lung cancer--that illustrate these points and reveal how insights into resistance mechanisms can rapidly accelerate the development of second-generation targeted therapies or combination regimens to improve patient outcome.Between 1987 and 1991, 269 patients with clinical stage T1 or T2, N0 or Nx adenocarcinoma of the prostate underwent external beam radiation therapy as the sole initial treatment and were followed with serial prostate specific antigen (PSA) levels for 9 to 73 months (mean 33, median 30). Of the patients 26 had clinical evidence of disease relapse, 58 had an increasing PSA profile and 62 had either relapse or an increasing PSA. The actuarial incidence of increasing PSA was 30% at 5 years and the incidence of relapse or increasing PSA was 36% at the same time. With relapse or increasing PSA level as an end point, pretreatment PSA level, Gleason grade and serum prostatic acid phosphatase level were individually significant covariates. However, in multivariate analysis only pretreatment PSA level was significant. The 5-year actuarial rates of relapse or increasing PSA according to pretreatment PSA level were 4 ng./ml. or less-14%, greater than 4 to 10 ng./ml.-33%, greater than 10 to 30 ng./ml.-55% and greater than 30 ng./ml.-greater than 80%. Post-irradiation PSA levels at 3 and 6 months provided prognostic information additional to that inherent before treatment. However, the nadir PSA value, achieved typically at 6 to 12 months, was the most significant aspect of posttreatment PSA. Patients with a nadir PSA level of less than 1 ng./ml. fared well, with a 12% incidence of relapse or increasing PSA at 5 years. Nadir values exceeding 1 ng./ml. were associated with an increasing relapse rate as the nadir value increased, and nearly two-thirds of the cases in which the nadir exceeded 4 ng./ml. failed by 2 years. When increasing PSA was used as an end point additional to relapse, the outcome in this series was significantly worse than in an earlier series evaluated without

PSA. Comparing these 2 series resulted in an estimate that PSA begins to increase approximately 4 to 5 years before the appearance of clinically overt disease. These results reveal the high significance of pretreatment PSA levels, significance of nadir PSA values after treatment, earlier detection of persistent disease by the increasing PSA profile, and the fact that total and permanent eradication of localized prostate cancer is considerably more difficult than traditionally believed. The therapeutic implications of this series, and the implications on the quantity and quality of patient lives await prospective study.In this report, genetic polymorphism of phase I and II metabolic enzyme (CYP2E1, CYP17, GSTM1 and GSTT1) genes, living habits, and risk of prostate cancer (PCa) was studied in 163 patients with prostate carcinoma of Han nationality in Southern China and 202 age-matched controls. The genotypic polymorphism of CYP2E1, CYP17, GSTM1 and GSTT1 genes was analyzed by PCR-RFLP assay using genomic DNA isolated from peripheral blood lymphocytes. The significant risk factors for PCa included long-term exposure to toxicant (OR=2.27, 95%CI: 1.26-4.09), the tumor history of lineal consanguinity (OR=2.19, 95%CI: 1.30-3.67), sexual history before age 30 of no more than 8 times per month (OR=1.85, 95%CI: 1.22-2.81), deep inhalation of cigarette smoke (OR=2.01, 95%CI: 1.20-3.37) or heavy smoking (OR=1.67,95%CI: 1.01-2.76). Among individuals with long-term heavy smoking without tea-drinking habit, the risk increased significantly (OR=4.27, 95%CI: 1.62-11.24 and OR), 2.76, 95%CI: 1.20-6.32). CYP2E1 C1/C1 genotype significantly increased the risk for PCa (OR=1.61, 95%CI: 1.04-2.49) with an apparent interaction with alcohol (OR=2.07, 95%CI: 1.07-4.00). However, stratification by the amount of accumulative smoking revealed that among people with a heavy smoking history, the individuals with the CYP2E1 C1/C1 genotype (OR=2.55, 95%CI: 1.20-5.43) and the individuals with GSTT1 null genotype (OR=2.23, 95%CI: 1.09-4.57) showed a significantly increased risk. Any other significant results with GSTM1 or CYP17 genes were not observed in this research. Individuals with more sensitive genotypes (from one to four) were at an increased risk. The data show that, in the development of PCa, there are many interactions among predisposing genotypes and genetic polymorphisms and unhealthy living habits. Individuals with more susceptible genotypes and unhealthy habits such as prolonged exposure to smoking are at an increased risk.Purpose: The research study purpose was to describe the personal attitudes and beliefs of rural African American men related to prostate cancer and screening.Background: The objective was to analyze the association between neighborhood deprivation and prostate cancer mortality, after adjusting for individual characteristics.Communication networks contribute to health-related quality of life (HRQOL) for men living with prostate cancer. However, the mechanisms for understanding how communication networks shape HRQOL are not well understood. The purpose of this study was to test three models explaining the communication networks and related communication variables for HRQOL. A total of 214 men with prostate cancer in New Zealand completed a survey questionnaire describing aspects of their networks including opportunities for connection, social support/undermining, status disclosure, communication efficacy, and HRQOL. The findings support a mediating model of communication networks where social undermining has a direct and negative impact on HRQOL, and an indirect effect mediated through communication efficacy, which has a direct and positive impact on HRQOL. Contrary to previous studies, social support and disclosure did not significantly impact HRQOL in this sample. The benefits of developing communication efficacy and reducing social undermining for enhancing long-term psychosocial health in this cohort of men are two key findings.Autophagy is one of the main cytoprotective mechanisms that cancer cells deploy to withstand the cytotoxic stress and survive the lethal damage induced by anti-cancer drugs. However, under specific conditions, autophagy may, directly or indirectly, induce cell death. In our study, treatment of the Atg5-deficient DU145 prostate cancer cells, with the multi-tyrosine kinase inhibitor, sorafenib, induces mitochondrial damage, autophagy and cell death. Molecular inhibition of autophagy by silencing ULK1 and Beclin1 rescues DU145 cells from cell death indicating that, in this setting, autophagy promotes cell death. Re-expression of Atg5 restores the lipidation of LC3 and rescues DU145 and MEF atg5-/- cells from sorafenib-induced cell death. Despite the lack of Atg5 expression and LC3 lipidation, DU145 cells form autophagosomes as demonstrated by transmission and immuno-electron microscopy, and the formation of LC3 positive foci. However, the lack of cellular content in the autophagosomes, the accumulation of long-lived proteins, the presence of GFP-RFP-LC3 positive foci and the accumulated p62 protein levels indicate that these autophagosomes may not be fully functional. DU145 cells treated with sorafenib undergo a caspase-independent cell death that is inhibited by the RIPK1 inhibitor, necrostatin-1. Furthermore, treatment with sorafenib induces the interaction of RIPK1 with p62, as demonstrated by immunoprecipitation and a proximity ligation assay. Silencing of p62 decreases the RIPK1 protein levels and renders necrostatin-1 ineffective in blocking sorafenib-induced cell death. In

summary, the formation of Atg5-deficient autophagosomes in response to sorafenib promotes the interaction of p62 with RIPK leading to cell death by necroptosis.Objective: To explore ongoing symptoms, unmet needs, psychological wellbeing, self-efficacy and overall health status in survivors of prostate cancer.Background: With medical advances since the 1990s, a growing proportion of patients are living for many years with prostate cancer (PCA) and the consequences of its treatment.Background: A cancer diagnosis can impact patients' and caregivers' lives, posing different challenging situations. In particular, breast cancer and prostate cancer are two types of cancer involving families and especially spouses in challenges linked with the diagnosis and treatment process. Caregivers are usually involved in the treatment decision-making (TDM) process concerning patients' clinical pathway, cancer treatment, and ongoing therapies. To date, no contributions provide an exhaustive overview of the role of caregivers in cancer care and their involvement in the TDM process related to the therapies.It is hypothesised that seemingly disparate and unrelated phenomena clustering in persons of African descent living in the Americas such as outstanding sprinting ability and high prostate cancer incidence and mortality are in fact related and emerge from enhanced testosterone responsiveness in descendants of African slaves surviving the transatlantic trade in Africans. It is postulated that the ability to have survived the middle passage was positively correlated with greater responsiveness of the androgen receptor to its primary ligands dihydrotestosterone and testosterone, and that slaves possessing more responsive androgen receptors experienced a survival advantage engendered by the enhanced anabolic effects which accrued such as increased red cell mass and therefore greater oxygen carrying capacity and tissue oxygen delivery enabling these slaves to tolerate stifling conditions in the hull of the slave ship, increased lean muscle mass and therefore greater surface area to volume ratio resulting in easier ability to dissipate heat and remain cool, and increased skin thickness and sebum production resisting the macerating effect of lying in admixed bodily fluids below deck. These androgen effects as well as others would have produced a survival advantage under the severe selection pressure created by the inhumane and physiologically challenging circumstances under which the slaves were transported from the interior of the African continent and West Africa to the 'New World'. This would result in a population shift favouring increased androgen receptor responsiveness in descendants of African slaves populating the Americas and a corresponding geographic and racial distribution of androgen related phenomena such as sprinting prowess and prostate cancer. African-Americans having the highest prostate cancer incidence rate and the Caribbean having the highest prostate cancer mortality rates in the world are consistent with this hypothesis as is the observation that the 10 fastest men and 9 fastest women of all time are exclusively the descendants of West African slaves who survived the middle passage. It is predicted that as yet undiscovered as well as known biological correlates of enhanced androgen receptor responsiveness such as relatively short CAG-repeats in the poly Q tail of exon 1 of the androgen receptor gene will be more prevalent among African-Americans and Afro-Caribbean peoples than among West Africans. It is also predicted that African-Americans and Afro-Caribbean peoples will have relatively shorter CAG-repeats in the androgen receptor gene compared to West Africans.The androgen receptor (AR) signalling pathway remains a key driver of prostate cancer progression despite castrate levels of testosterone in advanced disease. The androgen biosynthesis inhibitor abiraterone and the anti-androgen enzalutamide have been shown to prolong survival in randomized clinical trials both pre-and post-docetaxel chemotherapy and are now in routine clinical use. With the use of these drugs and other novel survival-prolonging therapeutics, patients with advanced prostate cancer are now living longer with better quality of life. This article will review pre-clinical and clinical data for AR-targeting therapeutics for advanced prostate cancer with a focus on mechanisms of resistance and future directions for research.Background: Ghrelin (GHRL) is a polypeptide that can specifically bind to the growth hormone secretagogue receptor (GHSR). The expression of GHSR is significantly different in normal and prostate cancer (PC) tissues in humans. It is important to find an effective diagnostic method for the diagnosis and prognosis of invasive PC/neuroendocrine prostate cancer (NEPC).Prostate cancer is the second leading cause of cancer deaths among U.S. men. Early detection is associated with drastically improved 5-year survival rates. It is unclear, however, what psychosocial factors motivate or discourage men from taking advantage of both prostate-specific antigen (PSA) testing and digital rectal examination (DRE). The goal of the current study was to identify psychosocial factors that influence screening behavior for prostate cancer in a cohort of 2,447 men. In 1990, a randomly selected cohort of Caucasian men, ages 40 to 79 years, from Olmsted County, Minnesota, were enrolled in the study. These men completed a questionnaire containing queries on family history of prostate cancer, concern about getting prostate cancer, and marital status. Medical

and laboratory records were reviewed to determine the number DREs (1989-1996) and PSA tests (1989-1998). Frequent screening was defined as the upper 25th percentile for number of DREs (>4) or PSAs (>3). Men who have a family history and men who worry or have concern about prostate cancer were more likely [odds ratio (OR), 1.5; 95% confidence interval (95% CI), 1.2-2.0 and OR, 1.9; 95% CI, 1.4-2.5] to seek screening compared with those without a family history or worry. The association between family history and frequent screening was similar in men who were married or living with someone (OR, 1.7; 95% CI, 1.2-2.2); however, it was reduced among men who live alone (OR, 0.6; 95% CI, 0.2-1.8). These data suggest that psychosocial factors such as family history, worry, or concern about prostate cancer and marital status may play an important role in men's decisions about prostate cancer screening.Prostate cancer is one of the leading causes of cancer-related mortality among men living in developed countries, making the development of safe, practical approaches to prostate cancer risk reduction a high research priority. The relationship between prostate cancer risk and selenium, an essential nutrient required for a number of metabolically important enzymes including glutathione peroxidases, has been investigated, but a satisfactory integration of results has proven elusive. Dogs, like men, naturally develop prostate cancer during aging, providing an appropriate context to study the effects of selenium supplementation on the dysregulation of homeostasis that drives cancer development within the aging prostate. In this paper, we summarize the translational significance of research results gained from dog studies on selenium and prostate cancer risk. Our discovery of a U-shaped dose-response between toenail selenium concentration and prostatic DNA damage in dogs remarkably parallels data on the relationship between selenium status and prostate cancer risk in men. Notably, the dog U-curve provides a plausible explanation for the unanticipated increase in prostate cancer incidence among men with highest baseline selenium who received selenium supplementation in the largest-ever prostate cancer prevention trial (SELECT). Moreover, the dog U-curve guided the discovery of a non-antioxidant, anti-carcinogenic mechanism of organic selenium - the preferential triggering of apoptosis in DNA damaged cells, which we have termed "homeostatic housecleaning". Taken together, the data from dogs and men indicate that increasing selenium status will not necessarily be associated with prostate cancer risk reduction. Landing in the trough of the U - achieving mid-range selenium status - is better than being too low or too high. Personalizing health promotion in a more-is-not-necessarily-better world poses distinctive challenges. Dog studies can be relied upon to contribute important insights into dose-dependent and form-dependent effects - two critical aspects of selenium biology that will have to be disentangled if the burgeoning science of selenium is to be translated into effective strategies for human disease prevention. Beyond contributing to understanding the role of selenium in biology, our work situates the concept of U-shaped thinking at the core of personalized medicine and precision nutrition.Androgen ablation and chemotherapy provide effective palliation for most patients with advanced prostate cancer, but eventually progressing androgen-independent prostate cancer threatens the lives of patients usually within a few years, mandating improvement in therapy. Proteasome inhibition has been proposed as a therapy target for the treatment of solid and hematological malignancies. The proteasome is a ubiquitous enzyme complex that is a hub for the regulation of many intracellular regulatory pathways; because of its essential function, this enzyme has become a new target for cancer treatment. Studies with bortezomib (VELCADE, formerly known as PS-341) and other proteasome inhibitors indicate that cancer cells are especially dependent on the proteasome for survival, and several mechanisms used by prostate cancer cells require proteasome function. Bortezomib has been studied extensively in vitro and in vivo, and anticancer activity has been seen in cell and animal models for several solid tumor types, including prostate cancer. A Phase I trial to determine the maximum tolerated dose of once-weekly bortezomib has been completed. This trial included a large fraction of patients with androgen-independent prostate cancer. The maximum tolerated dose was reached at 1.6 mg/m(2). A correlation was seen among bortezomib dose, proteasome inhibition, and positive modulation of serum prostate-specific antigen. There was also evidence of down-regulation of serum interleukin 6, a downstream nuclear factor kappaB effector. This Phase I trial and preclinical studies support additional testing of bortezomib in combination with radiation or chemotherapy for androgen-independent prostate cancer.Large numbers of Australian men are diagnosed and treated for prostate cancer each year. The incidence is exceeding mortality, and men are living longer with prostate cancer and the common treatment[s] side effect of impotence. Despite these epidemiological trends there is little research about men's experiences of impotence following treatment. An ethnographic study of Anglo-Australian men with localized prostate cancer explored participants' experiences of impotence following prostatectomy. In-depth semi-structured interviews with 15 men

were analyzed using a social constructionist gendered framework. In particular, the effect of impotence on participants' masculinity, sexuality and intimate relationships was explored. The findings show that participants rationalized forgoing potency prior to surgery as a way of living longer. However, diverse complex reactions accompanied impotence. Whilst most participants redefined masculine ideals of phallocentric sex, the way in which this occurred varied greatly. The findings disrupt essentialist constructions of male sexuality and impotence, and provide valuable insight for clinical practice.Purpose: We examined prostate cancer patients' participation in research and associated factors by race/ethnicity in a multiethnic sample.Objectives: To investigate whether patient-reported urinary incontinence (UI) and bother scores after radical prostatectomy (RP) result in subsequent intervention with UI surgery.Background: Androgen deprivation therapy (ADT) remains the leading systemic therapy for locally advanced and metastatic prostate cancers (PCa). While a majority of PCa patients initially respond to ADT, the durability of response is variable and most patients will eventually develop incurable castration-resistant prostate cancer (CRPC). Our research objective is to identify potential early driver genes responsible for CRPC development.Prostate cancer is the most commonly diagnosed malignancy in men, claiming over350,000 lives worldwide annually. Current diagnosis relies on prostate-specific antigen (PSA)testing, but this misses some aggressive tumours, and leads to the overtreatment of non-harmfuldisease. Hence, there is an urgent unmet clinical need to identify new diagnostic and prognosticbiomarkers. As prostate cancer is a heterogeneous and multifocal disease, it is likely that multiplebiomarkers will be needed to guide clinical decisions. Fluid-based biomarkers would be ideal, andattention is now turning to minimally invasive liquid biopsies, which enable the analysis oftumour components in patient blood or urine. Effective diagnostics using liquid biopsies willrequire a multifaceted approach, and a recent high-profile review discussed combining multipleanalytes, including changes to the tumour transcriptome, epigenome, proteome, and metabolome.However, the concentration on genomics-based paramaters for analysing liquid biopsies ispotentially missing a goldmine. Glycans have shown huge promise as disease biomarkers, anddata suggests that integrating biomarkers across multi-omic platforms (including changes to theglycome) can improve the stratification of patients with prostate cancer. A wide range ofalterations to glycans have been observed in prostate cancer, including changes to PSAglycosylation, increased sialylation and core fucosylation, increased O-GlcNacylation, theemergence of cryptic and branched N-glyans, and changes to galectins and proteoglycans. In thisreview, we discuss the huge potential to exploit glycans as diagnostic and prognostic biomarkersfor prostate cancer, and argue that the inclusion of glycans in a multi-analyte liquid biopsy test forprostate cancer will help maximise clinical utility.Poly-ADP-ribose polymerases (PARPs) are enzymes that catalyze ADP-ribosylation and play critical roles in normal and disease settings. The PARP family member, PARP7, is a mono-ADP-ribosyltransferase that has been suggested to play a tumor suppressive role in breast, ovarian, and colorectal cancer. Here, we have investigated how androgen signaling regulates PARP7 homeostasis in prostate cancer cells, where PARP7 is a direct target gene of AR. We found that the PARP7 protein is extremely short-lived, with a half-life of 4.5 min. We show that in addition to its transcriptional regulation by AR, PARP7 is subject to androgen-dependent post-transcriptional regulation that increases its half-life to 25.6 min. This contrasts with PARP1, PARP2, PARP9, and PARP14, which do not display rapid turnover and are not regulated by androgen signaling. Androgen- and AR-dependent stabilization of PARP7 leads to accumulation in the nucleus, which we suggest is a major site of action. Mutations in the catalytic domain, the Cys3His1 zinc finger, and WWE (tryptophan-tryptophan-glutamate) domains in PARP7 each reduce the degradation rate of PARP7, suggesting the overall structure of the protein is tuned for its rapid turnover. Our finding that PARP7 is regulated by AR signaling both transcriptionally and post-transcriptionally in prostate cancer cells suggests the dosage of PARP7 protein is subject to tight regulation.Purpose of review: Although prostate-specific antigen testing and prostate cancer treatment undoubtedly saves lives, there are growing concerns regarding overtreatment. There has also been a shift toward less invasive approaches to prostate cancer, including cryotherapy. Cryotherapy has undergone considerable change. It is important for clinicians to be aware of the evidence to support its use.Research concerning gay and bisexual men diagnosed with prostate cancer is sparse. An online focus group was conducted over a 4-week period with participants responding to a range of discussion questions concerning their experiences following a prostate cancer diagnosis. Emerging themes were identified and consensus reached. A summary of each of the themes was produced which the coders agreed conveyed the essence of the online discussion. All men who took part in the online focus group reported that prostate cancer significantly impacted their lives. Unexpectedly, some participants actually gained a positive

perspective and adopted a sense of empowerment. Participants spoke about emotional responses to a diagnosis of prostate cancer, accessing help and support, the impact of incontinence, the impact of sexual changes on identity, a re-evaluation of life, changed sexual relationships, the need to find the most suitable healthcare professionals and identification of current needs to improve quality of care. These areas of disquiet suggest that the psychological impact of this disease may be quite significant over an extended time-frame. Further research needs to be undertaken to assess the degree of distress accompanying the treatment of gay and bisexual men with prostate cancer.Purpose: To assess the feasibility, safety, and outcomes of an expedited One-Stop prostate cancer (PCa) diagnostic pathway.Context: In the United States, 192,000 men were diagnosed as having prostate cancer in 2009, the majority with low-risk, clinically localized disease. Treatment of these cancers is associated with substantial morbidity. Active surveillance is an alternative to initial treatment, but long-term outcomes and effect on quality of life have not been well characterized.Purpose: To investigate differences in prostate cancer incidence between two distinct Swiss regions from 1996 to 2013 stratified by age group, grade, and T-stage.Given that romantic partners play a pivotal role in patients' survivorship period, integrating partners into survivorship care and broadening the focus of behavioral interventions from the individual (survivor) to the survivor-partner dyad may make healthy lifestyle behaviors more easily adopted and potentially maintained. Understanding the role of dyadic processes in Black survivors is particularly important because their lifestyle behaviors are poor and they have higher cancer-specific and all-cause mortality. To develop an effective dyadic lifestyle behavior intervention for Black survivors, micro-level investigations of interactions between Black survivors and their partners are necessary to pinpoint how survivors and partners facilitate or hinder each other's lifestyle behaviors in their natural, everyday lives. Accordingly, the objective of the present study is to fill these gaps using ecological momentary assessment to eventually develop more effective lifestyle interventions for Black prostate cancer (PCa) survivors and partners. A total of 120 dyads (i.e., 240 individuals) who are Black adult survivors diagnosed with non-metastatic PCa and their romantic partners will be asked to complete four assessments per day for 14 consecutive days on a smartphone after an initial retrospective survey. Over the 14 days, participants will be asked to complete a brief survey regarding their lifestyle behaviors (physical activity, sedentariness and eating behaviors), contexts of lifestyle behaviors, stress, and coping. Physical activity and sedentary behavior will be assessed via accelerometer; eating behaviors will be assessed with the Automated Self-Administered 24-hour Dietary Assessment Tool. After completing the 14-day assessment, participants will be asked to complete a final retrospective survey. Results of the proposed study will inform the rigorous development of a theory-based dyadic lifestyle intervention in this vulnerable survivorship population with the ultimate goal to improve overall survival and reduce morbidities (for survivors) and reduce cancer incidence (for partners).Background: Men with prostate cancer who undergo androgen deprivation therapy (ADT) are at risk for bone loss and fractures. Our objective was to determine if Medicare beneficiaries with prostate cancer in the state of Texas underwent DXA scans when initiating ADT.Background: The purpose of this study was to determine the efficacy of a clinician referral and exercise program in improving exercise levels and quality of life for men with prostate cancer.Modification by acetylation occurs at epsilon-amino lysine residues of histones and transcription factors. Unlike phosphorylation, a direct link between transcription factor acetylation and cellular growth or apoptosis has not been established. We show that the nuclear androgen receptor (AR), a DNA-binding transcriptional regulator, is acetylated in vivo. The acetylation of the AR is induced by ligand dihydrotestosterone and by histone deacetylase (HDAC) inhibitors in living cells. Direct AR acetylation augmented p300 binding in vitro. Constructs mimicking neutral polar substitution acetylation (AR(K630Q), AR(K630T)) enhanced p300 binding and reduced N-CoR/HDAC/Smad3 corepressor binding, whereas charged residue substitution (AR(K630R)) reduced p300 binding and enhanced corepressor binding. The AR acetylation mimics promoted cell survival and growth of prostate cancer cells in soft agar and in nude mice and augmented transcription of a subset of growth control target gene promoters. Thus, transcription factor acetylation regulates coactivator/corepressor complex binding, altering expression of specific growth control genes to promote aberrant cellular growth in vivo.Prostate cancer (PCa) is one of the most common malignancies associated with bone metastases, and palliative radiation therapy (RT) is an effective treatment option. A total of 2641 patients were identified with PCa and bone metastases at diagnosis from 2010 to 2014 in the NCDB. Fractionation scheme was designated as short course ([SC-RT]: 8 Gy in 1 fraction and 20 Gy in 5 fractions) vs long course ([LC-RT]: 30 Gy in 10 fractions and 37.5 Gy in 15 fractions). Patient characteristics were correlated with fractionation scheme using logistic regression. Overall survival was analyzed using the

Kaplan-Meier method, log-rank test, Cox proportional hazards models, and propensity score-matched analyses. A total of 2255 (85.4%) patients were included in the LC-RT group and 386 (14.6%) patients in the SC-RT group. SC-RT was more common in patients over 75 years age (odds ratio [OR]: 1.70, 95% confidence interval [CI] 1.32-2.20), treatment at an academic center (OR: 1.76, 1.20-2.57), living greater than 15 miles distance to treatment facility (OR: 1.38, 1.05-1.83), treatment to the rib (OR: 2.99, 1.36-6.60), and in 2014 (OR: 1.73, 1.19-2.51). RT to the spine was more commonly long course ($P < .0001$). In the propensity-matched cohort, LC-RT was associated with improved OS ($P < .0001$), but no OS difference was observed between 37.5 Gy and either 8 Gy in one fraction or 20 Gy in 5 fractions ($P > .5$). LC-RT remains the most common treatment fractionation scheme for palliative bone metastases in PCa patients. Use of palliative SC-RT is increasing, particularly in more recent years, for older patients, treatment at academic centers, and with increasing distance from a treatment center.We investigated the possible relationship between boron exposure and prostate cancer (PCa) for men living and being employed at boron mines in villages with rich boron minerals. Out of 456 men studied, 159 were from villages with rich boron sources and boron levels in drinking water of >1 mg L(-1) and these men formed the study group, while 63 from villages with rich boron sources and boron levels in drinking water of <1 mg L(-1) were enrolled into control group 1. A further 234 subjects from other villages with no boron mines were considered as control group 2. Prostate specific antigen (PSA) levels could be obtained from a total of 423 men. Urinary boron concentration as an indicator of boron exposure in 63 subjects, prostatic volumes by transrectal ultrasonography in 39 subjects, and prostatic biopsies in 36 subjects were obtained for study and control groups. The daily boron exposure was calculated according to urinary boron levels. Although there was no significant difference among the groups in terms of total PSA levels, the number of subjects with tPSA ≥2.5 and tPSA ≥10.0 ng dL(-1) prostatic volumes in men whose prostates were biopsied ($p < 0.012$) was significantly lower in the study group as compared with those in the control group 2. These results suggested that high exposure to boron might have an implication within the prostatic cellular processes related to hyperplasia and carcinogenesis, even though we did not find a statistically significant association between PCa and boron exposure.Background: Delayed neurocognitive recovery (DNCR) is a common and serious complication after radical prostatectomy. We hypothesized that patients with DNCR in the early postoperative period would report reduced health-related quality of life (HRQoL) and more cognitive failures 12 months after surgery, compared with patients without DNCR.Introduction: Prostate cancer screening is a valuable public health tool in the early detection of prostate cancer. In this study, we aimed to determine the socioeconomic inequalities in the coverage of prostate cancer screening in Low and Middle-Income Countries (LMICs).Objective: This article reviews the effects of androgen deprivation therapy on bone health and loss of bone mineral density and its effects on risk of fractures for men with prostate cancer, as well as describes the assessment, management, and nursing strategies for patient and caregiver education, prevention strategies, and side effect management.The developmentally important Hedgehog (Hh) signaling pathway has recently been implicated in several forms of solid cancer. Current drug development programs focus on targeting the protooncogene Smoothened, a key transmembrane pathway member. These drug candidates, albeit promising, do not address the scenario in which pathway activation occurs downstream of Smoothened, as observed in cases of medulloblastoma, glioma, pericytoma, breast cancer, and prostate cancer. A cellular screen for small-molecule antagonists of GLI-mediated transcription, which constitutes the final step in the Hh pathway, revealed two molecules that are able to selectively inhibit GLI-mediated gene transactivation. We provide genetic evidence of downstream pathway blockade by these compounds and demonstrate the ineffectiveness of upstream antagonists such as cyclopamine in such situations. Mechanistically, both inhibitors act in the nucleus to block GLI function, and one of them interferes with GLI1 DNA binding in living cells. Importantly, the discovered compounds efficiently inhibited in vitro tumor cell proliferation in a GLI-dependent manner and successfully blocked cell growth in an in vivo xenograft model using human prostate cancer cells harboring downstream activation of the Hh pathway.The concept of theragnostics goes back to the earliest days of nuclear medicine, with [123I/131I]iodide in thyroid disease and [123I/131I]MIBG in phaeochromocytoma being examples in long-term use. However, in recent years there has been a great expansion in the application of theragnostics, beginning with [68Ga/177Lu]-labelled somatostatin peptides for evaluation and treatment of neuroendocrine tumors. We are currently seeing the rapid development of [68Ga/177Lu]PSMA theragnostics in metastatic prostate cancer. While these applications are very promising, there are a number of practicalities which must be addressed in the development and introduction of novel theragnostics. The physical half-lives of the diagnostic and therapeutic radionuclides must be

appropriate for imaging and delivery of targeted cell killing, respectively. The types of radioactive emissions are critical; beta particles can traverse several millimeters but also risk damaging non-target tissues, while alpha particles deliver their energy over a much shorter path length, a few cell diameters, and must be more directly targeted. It must be practical to produce the therapeutic radionuclide and the final radiopharmaceutical and deliver them to the final user within an appropriate time-frame determined by half-life and stability. The biodistribution of the agent must demonstrate adequate accumulation and retention in the target tissue with clearance from adjacent and/or radio-sensitive normal tissues. The commercial success of recently introduced theragnostics suggests a rosy future for personalized medicine.Background: Enrollment of minorities in clinical trials remains low. Through a California population-based study of men with early stage prostate cancer, we examined the relationships between race/ethnicity and 1) attitudes, 2) knowledge and 3) willingness to participate in clinical trials.Objective: In this study, we investigated if outness is more a situational or a consistent characteristic in gay, bisexual, and other men who have sex with men (GBM) treated for prostate cancer and how the disclosure of sexual orientation impacts provider discussions of sexual side effects.Aim: This pilot study aimed to compare muscle strength and quality of life (QOL) in cancer patients suffering from two different "typical male" cancer entities (prostate cancer and head and neck cancer).Introduction: Understanding physical function (PF) and quality of life (QoL) treatment effects are important in treatment decision-making for older adults with cancer. However, data are limited for older men with metastatic castration-resistant prostate cancer (mCRPC). We evaluated the effects of treatment on PF and QoL in older men with mCRPC.Hormonal therapy in disseminated prostate cancer is effective in 70-80% of patients and prolongs their lives of a mean 1-2 years. Sooner or later, androgen independence develops due to a multifactorial mechanism. A smaller part of patients may respond to second-line hormonal manipulations (antiandrogen withdrawal, adrenal enzymes synthesis inhibitors, corticosteroids). In hormone-refractory disease only about 30% of patients would respond to chemotherapy. In the standard chemotherapy the mostly used cytotoxic agents are anthracyclines, platinum derivatives, vinca alkaloids and cyclophosphamide. However, combined chemotherapy is not more effective than monotherapy. Conventional chemotherapy may improve especially the quality of life. The median survival in chemotherapy patients (6-12 months) is not significantly longer when compared with the best supportive care. In recent years the main concern has been focused on new cytotoxic drugs and different combinations with hormonal agents. In Phase II studies the combinations of estramustine with oral etoposide, estramustine with taxanes and alternating weekly regimens (doxorubicin, ketoconazole/estramustine, vinblastine) show higher response rates (53-69% of patients with prostate-specific antigen decline of more than 50%) and longer survival (13-19 months) than conventional chemotherapy.Objective: The present study aimed to analyze factors influencing treatment decisions in patients diagnosed with low risk prostate cancer who were referred to a brachytherapy clinic and had to choose from four treatment options: expectant management (watchful waiting), radical prostatectomy, external beam radiation therapy, and permanent seed brachytherapy.New systemic therapies have prolonged the lives of men with metastatic castration-resistant prostate cancer (mCRPC). Use of these therapies in the adjuvant setting when the disease may be micrometastatic and potentially more sensitive to therapies may decrease mortality from prostate cancer. However, the conduct of adjuvant prostate cancer clinical trials is hampered by taking longer than a decade to reach the meaningful endpoint of overall survival (OS) and the fact that many men never die from prostate cancer, even if they relapse. A validated intermediate clinical endpoint (ICE) in prostate cancer that is a robust surrogate for OS has yet to be defined. This paper details the plans, process, and progress of the international Intermediate Clinical Endpoints in Cancer of the Prostate (ICECaP) working group to pool individual patient data from all available clinical trials of radiation or prostatectomy for localized disease and conduct the requisite analyses to determine whether an ICE can be identified. This paper further details the challenges and the a priori statistical analytical plans and strategies to define an ICE for adjuvant prostate cancer clinical trials. In addition, a brief review of the health economic analyses to model the benefits to patients, society and manufacturers is detailed. If successful, the results from this work will provide a robust surrogate for OS that will expedite the design and conduct of future adjuvant therapy trials using new agents that have proven activity in mCRPC. Moreover, it will also define the health economic benefits to patients and societies.Background: Health disparities in prostate cancer (PC) are thought to reflect the complex interplay of socioeconomics, environment and biology. The potential impact of beliefs and perceptions about PC among Black and Latino populations on clinical disparities are not well understood. This qualitative study was conducted to assess current prevalent and pervasive stigma, beliefs and

perceptions regarding PC among Blacks and Latinos living in a large metropolitan area, thereby identifying potentially modifiable barriers to care.There are more than 100 prostate cancer support groups (PCSGs) in Canada, most of which meet on a monthly basis-yet little attention has been paid to the role of women at these groups. As part of an ongoing ethnographic study of PCSGs, we examined women's motivations for attending the groups, their ways of functioning in PCSGs and the benefits they accrued. Participant observations conducted at 13 British Columbian-based PCSGs and individual interview data from 20 women who regularly attended PCSG meetings were analyzed. Although the groups did not overtly limit women's attendance, the women's decisions to attend and their participation at group meetings were subject to much self-reflection, uncertainty and tension. Motivations to access a PCSG included a desire to support their partners, develop understandings about the illness and disease, and to manage their own experience of prostate cancer. Our analyses revealed that women assume three roles in PCSGs: social facilitator, background supporter and cancer co-survivor. The women reported many interrelated benefits as a result of attending, including information, hope and reassurance, and connecting with other women in similar circumstances. The results from this study reveal how traditional feminine ideals, such as nurturing and caring for the men in their lives, facilitating social connections and the desire to share emotional experiences guided the behaviors. Based on the study findings, we suggest that efforts to support women's involvement in PCSGs are critical to enhancing the effectiveness of the groups for both men and women.Bioluminescence imaging (BLI) has greatly facilitated the development of animal models of cancer, allowing sensitive detection of luciferase-expressing cancer cells in living mice. Previous efforts characterizing such models have involved small numbers of animals, limiting understanding of their performance features. We employed BLI to serially image the growth and distribution of a prostate cancer cell line, 22Rv1, after intracardiac injection into scid mice (n = 85). This approach models hematogenous dissemination of cancer cells and allows inquiry of the process of metastatic colonization at various organ sites, although accurately injecting cancer cells into the left ventricle remains challenging. Therefore, to predict injection success we measured the ratio of the thoracic bioluminescence signal to the whole body bioluminescence signal (T/WB ratio) immediately following intracardiac injection. A T/WB ratio less than 0.50 predicted the development of tumors outside of the thoracic cavity while a T/WB greater than 0.50 predicted the development of tumors entirely within the thoracic cavity, suggestive of a failed injection. Progressive tumor growth was quantified using BLI. Tumors colonized multiple organ sites including bone, liver, and adrenal glands resembling the spectrum of metastases in autopsy studies of patients with prostate cancer. Tumors growing in bone exhibited mixed osteolytic and osteoblastic features, eliciting a spiculated periosteal response. With the ability to more accurately predict injection success, we can now monitor efficacy of intracardiac injections facilitating the performance of this model.Purpose: There is a growing emphasis on improving quality of life of people with prostate cancer. However, those undergoing active surveillance remain underrepresented in the literature with less known about their unique challenges. Therefore, we aimed to explore their lived experiences post diagnosis and its effect on their mental, social, and physical wellbeing.Background: Organized PSA testing for asymptomatic men aged 50-74 years will be implemented in Sweden to reduce opportunistic testing in groups who will not benefit. The aim of this study was to describe the opportunistic PSA testing patterns in a Swedish region before the implementation of organized PSA testing programs.Evidence suggests that black men are disproportionately more affected than any other ethnicity by prostate cancer. The aim of this review is to identify studies exploring black men of African and Caribbean descent, their fears of prostate cancer and their attitudes towards screening. Four databases were searched and reference lists of relevant papers were hand searched. The inclusion criteria were studies exploring attitudes towards screening and fear of prostate cancer in black men of African and Caribbean backgrounds, peer-reviewed research, qualitative studies, surveys, questionnaires and English language publications. Qualitative findings were synthesized using a thematic framework to which quantitative findings were integrated. Of the 16 papers, 10 were quantitative and 6 were qualitative, all of which were conducted in the United States of America. Poorer and less educated black men were reluctant to seek help for prostate cancer. They may not visit their doctors for fear of intrusion into their personal lives. Moreover, they were fearful of being emasculated as a result of the digital rectal examination. The review identifies a paucity of UK literature on black men's fears and perceptions of prostate cancer. Further studies are needed in the United Kingdom to address this gap in the literature.Prostate-specific membrane antigen (PSMA)-binding tracers have been shown to be promising agents for the specific targeting of prostate tumors. On labeling with the short-lived isotopes 18F and 68Ga, excellent molecular imaging performance is achieved. This potential could be further exploited using long-lived

isotopes. Because of the favorable half-life of 64Cu, tracers labeled with this PET nuclide could solve logistic problems. Moreover, this isotope provides a theranostic pair with the therapeutic copper isotope 67Cu. Hence, 9 novel tracers that combine dedicated copper chelators with the PSMA-specific urea-based binding motif were developed. Methods: The precursors were obtained by solid-phase synthesis. The purity and molecular weight of the PSMA ligands were confirmed by high-performance liquid chromatography and liquid chromatography-mass spectrometry. The compounds were labeled with 64Cu, with a radiolabeling yield of more than 99%. Competitive cell binding assays and internalization assays were performed with C4-2 cells, a subline of the PSMA-positive cell line LNCaP (human lymph node carcinoma of the prostate). In vitro serum stability, the stability of 64Cu-CA003 in blood, and the in vivo fate of neat 64Cu-chloride or 64Cu-CA003 were determined to prove whether the stability of the radiolabeled compounds is sufficient to ensure no significant loss of copper during the targeting process. For PET imaging and biodistribution studies, a C4-2 tumor-bearing mouse model was used. Results: The radiolabeled 64Cu-PSMA ligands showed high serum stability. All PSMA ligands showed high inhibition potencies, with equilibrium inhibition constants in the low nanomolar range. 64Cu-CA003 and 64Cu-CA005 showed high internalization ratios (34.6% ± 2.8 and 18.6% ± 4.4, respectively). Both the in vitro serum stability determination and the in vivo characterization of the main radiolabeled compounds confirmed that, except for 64Cu-PSMA-617, all compounds showed high serum stability within the observation period of 24 h. Small-animal PET imaging demonstrated high tumor uptake within 20 min. Organ distribution studies confirmed high specific uptake in the tumor, with 30.8 ± 12.6 percentage injected dose (%ID)/g at 1 h after injection. Rapid clearance from the kidneys was observed-a decrease from 67.0 ± 20.9 %ID/g at 1 h after injection to 7.5 ± 8.51 %ID/g at 24 h after injection (in the case of CA003). The performance of CA003, the compound with the best preclinical properties, was assessed in a first patient. In line with its preclinical data, PET imaging resulted in clear visualization of the cancer lesions, with high contrast. Conclusion: The 64Cu-labeled PSMA ligands are promising agents to target PSMA and visualize PSMA-positive tumor lesions as shown in preclinical evaluation by small-animal PET studies, organ distribution, and a patient application. Most importantly, the images obtained at 20 h enabled delineation of unclear lesions, showing that the compounds fulfill the prerequisite for dosimetry in the course of therapy planning with 67Cu. Thus, we suggest clinical use of copper-labeled CA003 for diagnostics and radiotherapy of prostate cancer.A novel alpha-particle emitting monoclonal antibody construct targeting the external domain of prostate-specific membrane antigen (PSMA) was prepared and evaluated in vitro and in vivo. The chelating agent, N-[2-amino-3-(p-isothiocyanatophen-yl)propyl]-trans-cyclohexane-1, 2-diamine-N,N',N',N'',N''-pentaacetic acid, was appended to J591 monoclonal antibody to stably bind the 213Bi radiometal ion. Bismuth-213 is a short-lived (t 1/2 = 46 min) radionuclide that emits high energy alpha-particles with an effective range of 0.07-0.10 mm that are ideally suited to treating single-celled neoplasms and micrometastatic carcinomas. The LNCaP prostate cancer cell line had an estimated 180,000 molecules of PSMA per cell; J591 bound to PSMA with a 3-nM affinity. After binding, the radiolabeled construct-antigen complex was rapidly internalized into the cell, carrying the radiometal inside. [213Bi]J591 was specifically cytotoxic to LNCaP. The LD50 value of [213Bi]J591 was 220 nCi/ml at a specific activity of 6.4 Ci/g. The potency and specificity of [213Bi]J591 directed against LNCaP spheroids, an in vitro model for micrometastatic cancer, also was investigated. [213Bi]J591 effectively stopped growth of LNCaP spheroids relative to an equivalent dose of the irrelevant control [213Bi]HuM195 or unlabeled J591. Cytotoxicity experiments in vivo were carried out in an athymic nude mouse model with an i.m. xenograft of LNCaP cells. [213Bi]J591 was able to significantly improve ($P < 0.0031$) median tumor-free survival (54 days) in these experiments relative to treatment with irrelevant control [213Bi]HuM195 (33 days), or no treatment (31 days). Prostate-specific antigen (PSA) was also specifically reduced in treated animals. At day 51, mean PSA values were 104 ng/ml +/- 54 ng/ml (n = 4, untreated animals), 66 ng/ml +/- 16 ng/ml (n = 6, animals treated with [213Bi]HuM195), and 28 ng/ml +/- 22 ng/ml (n = 6, animals treated with [213Bi]J591). The reduction of PSA levels in mice treated with [213Bi]J591 relative to mice treated with [213Bi]HuM195 and untreated control animals was significant with $P < 0.007$ and $P < 0.0136$, respectively. In conclusion, a novel [213Bi]-radiolabeled J591 has been constructed that selectively delivers alpha-particles to prostate cancer cells for potent and specific killing in vitro and in vivo.Three variants of gamma-beam therapy of prostatic cancer were worked out on the basis of a thorough topometric preparation, an analysis of dose distributions using computer, and taking account of tumor dissemination. It has been shown that moving one- or two-field gamma-beam therapy is indicated in cases when tumor lies within the limits of the prostate only. When it affects regional lymph nodes the combination of moving gamma-beam therapy with static 4-field

cross irradiation with the ratio of doses from the front and back fields 2:1 is recommended. When tumor involves the nearest lymphatic collectors gamma-beam therapy is supplemented by estrogens with stage-by-stage irradiation of primary tumor, regional lymph nodes (by the above schemes) and the paraaortal group of lymph nodes from 2 opposite shaped fields, a focal dose to these nodes being 30-40 Gy only. The summary focal dose to the regional lymph nodes is 45-50 Gy, to primary tumor 65-70 Gy. The above variants of gamma-beam therapy were used for the treatment of 69 patients with prostatic cancer, Stages II-IV. Not a single patient developed marked reactions and late complications 6-36 mos. after therapy, 61% of the patients lived over 3 yrs.Our previous case-control study suggested that equol, a metabolite of isoflavone, has a preventive effect on prostate cancer. To examine the prostate cancer risk based on isoflavone intake and equol production, we carried out a phase II, randomized, double-blind, placebo-controlled trial of oral isoflavone (60 mg/day) for 12 months. The inclusion criteria were Japanese men between 50 and 75 years of age, a serum prostate-specific antigen level of 2.5-10.0 ng/mL, and a single, negative prostate biopsy within 12 months prior to enrollment. The study included 158 men in eight Japanese centers. Their median age was 66.0 years, and the numbers of equol producers and non-producers were 76 (48%) and 82 (52%), respectively. The majority of adverse events were mild or moderate in severity, and the scheduled intake of tablets was completed by 153 patients (96.8%). The prostate-specific antigen value showed no significant difference before and after treatment. Of the 89 patients evaluated by central pathological review, the incidence of biopsy-detectable prostate cancer in the isoflavone and placebo groups showed no significant difference (21.4%vs 34.0%, P = 0.140). However, for the 53 patients aged 65 years or more, the incidence of cancer in the isoflavone group was significantly lower than that in the placebo group (28.0%vs 57.1%, P = 0.031). These results support the value of isoflavone for prostate cancer risk reduction. A large-scale phase III randomized study of isoflavone tablets in men with different hereditary factors and living environments is warranted. Registered with the UMIN Clinical Trials Registry (UMIN-CTR) for clinical trials in Japan (C000000446).Objective: As many men diagnosed with prostate cancer (PC) are now living well beyond diagnosis and treatment, these survival gains necessitate improved understanding of long-term survivorship experiences. This is the first qualitative study that aimed to provide insights into PC survivors' adjustment to diagnosis and any persisting or emerging cancer/treatment-related issues over 15+ years.Background: Although older men value maintaining independence and avoiding functional decline, little is known about their functional trajectories with receipt of prostate radiation.Purpose: This communication reports the long-term results of the original group of prostate cancer patients who participated in the first prospective Fox Chase Cancer Center radiation dose escalation study for which 8-12 years of follow-up is now available.Objectives: To assess the statistical relationship between stage at diagnosis of prostate cancer and racial category in 4 southeastern states.Importance: Stereotactic body radiotherapy is a hypofractionated, cost-effective treatment option for localized prostate cancer.The purpose of this study was to investigate in vivo verification of radiation treatment with high energy photon beams using PET/CT to image the induced positron activity. The measurements of the positron activation induced in a preoperative rectal cancer patient and a prostate cancer patient following 50 MV photon treatments are presented. A total dose of 5 and 8 Gy, respectively, were delivered to the tumors. Imaging was performed with a 64-slice PET/CT scanner for 30 min, starting 7 min after the end of the treatment. The CT volume from the PET/CT and the treatment planning CT were coregistered by matching anatomical reference points in the patient. The treatment delivery was imaged in vivo based on the distribution of the induced positron emitters produced by photonuclear reactions in tissue mapped on to the associated dose distribution of the treatment plan. The results showed that spatial distribution of induced activity in both patients agreed well with the delivered beam portals of the treatment plans in the entrance subcutaneous fat regions but less so in blood and oxygen rich soft tissues. For the preoperative rectal cancer patient however, a 2 ± (0.5) cm misalignment was observed in the cranial-caudal direction of the patient between the induced activity distribution and treatment plan, indicating a beam patient setup error. No misalignment of this kind was seen in the prostate cancer patient. However, due to a fast patient setup error in the PET/CT scanner a slight mis-position of the patient in the PET/CT was observed in all three planes, resulting in a deformed activity distribution compared to the treatment plan. The present study indicates that the induced positron emitters by high energy photon beams can be measured quite accurately using PET imaging of subcutaneous fat to allow portal verification of the delivered treatment beams. Measurement of the induced activity in the patient 7 min after receiving 5 Gy involved count rates which were about 20 times lower than that of a patient undergoing standard (18)F-FDG treatment. When using a combination of short lived nuclides

such as (15)O (half-life: 2 min) and (11)C (half-life: 20 min) with low activity it is not optimal to use clinical reconstruction protocols. Thus, it might be desirable to further optimize reconstruction parameters as well as to address hardware improvements in realizing in vivo treatment verification with PET/CT in the future. A significant improvement with regard to (15)O imaging could also be expected by having the PET/CT unit located close to the radiation treatment room.Objective: To evaluate the possible role of environmental exposure to lead as a risk factor for prostate pathology in patients suffering from prostate cancer (PCA) and benign prostate hyperplasia (BPH).Objective: Prostate cancer, the second most common cancer among men, typically onsets in middle or older age. Gay/bisexual men have different social networks and unique social support needs, particularly as it pertains to health care access and prostate side effects. Few studies have investigated the availability and provision of social support for gay and bisexual men with prostate cancer (GBMPCa).The measurement of cavitation events in tissue in vivo would greatly assist us to better understand how pulsed high energy ultrasound (PHEUS) interacts with living tissues, especially with regard to cancer therapy. To accomplish this, we designed and built a fibre-optic hydrophone. The principle was to couple the light of a laser diode into a lightfibre and to register the ultrasound induced modification of the refractive index in tissue. In this manner, the cavitation event could be quantitatively investigated both in water and in vivo. The structure of the bubble dynamic is in reasonable agreement with theoretical predictions, and in vitro measurements. With the fibre-optic set-up, the pressure signal can also be detected. PHEUS was generated by an electromagnetic source adapted from a commercial lithotripter (Lithostar Siemens). As biological tissue we used the experimental R3327-AT1 Dunning prostate tumor growing subcutaneously in the thigh of male Copenhagen rats. The lifetime of the cavitation bubble in water increased with the energy level of the ultrasonic pulse from 250 microseconds at 13 kV capacitor voltage to 750 microseconds at 21 kV, while the lifetime inside the tumor tissue in vivo increased only from 100 microseconds at 13 kV to 220 microseconds at 21 kV capacitor voltage.Objective: This study examined the predictive power of psychological flexibility, masculine self-esteem and stoicism in influencing psychological distress and quality of life in men diagnosed with prostate cancer. It explores relationships between these theorised predictors and prostate cancer physical symptoms, an established predictor of psychological distress and reduced quality of life.Purpose: Prostate cancer (PCa) is one of the most common malignancies in males, and multiple genetic studies have confirmed association with susceptibility to PCa. However, the risk conferred in men living in China is unkown. We selected 6 previously identified variants as candidates to define their association with PCa in Chinese men.beta(1C) and beta(1A) integrins are two splice variants of the human beta(1) integrin subfamily that act as an inhibitor and a stimulator of cell proliferation, respectively. In neoplastic prostate epithelium, both these variants are down-regulated at the mRNA level, but only beta(1C) protein levels are reduced. We used an experimental model consisting of PNT1A, a normal immortalized prostate cell line, and LNCaP and PC-3, two prostate carcinoma cell lines, to investigate both the transcription/post-transcription and translation/post-translation processes of beta(1C) and beta(1A). Transcriptional regulation played the key role for the reduction in beta(1C) and beta(1A) mRNA expression in cancer cells, as beta(1C) and beta(1A) mRNA half-lives were comparable in normal and cancer cells. beta(1C) translation rate decreased in cancer cells in agreement with the decrease in mRNA levels, whereas beta(1A) translation rate increased more than 2-fold, despite the reduction in mRNA levels. Both beta(1C) and beta(1A) proteins were degraded more rapidly in cancer than in normal cells, and pulse-chase experiments showed that intermediates and/or rates of beta(1C) and beta(1A) protein maturation differ in cancer versus normal cells. Inhibition of either calpain- or lysosomal-mediated proteolysis increased both beta(1C) and beta(1A) protein levels, the former in normal but not in cancer cells and the latter in both cell types, albeit at a higher extent in cancer than in normal cells. Interestingly, inhibition of the ubiquitin proteolytic pathway increased expression of ubiquitinated beta(1C) protein without affecting beta(1A) protein levels in cancer cells. These results show that transcriptional, translational, and post-translational processes, the last involving the ubiquitin proteolytic pathway, contribute to the selective loss of beta(1C) integrin, a very efficient inhibitor of cell proliferation, in prostate malignant transformation.Several genetic epidemiological studies have provided data to support the hypothesis that there are genes on the X chromosome that may contribute to prostate cancer susceptibility. A recent linkage study of 360 prostate cancer families described evidence for a prostate cancer predisposition gene, termed HPCX, which maps to Xq27-28. To confirm the potential contribution of this locus to prostate cancer susceptibility in an independent dataset, we studied 153 unrelated families who are participants in the University of Michigan Prostate Cancer Genetics Project. Families selected

for this analysis have at least two living family members with prostate cancer that are related in a way that they could potentially share a common ancestral copy of an X chromosome. DNA samples were genotyped using a panel of seven polymorphic markers spanning 30 cM and containing the HPCX candidate region. The resulting data were analyzed using both nonparametric and parametric linkage methods. Analysis of all 153 families using multipoint non-parametric linkage (NPL) methods resulted in positive NPL Z-scores across the entire candidate interval (NPL Z-scores of 0.23-1.06, with corresponding one-sided Ps of 0.41 and 0.15, respectively). The 11 African-American families had negative NPL Z-scores across the same 30-cM interval. Analysis of the 140 Caucasian families produced a maximal NPL Z-score of 1.20, with a corresponding one-sided P of 0.12 at marker DXS1113. The subset of families with no evidence of male-to-male disease transmission and with early-onset prostate cancer (average age at diagnosis within a family < or = 65 years) contributed disproportionately to the evidence for linkage for the entire dataset in the HPCX candidate region (near marker DXS1113). In conclusion, this study of 153 families, each with two or more living members with prostate cancer, provides some additional support for the existence of a prostate cancer susceptibility gene at Xq27-28.Advanced prostate cancer (APC) is associated with disruptions that compromise health related quality of life (HRQOL). Treatment often includes androgendeprivation therapy (ADT), which results in a range of side effects (e.g., fatigue, urinary dysfunction) that further impact HRQOL. Despite these challenges, there are limited evaluations of the impact of stress and stress management skills on HRQOL among APC survivors on ADT. This study evaluated relationships among stress, stress management skills, and HRQOL, and it was hypothesized that better stress management skills would relate to greater physical and emotional well-being by mitigating perceived stress levels. Participants (N = 77) were 69.7 years old (SD = 9.8), 18.6 months post-treatment (SD = 17.5), and ethnically diverse (65 % Non-Hispanic White, 13 % Hispanic, 21 % African-American). Measures included the Measure of Current Status for stress management skills, the Perceived Stress Scale for perceived stress, and the Medical Outcomes Study-Short Form (MOS SF-36; physical functioning and emotional well-being subscales) for HRQOL. Direct effects and mediation models were evaluated to determine the relationships between perceived stress, stress management skills, and HRQOL domains, controlling for relevant covariates. Stress management skills and perceived stress were significantly associated with physical functioning ($\beta = .24$, $p < .05$ and $\beta = -.43$, $p < .01$, respectively) and emotional well-being ($\beta = .35$, $p < .01$ and $\beta = -.64$, $p < .01$, respectively). Regression analyses supported the hypothesis that reduced perceived stress mediated the relationship between stress management skills and both physical functioning and emotional well-being. These results demonstrate that one way stress management skills may impact HRQOL is by lessening ongoing perceptions of stress.Background: There is little information available on health-related quality of life in patients with chemotherapy-naïve metastatic castration-resistant prostate cancer. This study aimed to develop a conceptual model that describes patients' experiences of living with this condition.Prostate carcinoma (CaP) is a heterogeneous multifocal disease where gene expression and regulation are altered not only with disease progression but also between metastatic lesions. The androgen receptor (AR) regulates the growth of metastatic CaPs; however, sensitivity to androgen ablation is short lived, yielding to emergence of castrate-resistant CaP (CRCaP). CRCaP prostate cancers continue to express the AR, a pivotal prostate regulator, but it is not known whether the AR targets similar or different genes in different castrate-resistant cells. In this study, we investigated AR binding and AR-dependent transcription in two related castrate-resistant cell lines derived from androgen-dependent CWR22-relapsed tumors: CWR22Rv1 (Rv1) and CWR-R1 (R1). Expression microarray analysis revealed that R1 and Rv1 cells had significantly different gene expression profiles individually and in response to androgen. In contrast, AR chromatin immunoprecipitation (ChIP) combined with promoter DNA microarrays (ChIP-on-chip) studies showed that they have a similar AR-binding profile. Coupling of the microarray study with ChIP-on-chip analysis identified direct AR targets. The most prominent function of transcripts that were direct AR targets was transcriptional regulation, although only one transcriptional regulator, CCAAT/enhancer binding protein δ, was commonly regulated in both lines. Our results indicate that the AR regulates the expression of different transcripts in the two lines, and demonstrate the versatility of the AR-regulated gene expression program in prostate tumors.Objective: To investigate the mechanisms of nuclear export signal of androgen receptor (NESAR) in the regulation of androgen receptor (AR) protein expression and stability in prostate cancer.Prostate-specific membrane antigen (PSMA) is a prominent biomarker for prostate cancer (PCa) diagnosis. Safe contrast agents able to render the expression and distribution of PSMA would facilitate early accurate screening and prognostic prediction of PCa. However, current Gd-containing nanoparticles are often

limited by nonspecific redistribution in mononuclear phagocyte system (MPS) and inadequate perfusion to target sites. Besides, intrinsic defects of magnetic resonance (MR) equipment also hamper their use for precisely depicting PSMA details. Herein, we devised a novel noninvasive MR/CT/NIRF multimodal contrast agent (AGGP) coordinated to a high-affinity PSMA ligand (PSMA1) to specifically detect and quantify PSMA expression in PCa lesions, which exhibited formidable tripe-modal signal augments, preferential PSMA targeting, effective MPS escaping and profitable renal-clearable behavior in living mice. Biocompatibility and histopathological studies substantiated high security of AGGP in vivo, opening the door to future opportunities for improving early-stage PCa detection and clinical implementation of more effective multifunctional nanotherapeutics.Background: People with advanced cancer require a range of health, social and informal care during the final phases of life. The cost of providing care to this group as they approach the end of their lives is unknown, but represents a significant cost to health and social care systems, charities patients and their families.Background: Observational studies have mostly found no association between self-reported whole-grain intake and prostate cancer. Plasma alkylresorcinol metabolites have been suggested as biomarkers for whole-grain intake in free-living populations.Purpose/objectives: To develop a descriptive framework of the communication processes used by Latinos with prostate cancer to communicate about their diagnosis.Importance: The benefit of prostate-specific antigen screening may be greatest in high-risk populations, including men of African descent in the Caribbean. However, organized screening may not be sustainable in low- and middle-income countries.Purpose: Sipuleucel-T, the first FDA-approved autologous cellular immunotherapy for treatment of advanced prostate cancer, is manufactured by activating peripheral blood mononuclear cells, including antigen presenting cells (APCs), with a fusion protein containing prostatic acid phosphatase. Analysis of data from three phase 3 trials was performed to immunologically characterize this therapy during the course of the three doses, and to relate the immunological responses to overall survival (OS).Multifunctional nanoparticle probes based on semiconductor quantum dots (QDs) have been developed for cancer targeting and imaging in living animals. The structural design involves encapsulating luminescent QDs with block copolymer, and linking this amphiphilic polymer to tumor-targeting ligands. In vivo targeting studies of human prostate cancer growing in nude mice indicate that the QD probes can be delivered to tumor sites by both enhanced permeation and retention and by antibody binding to cancer-specific cell surface biomarkers. Using both subcutaneous injection of QD-tagged cancer cells and systemic injection of multifunctional QD probes, we have achieved sensitive and multicolor fluorescence imaging of cancer cells under in vivo conditions. We have also integrated a whole-body macro-illumination system with wavelength-resolved spectral imaging for efficient background removal and precise delineation of weak spectral signatures. These results raise new possibilities for ultrasensitive and multiplexed imaging of molecular targets in vivo.Context: Long-term survival following a diagnosis of cancer is improving in developed nations. However, living longer does not necessarily equate to living well.Aim: To prospectively study the clinical renal effects of daily high-dose celecoxib, a COX-2 inhibitor, in a cohort of elderly sick men (mean age 74.5 years) with advanced prostate cancer.Goals of work: The goals of the study were to determine the occurrence rates for and the severity of symptoms at the middle, end, and 1 month after the completion of radiation therapy (RT), to determine the number and types of symptom clusters at these three time points, and to evaluate for changes over time in these symptom clusters.Bone is the most common target organ of metastasis of prostate and breast cancers. This produces considerable morbidity due to skeletal-related events, SREs, including bone pain, hypercalcemia, pathologic fracture, and compression of the spinal cord. The mechanism of bone metastasis is complex and involves cooperative reciprocal interaction among tumor cells, osteoblasts, osteoclasts, and the mineralized bone matrix. The interaction between the metastatic tumor and bone stromal cells has been commonly referred to as the "vicious cycle". Tumor cells stimulate osteoblasts, which in turn stimulate osteoclasts through the secretion of cytokines such as the TNF family member receptor activator of nuclear κB ligand (RANKL). Activated osteoclasts degrade the bone matrix by producing strong acid and proteinases. Bone degradation by osteoclasts releases TGFβ and other growth factors stored in the bone matrix, that further stimulate tumor cells. Bone modifying agents, targeting osteoclast activity, such as bisphosphonate and RANKL antibodies are considered as the standard of care for reducing SREs of patients with bone metastatic diseases. These agents decrease osteoclast activity and delay worsening of skeletal pain and aggravation of bone metastatic diseases. While the management of SREs by these agents may improve patients' lives, this treatment does not address the specific issues of the patients with bone metastasis such as tumor dormancy, drug resistance, or improvement of survival. Here, we review the mechanisms of bone metastasis formation,

tumor heterogeneity in the bone microenvironment, and conventional therapy for bone metastatic diseases and discuss the potential development of new therapies targeting tumor heterogeneity in the bone microenvironment.Importance: The Patient Protection and Affordable Care Act broadened insurance coverage, partially through voluntary state-based Medicaid expansion.Sulforaphane (SFN) inhibited growth in many cancers, but its half-life is 2 h in circulation. However, its metabolites, sulforaphane-cysteine (SFN-Cys) and sulforaphane-N-acetyl-cysteine (SFN-NAC) had longer half-lives and decreased the cell viability in both dose- and time-dependent manners in human prostate cancer. Flow cytometry assay revealed that these two SFN metabolites induced apoptosis with the features such as vacuolization, disappeared nuclear envelope, nuclear agglutination and fragmentation via transmission electron microscopy observation. Western blot showed that the sustained phosphorylation of ERK1/2 mediated by SFN metabolites caused activation and upregulation of cleaved Caspase 3 and downregulation of α-tubulin. High expression of α-tubulin was demonstrated to be positively correlated with cancer pathological grading. Both co-immunoprecipitation and immunofluorescence staining implicated the interaction between SFN metabolite-induced phosphorylated ERK1/2 and α-tubulin, and Caspase 3 cleavage assay showed that α-tubulin might be the substrate for cleaved Caspase 3. More, the SFN metabolite-mediated reduction of α-tubulin increased the depolymerization and instability of microtubules by microtubule polymerization assay. Reversely, microtubule-associated protein Stathmin-1 phosphorylation was increased via phosphorylated ERK1/2 and total Stathmin-1 was reduced, which might promote over-stability of microtubules. Immunofluorescence staining also showed that SFN metabolites induced the 'nest-like' structures of microtubule distribution resulting from the disrupted and aggregated microtubules, and abnormal nuclear division, suggesting that the disturbance of spindle formation and mitosis turned up. Thus, SFN-Cys and SFN-NAC triggered the dynamic imbalance of microtubules, microtubule disruption leading to cell apoptosis. These findings provided a novel insight into the chemotherapy of human prostate cancer.The objective of this study was to identify activities and exposures during leisure that might be associated with the development of prostate cancer. We analyzed data derived from a population-based case-control study that was carried out in Montreal between 1979 and 1985. Men (>4000) were interviewed, including cases of prostate cancer, other cancers, and population controls. The present analysis was restricted to the subset, aged 45-70 years, who underwent face-to-face interviews in which aspects of activities and exposures during leisure were ascertained. There were 400 incident cases of prostate cancer and 476 population controls. We calculated odds ratios (OR) for prostate cancer, adjusted for age, ethnic origin, respondent status, family income, body mass index, cigarette smoking, and alcohol consumption. Home or furniture maintenance was associated with an increased risk [OR, 1.4; 95% confidence interval (CI), 1.0-1.9], as was painting, stripping, or varnishing furniture (OR, 2.1; 95% CI, 0.7-6.7). Exposure during leisure to metal dust was associated with prostate cancer (OR, 3.2; 95% CI, 1.0-9.9), as was exposure to lubricating oils or greases (OR, 2.2; 95% CI, 1.2-3.7) and exposure to pesticides or garden sprays (OR, 2.3; 95% CI, 1.3-4.2). These findings are consistent with results derived from studies of occupational exposures.Objective: To investigate the association of the risk of prostate cancer (PCa) with the polymorphism of the CYP2E1 gene, smoking and drinking, and to explore the joint role of genes and living habits in PCa pathogenesis.Background: Little is known about the health-related quality of life (HRQOL) of men living with advanced prostate cancer. We report population-wide functional outcomes and HRQOL in men with all stages of prostate cancer and identify implications for health-care delivery.Purpose: We explored the prevalence and trends of self-reported complementary and alternative medicine use among patients with prostate cancer using CaPSURE™ (Cancer of the Prostate Strategic Urologic Research Endeavor).Introduction: Prostate cancer refers to an epithelial malignant tumor that occurs in the prostate area. In recent years, with the improvement of people's living standards, the incidence of prostate cancer has gradually increased, which has greatly affected people's life and health and quality of life. Acupuncture has its unique advantages in treating cancer pain. We will evaluate the efficacy and safety of acupuncture and moxibustion in the treatment of pain caused by prostate cancer using a clinical randomized parallel control method.A lack of cell surface markers for the specific identification, isolation and subsequent analysis of living prostate tumor cells hampers progress in the field. Specific characterization of tumor cells and their microenvironment in a multi-parameter molecular assay could significantly improve prognostic accuracy for the heterogeneous prostate tumor tissue. Novel functionalized gold-nano particles allow fluorescence-based detection of absolute mRNA expression levels in living cells by fluorescent activated flow cytometry (FACS). We use of this technique to separate prostate tumor and benign cells in human prostate needle biopsies based on the expression levels of the tumor marker

alpha-methylacyl-CoA racemase (AMACR). We combined RNA and protein detection of living cells by FACS to gate for epithelial cell adhesion molecule (EPCAM) positive tumor and benign cells, EPCAM/CD45 double negative mesenchymal cells and CD45 positive infiltrating lymphocytes. EPCAM positive epithelial cells were further sub-gated into AMACR high and low expressing cells. Two hundred cells from each population and several biopsies from the same patient were analyzed using a multiplexed gene expression profile to generate a cell type resolved profile of the specimen. This technique provides the basis for the clinical evaluation of cell type resolved gene expression profiles as pre-therapeutic prognostic markers for prostate cancer.Background: Few studies have examined the outcomes for Hispanic men with prostate carcinoma and incorporated socioeconomic factors in association with race/ethnicity in affecting survival, adjusting for factors on cancer stage, grade, comorbidity, and treatment.We attempted to induce therapeutic immunity against prostate-derived tissues in patients suffering from progressive hormone-refractory metastatic prostate carcinoma. Thirteen patients were treated with two infusions, 1 month apart, of autologous dendritic cells (APC8015) preexposed ex vivo to PA2024, a fusion protein consisting of human granulocyte/macrophage-colony stimulating factor (GM-CSF) and human prostatic acid phosphatase (PAP). The infusions were followed by three s.c. monthly doses of PA2024 without cells. Three groups of patients each received PA2024 at 0.3, 0.6, or 1.0 mg/injection. All Ps were two-sided. Treatment was well tolerated. After infusions of APC8015, patients experienced only mild (grade 1-2) short-lived fever and/or chills, myalgia, pain, and fatigue. One patient developed grade 3 fatigue. Four patients developed mild local reactions to s.c. PA2024. Twelve patients were evaluable for response to treatment. Circulating prostate-specific antigen levels dropped in three patients. T cells, drawn from patients after infusions of APC8015, but not before, could be stimulated in vitro by GM-CSF ($P = 0.0004$) and PAP ($P = 0.0001$), demonstrating broken immune tolerance against these two normal proteins. Injections of PA2024 did not influence the reactivity of T cells against PAP and GM-CSF. However, antibodies to GM-CSF and, to a much lesser extent, to PAP reached maximum titers only after two or even three injections of PA2024, showing that directly injected PA2024 was involved in stimulation of humoral immunity. Dendritic cells exposed to antigen ex vivo can induce antigen-specific cellular immunity in prostate cancer patients, warranting further studies of this mode of immunotherapy.Objective: The link between diabetes and prostate cancer is rarely studied in Asians.Objectives: To investigate the relationship between diet and prostate cancer (CaP) among native Japanese (NJ) and second-generation or third-generation Japanese-American (J-A) men--focusing on the effects of animal fat and soy on prostatic tissues.Twenty-five patients termed the method group, having a carcinoma of the prostate, underwent a subcapsular orchiectomy, followed by the placement of an intracapsular prosthesis for anti-androgen treatment. In tandem, a control group of 16 patients, having a carcinoma of the prostate underwent, a total orchiectomy. Further, a histological study of a testicular capsula was performed on an autopsy specimen, but almost no seminiferous residue was detected. Postoperatively, serum testosterone levels decreased to less than 10% of their Preoperative levels, and remained at this level for 30 months. Similar results were obtained in both the method group and the control group postoperative questionnaires showed that the method group experienced less mental and physical stress than did the control group. In a society composed largely of elderly people, this type of operation can be very beneficial to those suffering from prostate carcinoma in maintaining the quality of their lives.Although the most frequent tumor of the male genitourinary system is cancer of the prostate, epidemiological studies on this tumor are uncommon in our setting. This study attempts to record the number of patients who were diagnosed as having prostatic cancer at La Paz Hospital (Madrid) during 1981-1987 and to determine the influence of pathological antecedents--personal and familial--in the development of the disease. The present study showed 90 patients had been diagnosed during this period. Most of the patients diagnosed as having this condition were aged 70-79 years. Most of the patients (85.6%) were living in urban areas. Only 2.2% were unmarried and without children. The mean patient age on diagnosis was lower in the group with a higher educational level. A previous history of benign hyperplasia of the prostate was present in 22.22%; tonsillectomy had been performed in 11.11%; only 5.55% had a previous history of rheumatic fever; 26.66% were obese; and 36.66% had a family history of cancer. A previous history of disease did not influence mean patient age at the time of diagnosis.Purpose: Our previously published data showed rapidly increasing rates of prostate cancer screening in men aged 50-74, which rose from 36% in 2005 to 48% in 2008. Based on men's reported intentions at that time, this was expected to rise to 70% in 2011. Here we report the actual rate of prostate cancer screening.Background: Celastrol is a novel anti-tumor agent. Ways to further enhance this effect of celastrol has attracted much research

attention.Background: The dietary consumption of high levels of soy has been linked to reduced risks for prostate cancer (PC) in Asians and vegetarians. In vitro studies have focused on the two most abundant isoflavones in soy, genistein and daidzein. However, daidzein is differentially metabolized by gut microflora in humans, yielding compounds with very different bioactivities and half-lives. Asians are significantly more likely to produce the metabolite equol than Caucasians, suggesting its role in the prevention of PC. We hypothesize that equol is a bioactive metabolite that exerts direct antiproliferative effects on prostatic epithelial cells.Objective: To survey patient opinions on prostate cancer (PCa) screening in light of the United States Preventive Services Task Force recommendation against its use.Our inability to distinguish between low-grade prostate cancers that pose no threat and those that can kill compels newly diagnosed early prostate cancer patients to make decisions that may negatively affect their lives needlessly for years afterward. To reliably stratify patients into different risk categories and apply appropriate treatment, we need a better molecular understanding of prostate cancer progression. Androgen ablation therapy and 5-alpha reductase inhibitors reduce dihydrotestosterone levels and increase apoptosis. Because of the differing biological potentials of tumor cells, however, these treatments may, in some cases, worsen outcome by selecting for or inducing adaptation of stronger androgen receptor signaling pathways. Reduced dihydrotestosterone also may be associated with altered survival pathways. Complicating treatment effects further, molecular adaptation may be accelerated by interactions between epithelial and stromal cells. The hypothesis that early prostate cancer cells with differing biological potential may respond differently to finasteride treatment is worth testing. Ongoing studies using a systems biology approach in a preoperative prostate cancer setting are testing this hypothesis toward developing more-rational clinical interventions.Background: Per- and polyfluoroalkyl substances (PFAS) are environmental contaminants that are potentially harmful to health. We examined if rates of selected cancers and causes of deaths were elevated in three Australian communities with local environmental contamination caused by firefighting foams containing PFAS. The affected Australian communities were Katherine in Northern Territory, Oakey in Queensland and Williamtown in New South Wales.The ability to monitor the uptake and distribution of food nutrients in in vitro cell culture models is key to understanding the efficacy of these nutraceuticals to treat and prevent disease. Lycopene is a carotenoid found in chloroplasts and chromoplasts of tomatoes, providing the familiar red color, and a bioactive that inhibits prostate carcinogenesis. We employed live-cell Raman microscopy to visualize lycopene delivery from tween 80 micelles into PC-3 prostate cancer cells. The tween 80 micelle provides a mimic of natural lipoprotein complexes that deliver lycopene in vivo, overcomes the low aqueous solubility of lycopene and challenges replicating physiological uptake to cells, and provides a stable signal to assess cellular uptake of the nutraceutical formulation. The Raman images indicate subcellular localization of the lycopene within the cells. The lycopene Raman signal is resonantly enhanced at an excitation wavelength of 532 nm, providing a convenient, sensitive, and label-free technique to detect and quantify lycopene uptake in living cells. Analysis of the acquired Raman spectra in the maps determines the concentration of lycopene at each point in the cell. In addition to the expected lycopene Raman signal, Raman scattering from the tween 80 vehicle is also mapped in the cells. The Raman data correlates with scattering features observed in darkfield microscopy images of the cells, which display the cell membrane and other features for reference. Overall, the Raman maps indicate lycopene likely accumulates in lipid membranes of cytoplasmic organelles.Background: Prostate cancer accounts for about 10% of cancers affecting and claiming the lives of men. Studies have reported that women are better than men in recognition of the early manifestations of various cancers. Besides, women have been recognized to show a profound interest in their partners' health and hence, make observations that men do not know. Several studies have reported on the knowledge gaps of prostate cancer among patients and the general population. It is vital to comprehensively review the available evidence and identify research gaps in our current understanding of knowledge of women on prostate cancer.Materials and methods: Data from 58 autopsy studies of latent prostate cancer from 1898-2013 were identified and analyzed accounting for histopathological methods, which may have varied over time.Background: The Government of Ontario, Canada, announced hospital funding reforms in 2011, including Quality-based Procedures (QBPs) involving pre-set funds for managing patients with specific diagnoses/procedures. A key goal was to improve quality of care across the jurisdiction.Resistant cancer phenotype is a key obstacle in the successful therapy of prostate cancer. The primary aim of our study was to explore resistance mechanisms in the advanced type of prostate cancer cells (PC-3) and to clarify the role of autophagy in these processes. We performed time-lapse experiment (48 hours) with ROS generating plumbagin by using multimodal holographic microscope. Furthermore, we also performed the flow-cytometric analysis

and the qRT-PCR gene expression analysis at 12 selected time points. TEM and confocal microscopy were used to verify the results. We found out that autophagy (namely mitophagy) is an important resistance mechanism. The major ROS producing mitochondria were coated by an autophagic membrane derived from endoplasmic reticulum and degraded. According to our results, increasing ROS resistance may be also accompanied by increased average cell size and polyploidization, which seems to be key resistance mechanism when connected with an escape from senescence. Many different types of cell-cell interactions were recorded including entosis, vesicular transfer, eating of dead or dying cells, and engulfment and cannibalism of living cells. Entosis was disclosed as a possible mechanism of polyploidization and enabled the long-term survival of cancer cells. Significantly reduced cell motility was found after the plumbagin treatment. We also found an extensive induction of pluripotency genes expression (NANOG, SOX2, and POU5F1) at the time-point of 20 hours. We suppose, that overexpression of pluripotency genes in the portion of prostate tumour cell population exposed to ROS leads to higher developmental plasticity and capability to faster respond to changes in the extracellular environment that could ultimately lead to an alteration of cell fate.The relationship of social determinants of health, Appalachian residence, and prostate cancer treatment delay among Tennessee adults is relatively unknown. We used multivariate logistic regression on 2005-2015 Tennessee Cancer Registry data of adults aged ≥18 diagnosed with prostate cancer. The outcome of treatment delay was more than 90 days without surgical or nonsurgical intervention from date of diagnosis. Social determinants in the population-based registry were race (White, Black, Other) and marital status (single, married, divorced/separated, widow/widower). Tennessee residence was classified as Appalachian versus non-Appalachian (urban/rural). Covariates include age at diagnosis (18-54, 54-69, ≥70), health insurance type (none, public, private), derived staging of cancer (localized, regional, distant), and treatment type (non-surgical/surgical). We found that Black and divorced/separated patients had 32% (95% confidence interval [CI]: 1.22-1.42) and 15% (95% CI: 1.01-1.31) increased odds to delay prostate cancer treatment. Patients were at decreased odds of treatment delay when living in an Appalachian county, both urban (odds ratio [OR] = 0.89, 95% CI: 0.82-0.95) and rural (OR = 0.83, 95% CI: 0.78-0.89), diagnosed at ≥70 (OR = 0.59, 95% CI: 0.53-0.66), and received surgical intervention (OR = 0.72, 95% CI: 0.68-0.76). Our study was among the first to comprehensively examine prostate cancer treatment delay in Tennessee, and while we do not make clinical recommendations, there is a critical need to further explore the unique factors that may propagate disparities. Prostate cancer treatment delay in Black patients may be indicative of ongoing health and access disparities in Tennessee, which may further affect quality of life and survivorship among this racial group. Divorced/separated patients may need tailored interventions to improve social support.Background: In the era of digital data, the Internet has become the primary source from which individuals draw healthcare information.One hundred twenty patients with adenocarcinoma of the prostate were treated with 125I irradiation to the prostate and pelvic lymphadenectomy. Clinical stages were A-2 (13 pts), B-1 (34 pts), B-2 (49 pts), and C-1 (24 pts). The tumors were well differentiated in 44%, moderately differentiated in 39% and poorly differentiated in 17%. Nineteen of 22 patients with positive lymph nodes had either moderately or poorly differentiated tumors. A total radiation dosage between 15,000 and 24,000 rads per year were given to all patients. Seventy-six patients had been rebiopsied at 1 year, and 26 were positive for malignancy (34%). Thirty-eight patients had rebiopsy at 2 years, and 16 were positive (42%). Forty-four percent of the postradiation biopsies were of a different histologic grade from the primary lesion. Radiation injury was identified in 95% of the posttreatment biopsies and were moderate or severe in 71%. One hundred one patients are living from 1 to 9 years. Eight patients have died of metastatic carcinoma, and 11 have died of cardiovascular problems.Background/aim: Degarelix has been widely used for prostate cancer; however, injection site reactions (ISRs) can be a clinical issue. We assessed differences in ISR intensity and patient quality of life (QOL) between degarelix 80 mg and 480 mg, a three-month formulation launched in 2020 in Japan.Background: Abiraterone acetate (AA), oral CYP17 inhibitor, is an active agent in the treatment of metastatic castrate-resistant prostate cancer (mCRPC).Androgen deprivation therapy (ADT) with the newly developed powerful anti-androgen enzalutamide (Enz, also known as MDV3100) has promising therapeutic effects to suppress castration resistant prostate cancer (CRPC) and extending patients' lives an extra 4.8 months. However, most Enz therapy eventually fails with the development of Enz resistance. The detailed mechanisms how CRPC develops Enz resistance remain unclear and may involve multiple mechanisms. Among them, the induction of the androgen receptor (AR) mutant AR-F876L in some CRPC patients may represent one driving force that confers Enz resistance. Here, we demonstrate that the AR degradation enhancer, ASC-J9(®), not only degrades wild-type AR, but

also has the ability to target AR-F876L. The consequence of suppressing AR-F876L may then abrogate AR-F876L mediated CRPC cell proliferation and metastasis. Thus, developing ASC-J9(®) as a new therapeutic approach may represent a novel therapy to better suppress CRPC that has already developed Enz resistance.Background: Exercise is beneficial for prostate cancer survivors. Therefore, understanding the mechanisms of physical activity (PA) behavior change is imperative.Background: The prevalence of carcinoma of the prostate gland (CaP) and high-grade prostatic intraepithelial neoplasia (HGPIN) was assessed in a Spanish population, representative of the Caucasian Mediterranean (CM) ethnic group. Data were compared with those described in populations from other geographical regions and in other ethnic groups.Purpose: To gain knowledge about the factors associated with discontinuation of scheduled treatment in elderly men with castration-resistant prostate cancer (CRPC).Background: It remains unclear whether adding long-term prostate-specific antigen velocity (PSAV) to baseline PSA values improves classification of prostate cancer (PCa) risk and mortality in the general population.Background: Improving participation rates in epidemiologic studies using questionnaires and biological sampling is important for the generalizability of the outcome. The aim of this study was to examine the effects of pre-notification, invitation length, questionnaire length, and reminder on participation rate and to investigate whether some factors contributed to participants doing both the questionnaire and blood sampling as oppose to only one part.Purpose/objectives: To test the hypotheses that preparatory informational interventions based on self-regulation theory delivered to radiation therapy (RT) recipients by staff nurses would reduce disruption in patients' usual life activities and have a positive effect on the moods of patients who tended to have pessimistic expectations about outcomes.Purpose: To evaluate the longevity and curability of patients with inoperable, Stage C, carcinomas of the prostate by means of external pelvic irradiation.Objectives: The Sexual Health Inventory for Men (SHIM) is a widely used scale for the screening and diagnosis of erectile dysfunction (ED). Our objective was to incorporate the SHIM into our prostate cancer screening program to estimate the prevalence of ED among men screened for prostate cancer.Objective: To examine the relationship between treatment and subsequent functional status among prostate cancer patients.Objective: To investigate the association between Prostate-Specific Membrane Antigen (PSMA) expression changes on positron emission tomography-computed tomography (PET/CT) and the response to treatment following the start of enzalutamide or abiraterone in metastatic castration-resistant prostate cancer (mCRPC) patients.A concurrent multicenter, randomized Phase II trial employing a recombinant poxviral vaccine provided evidence of enhanced median overall survival (OS) ($p = 0.0061$) in patients with metastatic castrate-resistant prostate cancer (mCRPC). The study reported here employed the identical vaccine in mCRPC to investigate the influence of GM-CSF with vaccine, and the influence of immunologic and prognostic factors on median OS. Thirty-two patients were vaccinated once with recombinant vaccinia containing the transgenes for prostate-specific antigen (PSA) and three costimulatory molecules. Patients received boosters with recombinant fowlpox containing the same four transgenes. Twelve of 32 patients showed declines in serum PSA post-vaccination and 2/12 showed decreases in index lesions. Median OS was 26.6 months (predicted median OS by the Halabi nomogram was 17.4 months). Patients with greater PSA-specific T-cell responses showed a trend ($p = 0.055$) toward enhanced survival. There was no difference in T-cell responses or survival in cohorts of patients receiving GM-CSF versus no GM-CSF. Patients with a Halabi predicted survival of <18 months (median predicted 12.3 months) had an actual median OS of 14.6 months, while those with a Halabi predicted survival of > or =18 months (median predicted survival 20.9 months) will meet or exceed 37.3 months, with 12/15 patients living longer than predicted ($p = 0.035$). Treg suppressive function was shown to decrease following vaccine in patients surviving longer than predicted, and increase in patients surviving less than predicted. This hypothesis-generating study provides evidence that patients with more indolent mCRPC (Halabi predicted survival > or =18 months) may best benefit from vaccine therapy.Background: Prostate-specific antigen (PSA) testing has increased in several countries. There is incomplete knowledge of PSA testing patterns.Background and objectives: Using an instrument to measure physical functioning that was normed to the U.S. population, data were obtained from patients with a new diagnosis of breast, colon, lung, and prostate cancer. Two questions were addressed: (a) after controlling for age, and number of comorbid conditions, do site and stage of cancer predict functional limitations prior to diagnosis; (b) using age adjusted national norms on physical functioning, how well do age, number of comorbid conditions, stage, treatment and cluster of symptoms (pain, fatigue, and insomnia) explain changes in physical function between 3 months prior to and 8 weeks following diagnosis?The success following irradiation in 370 patients with clinically localized prostate carcinoma was measured by overall patient survival as

well as the cumulative incidence with time of treated patients who developed either local tumor regrowth or progression with distant metastases. With a minimum follow-up of 5 years in living patients, we evaluated the cumulative frequency curves using both univariate and multivariate (Cox) analyses. Overall patient survival and probability of progression with distant metastases were significantly influenced by initial tumor stage and the degree of histologic differentiation. The results at 8 years are significantly better for patients with T2 (B) tumors (local regrowth in 8%, distant metastases in 18%) than for patients with T3-T4 (C) tumors (local regrowth in 28%, distant metastases in 60%). Patient tolerance of external-beam radiation therapy was carefully analyzed in 121 consecutively treated patients in 1980 and 1981 for subsequent radiation-related sequelae. Minor transient intestinal and urologic sequelae were observed in 21% and 23% of the patients, respectively. These mild to moderate symptoms resolved in all but 7% of the patients who are continuing with mild symptoms. One patient had a major complication, i.e., a cystectomy required for persistent bleeding. Erectile potency has been maintained in 63% of potent patients. No specific benefit or detriment in outcome was seen in the minority of 51 patients who were irradiated by iodine-125 implantation.(ABSTRACT TRUNCATED AT 250 WORDS)Background: We used population-based data from the New South Wales Central Cancer Registry (CCR) to describe the patterns of progression to metastatic disease in Australian men diagnosed with non-metastatic prostate cancer.Background: Patients on active surveillance (AS) for early prostate cancer (PC) may experience feelings of anxiety and distress while living with "untreated" cancer. In this study, these feelings were quantified, and their associations with various psychologic, medical, demographic, and decision-related factors were assessed.In living organism, excessive free radicals or oxidative damage which occur as a result of deficient antioxidant defensive mechanisms by the effect of endogenous and exogenous factors, influences especially developmental steps of chemically induced cancers. In our study, plasma malondialdehyde level (MDA) as an indicator of lipid peroxidation, erythrocyte glutathione (GSH) level as an indicator of antioxidant state, glutathione reductase (GSH-Red), glutathione peroxidase (GSH-Px), glutathione-S-transferase (GST) as an antioxidant enzymes and plasma vitamin E level were detected in patients with prostate cancer (21 males; age, 69.4 +/- 4.8 years) before and after three months of antiandrogenic therapy with goserelin acetate as luteinizing hormone releasing hormone (LHRH) analogue. Healthy people evaluated as a control group (20 males; age, 63.7 +/- 3.9). Erythrocyte GSH levels, the activities of GSH-Red and GSH-Px and plasma vitamin E levels were found significantly low in patients with prostate cancer when compared with the healthy subjects ($p < 0.01$, $p < 0.05$, $p <$ or $= 0.001$ and $p <$ or $= 0.001$ respectively). Plasma MDA level and erythrocyte GST activity of patient group were significantly higher than the levels of control group ($p <$ or $= 0.001$ and $p <$ or $= 0.001$ respectively). After antiandrogenic therapy erythrocyte GSH level, GSH-Red, GSH-Px activity and plasma vitamin E level were found unchanged. Significant decrease in plasma MDA level and significant increase in erythrocyte GST activity were detected in patient group ($p < 0.05$ and $p <$ or $= 0.01$ respectively). The study has revealed the shift in the oxidant-antioxidant balance towards oxidative state in patients with metastatic prostate cancer. Our results showed that antiandrogenic therapy increased in GST activity, decreased in lipid peroxidation.Objective: Describes the variation in prostate cancer testing by the remoteness of residence and socio-economic status groups in Australia.Background: More men are living following a prostate cancer (PCa) diagnosis. They may need support to maximize the quality of their survival. Physical and psychological impacts of PCa are widely documented. Less is known about social impacts. We aimed to identify key factors associated with social distress following PCa.As has been clearly demonstrated in prostate and breast cancer, progression to hormone insensitivity is a major problem responsible for the usually partial and short-lived response to antihormonal therapy. Preincubation of androgen-sensitive Shionogi mouse carcinoma cells for 15 days in the absence of androgens causes the development of complete resistance of cell growth to androgens. Of potentially important therapeutic significance is the finding that androgen sensitivity can be maintained not only by the androgen dihydrotestosterone (DHT) but also by incubation with the pure antiandrogen Flutamide-OH in the absence of androgens. Since androgen resistance is one of the main problems facing the treatment of prostate cancer, the possibility of avoiding or at least delaying the development of androgen resistance with a pure antiandrogen could well provide the basis for improving the success of therapy for this disease.The conventional two-dimensional (2D) culture is available as an in vitro experimental model. However, the culture system reportedly does not recapitulate the in vivo cancer microenvironment. We recently developed a tissueoid cell culture system using Cellbed, which resembles the loose connective tissue in living organisms. The present study performed 2D and three-dimensional (3D) culture using prostate and bladder cancer cell lines and a comprehensive

metabolome analysis. Compared to 3D, the 2D culture had significantly lower levels of most metabolites. The 3D culture system did not impair mitochondrial function in the cancer cells and produce energy through the mitochondria simultaneously with aerobic glycolysis. Conversely, ATP production, biomass (nucleotides, amino acids, lipids and NADPH) synthesis and redox balance maintenance were conducted in 3D culture. In contrast, in 2D culture, biomass production was delayed due to the suppression of metabolic activity. The 3D metabolome analysis using the tissueoid cell culture system capable of in vivo cancer cell culture yielded results consistent with previously reported cancer metabolism theories. This system is expected to be an essential experimental tool in a wide range of cancer research fields, especially in preclinical stages while transitioning from in vitro to in vivo.Background: Men diagnosed with localized prostate cancer (PCa) on active surveillance (AS) have shown to cope with anxiety caused by living with an 'untreated cancer' and different factors can influence the tolerance level for anxiety in these patients. The present study analyzes Italian (Milan) and Dutch (Rotterdam) men prospectively included in the Prostate cancer International Active Surveillance (PRIAS) trial, aiming to explore whether socio-demographic factors (i.e. age, relationship status, education, nationality) may be relevant factors in conditioning the level of anxiety at AS entry and over time.Objective: To evaluate the association between life-course leisure-time physical activity (PA) and prostate cancer (PC) among males living in Mexico City. Materials and meth-ods. Information from 394 incident PC cases and 794 popula-tion controls matched by age (± 5 years), was analyzed. Using leisure-time PA information at different life stages, life-course PA patterns were constructed. The association between PA and PC was estimated using an unconditional logistic regres-sion model.Objective: This retrospective cohort study aims to examine the receipt, timing to initiation, and duration of androgen deprivation therapy (ADT) in men with prostate cancer by race/ethnicity, socioeconomic status, and geographic location.Of the estimated 565,650 people in the U.S. who will die of cancer in 2008, almost all will have metastasis. Breast, prostate, kidney, thyroid and lung cancers metastasize to the bone. Tumor cells reside within the bone using integrin type cell adhesion receptors and elicit incapacitating bone pain and fractures. In particular, metastatic human prostate tumors express and cleave the integrin A6, a receptor for extracellular matrix components of the bone, i.e., laminin 332 and laminin 511. More than 50% of all prostate cancer patients develop severe bone pain during their remaining lifetime. One major goal is to prevent or delay cancer induced bone pain. We used a novel xenograft mouse model to directly determine if bone pain could be prevented by blocking the known cleavage of the A6 integrin adhesion receptor. Human tumor cells expressing either the wildtype or mutated A6 integrin were placed within the living bone matrix and 21 days later, integrin expression was confirmed by RT-PCR, radiographs were collected and behavioral measurements of spontaneous and evoked pain performed. All animals independent of integrin status had indistinguishable tumor burden and developed bone loss 21 days after surgery. A comparison of animals containing the wild type or mutated integrin revealed that tumor cells expressing the mutated integrin resulted in a dramatic decrease in bone loss, unicortical or bicortical fractures and a decrease in the ability of tumor cells to reach the epiphyseal plate of the bone. Further, tumor cells within the bone expressing the integrin mutation prevented cancer induced spontaneous flinching, tactile allodynia, and movement evoked pain. Preventing A6 integrin cleavage on the prostate tumor cell surface decreased the migration of tumor cells within the bone and the onset and degree of bone pain and fractures. These results suggest that strategies for blocking the cleavage of the adhesion receptors on the tumor cell surface can significantly prevent cancer induced bone pain and slow disease progression within the bone. Since integrin cleavage is mediated by Urokinase-type Plasminogen Activator (uPA), further work is warranted to test the efficacy of uPA inhibitors for prevention or delay of cancer induced bone pain.Background: For men with localised prostate cancer, surgery provides a survival benefit compared with watchful waiting. Treatments are associated with morbidity. Results for functional outcome and quality of life are rarely reported beyond 10 years and are lacking from randomised settings. We report results for quality of life for men in the Scandinavian Prostate Cancer Group Study Number 4 (SPCG-4) after a median follow-up of more than 12 years.Introduction: One in five men is likely to receive a diagnosis of prostate cancer (PCa) by the age of 85 years. Men diagnosed with low-risk PCa may be eligible for active surveillance (AS) to monitor their cancer to ensure that any changes are discovered and responded to in a timely way. Communication of risk in this context is more complicated than determining a numerical probability of risk, as patients wish to understand the implications of risk on their lives in concrete terms. Our study will examine how risk for PCa is perceived, experienced and communicated by patients using AS with their health professionals, and the implications for treatment and care.Androgen deprivation therapy (ADT) decreases muscle

mass and function but no human studies have investigated the underlying genetic or cellular effects. We tested the hypothesis that ADT will lead to changes in skeletal muscle gene expression, which may explain the adverse muscle phenotype seen clinically. We conducted a prospective cohort study of 9 men with localised prostate cancer who underwent a vastus lateralis biopsy before and after 4 weeks of ADT. Next-generation RNA sequencing was performed and genes differentially expressed following ADT underwent gene ontology mining using Ingenuity Pathway Analysis. Differential expression of genes of interest was confirmed by quantitative PCR (Q-PCR) on gastrocnemius muscle of orchidectomised mice and sham controls (n=11/group). We found that in men, circulating total testosterone decreased from 16.5±4.3nmol/L at baseline to 0.4±0.15nmol/L post-ADT ($p<0.001$). RNA sequencing identified 19 differentially expressed genes post-ADT (all $p<0.05$ after adjusting for multiple testing). Gene ontology mining identified 8 genes to be of particular interest due to known roles in androgen-mediated signalling; ABCG1, ACTC1, ANKRD1, DMPK, THY1, DCLK1, CST3 were upregulated and SLC38A3 was downregulated post-ADT. Q-PCR in mouse gastrocnemius muscle confirmed that only one gene, Actc1 was concordantly upregulated ($p<0.01$) in orchidectomised mice compared with controls. In conclusion, given that ACTC1 upregulation is associated with improved muscle function in certain myopathies, we hypothesise that upregulation of ACTC1 may represent a compensatory response to ADT-induced muscle loss. Further studies will be required to evaluate the role and function of ACTC1.Background: Health-related quality of life (HRQoL) among patients with localized prostate cancer (PC) on active surveillance (AS) and whether it may be improved through lifestyle-focused interventions remain underdefined.Purpose: The aim of this study was to examine the individual quality of life (QoL) of men following radical prostatectomy for prostate cancer. The following research questions were addressed: (a) What are the most important areas of quality of life for men following radical prostatectomy? (b) How do these men rate their satisfaction in each area and what is the relative importance of each area to their overall quality of life?Background: Digital rectal examination (DRE) is one of the most common strategies for prostate cancer early detection. However, the use for screening purposes has a controversial benefit and potential harms can occur due to false-positive results, overdiagnosis and overtreatment. The objective of this study is to calculate the prevalence and identify factors associated with the receipt of DRE in Brazilian men.Background: Prostate cancer is one of the most common male cancers worldwide. Active Surveillance (AS) has been developed to allow men with lower risk disease to postpone or avoid the adverse side effects associated with curative treatments until the disease progresses. Despite the medical benefits of AS, it is reported that living with untreated cancer can create a significant emotional burden for patients.Background: Radical cystoprostatectomy and radical prostatectomy are the two major operations where prostate is totally and radically removed. Radical cystoprostatectomy is usually performed in patients with invasive bladder cancer. The aim of the study was to examine Total PSA, Free PSA, and Free/Total Ratio elimination kinetics after radical cystoprostatectomy.The androgen receptor (AR) is essential for development of the male gender and in the growth of the majority of prostate cancers. Agonists as well as most antagonists induce translocation of the receptor to the nucleus, whereas only agonists can activate AR function. Antagonists are therefore used in the therapy of metastasized prostate cancer. To obtain insight into the mechanism by which antagonists block AR function in living cells, we studied nuclear mobility and localization of green fluorescent protein (GFP)-tagged AR in the presence of either the agonist R1881 or the antagonists bicalutamide and hydroxyflutamide. As controls we investigated a non-DNA-binding AR mutant (A573D) and two mutants (W741C and T877A) with broadened ligand specificity. We demonstrate that in the presence of R1881, AR localizes in numerous intranuclear foci and, using complementary fluorescence recovery after photobleaching (FRAP) approaches and computer modelling, that a fraction of AR (approximately 10-15%) is transiently immobilized in a DNA-binding-dependent manner (individual ARs being immobile for approximately 45 seconds). By contrast, antagonist-bound GFP-AR showed no detectable immobile fraction and the mobility was similar to that of the R1881-liganded non-DNA-binding mutant (A573D), indicating that antagonists do not induce the relatively stable DNA-binding-dependent immobilization observed with agonist-bound AR. Moreover, in the presence of bicalutamide and hydroxyflutamide GFP-AR was homogeneously distributed in the nucleus. Binding of bicalutamide and hydroxyflutamide to GFP-AR(W741C) and GFP-AR(T877A), respectively, resulted in similar mobility and heterogeneous nuclear distribution as observed for R1881-liganded GFP-AR. The live cell studies indicate that the investigated antagonists interfere with events early in the transactivation function of the AR.Objective: To explore whether socioeconomic status (SES) was associated with health-related quality of life (HRQL) and health care use among long-term prostate cancer survivors.Approximately 15% of patients

with prostate cancer are diagnosed with high-risk disease. However, the current definitions of high-risk prostate cancer include a heterogeneous group of patients with a range of prognoses. Some have the potential to progress to a lethal phenotype that can be fatal, while others can be cured with treatment of the primary tumour alone. The optimal management of this patient subgroup is evolving. A refined classification scheme is needed to enable the early and accurate identification of high-risk disease so that more-effective treatment paradigms can be developed. We discuss several principles established from clinical trials, and highlight other questions that remain unanswered. This Review critically evaluates the existing literature focused on defining the high-risk population, the management of patients with high-risk prostate cancer, and future directions to optimize care.Importance: Prostate cancer is the most common cancer diagnosis made in men with more than 160 000 new cases each year in the United States. Although it often has an indolent course, prostate cancer remains the third-leading cause of cancer death in men.Prostate cancer is common, and recent efforts in clinical management have focused on identifying patients who could be candidates from less aggressive management or who could benefit from more aggressive therapy. As prostate cancer histology, especially Gleason score, plays a critical role in predicting patient outcomes, attempts have been made to refine histologic classification and reporting in prostate cancer to facilitate patient risk stratification. This review discusses recent updates in prostate cancer grading and reporting.The field of prostate cancer has been the subject of extensive research that has resulted in important discoveries and shaped our appreciation of this disease and its management. Advances in our understanding of the epidemiology, natural history, anatomy, detection, diagnosis, grading, staging, imaging, and management of prostate cancer have changed clinical practice and influenced guideline recommendations. The development of the Gleason score and subsequent modifications enabled accurate prediction of prognosis. Increased anatomical understanding and improved surgical techniques resulted in the development of nerve-sparing surgery for radical prostatectomy. The advent of active surveillance has changed the management of low-risk disease, and chemotherapy and hormonal therapy have improved the outcomes of patients with distant disease. Ongoing research and clinical trials are expected to yield more practice-changing results in the near future.Prostate cancer is a heterogeneous disease with a variable natural history. Therefore, optimal management remains challenging. While many men with newly diagnosed prostate cancer may be candidates for active surveillance, there are others who will benefit from aggressive local therapy. Radical prostatectomy is associated with improvements in cancer-specific mortality, metastasis-free survival, and need for palliative treatments when compared with observation in several randomized controlled trials. Additionally, radical prostatectomy may have some oncologic benefit over radiation therapy. All aggressive therapy for prostate cancer negatively impacts erectile function and urinary continence. The decision for which treatment modality to pursue should incorporate shared decision making and consider cancer risk and severity in addition to patient preferences.Prostate cancer is the most frequent malignancy in the worldwide male population; it is also one of the most common among all the leading cancer-related death causes. In the last two decades, the therapeutic scenario of metastatic castration-resistant prostate cancer has been enriched by the use of chemotherapy and androgen receptor signaling inhibitors (ARSI) and, more recently, by immunotherapy and poly(ADP-ribose) polymerase (PARP) inhibitors. At the same time, several trials have shown the survival benefits related to the administration of novel ARSIs among patients with non-castration-resistant metastatic disease along with nonmetastatic castration-resistant cancer too. Consequently, the therapeutic course of this malignancy has been radically expanded, ensuring survival benefits never seen before. Among the more recently emerging agents, the so-called "antibody-drug conjugates" (ADCs) are noteworthy because of their clinical practice changing outcomes obtained in the management of other malignancies (including breast cancer). The ADCs are novel compounds consisting of cytotoxic agents (also known as the payload) linked to specific antibodies able to recognize antigens expressed over cancer cells' surfaces. As for prostate cancer, researchers are focusing on STEAP1, TROP2, PSMA, CD46 and B7-H3 as optimal antigens which may be targeted by ADCs. In this paper, we review the pivotal trials that have currently changed the therapeutic approach to prostate cancer, both in the nonmetastatic castration-resistant and metastatic settings. Therefore, we focus on recently published and ongoing trials designed to investigate the clinical activity of ADCs against prostate malignancy, characterizing these agents. Lastly, we briefly discuss some ADCs-related issues with corresponding strategies to overwhelm them, along with future perspectives for these promising novel compounds.Overweight and obese men with prostate cancer are at an increased risk of disease recurrence, exacerbated treatment-related adverse effects, development of obesity-related

comorbidities, earlier progression and development of metastatic disease, and higher all-cause and prostate cancer-specific mortality. The physiological mechanisms associating obesity with poor prostate cancer outcomes remain largely unknown; however, an increased inflammatory environment and metabolic irregularities associated with excess fat mass are commonly postulated. Although research is limited, fat loss strategies using exercise and nutrition programmes may slow down prostate cancer progression and improve a patient's prognosis. This review is an overview of: 1) the association between obesity and poor prostate cancer prognosis; 2) potential physiological mechanisms linking obesity and prostate cancer progression; 3) the effect of obesity on treatments for prostate cancer; and 4) the potential for weight loss strategies to improve outcomes in patients with prostate cancer.Introduction: Prostate cancer is a common malignancy with highly variable clinical presentation and outcomes. Diagnosis and management remain a challenge and at times become highly controversial. Novel biomarker assays have shown promise as an adjunctive tool to aid in patient shared decision-making, risk stratification, and disease management. This presentation at the 2020 Jefferson Urology Symposium provided a review of current commonly used biomarkers for prostate cancer.Purpose of review: The purpose of this review is to examine prostate cancer racial disparities specific to the African-American population.Context: Intermediate-risk prostate cancer consists of a highly heterogeneous group of patients. Owing to this heterogeneity and variable prognoses, it is challenging to provide uniform treatment recommendations for men in this group.The term "oligometastatic prostate cancer" refers to a heterogeneous group of disease states currently defined solely on the basis of clinical features. Oligorecurrent disease, de novo oligometastases, and oligoprogressive disease likely have unique biologic underpinnings and natural histories. Evidence suggesting the existence of a subset of patients who harbor prostate cancer with limited metastatic potential currently includes disparate and overwhelmingly retrospective reports. Nevertheless, emerging prospective data have corroborated the "better-than-expected," retrospectively observed outcomes, particularly in the setting of oligorecurrent prostate cancer. Improved functional imaging with prostate-specific membrane antigen-targeted strategies may enhance the identification of patients with oligometastatic prostate cancer in the short term. In the long term, refinement of the oligometastatic case definition likely will require biologic risk-stratification schemes. To determine optimal treatment strategies and identify patients most likely to benefit from metastasis-directed therapy, future efforts should focus on conducting high-quality, prospective trials with much-needed molecular correlative studies.We review the importance of quality of life (QOL) data from patient-reported outcome measures (PROMs) among men treated with androgen deprivation therapy (ADT) for metastatic castration-sensitive prostate cancer (mCSPC) or localized prostate cancer treated with adjuvant therapy. This information is important for patients as they make treatment choices and for regulatory agencies approving drug therapies. Studies of treatments for mCSPC suggest that the improvements in survival associated with more intensive systemic treatment are accompanied by improvements in QOL. ADT prolongs survival among men with intermediate- or high-risk localized disease in combination with radiation, but the optimal duration is still being defined. For men with biochemical recurrence, starting ADT earlier rather than later had minimal adverse effects on QOL but may not prolong survival. We conclude that rigorous assessment of QOL with validated PROMs must be a priority for clinical trials of novel and more intensive approaches to treatment with ADT. PATIENT SUMMARY: Data on quality of life that are collected using patient-reported outcome measures are important for patients with prostate cancer as they make treatment choices and for regulatory agencies approving drug therapies.Objectives: Numerous predictive models relating to prostate cancer staging and outcomes have been described. We sought to review and categorize these predictive tools to create a comprehensive reference for physicians who treat prostate cancer.Enhanced survival and therapeutic choices for men with prostate cancer mandate the evaluation of the "quality of survival". An exciting series of local, national and international health outcome improvement initiatives offer the enticing prospect of assessing and improving this.Objective: We aim to highlight the progression from the early definition of nononcologic outcomes in prostate cancer (PC) to measurement and use of preferences to ensure appropriate treatment decisions in men with localized disease.Prostate cancer remains the leading diagnosed cancer and the second leading cause of death among American men. Despite improvements in screening modalities, diagnostics, and treatment, disparities exist among Black men in this country. The primary objective of this systematic review is to describe the reported disparities in screening, diagnostics, and treatments as well as efforts to alleviate these disparities through community and educational outreach efforts. Critical review took place of retrospective, prospective, and socially descriptive data of English language publications in the PubMed database. Despite more

advanced presentation, lower rates of screening and diagnostic procedures, and low rates of trial inclusion, subanalyses have shown that various modalities of therapy are quite effective in Black populations. Moreover, patients treated on prospective clinical trials and within equal-access care environments have shown similar outcomes regardless of race. Additional prospective studies and enhanced participation in screening, diagnostic and genetic testing, clinical trials, and community-based educational endeavors are important to ensure equitable progress in prostate cancer for all patients. IMPLICATIONS FOR PRACTICE: Notable progress has been made with therapeutic advances for prostate cancer, but racial disparities continue to exist. Differing rates in screening and utility in diagnostic procedures play a role in these disparities. Black patients often present with more advanced disease, higher prostate-specific antigen, and other adverse factors, but outcomes can be attenuated in trials or in equal-access care environments. Recent data have shown that multiple modalities of therapy are quite effective in Black populations. Novel and bold hypotheses to increase inclusion in clinical trial, enhance decentralized trial efforts, and enact successful models of patient navigation and community partnership are vital to ensure continued progress in prostate cancer disparities.Clinical genomic testing is becoming routine in prostate cancer, as biomarker-driven therapies such as poly-ADP ribose polymerase (PARP) inhibitors and anti-PD1 immunotherapy are now approved for select men with castration-resistant prostate cancer harboring alterations in DNA repair genes. Challenges for precision medicine in prostate cancer include an overall low prevalence of actionable genomic alterations and a still limited understanding of the impact of tumor heterogeneity and co-occurring alterations on treatment response and outcomes across diverse patient populations. Expanded tissue-based technologies such as whole-genome sequencing, transcriptome analysis, epigenetic analysis, and single-cell RNA sequencing have not yet entered the clinical realm and could potentially improve upon our understanding of how molecular features of tumors, intratumoral heterogeneity, and the tumor microenvironment impact therapy response and resistance. Blood-based technologies including cell-free DNA, circulating tumor cells (CTCs), and extracellular vesicles (EVs) are less invasive molecular profiling resources that could also help capture intraindividual tumor heterogeneity and track dynamic changes that occur in the context of specific therapies. Furthermore, molecular imaging is an important biomarker tool within the framework of prostate cancer precision medicine with a capability to detect heterogeneity across metastases and potential therapeutic targets less invasively. Here, we review recent technological advances that may help promote the future implementation and value of precision oncology testing for patients with advanced prostate cancer.Background: Mixed evidence exists regarding the effects of statins among men with prostate cancer. We aimed to determine the association between statin use and clinical outcomes in prostate cancer using systematic review and meta-analysis.Context: Evidence-based guidelines for active surveillance (AS), a treatment option for men with low-risk prostate cancer, recommend regular follow-up at periodic intervals to monitor disease progression. However, gaps in monitoring can lead to delayed detection of cancer progression, leading to a missed window of curability.Focal treatment for prostate cancer has been proposed as an innovative strategy that aims to achieve oncological benefit while reducing treatment-related morbidity. This treatment is suitable for patients with low and intermediate risk, organ-confined disease. Focal therapy can be categorized as follows: unifocal index lesion ablation, multifocal ablation, hemi-gland ablation or subtotal gland ablation. Different types of energies are applied in focal therapy including high intensity focal ultrasound (HIFU), cryotherapy, focal laser ablation (FLA), irreversible electroporation (IRE) and Photodynamic therapy (PDT). In this review we will briefly present a summary of leading techniques and the available data regarding their oncological outcomes and adverse events. Whole-gland therapies were excluded from this review.The landscape of cancer treatment has been transformed over the past decade by the success of immune-targeting therapies. However, despite sipuleucel-T being the first-ever approved vaccine for cancer and the first immunotherapy licensed for prostate cancer in 2010, immunotherapy has since seen limited success in the treatment of prostate cancer. The tumour microenvironment of prostate cancer presents particular barriers for immunotherapy. Moreover, prostate cancer is distinguished by being one of only two solid tumours where increased T cell-infiltration correlates with a poorer, rather than improved, outlook. Here, we discuss the specific aspects of the prostate cancer microenvironment that converge to create a challenging microenvironment, including myeloid-derived immune cells and cancer-associated fibroblasts. By exploring the immune microenvironment of defined molecular subgroups of prostate cancer, we propose an immunogenomic subtyping approach to single-agent and combination immune-targeting strategies that could lead to improved outcomes in prostate cancer treatment.Objective: Review of the oncological results of the radical prostatectomy as initial treatment

of prostate cancer, according to the surgical approach and the risk stratification using D'Amico risk groups.Effective patient care and efficient drug development require accurate tools to assess treatment effects. For metastatic castration-resistant prostate cancer (mCRPC), response biomarkers have historically been poorly reproducible, inaccurate, inconsistently applied, or only loosely associated with tangible clinical benefits such as survival. However, the field of response assessments for prostate cancer is maturing, in compliance with a rigorous process defined by analytic validation, clinical validation, and clinical qualification. For example, bone imaging with technetium-99m scintigraphy has historically been poorly used in prostate cancer clinical trials and routine patient care, and frequently has led to poor decision-making. However, contemporary clinical trial consensus criteria (Prostate Cancer Working Group 2 [PCWG2]) have standardized the definition of progression on bone scintigraphy and the clinical trials endpoint of radiographic progression-free survival (rPFS). A validated bone scan interpretation form captures the relevant data elements. rPFS and the forms have been undergoing prospective testing in multiple phase III studies. The first of these trials demonstrated a high degree of reproducibility and correlation with overall survival, and rPFS was used by the US Food and Drug Administration (FDA) for approval of abiraterone in chemotherapy-naïve mCRPC. Circulating tumor cells (CTC) are another class of assays with significant promise as response-indicator biomarkers. CTC enumeration has undergone analytic validation and has been FDA-cleared for monitoring patients with prostate cancer in conjunction with other clinical methods. It is not yet a surrogate for survival. Patient-reported outcomes (PROs) are direct indicators of patient benefit. The assays to measure PROs must undergo each of the steps of biomarker development, and are increasingly being standardized and used as clinical trial endpoints. In this review, we critically assess each of these classes of novel biomarkers--imaging, CTC, and PROs--in regard to the quality of data supporting their use to monitor clinical outcomes in advanced prostate cancer.Zinc is a group IIB heavy metal. It is an important regulator of major cell signaling pathways in most mammalian cells, functions as an antioxidant and plays a role in maintaining genomic stability. Zinc deficiency leads to severe diseases in the brain, pancreas, liver, kidneys and reproductive organs. Zinc loss occurs during tumor development in a variety of cancers. The prostate normally contains abundant intracellular zinc and zinc loss is a hallmark of the development of prostate cancer development. The underlying mechanism of this loss is not clearly understood. The knowledge that excess zinc prevents the growth of prostate cancers suggests that zinc-mediated therapeutics could be an effective approach for cancer prevention and treatment, although challenges remain. This review summarizes the specific roles of zinc in several cancer types focusing on prostate cancer. The relationship between prostate cancer and the dysregulation of zinc homeostasis is examined in detail in an effort to understand the role of zinc in prostate cancer.Active surveillance (AS) has emerged as a standard management option for men with very low-risk and low-risk prostate cancer, and contemporary data indicate that use of AS is increasing in the United States and abroad. In the favorable-risk population, reports from multiple prospective cohorts indicate a less than 1% likelihood of metastatic disease and prostate cancer-specific mortality over intermediate-term follow-up (median 5-6 years). Higher-risk men participating in AS appear to be at increased risk of adverse outcomes, but these populations have not been adequately studied to this point. Although monitoring on AS largely relies on serial prostate biopsy, a procedure associated with considerable morbidity, there is a need for improved diagnostic tools for patient selection and monitoring. Revisions from the 2014 International Society of Urologic Pathology consensus conference have yielded a more intuitive reporting system and detailed reporting of low-intermediate grade tumors, which should facilitate the practice of AS. Meanwhile, emerging modalities such as multiparametric magnetic resonance imaging and tissue-based molecular testing have shown prognostic value in some populations. At this time, however, these instruments have not been sufficiently studied to consider their routine, standardized use in the AS setting. Future studies should seek to identify those platforms most informative in the AS population and propose a strategy by which promising diagnostic tools can be safely and efficiently incorporated into clinical practice.Problem identification: To systematically evaluate the literature for functional quality-of-life (QOL) outcomes following treatment for localized prostate cancer. .Context: Optimal management for patients with intermediate-risk (IR) prostate cancer (PCa) remains controversial. Clinical metrics provide guidance on appropriate management options.To conduct a systematic review of the risks of short-term outcomes after major treatments for clinically localised prostate cancer. MEDLINE, EMBASE and the Cochrane Library were searched from 2004 to January 2013. Study arms that included ≥100 men with localised prostate cancer in receipt of surgery, radiotherapy or active surveillance and reported symptomatic and quality-of-life (QoL) data from 6 to 60 months after treatment were eligible. Data were extracted by one reviewer and checked by another. In

all, 64 studies (80 treatment cohorts) were included. Most were single treatment cohorts from the USA or Europe. Radiotherapy was the most common treatment (40 cohorts, including 31 brachytherapy cohorts) followed by prostatectomy (39 cohorts), with only one active surveillance cohort. Most frequently measured symptoms were urinary, followed by sexual, and bowel; QoL was assessed in only 17 cohorts. Most studies used validated measures, although poor data reporting and differences between studies meant that it was not possible to pool data. Data on the precise impact of short-term symptomatic and QoL outcomes after treatment for localised prostate cancer are of insufficient quality for clear guidance to men about the risks to these aspects of their lives. It is important that future studies focus on collecting core outcomes through validated measures and comply with reporting guidelines, so that clear and accurate information can be derived for men considering screening or treatment for prostate cancer.Prostate cancer is a heterogeneous disease whose therapies frequently have adverse effects. Informed patient counseling regarding likely clinical outcomes is therefore important. In this systematic review we aimed to identify all external validations of tools that are used to predict clinical outcomes in patients undergoing radical prostatectomy and evaluate which are optimum for clinical implementation. PubMed and EMBASE were searched from 2007 to 2016. Search terms related to the inclusion criteria were: prostate cancer, clinical outcomes, radical prostatectomy, and prognosis. Titles and abstracts were screened and relevant studies were advanced to full-text review. Reference lists were reviewed for further studies. The Centre for Evidence Based Medicine prognostic tool was used for critical appraisal. Seventy-three studies externally validated 13 pre- and 41 postoperative tools for the prediction of biochemical recurrence (BCR), aggressive BCR, metastasis, and prostate cancer-specific mortality (PCSM). Recommendations for clinical implementation were made on the basis of accuracy, cohort sizes, and consistency. The accuracy of recommended tools ranged from 68% to 79% and 72% to 92% among the largest validation cohorts for pre- and postoperative tools. For preoperative prognosis we recommended the Cancer of the Prostate Risk Assessment (CAPRA) and Stephenson nomograms for BCR, the CAPRA nomogram for aggressive BCR as well as metastasis, and the D'Amico criteria for PCSM. For postoperative prognosis we recommended the CAPRA-Surgery (CAPRA-S), Stephenson, Kattan, Duke prostate cancer (DPC), and the Suardi nomograms for the prediction of BCR, the DPC nomogram for aggressive BCR, the CAPRA-S and Eggener nomograms for metastasis, and the Eggener nomogram for PCSM. Use of these tools should help clinicians deliver accurate, evidence-based counseling to patients undergoing prostatectomy.Background: There are no universally monitored outcomes relevant to men with advanced prostate cancer, making it challenging to compare health outcomes between populations.Purpose: To assess the estimated effect of finasteride prevention of prostate cancer on overall survival.Among patients with prostate cancer, the prognosis after androgen deprivation therapy differs significantly among individuals and among races; however, the reasons underlying these differences are poorly understood. Several single nucleotide polymorphisms in genes associated with prostate cancer progression or castration resistance might serve as the host factor that influences prognosis and, thus, accounts for these individual and racial gaps in treatment outcomes. Accordingly, single nucleotide polymorphisms associated with treatment outcomes could be used as predictive and/or prognostic biomarkers for patient stratification and to identify personalized treatment and follow-up protocols. The present review has summarized the genetic polymorphisms that have been reported to associate with androgen deprivation therapy outcomes among patients with prostate cancer and compared the allele frequencies among different ethnic groups.Prostate cancer is a complex heterogeneous disease, and risk stratification remains a significant clinical challenge. Gene microarray has been developed to provide better prediction of clinical outcomes and potentially improve management of patients with various malignancies, including prostate cancer. Currently, several studies are evaluating the clinical significance of gene expression signatures in prostate cancer. These approaches might provide outcome predictions, such as treatment response, progression-free survival, overall survival, and metastatic status and offer new strategies to identify patients at high risk for personalized cancer therapies. This article discusses the latest developments in gene expression-based signatures that predict clinical behavior of prostate cancer. Gene profiling could lead to enhanced early detection and prognosis of prostate cancer, resulting in improved overall survival. The ability to predict clinical outcomes by the microarray-derived genetic signatures is promising; however, further studies are warranted to optimize its clinical utility in patients with prostate cancer.The effectiveness of radical prostatectomy alone for locally advanced prostate cancer is controversial owing to an increased complication rate and treatment-related morbidity. With technical advances and refinements in surgical techniques, robotic-assisted radical prostatectomy (RARP) has improved the

outcomes of patients with locally advanced prostate cancer. RARP therefore plays a role in the treatment of locally advanced prostate cancer. In this study, we enrolled a total of 76 patients with pathologic stage pT3a, pT3b, pT4, or pN1. All patients were followed from surgery to June 2022, and their characteristics, perioperative outcomes, complications, adjuvant therapies and outcomes were analyzed. The median age of the patients was 69 years, and the initial PSA level was 20.5 (IQR 10.8-31.6) ng/mL. The median operative time was 205 (IQR 182-241) minutes. Sixty-six patients (86.8%) regained continence within 1 year, and the continence rate within 3 years of follow-up was 90.8% (69 patients). The overall survival rate was 100%. Twenty-two patients had BCR, of whom 13 received salvage androgen deprivation therapy (ADT), 2 received salvage external beam radiation therapy (EBRT) alone, and 7 received combined ADT and EBRT. No patient had disease progression to castration-resistant prostate cancer during a median 36 months of follow-up after salvage therapy. Our results suggest that RARP can also decrease tumor burden and allow for accurate and precise pathological staging with the need for subsequent treatment. Therefore, we recommend that RARP represents a well-standardized, safe, and oncologically effective option for patients with locally advanced prostate cancer.The treatment of localized prostate cancer remains controversial because of the lack of conclusive well-controlled or randomized studies comparing outcome of various forms of radiotherapy (RT) to radical prostatectomy (RP). We review recent results from an institutional database and prospective quality of life study comparing cancer-related and quality of live (QOL) outcomes among different treatment modalities for intermediate risk prostate cancer. The results suggest similar short-term survival but domain-specific effects on QOL after treatment with radical prostatectomy, brachytherapy, or external beam radiotherapy.The mainstay of treatment for men with three or fewer non-castrate metastatic lesions outside of the prostate remains morbid palliative androgen deprivation therapy. We believe there is now a significant body of retrospective literature to suggest a survival benefit if these men have radical treatment to their primary tumour alongside 'metastasis-directed therapy' to the metastatic deposits. However, this regimen should be reserved to high-volume centres with quality assurance programmes and excellent outcomes. Patients should be made clear as to the uncertainty of benefit for this multi-site treatment strategy, and we await the publication of randomised controlled trials reporting in the next 5 years.High Intensity Focused Ultrasound (HIFU) is a definitive treatment for localized prostate cancer that is currently utilized most in Europe and Japan but it not yet approved by the FDA for this indication. Within the armamentarium of definitive prostate cancer therapies it is unique as it is truly non-invasive and does not involve incision or excision. The purpose of this paper is to review the scientific foundation of the technology as well as the clinical outcomes of commercially available devices. The scientific foundation of HIFU is reviewed in terms of how it has resulted in the development of commercially available equipment. MEDLINE was used to search the medical literature for publications pertaining to HIFU for prostate cancer as a primary therapy in terms of clinical outcomes. Biochemical disease free rates as well as negative biopsy rates are reviewed. Different engineering optimization strategies in the face of technicalities inherent to HIFU for prostate cancer have led to the development of two distinct commercially available devices. Each has their own merits and limitations. HIFU provides excellent biochemical and local control and results appear to be durable. Clinical outcomes are similar for the two technologies developed but are difficult to compare due to different lengths of follow-up and varying patient populations. HIFU is a technically advanced definitive local therapy for prostate cancer. Short and medium term results are encouraging and its role as a primary therapy for prostate cancer continues to be defined as more results become available.Objectives: We reviewed the incidence, management, and survival outcomes of prostate cancer among kidney transplant recipients and compared these characteristics with a national population (nonrecipients).Potentially curative salvage options for radio-recurrent prostate cancer include prostatectomy, brachytherapy, high-intensity focused ultrasound, and cryotherapy. Salvage cryoablation technology, surgical technique, oncologic outcomes, and complication rates have improved dramatically over the past few decades, shifting this treatment modality from investigational status to an established therapeutic option. In this review, we focus on the most up-to-date oncologic and functional outcomes, as well as complications of salvage cryotherapy for radiation-recurrent prostate cancer.Purpose of review: Active surveillance is a management strategy for early-stage prostate cancer designed to balance early detection of aggressive disease and overtreatment of indolent disease. We evaluate recently reported outcomes and discuss the potentially most important endpoints for such an approach.Objectives: To report experience with focal brachytherapy (FB) and compare its clinical outcomes with those of radical prostatectomy (RP) in localized prostate cancer.Background: Among men with localized high-risk prostate cancer (PCa),

patients who meet very high-risk (VHR) criteria have been shown to experience worse outcomes after radical prostatectomy (RP) in a previous study. Variations of VHR criteria have been suggested to be prognostic in other single-center cohorts, but multicenter outcomes validating VHR criteria have not been described. This study was designed to validate VHR criteria for identifying which PCa patients are at greatest risk for cancer progression.Prostate cancer is the most common noncutaneous cancer affecting men today. It largely affects men in the fifth and sixth decade of life. Screening for prostate cancer, though controversial, is still the only way to detect early prostate cancer. Multiple newer options such as blood tests and genetic markers are being used in the clinical domain today to improve cancer detection and avoid unnecessary biopsies. To date, biopsy of the prostate remains the only modality to stratify the grade of cancer. Significant improvements in the imaging technology have improved localizing and detecting the disease. Treatment of prostate cancer is stratified on the basis of the grade and volume of the disease. There are multiple treatment options involved in the management of prostate cancer. Treatment of localized prostate cancer still continues to have very high cure rates and long-term cancer-specific survival rates.Prostate cancer (PCa) is the most common non-dermatologic cancer in the western countries in western countries. High-risk PCa accounts for 15% of the diagnosed cases. In this study, we compare the long-term survival outcomes of radical prostatectomy (RP), radiation therapy (RT), brachytherapy (BT), androgen- deprivation therapy (ADT), and watchful waiting (WW) in high-risk prostate cancer (PCa). Overall, RP/(RT plus ADT) gave the best survival outcome in patients with high-risk PCa, whereas ADT/WW had the worst outcome. The overall priority for treatment strategy could be ranked as follows: RP/(RT plus ADT), RT, and ADT/WW. RP had significant better overall survival (OS) than RT or BT, and RP had significant lower cancer-specific mortality (CSM) than RT (0.51 [95% CI 0.30-0.73], P<0.001). ADT improved the cancer-specific survival (CSS) of RP based on a case-controlled study; added ADT to RT failed to challenge the position of RP but could improve the outcome of RT. In conclusions,RP/(RT plus adjuvant ADT) could both be used for the first-line therapy of high-risk PCa. When encountering an individual patient, urologists should consider various factors like tumors themselves, preferences of individuals, and so on.It is a paradigm in cancer treatment that early detection and treatment improves survival. However, although screening measures lead to a higher rate of detection, for small bulk localised prostate cancer it remains unclear whether early detection and early treatment will lead to an overall decrease in mortality. The management options include surveillance, radiotherapy, and radical prostatectomy but there is no evidence base to evaluate the benefits of each approach. Advanced prostate cancer is managed by hormonal therapy. There have been major changes in treatment over the last two decades with the use of more humane treatment and developments in both chemotherapy and radiation. In this article we review the natural history and management of prostate cancer.Since 2016, certified prostate cancer centres have been able to participate in the Prostate Cancer Outcomes (PCO) study. The aim of this study is to compare outcomes across centres after local treatment for prostate cancer. The study originated from a support group initiative and is jointly carried out by the German Cancer Society (Deutsche Krebsgesellschaft), the certification institute OnkoZert, patient support groups and the participating centres. So far, centres have been more successful at recruiting patients undergoing surgery than those receiving radiotherapy as the definitive treatment. This means that conclusions for the latter group of patients are almost impossible. It is important to us that all types of treatment are equally well represented in the study; thus, we encourage radiation therapists to participate in the PCO study.Introduction: Prostate cancer is themost prevalent and deadliest neoplasm in men, with adiverse clinical presentantion and oncological outcomes.The diagnosis and treatment remains a challenge.New essays about biomarkers show their potential asa tool that may influence in clinical decision making,risk stratification and management of the disease.Prostate cancer is the most commonly diagnosed noncutaneous tumor in North American men and confers significant morbidity and mortality to the general population. The use of screening tools to detect prostate cancer at an early stage may have beneficial effects on an individual's prognosis. However, the intense use of these screening modalities also detects tumors that may have a relatively benign course and for which intensive treatment is not necessary. There is a large body of research that evaluated biochemical, physiological, or somatic genetic measures in relation to prostate cancer progression or prognosis. Environmental exposures may also affect these outcomes. In contrast, inherited markers of genetic susceptibility to prostate cancer have largely been used to predict occurrence of disease rather than disease outcome. The use of inherited genetic markers to evaluate prostate cancer outcome could enhance our ability to identify those men who are more likely to develop clinically significant prostate cancer and to intervene in these men to reduce morbidity and mortality resulting from prostate cancer.Purpose: To review the recently published contemporary long-term

outcomes from tertiary care urologic practices comparing brachytherapy-based management strategies and radical prostatectomy (RP) across intermediate- and high-risk groups.Prostate cancer is the second most common cause of cancer-related death in men in the USA, but the effect of prostate cancer diagnosis and treatment on men in a sexual minority group, including men who have sex with men and transgender women, is poorly understood. Efforts to study this population are complicated, as cancer registries do not routinely collect information on sexual orientation. As a result, epidemiological data regarding this population have come from small studies that have included disparate rates of prostate cancer screening, diagnosis and treatment. Qualitative studies indicate that prostate cancer is experienced differently by sexual minorities, with distinct health-care needs that arise owing to differences in sexual practices, social support systems and relationships with the medical community. Notably, sexual minorities have been reported to experience poorer health-related quality of life outcomes than heterosexual men, and tend to have less robust social support systems, experience increased psychological distress caused by sexual dysfunction (areas of which are unmeasured after treatment), experience isolation within the health-care system and express increased levels of dissatisfaction with treatment. The incidence of prostate cancer actually seems to be decreased in men from sexual minorities living with HIV, despite there being no differences in screening and treatment, with poor cancer-specific mortality. Although the literature on patients with prostate cancer in men from sexual minority groups has historically been sparse, peer-reviewed research in this area has grown considerably during the past decade and has become an important field of study.Brachytherapy is performed by directly inserting radioactive sources into the prostate gland and is an important treatment option for appropriately selected men with prostate adenocarcinoma. Brachytherapy provides highly conformal radiotherapy and delivers tumoricidal doses that exceed those administered with external beam radiation therapy. There is a significant body of literature supporting the excellent long-term oncologic and safety outcomes achieved when brachytherapy is used for men in all risk categories of nonmetastatic prostate cancer. This article highlights some important considerations and published outcomes that relate to brachytherapy and its role in the treatment of prostate cancer.The American Cancer Society estimates approximately 268,490 new cases of prostate cancer and approximately 34,500 deaths caused by prostate cancer in the United States for 2022. Globally, a total of 1,414,259 new cases of prostate cancer and 375,304 related deaths were reported in 2020. Well-documented health disparities and inequities exist along the continuum of care for prostate cancer management-from screening to diagnostic and staging work-up, surveillance, and treatment-ultimately impacting clinical outcomes. This session-based article discusses innovative patient-centered approaches to advance equitable prostate cancer care. It begins with a review of domestic health disparities in diagnostic imaging and radiotherapy for prostate cancer, and it summarizes barriers and solutions to achieving health equity, such as equity metrics and practice quality improvement projects. Next, a global perspective is provided that describes approaches to address financial and geographic barriers to prostate cancer care, including specific examples of strategies that emphasize the use of the cheapest method of care delivery while maintaining outcomes for drug delivery and radiotherapy.Background: Prostate cancer is the most commonly diagnosed and prevalent malignancy reported to Australian cancer registries, with numerous studies from single institutions summarizing patient outcomes at individual hospitals or States. In order to provide an overview of patterns of care of men with prostate cancer across multiple institutions in Australia, a specialized dataset was developed. This dataset, containing amalgamated data from South Australian and Victorian prostate cancer registries, is called the South Australian-Victorian Prostate Cancer Health Outcomes Research Dataset (SA-VIC PCHORD).Introduction: The 23rd Annual Prostate Cancer Foundation (PCF) Scientific Retreat was convened October 27-29, 2016, in Carlsbad, CA.Purpose: To perform a systematic review of the evidence to determine the efficacy and effectiveness of three-dimensional conformal radiotherapy (3D-CRT) for localized prostate cancer; provide a clear presentation of the key clinical outcome questions related to the use of 3D-CRT in the treatment of localized prostate cancer that may be answered by a formal literature review; and provide concise information on whether 3D-CRT improves the clinical outcomes in the treatment of localized prostate cancer compared with conventional RT.Objectives: To compare the outcomes of radical prostatectomy (RP), intensity-modulated radiation therapy (IMRT), and low-dose-rate brachytherapy (BT) using propensity score matching analysis in patients with clinically localized prostate cancer.Objective: To assess the outcomes of active monitoring (active surveillance or watchful waiting) as an initial management approach compared to upfront definitive local treatments (prostatectomy or radiation therapy) in a cohort of clinically localized prostate cancer patients.Prostate cancer is the most common non-cutaneous malignancy in men and poses a

substantial risk to the life and health of patients. Treatment options for patients with prostate cancer are plentiful. Radical prostatectomy is one option that can be performed using several different surgical approaches. It can be performed with limited risk of complications and is likely to be curative in patients with organ-confined disease and those with limited extracapsular extension.The first results of the UK ProtecT study have been published. A total of 1643 men with localised prostate cancer were randomised between active monitoring, radical prostatectomy, and external-beam radiotherapy. Comparisons between treatments showed no differences between surgery and radiotherapy in terms of cancer-specific survival and overall survival. Moreover, the patient-reported outcomes indicate that although the patterns of treatment-related side effects differ markedly according to the modality, neither surgery nor radiotherapy appears to be "kinder" overall. Conclusions from nonrandomised case series can be misleading, however carefully they are analysed, and this is particularly so for early prostate cancer.During the last 15 years, a series of substantial technical improvements have occurred in external beam radiation and brachytherapy. The introduction of PSA-based posttreatment monitoring has allowed a reasonable comparison between each radiation modality and prostatectomy. Such comparisons show more similarities than differences. Probably the most exciting finding in regard to curing cancer is that higher-risk patients have a more favorable prognosis than previously recognized using higher doses now achievable with either form of radiation.Oligometastatic prostate cancer represents an intermediate state between a localized tumor and widespread metastatic disease. Its specific clinical features suggest the existence of a distinct biology which still needs to be elucidated. New imaging techniques like prostate specific membrane antigen (PSMA) PET scans have shown to perform well in the staging and restaging of this category of patients, at different phases of disease evolution. Despite limited prospective evidence, metastasis-directed therapies (MDT) are emerging as valid treatment options able to postpone systemic therapies and probably improve survival outcome. The aim of this review is to shed light on the clinical scenario of prostate cancer patients with limited metastatic disease burden and highlight the role of MDT strategies in this setting.Purpose of review: This review provides an overview of the current role of genetic testing in prostate cancer screening, diagnosis, and treatment.Immune microenvironment of prostate cancer (PCa) is implicated in disease progression. However, previous studies have not fully explored PCa immune microenvironment. This study used ssGSEA algorithm to explore expression levels of 53 immune terms in a combined PCa cohort (eight cohorts; 1,597 samples). The top 10 immune terms were selected based on the random forest analysis and used for immune-related risk score (IRS) calculation. Furthermore, we explored differences in clinical and genomic features between high and low IRS groups. An IRS signature based on the 10 immune terms showed high prediction potential for PCa prognosis. Patients in the high IRS group showed significantly higher percentage of immunotherapy response factors, implying that IRS is effective in predicting immunotherapy response rate. Furthermore, consensus clustering was performed to separate the population into three IRSclusters with different clinical outcomes. Patients in IRScluster3 showed the worst prognosis and highest immunotherapy response rate. On the other hand, patients in IRScluster2 showed better prognosis and low immunotherapy response rate. In addition, VGLL3, ANPEP, CD38, CCK, DPYS, CST2, COMP, CRISP3, NKAIN1, and F5 genes were differentially expressed in the three IRSclusters. Furthermore, CMap analysis showed that five compounds targeted IRS signature, thioridazine, trifluoperazine, 0175029-0000, trichostatin A, and fluphenazine. In summary, immune characteristics of PCa tumor microenvironment was explored and an IRS signature was constructed based on 10 immune terms. Analysis showed that this signature is a useful tool for prognosis and prediction of immunotherapy response rate of PCa.Purpose of review: Quality of life (QoL) outcomes have been reported in the literature and incorporated in decision-making in localized prostate cancer management for decades. Until recently, there was less emphasis on understanding the QoL effects of therapies for patients with advanced disease, possibly because there were fewer options for treatment. The purpose of this review is to summarize the key recent literature describing QoL outcomes for prostate cancer treatments in different disease settings.Intraductal cribriform (IDC) and invasive cribriform morphologies are associated with worse prostate cancer outcomes. Limited retrospective studies have associated IDC and cribriform morphology with germline mutations in DNA repair genes, particularly BRCA2. These findings, which prompted the National Comprehensive Cancer Network (NCCN) Guidelines for Prostate Cancer and Genetic/Familial High-Risk Assessment to consider germline testing for individuals with IDC/cribriform histology, have been questioned in a recent prospective study. A deepened understanding of the molecular mechanisms driving disease aggressiveness in cribriform morphology is critical to provide more clarity in clinical decision making. This review summarizes the current understanding of IDC and cribriform prostate

cancer, with an emphasis on clinical outcomes and molecular alterations.Aim: This systematic review summarizes the clinical data on focal therapy (FT) when used alone as definitive therapy for primary prostate cancer (PCa).The combination of radiation treatment and long-term androgen deprivation therapy (ADT) has been shown in multiple clinical trials to prolong overall survival in men with high-risk prostate cancer compared with either treatment alone. New radiation technologies enable the safe delivery of high radiation doses that improve cancer control compared with lower radiation doses. Based on the results of multiple randomized trials, clinical practice guidelines for high-risk prostate cancer recommend total radiation doses of at least 75.6 Gy, with long-term (2-3 years) ADT. Ongoing research into hypofractionated radiation treatment, whole-pelvic radiation, and combinations of radiation with novel hormonal agents could further improve cancer control and survival outcomes for patients with high-risk prostate cancer.Sipuleucel-T, a therapeutic dendritic-cell vaccine, was Food and Drug Administration-approved for prostate cancer in 2010. No new immunotherapies for prostate cancer have been approved since. However, novel agents and combination approaches offer great promise for improving outcomes for prostate cancer patients. Here we review the latest developments in immunotherapy for prostate cancer. Sipuleucel-T has demonstrated a survival advantage of 4.1 months in metastatic castration-resistant prostate cancer. PSA-TRICOM (PROSTVAC), a prostate-specific antigen-targeted vaccine platform, showed evidence of clinical and immunologic efficacy in early-phase clinical trials, and results from a phase III trial in advanced disease are pending. While immune checkpoint inhibitors appear to have modest activity as monotherapy, preclinical and clinical data suggest that they may synergize with vaccines, poly [ADP-ribose] polymerase inhibitors, and other agents. Several clinical studies that combine these therapies are underway. Combining prostate cancer vaccines with immune checkpoint inhibitors has great potential for improving clinical outcomes in prostate cancer. Such combination approaches may create and then recruit tumor-specific T cells to tumor while also increasing their effector function. Other emerging agents may also enhance immune-mediated tumor destruction.Objective: To understand oncologic outcomes of focal cryoablation for prostate cancer and efficacy MRI and PSA to predict residual disease and recurrence.Currently, Black men in the United States are greater than 1.5 times as likely to be diagnosed with prostate cancer and more than twice as likely to succumb to the disease. While racial disparities in prostate cancer have been well documented, we must analyze these disparities in the correct context. Discussion of these disparities without correctly describing race as a social construct and acknowledging the impact of structural racism is insufficient. This article reviews the disparities seen in screening, treatment, outcomes, and clinical trial participation. We conclude by outlining future steps to help understand and study disparities, as we strive toward equitable outcomes.Purpose of review: The goal of this article is to discuss current genomic testing options in localized prostate cancer.The 22nd Annual Prostate Cancer Foundation (PCF) Scientific Retreat was convened in Washington, D.C. from October 8 to 10, 2015. This event is the foremost scientific conference in the world focusing on basic, translational, and clinical prostate cancer research with the highest potential for accelerating the understanding of prostate cancer biology and improving the lives and outcomes of prostate cancer patients. Topics highlighted during the 2015 Retreat included: (i) new strategies and treatments for localized high-risk, hormone-naïve, oligometastatic, castrate-resistant, and treatment-refractory prostate cancer settings; (ii) the biology and genomics of tumor heterogeneity and tumor evolution; (iii) new understandings on the mechanisms and targeting of oncogenic drivers of prostate cancer; (iv) bioengineering of novel therapies and drug delivery methods; (v) innovative approaches to tumor immunotherapy; (vi) emerging molecular imaging technologies with improved sensitivity and specificity; and (vii) advancements in prognostic and predictive biomarkers and precision medicine strategies. Prostate 76:1037-1052, 2016. © 2016 Wiley Periodicals, Inc.Proteomics has offered the hope of biomarker discovery to improve the management of prostate cancer. Markers are needed for screening and diagnosis, distinguishing latent from aggressive disease, defining the men who will benefit from therapy, differentiating localized from metastatic disease, predicting outcome and identifying new targets for therapy. There are many potential sources of proteins derived from the prostate, including urine, prostatic fluid (expressed or ejaculate), serum, and plasma or tissue, each with distinct advantages and limitations. Equally, there are many methodological platforms for proteomic studies of the prostate. Despite the promise, protoemics has yielded little of relevance to the management of prostate cancer, and most of the work that has been published is either irreproducible or of no clinical value.According to current literature, the gold standard treatment for T3 prostate cancer is the combination of radiotherapy and extended hormonotherapy. Clinical staging based on digital rectal examination seems useless nowadays, since 20% of T3 prostate cancer is overevaluated during

physical examination. Prostatic MRI is extensively needed to evaluate extraprostatic extension during preoperative work-up. EAU guidelines recommend radical prostatecomy only in selected patients: less than or equal to cT3a, PSA less than 20 ng/ml and biopsy Gleason score less than or equal to 8. Carcinologic control obtained after radical prostatectomy is variable from one series to another, with biochemical free survival rate at 5, 10 and 15 years that range from 45 to 62%, 43 to 51%, and 38 to 49%. Specific survival rates at 5, 10 and 15 years are, respectively, of 84 to 98%, 85 to 91% and 76 to 84%. Surgical margins rate differ from 22 up to 61% corresponding to several operative techniques and surgeon's own experience. Regarding urinary continence, functional outcomes are in line with those of prostatectomy for localized prostate cancer. Considering erectile dysfunction, rates are linked with the type of surgery, which can be extensive or not. There is no impact on overall or specific survival of neoadjuvant treatments. One current question remains the efficacy of early adjuvant treatment after prostatectomy, especially adjuvant irradiation. Radical prostatectomy can be considered in selected cases as a viable alternative first-line treatment option. However, patients have to be warned that they may undergo complementary treatments during the postoperative course of the disease.Purpose of review: Exercise is a provocative medicine, known for its preventive, complimentary and rehabilitative role in the management of cancer. Impressively, exercise is also emerging as a synergistic and targeted medicine to enhance symptom control, modulate tumour biology and delay disease progression, with the potential to increase overall survival. Given the complex clinical presentation of advanced prostate cancer patients and their omnipresent comorbidities, this review describes the current and potential role of exercise medicine in advanced prostate cancer.Objective: To quantify outcomes of individuals diagnosed and treated for prostate cancer in a single institution.Due to its immunosuppressive tumor microenvironment, prostate cancer has historically been difficult to treat with immuno-oncology approaches. Other than pembrolizumab, which is now regulatory-approved for all microsatellite instability (MSI)-high and tumor mutational burden (TMB)-high advanced solid tumors, sipuleucel-T is the only immunotherapeutic agent approved by the US Food and Drug Administration (FDA) for prostate cancer. However, sipuleucel-T efficacy is optimal for select patients with indolent metastatic castration-resistant prostate cancer. Although manipulation of immune regulation by blocking immune checkpoints has led to substantial benefit in many cancers, experience with single-agent CTLA-4 and PD-1 or PD-L1 antibodies has shown limited effect for the majority of patients with prostate cancer, especially when administered as monotherapy. Combination therapies are now being attempted, in addition to enrichment strategies employing patient clinicopathologic and biologic characteristics that may heighten responses to immuno-oncology treatment, such as PD-L1 expression, TMB, MSI status, and alterations in CDK12. More work is needed to overcome the immune-exclusive barriers in prostate cancer, such as relatively low TMB, increased activity of myeloid-derived suppressor cells (MDSCs) and regulatory T cells, and defects in major histocompatibility complex (MHC) class I expression and interferon (IFN)-1 signaling. A promising approach and the likely next step in immuno-oncology for prostate cancer involves forced direction to markers expressed by prostate cancer tumor cells, such as prostate-specific membrane antigen (PSMA), that bypass the typical requirements for MHC class I interaction. The future will incorporate bispecific antibodies and chimeric antigen receptor (CAR)-T cells, potentially targeted towards phenotypic markers identified by next-generation PET imaging as part of the next wave of "precision medicine" in prostate cancer. Ultimately, we believe that the immune-exclusive prostate cancer tumor microenvironment can be overcome, and that patient outcomes can be enhanced through these more refined immuno-oncology approaches.Prostate cancer is now becoming an emerging health priority in East Asia. Most of our current knowledge on Prostate cancer has been generated from studies conducted in Western population; however, there is considerable heterogeneity of Prostate cancer between East and West. In this article, we reviewed epidemiologic trends, risk factors, disease characteristics and management of Prostate cancer in East Asian population over the last decade. Growing evidence from East Asia suggests an important role of genetic and environmental risk factors interactions in the carcinogenesis of Prostate cancer. Exposure to westernized diet and life style and improvement in health care in combination contribute substantially to the increasing epidemic in this region. Diagnostic and treatment guidelines in East Asia are largely based on Western knowledge. Although there is a remarkable improvement in the outcome over the last decade, ample evidence suggests an inneglectable difference in diagnostic accuracy, treatment efficacy and adverse events between different populations. The knowledge from western countries should be calibrated in the Asian setting to provide a better race-based treatment approach. In this review, we intend to reveal the evolving trend of Prostate cancer in the last decade, in order to gain evidence to improve Prostate

cancer prevention and control in East Asia.New imaging techniques are more sensitive in prostate cancer and reveal sites of disease that may never have been seen with conventional imaging, resulting in stage migration and potentially a change in the clinical management. Until long-term data provide a better understanding of the natural history of the disease defined by more sensitive imaging, patients and clinicians should recognise the considerable uncertainty about whether these improve outcomes. It is hoped that the next iteration of the TNM classification will recognise the problem in some way.Value in health care is measured by outcomes and expense. An agreed upon desirable outcome can be indexed against the health care expenditure required for procurement. Prostate cancer treatment is an especially difficult subject for investigation of value. The late onset of the disease, coupled with competitive mortality risk, confounds value analysis. When cost considerations are made paramount, observation is the apparent treatment of choice. J. Surg. Oncol. 2016;114:288-290. © 2016 Wiley Periodicals, Inc.Despite extensive clinical research of different chemotherapy agents for more than three decades, the role of chemotherapy in prostate cancer was only established in 2004, after demonstrating a survival benefit with docetaxel in metastatic castration-resistant prostate cancer. 6 years later, second-line chemotherapy using cabazitaxel, after disease progression on docetaxel, demonstrated an additional survival improvement. Recently, docetaxel given alongside standard hormonal therapy in newly diagnosed advanced prostate cancer was found to lead to significantly improved patient outcomes. This article aims to cover the role of chemotherapy in prostate cancer and the latest developments.Objectives: Though the external beam radiation therapy is a standard treatment option for both organ-confined and regionally advanced prostate cancer, unluckily, despite more and more effective advances in radiation delivery procedures, the prostate cancer radioresistance still occurs in a significant amount of patients undergone radiotherapy. This review aims to highlight the molecular aberrations of prostate cancer cell growth- and apoptosis signaling pathways that might induce, together with both prostate cancer cell/cancer stem cells gene- and surrounding microenvironment crucial implications, the tumor radioresistance.Aim: To review the current landscape of outlier genes in the field of prostate cancer.One of the strongest risk factors for prostate cancer is a family history of the disease. Germline mutations in the breast cancer predisposition gene 2 (BRCA2) are the genetic events known to date that confer the highest risk of prostate cancer (8.6-fold in men ≤65 years). Although the role of BRCA2 and BRCA1 in prostate tumorigenesis remains unrevealed, deleterious mutations in both genes have been associated with more aggressive disease and poor clinical outcomes. The increasing incidence of prostate cancer worldwide supports the need for new methods to predict outcome and identify patients with potentially lethal forms of the disease. As we present here, BRCA germline mutations, mainly in the BRCA2 gene, are one of those predictive factors. We will also discuss the implications of these mutations in the management of prostate cancer and hypothesize on the potential for the development of strategies for sporadic cases with similar characteristics.The use of positron emission tomography (PET) with 18F-fluorodeoxyglucose (FDG) in prostate cancer depends on the phase of the disease along the natural history of this prevalent malignancy in men. Incidental high FDG uptake in the prostate gland, although rare, should prompt further investigation with at least a measurement of serum prostate specific antigen level. Although in general FDG uptake level may significantly overlap among normal, benign, and malignant tissues, aggressive primary tumors with Gleason score > 7 tend to display high FDG uptake. PET with FDG may be useful in staging of those patients with aggressive primary tumors and can localize the site of disease in a small fraction of men with biochemical failure and negative conventional imaging studies. FDG-PET may be quite useful in treatment response assessment and prognostication of patients with castrate-resistant metastatic prostate cancer.Purpose: Men with germline mutations in DNA repair genes have a higher risk of prostate cancer. Active surveillance is the preferred treatment modality for low risk prostate cancer. However, many fear offering this alternative to men with germline mutations. We describe the short-term oncologic outcomes of active surveillance in a population of men with a high genetic predisposition for prostate cancer.Despite notable screening, diagnostic, and therapeutic advances, disparities in prostate cancer incidence and outcomes remain prevalent. Although commonly discussed in the context of men of African descent, disparities also exist based on socioeconomic level, education level, and geographic location. The factors in these disparities span systemic access issues affecting availability of care, provider awareness, and personal patient views and mistrust. In this review, we will discuss common themes that patients have noted as impediments to care. We will review how equitable access to care has helped improve outcomes among many different groups of patients, including those with local disease and those with metastatic castration-resistant prostate cancer. Even with more advanced presentation, challenges with recommended screening, and lower

rates of genomic testing and trial inclusion, Black populations have benefited greatly from various modalities of therapy, achieving comparable and at times superior outcomes with certain types of immunotherapy, chemotherapy, androgen receptor-based inhibitors, and radiopharmaceuticals in advanced disease. We will also briefly discuss access to genomic testing and differences in patterns of gene expression among Black patients and other groups that are traditionally underrepresented in trials and genomic cohort studies. We propose several strategies on behalf of providers and institutions to help promote more equitable care access environments and continued decreases in prostate cancer disparities across many subgroups.Introduction: Prostate cancer is the most common solid organ malignancy in men in the United States. Until recently, treatment options for men with metastatic disease were limited and patients faced poor outcomes with minimal alternatives. The landscape of prostate cancer treatment has transformed and taken shape over the last 20 years with novel hormonal and non-hormonal therapeutics that have demonstrated significant improvement in survival. However, patients with advanced disease still face imminent progression on hormone blockade therapy.Surgery remains a mainstay in the management of localized prostate cancer. This article addresses surgical aspects germane to the management of men with prostate cancer, including patient selection for surgery, nerve-sparing approaches, minimization of positive surgical margins, and indications for pelvic lymph node dissection. Outcomes for men with high-risk prostate cancer following surgery are reviewed, and the present role of neoadjuvant therapy before radical prostatectomy is discussed. In addition, there is a review of the published literature on surgical ablative therapies for prostate cancer.Background: Reports suggest worse health-related outcomes among black (vs white) men diagnosed with prostate cancer, but appropriate cause-effect inferences are complicated by the relationship of race and other prognostic factors.Since the dissemination of prostate-specific antigen screening, most men with prostate cancer are now diagnosed with localized, low-risk prostate cancer that is unlikely to be lethal. Nevertheless, nearly all of these men undergo primary treatment with surgery or radiation, placing them at risk for longstanding side effects, including erectile dysfunction and impaired urinary function. Active surveillance and other observational strategies (ie, expectant management) have produced excellent long-term disease-specific survival and minimal morbidity for men with prostate cancer. Despite this, expectant management remains underused for men with localized prostate cancer. In this review, various approaches to the expectant management of men with prostate cancer are summarized, including watchful waiting and active surveillance strategies. Contemporary cancer-specific and health care quality-of-life outcomes are described for each of these approaches. Finally, contemporary patterns of use, potential disparities in care, and ongoing research and controversies surrounding expectant management of men with localized prostate cancer are discussed.Background: Utilization of active surveillance (AS) for prostate cancer is increasing. Optimal selection criteria for this approach are undefined and questions remain on how best to expand inclusion beyond typical men with very low- or low-risk disease. We sought to review the current experience with AS for men with intermediate-risk featuresMethods:PubMed was queried for all relevant original publications describing outcomes for men with prostate cancer managed with AS. Outcomes for patients with intermediate-risk features as defined by the primary investigators were studied when available and compared with similar risk men undergoing immediate treatment.Locally advanced prostate cancer is regarded as a very high-risk disease with a poor prognosis. Although there is no definitive consensus on the definition of locally advanced prostate cancer, radical prostatectomy for locally advanced prostate cancer as a primary treatment or part of a multimodal therapy has been reported. Robot-assisted radical prostatectomy is currently carried out even in high-risk prostate cancer because it provides optimal outcomes. However, limited studies have assessed the role of robot-assisted radical prostatectomy in patients with locally advanced prostate cancer. Herein, we summarize and review the current knowledge in terms of the definition and surgical indications of locally advanced prostate cancer, and the surgical procedure and perisurgical/oncological outcomes of robot-assisted radical prostatectomy and extended pelvic lymphadenectomy for locally advanced prostate cancer.Aim: To assess whether clinical trial participation affects survival outcomes of radiotherapy-treated localized prostate cancer patients compared with similar treatment within a real-world setting.Clinical outcomes in prostate cancer are heterogeneous, and given the high prevalence of the disease, there is a pressing need to identify clinically useful markers of prognosis. Many clinical, pathological, molecular, and genetic factors have been investigated in this capacity, although relatively few are routinely used. With a growing understanding of the molecular pathogenesis of prostate cancer, there is the potential that the next generation of makers will prove sufficiently robust to guide the optimal management of men with prostate cancer. Here, we review the various clinical and

molecular prognostic determinants in prostate cancer.Background: Systemic Therapy in Advancing or Metastatic Prostate Cancer: Evaluation of Drug Efficacy (STAMPEDE) trial showed the survival benefit for prostate radiotherapy in newly diagnosed prostate cancer patients with a low metastatic burden. The result raises the next question whether additional radiotherapy to metastatic sites could improve the survival in those with a low metastatic burden.Background: The aim of this study was to describe pathologic and short-term oncologic outcomes among Black and White men with grade group 4 or 5 prostate cancer managed primarily by radical prostatectomy.Introduction: Guidelines for germline testing in patients with prostate cancer (PCa) are identifying family members who require additional surveillance given pathogenic variants (PVs) that confer increased PCa risk. We established an interdisciplinary clinic for cancer surveillance in high-risk individuals aimed to implement screening recommendations. This study aimed to characterize the clinical features of this cohort.Background: A family history (FH) of prostate cancer (PrCa) is associated with an increased likelihood of PrCa diagnosis. Conflicting evidence exists regarding familial PrCa and clinical outcomes among PrCa patients, including all-cause mortality/overall survival (OS), PrCa-specific survival (PCSS), aggressive histology, and stage at diagnosis.Background: Being in a supportive relationship may have improved the health-related quality of life (HRQOL) of men with prostate cancer, if the support was strong and positive. In the current study, the authors sought to examine the impact of partnership status on the mental health of men treated for localized prostate cancer.The treatment landscape for metastatic castration-sensitive prostate cancer (mCSPC) has rapidly evolved over the past 5 years. Although androgen-deprivation therapy (ADT) is still the backbone of treatment, the addition of docetaxel or abiraterone acetate has improved outcomes for patients with mCSPC and become standard of care. With multiple treatment options available for patients with mCSPC, treatment selection to optimize patient outcomes has become increasingly difficult. Here, we review the clinical trials involving ADT plus docetaxel or abiraterone and provide clinicians with guidelines for treatment. Although surgery and/or radiation are standard of care for localized, intermediate- and high-risk prostate cancer, these treatments are not routinely used as part of initial treatment plans for patients with de novo mCSPC. Recent clinical data are challenging that dogma, and we review the literature on the addition of surgery and radiation to systemic therapy for mCSPC. Finally, the standard of care for oligometastatic prostate cancer (a subset of mCSPC with limited metastases) has not been established compared with that for some other cancers. We discuss the recent studies on metastasis-directed therapy for treatment of oligometastatic prostate cancer.Purpose: Prostate cancer mortality is predicted to nearly double by 2040 in Sub-Saharan Africa (SSA). The lack of prostate cancer screening in SSA contributes to late-stage diagnosis, treatment delays, and poor survival among patients. We analyzed the availability and use of prostate cancer screening, diagnostic and treatment guidelines, procedures, and costs in few SSA countries to determine factors for consideration in the development of prostate cancer screening guidelines for SSA.Purpose of review: Although cytoreductive surgery is accompanied with prolonged survival in many other malignancies in a metastatic stage, its role in oligometastatic prostate cancer is unclear.Introduction: We reviewed physical activity (PA) studies in prostate cancer (PC) survivors investigating (a) the effects of PA on health outcomes, (b) the prevalence of PA, and (c) the determinants of PA.Purpose: While a family history (FH) of prostate cancer represents an established risk factor for prostate cancer diagnosis, conflicting data exist regarding the oncologic importance of FH. Herein, we evaluated the association of FH with clinicopathologic outcomes among men undergoing radical prostatectomy (RP).Purpose of review: Present highlights from recent research examining the treatment of advanced prostate cancer.Background: Metabolic syndrome (MetS) is considered a potential risk factor for adverse outcomes after radical prostatectomy (RP). Furthermore, studies about the effect of MetS on low-risk prostate cancer (PCa) and its implications in active surveillance (AS) are limited.Effective biomarkers provide the potential to significantly improve treatment decisions and outcomes in prostate cancer patients. While the literature is inundated with prostate cancer biomarkers in the early phases of testing, very few reach the clinic. Research should be focused on progressing effective biomarkers from discovery to clinical utility and implementation. Presented here is an overview of the biomarker development pathway and a discussion of the current issues impeding our efforts to deliver biomarkers that improve clinical outcomes in men with prostate cancer.Objective: To determine the clinical presentation and outcomes of prostate cancer in human immunodeficiency virus (HIV)-infected men compared with HIV-uninfected men in an urban setting.In 2004, the large majority of prostate cancers are detected via prostate-specific antigen (PSA) screening. Most are diagnosed at an early stage and are amenable to aggressive local treatment. However, the natural history of the disease may be prolonged, and all available active treatments exert a potential

negative effect on patients' HRQOL. Management options for localized prostate cancer have become increasingly complex in recent years, and rigorous trials are frequently difficult to perform due to the extended follow-up required to reach meaningful outcomes. In this context, the advent of the national prostate cancer disease registries-Prostate Cancer Outcomes Study (PCOS), Center for Prostate Disease Research (CPDR), Cancer of the Prostate Strategic Urologic Research Endeavor (CaPSURE), and Shared Equal Access Regional Cancer Hospital (SEARCH)-has greatly facilitated clinical research in prostate cancer. This review summarizes key findings from the registries in the areas of risk migration, practice patterns, outcome prediction, and quality-of-life outcomes. The availability of these large databases of patients will be a tremendous asset as prostate cancer management continues to evolve in the coming years.Purpose of review: This review provides an update on research into the association between obesity and prostate cancer.Anti-androgen therapy continues to be a basic pilar of treatment for both localized and metastatic prostate cancer. The advent of new generation of androgen receptor targeted agents (ARTA) transformed the care of patients with advanced disease. After such a success, the steps were taken to incorporate a new generation of ARTAs into the treatment landscape of localized prostate cancer. High-risk prostate cancer represents the most aggressive form of localized disease with significant metastatic potential and poor outcome. Here, the impact of novel therapies will likely be profound and transforming. This clinical space has already been a showcase for multidisciplinary treatment where the combination of local therapies with systemic treatment gradually improved patient outcomes and the chances of cure. The most recent step in redefining the treatment of localized disease is the adoption of novel ARTAs moving forward the multidisciplinary platform. In this narrative review, we discuss current clinical evidence supporting the use of novel ARTAs in patients with localized high-risk prostate cancer and cover recent developments in biomarker-driven strategies for treatment individualization in this clinical context.Prostate cancer is the most common non-skin-related cancer in men. With advances in technology, the care and treatment for men with this disease continues to become more complex. Large databases offer researchers a unique opportunity to conduct prostate cancer research in various areas, and provide important information that helps patients and providers determine prognosis after treatment. Furthermore, the studies using these databases may provide information on how side effects from various treatments can affect one's quality of life. Finally, information from these datasets can help to identify factors that determine why patients receive the treatments they do. Despite this, these databases are not without limitations. In this review, we discuss various available, national, multicenter, and institutional databases in the context of prostate cancer research, citing numerous important studies that have impacted on our understanding of prostate cancer outcomes.Recently, the prevalence of the prostate-specific antigen screening test for early-stage prostate cancer has increased, but this has also resulted in an increase in insignificant cancers. The treatment outcome of early-stage prostate cancer is excellent, but such a radical treatment also leaves the patient with undesired adverse consequences. To resolve such problems, attention should be paid to active surveillance as a modern treatment option. This study aimed to systematically review the literature about quality of life in prostate cancer patients undergoing active surveillance. Evidence was acquired from PubMed databases in March 2019 using quality of life, prostate cancer, well-being, anxiety, depression, stress, outcomes, active surveillance, radiation therapy and radical prostatectomy as keywords. Five clinical active surveillance studies measured health-related quality of life and related psychological factors, and seven compared active surveillance with other treatments (radical therapy and hormone therapy). Active surveillance was superior to radical therapy for urinary and sexual function. Furthermore, most patients who opted for active surveillance showed lower anxiety and fear of progression, whereas health-related quality of life was maintained. Although active surveillance has the advantage of being non-invasive, its diagnosis and follow-up protocols are unreliable. Because such uncertainty can affect patients' quality of life, utilization of imaging modalities, such as magnetic resonance imaging, and the development of new biomarkers are required.Background: Treatment of metastatic castration-resistant prostate cancer (mCRPC) has evolved rapidly. In particular, five new treatments that extend survival in mCRPC have been approved since 2010, including the chemotherapy cabazitaxel (Jevtana®), hormonal agents abiraterone (Zytiga®) and enzalutamide (Xtandi®), vaccine sipuleucel-T (Provenge®), and radiopharmaceutical radium-223 (Xofigo®); all have different indications and toxicity profiles.Background: Despite intensive research over the last several decades on prostate cancer, many questions particularly those concerning early diagnosis and the choice of optimal treatment for each individual patient, still remain unanswered. The goal of treating patients with localized prostate cancer is a curative one and includes minimizing adverse effects to preserve an adequate quality of life. Better understanding on how the

quality of life is affected depending on the treatment modality would assist patients in deciding which treatment to choose; furthermore, the development of prognostic biomarkers that indicate the future course of the illness is a promising approach with potential and the focus of much attention. These questions can be addressed in the context of a cohort study.The aim of this paper was to examine the eligibility criteria, surveillance protocols and oncological outcomes of published active surveillance (AS) series. We also assessed the evidence for utility of novel tools for optimal risk stratification and surveillance of men suitable for AS. A non-systematic literature search of the Medline, Embase, and Scopus databases was performed in April 2015 using medical subject headings and free-text protocol. The search was conducted by applying free-text protocol with the following search terms: "active surveillance", "prostate cancer", "prostatic neoplasm", "watchful waiting", "low risk prostate cancer" and "very low risk prostate cancer". The definition of insignificant disease remains debatable as criteria for patient selection vary among studies. Tools for better selection of candidates and monitoring of the disease process have evolved since the conception of AS, including new biomarkers like phi, mpMRI and alternate biopsy strategies. AS is a sound strategy for reducing overtreatment of men with low-risk, and potentially selected men with intermediate-risk prostate cancer and shorter life expectancy, without compromising overall and cancer specific survival. More data are needed on the optimal integration of the new tools on AS paradigms and on the long-term health impact of AS in different populations.Purpose: Compared to urban populations, rural populations rank poorly on numerous health indicators, including cancer outcomes. We examined the relationship of rural residence with stage and treatment among patients with prostate cancer, the second most common malignancy in men.Purpose of review: Imaging of prostate cancer has been a rapidly evolving field in recent years with the introduction of multiple new PET tracer agents. Introduction of novel imaging techniques into clinical practice requires careful evaluation, with the ultimate aims of improved patient outcomes, better sequencing of treatments, and cost effectiveness. The increased sensitivity and specificity of these new PET agents present both challenges and opportunities. We know they frequently change management, but are these effective management changes, and is it always in the best interests of the patients?Data from the past 6 years have shown that the presence of any amount of cribriform (or more comprehensively, large acinar cribriform to papillary) pattern of invasive prostate cancer is associated with adverse pathologic features and leads to uniquely adverse outcomes. Sixteen papers and numerous abstracts have reached these conclusions concordantly. Not only does this justify removal of all cribriform cancer from Gleason grade 3, it shows that cribriform cancer has pathologic, outcome, and molecular features distinct from noncribriform Gleason grade 4. Suggestions for accommodating the presence of cribriform cancer into the 2014 Grade Group scheme are proposed.The morbidity and mortality of prostate cancer have been increasing recently, and the comprehensive treatment for prostate cancer is unable to achieve satisfactory outcomes. Quercetin is a natural flavonoid compound that has attracted increased interest and attention due to its anticancer activity. In vitro and in vivo studies have verified that quercetin effectively inhibits prostate cancer via various mechanisms. Clinical trails concerning the pharmacokinetics and application of quercetin in humans have also obtained promising results. Meanwhile, epidemiologic studies have demonstrated a negative association between quercetin intake and prostate cancer incidence and have suggested a chemopreventive effect of quercetin on prostate cancer that has been exhibited in animal experiments. The main issue concerning quercetin utilization is its low bioavailability. Therefore, solutions to the issues concerning its use such as alteration of the molecular structure and combination therapy are in the exploratory stage. In the present review, the most important aspects of chemotherapeutic and chemopreventive effects, mechanisms and clinical application potential of quercetin in prostate cancer are summarized.Objective: To characterise the practice of active surveillance (AS) for men with low risk prostate cancer by examining the characteristics of those who commence AS, the rate of adherence to accepted AS follow-up protocols over 2 years, and factors associated with good adherence. Design, setting: Retrospective cohort study; analysis of data collected from 38 sites participating in the Prostate Cancer Outcomes Registry-Victoria.Importance: Whether surgery or radiotherapy is the preferred treatment for patients with localized prostate cancer continues to be debated, and randomized clinical trials cannot yet fully address this question. Furthermore, there may be heterogeneity in responses, and the optimal treatment for a patient will depend on his clinical and tumor characteristics.Recently, many therapeutic agents for prostate cancer have been approved that target the androgen receptor and/or the prostate tumor microenvironment. Each of these therapies has modestly increased patient survival. A better understanding of when in the course of prostate cancer progression specific therapies should be applied, and of what biomarkers would indicate when resistance arises, would almost certainly

improve survival due to these therapies. Thus, applying the armamentarium of therapeutic agents in the right sequences in the right combination at the right time is a major goal in prostate cancer treatment. For this to occur, an understanding of prostate cancer evolution during progression is required. In this review, we discuss the current understanding of prostate cancer progression, but challenge the prevailing view by proposing a new model of prostate cancer progression, with the goal of improving biologic classification and treatment strategies. We use this model to discuss how integrating clinical and basic understanding of prostate cancer will lead to better implementation of molecularly targeted therapeutics and improve patient survival.Prostate cancer heritability is attributed to a combination of rare, moderate to highly penetrant genetic variants as well as commonly occurring variants conferring modest risks [single nucleotide polymorphisms (SNPs)]. Some of the former type of variants (e.g., BRCA2 mutations) predispose particularly to aggressive prostate cancer and confer poorer prognoses compared to men who do not carry mutations. Molecularly targeted treatments such as PARP inhibitors have improved outcomes in men carrying somatic and/or germline DNA repair gene mutations. Ongoing clinical trials are exploring other molecular targeted approaches based on prostate cancer somatic alterations. Genome wide association studies have identified >250 loci that associate with prostate cancer risk. Multi-ancestry analyses have identified shared as well as population specific risk SNPs. Prostate cancer risk SNPs can be used to estimate a polygenic risk score (PRS) to determine an individual's genetic risk of prostate cancer. The odds ratio of prostate cancer development in men whose PRS lies in the top 1% of the risk profile ranges from 9 to 11. Ongoing studies are investigating the utility of a prostate cancer PRS to target population screening to those at highest risk. With the advent of personalized medicine and development of DNA sequencing technologies, access to clinical genetic testing is increasing, and oncology guidelines from bodies such as NCCN and ESMO have been updated to provide criteria for germline testing of "at risk" healthy men as well as those with prostate cancer. Both germline and somatic prostate cancer research have significantly evolved in the past decade and will lead to further development of precision medicine approaches to prostate cancer treatment as well as potentially developing precision population screening models.Radical prostatectomy and external beam radiotherapy are recognized as comparable treatment options for localized prostate cancer. Previous studies of oncological outcomes of surgery versus radiotherapy have reported their comparability or possible superiority of surgery. However, the issue of which treatment is better remains controversial. Several factors make fair comparison of their outcomes difficult: different patient backgrounds caused by selection bias, different definitions of biochemical recurrence and different complication profiles between the treatment modalities. In 2016, the first large randomized controlled trial was published, which compared radical prostatectomy, external beam radiotherapy and active monitoring in localized prostate cancer. More recently, another study has reported comparative outcomes of robot-assisted radical prostatectomy and volumetric modulated arc therapy, as the leading surgery and radiotherapy techniques, respectively. Furthermore, there has been a trend toward combining external beam radiotherapy with brachytherapy boost, especially in patients with high-risk prostate cancer. This review summarizes the updated evidence on oncological outcomes of surgery versus external beam radiotherapy for localized prostate cancer.Objective: To provide physicians with a review of diagnosis, screening, staging evaluation, treatment options, prognosis, psychosocial issues, economic considerations, and future research directions in the management of patients with all stages of prostate cancer.There have been significant advancements in the quality and precision of radiation therapy (RT) for prostate cancer over the past two decades. The development and implementation of intensity-modulated radiation therapy has allowed for RT dose-escalation without parallel increases in treatment morbidity. Moreover, integration of androgen deprivation therapy with definitive RT has led to improvements in outcomes for certain subgroups of prostate cancer patients. In this review, we highlight several ongoing and developing technical advances that hold promise for further optimizing RT care, including proton beam therapy, inter- and intra-fractional image-guided dose-delivery, methods for improved target volume definition, and development of techniques for safely performing hypofractionation and stereotactic body radiotherapy. We also discuss the importance of investigating the potential benefit of integrating novel systemic therapies with prostate RT to further improve outcomes for patients with locally advanced prostate cancer.Therapeutic cancer vaccines are well-tolerated immunotherapy modalities designed to activate the immune system to kill cancer cells without a significant effect on healthy cells. An improved understanding of tumor immunology has led to improved strategies in vaccine development, which in turn have resulted in improved outcomes. This review discusses different types of cancer vaccines, with a focus on prostate cancer vaccines because of the high prevalence of prostate cancer and the wide variety of approaches

used in prostate cancer immunotherapy.Objective: To review important topics related to prostate cancer that have arisen since this subject was last covered in Annals in 1993. The review consists of two parts, Part I describes advances in prostate-specific antigen (PSA) interpretation (including PSA density and velocity, age-specific reference ranges, "free" and "bound" PSA ratios, the utility of PSA in defining the pathologic extent of prostate cancer, and the use of these concepts in helping define appropriate treatment strategies), the management of patients with organ-confined prostate cancer, and pathologic interpretation of prostatectomy specimens.Although tobacco use has been recognized as one of the leading causes of cancer morbidity and mortality, a role of smoking in the occurrence of prostate cancer has not been established. However, evidence indicates that factors that influence the incidence of prostate cancer may differ from those that influence progression and fatality from the disease. Thus, we reviewed and summarized results from prospective cohort studies that assessed the relation between smoking and fatal prostate cancer risk, as well as epidemiological and clinical studies that focused on aggressive behavior in prostate cancer, such as poorer survival, advanced stage, or poorer differentiation at diagnosis. The majority of the prospective cohort studies showed that current smoking is associated with a moderate increase of ~30% in fatal prostate cancer risk compared to never/non-smokers. This association is likely to be an underestimate of the effect of smoking because most studies had a single assessment of smoking at baseline and long follow-up times, and the association was considerably stronger in some sub-groups of heaviest smokers, or when smoking was assessed in a relatively short period (within 10 years) prior to cancer mortality. Using aggressive behavior of prostate cancer as outcome, current smoking was associated with significantly elevated risk, ranging from around twofold to threefold or higher. Although alternative explanations, such as publication bias, residual confounding, screening bias, and the influence of smoking-related comorbidities cannot be ruled out entirely, these findings suggest that smoking is associated with aggressive behavior of prostate cancers or with a sub-group of rapidly progressing prostate cancer. Based on evidence presented in this review, cigarette smoking is likely to be a risk factor for prostate cancer progression and should be considered as a relevant exposure in prostate cancer research and prevention of mortality from this cancer.Purpose of review: The goal of this paper was to review the novel treatment modality of high-intensity transurethral directional ultrasound for prostate cancer.This article reviews the definition, incidence, pathological characteristics and natural history of low risk localised prostate cancer. Low risk disease is typically defined as clinical stage T1/T2a, biopsy Gleason score 10, younger men and African-Americans are often excluded.High-risk prostate cancer (HRPC) currently comprises 17-35% of newly diagnosed cases and has the highest rate of metastasis and cancer-related death, making its management a top priority for improving prostate cancer outcomes. The definition of HRPC is not consensual and several risk stratification criteria have been used, which hinders the interpretation of data and the comparison of different studies. All classifications include prostate-specific antigen (PSA) level, biopsy Gleason score and clinical stage as criteria, but others have been added in an attempt to make stratification more accurate and clinically useful, to enable identification of the patients that can be cured by local treatment of the disease. HRPC was traditionally treated with radiotherapy (RT) and/or androgen deprivation therapy (ADT), but radical prostatectomy (RP) has slowly gained more importance in this context. This article aims to discuss the role of surgery in HRPC, highlighting the advantages of RP as primary treatment option: the ability to provide a definitive stage and grade of the cancer; allowing an early detection of treatment failure by having an undetectable PSA as treatment target; providing excellent local control of the disease; reducing the risk of metastatic progression to a greater extent than does RT. We will try to show the benefits and risks of a "surgery first" approach, keeping in mind that, despite the curative intent, a significant number of patients will still need adjuvant or salvage RT and/or ADT.Obesity is a complex, chronic disease that has reached epidemic proportions in the United States. Obesity is now linked with numerous health conditions, including many oncologic diagnoses. Its association with prostate cancer, the most prevalent cancer in men, has also been investigated, with studies suggesting a direct relationship between increasing obesity and prostate cancer mortality. Outcomes data for specific interventions in obese patients with prostate cancer have only recently begun to emerge. Surgery, while feasible even in the very obese, may result in less than optimal cancer control rates. Brachytherapy data are emerging, and are promising. No outcomes data are available for the use of external-beam radiation in obese patients. Long-term data for external-beam radiation, as well as for surgery and brachytherapy, are required to determine the most appropriate treatment for obese patients with prostate cancer. These data, coupled with a more thorough understanding of the biochemical relationship between obesity and prostate cancer, will be necessary to make optimal management decisions for obese

patients with prostate cancer in the future.Aims: To develop and internally validate a new simplified model 'prostascore' to help predict the outcomes of treatment-naive patients with advanced prostate cancer.Context: The appropriate therapy for men with clinically localized prostate cancer is uncertain. A recent study suggested an increasing prostate cancer mortality rate for men who are alive more than 15 years following diagnosis.Oligometastatic prostate cancer (OMPC), generally defined by presence of five or fewer metastatic sites on imaging, represents a transitional state between localized and widespread metastatic disease and encompasses a wide spectrum of disease biologies and clinical behaviors. A collaborative effort is ongoing to determine the genomics of OMPC. The prevalence of OMPC varies significantly in the literature and is likely to change further as substantial improvements in imaging improve our ability to reclassify a subset of patients with biochemical recurrence by conventional imaging as OMPC and another subset from OMPC to polymetastatic disease. The mainstay of OMPC treatment remains systemic therapy, either with androgen-deprivation therapy (ADT) alone or in combination with other agents (docetaxel, abiraterone, etc.). Focal therapies, including resection or radiotherapy (RT), to the primary tumor have demonstrated an improvement in outcomes, including failure-free survival in several retrospective studies. RT to the prostate has specifically demonstrated an overall survival (OS) advantage in patients with low-volume disease in a clinical trial. Improvement in outcomes has been observed with focal therapies for retroperitoneal and more distant metastatic sites in retrospective studies. Advancements in our understanding of the biology, imaging modalities, and treatments may allow for aggressive multimodality therapies in an effort to obtain deeper responses and, potentially, cures for selected patients with OMPC with favorable clinicopathologic characteristics. Participation in clinical trials or institutional registries is strongly encouraged for patients with OMPC who opt for an aggressive multimodality approach.Objective: To examine family history (FH) as a prognostic factor following radiotherapy (RT).Background: Substance use disorder in patients with cancer has implications for outcomes. The objective of this study was to analyze the effects of the type and timing of substance use on outcomes in elderly Medicare recipients with advanced prostate cancer.Introduction: Newer approaches to the management of advanced prostate cancer have rapidly evolved. While basic androgen deprivation remains as the first line in newly diagnosed hormone naïve metastatic prostate cancer, the agents used and strategies followed have undergone significant changes. Numerous new agents such as sipuleucel-T, abiraterone, enzalutamide, cabazitaxel and radium 223 have all been approved since 2010 to treat metastatic castration resistant prostate cancer (CRPC). New imaging techniques to detect advanced disease such as F-18 PET, 11 C-choline PET and other modalities are becoming available. The concepts of "bone health" and the management of side effects related to androgen deprivation therapy are also gaining attention as men are being treated with longer courses of androgen deprivation. Understanding the theory behind these new agents and management approaches while focusing on the practical clinical considerations are essential to improve outcomes in advanced prostate cancer.Focal therapy is an emerging treatment modality for localised prostate cancer that aims to reduce the morbidity seen with radical therapy, while maintaining cancer control. Focal therapy treatment strategies minimise damage to non-cancerous tissue, with priority given to the sparing of key structures such as the neurovascular bundles, external sphincter, bladder neck and rectum. There are a number of ablative technologies that can deliver energy to destroy cancer cells as part of a focal therapy strategy. The most widely investigated are cryotherapy and high-intensity focussed ultrasound. Existing radical therapies, such as brachytherapy and external beam radiotherapy, also have the potential to be applied in a focal manner. The functional outcomes of focal therapy from several phase I and II trials have been encouraging, with low rates of urinary incontinence and erectile dysfunction. Robust medium- and long-term cancer control outcomes are currently lacking. Controversies in focal therapy remain, notably treatment paradigms based on the index lesion hypothesis, appropriate patient selection for focal therapy and how the efficacy of focal therapy should be assessed. This review articles discusses the current status of focal therapy, highlighting controversies and emerging strategies that can influence treatment outcomes for the future.Outcomes for men with localized prostate cancer vary widely, with some men effectively managed without treatment on active surveillance, while other men rapidly progress to metastatic disease despite curative-intent therapies. One of the strongest prognostic indicators of outcome is grade groups based on the Gleason grading system. Gleason grade 4 prostate cancer with cribriform morphology is associated with adverse outcomes and can be utilized clinically to improve risk stratification. The underpinnings of disease aggressiveness associated with cribriform architecture are not fully understood. Most studies have focused on genetic and molecular alterations in cribriform tumor cells; however, less is known about the tumor microenvironment in cribriform prostate cancer.

Cancer-associated fibroblasts (CAFs) are a heterogeneous population of fibroblasts in the tumor microenvironment that impact cancer aggressiveness. The overall goal of this study was to determine if cribriform prostate cancers are associated with a unique repertoire of CAFs. Radical prostatectomy whole-tissue sections were analyzed for the expression of fibroblast markers (ASPN in combination with FAP, THY1, ENG, NT5E, TNC, and PDGFRβ) in stroma adjacent to benign glands and in Gleason grade 3, Gleason grade 4 cribriform, and Gleason grade 4 noncribriform prostate cancer by RNAscope®. Halo® Software was used to quantify percent positive stromal cells and expression per positive cell. The fibroblast subtypes enriched in prostate cancer were highly heterogeneous. Both overlapping and distinct populations of low abundant fibroblast subtypes in benign prostate stroma were enriched in Gleason grade 4 prostate cancer with cribriform morphology compared to Gleason grade 4 prostate cancer with noncribriform morphology and Gleason grade 3 prostate cancer. In addition, gene expression was distinctly altered in CAF subtypes adjacent to cribriform prostate cancer. Overall, these studies suggest that cribriform prostate cancer has a unique tumor microenvironment that may distinguish it from other Gleason grade 4 morphologies and lower Gleason grades.Introduction: Rapid Access Prostate Clinics (RAPC) were introduced in Ireland by the National Cancer Control Programme bringing about expedited referral pathways and increased detection rates of prostate cancer. Lower Gleason (G) grade at diagnosis due to RAPC has been previously reported but grade at prostatectomy has not been assessed. The aim of this study was to assess the impact of RAPC on the outcomes of patients with G7 disease on radical prostatectomy (RP).Objectives: To assess the ability of preoperative prostate-specific antigen level, Gleason score and stage to predict prostate cancer outcomes beyond biochemical recurrence, specifically castration-resistant prostate cancer, metastases and prostate cancer-specific mortality in radical prostatectomy patients.Purpose: Clinical data warehouses (cDWHs) and cancer registry databases have enabled researchers to conduct clinical analytics with structured electronic health record data. However, these secondary electronic health record sources are often limited in scope because they do not capture the clinical information needed to understand complex clinical questions. Thus, we evaluated the effect of additional curation of data.Previously-documented variations in patterns of care and patient outcomes suggest differences in the quality of care provided to men with prostate cancer. Herein we describe ongoing efforts to measure the quality of prostate cancer care, including the development and pilot-testing of the RAND prostate cancer quality indicators and the selection of the consensus-based Physician Performance Measurement Set for Prostate Cancer. We also summarize current payer-led initiatives aimed at measuring quality of care for men with prostate cancer. We conclude that currently-available prostate cancer quality indicators are derived from valid, consensus-based methodologies and capture clinical practices that are necessary for high-quality care in early-stage prostate cancer. Despite this promise, however, the currently available measures have several limitations that should be considered during their implementation in prostate cancer quality assessment and improvement activities.Since the era of prostate specific antigen (PSA) testing, there has been a stage and grade migration seen with prostate cancer along with a reduction in mortality. Subsequently, concerns have been raised about the over treatment of patients following the diagnosis of localized prostate cancers. Cryotherapy, in which extremely low temperatures induce cell death via multiple mechanisms, has seen a drastic improvement in its technology since the 1800s. Such advances have improved oncological outcomes while reducing complication rates. Furthermore, technological advances have allowed the development of focal cryotherapy which aims to reduce morbidity associated with more radical whole-gland therapies. There is growing evidence that focal cryotherapy provides good oncological and morbidity rates when compared with traditional radical/whole-gland therapies.Purpose: Men diagnosed with high-risk prostate cancer represent the cohort of prostate cancer patients at greatest risk for subsequent disease-specific mortality. Unfortunately, however, the classification of high-risk tumors remains imprecise and heterogeneous. There has been a historical reluctance to offer such patients aggressive local treatment, and considerable debate exists regarding the optimal management in this setting.Objective: To evaluate the outcomes of T3a prostate cancer with unfavorable prognostic factors treated with permanent interstitial brachytherapy combined with external radiotherapy and hormone therapy.Prostate cancer is the most common malignancy amongst American men. However, the majority of prostate cancer diagnoses are of low risk, organ-confined disease. Many men elect to undergo definitive treatment, but may benefit from focal therapy to maintain continence and potency. This review reports the mechanism of action and outcomes of emerging focal therapies for prostate cancer. We report the mechanism of action of focal cryotherapy, high intensity focused ultrasound, focal laser ablation, and irreversible electroporation. In addition, we reviewed the

largest studies available reporting rates of urinary incontinence, erectile dysfunction, biochemical recurrence-free survival (ASTRO), and post-operative adverse events for each procedure. Each treatment modality stated has a unique mechanism in the ablation of cancerous cells. Genito-urinary symptoms following these studies report incontinence and erectile dysfunction rates ranging from 0-15% and 0-53%, respectively. Biochemical disease-free survival was reported using the ASTRO definition. Some treatment modalities lack the necessary follow-up to determine effectiveness in cancer control. No focal therapy studies reported serious adverse events. These minimally invasive procedures are feasible in a clinical setting and show promising functional and disease control results with short to medium-term follow-up. However, each treatment requires additional robust prospective studies as well as its own unique domain to determine biochemical recurrence free survival to properly determine their role in treatment of organ-confined prostate cancer.Purpose of review: The index lesion theory has created a strong interest in partial gland ablation for men with prostate cancer. By only treating the focus of clinically significant disease and avoidance of surrounding periprostatic tissue, one may provide adequate oncologic control with minimal side effects. Accurate identification of the index lesion and effective ablation are critical for satisfactory oncologic outcomes. Herein, we review key ablative techniques used in partial gland ablation.Purpose of review: The aim of this study was to summarize the latest evidence, as well as the rationale behind using focal therapy for the treatment of prostate cancer. With patients becoming more educated, knowledge of the available evidence is key when discussing treatment.Introduction: Prostate cancer (PCa) is one of the most common adult malignancies worldwide, and a major leading cause of cancer-related death in men in Western societies. In the last years, the prognosis of advanced PCa patients has been impressively improved thanks to the development of different therapeutic agents, including taxanes (docetaxel and cabazitaxel), second-generation anti-hormonal agents (abiraterone and enzalutamide), and the radiopharmaceutical Radium-223. However, great efforts are still needed to properly select the most appropriate treatment for each single patient.Areas covered: Several prognostic or predictive biomarkers have been studied, none of which has an established validated role in daily clinical practice. This paper analyzed the major biomarkers (including PSA, androgen receptor (AR) splice variants, βIII-tubulin, ALP, circulating tumor cells, and DNA repair genes) with a potential prognostic and/or predictive role in advanced PCa patients.Expert commentary: Surrogate biomarkers - measurable, reproducible, closely associated with tumor behavior and linked to relevant clinical outcomes - are urgently needed to improve PCa patient management.Objectives: Efforts to improve the clinical outcome for patients with localized high-risk prostate cancer have led to the development of neoadjuvant systemic therapies. We review the different modalities of neoadjuvant therapies for localized prostate cancer and highlight emerging treatment approaches including immunotherapy and targeted therapy.Most men treated with radical prostatectomy or radiation therapy for localized prostate cancer will be cured of prostate cancer; however, some men will experience treatment failure. Androgen deprivation therapy is well established in the treatment of metastatic prostate cancer. Adjuvant androgen deprivation therapy, following prostatectomy and/or radiotherapy, has been studied in the high-risk prostate cancer setting to try to reduce the risk of recurrence and improve patient outcomes. In this review, we discuss the current data for neoadjuvant and adjuvant therapy with androgen suppression, chemotherapy, and approaches with the newer hormonal agents.Introduction: Gay, bisexual and queer (GBQ) men with prostate cancer have unique experiences of the prostate cancer journey. The current integrative review aimed to synthesise existing scientific literature for the purpose of identifying GBQ men's psychosocial experience of undergoing treatment for prostate cancer.Background: DNA methylation has been hypothesized as a mechanism for explaining the association between smoking and adverse prostate cancer (PCa) outcomes. This study was aimed at assessing whether smoking is associated with prostate tumor DNA methylation and whether these alterations may explain in part the association of smoking with PCa recurrence and mortality.Optimal surgical management of intermediate risk prostate cancer has yet to be defined. This is in part due to the heterogeneity of the disease burden in this patient population. When choosing the surgical approach for intermediate risk prostate cancer, urologists should attempt to maximize oncologic outcomes while balancing quality of life concerns. Due to significant risk of failure following solo treatment, multi-modality therapy should be available for those patients with poor pathologic outcomes following surgical therapy.Node-positive nonmetastatic prostate cancer is currently prognosticated as stage IV, despite evidence that a proportion of this patient population can be cured. We provide evidence and request reconsideration of prognostic staging in the next edition of the American Joint Committee on Cancer staging manual.Diagnosis of prostate cancer (PCa) recurrence after therapy with

curative intent currently depends primarily on biochemical serum analyses. When recurrence is suspected, further treatment decisions rely heavily on the confirmation of disease presence and determination of its extent. This is complicated by the fact that benign conditions can mimic biochemical recurrence, and serum studies do not reliably discriminate between local and distant recurrence. This review discusses the contemporary imaging paradigm for the evaluation of local PCa recurrence. The multidisciplinary implications for urologists, radiation oncologists and radiologists are examined. Emerging techniques and future directions of PCa imaging research are discussed.Prostate cancer (PC) resulted in more than 41,000 related deaths in 1996. However, much confusion exists about when and whom to screen and treat for PC. Guidelines opposing the early detection and treatment of PC are based on outcomes from diagnoses and treatments made prior to recent improvements in screening and treatment methods. More recently, prostate specific antigen has been shown to be both specific and sensitive in detecting PC at an early, curable stage. Several options for treating early PC now exist: anatomic radical prostatectomy, external beam radiation, implanted radiation seeds, and cryotherapy. Informed primary care providers have an opportunity to make individualized, rational decisions that will promote better outcomes for men with PC.Objective: To compare the survival outcomes of patients treated with surgery or radiotherapy for prostate cancer.Background: Because no adequate randomized trials have compared active treatment modalities for localized prostate cancer, the authors analyzed risk-adjusted, cancer-specific mortality outcomes among men who underwent radical prostatectomy, men who received external-beam radiation therapy, and men who received primary androgen-deprivation therapy.Since the tumor protein p53 (TP53), a transcription factor, plays a crucial role in prostate cancer development and progression, we hypothesized that sequence variants in TP53 binding sites might affect clinical outcomes in patients with prostate cancer. We systematically evaluated 41 single nucleotide polymorphisms (SNPs) within genome-wide predicted TP53 binding sites in a cohort of 1,024 prostate cancer patients. The associations of these SNPs with prostate cancer characteristics and clinical outcomes after radical prostatectomy for localized disease and after androgen-deprivation therapy (ADT) for advanced disease were assessed by Kaplan-Meier analysis and Cox regression model. ARAP2 rs1444377 and TRPS1 rs722740 were associated with advanced stage prostate cancer. FRK rs171866 remained as a significant predictor for disease progression; DAB2 rs268091 and EXOC4 rs1149558 remained as significant predictors for prostate cancer-specific mortality (PCSM); and EXOC4 rs1149558 remained as a significant predictor for all-cause mortality after ADT in multivariate models that included clinicopathologic predictors. In addition, the numbers of protective genotypes at DAB2 rs268091 and EXOC4 rs1149558 showed a cumulative effect on PCSM (P for trend = 0.002). Our results suggested that SNPs within TP53 binding sites might be valuable biomarkers for prostate cancer outcome prediction.Purpose: We compared the effectiveness of PCA3 (prostate cancer antigen 3) and select comparators for improving initial or repeat biopsy decision making in men at risk for prostate cancer, or treatment choices in men with prostate cancer.The VA Cancer of the Prostate Outcomes Study (VA CaPOS) is collecting quality-of-life (QOL) information from prostate cancer patients, spouses, and physicians at six VA medical centers. Currently, 601 men with prostate cancer are included in the study, most of whom are of low socioeconomic status and over half of whom are African-American. Quality-of-life responses were most favorable for newly diagnosed patients, intermediate for those with stable metastatic disease, and poorest for those with progressive metastatic disease. Patients could not provide reliable estimates of their own preferences for future QOL states but responded reliably to questions phrased as a comparison of the preferences of two hypothetical patients. High out-of-pocket costs for hormonal therapies, lack of health insurance, and a belief that the non-VA system offered poorer services were the most common reasons for patient transferral to the VA system. Satisfaction with medical care was generally high. While African-American patients were more likely to have advanced prostate cancer at diagnosis, after adjustment for differences in health literacy, race was no longer a significant predictor of advanced disease. The VA CaPOS provides useful information on health status and patient satisfaction of VA prostate cancer patients. Long-term evaluations are needed to detect clinically meaningful QOL information as the disease progresses.Men living in regional and remote areas experience disparities in prostate cancer (PrCa) diagnosis, clinical characteristics and treatment modalities. We sought to determine whether such disparities exist in PrCa patients from Tasmania; a regional state of Australia with the second-highest rate of diagnosis and where over a third of residents live in outer regional and remote areas. Our study included clinicopathological data from 1526 patients enrolled in the Prostate Cancer Outcomes Registry-Tasmania. Regression analyses were undertaken to determine whether demographic, clinical and treatment variables differed between inner regional and outer

regional/remote patients. Men from outer regional/remote areas were significantly more likely to reside in lower socio-economic areas, be diagnosed at a later age and with more clinically aggressive features. However, in contrast to previous studies, there were no overall differences in diagnostic or treatment method, although men from outer regional/remote areas took longer to commence active treatment and travelled further to do so. This study is the first to investigate PrCa disparities in a wholly regional Australian state and highlights the need to develop systematic interventions at the patient and healthcare level to improve outcomes in outer regional and remote populations in Australia and across the globe.Introduction: Prostate cancer (PC) most of the time presents with an indolent course. Thus, delays in treatment due to any causes might not affect long-term survival and may not affect cancer cure rates.Prostate cancer is the most common cancer among men and the second leading cause of cancer-related death. For patients who develop metastatic disease, tissue-based and circulating-tumor-based molecular and genomic biomarkers have emerged as a means of improving outcomes through the application of precision medicine. However, the benefit is limited to a minority of patients. An additional approach to further characterize the biology of advanced prostate cancer is through the use of phenotypic precision medicine, or the identification and targeting of phenotypic features of an individual patient's cancer. In this review article, we will discuss the background, potential clinical benefits, and limitations of genomic and phenotypic precision medicine in prostate cancer. We will also highlight how the emergence of image-based phenotypic medicine may lead to greater characterization of advanced prostate cancer disease burden and more individualized treatment approaches in patients.The Prostate Cancer Intervention Versus Observation Trial (PIVOT) is a randomized trial designed to determine whether radical prostatectomy or expectant management provides superior length and quality of life for men with clinically localized prostate cancer. Conducted at Department of Veterans Affairs and National Cancer Institute medical centers, PIVOT will enroll over 1,000 individuals < 75 years of age. The primary study end point is all-cause mortality. Secondary outcomes include prostate cancer- and treatment-specific morbidity and mortality, health status, predictors of disease-specific outcomes, and cost-effectiveness. Within the first 3 years of enrollment, over 400 men have been randomized. Early analysis of participants' baseline characteristics indicate that enrollees are representative of men diagnosed with clinically localized prostate cancer throughout the United States. Therefore, results of PIVOT will be generalizable. These results are necessary in order to determine the preferred therapy for clinically localized prostate cancer.Prostate cancer (PCa) is recognized as a disease possessing not only great variation in its geographic and racial distribution but also tremendous variation in its potential to cause morbidity and death and it, therefore, ought not to be considered a homogenous disease entity. Morbidity and death from PCa are disproportionately higher in men of African ancestry (MAA) who are generally observed to have more aggressive disease and worse outcomes following treatment compared to men of European ancestry (MEA). The higher rates of PCa among MAA relative to MEA appear to be multifactorial and related to inherent differences in biological aggressiveness; a continued lack of awareness of the disease and methods of prevention; a lower prevalence of screen-detected PCa; comparatively lower access to quality healthcare as well as systemic and institutionalized disparities in the administration of optimal care to MAA in developed countries such as the United States of America where high-quality care is available. Even when access to quality healthcare is assured in equal access settings, it appears that MAA still have worse outcomes after PCa treatment stage-for-stage and grade-for-grade compared to MEA, suggesting that, inherent racial, ethnic and biological differences are paramount in predicting poor outcomes. This review has explored the different contributing factors to the current disparities in PCa incidence and mortality rates with emphasis on the incongruence in how research has been conducted in understanding the disease towards developing therapies.Purpose: The rationale for adjuvant therapy for prostate cancer was reviewed.Prostate cancer is a highly heterogeneous disease, with remarkably different prognosis across all stages. Increased circulating tumor cell (CTC) count (≥ 5) using the CellSearch assay has been identified as one of the markers that can be used to predict survival, with added value beyond currently available prognostic factors. Recently, androgen receptor splice variant 7 (AR-V7) detection has been associated with worse outcomes for patients with castration-resistant prostate cancer (CRPC) treated with novel androgen receptor-signaling (ARS) inhibitors such as abiraterone and enzalutamide but not taxane chemotherapies. Areas covered: In this manuscript, the authors review the available biomarkers in CRPC and discuss emerging data on the value of CTC-derived AR-V7 status to assess prognosis and its potential role to guide treatment selection for patients with advanced prostate cancer. Expert commentary: Current evidence supports AR-V7 status as a prognostic biomarker and also as a potential predictive biomarker for patients with mCRPC. The authors expect that the incorporation of

AR-V7 status and other biomarkers (e.g. AR mutations) in the sequential assessment of patients with advanced prostate cancer will lead to a more rational use of available and future therapies, with significant improvements in outcomes for our patients.Prostate cancer encompasses a biological continuum from a slow-growing indolent tumour to a highly aggressive and potentially fatal form. A major challenge faced daily by physicians is to identify men with localized prostate cancer who are at high risk of dying from the disease, in order to maximize disease control and survival, without overtreating men who are likely to die from comorbidities. Treatment selection in patients with localized prostate cancer should be guided not only by patient-related factors (e.g. age and comorbidities), but also by cancer-related parameters (clinical stage, biopsy grade and preoperative prostate-specific antigen [PSA]) that enable patients to be classified as low, intermediate, or high risk for unfavourable outcomes. Surgery alone will only cure a fraction of high-risk patients. Instead these patients typically need a pro-active multimodal approach comprising a combination of surgery, radiotherapy and/or hormonal deprivation. The place of chemotherapy in the adjuvant or neoadjuvant setting in this patient group needs to be evaluated in clinical trials.Context: Prostate cancer (PCa) remains an increasingly common malignancy worldwide. The optimal management of clinically localized, early-stage disease remains unknown, and profound quality of life issues surround PCa interventions.Prostate cancer is the most common nonskin malignancy among men in the United States. Since the introduction of screening with prostate-specific antigen (PSA), most patients are being diagnosed at an early stage with low-risk disease. For men with low-risk prostate cancer, there exists an array of radiotherapeutic strategies that are effective and well tolerated, such as external-beam radiotherapy and brachytherapy. In recent years, there have been tremendous advances in the field of radiation oncology that have transformed the way radiation is used to treat prostate cancer, such as intensity-modulated radiotherapy, image-guided radiotherapy, and stereotactic radiotherapy. It is now feasible to deliver high doses of radiation to the target volume with improved precision and spare more of the neighboring tissues from potentially damaging radiation. Disease outcomes are generally excellent in low-risk prostate cancer. Improvements are expected with further integration of innovative technologies in radiation delivery, tumor imaging, and target localization.Background: The prediction of pathological outcomes prior to surgery remains a challenging problem for the appropriate surgical indication of prostate cancer. This study was performed to identify preoperative values predictive of pathological and oncological outcomes based on standardized extended prostate biopsies with core histological results diagrammed/mapped in patients receiving radical prostatectomy for prostate cancer clinically diagnosed as localized or locally advanced disease.This study was undertaken to reveal the trends of prostate cancer and the outcome of treatment modalities for each disease stage in patients in a single institute over a 10-year period. From January 1994 through December 2003, 420 consecutive patients with previously untreated and histologically confirmed prostate cancer were analyzed for annual distributions of disease stages and treatment modalities and for long-term clinical progression-free survival, prostate cancer-specific survival, and prostate-specific antigen (PSA) failure-free survival rates for each stage and treatment modality. Annual trends showed that the number of patients, especially those with clinically localized cancer, increased dramatically. The 5-year disease-specific survival rates for patients with clinically localized disease were 100 percent for all treatment modalities, including hormonal therapy alone. Patients with PSA levels less than 10 ng/ml showed an 81 percent 5-year PSA failure-free survival rate with radical prostatectomy. Stage C patients treated by surgery or radiation-based therapy with concomitant hormonal therapy obtained 93 percent and 100 percent cause-specific survival rates, respectively, and those treated by hormonal therapy alone showed a 79 percent rate. The number of patients with localized prostate cancer was increasing in this decade. While long-term hormonal therapy alone was highly efficient in controlling localized prostate cancer, radical therapies in conjunction with neo-adjuvant hormonal therapy produced better survival rates in cases of locally advanced disease.Robot-assisted radical prostatectomy to treat localized prostate cancer has increased in popularity, although other options exist, including radiotherapy and active surveillance. The decision about choosing the right treatment has become pertinent for many patients. This literature review aimed to assess the current state-of-the-art regarding decisional aids and the associated decisional outcomes for the purpose of designing a method for both patients and doctors to use to make the best treatment decision for the patient. A literature search was conducted via MEDLINE, Embase, and Web of Science databases using the keywords "prostate" and "cancer" and "impact" and "decisio*" and "treatment." Articles were included that focused on treatment outcomes, decision-making processes, and the use of decisional aids for localized prostate cancer. Articles that investigated prostate cancer in general or prostate cancer screening were excluded, as were articles

that were not written in English. Altogether, 13 articles were finally critically reviewed for this study. Results were conflicting regarding the relations between patient factors, use of decisional aids, and decisional outcomes. There was a large gap in the literature regarding the optimal decision-making process for men with localized prostate cancer. The role of currently available decisional aids is limited to helping patients make the right decisions. There is a need to develop a novel decisional aid in which patient-physician discussion-involving evaluation of a spectrum of patient-, doctor-, and treatment-related factors-is included.Purpose: The expanded prostate cancer index composite-26 (EPIC-26) instrument is a validated research tool used for capturing patient-reported quality-of-life outcomes related to the domains of bowel, bladder, and sexual functioning for men undergoing curative treatment for prostate cancer. The purpose of this pilot study was to explore the perceptions and experiences of clinicians with using EPIC-26 in a clinical setting for patients receiving curative radiotherapy.The number of newly diagnosed prostate cancer cases varies across Asia, with higher mortality-to-incidence ratio reported in developing nations. Androgen deprivation therapy (ADT), alone or in combination, remains the mainstay of first-line treatment for advanced prostate cancer. Key findings of extensive research and randomized controlled trials have shaped current clinical practice and influenced clinical guideline recommendations. We describe here the recent trend of ADT in newly diagnosed prostate cancer for Asia focusing on Japan (high-income country) and Malaysia (middle-income country) based on the Asian Prostate Cancer (A-CaP) Study. The combination of radiotherapy and ADT or ADT alone was common in patients with intermediate-to-high risk localized and locally advanced disease. For metastatic prostate cancer, maximum androgen blockade (gonadotrophin-releasing hormone [GnRH] agonist/antagonist plus antiandrogen) was prevalent among the Japanese patients while primary ADT alone with GnRH agonist/antagonist was widely practiced in the Malaysian cohort. Upfront combined therapy (ADT plus docetaxel or androgen receptor pathway inhibitor) has significantly improved the outcomes of patients with metastatic castration-naïve prostate cancer. Its application, however, remains low in our cohorts due to patients' financial capacity and national health insurance coverage. Early detection remains the cornerstone in prostate cancer control to improve treatment outcome and patient survival.Prostate cancer management has traditionally relied upon risk stratification of patients based on Gleason score, pretreatment prostate-specific antigen and clinical tumor stage. However, these factors alone do not adequately reflect the inherent complexity and heterogeneity of prostate cancer. Accurate and individualized risk stratification at the time of diagnosis is instrumental to facilitate clinical decision-making and treatment selection tailored to each patient. The incorporation of tissue and genetic biomarkers into current prostate cancer prediction models may optimize decision-making and improve patient outcomes. In this review we discuss the clinical significance of unfavorable morphologic features such as cribriform architecture and intraductal carcinoma of the prostate, tissue biomarkers and genomic tests and assess their potential use in prostate cancer risk assessment and treatment selection.Definitive treatment for prostate cancer includes radical prostatectomy (RP), external beam radiation therapy (EBRT), and brachytherapy (BT). The different side effect profiles of these options are crucial factors for patients and clinicians when deciding between treatments. This study reports long-term health-related quality of life (HRQOL) for patients in their second decade after treatment for prostate cancer. We used a validated survey to assess urinary, bowel, and sexual function and HRQOL in a prospective cohort of patients diagnosed with localized prostate cancer 14-18 years previously. We report and compare the outcomes of patients who were initially treated with RP, EBRT, or BT. Of 230 eligible patients, the response rate was 92% (n = 211) and median follow-up was 14.6 years. Compared to baseline, RP patients had significantly worse urinary incontinence and sexual function, EBRT patients had worse scores in all domains, and BT patients had worse urinary incontinence, urinary irritation/obstruction, and sexual function. When comparing treatment groups, RP patients underwent larger declines in urinary continence than did BT patients, and EBRT and BT patients experienced larger changes in urinary irritation/obstruction. Baseline functional status was significantly associated with long-term function for urinary obstruction and bowel function domains. This is one of the few prospective reports on quality of life for prostate cancer patients beyond 10 years, and adds information about the late consequences of treatment choices. These data may help patients make informed decisions regarding treatment choice based on symptoms they may experience in the decades ahead.The potential oncological benefit for radical treatment in the setting of oligometastatic prostate cancer has been under investigation and is frequently discussed. We carried out a systematic review of English language articles using the Medline database (January 2000 to May 2017) to identify studies reporting local treatment in men with metastatic prostate cancer at diagnosis. Primary end-points were oncological outcomes, such as

cancer-specific and overall mortality. Secondary end-points were non-oncological outcomes, such as complications, operating room time, blood loss or length of hospital stay. Two independent authors reviewed and extracted all search results. Overall, 18 studies reporting on local treatment in metastatic prostate cancer patients were identified (14 original articles, three brief correspondences and one letter to the editor). All of them were retrospective; one partly included prospective data. All studies addressed oncological outcomes, 16 compared local treatment with no-local treatment and 14 adjusted for confounders using multivariable regression models. All but one study concluded a survival benefit for local treatment in the metastatic setting. Due to heterogeneity of available data, a representative meta-analysis could not be carried out. Five studies reported non-oncological outcomes. Although local treatment in metastatic prostate cancer appears to be feasible, its oncological effect remains unclear due to high susceptibility of available studies to significant selection bias.Introduction: The 2018 Coffey-Holden Prostate Cancer Academy (CHPCA) Meeting, "Tumor Cell Heterogeneity and Resistance," was held in Los Angeles, California from June 21 to 24, 2018.The management of high-risk, localized prostate cancer remains a formidable challenge despite significant technical advances in surgery and radiation therapy. Treatment outcomes of radiation therapy are improved by the addition of adjuvant androgen deprivation therapy, whereas, with surgery, oncologic results are enhanced with either postoperative radiation therapy or androgen deprivation therapy in select cases. In high-risk prostate cancer, disease recurrence after primary therapy may occur at either distant or local sites. Ongoing studies are in the process of evaluating systemic therapy for the eradication of local and micrometastatic disease. Neoadjuvant therapies offer the opportunity to maximize local control as a path to improved outcomes and critically evaluate agent effectiveness in the target tissue. The treatment for high-risk localized prostate cancer is in evolution. It is likely that the development of effective strategies based on understanding prostate tumor biology will lead to significant advances in the treatment of this disease.Among the heterogeneous population of patients with prostate cancer, a high-risk group with locally advanced prostate cancer (LAPC) present a diagnostic and therapeutic dilemma. Although the incidence of LAPC has decreased with screening since the introduction of prostate-specific antigen (PSA) testing, significantly many patients are still diagnosed with LAPC. These patients are by definition at higher risk of metastatic disease and worse outcomes. The role of radical prostatectomy (RP) in this population has been debated, as the combination of radiotherapy and hormonal therapy is becoming used more frequently for LAPC. Unfortunately, the clinical staging and evaluation of LAPC is a challenge that results in possibly understaging or overstaging these patients. This further complicates therapeutic decision-making, and as a result no established standard treatment has been proposed. Like other patients with prostate cancer, individualized therapeutic choices are essential and depend on a multitude of factors. Herein we examine the role of RP for managing LAPC and attempt to emphasize how the risk of distant disease and difficulty with clinical staging might favour incorporating a surgical approach as part of the therapy for patients with LAPC.In Australia prostate cancer is the most commonly diagnosed cancer in men, with around 20,000 diagnosed each year (AIHW 2013, 2014). The many who survive it often battle with significant side-effects from treatment such as incontinence, loss of sexual function, fatigue and psychology issues.Purpose: To compare hospital readmissions, biochemical recurrence rates, incidence of metastasis, and cancer-specific and overall mortality for prostate cancer patients undergoing radiotherapy vs. radical prostatectomy. The secondary outcome was to identify patient and disease characteristics affecting physician's choice of either therapy.Background: Preferences, or utilities, for health outcomes are central in prostate cancer decision-making. Utilities can be elicited directly from patients using standard techniques, or indirectly, using questionnaires that incorporate preference weights from community members.Purpose: To outline the process for developing a data management system for patients with prostate cancer.To critically review conceptual frameworks for available patient-reported outcome (PRO) questionnaires in men having radical prostatectomy (RP), psychometrically evaluate each questionnaire, and identify whether each is appropriate for use at the level of the individual patient. We searched PubMed, the Reports and Publications database of the University of Oxford Patient-Reported Outcomes Measurement Group and the website of the International Consortium for Health Outcomes Measurement (ICHOM) for psychometric reviews of prostate cancer-specific PRO questionnaires. From these we identified relevant questionnaires and critically appraised the conceptual content, guided by the Wilson and Cleary framework and psychometric properties, using well established criteria. The searches found four reviews and one recommendation paper. We identified seven prostate cancer-specific PROs: the Expanded Prostate Cancer Index Composite-26 (EPIC-26), Expanded Prostate Cancer Index Composite-50 (EPIC-50),

University of California-Los Angeles Prostate Cancer Index (UCLA-PCI), Functional Assessment of Cancer Therapy - Prostate Cancer Subscale (FACT-P PCS), European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire - prostate specific 25-item (EORTC QLQ-PR25), Prostate Cancer - Quality of Life (PC-QoL), and Symptom Tracking and Reporting (STAR). Six out of seven measures purported to measure health-related quality of life (HRQL), but items focused strongly on urinary and sexual symptoms/functioning. The remaining questionnaire (STAR) claimed to assess functional recovery after RP. The psychometric evidence for these questionnaires was incomplete and variable in quality; none had evidence that they were appropriate for use with individual patients. Several questionnaires provide the basis of measures of urinary and/or sexual symptoms/functioning. Further work should explore other aspects of HRQL that are important for men having RP. Further psychometric work is also needed to determine whether they can be used at the individual level.Substantial evidence now supports the view that epigenetic changes have a role in the development of human prostate cancer. Analyses of the patterns of epigenetic alteration are providing important insights into the origin of this disease and have identified specific alterations that may serve as useful diagnostic and prognostic biomarkers. Examination of cancer methylation patterns supports a stem cell origin of prostate cancer. It is well established that methylation of GSTpi is a marker of prostate cancer, and global patterns of histone marking appear to be linked to cancer prognosis with levels of acetylated histones H3K9, H3K18, and H4K12, and of dimethylated H4R3 and H3K4, dividing low-grade prostate cancer (Gleason 6 or less) into two prognostically separate groups. Elevated levels of several components of the polycomb group protein complex, EZH2, BMI1, and RING1, can also act as biomarkers of poor clinical outcome. Many components of the epigenetic machinery, including histone deacetylase (whose expression level is linked to the TMPRSS2:ERG translocation) and the histone methylase EZH2, are potential therapeutic targets. The recent discovery of the role of small RNAs in governing the epigenetic status of individual genes offers exciting new possibilities in therapeutics and chemoprevention.Surgery, and radiation therapy remain the standard treatments for newly diagnosed prostate cancer patients. Nonetheless, these aggressive treatments are associated with decreased quality of life with altered sexual and urinary functions. Using modern risk stratification, several centers have gained significant experience in identifying patients with a low risk of prostate cancer progression and have adopted an active surveillance program with delayed, selective, or curative therapy. Interestingly, only limited numbers of patients under active surveillance require additional treatment. Recent data suggest that delayed treatment does not appear to alter the clinical outcome among those highly selected patients. A better understanding of the molecular determinants of prostate cancer behavior would not only enable healthcare professionals to identify which cases need aggressive treatment but, perhaps more importantly, would also indicate potential targets for the development of novel therapeutic strategies.Biochemical recurrence of prostate cancer occurs in 25-33% of patients who undergo radiation therapy (RT). Unfortunately, greater than 90% of patients with radiation recurrence undergo androgen deprivation therapy (ADT), despite the detrimental side effect profile and the lack of supporting evidence for ADT use in local recurrence. In patients who experience recurrence after treatment with RT, options for treatment include salvage radical prostatectomy (SRP), salvage cryotherapy (SCT), salvage brachytherapy (SBT), and high-intensity focused ultrasound (HIFU). These salvage treatments provide recurrence-free survival in almost half of the patients with an acceptable safety profile. However, it is important to note that approximately 20-40% of radio-recurrent prostate cancers are isolated and local. Recent studies have shown salvage focal treatments to have encouraging outcomes with significantly less side effects. This article summarizes the outcomes of currently used salvage treatment options for radio-recurrent prostate cancer and focuses on recent advancements in image-guided focal salvage therapies.Prostate motion during external-beam radiotherapy can affect outcomes in patients with localized prostate cancer. Prostate motion and deformation are currently being characterized with different techniques. There is significant individual variation among patients with respect to the observed motion and its dosimetric consequences. There is also significant difference in the accuracy of different localization methods currently used to adjust for prostate motion. The motion of the prostate gland can itself affect the accuracy of different localization methods. The dosimetric impact on target areas and organs at risk should be studied for different localization techniques, treatment plan margins, and treatment schedules. Such assessments will be increasingly important with smaller treatment margins, smaller fraction numbers, and higher radiation doses. Understanding and managing the consequences of anatomic variations within the lower pelvis should be a priority in designing and implementing future clinical trials.The treatment of localized prostate cancer remains controversial because of the lack of

conclusive well-controlled or randomized studies comparing outcomes of radiotherapy to outcomes of radical prostatectomy. A comparison of different therapies should include issues of cancer control, morbidity, quality of life (QOL), salvage of primary treatment failures, late effects, and cost. The available data suggest that these two modalities provide similar rates of cancer control at 10 years, and that except for the youngest patients, choice of therapy should be based on toxicity and QOL issues.Background: Although prostate cancer is the most common cancer among veterans receiving care in the Veterans Health Administration (VA), more needs to be done to understand and improve survivorship care for this large population. This study, funded by VA Health Services Research & Development (HSR&D), seeks to address the need to improve patient-centered survivorship care for veterans with prostate cancer.External beam radiotherapy is one of the curative treatment options for localised prostate cancer. This article will describe recent advances in prostate radiotherapy, focussing on the results of randomised trials which have addressed the role of radiation dose escalation and of adjuvant hormone therapy. Current controversies will then be considered, including the merits of radiotherapy in comparison with alternative approaches to early prostate cancer, and the possible role of adjuvant radiation following surgery. Finally, future developments will be described, including hypofractionation and dose individualisation, which have the potential to further improve the outcome of external beam radiotherapy for prostate cancer.Objective: To develop a core outcome set (COS) applicable for effectiveness trials of all interventions for localised prostate cancer. Many treatments exist for localised prostate cancer, although it is unclear which offers the optimal therapeutic ratio; which is confounded by inconsistencies in the selection, definition, measurement and reporting of outcomes in clinical trials.Purpose: To evaluate the efficacy of a triple treatment strategy, including surgery, on high risk prostate cancer comparing long-term survival outcome with a cohort receiving standard radiotherapy with endocrine therapy. Materials and methods: This study compared two cohorts in survival outcomes, matched on the year of diagnosis and age. In both groups there was a curative intention to treat localized high-risk prostate cancer (one or more of Gleason score 8-10, PSA 20-50 or stage T3), diagnosed between 1995-2010, follow-up at the end of 2014. Triple treatment group: 153 patients treated primarily with radical prostatectomy with neoadjuvant endocrine treatment, and a majority with adjuvant radiotherapy. Standard radiotherapy group: 702 patients with a treatment of either external radiotherapy or high dose brachytherapy combined with external beam therapy, both modalities in combination with neoadjuvant endocrine therapy. Results: The prostate-cancer-specific mortality was 10% for the triple treatment group and 15% for the standard radiotherapy group during the period, HR = 2.01 (1.17-3.43), p = 0.011. The corresponding overall mortality was 26% vs 29%, HR = 1.54 (1.09-2.17), p = 0.015. High Gleason score was the dominating risk factor for early death due to the disease. Clinical T-stage was not an independent risk factor for death in this population. Conclusion: Adding surgery in a multimodal treatment model in high-risk prostate cancer showed significantly better survival outcome compared with the current standard of radiotherapy. Surgery in this group is, therefore, compelling and that also includes a clinical T3-stage of the disease. The study is limited by possible selection bias for the two treatment models.In the nineteenth century the main goal of medicine was predictive: diagnose the disease and achieve a satisfying prognosis of the patient's chances. Today the effort has shifted to cure the disease. Since the twentieth century, the word prognosis has also been used in nonmedical contexts, for example in corporate finance or elections. The most accurate form of prognosis is achieved statistically. Based on different prognostic factors it should be possible to tell patients how they are expected to do after prostate cancer has been diagnosed and how different treatments may change this outcome. A prognosis is a prediction. The word prognosis comes from the Greek word (see text) and means foreknowing. In the nineteenth century this was the main goal of medicine: diagnose the disease and achieve a satisfying prognosis of the patient's chances. Today the effort has shifted towards seeking a cure. Prognostic factors in (prostate) cancer are defined as "variables that can account for some of the heterogeneity associated with the expected course and outcome of a disease". Bailey defined prognosis as "a reasoned forecast concerning the course, pattern, progression, duration, and end of the disease. Prognostic factors are not only essential to understand the natural history and the course of the disease, but also to predict possible different outcomes of different treatments or perhaps no treatment at all. This is extremely important in a disease like prostate cancer where there is clear evidence that a substantial number of cases discovered by prostate-specific antigen (PSA) testing are unlikely ever to become clinically significant, not to mention mortal. Furthermore, prognostic factors are of paramount importance for correct interpretation of clinical trials and for the construction of future trials. Finally, according to WHO national screening committee criteria for implementing a national screening programme, widely

accepted prognostic factors must be defined before assessing screening.Purpose: In conjunction with the assignment to update the Guidelines for Management of Clinically Localized Prostate Cancer, the American Urological Association Prostate Cancer Guideline Update Panel performed a side analysis of the reporting of erectile function outcomes in this clinical context as published in the medical literature.Purpose of review: Androgen deprivation therapy is the cornerstone treatment for men with de novo or recurrent metastatic prostate cancer. Unfortunately, androgen deprivation therapy is primarily palliative, with nearly all men progressing to an androgen-independent state. Hormone-refractory prostate cancer presents significant management challenges and is the focus of this review.Objective: To review the literature on racial variation in the pattern of care (PoC) and quality of care (QoC) for prostate cancer, as there are known racial disparities in the incidence and outcomes of prostate cancer. While there are some biological explanations for these differences, they do not completely explain the variation. Differences in the appropriateness and QoC delivered to men of different racial groups may contribute to disparities in outcome.Prostate cancer represents one of the most prevalent malignancies in the world. Although subsets of prostate cancer are aggressive and can metastasize, it is also evident that most patients harbor indolent disease. Although current risk-stratification approaches use both clinical and pathologic factors, it is clear that biomarkers can be used to improve on these approaches. In this article, we review the currently published literature on prostate cancer molecular biomarkers, primarily in the context of radiation therapy, focusing on those found in serum, plasma, urine, and within the tumor biopsy itself. We highlight the potential use and limitations of these biomarkers and present possible future directions for biomarker investigation.To date, there are no studies conclusively documenting that one treatment for localized prostate cancer is superior to another in terms of overall survival. Therefore, patients must consider other outcomes when choosing primary therapy for localized disease. One of the most important factors patients consider when choosing their treatment is the effect of therapy on their quality of life (QOL). Over the past decade, there have been an increasing number of studies assessing health related QOL (HRQOL) outcomes in localized prostate cancer. The goal of this article is to review our current understanding of HRQOL in this disease. We will begin by examining the established HRQOL instruments for use in localized prostate cancer. We will then discuss the effect of various treatments on QOL and review the literature comparing HRQOL outcomes between therapies.Purpose: The goal of this study was to determine the relationship between primary treatment, urinary dysfunction, sexual dysfunction, and general health-related quality of life (HRQOL) in prostate cancer.Purpose: Although it is the most powerful predictor of early prostate cancer treatment-related complications and quality-of-life (QOL) outcomes, most studies do not stratify results by baseline function. Further, reporting functional outcomes as averaged numerical results may obscure informatively disparate courses. Using levels of treatment-related dysfunction, we address these problems and present the final QOL outcomes of our prospective cohort study of patients with early prostate cancer.Current therapy for advanced prostate cancer is hampered by the propensity of the disease to progress from an androgen-dependent state to an androgen-independent state. Current treatment for advanced disease is palliative. Therefore, the therapeutic goal for prostate cancer treatment today is to arrest the disease at an early state when it is still localized to the gland. The standard treatment for clinically localized disease is radical prostatectomy or radiation therapy by way of external beam irradiation or local radioactive seed implants (brachytherapy). In advanced disease, the use of radiation therapy is limited to palliation of pain secondary to bone metastases and for spinal cord compression. Tracking residual disease and predicting outcome is limited to following the level of prostate specific antigen (PSA) production, evaluating for bone or solid organ metastasis, and analyzing their preoperative clinical stage, PSA and Gleason's score. Apoptosis as a molecular process of genetically regulated cell death has a critical endpoint that coincides with the goal of successful treatment of human malignancies. Since in cancer treatment the therapeutic goal is to trigger tumor-selective cell death, activation of the apoptotic pathway in prostatic tumor cells offers attractive and potentially effective therapeutic targets. As our understanding of the vital role of apoptosis in the development and growth of the prostate gland has expanded, numerous genes that encode apoptotic regulators have been identified that are severely impaired in prostate tumors. Human prostate cancer cells undergo apoptosis in response to androgen ablation, chemotherapeutic agents and ionizing irradiation. The expression of apoptotic modulators within individual prostate tumors appears to correlate with the cancer cell's sensitivity to traditional therapeutic modalities, including radiotherapy. No strict correlation between radiation-induced apoptosis and longevity of prostate cancer patients has emerged, possibly because the ability to achieve an initial remission alone does not adequately predict long-term outcome and patient survival. In this review we summarize the current understanding of the

effects of radiation therapy on prostatic tumor cells within the context of the therapeutic significance of radiation-induced apoptosis in the effective elimination of androgen independent prostate cancer cells. As we enter a new millenium, identification of distinct molecular markers predictive of therapeutic response of prostatic tumors to radiation therapy may afford alternative prognostic indicators in optimizing our treatment protocols for advanced disease.Although bone metastases from prostate cancer are described as osteoblastic, markers of both osteoblastic and osteoclastic activity are strikingly elevated in men with metastatic prostate cancer. Elevated markers of osteoblastic and osteoclastic activity are associated with adverse clinical outcomes in men with prostate cancer--outcomes including shorter time to skeletal complications, disease progression, and death. Bone marker measurement appears to be a promising method for monitoring the efficacy of bone-targeted therapy. Additional studies are needed to assess the potential role of bone markers in identifying men at highest risk for development of bone metastases.Widespread implementation of prostate cancer screening has affected several epidemiologic features of the disease including incidence, tumor and patient characteristics, patterns of care and outcomes. Some of these changes have been interpreted as evidence of the success of PSA testing as a cancer control strategy. Data are available from multiple sources to assess the association of early detection on recent prostate cancer rates and trends. National mortality data in the United States may be particularly informative because of the early and widespread adoption of PSA testing there. Incidence data from tumor registries and other regional resources are also relevant to this question. Case-control analyses and modeling of relevant rates and trends have recently been reported. Multiple sources of data show that prostate cancer incidence rates rose following the introduction of PSA testing. The average age at diagnosis has fallen, the proportion of advanced stage tumors has declined, the proportion of moderately differentiated tumors has increased, and patterns of care have changed accordingly. A decline in mortality began in the United States in 1991. The decline in mortality is well established but this recent trend may only retrace an increase in mortality that immediately preceded. The descriptive epidemiology of prostate cancer reveals many effects of the introduction of prostate cancer screening. Although the evidence suggests increased prostate cancer testing has yielded public health benefit, this has not yet been shown conclusively.To improve future drug development and patient management for patients with castration-resistant prostate cancer (CRPC), surrogate biomarkers that are linked to relevant outcomes are urgently needed. A biomarker must be measurable, reproducible, linked to relevant clinical outcomes, and demonstrate clinical utility. This area is rapidly evolving, with recent trials in patients with CRPC incorporating the detection of circulating tumour cells (CTCs), imaging, and patient-reported outcome biomarkers. We discuss the framework for the development of biomarkers for CRPC, including different categories and contexts of use. We also highlight the requirements of analytical validation, the sequence of trials needed for clinical validation and regulatory approval, and the future outlook for imaging and CTC biomarkers.The stem cell concept of cancer suggests that each cancer contains a small fraction of stem cells responsible for the maintenance and progression of the disease. The implication of this concept is that by targeting and killing the cancer stem cells, it may be possible to improve survival or even cure the disease. Prostate cancer stem cell therapy is a valid goal to aim for, but there are massive hurdles to overcome, even if the concept is shown to be correct.Purpose of review: Prostate cancer continues to represent a major health problem. It represents the most common cancer in US men, with an estimated 186 320 new cases diagnosed in 2008. It is the second leading cause of cancer death in men in the United States. Despite several attempts, the median survival for men with metastatic castrate-resistant prostate cancer is 1-2 years, with improvements in survival seen primarily with docetaxel-based therapies. Treatment options are limited, and there is a clear need for therapies that improve outcome. The purpose of this article is to discuss recent developments in the field of metastatic hormone-refractory prostate cancer, including new cytotoxic agents, antiproliferative agents, immune-based therapies, circulating tumor markers and antiangiogenic agents.Objectives: Outcomes for men with localised prostate cancer managed with Active Surveillance (AS) are similar to outcomes for men who have received Active Treatment. This review explore men's perceptions of the factors that influence their decision-making process when considering AS.Background: Advances in medical and public health practice have led to many changes in patterns of prostate cancer care. Data from several studies of prostate cancer by the Commission on Cancer of the American College of Surgeons provide information on the directions, magnitudes, and consequences of these changes.Clinicopathologic parameters, including Gleason score, remain the most validated prognostic factors for patients diagnosed with localized prostate cancer (PCa). However, patients of the same risk groups have exhibited heterogeneity of disease outcomes. To improve risk classification, multiple

molecular risk classifiers have been developed, which were designed to inform beyond existing clinicopathologic classifiers. Alterations affecting tumor suppressors and oncogenes, such as PTEN, MYC, BRCA2, and TP53, which have been long associated with aggressive PCa, demonstrated grade-dependent frequency of alterations in localized PCas. In addition to these genetic hallmarks, several RNA-based commercial tests have been recently developed to help identify men who would benefit from earlier interventions. Large genomic studies also correlate germline genetic alterations and epigenetic features with adverse outcomes, further strengthening the link between the risk of metastasis and a stepwise accumulation of driver molecular lesions.There is no clear consensus on how to manage a subset of patients with prostate cancer (PCa) who present with involved lymph nodes (LN+). Although outcomes for these patients are uniformly worse than those for patients with localized PCa, they are better than outcomes for patients with bone metastases, with more than 60% of patients alive at 10 years after the initial diagnosis. This article reviews the existing data on outcomes for patients treated with various combinations of systemic and local therapies. Current evidence suggests both a disease-control benefit and a survival benefit to multimodality therapy, which combines systemic androgen deprivation therapy (ADT) with local therapies, such as surgery and radiation, without evidence of excessive treatment-related toxicities.Purpose: This study aimed to evaluate the changes in outcome for men with localized prostate cancer treated with definitive external beam radiation therapy during a 20-year period at a comprehensive cancer center.Due to its relatively indolent disease course, the sensitivity of PSA testing, and the emergence of novel PET imaging, metastatic prostate cancer is particularly likely to present with a limited volume of disease. Patients with up to five metastatic lesions should be considered for an oligometastatic treatment approach. Systemic therapy remains the cornerstone of treatment for these patients. The optimal type and duration are unknown; however, the addition of a second agent to ADT appears to be beneficial. Multiple recent studies have found significant benefits to the integration of systemic therapy and local metastasis-directed therapies (MDT), including radiation and surgery, to the prostate and metastatic sites. MDT may also be used in select patients wishing to delay the initiation of systemic therapy. For patients with isolated regional nodal recurrences, whole pelvic radiotherapy or extensive lymphadenectomy is preferred, in combination with ADT.Prostate cancer is the most common urologic neoplasm and the second leading cause of cancer-related death among men in many developed countries. Given the highly heterogeneous behaviour of the disease, there is a great need for prognostic factors, in order to stratify the clinical risk and give the best treatment options to the patient. Clinical factors, such as prostate-specific antigen value and derivatives, and pathological factors, such as stage and Gleason grading, are well kown prognostic factors. Nomograms can provide useful prediction in each clinical sceario. The field of molecular biomarkers is briskly evolving towards personalized medicine. TMPRSS2-ERG fusion, deletion of PTEN ed and gene panels are some of the more extensively explored molecular features in prostate cancer outcome prediction. In the near future, circulating tumour cells, exosomes and microRNAs could give us further, not invasive important tools.The incidence of prostate cancer increases with age. Current evidence suggests that prostate cancer is under treated in patients aged ≥70 years, despite evidence of efficacy and acceptable toxicity. Radical cystectomy and definitive radiotherapy are often denied owing to fears of post-operative complications and radiotherapy-associated gastrointestinal and genitourinary toxicity. However, modern radical prostatectomy techniques provide excellent clinical outcomes with low perioperative morbidity. Moreover, volume-restricted intensity-modulated radiation therapy is a significant improvement over previous 2D conformal radiotherapy with similar efficacy and lower toxicity. Androgen-deprivation therapy is also under-prescribed among the elderly, owing to concerns of increases in cardiac deaths and osteoporosis acceleration. However, prospective trials have not identified any increase in cardiovascular mortality among elderly men receiving androgen-deprivation therapy compared to age-matched controls. Most patients on androgen deprivation eventually progress to a castration-resistant state. At this stage, the disease still responds to newer agents that target the androgen pathway and to chemotherapy. Among the elderly, chemotherapy is under-prescribed even though it has been demonstrated to be palliative and improve survival. We describe the trends in prostate cancer management in the elderly and the importance of assessing comorbidity status, tumour characteristics, and health status, including a complete geriatric evaluation, before making treatment recommendations.Objective: To design a decision-support tool to facilitate evidence-based treatment decisions in clinically localized prostate cancer, as individualized risk assessment and shared decision-making can decrease distress and decisional regret in patients with prostate cancer, but current individual models vary or only predict one outcome of interest.Recently, the incidence of

prostate cancer in Japan has been markedly increased because of the aggressive use of serum PSA at urological clinics and/or screening. However, the limitations of serum PSA in diagnosis of prostate cancer are also well known. While the volume adjusted PSA, PSA isoforms and PSA kinetics are useful to improve the specificity of PSA in a diagnosis, their ability are still not enough to replace PSA. More importantly, there are no definitive markers to distinguish aggressive from indolent prostate cancers, and to predict outcomes after definitive therapies. With recent advances in biotechnology such as immunohistochemical staining, proteomics, tissue microarray, DNA microarray, FISH, ELISA, RT-PCR, and SELDI-TOF, many promising biomarkers have been identified and are currently under investigation and validation. However, it is unlikely that any one marker will predict perfectly the course of disease at present, so the use of nomograms that incorporate multiple predictive factors will be a realistic way to improve prostate cancer in screening and staging. We reviewed current and potential biomarkers for prostate cancer detection and staging.Prostate cancer remains a common cause of cancer death in men. Applications of new genomic technologies to the recent development of high-quality prostate cancer models in multiple contexts have added great molecular insight into the development of and progression to metastasis. Genomic analysis of DNA, RNA, and protein alterations allows for the global assessment of this disease and provides the molecular framework to improve risk classification, outcome prediction, and development of targeted therapies. The creation of expression profiles and signatures will allow the evaluation of cancer phenotypes and give insight into determining those with increased risk of cancer, identification of critical pathways involved in the development of cancer, prediction of disease outcome, and assessment of the response of cancer to established and novel therapies. This review focuses on highlighting recent work in genomics and on its role in evaluating potential genetic modifiers of prostate cancer and novel biomarkers that may help with prostate cancer diagnosis, its potential to provide a better understanding of prostate cancer behavior and transition to metastatic disease, and its role in current and new therapies in prostate cancer. This framework has the exciting potential to be predictive and provide personalized and individual treatment to the large number of men diagnosed with prostate cancer each year.Prostate cancer was a neglected area in psycho-oncology. There is now a growing number of studies on the psychosocial aspects of having prostate cancer and the possibilities to reduce these problems in educational and group interventions. In this issue of Patient Education and Counseling, studies are presented on several psychosocial and educational aspects in prostate cancer patients: screening events and outcomes, assessing the unmet information, support and care delivery needs, reacting to the diagnosis of prostate cancer, informational needs of men on hormonal therapy, changes in health-related quality of life three months after the diagnosis, information-seeking behaviors and information needs of partners, quality of leaflets, video information in decision making, and patient perceptions and priorities in a rehabilitation program. Conclusions are presented on neglected research areas in psychosocial and educational aspects of living with prostate cancer.Purpose: We compared survival outcomes in patients of Asian descent treated with curative intent radiation therapy for prostate cancer with that in the nonAsian population in British Columbia, Canada.Locally advanced prostate cancer generally refers to those patients with clinical stages T3-4 disease. Patients with locally advanced cancer frequently are included in clinical trials that examine treatment for patients at high risk for relapse based on presenting prostate-specific antigen, high Gleason score, or advanced clinical stage. There is a growing body of evidence that suggests that men with localized prostate cancer benefit from high-dose radiation therapy delivered with three-dimensional conformal radiation therapy, intensity-modulated radiation therapy, or proton beam therapy. Most importantly, neoadjuvant and adjuvant androgen-deprivation therapy have significantly improved outcomes in men with locally advanced or high-risk prostate cancer. Although questions remain regarding the optimal timing and duration of adjuvant hormonal therapy, a combination of long-term androgen deprivation started before radiation therapy and continued for 2 years represents a North American standard of care for this patient population.Purpose: Men with a family history of prostate cancer are at higher risk for prostate cancer. There are conflicting data regarding the impact of hereditary forms of prostate cancer on long-term outcomes after radical prostatectomy. We examined the impact of familial and hereditary prostate cancer treatment in the prostate specific antigen era.Health-related quality of life (HR-QOL) research, in general, is developing. It is becoming increasingly recognised as being important and knowledge on how to assess HR-QOL is spreading. Modern HR-QOL research should assess prevalence and severity of symptoms or functions, as well as the bother that symptoms or changes in functions inflict and whether this bother affects the overall well-being of the patient. In the prostate cancer field, HR-QOL assessments have evolved rapidly during the last decade. The importance of HR-QOL and associated research in prostate

cancer is being more and more appreciated. Most published studies concern patients with early prostate cancer; studies in patients with late advanced stages are less frequent. In early stages, patients often have no or few symptoms from the disease. HR-QOL aspects for these patients are thus often associated with anxiety and treatment adverse effects such as changes in sexual, urinary and bowel functions. Changes in these functions also often affect HR-QOL in patients with more advanced local stages of prostate cancer or metastatic disease. Moreover, HR-QOL in these patients is also affected by endocrine treatment aiming to castrate the patient. Monotherapy with antiandrogens as endocrine treatment may be the treatment alternative that affects HR-QOL the least. This alternative may, however, not be as effective as castration. In the palliative phase, patients with prostate cancer have problems common to patients dying of other cancers. HR-QOL research should be encouraged and the knowledge on how HR-QOL can be assessed needs to be disseminated. HR-QOL assessments should be as natural in outcomes research as survival assessments. The technology of assessing HR-QOL needs to be further investigated and improved particularly with respect to the understanding of differences in performance between instruments using summary scores and item-specific assessments. Also, we need an increased understanding of the mechanisms behind patients' trade-offs and of how information should be communicated to patients in order to give the best possibilities for making informed treatment decisions.Metastatic prostate cancer remains a prevalent disease in the United States that requires detailed characterization of its pathobiology. In the December 2004 issue of Cancer Research, a comprehensive study by Shah et al. demonstrated that metastatic androgen-independent prostate cancer is a collective group of diseases even within the same patient. Understanding the molecular and phenotypic determinants of this heterogeneity is essential in assessing therapeutic outcomes in the management of prostate cancer progression.• The optimal management of high-risk localised prostate cancer is a major challenge for urologists and oncologists. It is clear that multimodal therapy including radical local treatment is needed in these men to achieve the best outcomes. • External beam radiotherapy (EBRT) is an essential component of therapy either as a primary or adjuvant treatment. However, the role of radical prostatectomy (RP) is more controversial. Both methods are currently valid therapy options. • There have been many individual studies of EBRT and RP in high-risk disease, but no good quality large prospective randomized trials. • In EBRT, combination with neoadjuvant plus long-term adjuvant androgen-deprivation therapy (ADT) has been conclusively shown to improve outcomes and is widely considered the standard of care. • However, the role of RP has achieved recent prominence with several important studies. Published data from prospective randomized trials in patients after RP have shown that in men with adverse pathological features at surgery, the addition of adjuvant RT improves biochemical-free and progression-free survival. • More recently, studies from large-volume centres comparing EBRT and RP have provided intriguing suggestions of better outcomes with RP as the primary treatment. • An important question therefore, is which of the two methods provides the best outcome in men with localised high-risk disease. Crucially, does the combination of RP and selective adjuvant EBRT provide clinically significant better outcomes compared with EBRT alone? • In this review we discuss the current evidence for the role of RP for high-risk localised prostate cancer and define the parameters and urgent need for a prospective trial to test the role of surgery for this group of patients.Surgery or radiation therapy remain the standard curative treatments for newly diagnosed prostate cancer patients. Nonetheless, these aggressive treatments are associated with decreased quality of life with altered sexual and urinary functions. The objective was a systematic review of active surveillance protocols to investigate the role of histopathology and molecular markers in the active surveillance of prostate cancer. Medline was searched using the following terms: prostate cancer, active surveillance and expectant management. Selection criteria, follow-up strategies and outcomes. Using modern risk stratification, several centres have gained significant experience in identifying patients with a low risk of prostate cancer progression and have adopted an active surveillance program with delayed curative therapy. Interestingly, only limited numbers of patients under active surveillance require additional treatment. Recent data suggest that delayed treatment does not appear to alter the clinical outcome among those highly selected patients. The future and conclusions. A better understanding of the molecular determinants of prostate cancer behaviour would not only enable healthcare professionals to identify which cases need aggressive treatment but, perhaps more importantly, would also indicate potential targets for the development of novel therapeutic strategies.High-risk prostate cancer can be defined by the assessment of pretreatment prognostic factors such as clinical stage, Gleason score, and PSA level. High-risk features include PSA >20 ng/ml, Gleason score 8-10, and stage T3 tumors. Patients with adverse prognostic factors have historically fared poorly with monotherapeutic

approaches. Multimodal treatment utilizing combined androgen suppression and radiotherapy has improved survival rates for patients with high-risk prostate cancer. In addition, multiple randomized trials in patients treated with primary radical prostatectomy have demonstrated improved outcomes with the addition of adjuvant radiotherapy. Improved radiotherapy techniques that allow for dose escalation, and new systemic therapy approaches such as adjuvant chemotherapy, present promising future therapeutic alternatives for patients with high-risk prostate cancer.Although both surgery and radiation are potential curative options for men with clinically localized prostate cancer, a significant proportion of men with high-risk and locally advanced disease will demonstrate biochemical and potentially clinical progression of their disease. Neoadjuvant systemic therapy before radical prostatectomy (RP) is a logical strategy to improve treatment outcomes for men with clinically localized high-risk prostate cancer. Furthermore, delivery of chemotherapy and other systemic agents before RP affords an opportunity to explore the efficacy of these agents with pathologic end points. Neoadjuvant chemotherapy, primarily with docetaxel (with or without androgen deprivation therapy), has demonstrated feasibility and safety in men undergoing RP, but no study to date has established the efficacy of neoadjuvant chemotherapy or neoadjuvant chemohormonal therapies. Other novel agents, such as those targeting the vascular endothelial growth factor receptor, epidermal growth factor receptor, platelet-derived growth factor receptor, clusterin, and immunomodulatory therapeutics, are currently under investigation.Objectives: To evaluate prospectively the health-related and disease-specific quality of life (QOL) at diagnosis and during the first year thereafter for patients with newly diagnosed prostate cancer who received care at Veterans Affairs Medical Centers.Purpose: Recent evidence indicates that small noncoding RNA molecules, known as microRNAs (miRNAs), are involved in cancer initiation and progression. We hypothesized that genetic variations in miRNAs and miRNA target sites could be associated with the efficacy of androgen-deprivation therapy (ADT) in men with prostate cancer.A lack of quality evidence comparing management strategies confounds complex treatment decisions for patients with high-risk prostate cancers. No randomized trial comparing surgery to radiation has been successfully completed. Despite inherent selection biases, however, observational and registry data suggest improved outcomes for patients initially managed with prostatectomy. As consensus shifts away from aggressive treatment for low-risk disease and toward multimodal treatment of locally advanced and metastatic disease, there is renewed interest in surgery for local control in patients presenting with high-risk localized, node-positive and minimally metastatic disease. The objective of this review is to examine the evidence evaluating clinical outcomes of patients with high-risk clinically localized, node-positive and metastatic prostate cancer treated with radical prostatectomy.Health related quality of life is one of several end points commonly studied in medical outcomes research. It refers to how well an individual is functioning in life and to his or her own perceptions of well being. Although health related quality of life variables concern subjective phenomena, their measurement is rigorously quantitative and based upon the well defined principles of psychometric research methodology. Health related quality of life data are collected with survey instruments, which may be self-administered or require a trained interviewer. Some are completed at a medical facility, while others are completed independently at home or by telephone. To yield useful information, such instruments must undergo extensive pilot testing and be shown to have sound psychometric properties. This testing determines whether an instrument can produce data that are reliable or reproducible, and valid or meaningful. Health related quality of life instruments typically contain several collections of items, called scales, that apply to particular dimensions of quality of life. These scales contribute to a qualitative profile of the health-related components of the daily life of a subject. General health related quality of life measures include broad issues that concern many types of patients, while disease-targeted measures address issues that are specific to the condition under study. Both are necessary to create a full and rich picture of patient quality of life. The field of health related quality of life research remains in its adolescence. Although several general measures are now well established, many disease targeted domains have been left unexplored. In men treated for prostate cancer, established general and cancer specific health related quality of life instruments may be combined with newly developed measures that assess the prostate related sexual, urinary and bowel domains in terms of degree of dysfunction and level of bother from that dysfunction. With the substantially increased patient role in directing treatment for prostate cancer, the importance of examining health related quality of life outcomes in addition to survival has been underscored. It is the responsibility of the urological community to include health related quality of life when assessing new and established prostate cancer therapies, and when counseling patients.Purpose: To evaluate the efficacy of multimodality therapy consisting of hormone therapy (HT), brachytherapy (BT), and external

beam radiotherapy (EBRT) in extraprostatic prostate cancer and identify factors with predictive value.Introduction: Localized prostate tumors have various clinical, biological and histopathological characteristics that lead to different progression profiles. High-risk prostate cancer has been classically defined by clinical examination, PSA levels and histopathological data. High-risk prostate cancer has usually a worse outcome, but classic stratification predictive of outcome for prostate cancer is a matter of debate concerning its accuracy.This article examines prostate cancer as a target for immunotherapy and investigates active immunotherapy for prostate cancer, combining conventional therapy with active immunotherapy, immune modulators (brakes and accelerators), and monoclonal antibodies.Purpose: We analyzed the pathological and oncologic characteristics of anteriorly located prostate cancer and assessed the usefulness of magnetic resonance imaging to detect anterior prostate cancer.Objectives: The incidence of prostate cancer is increasing, as is the number of diagnostic and therapeutic interventions to manage this disease. We developed a Markov state-transition model--the Montreal Prostate Cancer Model--for improved forecasting of the health care requirements and outcomes associated with prostate cancer. We then validated the model by comparing its forecasted outcomes with published observations for various cohorts of men.Purpose: To describe outcomes of men with unfavorable (high-tier) intermediate risk prostate cancer (H-IR) treated with low-dose-rate (LDR) brachytherapy, with or without 6 months of androgen deprivation therapy (ADT).Objective: Several nomograms have been developed to predict outcomes related to prostate cancer (PCa).Lymph node status is an important determinant for the management of patients with newly diagnosed prostate cancer. Given the significant limitations of cross-sectional and functional preoperative imaging in the detection of small metastases, pelvic lymph node dissection remains the only reliable staging method in clinically localized prostate cancer. Although lymph node dissection is a well-established form of staging in prostate cancer, controversy remains about indications and the surgical extent of the procedure. Reported practices vary from omitting pelvic lymph node dissection in low-risk disease to routine pelvic lymph node dissection in all radical prostatectomy patients. This review highlights the recent literature concerning pelvic lymphadenectomy in prostate cancer with respect to anatomical extent and oncologic outcome.The resources devoted to managing metastatic prostate cancer are enormous, yet little attention has been given to directly measuring the economic consequences of treatment alternatives. The purpose of this article was to evaluate the pharmacoeconomics of available treatments for metastatic prostate cancer, including hormone-sensitive disease, androgen-independent prostate cancer and locally advanced/progressive disease. We identified 58 articles addressing economic issues related to metastatic prostate cancer. Treatment alternatives with considerably different costs are available in many areas of disease management, most notably, medical androgen deprivation therapy (ADT) versus surgical castration; combined androgen blockage (CAB) versus monotherapy for initial treatment of hormone-sensitive disease; as well as bisphosphonates and bone-targeted radioisotopes for palliation. The few available pharmacoeconomic studies indicate that the additional costs are not supported by clear and compelling evidence of differences in survival or quality-of-life (QOL) outcomes. Our review revealed that authors often use considerably different assumptions about efficacy and survival outcomes in their analyses, which may be due to the inconsistency of available clinical evidence. Although there have been many clinical trials comparing various therapies, we identified only three trials that included economic assessments. Thus, few sources of economic data are available and most pharmacoeconomic studies rely on information mined from indirect sources. We note that, while there has been considerable enthusiasm about the role of docetaxel regimens in the past 2 years, no study has yet examined the costs of these therapies. Survival remains poor for metastatic disease, thus QOL is the primary consideration for many therapies. However, QOL for treatment of metastatic disease is poorly measured and, in most analyses, the impact of therapy on QOL was inferred based on speculation by the authors. Given the large cost burdens of these treatments, it is essential that we more fully understand the true QOL gains potentially offered by more expensive therapies. The economic studies of advanced prostate cancer highlight several aspects of clinical care that are filled with considerable uncertainty and remain guided by forces other than optimal resource allocation. It is essential that we address the weaknesses in our understanding of the economic consequences of therapies for prostate cancer, and find ways to include economic information into the process of determining optimal therapy.The optimal treatment for clinically localized prostate cancer is an ongoing subject of controversy. Treatment decisions must take tumour staging, risk assessment, life expectancy and consideration of the major side effects of multiple available treatment regimens into account. Despite technical advances reduced the side effects of radiation therapy, the majority of patients with newly diagnosed organ confined prostate cancer decide

to undergo radical prostatectomy. Refinements of radical prostatectomy surgical techniques during the last decade are influenced by better understanding of the anatomy of the small pelvis and resulted in excellent functional and oncological outcomes. Additionally, the surgeons experience was identified as a key determinant for improved surgical outcomes. Recently, retrospective studies revealed that also patients with locally advanced disease benefit from radical prostatectomy. Advantages of radical prostatectomy include a precise pathological staging that assesses the need for additional therapies. Moreover, PSA can easily be used as an accurate surrogate marker during follow-up in such patients.Immune infiltration in Prostate Cancer (PCa) was reported to be strongly associated with clinical outcomes. However, previous research could not elucidate the diversity of different immune cell types that contribute to the functioning of the immune response system. In the present study, the CIBERSORT method was employed to evaluate the relative proportions of immune cell profiling in PCa samples, adjacent tumor samples and normal samples. Three types of molecular classification were identified in tumor samples using the 'CancerSubtypes' package of the R software. Each subtype had specific molecular and clinical characteristics. In addition, functional enrichment was analyzed in each subtype. The submap and Tumor Immune Dysfunction and Exclusion (TIDE) algorithms were also used to predict clinical response to the immune checkpoint blockade. Moreover, the Genomics of Drug Sensitivity in Cancer (GDSC) database was employed to screen for potential chemotherapeutic targets for the treatment of PCa. The results showed that Cluster I was associated with advanced PCa and was more likely to respond to immunotherapy. The findings demonstrated that differences in immune responses may be important drivers of PCa progression and response to treatment. Therefore, this comprehensive assessment of the 22 immune cell types in the PCa Tumor Environment (TEM) provides insights on the mechanisms of tumor response to immunotherapy and may help clinicians explore the development of new drugs.Objectives: Establishing realistic health-related quality-of-life (HRQOL) expectations before the choice of cancer treatment is made is an important goal of patient counseling. We prospectively studied the pretreatment expectations of prostate cancer-specific HRQOL with an adapted Expanded Prostate Cancer Index Composite instrument.Aim: Research suggests that anxiety may be a common response to a cancer diagnosis, but research is needed to examine anxiety before diagnosis. Anxiety before diagnosis may relate to the comprehension of relevant health information or openness to potential treatments. This study examined anxiety and these outcomes in men who were waiting to learn of a prostate cancer diagnosis.Prostate cancer is a major public health problem in the Western world, and the second most common male malignancies in the European Union. Detection of the disease is possible at an early stage, using serum prostate specific antigen measurement and prostatic biopsies. To date, however, screening for prostate cancer has not been shown to be of benefit to patients in improving outcome. This is compounded by uncertainties surrounding treatment efficacy, as more men appear to die with prostate cancer than from it. Studies addressing these issues are underway in Europe and the U.S.A. Clinicians are currently unable to advise their patients with any degree of certainty as to the appropriateness of treatment for prostate cancer, because of their inability to differentiate tumours that will progress from those that will remain quiescent. This article reviews the various clinical, pathological and experimental markers available, and their value in providing prognostic information, which may assist clinicians and patients in making management decisions. Further research is still required to understand the biological behaviour of prostate cancer and to assess the value of screening and treatment efficacy in order to advise patients, clinicians and health care systems accordingly.Decision making for treatment of localized prostate cancer is often guided by therapeutic side-effect profiles. We sought to assess health-related quality-of-life outcomes for patients 48 months after treatment for localized prostate cancer. Men treated for localized prostate cancer (N = 475) were evaluated before treatment and at 11 intervals during the 48 months after intervention. Changes in mean health-related quality-of-life scores and the probability of regaining baseline levels of health-related quality of life were compared between treatment groups. All statistical tests were two-sided. Urinary incontinence was more common after prostatectomy (n = 307) than after brachytherapy (n = 90) or external beam radiation therapy (n = 78) (both $P < .001$), whereas voiding and storage urinary symptoms were more prevalent after brachytherapy than after prostatectomy (both $P < .001$). Sexual dysfunction profoundly affected all three treatment groups, with a lower likelihood of regaining baseline function after prostatectomy than after external beam radiation therapy or brachytherapy ($P < .001$). Bowel dysfunction was more common after either form of radiation therapy than after prostatectomy. These results may guide decision making for treatment selection and clinical management of patients with health-related quality-of-life impairments after treatment for localized prostate cancer.Objective: To determine the

5-year oncological outcomes of endoscopic extraperitoneal radical prostatectomy (EERPE) from a medium-volume centre, thereby providing much needed data on outcomes from the UK.Objective: To identify what matters to clinicians and patients when discussing cancer medicines' impact on health-related quality of life (HRQoL).Indications for checkpoint inhibitors (CPIs) are growing rapidly within the field of oncology; however, they continue to have heterogeneous outcomes in different cancers. Other than mismatch repair deficiency, there are no consistent tests to determine a tumor's susceptibility. By exploring factors beyond the cancer cell, researchers have learned that the efficacy of CPIs may be governed by a myriad of variable host factors, including the tumor microenvironment (TME) and gut microbiome (GMB). The GMB serves as one of the primary organs of immune defense and has well-established local and systemic effects on the host immune system. Recent investigations suggest that the GMB also affects the TME. This review article discusses the concepts of a TME and a GMB and their effects on responses to CPIs. It also reviews recent research investigating these 3 topics, and how it can be applied to using CPIs in prostate cancer. By highlighting this important pathophysiologic process, we hope to provide insight into a possible explanation for differences in interindividual response to CPIs, discuss a potential method for transferring treatment efficacy between patients, and propose a method for expanding the use of CPIs to prostate cancer.More than two decades of studies on hormonal treatment of Prostate Cancer are briefly reviewed. Recent American Society of Clinical Oncology recommendations have pointed the major issues faced in randomized clinical trials and meta-analyses. Androgen ablation remains the mainstay of treatment for advanced stages, while Docetaxel based chemotherapy is becoming the standard in hormonorefractory tumors and targeted therapies are approaching.Prostate cancer is the number one killer in the United States. A comparison of US and Japanese population is discussed in this chapter to identify risk factors for prostate cancer. Screening of prostate cancer is common among Americans, but not among Japanese. A comparison of survival in different populations is also presented; and prognosis after hormonal treatment in different populations is included.Prostate cancer carries an extraordinarily varied prognosis. Previously, most men presented with clinical symptoms often succumbed to their disease several years following treatment with hormonal manipulation. With the advent of prostate-specific antigen (PSA) testing, most men are now diagnosed with localized, well- to moderately differentiated disease. The most powerful predictor of long-term outcome is the Gleason score, followed by tumor volume. Over the past two decades, changes in the interpretation of Gleason patterns have resulted in the reclassification of many well-differentiated tumors as higher grade tumors. Men with well-differentiated disease have an excellent prognosis and often survive 10-20 years without intervention. Conversely, men with poorly differentiated disease often succumb to their cancer within a decade. PSA can estimate tumor volume, but poorly differentiated disease may not produce much PSA. We are unable to predict accurately the risk posed by a specific prostate cancer.A key study comparing radical prostatectomy and watchful waiting for prostate cancer has been updated with extended follow-up observation, demonstrating substantial benefits of surgery for reduced mortality mainly in younger men, but also reduced requirement for palliative treatment in older men. These findings should be interpreted within the current scenario of prostate cancer diagnosis and treatment.Prostate cancer (PCa) is the most common noncutaneous malignancy affecting American men and the second most common cause of cancer death. The traditional risk classification schemes for PCa are limited due to the vast clinical and molecular heterogeneity of the disease. Fortunately, recent advancements in sequencing technologies have provided us with valuable insight into the genomics of PCa. To date, a wide array of recurrent genomic alterations in PCa have been identified. Incorporating these distinct molecular subtypes of PCa into prediction models provides opportunities for improved risk stratification and ultimately better patient outcomes. In this review, we summarize the key molecular subtypes of PCa and focus on those genomic alterations that have clinical implications for diagnosis, prognosis, and therapeutic response.Purpose: The Alberta Prostate Cancer Research Initiative (APCaRI) Registry and Biorepository was established in 2014 by the APCaRI to facilitate the collection of clinical and patient-reported data, biospecimen, to measure prostate cancer outcomes and to support the development and clinical translation of innovative technologies to better diagnose and predict outcomes for patients with prostate cancer.Purpose: We investigate the long-term outcome of patients with prostate cancer treated with noncurative intent.Prostate cancer continues to be the most commonly diagnosed cancer among Canadian men. The introduction of routine screening and advanced treatment options have allowed for a decrease in prostate cancer-related mortality, but outcomes following treatment continue to vary widely. In addition, the overtreatment of indolent prostate cancers causes unnecessary treatment toxicities and burdens health care systems. Accurate

identification of patients who should undergo aggressive treatment, and those which should be managed more conservatively, needs to be implemented. More tumour and patient information is needed to stratify patients into low-, intermediate-, and high-risk groups to guide treatment options. This paper reviews the current literature on personalised prostate cancer management, including targeting tumour hypoxia, genomic and radiomic prognosticators, and radiobiological tumour targeting. A review of the current applications and future directions for the use of big data in radiation therapy is also presented. Prostate cancer management has a lot to gain from the implementation of personalised medicine into practice. Using specific tumour and patient characteristics to personalise prostate radiotherapy in the era of precision medicine will improve survival, decrease unnecessary toxicities, and minimise the heterogeneity of outcomes following treatment.Prostate-specific membrane antigen (PSMA)-based radioguidance for salvage lymph node dissection (sLND) in recurrent prostate cancer has shown promising early oncological outcomes. However, long-term outcomes are still undetermined. Future studies are needed before introducing PSMA positron emission tomography-based sLND into routine clinical practice outside of clinical trials or registries.Objectives: To explore links between access to care and quality of life for underserved men with prostate cancer through a literature review.Purpose: Globally, prostate cancer treatment and outcomes for men vary according to where they live, their race and the care they receive. The TrueNTH Global Registry project was established as an international registry monitoring care provided to men with localised prostate cancer (CaP).Background: This pilot randomized controlled trial (RCT) examined the clinical effects of 2 complementary (CAM) therapies, relaxation response therapy (RRT) and Reiki therapy, in men being treated with external beam radiotherapy (EBRx) for prostate cancer.Although current guidelines do not endorse the use of primary androgen deprivation therapy (PADT) as monotherapy for localized prostate cancer, many patients continue to receive this treatment. New outcomes research confirms that there is no clear reason for use of PADT in men with localized prostate cancer.In a study published in The Lancet, long-term androgen suppression (AS) combined with radiotherapy, compared with AS alone, improved outcomes in patients with locally advanced but nonmetastatic prostate cancer. The combined therapy significantly reduced prostate-cancer-specific deaths at 10 years from 23.9% to 11.9% (P <0.001), and improved overall survival.Objective: To investigate the relationship between the long noncoding RNA (lncRNA) Prostate cancer-associated transcription factors 14 (PCAT14) and the clinical characteristics of prostate cancer and immune cell infiltration.Prostate cancer is the most commonly diagnosed cancer in the United States. This article outlines the anatomy of the prostate gland, the epidemiology and natural history of prostate cancer, current diagnostic and screening techniques, treatment options and prognostic implications.The major indications for radical radiation therapy of prostate cancer for both early-stage and locally advanced disease are discussed. Important issues in the interpretation of long-term treatment series are reviewed. The outcomes of therapy are analyzed for both early-stage and locally advanced disease, including alternative therapeutic strategies. On the basis of this review of the literature, current treatment recommendations delineate patients most likely to benefit from radiation therapy as opposed to alternative therapeutic modalities.Radiotherapy is a valid curative alternative to surgery for prostate cancer. However, patient selection is critical to ensure patients obtain benefits from therapy delivered with curative intent. Dose-escalated radiation has been shown to improve patient outcomes, facilitated by development of robust image guidance and better target delineation imaging technologies. These concepts have also rekindled interest in hypofractionated radiotherapy in the forms of stereotactic body radiotherapy and brachytherapy. Postprostatectomy radiotherapy also improves long-term biochemical outcome in men at high risk of local recurrence.Prostate cancer outcomes research incorporates a broad spectrum of endpoints, from clinical or intermediate endpoints, such as tumor shrinkage or patient compliance, to final endpoints, such as survival or disease-free survival. Three types of nontraditional endpoints that are of growing interest-health-related quality of life (QOL), satisfaction with care, and economic cost impact-hold the promise of improving our ability to understand the full burden of prostate cancer screening and treatment. In this article we review the last decade's published literature regarding the health-related QOL, satisfaction, and economic outcomes of prostate cancer screening and treatment to determine the "state of the science" of outcomes measurement. The focus is the enumeration of the types of outcome measurement used in the studies not the determination of the results of the studies. Studies were identified by searching Medline (1990-2000). Articles were included if they presented original data on any patient-centered outcome (including costs or survival alone) for men screened and treated for prostate cancer. Review papers were excluded unless they were quantitative syntheses of the results of other primary studies. Economic and decision analytic papers were included if they presented

information on outcomes of real or hypothetical patient cohorts. Each retrieved article was reviewed by one of the authors. Included papers were assigned one primary, mutually exclusive study design. For the "primary data" studies, information was abstracted on care setting, dates of the study, sample size, racial distribution, age, tumor differentiation, tumor stage, survival, statistical power, and types of outcomes measures (QOL-generic, QOL-cancer specific, QOL-prostate cancer specific, satisfaction, costs, utilities, and other). For the "economic and decision analytic" papers, information was abstracted on stage of disease, age range, outcomes, costs, and whether utilities were measured. Of the 198 included papers, there were 161 primary data papers categorized as follows: randomized trial (n = 28), nonrandomized trial (n = 13), prospective or retrospective cohort study (n = 55), case-control study (n = 0), cross-sectional study (n = 63), and meta-analysis (n = 2). The remaining 37 papers were economic and decision analytic papers. Among the 149 primary data papers that contained patient outcome data, there were 42 standard instruments used, accounting for 44% (179 of 410) of the measures overall. Almost three-quarters (71%) of papers included one, two, or three outcomes measures of all types (standard and nonstandard); three papers included seven outcomes measures, and one paper included nine. Over the 11-year time period, there was a nonstatistically significant trend toward more frequent use of standardized QOL instruments and a statistically significant trend toward increased reporting of race (P = .003). Standardization of measurement of health-related QOL, satisfaction with care, and economic cost effect among men screened and treated for prostate cancer is needed. A core set of similar questions, both generic and disease-specific, should ideally be asked in every study, although investigators should be encouraged to include additional question sets as appropriate to individual studies to get a more complete picture of how patients screened and treated for this condition are doing over time.The natural history of clinically localized prostate cancer is controversial. However, the data that is available suggests outcomes are good for men with well and moderately differentiated disease, but relatively poor for men with poorly differentiated cancer. For example, in one synthesis of individual-patient level data from six series, ten-year prostate cancer-specific mortality for men with well, moderate, and poorly differentiated disease was estimated at 13%, 13%, and 66%, respectively. Tumor grade is the dominant predictor of prognosis. Few studies report on risks of morbidity due to local cancer progression; the data available suggest this risk is relatively low. Cancer-specific mortality figures overestimate the impact of disease among older men with competing causes of mortality. Given the available data on prognosis of men with localized prostate cancer not treated for cure, clinical trials designed to measure the effectiveness of aggressive therapy will need to be large.Objective: To analyse oncological and functional outcomes of salvage radical prostatectomy (SRP) in patients with recurrent prostate cancer and to compare outcomes of patients within and outside the European Association of Urology (EAU) guideline criteria (organ-confined prostate cancer ≤T2b, Gleason score ≤7 and preoperative PSA level <10 ng/mL) for SRP.Purpose: To determine if familial prostate cancer patients have a less favorable prognosis than patients with sporadic prostate cancer after treatment for localized disease with either radiotherapy (RT) or radical prostatectomy (RP).Purpose of review: To give insight into recent literature (during the past 12-18 months) reporting on oncologic outcomes of men on active surveillance.The objective of this study was to evaluate the protein level of glypican-5 (GPC5) and its relationship with clinicopathologic significance in prostate cancer. The protein level of GPC5 in 160 prostate cancer tissues and 60 adjacent normal samples was examined by immunohistochemistry analysis, and the results were correlated with clinicopathologic parameters. The level of GPC5 in prostate cancer tissues was markedly lower than that in normal cases, especially in high-risk prostate cancer. Additionally, the low expression of GPC5 was closely associated with increased serum prostate-specific antigen (PSA), higher Gleason scores, advanced tumor stage (T3), positive lymph node metastasis, and biochemical recurrence. Moreover, GPC5 low expression was an independent prognostic factor for overall survival of patients with prostate cancer. GPC5 protein expression showed a close correlation with the tumorigenesis and tumor progression of prostate cancer, and that might be applied as a novel biomarker for the prediction of diagnosis and prognosis of prostate cancer.Prostate Cancer (PCa) is the second most common cancer in United States and remains the second leading cause of death in the Western world. Because the median age of diagnosis for men with prostate cancer is greater than 75 years, PCa can be considered a disease of the elderly. Several disease-specific factors (e.g., stage, tumor grade, prostate-specific antigen (PSA) level) and patient-specific factors (e.g., age, co-morbidity, and functional status) need to be considered in the decision-making process. In an attempt to incorporate these important factors to select optimal treatment for older individuals, several decision models have been published, yet their utility in clinical practice remains poorly understood. Current guidelines for the management of patients with PCa do not

make specific recommendations for the elderly. Clearly there is a need to improve our understanding of the complex interrelationships between old age, co-morbidities, and their impact on expected outcomes.Despite the wide application of prostate-specific antigen-based screening leading to a profound stage migration in prostate cancer (PC), a significant percentage of men are still being diagnosed with clinically high-risk disease that requires aggressive treatment. Optimal management in these patients remains challenging, and strong advocates for radical prostatectomy (RP), radiotherapy, androgen deprivation therapy, and, increasingly, a multimodal approach abound. Currently, surgery for high-risk PC is frequently applied. RP offers an attractive opportunity for tumor excision either as a definitive management or as a first step in multimodal therapy. Nevertheless, this approach is still controversial. In this review, we discuss the current evidence for the role of RP in this clinical setting, including surgical considerations and outcomes. The role of robot-assisted RP, which is increasingly utilized in Korea in this clinical scenario, is discussed.It has long been known that obesity modestly increases the risk of prostate cancer mortality. Only recently, however, have studies examined whether this association is due to an increased risk of aggressive disease and/or worse outcomes following initial diagnosis and treatment. This distinction is important, because if obesity increases the risk of metastasis and death following treatment, weight loss could be an effective adjunct treatment. We now have good evidence that obesity increases the risk of aggressive prostate cancer, but reduces the risk of low-grade, nonaggressive cancer. In addition, several studies have found that obesity increases the risk of biochemical recurrence following prostatectomy; however, the few studies that have examined more definitive end points, metastases and death, have been less consistent. Furthermore, there are no studies that have examined whether weight loss after diagnosis favorably affects prostate cancer outcome. While accepting the current limitations in our knowledge base, it is our opinion that it is appropriate for physicians to counsel their patients to lose weight following prostate cancer diagnosis and motivate this change in behavior by emphasising the likely benefit of improving long-term outcome.Differentiation between lethal and non-lethal prostate cancer subtypes has become a very important issue in avoiding excessive treatment in an era when prostate-specific antigen (PSA) screening has reduced the rate of prostate cancer deaths by more than 20%. However, it is difficult to determine the patients who may or may not benefit from immediate treatment interventions at the time of the initial diagnosis. The selection of candidate patients who can postpone immediate treatment and undergo follow-ups with a specific surveillance program, or 'active surveillance,' is a practical way to minimize overtreatment. In this review, the benefits and risks of active surveillance are discussed. Future perspectives, including imaging and new biomarkers for improving the outcomes of active surveillance programs, are also discussed.Arguably the most important step in the prognosis of prostate cancer is early diagnosis. More than 1 million transrectal ultrasound (TRUS)-guided prostate needle biopsies are performed annually in the United States, resulting in the detection of 200,000 new cases per year. Unfortunately, the urologist's ability to diagnose prostate cancer has not kept pace with therapeutic advances; currently, many men are facing the need for prostate biopsy with the likelihood that the result will be inconclusive. This paper will focus on the tools available to assist the clinician in predicting the outcome of the prostate needle biopsy. We will examine the use of "machine learning" models (artificial intelligence), in the form of artificial neural networks (ANNs), to predict prostate biopsy outcomes using prebiopsy variables. Currently, six validated predictive models are available. Of these, five are machine learning models, and one is based on logistic regression. The role of ANNs in providing valuable predictive models to be used in conjunction with TRUS appears promising. In the few studies that have compared machine learning to traditional statistical methods, ANN and logistic regression appear to function equivalently when predicting biopsy outcome. With the introduction of more complex prebiopsy variables, ANNs are in a commanding position for use in predictive models. Easy and immediate physician access to these models will be imperative if their full potential is to be realized.Purpose: Patients with high grade (Gleason score 8 to 10) prostate cancer on biopsy are at high risk for cancer recurrence after local treatment, such as radiation therapy and radical prostatectomy. We examined long-term outcomes in patients with high grade prostate cancer on biopsy who were treated with radical prostatectomy alone. We also investigated the impact on outcomes of changes in the radical prostatectomy Gleason score.The popularity of radiotherapy as a minimally invasive treatment for prostate cancer is increasing. Despite advancements in radiation delivery, a number of patients will fail treatment. Salvage radical prostatectomy has been the main therapeutic option for locally recurrent radiation failure prostate cancer with curative intent. The operation is technically difficult to perform and associated with significant comorbidities. Salvage cryotherapy has emerged as a minimally invasive alternative option. In this article, we review the role of cryotherapy in

recurrent prostate cancer and compare its outcome with salvage radical prostatectomy.Background: While open-label randomized controlled trials (RCT) are common in oncology, some concerns have been expressed with regard to Patient-Reported Outcomes (PRO)-based claims stemming from these studies. We aimed to investigate the impact of open-label design in the context of prostate cancer (PCa) RCTs with PRO data.Background: The growing interest in high-intensity focused ultrasound (HIFU) is mainly due to its potential applications as a minimally invasive therapy. HIFU has been assessed for its role in the treatment of localized prostate cancer in patients who otherwise would not have benefited from surgery and in local recurrences after radiation failure.Background: Despite growing numbers of prostate cancer (PCa) survivors, to the authors' knowledge there is little research regarding how personality, coping, and treatment influence men's psychologic well-being, as distinct from the often-studied functional, health-related quality of life. The purpose of this study was to examine how hope, optimism, use of coping strategies, and primary treatment predict well-being, positive and negative affect, impact, depression, and adaptive changes among PCa survivors.Androgen receptor (AR) signaling is necessary for the development of prostate cancer. Androgen-deprivation therapy (ADT) for prostate cancer was described over 50 years ago and ADT remains the mainstay of systemic therapy. AR signaling remains intact as the disease evolves to castration-resistant prostate cancer (CRPC). Through cellular adaptations, CRPC continues to rely on androgens and AR growth signaling, and thus AR remains an important therapeutic target. CRPC cells upregulate enzymes used in androgen synthesis, thus providing an intracellular source of androgen despite systemic castration. Compounds in development, such as antiandrogens, lyase inhibitors, heat-shock protein-90 inhibitors, histone deacetylase inhibitors and others, will provide new tools to more effectively reduce ligand, inhibit AR and/or inhibit costimulatory pathways and result in improved clinical outcomes.For decades physicians have attempted to accurately predict post-treatment outcomes before performing prostate cancer interventions. Use of basic clinical factors, such as clinical T-stage, biopsy Gleason sum, and pretreatment prostate specific antigen, has allowed some level of prediction of pathologic and clinical outcomes. However, these basic tables and risk stratification schema provide a broad range of potential outcomes. The rapid growth of retrospective research in prostate cancer has yielded an abundance of additional potential prognostic factors that may influence outcomes of interest; however, incorporating and understanding the significance of these ever-expanding factors is difficult for even the most experienced physicians. Nomograms incorporate these factors (including treatment-specific) and assign them relative weights to provide a probability of the outcome of interest on a graphical scale. They distill large numbers of data into a manageable format and provide the probability of outcomes on a continuous scale rather than in categoric groups. However, because they require a computation to generate a probability, they are not amenable to memorization, which decreases ease of use. Furthermore, these numbers still have associated confidence intervals and the models are largely derived from retrospective data, which have inherent drawbacks. Clinicians and patients should still exercise due diligence when interpreting the results of these nomograms, and these prediction tools should not serve as a stand-alone substitute for clinical decision-making.Objectives: MR-guided transurethral ultrasound ablation (TULSA) has primarily been investigated for whole-gland prostate ablation, even though the technology is also well-suited for partial gland treatment. The objectives were to perform a clinical service evaluation of partial to whole-gland TULSA for patients with localized prostate cancer (CaP). TULSA was also evaluated as a combined therapy for a subset of patients presenting with both cancer and concurrent benign prostate hyperplasia (BPH).Multiple treatment options exist for men with non-metastatic prostate cancer. For nearly 50 years, external beam radiation therapy (EBRT) has been an important means of treating men with this disease. Improvements in technology and better use of pre-treatment variables including prostate specific antigen (PSA), Gleason score and prediction nomograms have steadily improved biochemical and clinical outcomes. This article reviews the current status of EBRT in the treatment of prostate cancer. Differences in technique as well as clinical results using conventional, 3D conformal and intensity modulated radiation therapy are compared and contrasted. The appropriate use of adjuvant hormones as well as the complications of these treatments will also be discussed.Metastasis-directed therapy is of interest for the management of oligometastatic prostate cancer. Improved imaging may help with patient selection, but the approach to metastatic prostate cancer of "catching 'em all", or "Pokemet", must be considered experimental.Introduction: According to recent reports from randomized studies comparing radical treatment or watchful waiting, the outcome of localized prostate cancer remains uncertain at individual level. It is especially true for the low-risk group (according D'Amico or CAPRA classifications), regarding the individual exposition to overtreatment by radical therapies or the opposite risk of

under-treatment with active surveillance.Purpose: Understanding the potential consequences of racial differences in prostate cancer outcomes, from survival rates to quality of life considerations, is important for the clinician and patient. We examined demographic, clinical and health related quality of life data comparing black with white patients just after treatment of prostate cancer and 1 year later.Background: The paper describes the principles and technique of cryotherapy for prostate cancer.Consideration of the number of prostate biopsy samples found to be positive for cancer may add clinically useful information to T stage, Gleason score, and prostate-specific antigen level in predicting outcome after radical prostatectomy. Higher radiation doses and neoadjuvant hormone therapy has been applied successfully to patients with higher risk disease. Brachytherapy has emerged as a modality for localized prostate cancer with outcomes and toxicity being further defined. Efforts to measure and improve quality of life are an important part of prostate cancer research. Standard management of metastatic disease remains androgen ablation, with long-term side effects being recognized. Newer hormonal and chemotherapeutic agents are being explored for patients with metastatic disease.Background: Radiotherapy is the most common curative cancer therapy used for elderly patients with localized prostate cancer. However, the effectiveness of this approach has not been established. The purpose of this study is to evaluate the long-term outcomes of primary radiotherapy compared with conservative management in order to facilitate treatment decisions.Objective: To carry out a review of the management of early (clinically localised) prostate cancer.The natural history and molecular biology of oligometastatic prostate cancer differentiate it from polymetastatic disease. Clinically, oligometastatic disease is also predictive and prognostic for different outcomes. Studies specific to this population are required to establish the benefits of intervention.Background: The outcomes of metastatic hormone-sensitive prostate cancer (mHSPC) have significantly improved through treatment intensification, yet Black representation in those studies is suboptimal.Background: Patterns of diagnosis and management for men diagnosed with prostate cancer in Queensland, Australia, have not yet been systematically documented and so assumptions of equity are untested. This longitudinal study investigates the association between prostate cancer diagnostic and treatment outcomes and key area-level characteristics and individual-level demographic, clinical and psychosocial factors.Prostate cancer is the most common carcinoma of the elderly man and holds the third place in the ranking of cancer-specific mortality. However, mortality rates of 3 % are low, and half of the patients will die from intercurrent disease. Due to the significantly improved diagnostic methods and the increasing use of PSA screening, there has been a stage migration towards early tumour stages that are prognostically heterogeneous and require differentiated treatment. Based on the discussions of the Joint Federal Committee (G-BA) and the conceptual work of the MDS, the Competence Centre Oncology of the MDK, the IQWIG and the National Association of Statutory Health Insurance Funds (GKV-Spitzenverband), a prospective randomised multicentre trial was developed comparing the four treatments actually recommended by the German and European guidelines for localised prostate cancer (radical prostatectomy, percutaneous radiotherapy and permanent seed implantation and active surveillance) allowing a rejection of one or two treatment options. The trial is expected to start at the beginning of next year.The North Carolina Prostate Cancer Comparative Effectiveness & Survivorship Study (NC ProCESS) was designed in collaboration with stakeholders to compare the effectiveness of different treatment options for localized prostate cancer. Using the Rapid Case Ascertainment system of the North Carolina Central Cancer Registry, 1,419 patients (57% of eligible) with newly-diagnosed localized prostate cancer were enrolled from January 2011 to June 2013, on average 5 weeks after diagnosis. All participants were enrolled prior to treatment and this population-based cohort is sociodemographically diverse. Prospective follow-up continues to collect data on treatments received, disease control, survival and patient-reported outcomes. This study highlights several important considerations regarding stakeholder involvement, study design and generalizability regarding comparative effectiveness research in prostate cancer.Prostate cancer is the second most common cancer and the fifth cause of cancer death in males. Currently, there are no effective therapies for prostate cancer yet, and the status of treatment remains severe. In this study, we analyzed the composition of tumor-infiltrating immune cells (TIICs) in prostate cancer and paracancerous samples based on the gene expression profiles using CIBERSORT. Calculation of the TIIC subset proportions in 52 paired prostate cancer and paracancerous samples showed that their proportions were similar in intergroup and varied in intragroup. Compared with the paracancerous samples, the proportion of M0 macrophages was significantly increased in prostate cancer samples. Cox regression analysis using the TIIC subpopulations as continuous variables revealed that high plasma cell proportion was associated with poor 3-year Disease-Free Survival (DFS) in prostate cancer

(hazard ratios = 1.8e-76, p = 0.001). Moreover, three immune clusters, which presented distinct prognosis, were identified using hierarchical clustering analysis based on the proportions of TIIC subpopulations. Among them, cluster 1 had superior 3-year DFS, while cluster 3 showed inferior 3-year DFS (p = 0.025). In summary, our research provided a comprehensive analysis on the TIIC composition in prostate cancer and suggested that both plasma cells and different cluster patterns were associated with the prostate cancer prognosis, which should be helpful for the clinical surveillance and treatment of prostate cancer.Liver metastasis from prostate cancer is uncommon and remains poorly understood. We computer searched the clinical records of all our patients registered into a database to identify patients that presented or developed liver metastases. A total of 27 prostate cancer patients with ultrasound or CT/MR imaging evidence of liver metastases were included in our analysis. The liver metastasis rate from metastatic prostate cancer was 4.29%. Eight (29.63%) patients had previously untreated, hormone-naive prostate cancer (synchronous liver metastases at diagnosis of prostate cancer), whereas 19 (70.37%) patients had already been diagnosed as having hormone-refractory prostate cancer. In the hormone-naive group, the median overall survival after liver metastases diagnosis was 38 months and half of the patients were still alive at the latest follow-up, whereas only 6 months in the hormone-refractory group (p = 0.003). High concentration of serum neuron-specific enolase and previous chemotherapy were associated with a significantly poor overall survival after liver metastases in the hormone-refractory group using Kaplan–Meier curves and logrank tests for univariate analysis.Focal therapy is emerging as a potential challenge to the standard of care for localized prostate cancer. Short-term quality-of-life outcomes such as genitourinary side effects, anxiety levels, and global measures of quality of life using validated questionnaires are vital although proof-of-concept trials and retrospective case series have already established lower toxicity from focal therapy in some detail. Defining what outcomes will be measured and what defines a successful focal treatment in the medium and long term is problematic. Measuring long-term efficacy or effectiveness within a randomized trial is somewhat straightforward since hard endpoints are measured such as presence or absence of metastatic disease and/or death. However, owing to the long natural history of localized prostate cancer detected in the modern prostate-specific antigen screening era, with these events usually occurring a minimum of 10 years after therapy makes such a long-term trial large, costly, and probably unfeasible now. This article discusses the optimal determinants of success or failure for focal therapy that require careful consideration within multicenter trials evaluating medium-term oncological efficacy.High-risk prostate cancer has an increased rate of local and systemic recurrence after locally definitive therapy. High-risk prostate cancer is defined by using a combination of pretreatment tumor related factors (prostatic specific antigen [PSA] level, stage, Gleason score, and extent of involved biopsy cores) and by pathological findings. Pretreatment PSA kinetics may allow the identification of more patients at high risk of treatment failure who otherwise would have been included in lower risk groups according to conventional risk assignment systems. Eight months of neoadjuvant androgen deprivation therapy prior to radical prostatectomy has been shown in a randomized trial to significantly reduce rates of positive margins compared to 3 months of therapy; however, no significant difference in PSA recurrence rates is apparent 5 years postsurgery. The use of early chemotherapy in prostate cancer has until recently been limited by lack of evidence of an effective chemotherapeutic agent for more advanced disease. Recent data, confirming a survival advantage of docetaxel based regimes in metastatic disease, has focused attention on the use of early chemotherapy in these men with high-risk disease. The technical requirements of surgery on high-risk patients are now better defined and one challenge for the specialty is to take this knowledge and apply it successfully in the laparoscopic setting. However, the limit of surgery alone in reducing recurrence in high-risk disease from technical advancements has plateaued. In order to take the field forward, successful multimodal treatment strategies are needed to improve the outcomes over surgical monotherapy for high-risk disease. Novel nucleotide therapy targeting the production of cell survival proteins has provided promising phase 1 data in prostate cancer. This experimental therapy has been built on an understanding of the observed effects that androgen deprivation therapy has on cancer cell survival proteins produced during periods of cellular stress.Prostate cancer is the most prevalent nondermatological malignancy affecting men in the Western world. An increase in public awareness has led to earlier detection. Accepted treatments for localized prostate cancer include active surveillance, radical prostatectomy, interstitial brachytherapy, external beam radiotherapy and watchful waiting. The authors discuss the rationale for the different approaches together with outcomes including toxicity. Novel approaches are also explored. The management of locally advanced disease has long been a challenge and the evolving evidence is reviewed.Purpose: The transformation from volume to value will require communication of

outcomes and costs of therapies; however, outcomes are usually nonstandardized, and cost of therapy differs among stakeholders. We developed a standardized value framework by using radar charts to visualize and communicate a wide range of patient outcomes and cost for three forms of prostate cancer treatment.Permanent interstitial brachytherapy represents the most conformal form of radiation therapy of the prostate and the number of patients with prostate cancers treated with permanent radioactive implants is increasing world wide. In the meanwhile long-term data on tumor control and treatment morbidity become available. Biochemical and clinical tumor control appears to be as effective as after radical prostatectomy or external beam radiation therapy in early prostate cancer. The risk of postreatment urinary incontinence and bowel dysfunction is low and erectile function can be preserved in the majority of patients. However, prostate brachytherapy requires a careful selection of patients as pretreatment factors predict for long-term outcome. The need for combined modality approaches in intermediate and high-risk patients remains controversely discussed. The continous refinement of intraoperative planning techniques and the elucidation of the etiology of urinary, sexual, and bowel dysfunction should result in further improvements in biochemical outcomes and decreased morbidity. Improved and standardized postimplantation evaluation will make outcome data more reliable and comparable.This review contrasts a traditional biomedical model with an outcomes model and illustrates the distinction in approaches with regards to prostate cancer. The traditional biomedical model emphasizes diagnosis and treatment of medical conditions. The principal data are diagnosis and disease status. In contrast, an outcomes model emphasizes life expectancy and health-related quality of life. According to the traditional model, screening for prostate cancer is encouraged and focus is on the number of cases diagnosed and the success of treatment. Treatment success is measured by recurrence rates or disease-free survival; however, among all men with the potential for a diagnosis of prostate cancer, most will die of other causes. Treatment may have significant consequences in terms of quality of life without clear evidence that it improves survival. The outcomes model argues that decisions for screening and treatment of prostate cancer must be shared between an informed patient and his physician.Purpose: We reviewed recent series of watchful waiting for prostate cancer to place this management strategy in appropriate perspectivePurpose: A recent update of the Scandinavian Prostate Cancer Group Study-4 concluded that men older than 65 years treated with radical prostatectomy had no survival advantage compared to men treated with watchful waiting. We examined the proportion and outcomes of men 65 years old or older with low risk disease who underwent radical prostatectomy at our institution.Reliable study results are scarce in prostate cancer for several reasons. The treated tumors represent a wide variety of natural history and therapeutic response. One assumes to select 'soft' or minimally toxic treatment for patients with good prognostic factors while aggressive treatment is reserved for infaust prognosis. Stage, grade and prognostic factors may influence the indication and choice of treatment. Better treatment selection will depend on the outcome of actual ongoing randomized trials, the development of new drugs or existing drugs in new indications and, above all, basic studies on the growth potential and invasiveness of the prostate cancer cell. Defining the correct treatment for the right cancer in the right patient is our clinical challenge for the next decade.Purpose: Many patients who undergo surgery or radiation therapy to treat localized prostate cancer experience an increase in serum prostate specific antigen (PSA) after treatment. This study documents patterns of PSA recurrence after surgery or radiation to treat localized prostate cancer and quantifies the extent to which an increasing PSA predicts death from prostate cancer.Purpose: To estimate the health system costs of prostate cancer by disease risk category and treatment type over 2016 to 2025 and to identify potential strategies to contain the cost increase.Tissue microarray (TMA) technology is a method for high-throughput analysis of tissue biomarkers, commonly used in translational cancer research. TMAs allow performing a variety of in situ applications on hundreds of tissue samples simultaneously using the same protocols as for conventional slides. Thereby, precious material from patient samples remains largely preserved while costs in resources and time in laboratory processing decrease. Therefore, a TMA is a powerful tool to identify and study biomarkers that may have a potential diagnostic, prognostic, and predictive value. Depending on the research question, there are different types of TMAs, such as progression TMA, outcome TMA, and tumor heterogeneity TMA. Since the first introduction of the TMA method almost 20 years ago, most laboratories used manual tissue arrayers for manufacturing. Nowadays, automatic or semiautomatic devices are commercially available, which largely facilitates the technical construction. However, preparatory work remains the most time-consuming part in preparing TMAs. This chapter focuses on issues involved in design and construction of prostate cancer TMAs.The prognosis of men with prostate cancer (PC) with mutations in DNA damage response (DDR) genes undergoing different treatments is unclear. This

systematic review compared clinical outcomes in PC patients with DDR mutations (DDR+) versus no mutations (DDR-). 14 resources plus gray literature were searched for studies in PC and subgroups (castration-resistant PC, metastatic PC and metastatic castration-resistant PC) by DDR gene (ATM, ATR, BRCA1, BRCA2, CHEK2, FANCA, MLH1, MRE11A, NBN, PALB2, RAD51C) mutation status. From 11,648 records, 26 studies were included. For mCRPC, six studies reported comparative efficacy for key outcomes. Improvements in several clinical outcomes were observed for DDR+ (vs DDR-) after PARP inhibitor therapy or immunotherapy. DDR+ PC patients may have improved outcomes depending on the treatment they undergo.Prostate cancers have a justified reputation as one of the most heterogeneous human tumours. Indeed, there are some who consider that advanced and castration-resistant prostate cancers are incurable, as a direct result of this heterogeneity. However, tumour heterogeneity can be defined in different ways. To a clinician, prostate cancer is a number of different diseases, the treatments for which remain equally heterogeneous and uncertain. To the pathologist, the histopathological appearances of the tumours are notoriously heterogeneous. Indeed, the genius of Donald Gleason in the 1960s was to devise a classification system designed to take into account the heterogeneity of the tumours both individually and in the whole prostate context. To the cell biologist, a prostate tumour consists of multiple epithelial cell types, inter-mingled with various fibroblasts, neuroendocrine cells, endothelial cells, macrophages and lymphocytes, all of which interact to influence treatment responses in a patient-specific manner. Finally, genetic analyses of prostate cancers have been compromised by the variable gene rearrangements and paucity of activating mutations observed, even in large numbers of patient tumours with consistent clinical diagnoses and/or outcomes. Research into familial susceptibility has even generated the least tractable outcome of such studies: the genetic loci are of low penetrance and are of course heterogeneous. By fractionating the tumour (and patient-matched non-malignant tissues) heterogeneity can be resolved, revealing homogeneous markers of patient outcomes.Age-adjusted mortality rates from prostate cancer between 1991 and 1995 are approximately two times worse among African-American men than Caucasian men. Age-specific mortality rates from prostate cancer are reported to be three times greater among African-American men compared with Caucasian men between the ages of 40 and 60 years. These statistics lead one to ask whether the difference in outcome is secondary to a more rapidly growing prostate cancer among African-American men compared with Caucasian men, or is it a result of delayed diagnosis among African-American men, which would account for there being more advanced prostate cancer at presentation? This report demonstrates many histological and biological differences that may account for clinical outcome differences.Purpose/objectives: To describe how different treatments for prostate cancer affect health-related quality of life (QOL), health status, and masculinity.Substantial gaps exist in our ability to accurately predict prognosis, and these gaps limit our understanding of the complex mechanisms that contribute to the greatest cancer epidemic of our time, prostate cancer. This review addresses contemporary epidemiologic and biostatistical issues in prostate cancer. It covers the science of outcome prediction and biomarker evaluation, recognition of the need to combine biomarkers to improve the accuracy of our outcome estimates and an analysis of current outcome assessment methods, including the TNM staging system and multivariate regression models. The simplicity and intuitive ease of the current TNM staging system must be balanced against its serious limitations in predictive accuracy and its loss of clinical utility. Statistical regression methods are required as we move to the new era of personalized medicine. We must implement statistical approaches that integrate the new molecular biomarkers with existing prognostic biomarkers to accurately predict which patients require treatment and to determine the optimal therapy.The intermediate and long-term results of primary full-gland cryoablation for localized prostate cancer with moderate- and high-risk patients suggests a cancer control rate similar to what can be achieved with radiotherapy and surgery, with an acceptable rate of complications. A recent shift in the treatment paradigm toward unilateral cryoablation (hemiablation) or ablation of unifocal lesion(s) in select patients suggests the ability of this approach to maintain a quality of life closer to the pretreatment level. However, trials with longer oncologic follow-up are needed. The development of more accurate imaging-based techniques-ie, image-guided prostate biopsy sampling and image-guided prostate cryoablation-is of paramount importance to selecting appropriate candidates for an organ-sparing procedure. To make this approach scientifically sound, further investigation to establish patient selection criteria, the development of molecular and imaging parameters of cryoablative efficacy, and regular careful follow-up of these patients is needed.Objectives: This was an ancillary methodological study within the Prostate Cancer Outcomes Study (PCOS) to assess the validity of 6-month retrospective recall of prediagnostic disease-targeted function among men diagnosed with prostate

cancer.In view of the increasing incidence and mortality rate of prostate cancer in Japan, the management of elderly patients with prostate cancer is an important issue now. We therefore analyzed the clinicopathological features and long-term outcomes of 182 patients with prostate cancer, aged 75 or older, in order to establish the treatment strategy for this age group of patients. There were more patients with advanced disease (stage C-D) than those with localized disease (stage A2-B), and the patients with moderate to poorly differentiated tumors were more numerous than those with well-differentiated tumors. The overall survival curve of the patients with localized prostate cancer was in line with the age-matched expected survival curve, while that with advanced prostate cancer was far below the expected survival curve. These results demonstrated that advanced prostate cancer in elderly patients is as harmful as in younger patients, indicating the necessity for early detection and treatment of prostate cancer among the younger generation. On the other hand, localized prostate cancer in elderly patients should be treated less invasively to maintain their quality of life.Purpose: To study the effectiveness of the Patient Preferences for Prostate Cancer Care (PreProCare) intervention in improving the primary outcome of satisfaction with care and secondary outcomes of satisfaction with decision, decision regret, and treatment choice among patients with localized prostate cancer.Results presented at the American Urological Association 2020 Virtual Meeting demonstrated that of men who received prior RT or surgery for localized prostate cancer, those that had RT were found to have a 32% higher risk of developing castrate-resistant disease.Objective: To investigate the prevalence of physical symptoms that were 'ever' and 'currently' experienced by survivors of prostate cancer at a population level, to assess burden and thus inform policy to support survivors.Background: Prostate cancer is the most common male cancer in developed countries and diagnosis and treatment carries with it substantial morbidity and related unmet supportive care needs. These difficulties may be amplified by physical inactivity and obesity. We propose to apply a multimodal intervention approach that targets both unmet supportive care needs and physical activity.The early detection of prostate cancer has led to the increased incidence of tumors that are unlikely to become symptomatic during life: so-called indolent cancers. The ability to predict indolent prostate cancer is needed to avoid over treatment by unnecessary invasive therapies and to select men for active surveillance. For this report, the currently available nomograms that predict these low-risk tumors were reviewed. Many of these nomograms were based on clinical patient series, thus, their general application is restricted. Those nomograms based on screening series of the general population need further validation before generalized application is feasible. Cancer 2009;115(13 suppl):3100-6. (c) 2009 American Cancer Society.Background: Prostate cancer (PCa) is the most common non-skin cancer among men in developed countries. Several novel treatments have been adopted by healthcare systems to manage PCa. Most of the observational studies and randomized trials on PCa have concurrently evaluated fewer treatments over short follow-up. Further, preceding decision analytic models on PCa management have not evaluated various contemporary management options. Therefore, a contemporary decision analytic model was necessary to address limitations to the literature by synthesizing the evidence on novel treatments thereby forecasting short and long-term clinical outcomes.Background: In this article, we describe the design and implementation of a comprehensive prostate cancer database developed to collect, store, and access clinical, treatment, and outcomes data for research and clinical care.The intention of these guidelines is to provide a framework on which to base treatment decisions. Prostate cancer is a complex disease, with many controversial aspects of management and a dearth of sound data to support treatment recommendations. Several variables, including life expectancy, disease characteristics, predicted outcomes, and patient preferences, must be considered by the patient and physician in tailoring prostate cancer therapy to the individual.The Chemohormonal Therapy vs Androgen Ablation Randomized Trial for Extensive Disease in Prostate Cancer (CHAARTED) was a randomized phase III trial that evaluated the outcomes of men with metastatic prostate cancer who received castration with or without docetaxel. Patients from this trial were genotyped in a recent study to detect HSD3B1 variance and to determine 2-y freedom from castration-resistant prostate cancer as well as overall survival. The results of this study identified HSD3B1 as a possible biomarker that can be used to predict response to therapy in patients with metastatic disease.In 2010, NCCN incorporated active surveillance (AS) into the NCCN Clinical Practice Guidelines in Oncology for Prostate Cancer, and the 2012 update serves as an excellent resource with the most current evidence regarding treatment options for men with all stages of disease. However, the lack of clinical trials that directly compare various treatment modalities or identify the best management, especially for men with low-risk prostate cancer, makes the decision-making process difficult for both patients and physicians. Although general agreement exists on definitions of

candidates for AS-men with low-volume and low-grade disease thought to be at low risk for rapid progression-several key issues remain in establishing and supporting the role of AS in the management of prostate cancer, such as optimal timing and appropriate triggers for active treatment. The decision to initially pursue AS rather than active treatment after prostate cancer diagnosis is complex and involves myriad factors, including estimation of life expectancy, consideration of quality of life, and assessment of ultimate oncologic outcome.Purpose of review: Patients with clinically localized prostate cancer often undergo multiple therapies during their disease trajectory, either as planned combinations or as salvage for recurrence. Most studies of health-related quality of life in men with prostate cancer have focused on those receiving one modality or another. This review summarizes the little that is known about health-related quality of life after multiple therapies.Introduction: The optimal management of prostate cancer patients presenting with prostate specific antigen (PSA) levels greater than 50 ng/ml is controversial. The purpose of this study was to investigate factors associated with overall survival and biochemical outcome in a high-risk prostate cancer population with PSA>50.0 ng/ml at time of diagnosis, and no clinical or radiological evidence of metastatic disease.The disparate mortality rates of prostate cancer among populations have led to the question "Is therapy as effective in blacks versus whites." A review of the cancer literature that has assessed black-white outcomes supports the conclusion that equal treatment yields equal outcomes among equal patients. Although epidemiological studies demonstrate that blacks are disproportionately diagnosed with higher stage and higher grade disease, clinical studies show that equal treatment yields equal outcome regardless of race. Patterns-of-care studies demonstrate that there is not equal treatment in the United States among black and white patients.One of the major problems in management of prostate cancer is the lack of reliable genetic markers predicting the clinical course of the disease. We analyzed expression profiles of 12,625 transcripts in prostate tumors from patients with distinct clinical outcomes after therapy as well as metastatic human prostate cancer xenografts in nude mice. We identified small clusters of genes discriminating recurrent versus nonrecurrent disease with 90% and 75% accuracy in two independent cohorts of patients. We examined one group of samples (21 tumors) to discover the recurrence predictor genes and then validated the predictive power of these genes in a different set (79 tumors). Kaplan-Meier analysis demonstrated that recurrence predictor signatures are highly informative ($P < 0.0001$) in stratification of patients into subgroups with distinct relapse-free survival after therapy. A gene expression-based recurrence predictor algorithm was informative in predicting the outcome in patients with early-stage disease, with either high or low preoperative prostate-specific antigen levels and provided additional value to the outcome prediction based on Gleason sum or multiparameter nomogram. Overall, 88% of patients with recurrence of prostate cancer within 1 year after therapy were correctly classified into the poor-prognosis group. The identified algorithm provides additional predictive value over conventional markers of outcome and appears suitable for stratification of prostate cancer patients at the time of diagnosis into subgroups with distinct survival probability after therapy.Expression profiling and proteomics have the potential to transform the management of prostate cancer, identifying new markers for screening, diagnosis, prognosis, monitoring and targets for therapy. Expression profiling has revealed that the majority of prostate cancers contain fusion genes resulting in the upregulation of ETS family transcription factors. New diagnostic markers to replace PSA are being actively sought using a variety of proteomic platforms. Nevertheless, no single molecular marker has yet been discovered that is any more reliable for predicting outcome than histopathological grading. In the future, small custom-built chips will be used to detect a small panel of RNA or protein markers to answer specific questions concerning patient management for each type of cancer.Purpose: Prostate cancer represents a disease with diverse clinical outcomes. Treatment strategies that optimize benefit and minimize morbidities depend on accurate estimates of disease status and likelihood of progression. Emerging technologies capable of qualitatively and quantitatively profiling genes expressed by neoplastic tissues may provide insights into tumor behavior. This review discusses the use of microarray based transcript expression profiling to stratify human cancers into risk categories.Purpose: We investigated the oncologic effect of palliative transurethral resection of the prostate (pTURP) in patients with prostate cancer who received primary androgen deprivation therapy.Background: Previous Commission on Cancer data from the National Cancer Data Base (NCDB) examined time trends in disease stage, treatment patterns, and survival for patients with selected cancers. The most current (1992) data for prostate cancer are described in this Communication.This article details the methods of determining cancer-free status and addresses the long-term results of external beam radiation. It demonstrates that when similar patients are compared, the results of prostatectomy and radiation in early disease do not differ. The new technology in

conformal radiation produces outcomes superior to conventional radiation technique in cure of cancer and reduction of serious complications.Each of the three most common contemporary treatments for localized prostate cancer, radical prostatectomy, external beam radiotherapy, and brachytherapy, can have adverse effects on sexual health. Sexual health outcome can be improved by treatment-specific factors, such as the use of nerve-sparing technique during radical prostatectomy, or worsened by the use of androgen deprivation before external beam radiotherapy or brachytherapy. Contemporary studies that have used validated questionnaires to evaluate multiple components of patient-reported sexuality following prostate cancer treatments provide benchmarks of sexual outcome expectations that are of interest to patients selecting their prostate cancer treatment.Purpose: Few studies have evaluated prostate cancer oncologic outcomes in different ethnic groups following radical prostatectomy for clinically organ-confined disease. Existing studies lack long-term outcome data. We conducted this study to assess the impact of racial differences on risk profile and oncologic outcomes in a large cohort of patients with prostate cancer who underwent radical prostatectomy.Purpose of review: The shift in the diagnostic algorithm for prostate cancer to early imaging with mpMRI has resulted in many patients being diagnosed with small volume, apparently unilateral, clinically significant cancers. In these patients, a minimally invasive, nonmorbid intervention is appealing. The aim of this study was to review data reported within the last 2 years on focal therapy and partial gland ablation for organ-confined prostate cancer.Prostate cancer is a heterogeneous disease with a wide prognostic spectrum and a variety of treatment options. Such a complex clinical scenario has led to uncertainty in risk assessment and prediction of outcome. Nomograms have served as scientific formulas designed to maximize the predictive accuracy. The use of nomograms in prostate cancer has been applied to many clinical states and outcomes and has provided the most accurate predictions. Cancer 2009;115(13 suppl):3107-11. (c) 2009 American Cancer Society.Treatment decisions after diagnosis of clinically localised prostate cancer are difficult due to variability in tumour behaviour. We therefore examined one of the most promising biomarkers in prostate cancer, Ki-67, in a cohort of 808 patients diagnosed with prostate cancer between 1990 and 1996 and treated conservatively. Ki-67 expression was assessed immunohistochemically, in two laboratories, by two different scoring methods and the results compared with cancer-specific and overall survival. The power of the biomarker was compared with Gleason score and initial serum prostate-specific antigen (PSA). Both methods showed that Ki-67 provided additional prognostic information beyond that available from Gleason score and PSA: for the semi-quantitative method, Deltachi(2) (1 d.f.)=24.6 (P<0.0001), overall survival chi(2)=20.5 (P<0.0001), and for the quantitative method, Deltachi(2) (1 d.f.)=15.1 (P=0.0001), overall survival chi(2)=10.85 (P=0.001). Ki-67 is a powerful biomarker in localised prostate cancer and adds to a model predicting the need for radical or conservative therapy. As it is already in widespread use in routine pathology, it is confirmed as the most promising biomarker to be applied into routine practice.Objective: To determine whether time from diagnosis to treatment impacted outcomes in a multicentre cohort of high- and very-high-risk (VHR) patients with prostate cancer undergoing radical prostatectomy (RP).The CEASAR study uses patient-reported outcomes to provide actionable quality-of-life data for shared-decision making for patients with localized prostate cancer.Background: Recent evidence has suggested that the introduction of rapid access prostate cancer programs has led to a more streamlined pathway for patients, and was designed to ultimately reduce referral delays.This study was conducted to identify the factors perceived by African-American men as influencing their behavior relative to prostate cancer screening. A total of 49 African-American men, age 40 and above, participated in 10 focus group discussions in Florida. Data collection was between October 12, 2001 and March 9, 2002 in Tallahassee, Tampa, and Miami. Data analysis was conducted using a comprehensive ethnographical analysis, including the use of an ethnographical retrieval program, Nonnumerical Unstructured Data Indexing Searching and Theorizing (QSR NUD*IST 4.0) software. Factors identified as influencing prostate cancer screening participation by African-American men were impediments to prostate cancer screening; positive outcome beliefs associated with prostate cancer screening; social influence; negative outcome beliefs associated with prostate cancer screening; resources or opportunities that facilitate prostate cancer screening; prostate cancer knowledge; perceived susceptibility to prostate cancer; perceived threat of prostate cancer; perceived severity of prostate cancer; positive health activities; illness experience; and prostate cancer screening intervention message concept, message source, and message channel. The results of this study may offer an excellent guide to designing effective, culturally sensitive, and relevant interventions, which would increase African-American men's participation in prostate cancer screening.Background: The purpose of the present paper was to investigate etiology, diagnosis, initial treatment, pathological findings and

final outcomes for prostate cancer in Japan.Background: Until 1998 in Japan, very few institutions were treating prostate cancer solely with radiotherapy (RT) >70 Gy and most were using < or =65 Gy in combination with hormone therapy. The present study reports the long-term results of RT combined with hormone therapy for localized and locally advanced prostate cancer.Robot-assisted radical prostatectomy (RARP) offers excellent and lasting oncologic control. Technical refinements in apical dissection, such as the retroapical approach of synchronous urethral transection, and adoption of real-time frozen section analysis of the excised prostate during RARP have substantially reduced positive surgical margin rates, particularly in high-risk disease patients. Furthermore, precision offered by the robotic platform and technical evolution of radical prostatectomy, including enhanced nerve sparing (veil), have led to improved potency and continence outcomes as well as better safety profile in patients undergoing surgical therapy for prostate cancer.Purpose: To review the current status of high intensity focused ultrasound (HIFU) therapy in the prostate, in particular the treatment of prostate cancer.The applications of combined MR imaging and MR spectroscopic imaging of prostate cancer have expanded significantly over the past 10 years and have reached the point of clinical trial results to test robustness and clinical significance. MR spectroscopic imaging extends the diagnostic evaluation of prostate cancer beyond the morphologic information provided by MR imaging throughout the detection of cellular metabolites. The combined metabolic and anatomic information provided by MR imaging and MR spectroscopic imaging has allowed a more accurate assessment of the presence, location, extent, and aggressiveness of prostate cancer both before and after treatment. This information has already demonstrated the ability to improve therapeutic planning for individual prostate cancer patients and shows great promise in the assessment of therapeutic response and the evaluation of new treatment regimes.Background: The current study was conducted to analyze the association between cigarette smoking and metastasis (the primary outcome) as well as time to biochemical disease recurrence (BCR), metastasis, castration-resistant prostate cancer (CRPC), and prostate cancer-specific and overall mortality (secondary outcomes) after radical prostatectomy among men from the Shared Equal Access Regional Cancer Hospital cohort.Introduction: Gay men with prostate cancer (GMPCa) may have differential health-related quality of life (HRQOL) and sexual health outcomes than heterosexual men with prostate cancer (PCa), but existing information is based on clinical experience and small studies.Background: The effectiveness of psycho-educational interventions for cancer patients is well documented, but less is known about moderating characteristics that determine which subgroups of patients are most likely to benefit.Lymph node metastases (LNMs) are common in intermediate- to high-risk prostate cancer (PC) and may be missed during extended pelvic lymph node dissection (ePLND). Here we report on the use of prostate-specific membrane antigen (PSMA)-radioguided surgery (RGS) during open radical prostatectomy (RP) with ePLND to resect locoregional LNMs identified on preoperative PSMA positron emission tomography (PET). Preoperative PSMA PET showed 78 LNMs in 35 patients undergoing RP with ePLND and RGS between January 2018 and June 2020. In 14 patients (40%), LNMs were located outside the ePLND template. RGS achieved resection of PSMA-positive LNMs in 33/35 patients (94%). On univariable analysis, lower metastatic burden with up to two PSMA-positive LNMs on preoperative PET was associated with better postoperative outcomes. Limitations include the retrospective analysis and the small sample size. RGS facilitates resection of PSMA-positive LNs in patients treated with RP. Our data indicate a favorable treatment outcome in patients with low metastatic LN burden on preoperative PSMA PET. PATIENT SUMMARY: We investigated the use of radioactive guidance to remove lymph nodes affected by prostate cancer during surgical removal of the prostate. This approach can help to identify cancerous lymph nodes that might otherwise be missed and could lead to better survival outcomes.Background: There is uncertainty regarding if, when, and how localized prostate cancer should be managed.Quality of life (QoL) is not included among the end points in many studies, and QoL results are underreported in many phase 3 oncology trials. We performed a systematic review to describe QoL prevalence and heterogeneity in QoL reporting in recently published prostate cancer phase 3 trials. A PubMed search was performed to identify primary publications of randomized phase 3 trials testing anticancer drugs in prostate cancer, issued between 2012 and 2018. We analyzed QoL inclusion among end points, presence of QoL results, and methodology of QoL analysis. Seventy-two publications were identified (15 early-stage, 20 advanced hormone-sensitive, and 37 castration-resistant prostate cancer [CRPC]). QoL was not listed among study end points in 23 studies (31.9%) (40.0% early stage, 40.0% advanced hormone sensitive, and 24.3% CRPC). QoL results were absent in 15 (30.6%) of 49 primary publications of trials that included QoL among end points. Overall, as a result of absent end point or unpublished results, QoL data were lacking in 38 (52.8%) primary

publications (53.3% early stage, 55.0% in advanced hormone sensitive, and 51.4% in CRPC). The most commonly used QoL tools were Functional Assessment of Cancer Therapy-Prostate (FACT-P) (21, 53.8%) and European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC QLQ-C30) (14, 35.9%); most common methods of analysis were mean changes or mean scores (28, 71.8%), time to deterioration (14, 35.9%), and proportion of patients with response (10, 25.6%). In conclusion, QoL data are lacking in a not negligible proportion of recently published phase 3 trials in prostate cancer, although the presence of QoL results is better in positive trials, especially in CRPC. The methodology of QoL analysis is heterogeneous for type of instruments, analysis, and presentation of results.African-American males have a higher incidence of prostate cancer than non-African-American males and an overall poorer prognosis. Environmental factors such as socioeconomic status and biological factors such as an increased frequency of androgen receptor mutation have been identified as causal. As androgen ablation therapy is ubiquitous in the treatment of metastatic prostate cancer, little information is available on clinical outcome independent of hormone therapy. Our experience at the Warren G. Magnusson Clinical Center, National Institutes of Health with the anticancer agent, suramin, offers the opportunity to study clinical outcome in patients treated with an agent whose tumoricidal activity is not dependent on androgen receptor function. Clinical outcome was examined retrospectively in 43 patients treated on a single suramin-based protocol and evaluated as a function of ethnic background. No significant difference in time to disease progression or survival was observed between African Americans (n = 4) and the other 39 patients. These findings are consistent with the hypothesis that therapies that work through mechanisms independent of the androgen receptor may result in similar outcomes across ethnic groups.Prostate cancer is the most common malignancy in men, and biologically shows highly heterogeneous clinical outcomes, despite early detection. Therefore, the identification of novel molecular markers that are associated with biological aggressiveness is very important for prostatic cancer clinical outcome predictions and treatment choices. Here, we investigate quiescin sulfhydryl oxidase 1 (QSOX1) expression and evaluate its clinicopathological significance and prognostic impact in prostate cancers, with immunohistochemistry on tissue microarrays. QSOX1 over-expression was observed in 12 (11.2%) of prostate cancers. High QSOX1 expression significantly associated with prostate cancer with vascular invasion, neural invasion, extra prostatic extension, higher pT stage, higher pathological tumor stage, higher prognostic grouping, and higher grades groups, but did not associated with worse overall survival. High QSOX1 expression correlates with tumor invasiveness and Gleason grade, reflects aggressive tumor features, and could be an important biomarker and therapeutic target.The authors present a flyover of current management of prostate cancer. The topics include active surveillance, surgery, radiotherapy, high-intensity focalized ultrasound (HIFU). Current hormone treatment modalities as well as chemotherapy for hormone-resistant prostate cancer (HRPC) management are also reported. Reasonable evidence has supported the safety and feasibility, during a period of 5-10 years, of an active surveillance regimen for men with low-risk prostate cancer. Radical prostatectomy is an effective form of therapy for patients with clinically significant prostate cancer. Outcomes are highly sensitive to variations in surgical technique. The risks of perioperative complications such as urinary and sexual dysfunction appear to be as great with robotic-assisted prostatectomy as with any other technique. External beam radiotherapy (EBRT) is an effective noninvasive form of curative therapy with a long-term risk of troublesome bowel and sexual and urinary dysfunction. EBRT can also be used in adjuvant manner or in combination. Brachytherapy, is a convenient effective form of radiotherapy targeted for selected patients with clinically confined cancer without evidence of extraprostatic extension on imaging. Excellent outcomes require meticulous technique. Acute urinary symptoms are frequent; and the long-term risks of proctitis and erectile dysfunction seem comparable to the risks associated with external beam radiotherapy. HIFU has been used widely in Europe for complete ablation of the prostate, especially in the elderly who are unwilling or unable to undergo more invasive radical therapy. For low- or intermediate-risk cancer, the short- and intermediate-term oncologic results have been acceptable but need confirmation in prospective multicenter trials presently underway. HIFU is associated with a risk of acute urinary symptoms requiring transurethral resection before or after HIFU. Erectile function has not been adequately documented after HIFU. HIFU holds promise for focal ablation of prostate cancer and in case of recurrence after EBRT. Androgen-deprivation therapy is not recommended for men with localized prostate cancer. For locally extensive cancer, androgen-deprivation therapy should be used alone only for the relief of local symptoms in men with a life expectancy of < 5 years who are not eligible for more aggressive treatment. Management of HRPC is actually accepted with docetaxel chemotherapy based regimens.Prostate cancer is the second most

frequently diagnosed cancer in men in the United States. Many men with clinically localized prostate cancer survive for 15 years or more. Although early detection and successful definitive treatments are increasingly common, a debate regarding how aggressively to treat prostate cancer is ongoing because of the effect of aggressive treatment on the quality of life, including sexual functioning. We examined current research on the effect of post-prostatectomy radiation treatment on sexual functioning, and suggest a way in which patient desired outcomes might be taken into consideration while making decisions with regard to the timing of radiation therapy after prostatectomy.Current high-throughput screening techniques using DNA arrays have identified hundreds of new candidate biomarkers for diagnosis and risk prediction of prostate cancer. Large-scale analysis of clinical prostate cancer specimens is a key prerequisite for the validation of these genes. We have constructed a tissue microarray from more than 2,500 prostate cancers with full histo-pathological and clinical long-term follow-up data and analyzed expression and gene copy number patterns of 16 different candidate markers for their ability to predict prostate cancer progression and patient prognosis. The best candidates were used to extend established clinical prediction tools (nomograms) that were based on nonmolecular data only, such as prostate-specific antigene (PSA), clinical stage, and histological grading (Gleason grade). Using this approach, we could identify ANXA3 as an independent marker, which was capable of increasing the accuracy of the clinical nomogram, thereby fulfilling the criteria of a novel prognostic prostate cancer marker. This approach of integrating large-scale clinical and molecular variables may provide a new paradigm for the use of molecular profiling to predict the clinical outcome in prostate cancer.Background: Although treatment regimen have improved in the last few years, prostate cancer patients following a radical prostatectomy still experience severe disease- and treatment-related side effects, including urinary incontinence, erectile dysfunction and psychological issues. Despite high incidence rates and the common adverse effects there is a lack of supportive measures for male patients and specific physical exercise recommendations for prostate cancer patients during rehabilitation or in the aftercare are still missing.Objective: To assess, in a retrospective study, the sensitivity, specificity, positive predictive value (PPV) and negative predictive value (NPV) of digital rectal examination (DRE), transrectal ultrasonography (TRUS) and the combination of both in unilateral clinical T3a (cT3a) prostate cancer.Introduction: This study aimed to examine the impact of advanced prostate cancer and its treatments on patients' perceptions of their health and to better understand concerns not captured by currently available health-related quality of life (HRQL) instruments.Objectives: The optimal management of locally advanced prostate cancer (cT3) is still a matter of debate. The objective of this study is to present 10-year outcomes of radical prostatectomy (RP) in unilateral cT3a disease.Background: To clarify the implications and limitations of external beam radiation monotherapy for localized prostate cancer, the long-term outcomes and prognostic factors were investigated.A lack of appropriate diagnostic tools for prostate cancer has led to overdiagnosis and over treatment. In a recent publication in the New England Journal of Medicine, Hamdy et al showed no difference in the outcomes of patients that had undergone either radical prostatectomy, radiotherapy, or active monitoring. In an effort to enhance clinical stratification, the development of improved, more accurate diagnostic tools is actively being pursued. Herein, we explore recent advances in prostate cancer screening, including biomarker assays, genetic testing, and specialized fields, such as mathematical oncology. These newly developed, highly sensitive diagnostic assays may potentially aid clinicians in selecting appropriate therapies for patients in the very near future.Active monitoring strategies recently have received attention as possible treatment options for men with low-risk prostate cancer who have a life expectancy of more than 10 years. However, no current criteria sufficiently predict outcomes for individuals with clinically localized disease and an otherwise long life expectancy who undergo either immediate or delayed treatment, or no treatment. This article describes the available evidence regarding treatment outcomes in men with low-risk prostate cancer and presents the case for immediate active treatment.Androgen deprivation therapy (ADT) plays a central role in the management of prostate cancer. ADT is the mainstay of treatment for metastatic disease; the most common method is gonadal suppression via luteinizing hormone release hormone (LH) agonists, with or without antiandrogens. Antiandrogen monotherapy remains investigational, as is the appropriate role of 5alphareductase inhibition for prostate cancer. Intermittent ADT offers the promise of improved quality of life and reduced cost without a decrease found to date in oncologic efficacy. A growing menu of options exists for secondary androgen deprivation after disease progression on primary therapy: these include high-dose antiandrogens, estrogens, and adrenal androgen suppressants. ADT is being used with increasing frequency as primary monotherapy in patients with localized disease, but only small, nonrandomized studies of highly selected patients have been reported to date. Neoadjuvant ADT

(NADT) has been demonstrated in prospective, multi-institutional trials to improve outcomes for patients with high-risk or locally advanced disease undergoing external-beam radiotherapy. Trials for patients with lower-risk, localized disease are still ongoing. Neoadjuvant therapy does not improve outcomes for patients with localized disease opting for radical prostatectomy (RP) and has not been well studied in association with brachytherapy. The side effects of ADT can be managed increasingly successfully; in particular, the introduction of zoledronate may reduce the impact of ADT-associated osteoporosis. Finally, contemporary practice pattern data suggest that use of ADT is increasing across patient risk groups, both in contexts where such therapy is well supported by current evidence and in others where it is not.Background: Cryosurgery was first used to treat prostate cancer in the early 1970s but it was not until 1993, when the results from percutaneous ultrasound-guided cryosurgery were published, that the potential advantages of this treatment became apparent. Changes in equipment and techniques have improved the results of cryosurgery, in both tumor control and lower morbidity.Background: Prostate cancer mortality is higher among black American men than among white American men. We investigated whether racial disparities in outcomes of clinically localized prostate cancer vary by treatment (surgery, radiation therapy, or nonaggressive treatment).Purpose: Patients with localized prostate cancer and their doctors face complex trade-offs when deciding on treatment. In this study, we modify the "number needed to treat" method to compare radical prostatectomy with radiotherapy.Purpose: Digital rectal examination is widely performed for following patients with localized prostate cancer after definitive therapy. This examination has marginal efficacy for detecting initial prostate cancer and postoperative recurrence. To determine the efficacy of digital rectal examination in terms of new information provided after radiotherapy we analyzed the results of digital rectal examination in the followup of patients with prostate cancer after radiotherapy.Wnt5a, a member of non-canonical wingless-related MMTV integration site family is a secreted glycoprotein that plays important roles in development and disease. Recent studies have shown that Wnt5a protein levels are up-regulated in prostate cancer, but contrasting reports exist on the role of Wnt5a to predict outcome after radical prostatectomy in patients with localized prostate cancer. Our group has recently shown that preserved high protein expression of Wnt5a in prostate cancer is associated with longer relapse-free time after radical prostatectomy. The present tissue microarray study emphasizes the role of Wnt5a protein expression in a different, well-defined, and independent cohort consisting of 312 prostate cancer patients. Kaplan-Meier curves plotted between Wnt5a expression and time to biochemical recurrence revealed that in low-grade prostate cancer, patients with preserved high-Wnt5a protein levels in their tumor cells have a lower risk of recurrence after radical prostatectomy compared to patients with low-Wnt5a protein expression. When Wnt5a protein expression was added to a Cox regression multivariate analysis, both Wnt5a protein expression and surgical margin status independently predict biochemical free survival. Herein we confirm Wnt5a positivity as a prognostic factor and show that preserved overexpression of Wnt5a protein is associated with increased time to biochemical recurrence in localized low-grade prostate cancer patients after radical prostatectomy. Our results emphasize that Wnt5a can be used as a predictive biomarker, and favoring the view of Wnt5a as a future therapeutic target in prostate cancer patients with tumor cells displaying low expression of Wnt5a.In this review article adjuvant and neoadjuvant therapies in patients at high risk for localized prostate cancer are presented in some detail. Adjuvant hormone therapy by antiandrogens as well as antineoplastic chemotherapeutic agents such as estramustine and taxanes are referred. Neoadjuvant therapies in addition to systemic therapy before or after local treatment for prostate cancer may improve the outcome of high risk patients otherwise destined to treatment fail. Data regarding some substances used in neoadjuvant therapies such as androgen deprivation therapy and use of rapamycin with its analogs, as well as some novel therapeutic approach strategies are also discussed.Background: Both docetaxel and androgen-receptor-axis-targeted (ARAT) agents are approved in metastatic castration-sensitive prostate cancer (mCSPC) patients. Predictive factors of therapy efficacy are lacking.Prostate cancer is the most common malignancy diagnosed in men. Over the past 10 to 20 years, advances in screening and diagnostic and management paradigms have led to improved treatment outcomes. This article offers an overview of the evolution of the role and nature of diagnostic imaging techniques in the management of prostate cancer.According to the European Association of Urology (EAU) guidelines, a life expectancy of > 10 years is considered an important factor in the treatment of prostate cancer. The Charlson score is used to predict mortality based on comorbidities. The purpose of this study was to investigate the relationship between age, Charlson score and outcome in patients with cT3a prostate cancer. Between 1987 and 2004, 200 patients, who were with clinical T3a prostate cancer and who underwent radical prostatectomy (RP), were previously

detected by digital rectal examination (DRE). Patients were categorized into two age groups (< 65 and >or= 65 years old). Patients were also divided into two groups according to Charlson score (= 0 and >or= 1). Both age and Charlson score were analyzed regarding their predictive power of patients' outcomes. The mean follow-up period was 70.6 months, and the mean age of patients was 63.3 years. In all, 106 patients were < 65 years old and 94 patients were >or= 65 years old. Age was a significant predictor of overall survival (OS). A Charlson score of 0 was found in 110 patients, and of >or= 1 in 90 patients. Charlson score was not a significant predictor of biochemical progression-free survival (BPFS), clinical progression-free survival (CPFS) or OS. Cox multivariate analysis showed that margin status was a significant independent factor in BPFS, and cancer volume was a significant independent factor in CPFS. Charlson score does not influence the outcome in patients with clinical locally advanced prostate cancer. Age may influence OS. RP can be performed in motivated healthy older patients. However, the patients need to be counseled regarding possible surgery-related side effects, such as urinary incontinence and erectile dysfunction, which are age- and comorbidity-dependent.Purpose: We analyzed the outcome of primary androgen depletion therapy, which has gained more attention as a potential therapeutic option in patients with localized or locally advanced prostate cancer as it has been increasingly implemented despite limited data on its therapeutic impact in Japan and the United States.Purpose: Evidence suggests that men diagnosed with prostate cancer live as long as or longer than those without a diagnosis. We postulate that a reason for this paradox is increased preventive and therapeutic health care interventions following a prostate cancer diagnosis. We explored this phenomenon in patients surgically treated for prostate cancer.Objective: Despite a near universal absence of evidence-based policies supporting population screening for prostate cancer, the prostate-specific antigen (PSA) test is aggressively promoted in the media as a life-saving form of screening. The objective of this study was to examine media coverage of prostate-cancer screening in Australia.The aim of this study was to evaluate the prognostic implications of the sonographic appearance of prostate cancers. All patients with biopsy-proven prostate cancer between January 2003 and July 2004 (and at least 5 years of follow-up) were selected retrospectively. After exclusions, 101 patients constituted our study population and were divided into isoechoic (or nonvisible) and hypoechoic (or visible) lesion. The clinical outcomes of these two groups were compared. The outcomes for the two groups were significantly different ($p < 0.01$). For nonvisible lesions, 37 of the 41 patients (90.2%) had no disease relapse and 2 (4.9%) had biochemical failure. For the visible lesions, 37 of the 60 (61.6%) patients were free of recurrence, 7 (11.7%) had systemic metastases and 10 (16.7%) died of complications related to prostate cancer. Our data show that patients with nonvisible prostate cancer had significantly better outcomes than patients with visible lesions during a five-year period of evaluation.Background: Resistance training (RT) improves muscular strength, physical functioning and quality of life in prostate cancer survivors, but the optimal frequency of RT is unknown. We conducted a pilot randomized controlled trial to compare the effects of 3 versus 2 days per week of RT in prostate cancer survivors diagnosed within the past 2 years.Background/aim: Biochemical failure after radiotherapy for prostate cancer occurs infrequently, but some cases progress to a poor outcome. The aim of this study was to examine prognosis after biochemical failure.Purpose: We assessed and compared the survival outcomes between cryoablation and external beam radiation therapy in patients with locally advanced prostate cancer (cT2c-cT3b).The cure of advanced prostate cancer (PCa) will be achieved through the clinical application of biological observations. To achieve this, a new classification of human PCa is needed. Unlike in previous classifications of PCa which were based on anatomic determinates of outcome, we propose to integrate emerging PCa biology into this taxonomy. Three biologically based categories were identified (amphotropic, clonal expansion, and heterotopic), and each has unique features that influence therapy selection. It is unlikely that any single agent or modality will successfully control PCa. It is hoped that the classification and trial designs we propose will facilitate the application of integrated treatment and prevention strategies.Background: While the traditional goal in the management of patients with prostate cancer has been to maximize survival, the recent advent of the medical outcomes movement has underscored the importance of patient-centered issues, such as health-related quality of life (HRQOL).With the advancement of early detection tools for prostate cancer and ability to better localize disease, there has been increased interest in focal or targeted therapies that carry less morbidity than traditional whole-gland treatments. The Sonablate® high-intensity focused ultrasound (HIFU) device has Food and Drug Administration (FDA) 510(K) clearance in the United States for ablation of prostate tissue. HIFU utilizes an ultrasound (US) transducer that focuses US beams on a preset point as much as 4 cm from the energy source without injuring intervening tissue. The Sonablate system guides the surgeon step-by-step to perform effective

ablation of a target lesion. The surgeon can assess treatment effect with tissue change monitoring, and care is taken to prevent rectal wall injury. We believe hemiablation is the most favorable focal HIFU treatment to optimize cancer control and minimize the side effects associated with whole gland therapy. We recommend considering HIFU ablation as an extension of active surveillance rather than definitive treatment. Further research on long-term oncologic and functional outcomes is warranted.Prostate cancer is an excellent target for an active vaccine-based approach based on the fact that prostate cancer cells express unique proteins which serve as highly specific targets. APC8015 (Provenge) is one such investigational therapeutic vaccine that uses autologous antigen presenting cells (APCs) loaded with a recombinant fusion protein of prostatic acid phosphatase linked to a molecule that specifically targets a receptor expressed on the surface of human APCs. Clinical trial outcomes have demonstrated activity in patients with androgen independent prostate cancer.Purpose: To study the association between time from diagnosis to radical prostatectomy (RP-interval) and prostate cancer-specific mortality (PCSM), histological findings in the RP-specimen and failure after RP (RP-failure).Background: Radical prostatectomy and radical radiotherapy have equivalent survival outcomes in the treatment of localised prostate cancer but differing side-effect profiles. The 2018 Faculty of Radiation Oncology of the Royal Australasian College of Radiologists (RANZCR) position statement recommends that patients have the opportunity to discuss all suitable treatment options, ideally with the relevant specialist. This study aimed to determine the number and characteristics of men referred to radiation oncology before undergoing radical prostatectomy in the years immediately preceding the 2018 RANZCR position statement.During the last decade, several new non-surgical treatments have emerged for the management of localized prostate cancer. External radiotherapy and radical prostatectomy are still gold-standard and effective treatments but often associated with morbidities and side-effects. Consequently, less invasive treatments such as high-intensity focused ultrasound and brachytherapy have been progressively developed in order to decrease the complication rate associated with standard therapies as well as developing an effective oncological treatment. Later on, concepts of << watchful waiting >> and/or << active surveillance >> have been proposed to decrease overtreatment for patients with indolent disease. Despite promising results, further studies with long term follow up are strongly needed to better evaluate the cancer control and the quality of outcomes afforded with theses new therapeutics and before considering to alter the current guidelines for localized prostate cancer.Objectives: Managed care organizations (MCOs) are developing population-based approaches to illnesses with large numbers of patients, wide variations in care and outcomes, and high costs. This is the first survey that evaluates current prostate cancer approaches by MCOs.The necessity of pelvic lymph node dissection has been questioned in recent years as a result of improved pre-treatment staging based on clinical and pathologic factors. Accurate evaluation of nodal status allows rational selection of therapy and improved outcomes. Nevertheless, lymph node dissection may play a role even in patients with low stage disease (clinical T1c) despite an overall low risk for metastases. Herein we discuss recent advances in the evaluation of lymph nodes in stage T1c prostate cancer with respect to accurate prediction, radiologic imaging, molecular characterization, and operative considerations.A close examination of the outcomes for the radical treatment of prostate cancer in the prostate-specific antigen (PSA) era shows no clear advantage to radical prostatectomy over external-beam radiation. Both modalities are highly effective against small impalpable tumors of low Gleason grade and with PSA values less than 10 ng/mL. Both modalities struggle against all other stages of prostate cancer. Radiation and surgery are currently in states of rapid evolution, and the results emerging become quickly outdated. It is hoped that the newer, more aggressive approaches will help a significant number of patients, perhaps the majority, not currently being cured by radical therapy.Purpose: We analyze the outcome after prostatectomy or radiotherapy for localized prostate cancer with respect to race.The problem of detecting localized prostate cancer following transurethral resection of the prostate (TURP) for benign prostatic hyperplasia is fairly common. Historically, radical prostatectomy (RP) after previously performed TURP was associated with poor surgical and functional outcomes. It is believed that the periprostatic fibrosis, scar tissue and inflammation after previous TURP may interfere with the optimal RP results. The present retrospective study evaluates intraoperative characteristics, postoperative oncological and functional outcomes of RP in patients with a history of TURP.Objectives: Treatment outcomes for prostate cancer in our hospital were reported.The management of localized prostate cancer in the elderly is problematic. In many cases, death from other causes may occur before death from prostate cancer. Choosing the optimal therapy requires properly counseling patients about the relative risks and benefits from each treatment option, including watchful waiting. Conservative management is a reasonable alternative for managing

this disease.The question of when to choose surgery over watchful waiting for treatment of clinically localized prostate cancer is difficult. Recently, the Prostate Patient Outcomes Research Team (PORT) published a decision analysis that promoted watchful waiting as a reasonable alternative to invasive treatment for many men with localized prostatic carcinoma. Criticisms were leveled at the analysis itself, its structure, and especially the probabilities and utilities used in the model. We reexamine the PORT decision analysis. Structural sensitivity of the model was conducted, as were multi-way analyses incorporating data more recent than those used in the PORT analysis. The model structure is concluded to be sound and reasonable given the available literature on prostate cancer progression. However, recent data suggest that some probabilities used in the PORT analysis may be understated, causing life expectancy for surgical treatment to be understated. Using these recent data, the decision to operate on all grades of prostate cancer is strongly supported. This finding contradicts that of the original PORT analysis, which suggested that surgery would decrease quality-adjusted life expectancy for patients with well differentiated lesions. Ethical considerations aside, a clinical trial, such as the Prostate Cancer Intervention Versus Observation Trial, would help to establish reliable progression rates. Also, additional quality of life studies with actual prostatic cancer patients are needed for accurate decision making. Decision scientists and academic urologists should collaborate on model refinement and subsequent analyses.Purpose: Pathological and oncologic outcomes of delayed radical prostatectomy following prostate cancer active surveillance are not well established. We determined the pathological and oncologic outcomes of favorable risk, Grade Group 1, prostate cancer managed with active surveillance and progressing to radical prostatectomy for clinically significant prostate cancer (Grade Group 2 or greater).Chemoprevention trials in prostate cancer would involve excessively long follow-up if conventional endpoints of efficacy are used. Prostatic intraepithelial neoplasia (PIN) may be an appropriate surrogate endpoint for monitoring outcome during prostate cancer chemoprevention studies. To address the question of whether PIN could be stratified into "stable" PIN and PIN likely to progress to invasive cancer, we selected patients with a single focus of peripheral zone cancer with ipsilateral and contralateral high-grade PIN. Sixteen patients met these criteria from a series of 550 patients treated by radical prostatectomy. We examined the rate of apoptosis in PIN and prostate cancer tissues by quantifying the number of apoptotic bodies per hundred cells (apoptotic index) on hematoxylin and eosin stained histological sections. Significant differences (ANOVA: $p < 0.05$) were detected between foci of prostatic intraepithelial neoplasia contralateral to the cancer and the cancer itself. There was no difference in the apoptotic index between a given cancer and a focus of PIN ipsilateral to the tumor in the same section. However, the range of apoptotic indices overlapped in all categories. Apoptotic indices appear to parallel the biological activity of PIN and malignant prostatic tissue, but may be of little benefit when used alone in monitoring the outcome of chemopreventive therapy in an individual patient.Objectives: To evaluate the psychometric properties of the three domains bowel, urinary, and sexual function as they were measured in the Prostate Cancer Outcomes Study and examine their use in different research and practice settings. Leading prostate cancer health-related quality-of-life questionnaires include questions that measure patients' bowel, urinary, and sexual function and their perceived annoyance (or bother) caused by limited functioning. The published results are mixed on reporting function and bother independently or together as a single domain.With widespread use of PSA screening, radical prostatectomy has gained popularity among Japanese urologists over the last decade. Recent understanding of pelvic anatomy and improvement in surgical technique have substantially reduced its morbidity. Early recovery of urinary continence is possible and improvement of sexual function after surgery may be enhanced by use of sildenafil and nerve reconstructive surgery. As prostate cancer is increasingly diagnosed at early stages and therefore with more favorable survival outcomes, the basis on which patients select primary therapy has shifted toward considerations of health-related quality of life. Accordingly, QOL assessment has become an important form of outcomes based research that may weigh heavily on the treatment selection by patients.Locally advanced prostate cancer is rarely cured by conventional external beam radiation alone. Although occult micrometastatic disease is common, so is locally persistent tumor. This may provide the source of symptomatic local recurrence or metastases in the future. Efforts to improve local control through radiation dose escalation and through the use of neoadjuvant androgen suppression are showing promise. Adjuvant androgen suppression is also under study for those at highest risk of disseminated disease.In a recent AUA/ACS scientific seminar, experts on prostate cancer met to present and discuss information concerning the detection and treatment of early-stage prostate cancer. This article provides an overview of the major topics covered, including perspectives on the problem, proposed clinical studies, diagnosis and prognostic factors, treatment studies, cancer control, and

future directions.Introduction: Although randomized controlled trials (RCTs) remain the gold standard for determining evidence-based clinical practices, large disease registries that enroll large numbers of patients have become paramount as a relatively cost-effective additional tool.Background: Irreversible electroporation (IRE) delivers brief electric pulses to attain non-thermal focal ablation that spares vasculature and other sensitive systems. It is a promising prostate cancer treatment due to sparing of the tissues associated with morbidity risk from conventional therapies. IRE effects depend on electric field strength and tissue properties. These characteristics are organ-dependent, affecting IRE treatment outcomes. This study characterizes the relevant properties to improve treatment planning and outcome predictions for IRE prostate cancer treatment.Fertility preservation has become an important aspect of cancer treatment given the gonadotoxic effects of oncologic therapies. It is now considered standard of care to offer sperm banking to men undergoing treatment for primaries that affect young individuals. Less is known regarding fertility preservation of patients afflicted with prostate cancer. This cohort has progressively expanded and grown younger in the post-PSA era. Prostatectomy, radiation, chemotherapy and androgen blockade all pose unique challenges to the infertility specialist. Optimum management becomes even more uncertain for those men with metastatic prostate cancer. Most of these individuals will have received multiple forms of therapy, each carrying a distinct insult to the patient's reproductive potential. We describe a case of successful ex vivo sperm extraction and live birth in a patient previously treated with radiation and chronic androgen deprivation for metastatic prostate cancer. The presented case demonstrates that conception after radiation therapy and chronic androgen deprivation is feasible. We propose that fertility counselling and sperm cryopreservation should be considered for all prostate cancer patients. Additionally, for those individuals undergoing external beam radiotherapy, testicular shielding should be routinely offered in the event further family building is desired.In patients with stage A (T1) and B (T2) prostate cancer with negative lymph nodes, the 10-year outcome following treatment with external beam radiation is the same as that following radical prostatectomy. The value of external beam radiation in stage C (T3,4) prostate cancer has been demonstrated by 10- and 15-year results in thousands of patients. External beam radiation has emerged as the standard against which new therapies for locally advanced prostate cancer should be compared in prospective trials. New conformal radiation techniques are expected to further improve local control and decrease the morbidity of external beam radiation.Kinetic parameters of prostate-specific antigen (PSA) play a pivotal role in diagnostic and treatment of patients with prostate cancer (PCr). Assessment of PSA doubling time (PSADT) can be used for monitoring of treatment efficacy and predicting the outcomes of disease. The aim of the present paper is to analyze the PSADT in patients with different spread of PCr. Moreover, the initial PSADTs were studied with relation to overall survival. 336 PCr patients were included into the study. PSADT was measured usng two point method. Ill patients had localized PCr (T1-2N0M0), 90--regional-local PCr (T1-2N0M0) and 136 had generalized PCr (T1-4N1-2M1).Fifty-seven patients with clinically localized prostate cancer were treated by radical prostatectomy or external radiation therapy following pelvic lymphadenectomy. Comparing the outcome of radiotherapy with that of prostatectomy in 42 T2 patients without lymph node metastasis, the 5-year cause-specific survival did not differ between the radical prostatectomy group (n = 31) and radiotherapy group (n = 11). The 5-year disease-free survival of the prostatectomy group, however, was superior to that of radiotherapy group ($p = 0.01$). To cure patients with T2 prostate cancer, therefore, it is supposed that radical prostatectomy should be performed. To improve the treatment outcome after radiotherapy, stereotactic radiosurgery for prostate cancer has been attempted in our institution. Phantom experiments using a linear accelerator demonstrated a round dose distribution, and high reproducibility of prostate positioning was confirmed by CT when a thermoplastic immobilization device was used to fix the pelvis. In one patient with localized prostate cancer treated by radiosurgery, acute complication has not been recognized during the 5 week follow-up. Radiosurgery may be available to treat clinically localized prostate cancer.The long-term outcome in patients with prostate cancer treated with palliative intent was examined in two populations from Göteborg, Sweden. The results showed a prostate-cancer-related mortality of 62%. The cumulative mortality increased over time, indicating that prostate cancer may be a slow-growing tumour, but that patients were at considerable risk for disease progression and eventual death. Dying from prostate cancer was associated with a long hospital stay and frequent demands for palliative treatments such as TURP, radiation and procedures due to upper-urinary-tract obstruction. In a subpopulation of patients who survived for more than 10 years, the cancer-related mortality was surprisingly high, 62% after noncurative treatment. Even if the patients were diagnosed before the PSA era, the above findings should be taken into account when advising patients with prostate cancer about therapy if they have a

long life expectancy.External beam radiotherapy is a potential salvage or adjuvant therapy after radical prostatectomy (RP). The purpose of this study was to investigate the treatment outcome of salvage radiotherapy (RT) following RP for clinically localized prostate cancer and to identify factors that may predict the outcome of salvage RT. Between 2000 and 2006, 41 patients received salvage RT because of increasing prostate-specific antigen (PSA) levels following an RP for clinically localized prostate cancer. All the patients received conformal radiotherapy to the prostate bed. The prescribed radiation dose was 60-70 Gy in 26-35 fractions. The overall 5-year biochemical disease-free survival rate was 38%. A multivariate analysis showed that the following pathological findings of the surgical specimen were significantly associated with biochemical failure following salvage RT: a high Gleason score, a negative surgical margin, seminal vesicle invasion, lymphatic vessel invasion and negative vascular invasion. Among these factors, lymphatic vessel invasion was the strongest predictor. In conclusion, the pathological features affected the outcome of salvage RT following RP. Lymphatic vessel invasion was strongly associated with the risk of biochemical failure despite salvage RT. Meanwhile, vascular invasion was not a significant hazardous factor.Purpose: Overall 1 in 5 patients with prostate cancer has a positive family history. In this report we evaluated the association between family history and long-term outcomes following radical prostatectomy.Purpose: Of men with very low risk prostate cancer at biopsy recent evidence shows that black American men are at greater risk for adverse oncologic outcomes after radical prostatectomy. We studied radical prostatectomy specimens from black and white men at very low risk to determine whether there are systematic pathological differences.Background: The value of routine screening for prostate cancer remains unknown because of the lack of randomized studies. Until such studies are completed, a sensible approach to screening is needed.With intensified screening and the use of new diagnostic tools for prostate cancer (prostate-specific antigen, rectal ultrasound, magnetic resonance imaging with rectal coils, etc), the number of newly diagnosed cases of prostate cancer is rising rapidly, whereas the frequency of death due to prostate cancer remains almost stable. It must therefore be assumed that the number of patients in whom a diagnosed prostate cancer will not be fatal is also increasing. Consequently, not every prostatic carcinoma requires radical treatment when diagnosed. Also, it must be concluded that not every man who is a long-term survivor after radical prostatectomy owes his survival to the treatment. Long-term survivorship may reflect the relatively benign biological potential of this disease in an individual patient. Therefore, there is an inherent risk of overtreating patients and this must be weighed against the costs, the postoperative morbidity and the, albeit low, mortality of a radical prostatectomy. Nevertheless, as long as we do not have diagnostic tools which, at an early stage of prostate cancer, enable us to determine whether a carcinoma will ultimately have a fatal outcome, we are obliged to offer radical prostatectomy to younger patients (who have a life expectancy of more than 10 years) as long as they have organ-confined disease.Purpose: This study aimed at analysing long-term oncologic outcomes in prostate cancer patients with limited nodal disease (1-2 positive lymph nodes) without adjuvant therapy after radical prostatectomy (RP).After local therapy for prostate cancer, presumably isolated nodal recurrence is being detected in increasing numbers of patients by modern imaging techniques, especially by positron emission tomography (PET). The question arises whether lymphadenectomy may delay tumor progression.Conclusions concerning the value of PET/computed tomography, perioperative complications, and oncological outcome were derived from available studies and our own experiences. Six studies reported on 83 patients who underwent lymphadenectomy for suspected nodal recurrence. In cases with histological confirmation, no patient was cured.Hence, nodal recurrence in prostate cancer most likely represents a systemic affection instead of locally limited disease. If a drop in the prostate-specific antigen level occurs after lymphadenectomy, it can be assumed that the progression-free period is expected to be less than 12 months.The available data on oncological outcomes of this procedure are insufficient. Therefore, lymphadenectomy for nodal recurrence of prostate cancer remains an unproven approach.The outcome of conservative management in a consecutive series of 107 localized prostate cancers (mean age 73.5 years) has been analyzed. Follow-up ranged from 1 to 12 years. Following regular surveillance and no initial treatment, 3 died from prostate cancer with a median survival of 6.3 years compared to 34 who died from intercurrent disease with a median survival of only 2.6 years. The observed survival for the whole group was similar to the expected survival for an age-matched population in Scotland. This was despite the fact that the nodal status and the capsular invasion were unknown.The relative success of radical prostatectomy and radiation therapy is discussed for the treatment of prostate cancer. Obstacles to this comparison included changing criteria for treatment, variations in endpoint reporting and data analysis, the lack of help from retrospective trials, the confusion caused by concurrent hormonal manipulation,

and the influences of patient and tumor factors. Complications of treatment are different and often not well reported. Long-term outcome is similar in the few studies available and one may conclude that the two treatments produce the same good success in controlling early disease.Radical prostatectomy is an effective treatment for patients with clinically localized prostate cancer and is associated with a very low level of mortality. However, many men with untreated clinically localized prostate cancer do not die from the disease and, following radical prostatectomy, some patients will suffer from a loss of potency and/or incontinence. A major challenge faced by the clinician is to identify the individual patient who will benefit from radical prostatectomy. In this review, we discuss the natural history of clinically localized prostate cancer and the factors likely to affect the treatment decision for an individual patient. Recent studies by other investigators and ourselves have revealed that the T1/T2 tumour is heterogeneous with respect to pathological stage and outcome, and that the quantity of Gleason grade 4/5 tumour is a significant prognostic factor predicting lymph node progression and capsular penetration. Classification and Regression Trees (CART) analysis including such preoperative parameters can be used to predict the probability of an individual patient having a pT2 tumour and, therefore, whether he could have a nerve-sparing radical prostatectomy - a procedure which offers better outcomes in terms of potency and continence.In 2011, 11,428 men were diagnosed with prostate cancer in the Netherlands and 2,500 men died from the disease. Since the introduction of the prostate specific antigen (PSA) measurements, few men have metastatic disease at the time diagnosis. More than half of prostate cancer patients are currently being diagnosed with low-volume localised prostate cancer. This raises the question whether all of these men should be treated, especially when prostate cancer-specific mortality is low compared to overall mortality even in men without known comorbidity at the time of diagnosis. In recent series of such 'healthy' men treated for localised prostate cancer, the overall mortality exceeded prostate cancer mortality four to five-fold. Both tumour-related factors and general health status affect the outcome of prostate cancer treatment. In 'healthy' men with a low-volume, low-risk tumour, initial active surveillance is preferred above actual treatment. The small chance of progression and the possibility of curative treatment at the time of progression should be communicated to the patient. In men with an intermediate- or high-risk tumour, active treatment is preferred and depends on age and life expectancy.Management of patients with low socioeconomic status and/or low literacy who have prostate cancer presents a challenge to healthcare professionals. Improving treatment outcomes for these men requires specific educational programs to provide a better understanding of prostate cancer including careful posttreatment follow-up to ensure they have recovered well, that the cancer is not progressing and that complications are not proving troublesome. Practice nurses and health educators/navigators can play an important role in achieving these objectives. Education and knowledgeable advice can lead to earlier diagnosis of prostate cancer, improved patient participation in the treatment decision-making process and effective management of posttreatment complications.Purpose: The impact of prostate cancer radiotherapy on the biological behavior of bladder cancer remains unclear. We compared the outcomes of patients with bladder cancer previously treated for prostate cancer with radiotherapy vs other treatment modalities.A 65-year-old man presents to the emergency department with increasing back pain. His history includes hypertension, peripheral neuropathy, duodenal ulcer, superior mesenteric vein thrombus, stage IIB colon cancer treated with surgery and adjuvant chemotherapy, renal cell carcinoma treated with surgery, and prostate cancer treated with surgery and radiation. He is otherwise healthy. His family history is positive for colon cancer. Physical examination found significantly elevated blood pressure and a computed tomography scan of the thoracic and lumbar spine was performed, with findings of a type B aortic dissection extending from the aberrant right subclavian artery down to the abdominal aorta. .Detection and diagnosis of prostate cancer has challenged researchers and clinicians for several years, particularly with the increase of its incidence. With the advent of optimal treatments for each patient, diagnosis and prognostic tools arouse more and more interest. Effectively, it becomes necessary to assess even better the aggressiveness of the tumour in order to choose the most appropriate treatment and, thus to make a correlation between the phenotype and the genotype. The biological screening relies on PSA alone currently but should know another era soon with the advent of new markers, such as urinary gene PCA3, usefull for patients with previous negative biopsies. The techniques of biopsies and medical imaging are also going through multiple changes and evolutions that are about to increase their reliability. The optimization of MRI allows more precise diagnosis of local invasion and is usefull to optimize. Finally, the emergence of biological prognostic markers, such as endothelin or semaphorin 3A, whose expressions differ according to the type of cancer, should help to predict disease's gravity and outcome. The comprehension and the understanding of carcinogenesis

pathways leads to new perspectives for targeted and earlier cancer therapies.Importance: The diagnostic activity for prostate cancer has increased during the past decades. However, the benefit and harm of the increased diagnostic activity have not been quantified in detail for a country or a large region.Prostate cancer has a wide spectrum of biological aggressiveness, and where an individual tumor lies within this spectrum can be difficult to characterize at diagnosis. The degree of tumor vascularization in prostate cancer correlates with disease progression and, thus, markers of angiogenesis are potential indicators of clinical outcome. Identification of improved prognostic markers would have a substantial effect on patient outcomes. Such markers would also be invaluable in assessments of the effectiveness of experimental chemotherapeutic regimens and antiangiogenic drugs that are currently under investigation. Bone-marrow-derived circulating endothelial progenitors (CEPs) and circulating endothelial cells (CECs) play an integral part in neovascularization and their levels in the circulation correlate with disease progression and therapeutic response in various settings. Although CECs and CEPs are yet to be thoroughly investigated in prostate cancer, the evidence suggests that these markers may be of use in the prostate-cancer setting. We review current understanding of the contributions of CEPs and CECs to tumor progression, and discuss their potential as prognostic markers.Transrectal ultrasonography has defined a new category of stage A disease, namely nonpalpable lesions diagnosed by needle biopsy. How this type relates to classic stage A disease is unclear. Stage A1 carcinoma becomes clinically significant only in a distinct minority of patients, and even in this group, progression does not necessarily mean significant morbidity or death from prostate cancer. An aggressive approach is not justified. In contrast, stage A2 cancer is usually virulent, and aggressive therapy with curative intent is justified in patients of appropriate age and health. Both radical prostatectomy and external irradiation appear to provide long-term survival rates superior to those obtained with observation alone, but nearly 20% of these patients will die of cancer despite therapy. Unfortunately, forecasting the outcome in an individual case is still not possible, and efforts to identify prognostic features must continue. In the meantime, emotional arguments in favor of the treatment of all discovered cancers must be suppressed by an informed and objective understanding of the natural history of nonpalpable prostate cancer and the potential impact of treatment.Treatment of clinically localized prostate cancer has been termed a model of "preference-sensitive" health care. Because there is no documented consensus supporting any one of the primary treatment modalities-surgery, external beam radiation, and brachytherapy-over the others, patient and physician preferences can significantly influence treatment approach. This can lead to substantial variation in treatment practices at the level of individual hospitals. In this context, it is informative for individual hospitals, especially small community hospitals that lack substantial quality assurance resources, to compare their prostate cancer care to that provided by cohort groups of hospitals. This study compares prostate cancer treatment modalities at Falmouth Hospital (FH), a 95-bed community hospital located in Falmouth, Massachusetts, to those at hospitals in 3 cohort groups: 1) US hospitals of all types, 2) Massachusetts hospitals of all types, and 3) Massachusetts community hospitals. It also compares survival outcomes for FH prostate cancer patients to national averages. All data for these comparisons were obtained from the National Cancer Data Base (NCDB) Hospital Comparison Benchmark Reports and Survival Reports applications. This study's main finding is that FH performed markedly less surgery and more radiation, specifically brachytherapy, than the cohort groups of hospitals. This distribution of treatment modalities was not solely attributable to FH's older than average patient population. Studies similar to this one could be conducted by other community hospitals to inform quality assessment programs for prostate cancer care.Purpose: Previous studies have provided evidence of the high expression of lactate dehydrogenase (LDH) in multiple solid tumors; however, its prognostic relationship with metastatic prostate cancer (mPCa) remains controversial. We performed a meta-analysis to better understand the prognostic potential of LDH in mPCa.Exercise and physical activity have been linked to the prevention of certain types of cancer such as colon and breast. As prostate cancer is the most common malignancy diagnosed in the male population, there is obvious interest in determining a possible effect of exercise on disease prevention and improvement of disease-related outcomes. Thus far, data has been conflicting and there has been no clear determination of prostate cancer prevention through exercise. However, as prostate cancer treatment carries many side effects which may be bothersome and health-threatening, researchers have examined the effects of exercise training on reducing treatment-related complications and improving outcomes and quality of life (QOL). In this review, we discuss the impact of exercise on reducing side effects of prostate cancer treatment and improving cancer-specific and overall survival outcomes, as well as improving QOL in prostate cancer patients.Background: Radical prostatectomy is

a common surgical procedure performed to treat prostate cancer. Patient-reported outcomes after surgery include urinary incontinence, erectile dysfunction, decreased quality of life and psychological effects. Predictive tools to assess the likelihood of an individual experiencing various patient-reported outcomes have been developed to aid decision-making when selecting treatment.The role of local treatment in oligometastatic prostate cancer remains contentious. Treatment of the prostate in metastatic disease may confer benefit, but prospective data are lacking. With improvements in treatments, aggressive strategies directed at metastases have increasingly become of clinical interest. Current evidence suggests good local control can be achieved; however, further data are required to determine overall cancer outcomes. This article evaluates the evidence available and consider whether local treatment of oligometastatic disease is a feasible, safe, and a positive strategy in this disease cohort. Cure should not be expected, although prolonged disease and treatment-free survival may be observed.Objective: To examine temporal trends and current survival differences between M■ori and non-M■ori men with prostate cancer in New Zealand (NZ).Nomograms have been developed to predict prostate cancer (PCa) related outcomes. We report what has been achieved and what can be expected in 2007 and in the future. We reviewed the literature to provide guidelines in terms of criteria, limitations and clinical value of nomograms in 2007. Further, we report a set of recent PCa nomograms, where certain criteria are listed which were used to develop each nomogram. Our findings suggest a demand for an update of nomograms as well as head-to-head comparisons to determine the best-suited model in select fields of PCa outcomes. In 2007 and the future, an increasing number of nomograms will address important endpoints such as PSA recurrence, local and distant metastases, or androgen-independent PCa-specific survival. Our results suggest that nomograms represent valid risk stratification models to achieve most accurate predictions. In 2007 and the future, more specific and refined nomograms will be available which address relevant clinical end points. Moreover, novel markers in PCa outcomes will be quantified using the nomogram approach.Purpose: Prediction is central to the management of prostate cancer. Nomograms are devices that make predictions. We organized many nomograms for prostate cancer.The FDA's approval of docetaxel in 2004 created a clear mandate for clinical researchers to create new therapies effective for metastatic castrate-resistant prostate cancer (mCRPC) patients with progression post-docetaxel. In 2010, the first trial to prolong survival in this setting was announced using a cabazitaxel, a novel taxane. This therapeutic agent was specifically designed to have activity in model systems resistant to conventional taxanes. After phase I testing, with observation of clinically significant activity in patients with advanced cancers, cabazitaxel/prednisone was tested in a large phase III trial enrolling patients with mCRPC who had disease progression despite prior docetaxel therapy. This phase III trial TROPIC (Treatment of Hormone-Refractory Metastatic Prostate Cancer Previously Treated With a Taxotere-Containing Regimen), using mitoxantrone/prednisone as a control arm, demonstrated a significant improvement in survival (the primary endpoint). Both subset analyses and secondary endpoints (response rates and time to progression) were supportive of the survival findings. This trial was pivotal for the FDA's approval of the new drug application for cabazitaxel. This review focuses on both the pre-clinical and clinical development of cabazitaxel.The proportion of prostate cancer diagnosed at localized stages increased from 56.7% to 74. 0% between 1973 and 1993 ("stage migration"). A corresponding increase in the number of radical prostatectomies performed each year was also noted. Nomograms are mathematical algorithms derived from statistical models that are used to predict outcomes for an individual patient, or for groups of patients. In fact, careful pre-operative patient and tumor selection before radical prostatectomy is mandatory. Locally advanced prostate cancer is defined as tumor that has extended clinically beyond the prostatic capsule, with invasion of the pericapsular tissue, apex, bladder neck or seminal vescicle, but without lymph node involvement or distant metastasis. It is estimated that 12-15% of prostate cancer are stage T3. Overstaging or understaging of this cancer is common. Correct staging of clinical T3 disease is even more difficult and both overstaging pT2 and understaging pT4 or pN+ are common. The goals of treatment for T3 tumors are to cure the disease, prolong survival or metastasis-free survival and improve the quality of life. The authors reviewed the most important studies, investigated radical prostatectomy as monotherapy for locally advanced prostate cancer and the integration of surgery with hormonal treatment. The EAU guidelines on prostate cancer state that radical prostatectomy in locally advanced disease is an option for selected patients with small T3, PSA <20 ng/ml, Gleason score <8 and a life expectancy > 10 years. Ten to 15% of clinical T3 are overstaged as pT2. This may lead to the possibility of curing these patients with surgery as the monotherapy. The increased use of nomograms and increased knowledge of recognized prognostic factors could lead to the selection of a large number of patients, often with a long

life expectancy, who could benefit from surgical treatment.Purpose of review: Prostate cancer (PCa) remains a significant public health burden, with multiple points for decision-making at all stages of the disease. Given the amount and variety of data that may influence disease management, prediction models have been published to assist clinicians and patients in making decisions about the best next course of action at many disease states. We sought to review the most important studies related to PCa prediction models since 2016 and evaluate their impact upon the evolving field of risk modeling in PCa.Prostate cancer is a common cause of cancer-related morbidity and mortality in men. Prostate-specific antigen (PSA) measurement to screen for prostate cancer has been promoted as a way to reduce morbidity and mortality from prostate cancer. This paper examines the usefulness of PSA screening for asymptomatic prostate cancer, focusing on outcomes for all patients screened. The sensitivity and specificity of PSA testing for prostate cancer are low and have not been studied properly in asymptomatic men being screened for prostate cancer. PSA screening detects localized prostate cancer undetected by digital rectal examination in fewer than 1% of men screened. The effectiveness of early treatment of prostate cancer, compared with deferral of treatment until symptoms develop, is unproven, and good survival rates have been reported among patients who defer aggressive treatment. Complications of treating prostate cancer with radical prostatectomy or radiation treatment include death, impotence, urethral stricture, incontinence, and rectal injury. At the present time, there is insufficient evidence to support a policy of PSA screening, and its use should be discouraged until randomized controlled trials demonstrate benefit from PSA screening.Focal therapy (FT) may offer a promising treatment option in the field of low to intermediate risk localized prostate cancer. The aim of this concept is to combine minimal morbidity with cancer control as well as maintain the possibility of retreatment. Recent advances in MRI and targeted biopsy has improved the diagnostic pathway of prostate cancer and increased the interest in FT. However, before implementation of FT in routine clinical practice, several challenges are still to overcome including patient selection, treatment planning, post-therapy monitoring and definition of oncologic outcome surrogates. In this article, relevant questions regarding the key steps of FT are critically discussed and the main available energy modalities are analyzed taking into account their advantages and unmet needs.Background: To describe trajectories of health-related quality of life (QoL), life satisfaction, and psychological adjustment for men with prostate cancer over the medium to long term and identify predictors of poorer outcomes using growth mixture models.Purpose: This is a first report from The Bahamas of management and long-term outcomes in men with non-metastatic prostate cancer treated with radiotherapy, with or without androgen deprivation therapy, from 2004 to 2016.Radical/whole gland treatment for prostate cancer has significant side-effects. Therefore focal treatments such as cryotherapy have been used to treat localized lesions whilst aiming to provide adequate cancer control with minimal side-effects. We performed a systematic review of Pubmed/Medline and Cochrane databases' to yield 9 papers for primary focal prostate cryotherapy and 2 papers for focal salvage treatment (radio-recurrent). The results of 1582 primary patients showed biochemical disease-free survival between 71-93% at 9-70 months follow-up. Incontinence rates were 0-3.6% and ED 0-42%. Recto-urethral fistula occurred in only 2 patients. Salvage focal cryotherapy had biochemical disease-free survival of 50-68% at 3 years. ED occurred in 60-71%. Focal cryotherapy appears to be an effective treatment for primary localized prostate cancer and compares favorably to radical/whole gland treatments in medium-term oncological outcomes and side-effects. Although more studies are needed it is also effective for radio-recurrent cancer with a low complications rates.Prostate cancer is the most common male cancer and up to one fifth of diagnosed patients will die of their disease. Current prognostic variables including T-category (of the TNM staging), the absolute or kinetics of prostatic specific antigen (PSA) and the pathologic Gleason score (GS) are utilized to place men in low, intermediate and high-risk prostate cancer risk groupings. There is great heterogeneity within the non-indolent intermediate risk group with respect to clinical response. It is therefore imperative that further genetic and other prognostic factors be identified to better individualize treatment. Somatic alterations in prostate cancer. Herein, we review the potential for somatic alterations in tumor-associated genes (based on comparative genomic hybridization (CGH) in prostate cancers to be novel prognostic, and possibly predictive, factors for prostate cancer radiotherapy response. Intermediate risk prostate cancers show alterations in a number of genes thought to be involved in radiosensitivity, DNA repair, cell death and stem cell renewal. These include deletions at 21q (TMPRSS2: ERG), 13q (RB1), 10q (PTEN), 8p (NKX3.1), additions at 8q21 (containing c-Myc)) and haplo-insufficiency for p53, PARP1, ATM and DNA-PKcs. Conclusions. The use of high-resolution CGH for fine-mapping of deletions and amplifications in pre-radiotherapy prostate cancer biopsies is feasible.

Genetic alterations may delineate localized prostate cancer from systemic disease and be used as a predictive factor in that patients would be individually triaged to local (surgery versus radiotherapy) and/or adjuvant (adjuvant androgen ablation or post-operative radiotherapy) therapies in a prospective fashion to improve outcome. The knowledge of abnormal DNA repair pathways within in a given patient could allow for the judicious use of targeted agents (PARP/ATM inhibitors) as personalized medicine.Recurrent prostate cancer has a complex molecular etiology and a prolonged disease course. Although initially responsive to androgen ablation, many men eventually become castration resistant, develop skeletal metastases, and are palliatively treated with docetaxel-based chemotherapy, radiation therapy, bisphosphonates, and best supportive care. Given the modest success rates of the current standard of care, clinical trial enrollment is encouraged. Castration-resistant prostate cancer (CRPC) is a heterogeneous disease, both in clinical manifestations and outcomes, requiring an individualized approach to both patient care and trial design. Herein, we review surrogate markers of disease progression and treatment efficacy in advanced prostate cancer in light of recently published guidelines that have redefined eligibility, response criteria, and suitable endpoints in prostate cancer drug development. The guidelines have refined outcome measures to potentially better capture clinical benefit and the ability of novel targeted molecular and biologic agents to impact favorably on this disease. We consider prostate-specific antigen changes, circulating tumor cells, bone scan alterations, markers of bone metabolism (urinary N-telopeptide and bone-specific alkaline phosphatase), pain improvements, and progression-free survival. To illustrate the role and challenges of these potential biomarkers and endpoints in drug development, we discuss a class of novel molecularly targeted agents, the src kinase inhibitors. Given that there are currently no validated surrogate markers of overall survival for assessing early clinical benefit from systemic therapy in metastatic CRPC, incorporation of relevant biomarkers into all phases of clinical development is essential to accelerate drug development in this field.This investigation reports on the biochemical and clinical outcomes of a newly created pan-Canadian Prostate Cancer Risk Stratification (ProCaRS) database developed by the Genitourinary Radiation Oncologists of Canada (GUROC). GUROC ProCaRS template-compliant data on 7974 patients who underwent radiotherapy were received from 7 unique databases. Descriptive analysis, Cox proportional hazards, and Kaplan-Meier analyses were performed using American Society for Radiation Oncology (ASTRO) biochemical failure-free survival (BFFS), prostate cancer-specific survival, and overall survival. Multivariable modeling for the primary ASTRO BFFS end point showed that age, prostate-specific antigen, T stage, and Gleason score and components such as hormonal therapy, and radiation treatment (brachytherapy with better outcome than external-beam) were predictive of outcome. Kaplan-Meier analysis of the existing GUROC and new NCCN classification system both showed good separation of all clinical outcome curves. The construction of a pan-Canadian database has informed important prostate cancer radiotherapy outcomes and risk stratification.Purpose of review: The mainstays of the management of clinically localized prostate cancer have historically rested upon active surveillance, radiation therapy, or radical prostatectomy. Although both radiation and surgical treatment of localized prostate cancer can achieve excellent oncologic outcomes, the subsequent potential adverse effects of urinary stress incontinence and erectile dysfunction are unappealing to patients. This has led to investigational studies centered upon focal treatment of the cancerous lesion, with the aim to improve quality-of-life outcomes. In this review, we describe numerous novel modalities, including nanoparticle ablation and irreversible electroporation, which are being utilized for the focal treatment of clinically localized prostate cancer.The search for new therapeutics for the treatment of prostate cancer is ongoing with a focus on the balance between the harms and benefits of treatment. New therapies are being constantly developed to offer treatments similar to radical therapies, with limited side effects. Photodynamic therapy (PDT) is a promising strategy in delivering focal treatment in primary as well as post radiotherapy prostate cancer. PDT involves activation of a photosensitizer (PS) by appropriate wavelength of light, generating transient levels of reactive oxygen species (ROS). Several photosensitizers have been developed with a focus on treating prostate cancer like mTHPC, motexafin lutetium, padoporfin and so on. This article will review newly developed photosensitizers under clinical trials for the treatment of prostate cancer, along with the potential advantages and disadvantages in delivering focal therapy.Prostate cancer is a very complex disease, and the decision-making process requires the clinician to balance clinical benefits, life expectancy, comorbidities and potential treatment-related side effects. Accurate prediction of clinical outcomes may help in the difficult process of making decisions related to prostate cancer. In this review, we discuss attributes of predictive tools and systematically review those available for prostate cancer. Types of tools include probability

formulas, look-up and propensity scoring tables, risk-class stratification prediction tools, classification and regression tree analysis, nomograms and artificial neural networks. Criteria to evaluate tools include discrimination, calibration, generalizability, level of complexity, decision analysis and ability to account for competing risks and conditional probabilities. The available predictive tools and their features, with a focus on nomograms, are described. While some tools are well-calibrated, few have been externally validated or directly compared with other tools. In addition, the clinical consequences of applying predictive tools need thorough assessment. Nevertheless, predictive tools can facilitate medical decision-making by showing patients tailored predictions of their outcomes with various alternatives. Additionally, accurate tools may improve clinical trial design.High-risk prostate cancer (PCa) refers to a very heterogeneous subgroup of disease. Recent series have shown very promising results of radical prostatectomy (RP)-alone or part as a multimodality approach-in patients with high-risk PCa, with satisfactory survival curves even though biochemical recurrence rate was high. Adjuvant treatment (radiotherapy (RT) alone or combined with androgen deprivation) was necessary in 20 to 54 % of patients, notably in cases with positive surgical margins. As for functional outcomes, urinary continence was preserved in about 92 % of cases and overall potency in 60 %. When comparing RP versus RT as primary treatment for high-risk PCa, a recent meta-analysis found surgery to be associated with an improved cancer-specific mortality compared with RT. In selected high-risk PCa young patients, surgery appears to be a valid option. Patients should however be informed of the possibility of adjuvant treatment, as part of a multimodal approach.Purpose of review: We created an inventory of current predictive tools available for prostate cancer. This review may serve as an initial step toward a comprehensive reference guide for physicians to locate published nomograms that apply to the clinical decision in question. Using MEDLINE a literature search was performed on prostate cancer predictive tools from January 1966 to November 2007. We describe the patient populations to which they apply and the outcomes predicted, and record their individual characteristics.Context: Sipuleucel-T, an autologous antigen-presenting cell vaccine loaded with prostate acid phosphatase conjugated with granulocyte-macrophage colony-stimulating factor (GM-CSF), yielded a survival advantage in men with metastatic castration-resistant prostate cancer (mCRPC).Given its long natural history, prostate cancer has become an ideal model for the clinical and basic science study of neoplastic disease in distinct pathologic phases: tumor initiation, progression, invasion, and metastasis. Chronic or recurrent acute inflammation, a product of infectious agents or other sources, has potential promotional roles in each of these phases. Nonsteroidal anti-inflammatory drugs (NSAIDs), because of their ability to attenuate inflammation, as well as possibly direct anti-cancer properties associated with the inhibition of stromal cyclooxygenase-2, are potential candidates for clinical use in prostate cancer. Though epidemiologic evidence indicating a reduced risk of prostate cancer for NSAID users supports a chemoprotective benefit, observational assessment and clinical trials of these agents among large cohorts of prostate cancer patients are needed to determine their value in prostate cancer management.Prostate cancer is the second most common urological malignancy to be associated with paraneoplastic syndromes after renal cell carcinoma. These syndromes tend to occur in the setting of late stage and aggressive tumors with poor overall outcomes. Recognition of these syndromes is clinically important as it might lead to the detection of underlying malignancy and impact on the treatment options available. The literature features around 100 cases of paraneoplastic syndromes associated with prostate cancer and these include endocrine manifestations, neurological entities, dermatological conditions, and other syndromes. Over 70% of cases document the syndrome as the initial clinical manifestation of prostate cancer, while in just under 20% the syndrome was an initial sign of disease progression to the castrate-resistant state. The vast majority of cases involved advanced metastatic malignancy. The syndromes generally resolve upon institution of treatment for the underlying prostate cancer, but some syndromes require specific therapies. Some syndromes are associated with serum markers that are readily detectable and demonstration of these putative markers within prostate cancer tissue at an individual level would firmly link the paraneoplastic syndrome with its underlying prostatic malignancy. The causes of paraneoplastic syndromes in prostate cancer are incompletely understood, and further research into their biology might shed more light on the complex molecular mechanisms that underpin prostate cancer and its lethal potential.Surgical therapy is not only a therapeutic method but also an important procedure to provide useful information in determining a postoperative treatment strategy. Compared with postoperative cancer staging based on specimens obtained during surgery, more than 30% of cancers were inaccurately staged preoperatively, even when a current advanced diagnostic imaging technique was used. Compared with postoperative histological 30-40% of cancer staging were inaccurately staged based on a preoperative biopsy. These

misstaging cases pose a significantly important problem. Approximately 15% and 30% of clinical stage C prostate cancers have been rated as pT2 and pN(+), respectively. Patients with pT3 prostate cancer who underwent radical prostatectomy had 5-year and 10-year overall survival rates of 82% and 67%, respectively, which were comparable to those in patients with pT2 prostate cancer (82% and 67%, respectively). However, patients with prostate cancer rated as pT4 and pN(+) had very poor outcomes with 5-year overall survival rates of 42.4% and 32.6%, respectively. Therefore, even in patients with stage C prostate cancer, surgical therapy should be recommended if no infiltration of adjacent tissue has been noted and the operation is applicable; and an optimal postoperative therapeutic strategy should be selected based on the accurate pathological staging and histological grading using postoperative pathological specimens. Such approaches will prevent unnecessary hormone therapy in patients with pT2 prostate cancer and prevent missing optimal timing for radical cure, as well as allowing appropriate therapy to be selected for patients with pT4 and pN(+) prostate cancer, for whom prognosis may be poor.Clinical staging and histologic grading do not have sufficient predictive value to determine the response to therapy of any given prostate cancer. A review of the findings from the largest prospective study of patients with localized and locally advanced prostate cancer and from retrospective flow cytometric studies of specific disease stages suggests that DNA flow cytometry offers additional prognostic information for this disease. However, for the individual patient, this added information may have limited value, since approximately 15% of those with diploid disease will experience disease progression within 5 years as compared with half of those with nondiploid disease. We have found that ploidy does not predict length of survival once prostate cancer becomes disseminated, nor does it predict those who will benefit from receiving definitive radiation therapy for localized prostate cancer. On the other hand, for those who have persistent tumor, we have frequently found increased ploidy abnormalities in the tumor sampled after radiation therapy and are currently correlating this finding with clinical outcome. We have also found that DNA flow cytometry can be used to predict tumor volume. For larger, grade-matched diploid tumors, there are significant increases in the proliferation of both the tumor and the adjacent benign tissue, which we take to be evidence of "field effects" in this disease. An even more obvious manifestation of the same phenomenon is seen in the occurrence of aneuploidy in benign tissue near high-grade, large-volume prostate cancer. It is concluded that DNA flow cytometry has much to tell us about the natural history and biologic behavior of prostate cancer.Background: This study reviewed the published evidence as to how prostate cancer outcomes vary across geographical remoteness and area level disadvantage.Objective: The purpose of this article is to review the multiparametric magnetic resonance imaging (mMRI) of the prostate and MR-guided prostate biopsy, and their role in the evaluation and management of men with low-risk prostate cancer.Purpose: Prostate cancer is clinically and molecularly heterogeneous. We determined the prognosis of men with ERG-ETS fusions and SPINK1 over expression.Suppression of androgen levels in blood of stage D2 prostate cancer patients has been the prominent treatment for advanced prostate cancer. However, the duration of hormone sensitivity of prostate tumor is variable. The type of initial response to hormonal treatment, the length of response and patient's survival are in direct association with disease aggressiveness. Recently, an arithmetic formula expressing disease aggressivity was computed using pretreatment values of prostatic acid phosphatase (P.A.P.), alkaline phosphatase (A.P.), degree of tumor differentiation and number of bone metastases. This aggressiveness score was related to disease response and patients outcome receiving hormonal treatments. The use of an arithmetic formula to express disease aggressivity could result in a subdivision of the disease. The identification of the subgroup of stage D2 patients destined not to benefit from hormonal manipulation could change the strategies employed up until today for the treatment of advanced prostate cancer.The purpose of this article was to provide an overview of the morbidity and mortality of prostate cancer, QOL issues and the economic impact of the disease. We searched Medline (from 1990 onwards) for all studies dealing with prostate cancer epidemiology, treatment, screening and staging, and critically reviewed the most relevant articles, focusing on pharmacoeconomic issues. Prostate cancer is the most common cancer in men. In the US, new estimated cases of prostate cancer represented 14.8% of all new cancer cases for 2000, with estimated deaths from prostate cancer comprising 5.8% of all deaths from cancer. Current options for prostate cancer management include radical prostatectomy, cryosurgery, radiotherapy, hormone therapy and watchful waiting. Many of the long-term effects of treatment, such as urinary incontinence, impotence and radiation-induced proctitis, have a large impact on patients' quality of life and, in some patients, may offset the clinical benefits. Regulatory bodies and managed care organisations are assigning increasing importance to the evaluation of QOL benefits as an independent clinical endpoint and a

measure of patient satisfaction. Several screening programmes for early detection of prostate cancer, mostly based on prostate-specific antigen (PSA) measurement or digital rectal examination, have been proposed, but their routine implementation in all asymptomatic elderly men has been questioned. There is still no definite proof that patient outcomes are improved by extensive PSA screening. Furthermore, the total cost of a screening programme is difficult to define since it extends well beyond the initial test. Several instruments are used for QOL assessment in prostate cancer, some of which have been specifically developed for, or adapted to, patients with this disease, such as the Functional Assessment Cancer Therapy (FACT) tool, Prostate Cancer Treatment Outcome Questionnaire (PCTO-Q) and Prostate Cancer Specific Quality of Life Instrument (PROSQOLI). More than 50% of treatment costs for prostate cancer are accrued during the patient's last year of life, and total initial care costs decrease with increasing age. In the US, initial average inpatient costs were estimated at $US 2253, in 1995, for men aged > or =80 years, compared with $US 4540 for men aged 35-64 years. In recent years, treatments based on combined modalities (i.e. radiotherapy/prostatectomy plus hormonal therapies) have emerged. Although cost-effectiveness analyses of various treatment options have been attempted, the strength of their conclusions appears to be limited by the lack of homogeneous literature data on the effects of such interventions on survival and morbidity.Prostate cancer is a heterogeneous disease with disparate outcomes. Traditional clinical parameters are limited in their ability to differentiate between these cases, and there is uncertainty regarding management strategies. A number of novel biomarkers have emerged, but how best to use them at the point of care remains confusing. In the present review, we describe the most common novel biomarkers, their key supporting literature, and propose a meaningful algorithm for their use in clinical practice. To identify commercially available prostate cancer diagnostic tests, we carried out a PubMed literature search (through May 2016). Only English-language studies were included. We restricted our search to studies published within the past 10 years in order to focus our review on novel data. Secondary sources were also examined. We identified 12 novel biomarkers and categorized them into broad areas of clinical practice: (i) early diagnosis and screening; (ii) staging and primary treatment selection; (iii) post-treatment risk stratification; (iv) advanced disease prognosis and treatment response; and (v) emerging tests. Most validation studies rely on small retrospective cohorts and carry a high risk of bias; furthermore, most cohorts are restricted to Caucasians, with little to no representation of other geographic, racial or ethnic populations. Novel biomarkers for prostate cancer management, while potentially helpful, should not replace standard clinical information and physician judgment. They are currently best suited to serve as an adjunct to existing management tools. Clinicians should have a sound grasp of each biomarker-based test's indications and limitations.The objective of the study was to address some important questions related to prostate cancer treatments and survivorship. One of possibility to improve the survival probability of prostate cancer patients is to improve predictive strategies. Therefore in this article was created short-term multistep ahead predictive model for survival probability prediction of prostate cancer patients. Neuro-fuzzy model was used to select the most important inputs for the predictive model. As the inputs, current and time lagged variables were used. The results could be useful for simplification of predictive models to avoid multiple inputs.Treatment for high-risk prostate cancer(PCa)(cT3 PCa, Gleason score 8-10 or PSA>20 ng/mL)remains controversial. Radiotherapy with androgen deprivation therapy(ADT)is widely used for high-risk prostate cancer. However, there is a considerable overlap of outcomes among risk groups, suggesting that the so-called high-risk prostate cancer group consists of a heterogeneous population in terms of tumor biology. Actually, the over-staging of cT3a PCa is relatively frequent and occurs in 13-27%of cases. Thus, radical prostatectomy(RP)alone is a reasonable treatment option for selected patients with high-risk prostate cancer. RP can provide an excellent biochemical and clinical progression-free survival for these patients if they have a pathologically organ-confined disease, or their tumors are extirpated completely with a negative surgical margin. A thorough preoperative evaluation, including imaging study and the use of a nomogram, is mandatory for selecting candidates appropriate for RP. Our recent study indicates that a positive biopsy core percentage is a strong independent predictor of organ-confined disease in these high-risk patients. In cases of adverse tumor characteristics, such as positive surgical margin, extraprostatic extension and seminal vesicle invasion, the patient must be informed of the likelihood of a multimodal approach. The use of adjuvant radiotherapy may be reasonable after recuperation from surgery. Immediate ADT may be indicated for those with positive pelvic lymph node.Locally advanced prostate cancer is diagnosed in approximately one in four new cases of prostate cancer. The estimated disease-specific mortality rate resulting from monotherapy with either surgery or radiotherapy is a disappointing 75%. A multimodality treatment approach could offer

more promising results. In addition, several key factors related to surgical treatment of locally advanced prostate cancer may optimize the oncologic results and minimize patient morbidity. In this report, we summarize some of the anatomic features and technical concepts associated with the surgical management of this disease and review recently published results of the outcomes of surgery and neoadjuvant or adjuvant chemohormonal therapy for locally advanced prostate cancer.Prostate cancer is now the most commonly diagnosed solid tumor in American men, due in part to widespread screening and aggressive diagnostic practices. Prostate cancer autopsy studies show the uniquely high prevalence rates of small, indolent tumors in men dying of other causes. These findings have led to increased concern for the over detection and overtreatment of prostate cancer. Active surveillance for prostate cancer allows one to limit prostate cancer treatment with concomitant risks of treatment-related morbidity to the men who will benefit the most from aggressive therapies. Several tools have been developed in treated and surveyed men to assist physicians in selecting men with potentially indolent tumors amenable to active surveillance. Recent published results describe institutional experiences with active surveillance and delayed selective therapy for men with low-grade, early prostate cancer. Although median follow-up from these studies is relatively short, the outcomes appear favorable. Data from these reports provide information for selecting men for this approach, as well as for following them over time and determining triggers for further intervention. Ongoing clinical trials with watchful waiting and active surveillance for prostate cancer will ultimately provide improved evidence for managing early, localized disease.The identification of fusion genes provides new insights into the initial mechanisms of molecular events implicated in the prostate cancer tumorigenesis. The presence of TEMPRSS2-ETS fusion in up to half of all human prostate cancer makes it perhaps the most common genetic rearrangement in human epithelial tumors. Some data suggest that TMPRSS2-ERG fusion prostate cancers have a more aggressive phenotype, which may affect cancer progression and outcome in localized tumors treated with prostatectomy. This discovery should pave the way towards future targeted therapies.Prostate cancer is a leading cause of cancer deaths in men worldwide. Management of the disease has remained a great challenge and even more so is the aggressive advanced stage with castration-resistant behavior. The mechanisms and timing of development of castration-resistant prostate cancer are unclear and remain debatable. Progression to castration-resistant prostate cancer is undoubtedly multifactorial, with a number of molecular-genetic aberrations implicated. However, a key question that remains unanswered is: when in the evolution of prostate cancer do the changes that confer castration resistance occur? Earlier attempts to address this question led to two proposed models: the "adaptation" and the "clonal selection" models. Although the prevailing hypothesis is the adaptation model, there is recent evidence in favor of the clonal selection model. Clarification of the model development of castration-resistant prostate cancer might significantly alter our diagnostic and therapeutic strategies, and potentially lead to improved outcome of management of this daunting condition. Here we review existing knowledge and current research findings addressing the timing of events in the course of prostate cancer progression to castration-resistant prostate cancer.Newly diagnosed patients with prostate cancer have various treatment options, and a multidisciplinary prostate cancer clinic (MPCC) can present all options in a single setting. An MPCC was started in 2004 at the University of Texas M.D. Anderson Cancer Center, and 258 patients with prostate cancer were evaluated in its first year. The clinic expanded in 2006 and an oncology advanced practice nurse (APN) was recruited to address specific objectives. The APN role was used to implement a quality-of-life protocol, provide detailed patient education (including a treatment summary and care plan), and serve as a single point of contact as patients move toward a treatment decision. Formal evaluation of the MPCC showed that patients were satisfied with this approach to the complex decision-making process in prostate cancer.In men at high risk for prostate cancer, established clinical and pathological parameters provide only limited prognostic information. Here we analyzed a French cohort of 103 prostate cancer patients and developed a gene panel model predictive of outcome in this group of patients. The model comprised of a 15-gene TaqMan Low-Density Array (TLDA) card, with gene expressions compared to a standardized reference. The RQ value for each gene was calculated, and a scoring system was developed. Summing all the binary scores (0 or 1) corresponding to the 15 genes, a global score is obtained between 0 and 15. This global score can be compared to Gleason score (0 to 10) by recalculating it into a 0-10 scaled score. A scaled score ≥2 suggested that the patient is suffering from a prostate cancer, and a scaled score ≥7 flagged aggressive cancer. Statistical analyses demonstrated a strongly significant linear correlation (p=3.50E-08) between scaled score and Gleason score for this prostate cancer cohort (N=103). These results support the capacity of this designed 15 target gene TLDA card approach to predict outcome in

prostate cancer, opening up a new avenue for personalized medicine through future independent replication and applications for rapid identification of aggressive prostate cancer phenotypes for early intervention.Prostate cancer is diagnosed mostly in men over the age of 50 years, and has favorable 5-year survival rates due to early cancer detection and availability of curative surgical management. However, progression to metastasis and emergence of therapeutic resistance are responsible for the majority of prostate cancer mortalities. Recent advancement in sequencing technologies and computational capabilities have improved the ability to organize and analyze large data, thus enabling the identification of novel biomarkers for survival, metastatic progression and patient prognosis. Large-scale sequencing studies have also uncovered genetic and epigenetic signatures associated with prostate cancer molecular subtypes, supporting the development of personalized targeted-therapies. However, the current state of mainstream prostate cancer management does not take full advantage of the personalized diagnostic and treatment modalities available. This review focuses on interrogating biomarkers of prostate cancer progression, including gene signatures that correspond to the acquisition of tumor lethality and those of predictive and prognostic value in progression to advanced disease, and suggest how we can use our knowledge of biomarkers and molecular subtypes to improve patient treatment and survival outcomes.Stereotactic body radiotherapy, also known as stereotactic ablative body radiotherapy (SABR), is an emerging treatment option for lung, prostate, liver and other tumors. Key factors in SABR are delivery of a high-dose radiation per fraction, proper patient positioning and target localization. Our review details the various radiotherapy techniques, dose fractionation schedules and toxicities for prostate SABR. Ongoing Phase II/III SABR studies across various risk groups have been included. It also discusses the role of conscientious focal dose escalation of the dominant intraprostatic nodule, integrating multiparametric MRI into radiotherapy protocols and finally cost-effectiveness of SABR.Chemotherapy is the conventional treatment for castration-resistant prostate cancer (CRPC) which provides only modest benefits. In the last few years, immunotherapy has emerged as an exciting therapeutic modality for advanced prostate cancer. Several characteristics of prostate cancer make it an ideal target for immunotherapy, and FDA approved recently sipuleucel-T based on improvement in overall survival (OS) in patients with CRPC. Current trials investigate the role of various immunological approaches in the treatment of prostate cancer, as far as the clinical benefit they provide is concerned and also deal with the issue of the measurability of this benefit. Future studies will focus on the combination of immunotherapeutic agents with conventional treatments in an effort to optimize patient outcomes.Aims and objectives: The objective of this study was to explore the extent to which several antecedents explained the uncertainty of men who were undergoing the watchful waiting management option for prostate cancer.The management of localized prostate cancer in an otherwise healthy male is complex, evolving, and largely consists of three modalities: surgery, radiation, and active surveillance. In this review, we summarize contemporary data pertaining to active surveillance, a strategy in which patients with low-risk cancer characteristics undergo monitoring at regular intervals. Treatment is initiated following evidence of cancer features associated with a higher risk of progression. Multiple clinical experiences suggest active surveillance is a safe and appropriate strategy for select patients. Most definitions of low-risk cancer include a variable combination of: prostate-specific antigen (PSA) < or =10 ng/mL, clinical stage T1-T2a, biopsy Gleason score < or =6, and three or fewer positive biopsy cores. Although older patients or those with signficant competing medical risks typically are not treated with surgery or radiation, active surveillance should also be considered and explained to well-selected healthy patients otherwise considering primary therapy. Due to significant concerns about clinical understaging, eligible patients should consider a repeat biopsy prior to selecting active surveillance. Short- to intermediate-term follow-up suggests active surveillance is associated with favorable overall outcomes, including for those undergoing delayed treatment, and has a relatively low risk of leading to incurable prostate cancer.Purpose of review: We reviewed the literature to determine what role, if any, radical prostatectomy should play in the treatment of high-risk and/or node-positive prostate cancer.Prostate cancer is the fifth leading cause of death worldwide. A variety of treatment options is available for localized prostate cancer and may range from active surveillance to focal therapy or whole gland treatment, that is, surgery or radiotherapy. Serum prostate-specific antigen levels are an important tool to monitor treatment success after whole gland treatment, unfortunately prostate-specific antigen is unreliable after focal therapy. Multiparametric magnetic resonance imaging of the prostate is rapidly gaining field in the management of prostate cancer and may play a crucial role in the evaluation of recurrent prostate cancer. This article will focus on postprocedural magnetic resonance imaging after different forms of local therapy in patients with prostate cancer.Objective: To evaluate the clinical

characteristics and outcomes of patients with Gleason score 10 prostate cancer treated by external radiotherapy and hormone therapy.Purpose: Prostate cancer is the most commonly diagnosed cancer in men. However, only about 12% of the men diagnosed with prostate cancer will die of their disease.Purpose: In recent years there has been increased interest in adjuvant therapy for prostate cancer. This trend has engendered a tendency toward overlooking the issue of therapy to the primary tumor in advanced disease. We reviewed the effect of treating the principal disease bulk on overall treatment outcome in patients with advanced and metastatic cancer. Specifically we evaluated the role of surgical tumor cytoreduction.We assessed the longitudinal alteration of the quality of life (QOL) of patients with localized prostate cancer after radical prostatectomy or hormonoradiotherapy during 3-y follow-up. In addition, we examined the impact on QOL of initiation of second treatment after failure of primary treatment. In all, 135 patients with localized prostate cancer who underwent radical retropubic prostatectomy (RP) (N=84) or external beam radiotherapy with neoadjuvant hormone (XRT) (N=51) at our institute and who had a minimum follow-up of 3 y were included in this study. Data were collected prospectively, at baseline, at 3 months after treatment, at 1 y, and annually thereafter. QOL, generic and disease-targeted was evaluated using the European Organization for Research and Treatment of Cancer Prostate Cancer QOL Questionnaire, the Sapporo Medical University Sexual Function Questionnaire, the International Prostate Symptom Index Quality of Life Score and similar questions regarding bowel function. Repeated-measures ANOVA revealed significantly different patterns of alteration in the domains of QOL, with the exception of several domains, between the RP and XRT groups. Rapid decline of sexual function and increase in sexual bothersomeness were followed by slight amelioration throughout follow-up in the RP group, and did not change thereafter in the XRT group. Overall satisfaction with urinary condition significantly improved after treatment and that with bowel condition was stable during follow-up in both of the groups. Failure of primary treatment and initiation of salvage treatment had no impact on QOL. This prospective study revealed longitudinal alteration of QOL status of patients undergoing treatment for localized prostate cancer, but did not yield any conclusions regarding effect of treatment failure and second treatment on QOL due to small sample size. It should be noted that different instruments for assessment of QOL can generate different outcomes.Purpose: We report oncologic outcomes for men with Grade Group 1 prostate cancer managed with active surveillance at a tertiary cancer center.Given the lack of unequivocal survival data clearly favoring one treatment over another for localized prostate cancer, patients strongly consider quality-of-life effects when choosing treatment for this common malignancy. In the past 15 years, a sizeable body of literature assessing health-related quality-of-life (HRQOL) outcomes in localized prostate cancer has emerged. The goal of this article is to review the quality-of-life experience after treatment for localized prostate cancer. Specifically, I will briefly discuss how quality of life is measured and then review the quality of life effects of each of the commonly used treatment strategies in localized prostate cancer. Finally, I attempt to directly compare the quality-of-life effects of the various treatments to assist clinicians in advising patients with newly diagnosed localized prostate cancer.Purpose: Gleason 6 (3+3) is the most commonly diagnosed prostate cancer among men with prostate specific antigen screening, the most histologically well differentiated and is associated with the most favorable prognosis. Despite its prevalence, considerable debate exists regarding the genetic features, clinical significance, natural history, metastatic potential and optimal management.Background: The clinical outcome for the individual prostate cancer patient is often difficult to predict, due to lack of reliable independent prognostic biomarkers. We tested DNA ploidy as a prognostic factor for clinical outcome in 186 patients treated with radical prostatectomy.Background: Prostate cancer (PCa) is the most common sex-related malignancy with high mortality in men worldwide. Prostate-specific membrane antigen (PSMA) is overexpressed on the surface of most prostate tumor cells and considered a valuable target for both diagnosis and therapy of prostate cancer. A series of radiolabeled agents have been developed based on the featured PSMA ligands in the previous decade and have demonstrated promising outcomes in clinical research of primary and recurrent PCa. Furthermore, the inspiring response and safety of lutetium-177-PSMA-617 (177Lu-PSMA-617) radiotherapy represent the potential for expanded therapeutic options for metastatic castration-resistant PCa. Retrospective cohort studies have revealed that radiolabeled PSMA agents are the mainstays of the current success, especially in detecting prostate cancer with metastasis and biochemical recurrence.Background: The optimum treatment of prostate cancer recurrence following radiation therapy (RT) remains controversial due to the lack of long-term data.Purpose: Long-term data supporting the role of primary tumor resection in node positive prostate cancer are lacking. We evaluated the impact of adding radical retropubic prostatectomy to surgical castration on long-term oncologic outcomes in pathological node

positive prostate cancer.Context: Psychological counseling is a rarely discussed need for patients diagnosed with prostate cancer (PCa).Purpose of review: To review the available predictive and prognostic models addressing oncological outcomes in patients with bladder, kidney and prostate cancer.Purpose: Diabetes mellitus is associated with a decreased risk of prostate cancer. However, previous studies examining the associations between diabetes mellitus and prostate cancer prognosis have produced mixed results. Here, we aim to summarize the effect of diabetes mellitus on prostate cancer prognosis.Background: A new 5-tiered grading grouping system has recently been endorsed for reporting of prostate cancer (PCa) grade to better reflect escalating risk of progression and cancer death. While several validations of the new grade groupings have been undertaken, most have involved centralised pathological review by specialist urological pathologists.Prostate cancer is one of most common solid tumors in men and poses some of the most difficult problems in clinical research. Although many clinical research hypotheses in this condition have been explored using single center cases series and multi-center clinical trials, the results of these studies have often been equivocal, leaving many questions unanswered. Recently, investigators have utilized large, administrative datasets for prostate cancer research. These databases tend to include large numbers of patients from different geographic regions increasing their generalizability and statistical power. The goal of this report is to review lessons learnt about early prostate cancer using these data sources. In particular, we focus on the application of large, population-based datasets to address issues concerning the natural history of prostate cancer, the impact of race on outcomes in prostate cancer and the effectiveness of various treatments for localized disease. Information gathered from large, administrative databases will be helpful when counseling patients regarding their treatments options for localized prostate cancer and in identifying future directions for prostate cancer research.Breast cancer and prostate cancer are the two most common invasive cancers in women and men, respectively. Although these cancers arise in organs that are different in terms of anatomy and physiological function both organs require gonadal steroids for their development, and tumours that arise from them are typically hormone-dependent and have remarkable underlying biological similarities. Many of the recent advances in understanding the pathophysiology of breast and prostate cancers have paved the way for new treatment strategies. In this Opinion article we discuss some key issues common to breast and prostate cancer and how new insights into these cancers could improve patient outcomes.The increasing popularity of brachytherapy for treatment of early-stage prostate cancer requires oncology nurses to have a comprehensive knowledge of the disease, its treatment, and management of side effects. Because quality-of-life (QOL) issues have become an important consideration in treatment selection for many patients, oncology nurses must have a thorough understanding of these QOL issues and their management. Armed with knowledge about prostate brachytherapy and its effect on QOL, oncology nurses can offer accurate information and evidence-based symptom management techniques to patients undergoing brachytherapy for prostate cancer.Background: Active surveillance (AS) aims to allow men with favourable-risk, localised prostate cancer to avoid unnecessary treatment.Aim: In prostate cancer, fiducial marker image-guided radiotherapy (FMIGRT) allows correction of setup errors and interfraction physiological motion resulting in improved accuracy of target and sparing of at risk organs. We aim to report outcomes and toxicities observed in patients treated with dose escalation to 78Gy with FMIGRT in our center.The prostate specific antigen (PSA) has had an enormous impact on the diagnosis and management of prostate cancer. Use of the PSA has strikingly increased the diagnosis of prostate cancer since its introduction and widespread application in clinical practice. This article examines the assay characteristics of PSA, its utility in early detection of prostate cancer, and its use in facilitating treatment decisions.Accurate prognostication is a prerequisite for accurate therapeutics and management of prostate cancer because indolent tumors may require no intervention, whereas aggressive tumors lead to patient mortality. There is a critical need to define these subgroups of patients with prostate cancer differing in clinical outcome. Prognostic nomograms based on clinical data provide useful predictions of clinical states and outcomes, but they need further refinements to improve accuracy and universality. Genomic and proteomic analyses have provided many novel markers that may help define prognostic parameters based on the underlying biology of prostate cancer progression at the molecular level. These molecular markers are likely to augment traditional prognostic modalities by providing a set of molecularly defined and quantifiable variables. Encompassing the genome, transcriptome, and proteome of prostate cancer will likely provide "molecular signatures" that will bridge prognostication, prediction, and treatment in a single continuum.Objective: To review the data from a series of patients with localized prostate cancer managed with observation alone. When available, cancer-specific survival was analyzed. Predictive factors for disease outcome were reviewed.Objective:

Review of the comparative results of different treatment strategies (surgery, radiotherapy, ultrasound, surveillance) of prostate cancer, in which the main goal is the local control and the second target is the tolerance of the side effects of those treatments.Aims: A rise in the incidence of radiorecurrent prostate cancer is to be expected, since approximately one third of early prostate cancer cases are nowadays treated with a radiotherapy modality. One possibility in treating radiorecurrent prostate cancer is salvage prostatectomy. Our objective was to look into our own experience with salvage radical prostatectomy and to analyse outcome and morbidity.Men of African origin are disproportionately affected by prostate cancer: prostate cancer incidence is highest among men of African origin in the USA, prostate cancer mortality is highest among men of African origin in the Caribbean, and tumour stage and grade at diagnosis are highest among men in sub-Saharan Africa. Socioeconomic, educational, cultural, and genetic factors, as well as variations in care delivery and treatment selection, contribute to this cancer disparity. Emerging data on single-nucleotide-polymorphism patterns, epigenetic changes, and variations in fusion-gene products among men of African origin add to the understanding of genetic differences underlying this disease. On the diagnosis of prostate cancer, when all treatment options are available, men of African origin are more likely to choose radiation therapy or to receive no definitive treatment than white men. Among men of African origin undergoing surgery, increased rates of biochemical recurrence have been identified. Understanding differences in the cancer-survivorship experience and quality-of-life outcomes among men of African origin are critical to appropriately counsel patients and improve cultural sensitivity. Efforts to curtail prostate cancer screening will likely affect men of African origin disproportionately and widen the racial disparity of disease.This article evaluates the use of early hormonal therapy in patients with localised or locally advanced prostate cancer. In patients receiving radiotherapy, an overall survival benefit is proven for adjuvant goserelin ('Zoladex') in locally advanced disease. Adjuvant to radical prostatectomy, castration (goserelin or orchiectomy) has demonstrated an overall survival benefit in patients with lymph node metastases. Survival advantages have not yet been proven with nonsteroidal antiandrogens, but immediate or adjuvant bicalutamide ('Casodex') improves objective progression-free survival in patients with locally advanced disease, with certain quality-of-life advantages over castration.Background: Preferences (utilities) for health outcomes have an important role in decisions about prostate cancer screening and treatment. The responsiveness of utility instruments has not been evaluated.New technologies in prostate cancer are attempting to change the current prostate cancer pathway by aiming to reduce harms while maintaining the benefits associated with screening, diagnosis, and treatment. In this article, we discuss the optimal evaluation that new technologies should undergo to provide level 1 evidence typically required to change the practice. With this in mind, we focus on feasible and pragmatic trials that could be delivered in a timely fashion by many centers while retaining primary outcomes that focus on clinically meaningful outcomes.Objective: To ascertain the current level of understanding among older men about prostate cancer, including treatment options and their potential side effects.What's known on the subject? and What does the study add? Whole gland brachytherapy has been used to successfully treat prostate cancer but the protocol for focal therapy has not previously been established. The consensus findings provide guidance on patient selection for focal brachytherapy as well as recommendations for conducting therapy and patient follow-up. Low dose rate prostate brachytherapy is an effective treatment for localized prostate cancer. Recently, it has been considered for use in a focused manner whereby treatment is targeted only to areas of prostate cancer. The objective of focal brachytherapy is to provide effective cancer control for low-risk disease but with reduced genitourinary and rectal side-effects in a cost-effective way. We report on the outputs of a consensus meeting of international experts in brachytherapy and focal therapy convened to consider the feasibility and potential development of focal brachytherapy. A number of factors were considered for focal brachytherapy including optimal patient selection, disease characterization and localization, treatment protocols and outcome measures. The consensus meeting also addressed the design of a clinical trial that would assess the oncological outcomes and side-effect profiles resulting from focal brachytherapy.Background: The optimal hormone treatment strategy in prostate cancer is uncertain, particularly in patients with metastatic disease. We aimed to compare the relative benefits and harms of intermittent androgen deprivation (IAD) to continuous androgen deprivation (CAD) in all stages of prostate cancer.Purpose: To evaluate the present human-based evidence that diet is related to the risk and outcome of prostate cancer.Objectives: To investigate the value of contrast-enhanced transrectal ultrasound (CETRUS) in predicting the nature of prostate diseases and prostate cancer Gleason score.Purpose/objectives: To compare the quality-of-life (QOL) perceptions of men treated for prostate cancer with surgery to those of men treated for prostate cancer with radiation therapy.External

beam radiotherapy (RT) has been used as a curative treatment of prostate cancer for more than 5 decades, with the "modern" era emerging more than 3 decades ago. Its history is marked by gradual improvements punctuated by several quantum leaps that are increasingly driven by advancements in the computer and imaging sciences and by its integration with complementary forms of treatment. Consequently, the contemporary use of external beam RT barely resembles its earliest form, and this must be appreciated in the context of current patient care. The influence of predictive factors on the use and outcomes of external beam RT is presented, as is a selected review of the methods and outcomes of external beam RT as a single therapeutic intervention, in association with androgen suppression, or as a postoperative adjunct. Thus, the "state of the (radiotherapeutic) art" is presented to enhance the understanding of this treatment approach with the hope that this information will serve as a useful resource to physicians as they care for patients with prostate cancer.The deficiencies of serum PSA as a prostate-cancer-specific diagnostic test are well recognized. Thus, the development of novel biomarkers for prostate cancer detection remains an important and exciting challenge. Noninvasive urine-based tests are particularly attractive candidates for large-scale screening protocols, and biomarker discovery programs using urine samples have emerged for detecting and predicting aggressiveness of prostate cancer. Some new biomarkers already outperform serum PSA in the diagnosis of this disease. Currently, the PCA3 (prostate cancer antigen 3) urine test is probably the best adjunct to serum PSA for predicting biopsy outcome, and has proven its clinical relevance by surpassing the predictive abilities of traditional serum biomarkers. New research methods are also emerging, and high-throughput technologies will facilitate high-dimensional biomarker discovery. Future approaches will probably integrate proteomic, transcriptomic and multiplex approaches to detect novel biomarkers, and aim to identify combinations of multiple biomarkers to optimize the detection of prostate cancer. In addition, an unmet need remains for markers that differentiate indolent from aggressive cancers, to better inform treatment decisions.The landscape of treatment for metastatic castration-resistant prostate cancer has rapidly evolved during the last 5 years alone. In this review, standard therapies as well as recent advances in the systemic treatment for prostate cancer are explored. Pivotal trial data are summarized with emphasis on indications for various anti-androgen drugs, androgen-biosynthesis inhibitors, chemotherapy, immunotherapy and bone-targeted agents. The clinical, biochemical and radiographic outcomes for men with metastatic castration-resistant prostate cancer are improving with the establishment of several promising novel agents.In locally advanced prostate cancer with bladder invasion, frequently encountered problems such as bleeding, urinary retention, hydronephrosis, and pain create distress for the patients. Therefore patients' quality of life is disrupted and duration of hospitalization is prolonged. Relevant literature about accurate staging and treatment of locally advanced prostate cancer with bladder invasion was investigated. Locally advanced prostate cancer can present as a large-volume aggressive tumor extending beyond boundaries of prostate gland, and involving neighboring structures which can be involved as recurrence(s) following initial local therapy. Survival times of these patients can range between 5 and 8 years. Their common characteristics are adverse and severe local symptoms unfavorably affecting quality of life Control of local symptoms and their effective palliation are independent clinical targets influencing survival outcomes of these patients. The treatment outcomes of locally advanced prostate cancer into the bladder are currently debatable. Although in the current TNM classification, it is defined in T4a, we think that this may be categorized as a subgroup of T3 and thus encourage surgeons for the indication of radical surgeries (radical prostatectomy, radical cystoprostatectomy) in selected patient populations after discussing issues concerning consequences of the treatment alternatives, and expectations with the patients. Cystoprostatectomy followed by immediate androgen deprivation therapy may be a feasible option for selected patients with previously untreated prostate cancer involving the bladder neck because of excellent local control and long term survival.Improved medical therapy for HIV-positive patients has helped delay the progression of HIV to AIDS and reduce AIDS deaths. This dramatically prolonged survival has resulted in increased detection of non-AIDS-defining malignancies, such as prostate cancer, in people with HIV. Reported prostate cancer incidences in HIV-positive men compared with the general population vary in different studies; however, its incidence in the general population has generally increased over time, owing to the widespread use of PSA testing and increased life expectancy. In the highly active antiretroviral therapy (HAART) era, evidence indicates that PSA kinetics and prostate cancer behavior are similar in HIV-positive and HIV-negative patients. Current American Urological Association (AUA) guidelines recommend screening of all men aged >or=40 years with a life expectancy >10 years, and HIV-positive patients should be included in this recommendation. Treatment options for HIV-positive patients with prostate cancer should include

all those offered to the general population. Long-term treatment outcomes in HIV-positive patients remain uncertain; however, early results suggest response rates similar to those in HIV-negative patients.Sipuleucel-T is a therapeutic cancer vaccine that has shown improved survival in men with metastatic castration-resistant prostate cancer. As a first-in-class agent, it has been met with both fan-fare and controversy. A broad review of immune-based therapies may reveal the delayed clinical impact of sipuleucel-T to be a class effect. As new strategies of immune-based therapy are developed, their effects can be optimized through better understanding of how they affect disease differently from more standard therapeutics. Furthermore, combination therapy with agents that can either work synergistically with immune-activating therapies or deplete immune-regulating cells may result in more vigorous immune responses and improved clinical outcomes. In addition, therapeutic vaccines may be ideal candidates to safely combine with standard-of-care therapies because of their nonoverlapping toxicity profile. The ultimate role of immunotherapy may not be to supplant standard therapies, but rather to work in concert with them to maximize clinical benefit for patients.Purpose: The outcome of patients with advanced prostate cancer undergoing palliative transurethral resection of the prostate (TURP) is not well defined in the literature. We determined the preoperative characteristics, operative morbidity and postoperative outcomes of patients with advanced prostate cancer undergoing palliative TURP and compared these outcomes to those of patients undergoing TURP for benign prostatic hyperplasia (BPH).Purpose: We report local control outcomes, as assessed by posttreatment biopsies in patients who underwent 3-dimensional conformal radiotherapy for clinically localized prostate cancer. In addition, we report the influence of local tumor control on long-term distant metastases and cause specific survival outcomes.While focal therapy (FT) is increasingly endorsed for treating localized prostate cancer in the appropriately selected patient, management of recurrences following FT is not well-established in the literature. This case series describes three patients who received high-intensity focal ultrasound (HIFU) for primary treatment followed by focal laser interstitial thermal therapy (FLTT) for salvage therapy treated in the context of an ongoing clinical trial. Evaluation of these reported patients demonstrates that FLTT is feasible in the salvage setting with promising short-term oncologic outcomes and with the potential to preserve functional outcomes. Repeat focal therapy for previous failures is feasible however, it requires sophisticated imaging modalities for the accurate identification of recurrence and treatment of the tumor.Purpose: Despite established evidence for using patient decision aids, use with newly diagnosed patients with prostate cancer remains limited partly due to variability in aid characteristics. We systematically reviewed decision aids for newly diagnosed patients with prostate cancer.Biochemically recurrent prostate cancer is an increasingly common disease state, with more than 25,000 cases occurring annually in the United States. Fortunately, progress continues to be made to more effectively identify metastatic disease, optimize existing therapies, and develop new technologies and therapeutic strategies for the timing and delivery of systemic treatments to improve outcomes. This review covers three topics related to the diagnosis and treatment of men with biochemical recurrence (BCR). First, we provide an update on the state of the rapidly evolving field of molecular imaging and its place in practice. Second, we describe validated clinicopathologic methods to risk stratify patients with biochemically recurrent disease, including new gene expression classifiers, to personalize postoperative radiotherapy (RT) timing. Last, we define our approach to optimal management with systemic therapy, including identifying the patients who may benefit most and balancing the duration and timing of treatment with consideration of the effect of therapy on quality of life (QOL) and medical complications associated with treatment.Stage migration has led to an increased incidence of localized and low-risk prostate cancer. Intermediate-term data are emerging on the efficacy of cryotherapy, but direct comparison to other therapeutic modalities is difficult as the parameters for recurrence are not well defined. Studies using the American Society for Therapeutic Radiation and Oncology and the Phoenix (nadir plus 2) criteria for biochemical recurrence show that primary cryotherapy appears to be comparable for low-risk prostate cancer as other treatment modalities. In addition, health-related quality-of-life measures have improved with the most recent third-generation systems demonstrating low incontinence and urethrorectal fistula rates. Erectile dysfunction is high with whole gland ablation, but focal therapy may reduce these rates while still ablating unilateral cancerous tissue. Prostate cryotherapy for localized prostate cancer is an evolving but viable therapeutic option. Long-term data are still needed to establish a definitive role for cryosurgery in prostate cancer treatment.The evolution of taxanes as treatment for androgen-independent prostate cancer hes emerged from both the laboratory and clinic. Docetaxel is a potent in vitro inhibitor of Bcl-2, an antiapoptotic gene. Phase I and II studies with docetaxel alone or in combination with estramustine demonstrated promissing median survivals of 14--23 months, higher

than what would have been expected for historic controls. Two randomized trials have proven the superiority of docetaxel based treatment in improving survival in men with androgen-independent prostate cancer. SWOG 99-16 and TAX 327 found that docetaxel-based therapy reduced the risk of death by 20--24% when compared to mitoxantrone-based therapy. Future trials will build on docetaxel-based combinations with novel targeted agents.Purpose of review: Surgery for high-risk prostate cancer (PCa) is applied frequently nowadays. Nevertheless, this approach is still surrounded by many controversies. The present review discusses the most recent literature regarding surgery for high-risk PCa.Adjuvant hormonal therapy has been demonstrated to be able to delay disease progression in nonmetastatic prostate cancer. To date, however, a favorable impact on survival has only been demonstrated in lymph-node-positive disease and in external-beam radiotherapy series with locally advanced and probably mainly micrometastatic tumors. The Bicalutamide Early Prostate Cancer Program is the largest study under way to define the role of adjuvant treatment in early prostate cancer and identify subgroups of patients likely to benefit from immediate hormonal therapy. At the time of the most recently published analysis, the risk of objective clinical progression was significantly reduced in the bicalutamide arm (hazards ratio 0.58, 95% confidence interval 0.51-0.66, $p < 0.0001$). However, further maturation of data is needed to see whether this difference will lead to a survival advantage.Background: Prostate cancer (PCa) represents a common disease in men aged >65 years. The role of physical activity (PA) in patients at risk or diagnosed with PCa represents an evolving issue. We aimed to summarize available evidences about the impact of PA on the pathophysiology and clinical outcomes of PCa. Methods: We performed a narrative review. Evidences about the role of PA in elderly patients in terms of PCa biology, epidemiology, oncological and functional outcomes, as well as in terms of impact on the outcomes of androgen deprivation therapy (ADT) were summarized. Results: Potential pathophysiological pathways hypothesized to explain the benefits of PA in terms of prostate carcinogenesis include circulating levels of Insulin-like growth factor-1 (IGF-1), oxidative stress, systemic inflammation, sex hormones, and myokines. Clinically, emerging evidences support the hypothesis that PA is associated with decreased PCa risk, improved PCa-related survival, improved functional outcomes, and reduced ADT-related adverse events.Objectives: This paper aims to determine whether racial disparities exist in hospitalization outcomes among African-American and White hospitalized prostate cancer patients in the United States. We evaluated racial differences among matched groups of patients in post-operative complications, hospital length of stay and in-hospital mortality.Introduction: Prostate cancer is a common health problem in men worldwide. This systematic review has been undertaken to determine if there are differences in incidence of and mortality from prostate cancer between rural and urban men. The understanding of geographical patterns of prostate cancer incidence and mortality is necessary in order to identify and assess any disparities between rural and urban residents in gaining access to healthcare services, such as screening, diagnosis and treatment.Background: This study was performed to evaluate the efficacy of radical prostatectomy for men with clinically localized, poorly differentiated (Gleason score > or = 7) prostate cancer and to characterize further the prognostic significance of traditional pathologic variables. The effectiveness of adjuvant radiotherapy was assessed in a subpopulation of men for whom the pathologic assessment suggested a high risk of persistent disease.Prostate tumors are among the most heterogeneous of cancers, both histologically and clinically. Microarray expression analysis was used to determine whether global biological differences underlie common pathological features of prostate cancer and to identify genes that might anticipate the clinical behavior of this disease. While no expression correlates of age, serum prostate specific antigen (PSA), and measures of local invasion were found, a set of genes was identified that strongly correlated with the state of tumor differentiation as measured by Gleason score. Moreover, a model using gene expression data alone accurately predicted patient outcome following prostatectomy. These results support the notion that the clinical behavior of prostate cancer is linked to underlying gene expression differences that are detectable at the time of diagnosis.Background: A 5-tier prognostic grade group (GG) system was enacted to simplify the risk stratification of patients with prostate cancer in which Gleason scores of ≤6, 3 + 4, 4 + 3, 8, and 9 or 10 are considered GG 1 through 5, respectively. The authors investigated the utility of biopsy GG for predicting long-term oncologic outcomes after radical prostatectomy in an equal-access health system.Previous reports have claimed that transurethral resection of the prostate (TURP) preceding definitive radiation therapy for patients with Stage C prostate cancer promotes the risk of distant metastasis and increases the mortality rate. A total of 490 patients with pathologic Stage C adenocarcinoma of the prostate treated by radical prostatectomy were studied. Median time to follow-up was 4.6 years. Comparison was made between patients who had TURP within the six months

preceding prostatectomy (n = 54) and those who had needle biopsy (n = 437) prior to operation. No significant differences were noted in local recurrence of disease, systemic progression of disease, disease-free interval, and overall and cause-specific survival, even after adjustment for clinical (adjuvant treatment) and pathologic prognostic variables. Our data suggest that for patients with pathologic Stage C prostate cancer treated by radical surgery, preoperative TURP is not associated with unfavorable outcome.Purpose: To evaluate the diagnostic and staging ability of multiparametric MRI (mpMRI) compared to radical prostatectomy (RP) specimens after dissemination of this technology to several centres. mpMRI is an evolving technique aiming to improve upon the diagnostic sensitivity of prostate biopsy for the diagnosis of prostate cancer. Differences in interpretation, expertise and application of mpMRI are responsible for the range of reported results.Prostate cancer is the most common form of non-dermatological cancer among US men, with an increasing incidence due to the aging population. Patients diagnosed with clinically localized disease identified as intermediate or high-risk are often treated by radical prostatectomy. Approximately 33% of these patients will suffer recurrence after surgery. Identifying patients likely to experience recurrence after radical prostatectomy would lead to improved clinical outcomes, as these patients could receive adjuvant radiotherapy. Here, we report a new tool for prediction of prostate cancer recurrence based on the expression pattern of a small set of cooperation response genes (CRGs). CRGs are a group of genes downstream of cooperating oncogenic mutations previously identified in a colon cancer model that are critical to the cancer phenotype. We show that systemic dysregulation of CRGs is also found in prostate cancer, including a 4-gene signature (HBEGF, HOXC13, IGFBP2, and SATB1) capable of differentiating recurrent from non-recurrent prostate cancer. To develop a suitable diagnostic tool to predict disease outcomes in individual patients, multiple algorithms and data handling strategies were evaluated on a training set using leave-one-out cross-validation (LOOCV). The best-performing algorithm, when used in combination with a predictive nomogram based on clinical staging, predicted recurrent and non-recurrent disease outcomes in a blinded validation set with 83% accuracy, outperforming previous methods. Disease-free survival times between the cohort of prostate cancers predicted to recur and predicted not to recur differed significantly ($p = 1.38x10-6$). Therefore, this test allows us to accurately identify prostate cancer patients likely to experience future recurrent disease immediately following removal of the primary tumor.Background: To investigate the optimal treatment of locally advanced prostate cancer, a prospective randomized trial was conducted to compare radical prostatectomy plus endocrine therapy versus external beam radiotherapy plus endocrine therapy.Among diverse subject areas in the field of prostate cancer management, treatment-related sexual dysfunction complications persist today as a significant potential problem for all men receiving treatment for this disease. The conjecture that African-American men are disproportionately affected by this problem among ethnic groups is not trivial and warrants attention in view of the possibility that its risk profile, whether real or perceived, may influence clinical management decisions impacting survival outcomes in this high-prostate cancer-risk population. A literature review was performed to define the occurrence and significance of sexual dysfunction after prostate cancer treatment in African-American men, with an emphasis on clinically localized treatment. Data retrieved from population-based as well as single-center investigations are conflicting with regard to the extent and quality of life relevance of sexual dysfunction following prostate cancer treatments in African-American men, relative to that of ethnically different counterparts. Some reports suggest a relatively greater trend in African-American men than other ethnic groups toward obtaining clinical management for sexual dysfunction and experiencing psychosocial effects from it, lending additional support for the possibly greater effect of this problem in African-American men. Although further studies are needed to define sexual dysfunction after prostate cancer treatment and ascertain its bother and impact on quality of life in African-American men, survivorship care that encompasses sexual dysfunction management should proceed with appropriate attention given to cultural, educational, and psychosocial variables.Background: Few studies have measured longitudinal changes in health-related quality of life (HRQOL) among patients with prostate cancer starting before their cancer diagnosis or have provided simultaneous comparisons with a matched noncancer cohort. In the current study, the authors addressed these gaps by providing unique estimates of the effects of a cancer diagnosis on HRQOL accounting for the confounding effects of ageing and comorbidity.(Background) Radiation failure for localized prostate cancer is seen in 20-60% of patients who do not undergo extirpative surgery. Though potentially curative, salvage prostatectomy (SS) has not been frequently performed historically due to high rates of complications and postoperative incontinence. With the advent of robotic-assisted radical prostatectomy, these rates appear to be improved. Retzius-sparing approaches have additionally been shown to improve

continence outcomes in the index setting, and may further improve continence outcomes in salvage cases while maintaining oncologic integrity. (Methods) We performed a literature review and qualitative analysis of published papers on salvage Retzius-sparing robotic-assisted radical prostatectomy (SRS). Three studies met criteria and were included in analysis. (Results) There were more patients with Gleason Grade Group 1 disease after initial treatment in the SRS group vs. SS (22% vs. 8%). Patients most frequently underwent external beam radiation therapy in both groups (52% vs. 49%). 30-day complication rates were 10% and 26% for SRS and SS, respectively. Continence outcomes were significantly improved in SRS with 59% of continence (based on study criteria) compared to 38% in SS. Time to continence was similarly improved for SRS. Positive surgical margins and biochemical recurrence were not significantly different between SRS and SS in any study. (Conclusions) SRS is a safe and feasible option for salvage treatment of localized prostate cancer and may improve postoperative continence outcomes. Positive surgical margin and biochemical recurrence rates are similar to those reported in SS.Prostate cancer is the third most common cancer in Malaysia with the lifetime risk of 1 in 117 men. Here, we initiated a longitudinal Malaysia Prostate Cancer (M-CaP) Study to investigate the clinical and tumour characteristics, treatment patterns as well as disease outcomes of multi-ethnic Asian men at real-world setting. The M-CaP database consisted of 1839 new patients with prostate cancer diagnosed between 2016 and 2018 from nine public urology referral centres across Malaysia. Basic demographic and clinical parameters, tumour characteristics, primary treatment, follow-up and vital status data were retrieved prospectively from the hospital-based patients' case notes or electronic medical records. Primary endpoints were overall survival (OS) and biochemical progression-free survival (bPFS). The median age at diagnosis of M-CaP patients was 70 years (interquartile range, IQR 65-75). Majority of patients were Chinese (831, 45.2%), followed by Malays (704, 38.3%), Indians (124, 6.7%) and other races (181, 9.8%). The median follow-up for all patients was 23.5 months (IQR 15.9-33.6). Although 58.1% presented with late-stage cancer, we observed ethnic and geographic disparities in late-stage prostate cancer diagnosis. Curative radiotherapy and primary androgen deprivation therapy were the most common treatment for stage III and stage IV diseases, respectively. The median OS and bPFS of stage IV patients were 40.1 months and 19.2 months (95% CI 17.6-20.8), respectively. Late stage at presentation remains a challenge in multi-ethnic Asian men. Early detection is imperative to improve treatment outcome and survival of patients with prostate cancer.Since the first publication describing the identification of prostate-specific antigen (PSA) in the 1960s, much progress has been made. The PSA test changed from being initially a monitoring tool to being also used as a diagnostic tool. Over time, the test has been heavily debated due to its lack of sensitivity and specificity. However, up to now the PSA test is still the only biomarker for the detection and monitoring of prostate cancer. PSA-based screening for prostate cancer is associated with a high proportion of unnecessary testing and overdiagnosis with subsequent overtreatment. In the early years of screening for prostate cancer, high rates of uptake were very important. However, over time the opinion on PSA-based screening has shifted towards the notion of informed choice. Nowadays, it is thought to be unethical to screen men without them being aware of the pros and cons of PSA testing, as well as the fact that an informed choice is related to better patient outcomes. Now, as the results of three major screening studies have been presented and the downsides of screening are becoming better understood, informed choice is becoming more relevant.Inhibition of angiogenic pathways has proven an effective strategy for the treatment of several common solid tumors however its role in the management of prostate cancer is yet to be defined. Advances in clinical research have resulted in five new treatments for metastatic prostate cancer in the last two years. The immunotherapy sipuleucel-T, the cytotoxic cabazitaxel, the androgen biosynthesis inhibitor abiraterone acetate, the radioisotope radium-223 and the antiandrogen enzalutamide have all been shown to improve overall survival in randomized phase III studies treatment paradigms are changing rapidly. Angiogenesis is known to play a central role in the progression of advanced prostate cancer however established antiangiogenic therapies including bevacizumab and sunitinib have failed to improve survival in randomized trials to date. Novel treatment combinations and novel agents such as cabozantinib are showing promising early results and it is hoped that further well-designed studies will validate the strong biological hypothesis for the benefit of antiangiogenic therapy to improve outcomes for patients with prostate cancer.Background/aim: Androgen-androgen receptor (AR) signal is known as a powerful driver of prostate cancer progression. We previously reported the limitation of prostate-specific antigen (PSA) at diagnosis as a prognostic biomarker of prostate cancer. Although serum total testosterone (TT) level has been reported as a prognostic biomarker for prostate cancer, its usability is still controversial. We examined the potential and characteristics of TT as a

biomarker.Prostate cancer is a complex disease that affects millions of men globally, predominantly in high human development index regions. Patients with localized disease at a low to intermediate risk of recurrence generally have a favourable outcome of 99% overall survival for 10 years if the disease is detected and treated at an early stage. Key genetic alterations include fusions of TMPRSS2 with ETS family genes, amplification of the MYC oncogene, deletion and/or mutation of PTEN and TP53 and, in advanced disease, amplification and/or mutation of the androgen receptor (AR). Prostate cancer is usually diagnosed by prostate biopsy prompted by a blood test to measure prostate-specific antigen levels and/or digital rectal examination. Treatment for localized disease includes active surveillance, radical prostatectomy or ablative radiotherapy as curative approaches. Men whose disease relapses after prostatectomy are treated with salvage radiotherapy and/or androgen deprivation therapy (ADT) for local relapse, or with ADT combined with chemotherapy or novel androgen signalling-targeted agents for systemic relapse. Advanced prostate cancer often progresses despite androgen ablation and is then considered castration-resistant and incurable. Current treatment options include AR-targeted agents, chemotherapy, radionuclides and the poly(ADP-ribose) inhibitor olaparib. Current research aims to improve prostate cancer detection, management and outcomes, including understanding the fundamental biology at all stages of the disease.Background: Gleason scoring (GS) has major deficiencies and a novel system of five grade groups (GS■6; 3+4; 4+3; 8; ■9) has been recently agreed and included in the WHO 2016 classification. Although verified in radical prostatectomies using PSA relapse for outcome, it has not been validated using prostate cancer death as an outcome in biopsy series. There is debate whether an 'overall' or 'worst' GS in biopsies series should be used.Background: The role of radical prostatectomy (RP) is still controversial for locally advanced prostate cancer (PC). Radiotherapy (RT) and hormonal therapy (HT) are usually used as a primary treatment.Purpose: Current guidelines of the American Cancer Society and the National Comprehensive Cancer Network recommend offering annual prostate cancer screening with prostate specific antigen (PSA) and digital rectal examination (DRE) beginning at age 50 (age 45 in high risk men). There are limited data concerning outcomes if all men followed screening guidelines. We report early outcome data on men who entered a prostate cancer screening study, complied with the screening guidelines and were subsequently diagnosed with prostate cancer.BACKGROUND Early-onset prostate cancer patients (aged ≤55 years) from Western countries have been well characterized in previous studies. However, the clinicopathological and prognostic characteristics of early-onset Chinese prostate cancer patients have not yet been assessed. This study aimed to examine the clinicopathological and prognostic factors of prostate cancer patients aged ≤55 years in a single Chinese center. MATERIAL AND METHODS One hundred six prostate cancer patients aged ≤55 years with complete clinicopathological data who were treated at our hospital between January 2000 and June 2014 were selected for this study. Survival rate was investigated by Kaplan-Meier analysis, and prognostic factors were examined by univariate and multivariate analysis. RESULTS The median time from the onset of symptoms to diagnosis was 3.5 months (range, 2-55 months). The median time after endocrine therapy to development of androgen-independent prostate cancer was 10.5 months. A total of 54 patients died (50.9%), of whom 96.2% died from prostate cancer. The 1-, 3-, and 5-year overall survival rates were 88.7%, 66.2%, and 36.0%, respectively. Univariate and multivariate analysis showed that T staging, visceral metastasis, pathological pattern, and Gleason sum were independent prognostic factors in these patients. CONCLUSIONS Prostate cancer patients aged ≤55 years are often omitted or misdiagnosed in China. Furthermore, the pathology patterns in this age group were mostly complicated with a high degree of malignancy. Late staging, visceral metastasis, pathological pattern, and high Gleason score were independent prognostic factors in these patients. Comprehensive therapy combined with local therapy is an effective treatment strategy.What's known on the subject? and What does the study add? Very few comparative studies to date evaluate the results of treatment options for prostate cancer using the most sensitive measurement tools. PSA has been identified as the most sensitive tool for measuring treatment effectiveness. To date, comprehensive unbiased reviews of all the current literature are limited for prostate cancer. This is the first large scale comprehensive review of the literature comparing risk stratified patients by treatment option and with long-term follow-up. The results of the studies are weighted, respecting the impact of larger studies on overall results. The study identified a lack of uniformity in reporting results amongst institutions and centres. A large number of studies have been conducted on the primary therapy of prostate cancer but very few randomized controlled trials have been conducted. The comparison of outcomes from individual studies involving surgery (radical prostatectomy or robotic radical prostatectomy), external beam radiation (EBRT) (conformal, intensity modulated radiotherapy,

protons), brachytherapy, cryotherapy or high intensity focused ultrasound remains problematic due to the non-uniformity of reporting results and the use of varied disease outcome endpoints. Technical advances in these treatments have also made long-term comparisons difficult. The Prostate Cancer Results Study Group was formed to evaluate the comparative effectiveness of prostate cancer treatments. This international group conducted a comprehensive literature review to identify all studies involving treatment of localized prostate cancer published during 2000-2010. Over 18,000 papers were identified and a further selection was made based on the following key criteria: minimum/median follow-up of 5 years; stratification into low-, intermediate- and high-risk groups; clinical and pathological staging; accepted standard definitions for prostate-specific antigen failure; minimum patient number of 100 in each risk group (50 for high-risk group). A statistical analysis (standard deviational ellipse) of the study outcomes suggested that, in terms of biochemical-free progression, brachytherapy provides superior outcome in patients with low-risk disease. For intermediate-risk disease, the combination of EBRT and brachytherapy appears equivalent to brachytherapy alone. For high-risk patients, combination therapies involving EBRT and brachytherapy plus or minus androgen deprivation therapy appear superior to more localized treatments such as seed implant alone, surgery alone or EBRT. It is anticipated that the study will assist physicians and patients in selecting treatment for men with newly diagnosed prostate cancer.This review examines selected areas of contemporary prostate cancer research in terms of the impact of prostatic cellular and histopathological heterogeneity. Prostate tumor progression is accompanied by dysregulation of multiple growth factor networks as well as disruption of normal patterns of cell-cell interactions. Molecular and cytogenetic studies demonstrate that prostate cancer results from the accumulation of several different genetic defects. No single event predominates, but modifications in tumor suppressor genes or functional elimination of the suppressor gene product are more common than activation of known oncogenes. Intratumor heterogeneity is also detectable at the genetic level. This further complicates efforts to correlate modifications at specific loci with progression or outcome. The development of new in vitro and in vivo systems for the study of human prostate cancer should increase our understanding of this complex disease. In each approach, knowledge of the histopathology of the normal and neoplastic prostate is essential.Background: The most appropriate management of incidental prostate cancers diagnosed at transurethral resection of prostate has been debated. It is important to determine the long-term outcomes to establish an appropriate management in patients with incidental prostate cancer.Objectives: To perform a population-based analysis to characterize the effect of prostate-specific antigen (PSA) testing on oncologic outcomes in men diagnosed with prostate cancer.Several genome-wide association studies (GWAS) have been conducted to identify the common single nucleotide polymorphisms (SNPs) that influence the risk of prostate cancer. It was hypothesized that some prostate cancer-associated SNPs might relate to the clinical outcomes in patients treated for prostate cancer using androgen-deprivation therapy (ADT). A cohort of 601 patients who have received ADT for prostate cancer was genotyped for 29 SNPs that have been associated with prostate cancer in Cancer Genetic Markers of Susceptibility GWAS, and within the genes that have been implicated in cancer. Prognostic significance of these SNPs on the disease progression, prostate cancer-specific mortality (PCSM) and all-cause mortality (ACM) after ADT were assessed by Kaplan-Meier analysis and Cox regression model. Three SNPs, namely CASP3 rs4862396, BMP5 rs3734444 and IRS2 rs7986346, were found to be closely associated with the ACM ($P \leq 0.042$), and BMP5 rs3734444 and IRS2 rs7986346 were also noted to be significantly related to the PCSM ($P \leq 0.032$) after adjusting for the known clinicopathologic predictors. Moreover, patients carrying a greater number of unfavorable genotypes at the loci of interest had a shorter time to ACM and PCSM during ADT (P for trend <0.001). Our results suggest that CASP3 rs4862396, BMP5 rs3734444 and IRS2 rs7986346 may affect the survival in patients after ADT for prostate cancer, and the analysis of these SNPs can help identify patients at higher risk of poor outcome.Aim: To investigate the outcomes for Asian populations with locally advanced/clinical stage III prostate cancer (PCa) treated with currently prevailing modalities.The oligometastatic state has been proposed as an intermediate stage of cancer spread between localized disease and widespread metastases. With improvements in diagnostic modalities such as functional imaging, oligometastatic prostate cancer is being diagnosed with greater frequency than ever before. Furthermore, the paradigm for treatment of advanced prostate cancers is shifting toward a more aggressive approach. Many questions surround the understanding of the process and consequences of oligometastasis, meaning that the contemporary literature offers a wide variety of definitions of oligometastatic prostate cancer. Until genomic data exist to provide a biological component to the definition of oligometastatic disease, a clinical diagnosis made on the basis of up to five extrapelvic lesions is reasonable for use.

Retrospective studies suggest that interventions such as radical prostatectomy and local or metastasis-directed radiotherapy can be performed in the metastatic setting with minimal risk of toxic effects. These therapies seem to decrease the need for subsequent palliative interventions, but insufficient data are available to draw reliable conclusions regarding their effect on survival. Thus, a protocol for clinicians to manage the patient presenting with oligometastatic prostate cancer would be a useful clinical tool.Purpose: Androgen ablation is the standard treatment for recurrent and metastatic prostate cancer. Surprisingly few studies have documented the specific results for local and distant failure in patients treated primarily with radiation or radical prostatectomy. We report the long-term outcome of a series of those patients.Aims: Delaying progression, ameliorating symptoms and maintaining quality of life (QoL) are primary aims of treatment for metastatic castrate-resistant prostate cancer (mCRPC). Real-world rather than clinical trial data about symptoms and side-effects are sparse. In EXTREQOL, patients' QoL, pain and information needs were recorded during treatment.Prostate cancer has the widest racial disparities of any cancer, and these disparities appear at every stage of the cancer continuum. This review focuses on the disparities in prostate cancer between Black and White men, spanning from prevention and screening to clinical outcomes. We conduct an expansive review of the literature on racial disparities in prostate cancer, interpret the findings, and discuss areas of unmet need in research. We provide an overview of epidemiologic concepts necessary to understanding the current state of prostate cancer disparities, discuss the complexities of studying race, and review potential drivers of disparities in incidence and mortality. We argue that the cause of this disparity is multifactorial and due to a combination of social and environmental factors. The path forward needs to focus on enrolling and retaining Black men in prostate cancer clinical trials and observational studies and identifying potential interventions to improve prevention and clinical outcomes in Black men.Background: Prostate cancer is the most common male cancer in the Western world but is highly heterogeneous in disease progression and outcomes. Consequently, the most substantial morbidity may actually arise from the adverse psychosocial impact of distress in decision-making and long term quality of life effects such as impotence. This paper presents the design of a randomised controlled trial of a decision support/psychosocial intervention for men newly diagnosed with localised prostate cancer.Objective: To compare prostate cancer mortality for Aboriginal and non-Aboriginal men and to describe prostate cancer treatments received by Aboriginal men.Background: Active surveillance (AS) of prostate cancer (PC) has increased in popularity to address overtreatment.Recent understanding of the periprostatic anatomy has led to an anatomical approach to radical prostatectomy, with reduced complications. Initially, a technique for management of the dorsal vein complex was developed that enabled the surgeon to perform a precise anatomic dissection at the apex of the prostate. Subsequently, the precise anatomy of the pelvic plexus and the branches that innervate the corpora cavernosa was studied. This led to the development of nerve-sparing radical prostatectomy. With the increasing chance of finding an early stage prostate cancer, radical prostatectomy has gained wide popularity even in Japan. On the other hand, the indications for radical prostatectomy are still controversial, especially for locally advanced (stages C) prostate cancer. Surgical staging is considered to be mandatory, because once pelvic lymph node metastases are identified, the prognosis is unfavorable irrespective of the mode of treatment. Minimally invasive approaches including laparoscopic pelvic lymphadenectomy have been developed for lymph node staging. The significance of the neoadjuvant hormonal treatment for locally advanced prostate cancer should be carefully discussed with regard to the long-term outcome.Prostate cancer has a varied natural history. Men with similar serum prostate-specific antigen (PSA) levels, clinical stages, and histologic features in their tissue specimens can have markedly different outcomes. While prostate cancer is lethal in some patients, most men die with cancer rather than because of it. Moreover, histologically apparent cancer can be found in the prostate glands of approximately 42% of men over 50 years of age who die from other causes, but the lifetime risk that a man in the US will be diagnosed with prostate cancer is estimated to be 11% and the risk of dying from the disease is only 3.1%. Consequently, appropriate disease management requires risk assessment. How likely is it that a given man's cancer will progress or metastasize over his remaining lifetime? What is the probability of successful treatment? What are the risks of adverse effects and complications of each treatment? Physicians use a variety of clinical and pathologic parameters to assess the risk that a given cancer poses to an individual patient. In addition to the accepted parameters of serum PSA level, clinical staging, and pathologic grading and staging, PSA doubling time has emerged as an important factor in the evaluation of men with newly diagnosed prostate cancer or prostate cancer that recurs after treatment. PSA doubling time can also be used as a surrogate marker for prostate cancer-specific

death. This review summarizes current knowledge regarding the role of PSA doubling time as a prognostic marker in men with prostate cancer.Purpose: We assessed the midterm oncologic outcomes of vascular targeted photodynamic therapy with padeliporfin for low risk prostate cancer treatment.Background: Although radical prostatectomy (RP) and external beam radiotherapy (EBRT) have been considered as comparable treatments for localized prostate cancer (PC), it is controversial which treatment is better. The present study aimed to compare outcomes, including mortality, of RP and EBRT for localized PC.This study evaluated the utility of In-111 capromab pendetide imaging to detect prostate cancer metastases or local recurrence. The specific goal was to identify clinical factors such as prostate-specific antigen, pathologic stage, and Gleason score that were most predictive of a positive scan outcome. In addition, a new concept of a weighted Gleason score was defined and correlated with the scan outcome. Fifty-one patients with an elevated prostate-specific antigen level and otherwise negative workup were studied. Forty-eight patients had been treated by radical prostatectomy, two by radiation therapy, and one patient was studied before prostatectomy. Each patient received an intravenous injection of approximately 5 mCi of In-111 containing 0.5 mg of CYT 356, a conjugated site-specific monoclonal antibody against prostate specific membrane antigen. Tomographic blood pool images were obtained the day of injection. Four days later planar images and tomographic images of the abdomen and pelvis were obtained. Scans were interpreted by two experienced nuclear medicine physicians. Differences in the scan interpretation were settled by consensus. Scan outcomes were correlated with prostate-specific antigen levels, pathologic stage, Gleason score, weighted Gleason score, and clinical data. Of 51 scans, 70.6% (36 of 51) were positive. Eight patients had abnormal activity in the prostatic fossa, 12 patients had abnormal activity in the abdominal or pelvic lymph nodes, and 16 patients demonstrated abnormal activity in both areas. One patient with a positive scan underwent lymphadenectomy and was confirmed to be a true positive. Patients with a prostate-specific antigen level greater than 10 ng/ml, a weighted Gleason score higher than 4.5, or prostate-specific antigen levels greater than 2 ng/ml plus a weighted score higher than 4.5 showed positive rates of 100% (6 of 6), 88.2% (14 of 16), and 100% (6 of 6), respectively. In-111 capromab pendetide imaging was useful to detect metastases or local recurrence. Serum prostate-specific antigen levels and weighted Gleason scores are good predictive factors of the likelihood of a positive scan outcome.The course of untreated localized prostate cancer after 10 years of follow-up is at large unknown. As curative treatment is usually only offered patients with a life expectancy exceeding 10 Years, the expected course of the disease if left untreated is of the utmost interest. This paper aims to describe the outcome for patients who survive for more than 10 years when treated without curative intent. The results indicate that cancer specific mortality in patients with localized prostate cancer increases steadily over time and is approximately 50% after 15 years. This is a much higher figure than in reported series on radical prostatectomy. Even if many deaths occur at an old age, prostate cancer death is shown to be associated with a significant morbidity, need for palliative treatment, hospital care and cost. Preventing prostate cancer death is therefore not only a matter of saving year of life but also to prevent suffering caused by the disease. Modern diagnostic tools, such as prostate specific antigen, seem to detect clinically significant cancers in the vast majority of patients. Over diagnosis seems to be uncommon if diagnostic procedures are restricted to patients with a long life expectancy. Localized prostate cancer is a slow-growing but progressive neoplastic disease. When diagnosed in a man with a longer life expectancy it should be handled as such.Prostate cancer and metabolic syndrome are common among men in the Western world. As the population grows older and life expectancy increases, the rates of both diseases are expected to increase. We now recognize that metabolic syndrome and prostate cancer interact. Metabolic syndrome may be a risk factor for prostate cancer and may also worsen outcomes. At the same time, treatment for prostate cancer may exacerbate metabolic syndrome and cardiac disease. This mini-review summarizes current evidence and puts it into clinical prospective. PATIENT SUMMARY: Metabolic syndrome is now a global epidemic. It is characterized by obesity, insulin resistance, high blood pressure, and high blood lipids. There is a complex interaction between metabolic syndrome and the risk of prostate cancer, as treatment of one disease may affect the other.Many local and systemic options for prostate cancer have emerged in recent years, but existing management guidelines do not account for diversity in health resources between different countries. We present recommendations for the management of prostate cancer, stratified according to the extent of resource availability-based on a four-tier system of basic, limited, enhanced, and maximum resources-to enable applicability to Asian countries with differing levels of health-care resources. This statement of recommendations was formulated by a multidisciplinary panel from Asia-Pacific countries, at a consensus session on prostate cancer that was

held as part of the 2013 Asian Oncology Summit in Bangkok, Thailand.Importance: Recently, genetic polymorphism in HSD3B1 encoding 3β-hydroxysteroid dehydrogenase-1 has been shown to be associated with oncological outcome when treated with androgen-deprivation therapy (ADT) for prostate cancer. Upfront abiraterone combined with ADT has proved survival benefit. However, its effect on oncological outcome among different ethnicities and in abiraterone treatment remain unclear.Introduction: The aim of this review was to conduct a comprehensive analysis of the role of minimally invasive salvage modalities in radio-recurrent prostate cancer and the associated clinical outcomes and toxicity profiles.Evidence regarding the effectiveness of treatment for prostate cancer is primarily based on randomized controlled trials. Long-term outcomes are generally difficult to evaluate within experimental studies and may benefit from large pools of observational data. We conducted a systematic review of administrative and registry studies to evaluate the comparative effectiveness of treatment for clinically localized prostate cancer on overall and prostate-cancer specific mortality.Oligometastatic disease was postulated by Hellman and Weichselbaum in 1995 to be a disease state that may reflect a time point in the malignant process that may be amenable to local therapies to allow for patients to achieve a durable response or possible cure despite having advanced disease. Aggressive metastasis-directed therapy has been used in malignancies such as renal cell carcinoma, non-small-cell lung cancer, and colorectal cancer with some evidence of long-term benefit in selected patients. Recently, it has been proposed that some men with oligometastatic hormone-sensitive prostate cancer may also benefit from metastasis-directed therapy. As with most malignancies, optimal therapy for prostate cancer relies on multimodal therapy, best highlighted by the survival benefit seen in high-volume metastatic prostate cancer with the addition of docetaxel to androgen-deprivation therapy. This is becoming increasingly evident for oligometastatic prostate cancer, with emerging data sets suggesting a possible benefit of local ablative therapies for metastatic lesions combined with androgen-deprivation therapy. However, the bulk of the data is retrospective and thus subject to bias. Ongoing clinical trials are evaluating combination therapy to help elucidate the role of each therapy separately and together to determine optimal interventions for this population. This clinical review discusses the retrospective data evaluating local therapies such as radiation and surgery in men with lymph node-positive disease, as well as limited bone metastases, and outlines ongoing, prospective clinical trials designed to further investigate the role of multimodality therapy in the outcomes of men with oligometastatic hormone-sensitive prostate cancer.Background: Untreated Stage D1 prostate cancer is associated with a high progression rate. Various treatment modalities involving monotherapy alone have been associated with dismal results. In this retrospective study, the impact of combination therapy, local (surgery or radiation) and systemic (hormonal), compared with that of monotherapy on disease outcome was evaluated.While a protein primary structure is determined by genetic code, its specific functional form is mostly achieved in a dynamic interplay that includes actions of many enzymes involved in post-translational modifications. This versatile repertoire is widely used by cells to direct their response to external stimuli, regulate transcription and protein localization and to keep proteostasis. Herein, post-translational modifications with evident potency to drive prostate cancer are explored. A comprehensive list of proteome-wide and single protein post-translational modifications and their involvement in phenotypic outcomes is presented. Specifically, the data on phosphorylation, glycosylation, ubiquitination, SUMOylation, acetylation, and lipidation in prostate cancer and the enzymes involved are collected. This type of knowledge is especially valuable in cases when cancer cells do not differ in the expression or mutational status of a protein, but its differential activity is regulated on the level of post-translational modifications. Since their driving roles in prostate cancer, post-translational modifications are widely studied in attempts to advance prostate cancer treatment. Current strategies that exploit the potential of post-translational modifications in prostate cancer therapy are presented.With advancements in diagnostic techniques, including molecular and clinical imaging, that directly target cancer cells, oligometastatic prostate cancer (PCa) is being diagnosed in patients who were, in the past, considered to have localized disease. With accumulating evidence, there has been a paradigm shift in considering aggressive treatments targeted at both the primary tumor and metastatic lesions in an aim to avoid and delay the need for palliative treatments and, ultimately, to achieve survival benefits. However, many questions still remain unanswered regarding the understanding of oligometastatic PCa, from its definition to optimal treatment strategies for each individual. Limited retrospective studies have suggested that interventions, including local and/or metastasis-directed therapy using surgery and radiation therapy (RT), can improve survival outcomes with minimal risk of adverse effects. Such treatments have been shown to decrease the risks of subsequent palliative interventions and to delay the start of androgen-deprivation therapy.

Nevertheless, available data are insufficient to draw a reliable conclusion regarding their effect on quality of life measures and overall survival. This comprehensive review overviews data from contemporary literature that have investigated treatments, including surgery and RT, for patients with oligometastatic PCa, namely pelvic lymph node positive disease and limited distant metastases, and summarizes ongoing trials that are evaluating the feasibility of aggressive multimodal treatments.Major changes in the field of prostate cancer over the last 25 years include the implementation of prostate specific antigen screening and the recognition that BRCA confers hereditary risk of prostate cancer. Quality of life and survivorship have driven risk stratification for localized prostate cancer, facilitated by molecular signatures and leading to increased acceptance of active surveillance as a mainstream treatment option. Advances in technology have improved efficacy and reduced toxicity in both radical prostatectomy and radiation therapy for localized prostate cancer. Improved understanding of the androgen receptor has yielded substantially more effective therapies. Future growth areas include personalized treatment based on genomic and genetic information, theranostics radiopharmaceuticals, and more aggressive treatment of metastatic disease to include focal therapy. Multidisciplinary management between specialized urologists, radiation oncologists, and medical oncologists remains central to maximizing patient outcomes.The aim of this study was to focus on clinicopathological characteristics and prognosis in men with prostate cancer (PCa) harboring a breast cancer 2 (BRCA2) gene mutation and to offer convincing evidence to consider BRCA2 mutation as a marker of poor prognosis in the molecular classification of PCa. We searched relevant articles from PubMed, Embase, Web of Science, and the Cochrane Library databases to evaluate the differences in the overall survival (OS) and cancer-specific survival (CSS) between BRCA2 mutation carriers and non-carriers in patients with PCa. We included 525 BRCA2 mutation-carriers and 8,463 non-carriers in total from 10 studies in our meta-analysis. The results showed that carrying a BRCA2 mutation was correlated with a reduced CSS and OS when compared with that of non-carriers, with pooled Hazard Ratios (HRs) of 2.53 (95% confidence interval (CI): 2.10-3.06, P < 0.001) and 2.21 (95% CI: 1.64-2.99, P < 0.001), respectively. The results also demonstrated that BRCA2 mutation-carriers harbored a higher Gleason Score (GS) (> 7), TNM stage (> T3, N1, M1), and risk level than non-carriers. Our meta-analysis showed that a BRCA2 mutation predicted poor survival outcomes in patients with prostate cancer, especially in those undergoing treatments with radiotherapy. Therefore, the use of BRCA2 mutation as a clinical prognostic factor could help stratify the high-risk patients and provide clinical strategies for more effective targeted treatments for patients with prostate cancer.Purpose: We evaluated the impact of localized prostate cancer treatment on general, cancer specific and symptom domains of quality of life for up to 5 years after diagnosis.We present the technique, complications, and 5-year results of transperineal percutaneous template permanent interstitial iodine 125 endocurietherapy of localized prostate cancer in 85 treated patients. The 5-year outcome appears similar to that of external beam radiation therapy or radical surgery, but the iatrogenic mortality, morbidity, treatment time, and hospitalization are significantly reduced.Background: In men with prostate cancer, pretreatment prostate-specific antigen (PSA) velocity (PSAV) has been demonstrated as a predictor of biochemical and survival outcomes in patients undergoing radical prostatectomy (RP). The utility of pretreatment PSAV in predicting outcomes after radiotherapy (RT), with or without androgen-deprivation therapy (ADT), is less certain. This study was undertaken to determine whether pretreatment PSAV is associated with biochemical disease-free survival, patterns of recurrence, and survival outcomes in men treated with radiation therapy and ADT.As earlier detection of prostate cancer increases because of prostate-specific antigen (PSA) testing, appropriate use for watchful waiting warrants re-evaluation. We have drawn together the significant watchful waiting literature and used it to evaluate the use of watchful waiting in the PSA era. We conducted literature searches for studies examining outcomes of watchful waiting and examined new literature emerging about the use of PSA for the follow-up of watchful waiting patients. Watchful waiting has the potential to play an increasingly important role in prostate cancer as less advanced disease is detected and methods are refined for identifying low-risk patients.Background: High-volume surgeons with ■250 radical prostatectomies provide superior oncological outcomes as evidenced by a lower rate of PSA recurrence (PSAR). The financial benefits of performing prostatectomies at high-volume centers (HVC) are unexplored.Purpose of review: Systemic therapy for patients with hormone-sensitive oligometastatic prostate cancer is non-curative and associated with toxicities. Meanwhile, this population presents unique clinical opportunities to improve outcomes, including the demonstrated benefits of radiotherapy to the primary tumor or oligometastatic sites.Objective: To compare 10-year oncologic treatment outcomes of radical prostatectomy (RP) vs external beam radiation therapy (EBRT) vs brachytherapy (BT) for patients with

intermediate-risk prostate cancer (IRPC).Our understanding of the screening, prevention and treatment of early prostate cancer is improving. This is a result of new data from clinical trials and the incorporation of efficacy measures based on risk assessment and quality of life (QoL). This review aims to examine completed and ongoing clinical trials that address issues in early prostate cancer, including screening, prevention, treatment, and QoL. Prostate-specific antigen (PSA) testing has a crucial and evolving role in detecting primary prostate cancer, evaluating prevention interventions and assessing the effectiveness of treatment. Questions remain about the optimal PSA parameters appropriate for primary screening and for diagnosing relapse. Emerging and established data provide evidence that early intervention with hormone therapy, either as immediate or adjuvant therapy, delays progression in prostate cancer patients with intermediate or poor prognosis. The impact of therapeutic modality on QoL has become better characterized, as QoL instruments have been developed, validated and applied.Context: Recent demonstration of efficacy with the use of chemohormonal therapy for men with metastatic prostate cancer (mPCa) has expanded the therapeutic options for these patients. Furthermore, multimodal therapy to treat systemic disease in the context of locoregional control has gained increasing interest. Concomitantly, the role of radical prostatectomy (RP) in multimodal treatment for locally advanced prostate cancer is expanding. As a result, there is interest in investigating the potential benefit of cytoreductive RP in mPCa.Prostate cancer (CaP) is the most commonly diagnosed malignancy in men in the Western world. In North America, more than 275,000 men are diagnosed annually, whereby approximately 1 in 6 men will be diagnosed with CaP in their lifetime, and 1 in 34 men will die from castration-resistant metastatic disease. Unfortunately, current clinical prognostic factors explain only a proportion of the observed variation in clinical outcome from patient to patient. Furthermore, overtreatment of indolent and low-risk cancers leads to inappropriate morbidity following radiotherapy or surgery. As such, better predictors of individualized prognosis and treatment response are urgently needed to triage patients to customized and intensified CaP treatment. Recent developments in next-generation sequencing have made it possible to identify prognostic and predictive signatures based on genomic profiles. We discuss the genetic basis of CaP progression from localized to systemic disease (e.g., point mutations, copy-number alterations, and structural variants) in relation with unique features of CaP biology, including intraprostatic and interprostatic heterogeneity, multifocality and multiclonality, TMPRSS2:ERG, and other ETS-family gene fusions. Finally, we focus on the use of genomic markers as prognostic factors for local failure and for systemic disease, as novel risk-stratification tools, in triaging patients to existing treatment options, and ultimately the potential of genomics for the identification of molecular targets for therapy of CaP.Despite conflicting guidelines, a significant subset of high-risk men decide to undergo routine prostate cancer screening. Yet, there is a scarcity of available programs, and no studies evaluating interventions to support men in dealing with the psychosocial impact of screening. In this study, one of the first to explore the responses of high-risk men enrolling in a Prostate Cancer Risk Assessment Program (N = 128), patients underwent a prostate cancer risk counseling visit immediately followed by either a cognitive-affective preparation session designed to help them process the information they received or a general health education session. All men in this self-selected sample chose to participate in prostate cancer screening. Men were assessed 3 weeks and 6 months post-counseling. The impact of the enhanced counseling condition on knowledge, perceived risk, expectancies, and intrusive ideation was a function of racial and coping style group. Implications for tailored interventions to maximize preparedness for risk and screening counseling are discussed.Aims: To assess long-term outcomes and resource use of 4D Brachytherapy, a one-stage real-time implant for the treatment of prostate cancer that uses stranded and loose iodine-125 seeds, and to compare with the conventional two-stage (2S) technique.Recently, new generation androgen receptor (AK) targeted agents enzautamide or abiraterone etc.) has been clinically utilized in patients with castration-resistant prostate cancer (CRPC). However, metastatic CRPC has also AR-independent survival pathway which leads to lethal phenotype by either adaptation or clonal selection resistant mechanism after AR targeted therapy. There are many studies regarding the progression mechanisms without AR signal transduction, such as growth factor, anti-apoptotic factor, and PTEN/mTOR pathway and so on. Also, cancer microenvironment and cancer stem cell is a hot research area for CRPC. It is very important to repress both AR-dependent and -independent signaling pathway to improve the clinical outcome in CRPC patients. Application of the new technology, such as next generation sequencing, would be developing for the prostate cancer research, providing pre-clinical proof-of-principle as a promising approach in CRPC.Advances in genomic sequencing and molecular characterization are improving our understanding of the biology of prostate cancer and challenging us to translate emerging data into meaningful clinical outcomes. Several recently approved

treatments for advanced prostate cancer extend survival; however, these therapies are not personalized based on predictive biomarkers. Innovative strategies for early phase drug testing that harness our growing knowledge of important prognostic markers and emerging predictive biomarkers are needed. In this review we discuss new strategies to assess drug response in early phase clinical trial testing.The aim of this article is to review and present the published data on high dose rate (HDR) brachytherapy as monotherapy in the treatment of localised prostate cancer. A search and review of the literature was carried out on PubMed and MedLine using the medical subject headings 'high-dose-rate, brachytherapy, prostate cancer, monotherapy' as search terms. The search yielded more than 100 articles and abstracts published between 2000 and 2016. Only original clinical data on HDR monotherapy reporting oncological outcomes were included. When more than one series from the same institution were identified, the most recent one encompassing the largest patient number was considered for analysis. For citation crosscheck, the ISI web of science database was used employing the same search terms. Data tables were generated and summary descriptions created. The main outcome parameters used were biochemical control and toxicity scores. Fifteen articles comprising 3546 patients reported clinical outcome and toxicity, with follow-up ranging from median 1.4 to 8.0 years. A variety of dose and fractionation schedules were described, including 19.0 Gy as a single fraction to 54.0 Gy in nine fractions. Biochemical control rates ranged from 66 to 100% in low-risk, 63 to 98% in intermediate-risk and 81-93% in high-risk patients. Late grade 3 genitourinary and gastrointestinal toxicity was 0-16% and 0-2%, respectively. The reported potency preservation rates ranged from 60 to 90%. In conclusion, high biochemical control and low complication rates are reported with HDR monotherapy. It is a safe and effective local treatment modality for organ-confined prostate cancer with reproducible high-quality dosimetry.This study is a presentation of our department's experience in the treatment of localized prostate cancer with either radical or postoperative radiotherapy (RT). Fifty-five patients with clinical localized prostate cancer were reviewed. Thirty-three patients (T1-T2AN0M0 stage) were treated with radical RT and 22 (T2B-T3N0M0 stage) with postoperative RT. All patients received hormonal therapy. Primary end points of the study were the incidence of clinical and biochemical recurrences and death in the whole group and according to treatment modality. Within a median follow-up of 18 months the overall incidence of clinical relapse was 16.9%, of biochemical relapse 12.7% and of death 10.9%. Both treatment options achieved similar outcomes despite the fact that the patients in the postoperative RT group were of higher stage. Radical RT group tended to have better overall and disease-free survival compared to postoperative RT group, but there was no statistically significant evidence. Long-term toxicity was negligible.Background: Prostate cancer treatment often results in significant psycho-sexual challenges for men following treatment; however, many men report difficulty in accessing appropriate care.Purpose: Recent work using prostate cancer mouse models implicated doublecortin (DCX)-expressing neural progenitor cells in prostate adenocarcinoma, reporting a strong association between DCX expression and histologic grade and clinical outcome. We sought to evaluate the relationship between DCX expression and these variables in human prostate cancer.Background: Molecular characterization of tumors could be important for clinical management. Plasma DNA obtained noninvasively as a liquid biopsy could be widely applicable for clinical implementation in biomarker-based treatment strategies.Background: Prostate cancer is an epidemic of the modern age, and despite efforts to improve awareness, it remains the case that mortality has hardly altered over the decades, driven largely by late presentation. There is a strong public perception that male urinary symptoms is one of the key indicators of prostate cancer, and this continues to be part of messaging from national guidelines and media health campaigns. This narrative, however, is not based on evidence and may be seriously hampering efforts to encourage early presentation.Estimating prognosis with patients with metastatic disease is important for patient counseling, guiding treatment selection, and assessing treatment outcomes. For patients with noncastrate metastatic disease, androgen ablation is considered first-line therapy, with upward of 80% of patients showing clinical benefit. For these patients, information about duration of response to hormones and overall survival is important. Most patients eventually relapse, at which point the mortality from cancer greatly exceeds that from other causes. This article focuses on prognostic models for patients with progressive noncastrate and castrate metastatic prostate cancer.Clinical nomograms based on Gleason grade, tumor stage, and serum PSA are still the best predictors of prostate cancer (PC) outcome. The biotechnological advancements achieved in the last decade represent a remarkable source for new prognostic and predictive tissue and serum molecular biomarkers. In this review, we will summarize conventional PC prognostic biomarkers and focus on novel identified biomarkers for PC early diagnosis and progression that might be used in the future. Although they are not ready for

widespread, routine use, there are reasons to believe that future models will combine these markers with traditional pretreatment and treatment-related variables and will improve our ability to predict outcome and select the optimal treatment.Purpose of review: Prostate biopsy has evolved from a paradigm of a small number of random biopsies to one of systematic, numeric, and anatomic strategy. Over the past several years, the data have demonstrated the importance of purposeful biopsy strategies for detecting, accurately grading, and staging prostate cancer in varying patient populations. We review the optimal strategies for prostate biopsy given various clinical situations.Historically, patients with high risk prostate cancer were considered poor candidates for radical prostatectomy (RP) due to the likelihood of positive pelvic lymph nodes and decreased long term survival. Although there is still no consensus on the optimal therapy for this group of patients, there is increasing evidence that surgery could play a role. Cancer specific survival (CSS) rates after RP for locally advanced disease at 10 year follow up range from 29 to 72%, depending on tumor differentiation. The role of pelvic lymph node dissection (PLND) in prostate cancer remains a controversial topic. Nonetheless, in conjunction with RRP extended PLND (ePLND) should be performed as extended lymph node dissection in lieu of standard PLND may increase staging accuracy, influence decision making with respect to adjuvant therapy and possibly impact outcome. High risk patients with organ confined prostate cancer and low volume (micro)metastatic disease may be the ones to profit most from this approach.As molecular imaging better delineates the state of prostate cancer, clinical management will evolve. The currently licensed imaging modalities are limited by lack of specificity or sensitivity for the extent of cancer and for predicting outcome in response to therapy. Clinicians want molecular imaging that-by being more reliable in tailoring treatment and monitoring response for each patient-will become a key facet of precision medicine, surgery, and radiation therapy. Identifying patients who are candidates for specific or novel treatments is important, but equally important is the finding that a given patient may not be a good candidate for single-modality therapy. This article presents prostate cancer scenarios in which managing clinicians would welcome molecular imaging innovations to help with decision making. The potential role of newer techniques that may help fill this wish list is discussed.Objectives: To describe the clinical characteristics, diagnostic features, prognosis, and outcome of patients with prostate cancer and disseminated intravascular coagulation with excessive fibrinolysis (DIC XFL).Purpose: STAMPEDE arm H demonstrated a survival benefit for newly diagnosed prostate cancer (PCa) patients with low metastatic burden (LMB) who additionally received radiotherapy (RT) to the primary. However, it is unknown if radical prostatectomy (RP) may achieve equivalent results, since existing studies did neither include the same selection criteria nor examine comparable endpoints as STAMPEDE arm H.Context: Prostate cancer (PCa) is the second most common cancer among men worldwide. Urinary, bowel, and sexual function, as well as hormonal symptoms and health-related quality of life (HRQoL), were prioritised by patients and professionals as part of a core outcome set for localised PCa regardless of treatment type.Prostate cancer is a very common tumor in men. Today the disease is very often diagnosed early because of an elevated PSA without symptoms and the disease is localized to the prostate. Patients with prostate cancer can be divided into 3 subgroups for the carcinoma: favorable, moderate, and poorly. The grouping depends mainly on the Gleason score of the prostate biopsy. According to the Gleason score, favorable cancer is up to score 6 (3 + 3), moderate score 7, and poor--Gleason score 8-10. The other favorable clinical factors are PSA < 10 ng/ml, and clinical stage by DRE of T1C or T2 (no nodule or palpable nodule not extending beyond the prostatic capsule). The treatment options for cure when the prostate cancer is localized are either radical prostatectomy or radiotherapy (external or brachytherapy or combination). Each of these therapies has side effects and each has advantages and disadvantages. Sometimes the treatment choice is not for cure and the options are hormonal treatment or watchful waiting. Twenty to 30% of the patients treated for cure may fail the treatment and have elevation of PSA without any clinical symptoms, or signs of local recurrence or distant spread. Some of these patients with biochemical failure may be cured by salvage treatment: radiotherapy after radical prostatectomy and salvage radical prostatectomy or cryotherapy following failure of radiotherapy.Aims: Invasive cribriform and intraductal carcinoma are associated with aggressive disease in Grade Group 2 (GG2) prostate cancer patients. However, the characteristics and clinical outcome of patients with GG2 prostate cancer without cribriform architecture (GG2-) as compared with those with Grade Group 1 (GG1) prostate cancer are unknown. The aim of this study was to investigate the clinical and pathological characteristics of GG1 and GG2- prostate cancer in radical prostatectomy specimens.Prostate cancer (PCa) has long been a major public health problem affecting men worldwide. Even with treatment, it can develop into castration■resistant PCa. With the continuous advancement in epigenetics, researchers have explored N6■methyladenosine (m6A) in

search of a more effective and lasting treatment for PCa. m6A is widely distributed in mammalian cells and influences various aspects of mRNA metabolism. Recently, it has been associated with the development or suppression of various types of cancer, including PCa. This review summarizes the recent findings on m6A regulation and its functions and mechanisms in cells, focusing on the various functional proteins operating within m6A in PCa cells. Moreover, the potential clinical value of exploiting m6A modification as an early diagnostic marker in PCa diagnosis and therapeutics was discussed. m6A may also be used as an indicator to evaluate treatment outcome and prognosis.Background/aim: At present, multidisciplinary tumor boards (MDTB) are considered best practice in oncology. However, web-based virtualization of MDTB may increase participation in meetings, the number of cases discussed, and adherence to guidelines, deliver better treatment, and eventually improve outcomes for patients with prostate cancer.Prostate cancer (PCa) is one of the leading causes of death in the male population worldwide. Various clinical samples such as urine, blood serum, and prostatic fluid have been commonly used for the identification of PCa-associated molecular changes. Tissue, the site of oncogenesis, is increasingly gaining more attention as a study material for studies aimed at the discovery of biomarkers for predicting the disease outcome and therapeutic targets. Areas covered: This review is the output of a systematic literature search on PubMed to retrieve articles relevant to the proteomic analysis of tissues for the study of PCa. Studies performed during the last 10 years using human tissues are summarized. Expert commentary: Multiple proteomics studies were performed in the past 10 years focusing on PCa initial diagnosis and staging. Even though some reproducible findings have been reported, many studies lacked adequate validation of findings and relied on relatively lower-resolution proteomics techniques compared to the current state of the art. Incorporation of high-resolution proteomics techniques, including investigations of protein post-translational modifications (PTMs), is expected in the near future to complement other -omics and enhance current efforts toward the molecular subtyping of PCa for patient stratification.Purpose: To comprehensively explore the role of a prostate cancer diagnosis and its treatment to several outcomes including diet, Hemoglobin A1c, and weight status, in a large, nationally representative, cross-sectional study.Research studies show that African American men or more likely to develop and die of prostate cancer than any other ethnic group. The disparity is partially associated with the motivators of behaviors in African American men. In particular, perception of outcomes in relationship to behavioral performances influences whether a task will be initiated. This paper examines prostate cancer in African American men using components of the Health Belief Model. Implications, for professional nurses in designing interventions to encourage early screening and treatment for prostate cancer, are included.Background: Many patients with Gleason 3 + 3 and 3 + 4 early stage prostate cancer receive invasive treatment but likely derive little or no benefit. A novel 8-protein prognostic assay generates a risk score at time of biopsy that is predictive of prostate cancer aggressiveness and can inform treatment decisions. The objective of this study was to evaluate the cost-effectiveness of using the assay to inform treatment decisions compared with usual care.Prostate cancer is the second most common cancer in men worldwide. Its prevention and treatment remain a challenge to clinicians. Thus, there is an urgent need to discover novel, less toxic, and more effective therapies for patients. Many vitamins and related chemicals, including vitamin E, (tocopherols) have shown their anti-cancer activities as anti-oxidants, activators of transcription factors or factors influencing epigenetic events. Although laboratory tests including the use of animal models showed that this vitamin may have anticancer properties, whether it can effectively prevent the development and/or progression of prostate cancer in humans remains to be intensively studied. This review provides up-to-date information regarding the recent outcomes of laboratory, epidemiology and/or clinical trials on the effects of tocopherols on prostate cancer development, along with our last observations on a combined treatment of a prostate cancer cell line (PC-3) with two natural antineoplastic compounds, naringenin (NG) and α-tocopherol (α-TOC). We report the synergic effect of α-TOC and NG in transglutaminase-induced differentiation of human PC-3 prostate cancer cells. While our results are based on one histological class of tumor, the most significant implication of this observation is that establishes a new way in the screening for detecting new differentiative antineoplastic agents.The American College of Radiology Appropriateness Criteria are evidence-based guidelines for specific clinical conditions that are reviewed every 2 years by a multidisciplinary expert panel. The guideline development and review include an extensive analysis of current medical literature from peer-reviewed journals and the application of a well-established consensus methodology (modified Delphi) to rate the appropriateness of imaging and treatment procedures by the panel. In those instances where evidence is lacking or not definitive, expert opinion may be used to recommend imaging or treatment. This review focuses on locally

advanced prostate cancer and the evidence for treatment outcomes, both toxicity and efficacy, across the three major treatment modalities of external beam radiotherapy, brachytherapy and surgery. Only data that could pass contemporary quality metrics were used to form this report. This body of literature suffers from an absence of trials prospectively comparing therapies for efficacy and a lack of long-term prospective comparisons of toxicity. Upon review of these data, the authors concluded that there are several acceptable methods for the treatment of locally advanced prostate cancer that is highly dependent of the patient's clinical (both prostate cancer-specific and comorbidity-specific) parameters at diagnosis.Objective: To compare the perioperative, functional and oncologic outcomes of patients with prostate cancer receiving laparoscopic radical prostatectomy (LRP) using three-dimensional (3D) versus two-dimensional (2D) imaging systems.In tissue microarray (TMA) approximately 500 clinical formalin fixed and paraffin embedded tissue cores are reorganized into a new recipient block. Each recipient block may be sectioned up to 200 times.Aims: One of the current limitations of reports issued by the New Zealand Cancer Registry (NZCR) is that the only measure of the success of treatment is provided by the mortality ratio. A pilot study was therefore carried out to see if collaboration between cancer centres and the NZCR might allow the generation of more meaningful survival data that could be used for the audit of treatment outcome.For men diagnosed with clinically localized prostate cancer, definitive therapy with radical prostatectomy, external beam radiation therapy, or brachytherapy offers a high chance of cure. Currently, there are insufficient data to recommend 1 treatment approach over another, leaving physicians and patients to decide based on their own biases and preferences. Prediction tools, such as nomograms and probability tables, have been created as decision aids to facilitate patient counseling and decision making. Nomograms in particular can assess the therapeutic efficacy of a given therapy by providing individualized estimates of the risk of failure after treatment. The authors performed a comprehensive literature review to identify nomograms assessing the efficacy of brachytherapy in patients with clinically localized prostate cancer, and found a paucity of such models. Analysis of currently available brachytherapy nomograms reveals suboptimal predictive power compared with models based on other treatment modalities. The purpose of this review is to spur development of new and more accurate prediction tools for predicting outcomes after brachytherapy, offering physicians and patients the opportunity to equally assess the efficacy of all available treatment modalities for clinically localized prostate cancer. Cancer 2009;115(13 suppl):3121-7. (c) 2009 American Cancer Society.Although recent studies support the role of image-guided metastasis-directed therapies in the oligo-recurrent setting, several issues including the risk of possible underestimation of the true tumor burden at imaging, patient selection and the lack of studies comparing different approaches limit their implementation in the clinical practice. As such, metastasis-directed therapies should still be considered as investigational treatment options in oligo-recurrent prostate cancer patients.Purpose of review: Prostate cancer is now the most commonly diagnosed solid tumor in American men. Autopsy studies show the uniquely high prevalence rates of small, indolent tumors in men dying of other causes. These findings have led to an increased interest in managing men with prostate cancer and low risk features expectantly, with close observation for early signs of progression. This approach allows one to limit prostate cancer treatment and any risk of related morbidity to the men who will benefit the most from active intervention.Purpose: Research on prostate cancer and quality of life (QOL) has focused on the effects of treatment type on subsequent QOL, without considering effects of depressive symptoms. The present purpose is to test the independent contribution of depressive symptoms (measured within 4 weeks after treatment) and treatment type in predicting QOL measured 4, 7, and 12 months following treatment for clinically localized prostate cancer.Data are presented from the Patterns of Care Study and other sources that define the role of external-beam irradiation in the management of localized prostate cancer as practiced in the United States as a whole. Patients must be treated with complex treatment techniques and high-energy linear accelerators and careful adjustment of radiation dose. Transurethral resection of the prostate should be avoided in the intermediate and poorly differentiated subgroup of stage C patients. The excellent 5- and 10-year survival for patients treated by radiation therapy is demonstrated for all stages of prostate cancer and for T1 or early stage B patients. It is noted that the national averages for survival have improved between 1973 and 1978. Stages A2 and B patients with negative lymph node dissections show freedom from recurrence that is equal to patient reports for radical surgery. Complications resulting from radiation therapy were modest, and potency was maintained in 73% of the patients. Adjuvant irradiation is necessary for pathologic stage C patients after recovery from surgery. Radiation therapy is equally effective though less costly than surgery for early prostate cancer. A particular need of future research is the study of the patterns of care in the United States regarding the surgical management of

prostate cancer so that health professionals can determine if this care is generally available throughout the United States and if good outcome and acceptable morbidity result after it is given.Purpose: Time to metastasis is often used as a surrogate parameter of treatment success in clinical trials for prostate cancer. However, it has not been shown that there is a clear correlation between time to metastasis and overall survival. Our objective was to evaluate the impact of time to metastasis on OS in patients with prostate cancer.Although malignant tumours occur at all ages, cancer disproportionately strikes individuals in the age group 65 years and older. The increasing statistical life expectancy of men together with the introduction of prostate specific antigen (PSA) as a screening tool have both contributed to a rising number of elderly men with a diagnosis of prostate cancer. Age is generally considered to be a key prognostic factor in terms of therapeutic decision making, perhaps as important as PSA level and Gleason score. Even in men over 70 years, treatment without curative intent may deprive frail patients of years of life. When considering local treatment, strong consideration should be given to radical surgery. Modern radical prostatectomy is associated with low perioperative morbidity, excellent clinical outcomes as well as long term disease control. Besides, overdiagnosis has led to the concept of expectant management for screening-detected small-volume, low grade disease, with intention of providing therapy for those men experiencing disease progression.Objectives: To examine oncological, surgical, and functional outcomes of radical prostatectomy (RP) in patients with history of transurethral resection of the prostate (TUR-P).Supportive conversations may facilitate adjustment among cancer patients early in treatment. However, little is known about how cancer discussion is related to adjustment among long-term survivors of cancer or how gender differences may influence associations between cancer discussion and adjustment. The purpose of this study was to examine possible moderator effects of gender on associations between cancer discussions and adjustment among survivors of breast or prostate cancer. Eighty-eight breast and 88 prostate cancer patients were matched by years post-surgery and stage of cancer and completed measures of cancer discussion frequency, quality of life, and depression. Breast and prostate cancer patients differed on what cancer-related threats were discussed most frequently. In addition, among breast, but not prostate cancer patients, frequent cancer discussion was associated with higher depression and lower quality of life. Frequent discussion of cancer may be an indication of poorer adjustment among breast cancer patients at nearly four years post-surgery. The nature and context of cancer discussions may be important determinants of whether cancer discussions relate to adaptive versus maladaptive outcomes.There is no standard treatment for locally advanced prostate cancer. Even the definition is still unclear. Locally advanced disease may refer to over-staged well-curable tumors as well as to advanced and probably incurable cancers. Similar uncertainties are present regarding the definition of 'old' in this context. Conservatively treated locally advanced prostate cancer is associated with poor survival outcome. With the increasing life expectancy, in the absence of curative treatment, even patients in their ninth decade of life may later suffer from symptoms of aggressive prostate cancer and are at a high risk of death from prostate cancer that might be prevented at least in part by early intervention. On the other hand, functional results after prostate cancer treatment are worse in elderly patients. In this article we discuss aspects of the management of locally advanced prostate cancer in the elderly with special focus on the recommendation of current clinical guidelines.The outcome of patients selecting observation of clinical stage T1c prostate cancer is unknown. A total of 101 men with clinical stage T1c prostate cancer were evaluated, counseled, and monitored in a standard fashion. Altogether, 27 men who elected observation were older and had greater co-morbidity but similar tumor characteristics as compared with 74 men who elected radical prostatectomy. In all, 9 men demonstrated clinical or biochemical evidence of progression after a mean follow-up of 23 months; 4 men who underwent radical prostatectomy had specimen-confined disease and undetectable post-operative levels of PSA. Observation appears to be a viable option for some men with clinical stage T1c prostate cancer.Background: Persistent prostate-specific antigen (PSA) represents a poor prognostic factor for recurrence after radical prostatectomy (RP).Background: The purpose of this study is to validate a new five-tiered prognostic classification system to better discriminate cancer-specific mortality in men diagnosed with primary non-metastatic prostate cancer.Purpose of review: Men with high-risk germline mutations are at significantly higher risk of developing and dying from prostate cancer. Current screening and treatment paradigms may lead to missed opportunities for cure. Herein we review the current literature on prevention, screening and treatment of these carriers and explore the potential role of prophylactic prostatectomy in primary prevention of prostate cancer mortality.Despite the advances in prostate cancer diagnosis and treatment, current therapies are not curative in a significant proportion of patients. Gene-directed enzyme prodrug therapy (GDEPT), when

combined with radiation therapy, could improve the outcome of treatment for prostate cancer, the second leading cause of cancer death in the western world. GDEPT involves the introduction of a therapeutic transgene, which can be targeted to the tumour cells. A prodrug is administered systemically and is converted to its toxic form only in those cells containing the transgene, resulting in cell kill. This review will discuss the clinical trials which have investigated the potential of GDEPT at various stages of prostate cancer progression. The advantages of using GDEPT in combination with radiotherapy will be examined, as well as some of the recent advances which enhance the potential utility of GDEPT.Objective: To determine the role of cellular proliferation and other biopsy-based features in the prediction of prostate cancer mortality.The goals of focal therapy are laudable, namely reducing morbidity of treatment while ensuring at least equivalent oncological outcomes when compared with established interventions for localised prostate cancer, e.g. RP and external beam radiotherapy. While progress has been made towards better identifying the index lesion in these patients, there is much yet to be done to establish the validity of the index lesion theory as the metastatic focus and to establish that current targeting and ablative platforms are adequate to deliver the goals outlined above. The correct research questions have not yet been asked to establish either of these key principles underpinning focal therapy for localised prostate cancer.The first radical prostatectomy was performed in 1904. Since then, it has become one of the main treatment options for patients with prostate cancer, especially those with organ-confined disease. As it is the case in all types of malignancies, the treatment choice for the patient with prostate cancer depends on several considerations, the most important of which is the ability of the treatment modality to control disease. This review provides a brief comparison between radical prostatectomy and other main treatment options of prostate cancer, such as "watchful waiting" and radiation therapy, in terms of cancer control. In addition, an overview is provided of the oncological outcomes following various techniques and approaches of radical prostatectomy including open retropubic, perineal, laparoscopic, and robot-assisted surgery.Backgrounds: To assess the prognostic value of new Gleason grade grouping system in high-risk prostate cancer patients, we compared oncological outcomes after radical prostatectomy for patients with Gleason score 8 versus 9-10.Purpose: To assess the association between the Oncotype DX Genomic Prostate Score (GPS) result and long-term oncological outcomes following radical prostatectomy (RP).The capability of an interactive statistical package (ISP) to predict the patients whose pathologic findings at the time of radical prostatectomy for prostate cancer would require postoperative radiation therapy to prevent local failure is investigated. A retrospective review of the clinical pretreatment factors and pathologic findings of 174 patients with adenocarcinoma of the prostate treated from 1989 to 1993 with radical retropubic prostatectomy was performed and served as a knowledge base of the ISP. The pathologic findings of seminal vesicle involvement, gross transcapsular disease, and positive surgical margins are defined as outcomes associated with a high risk of local failure after radical prostatectomy and, thereby, requiring postoperative radiation therapy to decrease this risk. By using the pretreatment clinical factors including prostate-specific antigen (PSA), Gleason score, clinical stage, and endorectal magnetic resonance imaging (MRI) findings as input to the ISP, patients are identified from a test group of 50 cases with known pathologic outcome who would require postoperative radiotherapy to decrease local failure. Low- (0% to 33%), intermediate- (34% to 67%), and high-risk groups (68% to 100%) for pathologic features associated with local failure were predicted accurately ($r > .95$) by the ISP for the 50 test cases. Factors identified on univariate analysis by the ISP as significant predictors of local failure postoperatively include PSA > 20 ($p < .001$), clinical stage ($p < .001$), MRI finding of gross transcapsular disease ($p < .001$), MRI finding of seminal vesicle involvement ($p < .001$), and Gleason score ($p < .003$).(ABSTRACT TRUNCATED AT 250 WORDS)Objectives: Brachytherapy is a widely used treatment for localized prostate cancer (CaP) and is only appropriate as monotherapy for low-risk cancer. The predicted response to therapy is defined by the pretreatment parameters, of which the biopsy Gleason grade is central. However, the biopsy grade often misrepresents the true pathologic grade. We examined the impact of incorrect biopsy grading on brachytherapy outcomes.In summary, there is increasing and convincing evidence that radical prostatectomy is effective in locally confined, poorly differentiated prostate cancer. Diagnostic efforts, therefore, should be targeted toward this disease and probably also, based on the natural history evidence, toward moderately differentiated disease, mainly Gleason score 7. It is unclear, at present, how this can be achieved. Further improvement of our diagnostic capabilities is urgently needed. Hopefully ongoing randomised studies comparing radical prostatectomy to surveillance and studies comparing radical prostatectomy to radiotherapy are urgently desired. The randomised screening studies, which are ongoing, will provide important information with respect to the effect of treatment. If

prostate cancer mortality in those men who are randomised to screening turns out to be better than in those randomised to control, this will also be an indication of the effectiveness of treatment. Also, the screening studies and associated natural history studies based on serum repositories and follow-up in non-screened patients will provide important information with respect to the natural history of prostate cancer in relation to PSA and changes of PSA over time. Finally, quality of life with and without treatment will have to be evaluated, in a prospective manner, in multicentre settings according to validated criteria such as those presented by Litwin. The outcomes of such studies will have to be added as utilities to data relating to traditional endpoints such as cancer-specific and overall survival. In the meantime, clinical practice will be determined by the fact that the only way to cure prostate cancer is early diagnosis and aggressive management. Encouragement comes from the increasing volume of evidence showing that poorly differentiated disease can be eradicated as long as it is locally confined.Background: Integrating quality-of-life (QOL) outcomes into clinics may assist providers in identifying and responding to problems experienced by cancer survivors. To date, however, patient-reported outcomes (PROs) such as QOL are used infrequently to guide care. We integrated QOL assessments into a prostate cancer survivorship clinic and compared recovery and satisfaction among men managed in the survivorship clinic with those followed with more routine care.The reader of the prostate cancer literature is often stunned by the lack of evidence of efficacy of one form of treatment over that of others. Indeed, information suggests that "no treatment" may be an effective option. Analyzing the available literature that reports the results of treatment versus observation for prostate cancer, Fleming et al. from the Prostate Patient Outcomes Research Team found that in most cases, treatment offered less than a 1-year improvement in quality-adjusted life expectancy. Using less optimistic assumptions, the authors also found that treatment could actually reduce quality-adjusted life expectancy. The decision of what form of treatment to offer the individual patient requires considerable discussion with the patient concerning his priorities and goals of therapy. For the younger patient with localized disease, the prevailing trend in the United States is toward radical prostatectomy. As the patient approaches the age of 70 years, the advantages of treatment versus observation alone evaporate. Because the disease is often of low biologic potential with a long doubling time, the option of observation initially with serial determinations of PSA is not unreasonable. If a slow rate of rise is noted, some patients may elect observation. However, with more rapid rises in PSA, a more aggressive stance may be appropriate. Because of the uncertainties inherent to treating this disease, it is imperative that the patient be brought into the treatment planning through education and through extensive discussions with health care providers and with family members. Only through such informed and deliberate discussions can a plan for treatment be reached with which the patient will be comfortable.Over 200,000 cases of prostate cancer will be diagnosed in the United States in 2007. Management of this common malignancy is controversial with essentially equal long-term survival and local control with either surgery or radiation therapy stage for stage in the setting of localized disease. Factors that can affect treatment recommendations include stage and grade of disease, the pre-treatment PSA, physician bias and patient choice. This paper examines several of the radiotherapeutic options for the treatment of prostate cancer, and will also discuss evolving modalities that may offer additional treatment choices in the future.Background: This study sought to compare the effectiveness of aggressive versus nonaggressive treatment in reducing cancer-specific mortality for older men with early-stage prostate cancer across differing comorbid disease burdens at diagnosis.The stage migration for newly diagnosed prostate cancer, improvements in prostate imaging, and devices capable of inducing subtotal prostate ablation have allowed for the formal study and evaluation of focal therapy for low-risk prostate cancer. Significant limitations remain: 1) the need for more accurate pre-treatment determination of cancer location, extent, and size, 2) determining appropriate methods of post-treatment surveillance and definitions of clinical progression, 3) the uncertainty whether repeat treatment, by focal or whole-gland therapy, is effective and safe. Clinical trials are ongoing to provide data on the feasibility and reliability of these new therapies, the capability of eradicating cancers, rates of secondary treatment, and impact on urinary and sexual function.Importance: Studies investigating the association of cigarette smoking with prostate cancer incidence and outcomes have revealed controversial results.Prostate cancer (PCa) is the most common cause of malignancy in males and the third leading cause of cancer mortality in the United States. The standard care for primary PCa with local invasive disease mainly is surgery and radiation. For patients with distant metastases, androgen deprivation therapy (ADT) is a gold standard. Regardless of a favorable outcome of ADT, patients inevitably relapse to an end-stage castration-resistant prostate cancer (CRPC) leading to mortality. Therefore, revealing the mechanism and identifying cellular components driving aggressive PCa is

critical for prognosis and therapeutic intervention. Cancer stem cell (CSC) phenotypes characterized as poor differentiation, cancer initiation with self-renewal capabilities, and therapeutic resistance are proposed to contribute to the onset of CRPC. In this review, we discuss the role of CSC in CRPC with the evidence of CSC phenotypes and the possible underlying mechanisms.Purpose: We compared pathological outcomes after radical prostatectomy for a population based sample of men with low risk prostate cancer initially on active surveillance and undergoing delayed prostatectomy vs those treated with immediate surgery in order to better understand this expectant management approach outside of the context of academic cohorts. We hypothesized that delays in surgery due to initial surveillance would not impact surgical pathological outcomes.Background: In vitro data and early clinical results suggest that metformin has desirable antineoplastic effects and has a theoretical benefit on castration-resistant prostate cancer (CRPC).The management of localized prostate cancer is controversial, and in the absence of comparative trials to inform best practice, choices are driven by personal beliefs with wide variation in practice patterns. Men with localized disease diagnosed today often undergo treatments that will not improve overall health outcomes, and active surveillance has emerged as one approach to reducing this overtreatment of prostate cancer. The selection of appropriate candidates for active surveillance should balance the risk of harm from prostate cancer without treatment, and a patient's personal preferences for living with a cancer and the potential side effects of curative treatments. Although limitations exist in assessing the potential for a given prostate cancer to cause harm, the most common metrics used today consider cancer stage, prostate biopsy features, and prostate-specific antigen level together with the risk of death from nonprostate causes based on age and overall state of health.Background: The incidence of prostate cancer increases with age and latent cancer is common in older men. But clinical prostate cancer is rare in men aged < 50 years.Prostate cancer is the most common nonskin cancer diagnosed in U.S. men and kills over 27 000 men annually. Thus, improving the outcomes for patients diagnosed with this disease is imperative. There has been a considerable amount of research done over the past several decades resulting in more cures than ever, but the death rate is still unacceptable. This oration addresses the progress that we have made over the past several decades and outlines the work yet to be done, as well as some processes to make that work happen. © RSNA, 2018.Purpose: To establish a consensus in relation to case selection, conduct of therapy, and outcomes that are associated with focal therapy for men with localized prostate cancer.Objectives: To study clinical characteristics, in terms of survival and response to treatment, of patients with non-localized prostate cancer at diagnosis in an Afro-Caribbean population from Guadeloupe.Prostate cancer is one of the major causes of cancer-related death in the western world. Androgen-deprivation therapy (ADT) for the suppression of androgens binding to the androgen receptor (AR) has been the norm of prostate cancer treatment. Despite early success to suppress prostate tumor growth, ADT eventually fails leading to recurrent tumor growth in a hormone-refractory manner, even though AR remains to function in hormone-refractory prostate cancer. Interestingly, some prostate cancer survivors who received androgen replacement therapy had improved quality of life without adverse effect on their cancer progression. These contrasting clinical data suggest that differential androgen/AR signals in individual cells of prostate tumors can exist in the same or different patients, and may be used to explain why ADT of prostate cancer fails. Such a hypothesis is supported by the results obtained from transgenic mice with selective knockout of AR in prostatic stromal vs epithelial cells and orthotopic transplants of various human prostate cancer cell lines with AR over-expression or knockout. These studies concluded that AR functions as a stimulator for prostate cancer proliferation and metastasis in stromal cells, as a survival factor of prostatic cancer epithelial luminal cells, and as a suppressor for prostate cancer basal intermediate cell growth and metastasis. These dual yet opposite functions of the stromal and epithelial AR may challenge the current ADT to battle prostate cancer and should be taken into consideration when developing new AR-targeting therapies in selective prostate cancer cells.Purpose: A prior report suggested that radical prostatectomy may confer a survival advantage to patients with metastatic castration recurrent prostate cancer. Therefore, a pooled analysis of 9 trials performed by Cancer and Leukemia Group B was done to determine if men with metastatic castration recurrent prostate cancer who underwent prior prostatectomy had improved clinical outcomes, such as overall, prostate specific, progression-free and PSA progression-free survival, than men who did not undergo prior prostatectomy.Purpose of review: The present review highlights the year's most important developments in the risk assessment, diagnosis, and treatment of prostate cancer.The role of imaging in the diagnosis and management of prostate is reviewed. Transrectal ultrasonography, which can be used to guide biopsy, is most frequently used imaging technique in cancer detection. For determining the extent of disease, CT and

MR imaging are the most commonly used modalities; bone scintigraphy and positron emission tomography have roles only in advanced disease. Currently, the role of imaging in prostate cancer is evolving to improve disease detection and staging, to determine the aggressiveness of disease, and to predict outcomes in different patient populationsBackground: Certain patients presenting with either low or very-low-risk prostate cancer (PCa) can represent a therapeutic dilemma for physicians. The oncologic outcomes of active surveillance (AS) for men with very-low-risk PCa are overall excellent. However, there are concerns about AS related to the potential for upgrading or upstaging. The African American (AA) population is under-represented in studies evaluating AS outcomes and this is particularly important because of the unique epidemiology of PCa in AA men.Purpose: To assess the performance of EAU risk classification in PCa patients according to the biopsy pathway (standard versus MRI guided) and to develop a new, more accurate, targeted biopsy (TB)-based classification.The goal of the Norwegian Ministry of Health and Care Services is to offer an equal health-care service with the same outcomes wherever people are living within the country. The aim of this study was to evaluate whether this was true for patients diagnosed with metastatic prostate cancer (mPC) and living in Nordland County, a region with a challenging geography and climate and having, several small and remote communities and only 1 department of oncology. The latter is located in the main city, Bodø. We also compared a subgroup living in communities having lower average annual income (less than NOK 240,000 (equivalent to USD 28,600)) with patients living in Bodø (NOK 285,000 (USD 33,900)). Overall 288 patients were included and stratified into 3 subgroups (favourable distance and income, unfavourable distance and income, and unfavourable distance and favourable income). No statistically significant differences were observed regarding patient characteristics. There was no indication towards under-treatment among patients from the distant regions or the lower income region. Given that disparities were not observed, it was not surprising to see comparable survival outcomes (p=0.35). In conclusion, these results suggest that the health-care system in Nordland County successfully delivers state-of-the-art oncology care to patients with mPC.Validated prognostic factors are an integral part of any cancer diagnosis. The available proliferation of new markers and randomized clinical trial results leads to a complex decision making looking for optimal treatment and outcome results. Advanced mathematic models have been developed to weigh each specific prognostic factor into a single outcome number in nomograms modeled for specific predictive accuracy in key phases of the treated history of the disease. Despite this progress, it is important to realize that the results are an outcome stratification for groups rather than for the individual patient. It is clear that in the tumor prognosis, host and environmental factors need to be evaluated before any clinical decision is made. Cancer 2009;115(13 suppl):3160-2. (c) 2009 American Cancer Society.The optimal management of patients with lymph node-positive prostate cancer remains controversial. The role of pelvic irradiation in patients at high risk for nodal involvement continues to be debated. Studies of prostate irradiation with and without inclusion of the pelvic lymph nodes show poor outcomes for node-positive patients, supporting the concept that many of these patients have systemic disease at presentation. Although no randomized trial has examined the role of pelvic irradiation in pathologically node-positive patients, available data fail to reveal any significant benefit of this approach over prostate-alone irradiation. More promising therapeutic approaches involve the combination of local therapy and sustained hormonal therapy. Series comparing prophylactic irradiation of the pelvis and prostate to irradiation of the prostate alone have shown no clear benefit of pelvic irradiation. Pelvic irradiation may play a role in the treatment of early-stage or occult nodal disease, although this has yet to be examined. Until prospective, randomized trials demonstrate the efficacy of pelvic irradiation in the management of prostate cancer, its use cannot be routinely recommended. Data support the use of lymphadenectomy in high-risk patients to identify those with positive nodes, since these patients require androgen withdrawal therapy.With the advent of focal therapy as a recognized treatment option for men with prostate cancer, there are a host of emerging interventions that take advantage of MRI for image guidance. Focal therapy affords a middleground option for patients with low- to intermediate-grade prostate cancer by providing a means of keeping their cancer at bay while avoiding the negative consequences of radical therapies. However, the practice of focal treatment is far from straightforward, with some believing focal treatment errs on the side of overtreatment among patients with low-grade cancer; others worry it is undertreatment in potentially significant multifocal disease. Further research is necessary, both relating to focal therapy in general and to the utility of each MRI-guided focal treatment discussed.The role of salvage cryoablation of the prostate for patients with clinically localized prostate cancer that have failed radiotherapy to the prostate is reviewed with reference to alternatives including salvage radical prostatectomy and brachytherapy. The diagnosis and work-up of local

recurrence/persistence of cancer in the prostate are reviewed and the patient selection criteria for salvage cryoablation is discussed. Technical aspects of the cryoablation procedure along with the outcome in terms of cancer control and treatment-related complications are detailed. The five-year biochemical disease-free rate is approximately 40%. The complication rate is acceptable. Salvage cryoablation definitely has a role in the management of localized prostate cancer treatment failure following radiotherapy, especially in older patients and those with some comorbidities.High-intensity focused ultrasound (HIFU) has emerged in the past decade as a new addition to the armamentarium of treatment options for prostate cancer. Clinical studies have investigated its use as a treatment for clinically localized disease and as salvage therapy in the setting of failure after external beam radiotherapy. Additional studies with long-term follow-up are needed to further evaluate the cancer control and quality of life outcomes of this new therapeutic modality.Study Type - Therapy (cohort) Level of Evidence 2b What's known on the subject? and What does the study add? Selective destruction of targeted prostate tissue is now technically feasible. Much has been theorized but little is known about the proper patient selection or treatment outcomes to determine if this organ preserving approach to prostate cancer has merit for further study and diffusion into wider practice. Herein we present the largest retrospective registry report of men treated with sub-total prostate cryotherapy in order to begin to understand how this treatment is being applied despite the paucity of data.High-risk prostate cancer poses a significant challenge to the treating physician and much debate exists regarding the ideal treatment approach. The purpose of this article is to enable physicians to identify patients with high-risk localized prostate cancer and evaluate whether monotherapy is sufficient for these patients. We review the current data on use of surgery, radiation therapy and hormonal therapy independently and in combination. We also discuss emerging therapeutics for high-risk disease including neoadjuvant chemotherapy and protocols under current and future investigation.Objective: Prostate cancer is an underreported and emerging problem in China. Here we summarize the data for Chinese patients with prostate cancer (PCa), describe available treatment options, and report 5-year outcomes at multiple tertiary care institutions.One consistent finding in the studies regarding treating men with prostate cancer is that men with high-risk disease have the most to gain from treatment with curative intent. Men with high-risk or locally-advanced prostate cancer require treatment to the primary cancer or risk dying prematurely from their disease. Increasingly, combined androgen deprivation therapy + radiation treatment is seen as the standard treatment as a result of prospective studies in this space, and the perceived increased morbidity of radical prostatectomy in the setting of a "low" cure rate as monotherapy. In the absence of a well-conducted randomized trial, there is no definite evidence that one treatment is superior to the other. The advantages of radical prostatectomy are that it provides excellent local control of the primary tumor without an increase in morbidity, accurately stages the disease to guide further therapy, and removes benign sources of prostate-specific antigen so that failures can be promptly identified and subsequent treatment can be initiated in a timely manner. Although several guidelines recommend radiation treatment over radical prostatectomy as first-line treatment, there is no evidence that surgery is inferior and radical prostatectomy should remain part of any informed discussion regarding treatment options for men with high-risk prostate cancer.Background: Geographic barriers and limited availability of cancer specialists may influence early prostate cancer treatment options for rural men. This study compares receipt of different early prostate cancer treatments between rural and urban patients.Goals of work: Patients with prostate cancer metastasized to bone frequently experience skeletal morbidities as a result of their disease. We sought to quantify the longitudinal effects on patient-reported outcomes of skeletal-related events (SREs) and to ascertain the declines in health-related quality of life (HRQOL) and pain experienced by patients who experienced SREs.Background: The objective of this study was to assess the racial and ethnic disparities in outcomes and their association with process-of-care measures for elderly Medicare recipients with localized prostate cancer.Purpose: We investigated whether clinical information routinely available in community practice could predict extracapsular extension of clinically localized prostate cancer in men undergoing radical prostatectomy.Purpose: Active surveillance to manage prostate cancer provides an alternative to immediate treatment in men with low risk prostate cancer. We report updated outcomes from a long-standing active surveillance cohort and factors associated with reclassification.Purpose: Controversy exists over the optimal treatment for patients with clinically localized prostate cancer. Almost all of the treatment results are from non-randomized trials and interseries comparison is difficult since the apparent success of a treatment, as judged by the actuarial freedom from relapse and survival data, depends on patient selection criteria and post-treatment evaluation, in addition to the efficacy of the therapeutic intervention. In this report the calculation of a

hazard function is used to estimate and compare the rate of relapse for the different treatments.Prostate cancer (PCa) is a common cancer in men, but variable clinical behaviors make its management challenging. Risk stratification is a key issue in disease management. Patient-tailored strategies are strongly advocated to reduce unnecessary treatment while maximizing the oncological outcomes of patient who need active treatment in the primary, adjuvant or salvage setting. Recently, tissue-based biomarkers or genomic tests have become available to improve the clinical decision-making. Areas covered: In this review, the authors present recent evidence about these tissue-based biomarkers, discussing the application of each of them in the clinical setting, focusing on the tests aimed to provide a better risk stratification and to guide decision-making after the diagnosis of PCa (i.e. OncotypeDX■, Prolaris■, ProMark■, Ki-67, Decipher■, PTEN, PORTOS, AR-V7 and DNA repair gene mutations). Expert commentary: Even if the clinicopathologic features are still the most frequently-used predictors of disease progression, these tools can be helpful in decision-making at every stage of the PCa management. Actually, OncotypeDX■, Prolaris■ and Decipher■ are recommended in the clinical setting by guidelines at different steps of PCa management. Consequently, further studies are indispensable to better tailor the right therapy for the right patient and at the right time.Background: Tissue biomarkers could pivotally improve clinical outcome prediction following prostate cancer therapy. Clinically, prostate cancer is managed by diverse treatment modalities whose individual influence on a biomarker's predictive ability is not well understood and poorly investigated in the literature.Prostate MRI is increasingly being used to make diagnoses and guide management for patients receiving definitive radiation treatment for prostate cancer. Radiologists should be familiar with the potential uses of prostate MRI in radiation therapy planning and delivery. Radiation therapy is an established option for the definitive treatment of localized prostate cancer. Stereotactic body radiation therapy (SBRT) is an external-beam radiation therapy method used to deliver a high dose of radiation to an extracranial target in the body, often in five or fewer fractions. SBRT is increasingly being used for prostate cancer treatment and has been recognized by the National Comprehensive Cancer Network as an acceptable definitive treatment regimen for low-, intermediate-, and high-risk prostate cancer. MRI is commonly used to aid in prostate radiation therapy. The authors review the uses of prostate MRI in SBRT treatment planning and delivery. Specific topics discussed include the use of prostate MRI for identification of and dose reduction to the membranous and prostatic urethra, which can decrease the risk of acute and late toxicities. MRI is also useful for identification and appropriate dose coverage of the prostate apex and areas of extraprostatic extension or seminal vesicle invasion. In prospective studies, prostate MRI is being validated for identification of and dose intensification to dominant intraprostatic lesions, which potentially can improve oncologic outcomes. It also can be used to evaluate the placement of fiducial markers and hydrogel spacers for radiation therapy planning and delivery. ©RSNA, 2022.Background: Although the use of multiparametric magnetic resonance imaging (mpMRI) in active surveillance (AS) for prostate cancer is of increasing interest, existing data are derived from small cohorts.Objectives: Men diagnosed with non-metastatic prostate cancer require standardised and robust long-term prognostic information to help them decide on management. Most currently-used tools use short-term and surrogate outcomes. We explored the evidence base in the literature on available pre-treatment, prognostic models built around long-term survival and assess the accuracy, generalisability and clinical availability of these models.Background: Active surveillance (AS) is the preferred management option for most men with grade group (GG) 1 prostate cancer (PCa). Questions persist regarding long-term outcomes and the optimal approach to AS.Purpose: The three main treatment options for primary prostate cancer are surgery, radiation, and active surveillance. Surgical and radiation intervention for prostate cancer can be associated with significant morbidity. Therefore, accurate stratification predictive of outcome for prostate cancer patients is essential for appropriate treatment decisions. Nomograms that use clinical and pathologic variables are often used for risk prediction. Favorable outcomes exist even among men classified by nomograms as being at high risk of recurrence.Prostate cancer is among the most common cancers. Although it has a relatively good prognosis, 15 to 30% of men with prostate cancer experience a relapse after radical prostatectomy. Identifying patients with an aggressive tumor will therefore help to improve prostate cancer management. DNA methylation of PITX2 has been established in several studies as a prognostic biomarker for breast and prostate cancer. These case control studies were conducted using research assay components; to facilitate its use in a diagnostic setting, the PITX2 biomarker was transferred to a validated diagnostic platform, the Affymetrix GeneChip System. A customized microarray (Epichip PITX2) was designed using features in high redundancy to ensure a robust determination of the methylation state of the PITX2 promoter. The

developed method allowed for accurate assessment of prognosis in prostate cancer patients who underwent radical prostatectomy. Determination of PITX2 methylation in formalin-fixed and paraffin-embedded tissue samples from a cohort of 157 prostatectomy patients resulted in an excellent level of concordance of the clinical classification, as well as the measured output between the research assay and the Epichip PITX2. These analytical performance results describe the Epichip PITX2 as a robust and reliable diagnostic tool for assessing the methylation status of PITX2, enabling an improved outcome prediction in cancer patients following radical prostatectomy.Background: Observational data are used increasingly to assess the effectiveness of therapies. However, selection biases are likely to have an impact on results and threaten the validity of these studies.Purpose: To evaluate whether supplemental external beam radiotherapy (EBRT) is essential to maximize Pd-103 brachytherapy outcomes in patients with unfavorable intermediate-risk (IR) disease.Considering that the prostate cancer radioresistance occurs in a significant percentage--as 20-40% of prostate cancer (PCa) patients undergone external beam radiation therapy developing, within ten years, recurrent and more aggressive tumor--the resort to customized radiosensitizer measures, focusly targeting PCa radioresistance-linked individual molecular aberrations, can increase the successful outcomes of PCa radiotherapy.Background: Quality of life in prostate cancer is a multidimensional concept. From a social work perspective, three quality-of-life issues require additional consideration. These are: the impact of the disease and its treatment on family caregivers, the possibility of age bias and ethical dilemmas in treatment decisions, and the specific concerns of black men in whom the disease is more common.Purpose: For patients with prostate cancer, validated and reliable instruments are essential for measuring patient-reported outcomes. The aim of this study was to validate the German version of the widely established Expanded Prostate Cancer Index Composite with 26 items (EPIC-26).Purpose: The objective of this study was to investigate nationwide survival outcomes in men with localized prostate cancer managed on active surveillance.With the established effectiveness of diverse treatments for localized prostate cancer, the identification of the physical and psychological consequences of the disease and its various treatments has become critical. In the present review, we aim to familiarize the reader with the methodologies of health-related quality of life (HRQOL) research and to review the recent literature on HRQOL outcomes in patients with localized prostate cancer. Studies have shown that prostate cancer and its treatment affect both disease-specific HRQOL (i.e. urinary, sexual, and bowel function) as well as general HRQOL (i.e. energy/vitality and performance in physical and social roles). However, these effects appear to differ according to the type of treatment, stage of disease, age of the subjects, time after treatment, and, more importantly, race or ethnicity. By including HRQOL in clinical decision-making, we can help our patients make more informed treatment choices for localized prostate cancer.Background: Distinguishing indolent from aggressive prostate cancer remains a key challenge for decision making regarding prostate cancer management. A growing number of biomarkers are now available to help address this need, but these have rarely been examined together in the same patients to determine their potentially additive value.Purpose: Because data from randomized trials initiated after the introduction of prostate specific antigen testing are unavailable, we performed a retrospective, population based study to estimate prostate cancer specific survival and overall survival after surgery, radiation or observation to manage clinically localized prostate cancer.Objectives: To assess the long-term outcomes of patients with prostate cancer managed with intermittent androgen suppression (IAS) following their enrollment in an open, non-randomised feasibility study initiated 10 years ago.Context: Prostate cancer (PCa) patients found to have adverse pathologic features following radical prostatectomy (RP) are less likely to be cured with surgery alone.The genomic landscape of metastatic castration-resistant prostate cancer (mCRPC) differs from that of the primary tumor and is dynamic during tumor progression. The real-time and repeated characterization of this process via conventional solid tumor biopsies is challenging. Alternatively, circulating cell-free DNA (cfDNA) containing circulating tumor DNA (ctDNA) can be obtained from patient plasma using minimally disruptive blood draws and is amenable to sequential analysis. ctDNA has high overlap with the genomic sequences of biopsies from metastases and has the advantage of being representative of multiple metastases. The availability of techniques with high sensitivity and specificity, such as next-generation sequencing (NGS) and digital PCR, has greatly contributed to the development of the cfDNA field and enabled the detection of genomic alterations at low ctDNA fractions. In mCRPC, a number of clinically relevant genomic alterations have been tracked in ctDNA, including androgen receptor (AR) aberrations, which have been shown to be associated with an adverse outcome to novel antiandrogen therapies, and alterations in homologous recombination repair (HRR) genes, which have been associated with a response to PARP inhibitors. Several clinical

applications have been proposed for cfDNA analysis, including its use as a prognostic tool, as a predictive biomarker, to monitor tumor response and to identify novel mechanisms of resistance. To date, the cfDNA analysis has provided interesting results, but there is an urgent need for these findings to be confirmed in prospective clinical trials.Clinically localized prostate cancer is associated with a wide variation in biologic behavior, and men with the less aggressive form of the disease may never develop symptoms. There has been a rise in prostate cancer incidence in countries in which the blood test for prostatic-specific antigen (PSA) is common, and concerns have been expressed that this may be because of the increased detection of indolent disease, subjecting these men to unnecessary treatment and associated side effects. For the current review, the authors conducted a systematic evaluation of the literature regarding the outcomes of men who were diagnosed on the basis of a small volume of cancer in prostatic biopsies. The results indicated that, despite differences in study design and reporting, a significant proportion of patients with microfocal cancer, regardless of how it was defined, had adverse pathologic findings and a significant risk of PSA recurrence after undergoing radical prostatectomy. Biochemical and clinical recurrences also were observed after radiotherapy or watchful waiting. The authors concluded that patients with microfocal carcinoma on biopsy should be advised that their disease is not necessarily "insignificant" and should be counseled accordingly.Much epidemiologic and case-controlled evidence suggests that diet may be a modifier of prostate cancer risk. However, the role of dietary modification in men known to have prostate cancer is a matter of some debate. To elucidate the effect of diet and comprehensive lifestyle changes on cancer risk, we are conducting a randomized, prospective clinical trial on men with clinically localized prostate cancer who have selected "watchful waiting" as primary therapy. Since its inception in April 1997, 93 men have been randomized to control (n = 47) or dietary and lifestyle intervention (n = 46). Patients in the intervention group are asked to eat a low-fat, soy-supplemented vegan diet and take part in stress management, psychosocial group support, and exercise programs. After 1 year, adherence to all four interventions was greater than 80%, and no deaths or adverse outcomes have occurred. To date, we have collected prostate-specific antigen and endorectal magnetic resonance imaging and spectroscopy data on 63 patients (34 control and 29 intervention). This study demonstrates that a randomized, prospective dietary trial for men with localized prostate cancer is safe and feasible. The methodologies used provide insights into practical aspects of diet design and compliance assessment that may be useful templates for future dietary trials.Objectives: To analyse the perioperative and oncological outcomes of all radical prostatectomies (RPs) performed for high-risk prostate cancer in the British Association of Urological Surgeons (BAUS) national registry from 2014 to 2015.Objective: To compare the tumour characteristics and treatment outcome in men undergoing radical prostatectomy (RP) for prostate cancer diagnosed with or with no lower urinary tract symptoms (LUTS).Background: Accumulating evidence indicates that oestrogens have significant direct effects on normal prostate development and carcinogenesis. The majority of the biological activities of oestrogens are mediated through the oestrogen receptor (ER), which functions as a hormone-inducible transcription factor to regulate target gene expression by binding to oestrogen response elements (EREs) in the regulatory regions of target genes. Sequence variants in EREs might affect the ER-ERE interaction and subsequent physiological activities. Therefore, we tested whether common single-nucleotide polymorphisms (SNPs) inside EREs are related to the clinical outcomes of androgen-deprivation therapy (ADT) in men with prostate cancer.A significant proportion of screen-detected men with prostate cancer is likely to be overtreated, especially in older age groups. We aim to find which groups of screen-detected older men (65+) benefit the most from Immediate Radical Treatment or Active Surveillance (AS) for prostate cancer, depending on age, screening history, health status and prostate cancer stage at detection. We used a microsimulation model (MISCAN) of the natural history of prostate cancer based on ERSPC data. Individual life histories are simulated with US comorbidity lifetables based on a random sample of MEDICARE data. Different screening histories are simulated and we count outcomes for men screen-detected from ages 66 to 72. For immediately treated men with low-risk disease (≤ T2a, Gleason 6) the probability of overtreatment ranges from 61% to 86% decreasing to between 37 and 46%, if they are assigned to AS. For intermediate risk men (≤ T2, Gleason 3 + 4) overtreatment ranges from 23 to 60%, which reduces to between 16 and 31% for AS. For high risk men (T3, or ≥ Gleason 4 + 3), overtreatment ranges from 11 to 51%. The disease stage at screen-detection is a critical risk factor for overtreatment. For low risk men, AS seems to significantly reduce overtreatment at a modest cost. For intermediate risk men, the decision between immediate treatment or AS depends on age and comorbidity status. Men screen-detected in a high risk disease stage may benefit from immediate treatment even beyond age 69.Background: There is scant data

regarding disease presentation and treatment response among black men living in Africa. In this study we evaluate disease presentation and early clinical outcomes among Ghanaian men with prostate cancer treated with external beam radiotherapy (EBRT).Background: With the increasing use of robotic surgery in the United States, the comparative effectiveness and differences in reimbursement of minimally invasive radical prostatectomy (MIRP) and open prostatectomy (ORP) in privately insured patients are unknown. Therefore, we sought to assess the differences in perioperative outcomes and hospital reimbursement in a privately insured patient population who were surgically treated for prostate cancer.Background: Cancer-related fatigue is a significant clinical problem and is a symptom commonly experienced by patients with differing cancer types during and following treatment. It is a distressing symptom which interferes with functioning in daily life. However, much less is known about the prevalence and severity of fatigue in prostate cancer when compared to other cancer types, such as breast cancer.Objective: To evaluate a novel approach with intraoperative radiotherapy (IORT) administered in the surgical field, after pelvic lymphadenectomy (PL) and before radical retropubic prostatectomy (RRP), evaluating acute and late toxicity, complications and biochemical progression-free survival (bPFS), as the adequate treatment of locally advanced prostate cancer is still a controversial issue.Comprehensive cancer genome studies have revealed genetically-defined subtypes of prostate cancer with distinct truncal driver mutations. Because prostate cancer has been largely seen as a rather uniform disease, the clinical significance of this discovery remained largely obscure. However, recent findings imply distinct biological features and therapeutic vulnerabilities linked to specific truncal mutations. Here we review our current understanding of prostate cancers harboring recurrent point mutations in the ubiquitin ligase adaptor protein SPOP and discuss opportunities for future clinical translation. More specifically, activation of the androgen receptor (AR) signaling emerges as the key oncogenic pathway. SPOP-mutant prostate cancer patients respond to AR inhibition in various clinical settings. Molecular insights on how mutant SPOP promotes tumorigenesis may open more specific therapeutic avenues which, in combination with conventional AR-targeting agents, could improve the outcome of patients with SPOP-mutant prostate cancer.Purpose: This study compares the side effects of active surveillance, prostatectomy, radiation with or without adjuvant endocrine therapy, watchful waiting, and palliative therapy on patient-reported outcomes in a nationwide, population-based cohort of Danish men with prostate cancer.Current models of prostate cancer classification are poor at distinguishing between tumors that have similar histopathological features but vary in clinical course and outcome. Here, we applied classical survival analysis to genome-wide gene expression profiles of prostate cancers and preoperative prostate-specific antigen (PSA) levels from each patient, to identify prognostic markers of disease relapse that provide additional predictive value relative to PSA concentration. Three of approximately 200 probesets showing strongest correlation with relapse were identified as the gene for the putative calcium channel protein, trp-p8, with loss of trp-p8 mRNA expression associated with a significantly shorter time to PSA relapse-free survival. We observed subsequently that trp-p8 is lost in the transition to androgen independence in a prostate cancer xenograft model and in prostate cancer tissue from patients treated preoperatively with antiandrogen therapy, suggesting that trp-p8 is androgen regulated, and its loss may be associated with more advanced disease. The identification of trp-p8 and other proteins implicated in the phosphatidylinositol signal transduction pathway that are associated with prostate cancer outcome, both here and in other published work, suggests an integral role for this pathway in prostate carcinogenesis. Thus, our findings demonstrate that multivariable survival analysis can be applied to gene expression profiles of prostate cancers with censored follow-up data and used to identify molecular markers of prostate cancer relapse with strong predictive power and relevance to the etiology of this disease.Purpose: Pelvic lymph node dissection represents the gold standard of lymph node staging in patients with prostate cancer. We sought to assess the effect of extended pelvic lymph node dissection on oncologic outcomes in patients with characteristics of D'Amico intermediate or high risk prostate cancer treated with radical prostatectomy.Background: Interstitial brachytherapy for localised prostate cancer may be followed by transient increases in prostate-specific antigen (PSA) that resolve without therapy. Such PSA bounces may be associated with an improved outcome but often cause alarm in the patient and physician, and have defied explanation.Purpose: Few studies have documented the long-term oncological outcomes of favorable and unfavorable intermediate-risk (IR) prostate cancer patients treated via contemporary high-dose irradiation. We analyzed the ultimate clinical outcomes of such patients using the current risk sub-stratification schema.Prostate cancer carries significant morbidity and mortality, but its outcome is difficult to predict in the individual. Androgen ablation delays progression in men, but hormone resistance soon develops and much basic

science research has focused on how prostate cancer 'escapes' hormonal control. Stem cell models of prostate development and homeostasis have been proposed, but have not yet been fully characterized. Some androgen-regulated signalling pathways and abnormalities that affect them have been defined recently. It is apparent that locally produced growth factors, often regulated by androgens, exert an effect both physiologically and pathologically and these too will be discussed.The diagnosis of prostate cancer for any male of any age can profoundly affect his life and that of his family. Improvements in laparoscopic devices, combined with associated surgical equipment and innovative urologic uses, have changed the treatment choices and outcomes for these types of patients. Transperitoneal laparoscopic radical prostatectomy (TLRP) offers improved postoperative outcomes for patients with localized prostatic cancer, decreasing the profound postoperative effects on functional return and potency. Quantitative advantages of TLRP include increased safety, lower hospital costs, and length of stay, while qualitative advantages include increased patient satisfaction, accelerated recovery, and qualitatively improved functional return.Introduction: Prostate cancer (PCa) is the most commonly diagnosed malignancy in men and the second leading cause of cancer-related death in industrialized countries. Even if the healing chances are very high after definitive treatment of localized disease, 20-30% of patients experience recurrence.Background: Prostate cancer (PC) is the most common cancer in Western countries. More than one third of PC patients develop metastatic disease, and the 5-year expected survival in distant disease is about 35%. During the last few years, new treatments have been launched for metastatic castrate-resistant prostate cancer (mCRPC).Purpose: This study aimed to assess whether prostate cancer survivors who received a behavioral intervention to urinary incontinence had experienced a significant mood improvement.Purpose: We measured the impact brachytherapy monotherapy (BMT) has on general and disease specific health related quality of life (HRQOL) compared to patients treated with radical prostatectomy (RP).New therapeutic approaches for castration-resistant prostate cancer (CRPC) introduce new treatment dilemmas: how best to sequence these options to maximally benefit patients, what tests to perform before and after treatment to assess disease status, and how to interpret the test results and use them to guide treatment. New and specific end points for different classes of drugs are needed to provide the information to guide these treatment decisions. In 2008, the Prostate Cancer Working Group 2 consensus criteria for early-phase clinical trials redefined clinical trial end points as first, to control, relieve, or eliminate disease manifestations present when treatment is started and second, to prevent or delay future disease manifestations. Disease manifestations include prostate-specific antigen (PSA), soft-tissue disease (nodes and/or viscera), bone disease (most common site of spread), and symptoms. Recent US Food and Drug Administration (FDA) approvals for CRPC therapies have been based on the prevent/delay end points that reflect unequivocal benefit to a patient: prolongation of life or reduction in skeletal-related events (SREs). For the practicing oncologist, the control/relieve/eliminate outcomes should serve primarily to inform the decision of whether to continue therapy. In this review, we consider individual end points such as PSA, imaging, and patient-reported outcomes in the context of the control/relieve/eliminate and prevent/delay framework. We address the time-to-event end points of metastasis prevention, SRE, time to progression, and overall survival in the context of regulatory approvals. We also discuss circulating tumor cells measured with the CellSearch assay, recently cleared by the FDA for monitoring CRPC.Purpose: The main purpose of this study was to investigate the effects of a 12-week, clinician-referred, community-based exercise training program with supervised and unsupervised sessions for men with prostate cancer. The secondary purpose was to determine whether androgen deprivation therapy (ADT) modified responses to exercise training.Purpose of review: This article reviews recent developments in the use of active surveillance for localized prostate cancer.Background: Global cancer incidence ranks Prostate Cancer (CaP) as the second highest overall, with Africa and the Caribbean having the highest mortality. Previous literature suggests disparities in CaP outcomes according to ethnicity, specifically functional and oncological are suboptimal in black men. However, recent data shows black men achieve post radical prostatectomy (RP) outcomes equivalent to white men in a universally insured system. Our objective is to compare outcomes of patients who self-identified their ethnicity as black or white undergoing RP at our institution.Objective: To report the long-term tumor control and survival outcomes after conformal external-beam radiotherapy for patients with clinical stage T3 prostate cancer.Beneficial effects of physical activity have been illustrated in numerous aspects of health. With the increasing incidence of prostate cancer and changes in physical activity of men, understanding the link between the two has important implications for changing this cancer burden. Both positive and negative associations between physical activity and prostate cancer have been previously demonstrated in observational

epidemiological studies. Elucidating the biological mechanisms would lead to a better understanding of how physical activity influences the progression of prostate cancer. This review was undertaken to: (1) identify evidence in literature that demonstrates the effects of physical activity on skeletal muscle secretomes, (2) indicate the plausible signaling pathways these proteins might activate, and (3) identify evidence in literature that demonstrates the roles of the signaling pathways in prostate cancer progression and regression. We also discuss proposed biological mechanisms and signaling pathways by which physical activity may prevent the development and progression of prostate cancer. We discuss proteins involved in the normal and aberrant growth and development of the prostate gland that may be affected by physical activity. We further identify future directions for research, including a better understanding of the biological mechanisms, the need to standardize physical activity and identify mechanistic end points of physical activity that can then be correlated with outcomes.Prostate cancer (PC) presents great challenges in early diagnosis and often leads to unnecessary invasive procedures as well as over diagnosis and treatment, thus highlighting the need for promising early diagnostic biomarkers. The aim of this review is to provide an up-to-date summary of chronologically existing metabolomics PC biomarkers, their potential to improve clinical PC diagnosis and to reduce the proliferation and monitoring of PC. The systematic research was conducted on PubMed in accordance with PRISMA guidelines to report PC biomarkers. The majority of the studies distinguished malignant from benign prostate and few explored the biomarkers associated with the progression of PC. The present review summarises the primary outcomes of most significant studies to extend our knowledge of PC metabolomics biomarkers. We observed divergent inter-laboratory technical procedures employing different statistical approaches produced abundant information regarding PC metabolites perturbation. Since PC metabolomics is still in its early phase, it is vital that we dig out the most specific, sensitive and accurate metabolic signatures and conduct more studies with milestone findings with comparable sample sizes to validate and corroborate the findings.This report summarizes the presentations and discussions that took place at the Sixth Joint Meeting of J-CaP and CaPSURE held in San Francisco, USA, in August 2012. The J-CaP and CaPSURE Joint Initiative was established in 2007 with the objective of analyzing, reviewing, comparing and contrasting data for prostate cancer patients from Japan and the USA within the two important large-scale, longitudinal, observational databases-J-CaP and CaPSURE. Since this initial collaboration between teams in the USA and Japan, the initiative has now expanded to include representatives of other Asian countries, several of whom have either established or are planning their own national prostate cancer databases. Several key topics were considered at this Sixth Joint Meeting including the current status of the J-CaP and CaPSURE databases and opportunities for collaboration with the more recently developed Asian prostate cancer databases. The latest comparative data from J-CaP and CaPSURE regarding outcomes following androgen deprivation therapy and combined androgen blockade were also reviewed. The possibility of a global chemoprevention trial to investigate the influence of soy isoflavones on prostate cancer incidence was considered. In addition, the ongoing debate regarding the role of screening and the use of active surveillance as a treatment option in the USA was discussed. The collaborators agreed that sharing of data and treatment practices on a global scale would undoubtedly benefit the clinical management of prostate cancer patients worldwide.Screening for prostate cancer has intensified, due both to increased patient and physician awareness and to the availability of new, more sensitive diagnostic tools (prostate-specific antigen [PSA], rectal ultrasound, etc.). Consequently, the number of newly diagnosed cases of prostatic cancer is rising rapidly, whereas the frequency of death due to prostate cancer remains almost stable. It must therefore be assumed that the number of patients in whom a diagnosed prostate cancer will not be fatal is also increasing. Consequently, not every prostatic carcinoma requires radical treatment when diagnosed. Also, it must be concluded that not every man who is a long-term survivor after radical prostatectomy owes his survival to the treatment. Long-term survival may reflect the relatively benign biological potential of this disease in an individual patient. Therefore there is an inherent risk of overtreating patients and this must be weighed against the costs, the postoperative morbidity, and the mortality, albeit low, of a radical prostatectomy. Nevertheless, as long as we do not have diagnostic tools which, at an early stage of prostatic cancer, enable us to determine whether a carcinoma will ultimately have a fatal outcome, we are obliged to offer a radical prostatectomy to younger patients (who have a life expectancy of more than 10 years) as long as they have organ-confined disease.Background: Smaller prostates have been linked to unfavorable clinical characteristics and poor short-term outcomes following radical prostatectomy (RP). We examined the relation between prostate weight at RP and prostate cancer (PC) outcomes post-RP.Aims and objectives: This study seeks to identify the factors

that shape the communication networks of men who face a potential diagnosis of prostate cancer, and how these factors relate to their disclosure about their changing health status.The incidence of organ-confined and early-stage prostate cancer has increased. The external beam radiation therapy has proven to be a good therapeutic option in terms of biochemical survival and overall survival. It has been modified throughout the years; consequently, the available data on the long-term efficacy of external beam radiation therapy are difficult to compare with the commonly used improved radiation strategies. Intensity-modulated conformal radiotherapy and three-dimensional conformal radiotherapy result in better tumor control at a lower complication rate. External beam radiotherapy seems to be favored in intermediate- and high-risk groups for relapse of prostate cancer and radical prostatectomy is favored in the low-risk group. However, they score similarly in terms of general health-related quality of life after treatment.Purpose: We describe the current status of quality of care measurement for localized prostate cancer and provide a framework for preserving a leadership role for our specialty in this dynamic and controversial field.Background: Pretreatment urinary, bowel, and sexual dysfunction may increase the toxicity of prostate cancer treatments or preclude potential benefits. Using patient-reported baseline dysfunction from a prospective cohort study, we determined the proportion of patients receiving relatively contraindicated ('mismatched') treatments.Background: Higher levels of physical activity (PA) after treatment are associated with beneficial effects on physical and psychosocial functioning of cancer survivors. However, survivors often do not meet the recommended levels of PA. In order to promote PA, we developed a closed internet-based program. The aim of the study is to evaluate the (cost-)effectiveness of an internet-based PA-promotion program, alone or combined with physiotherapy counselling, compared to usual care, on PA-levels of breast or prostate cancer survivors. In this multicenter randomised controlled trial (RCT), breast or prostate cancer survivors who completed their primary treatment 3-12 months earlier, will be randomised to either 6-months access to a fully-automated internet-based intervention alone, an internet-based intervention plus remote support by a physiotherapist, or a control group. The intervention is based on the Transtheoretical Model and includes personalized feedback, information, video's and assignments. Additionally, in a second arm, physiotherapy counselling is provided through monthly scheduled and on-demand telephone calls. The control group will receive usual care and a leaflet with PA guidelines.Prostate carcinoma, with about 190,000 new cases occurring each year (15% of all cancers in men), is the most frequent cancer among men in northern and western Europe. Causes of the disease are essentially unknown, although hormonal factors are involved, and diet may exert an indirect influence; some genes, potentially involved in hereditary prostate cancer (HPC) have been identified. A suspect of prostate cancer may derive from elevated serum prostate-specific antigen (PSA) values and/or a suspicious digital rectal examination (DRE) finding. For a definitive diagnosis, however, a positive prostate biopsy is requested. Treatment strategy is defined according to initial PSA stage, and grade of the disease and age and general conditions of the patient. In localized disease, watchful waiting is indicated as primary option in patients with well or moderately differentiated tumours and a life expectancy <10 years, while radical prostatectomy and radiotherapy (with or without hormone-therapy) could be appropriate choices in the remaining cases. Hormone-therapy is the treatment of choice, combined with radiotherapy, for locally advanced or bulky disease and is effective, but not curative, in 80-85% of the cases of advanced disease. Patients who develop a hormone-refractory prostate cancer disease (HRPC) have to be evaluated for chemotherapy because of the recent demonstration of improved overall survival (2-2.5 months) and quality of life with docetaxel in more than 1,600 cases.Introduction: The aim of this study is to evaluate the use of androgen deprivation therapy (ADT) with post-prostatectomy radiotherapy (PPRT) in a population-based cohort of Australian men.Detectable prostate-specific antigen levels (PSA) following radical prostatectomy (RP) are believed to represent treatment failure. In this retrospective review, we characterize long-term PSA outcomes following RP (n = 204) in a non-referral hospital performed between 1984 and 1994. With an average follow-up of 10 y, 90 (44%) patients developed a PSA recurrence: 15 (17%) died of prostate cancer despite hormonal intervention, 39 (43%) responded to hormonal therapy with stable remission and 36 (40%) were observed without intervention. Following RP many patients may have a detectable PSA that does not require treatment. PSA doubling time (< 12 months) was the best predictor of disease progression.Recently, nutraceuticals have received increasing attention as the agents for cancer prevention and supplement with conventional therapy. Prostate cancer (PCa) is the most frequently diagnosed cancer and second leading cause of cancer-related death in men in the US. Growing evidences from epidemiological studies, in vitro experimental studies, animal studies, and clinical trials have shown that nutraceuticals could be very useful for the prevention and treatment of

PCa. Several nutraceuticals including isoflavone, indole-3-carbinol, 3,3'-diindolylmethane, lycopene, (-)-epigallocatechin-3-gallate, and curcumin are known to downregulate the signal transductions in AR, Akt, NF-κB, and other signal transduction pathways which are vital for the development of PCa and the progression of PCa from androgen-sensitive to castrate-resistant PCa. Therefore, nutraceutical treatment in combination with conventional therapeutics could achieve better treatment outcome in prostate cancer therapy. Interestingly, some nutraceuticals could regulate the function of cancer stem cell (CSC)-related miRNAs and associated molecules, leading to the inhibition of prostatic CSCs which are responsible for drug resistance, tumor progression, and recurrence of PCa. Hence, nutraceuticals may serve as powerful agents for the prevention of PCa progression and they could also be useful in combination with chemotherapeutics or radiotherapy. Such strategy could become a promising newer approach for the treatment of metastatic PCa with better treatment outcome by improving overall survival.Testosterone remains a key target in the treatment of advanced prostate cancer. The relationship of free testosterone to prostate cancer treatment and outcomes remains largely unexplored. A consensus of prostate cancer experts was convened in 2013 to review current knowledge surrounding relationship of total and free testosterone to prostate cancer, discuss the free hormone hypothesis, and highlight future avenues for therapeutics. Free testosterone may better reflect prostate cancer tissue androgen levels than serum total testosterone concentration. Free testosterone deserves more research regarding its relation to clinical outcomes.Options to treat late-stage castration-resistant prostate cancer continued to increase in 2011, as three agents with different mechanisms of action prolonged life and a fourth reduced the morbidity of skeletal metastases. These outcomes contrasted with the heightened controversy generated by the recommendation against PSA screening and other early detection strategies.Background: The aim of this study was to determine whether local radiotherapy to the prostate by intraoperative radiotherapy (IORT) increases the overall and cancer-specific survival rates of patients with metastatic prostate cancer.Primary prostate cancer is the most common malignancy in men but has highly variable outcomes, highlighting the need for biomarkers to determine which patients can be managed conservatively. Few large prostate oncogenome resources currently exist that combine the molecular and clinical outcome data necessary to discover prognostic biomarkers. Previously, we found an association between relapse and the pattern of DNA copy number alteration (CNA) in 168 primary tumors, raising the possibility of CNA as a prognostic biomarker. Here we examine this question by profiling an additional 104 primary prostate cancers and updating the initial 168 patient cohort with long-term clinical outcome. We find that CNA burden across the genome, defined as the percentage of the tumor genome affected by CNA, was associated with biochemical recurrence and metastasis after surgery in these two cohorts, independent of the prostate-specific antigen biomarker or Gleason grade, a major existing histopathological prognostic variable in prostate cancer. Moreover, CNA burden was associated with biochemical recurrence in intermediate-risk Gleason 7 prostate cancers, independent of prostate-specific antigen or nomogram score. We further demonstrate that CNA burden can be measured in diagnostic needle biopsies using low-input whole-genome sequencing, setting the stage for studies of prognostic impact in conservatively treated cohorts.Background: Cigarette smoking is associated with worse outcomes in prostate cancer, whose growth is dependent on androgen receptor (AR) signaling. We aimed to elucidate the biological effect of cigarette smoking on AR signaling and its clinical influence on oncological outcome.Background: Prostate cancer screening is studied in a randomized trial in Antwerp, Belgium. The case group receives three screening tests (DRE, TRUS, and PSA). Intermediate evaluation shows that only 1/3 of the biopsy results is positive (35/125). The proposed analysis identifies variables that determine the biopsy outcome.Background: Evolution of cryotherapy for prostate cancer is likely to result in parenchyma-sparing modifications adjacent to the urethra and neurovascular bundle. Results of initial series of focal therapy to minimize cryosurgery-related morbidity without compromising oncologic control have been encouraging, but limited in short-term outcomes.Purpose: We prospectively investigated long-term survival in select men with locally advanced, nonmetastatic prostate cancer managed with deferred treatment.Objective: To explore the prognostic factors of prostate cancer (PCa) patients and evaluate the effect of brachytherapy on survival time.Background: The MD Anderson Symptom Inventory (MDASI) is a psychometrically validated patient-reported outcome measure that assesses the severity and impact of multiple symptoms related to cancer and its treatment and has the potential to guide treatment specific to patients with prostate cancer. Although the original MDASI validation study encompassed various cancer types, the instrument's psychometric properties have not been examined in a large homogeneous sample of patients with prostate cancer.Radiotherapy has been successful in treating

localized prostate cancer; however, a subset of patients will experience disease recurrence. Determination of the recurrence location must be made using pretreatment and posttreatment clinical variables, imaging, and postradiotherapy biopsy. Patients presumed to have local-only recurrence, optimal clinical risk factors, and an extended life expectancy may be considered for salvage local treatment. Current options include salvage surgery, cryoablation, and brachytherapy. Although they are associated with higher morbidity than primary therapy, salvage treatments can be effective and can still provide patients with a good oncologic and functional outcome. As these modalities continue to improve and patient selection is optimized, better results will evolve.Background: In 2012, the United States Preventive Services Task Force (USPSTF) recommended against prostate-specific antigen (PSA) screening, despite evidence that Black men are at a higher risk of prostate cancer-specific mortality (PCSM). We evaluated whether Black men of potentially screening-eligible age (55-69 years) are at a disproportionally high risk of poor outcomes.Rationale: Prostate cancer often metastasizes (most commonly to the pelvic lymph nodes and axial skeleton); however, metastases to the pelvic cavity as a solitary mass are unusual. While metastatic prostate cancer is unconventional in pelvic cavity, cystic pelvic lesions are even more scarce. Accurate identification of cystic metastasis can be helpful in management of prostate cancer.We report on how anatomic pathology observations and prostate-specific antigen (PSA) observations made before and just after radical prostatectomy relate to subsequent outcomes in men with prostate cancer. Our study patients consisted of more than 200 men who underwent radical prostatectomy and who had a mean follow-up of more than 6 years. We found that there were 2 categories of failures after surgery--one consisting of an eventual elevated PSA level and the other consisting of an early death from progressive tumor--and that these 2 failures related differently to PSA and anatomic pathology observations made at the time of prostatectomy. Whereas preoperative and postoperative levels of PSA related most closely to PSA failure, Gleason grade 5 and the percentage carcinoma related most closely to early death. Our results suggest how men could be sorted into 3 prognostic categories after surgery: one with high hazard for early death, a second with low hazard for early death but with high probability for eventual elevated PSA level, and a third with overall good prognosis.The objective of this study was to examine the effect of socioeconomic status and insurance status on health-related quality of life (HRQOL) outcomes in men with prostate cancer. The design was a retrospective cohort study using multiple sites, including both academic and private practice settings. A cohort of 860 men with newly diagnosed, biopsy-proven prostate cancer of any stage was identified within CaPSURE, a longitudinal disease registry of prostate cancer patients. HRQOL was assessed with validated instruments, including the RAND 36-item Health Survey (SF-36) and the UCLA Prostate Cancer Index. Covariates included insurance status, education level, annual income, age, stage, comorbidity, Gleason grade, baseline PSA, marital status, ethnicity and primary treatment. HRQOL measurements were taken at 3-6-month intervals. Analysis of covariance was used to determine the effect of SES and insurance status on the HRQOL domains at baseline and over time. Patients with lower annual income had significantly lower baseline HRQOL scores in the all of the domains of the SF-36 and four of eight disease-specific HRQOL domains. No relationship was seen between annual income and HRQOL outcomes over time. Conversely, health insurance status was associated with HRQOL over time, but not at baseline. Health insurance status appears to have a unique effect on general HRQOL outcomes in men after treatment for prostate cancer. This study confirms the commonly held belief that patients of lower SES tend to have worse quality of life at baseline and following treatment for their disease. These findings have important ramifications for clinicians, researchers and policy makers.The Asian Prostate Cancer (A-CaP) Study is an Asia-wide prospective registry study for surveying the treatment outcome of prostate cancer patients who have received a histopathological diagnosis. The study aims to clarify the clinical situation for prostate cancer in Asia and use the outcomes for the purposes of international comparison. Following the first meeting in Tokyo on December 2015, the second meeting in Seoul, Korea 2016, the third meeting in Chiang Mai, Thailand, on October 2017, the fourth meeting was held in Seoul, again on August 2018 with the participation of members and collaborators from 13 countries and regions. In the meeting, participating countries and regions presented the current status of data collection and the A-CaP office presented a preliminary analysis of the registered cases received from each country and region. Participants discussed ongoing challenges relating to data cleaning and data up-dating which is the next step of the A-CaP study following the data collection phase between 2016 and 2018. There was specific difference in term of the patient characteristics, and initial treatment pattern among East Asia, Southeast Asia and Turkey, and Jordan. Finally, a close relationship between prevalence of PSA test and disease stage of the patients at diagnosis in Japan and Malaysia was discussed.Neuroendocrine cancer of the prostate

is considered to be a rare entity with bad prognosis and limited therapeutic options. We performed a prospective analysis of the patients treated in our hospital for prostate cancer between 1st January 2015 and 31rd December 2018. Neuroendocrine phenomena were tested by immunohistochemistry and laboratory chemistry on the request of the clinicians in the cases when a positive diagnosis was suspected. Clinical tableaux of high suspicion of neuroendocrine cancer included radiological progression of a metastatic disease without PSA rise, relatively extended metastatic disease associated to a low PSA, disease with non-pulmonary visceral metastases. 10 patients were diagnosed with neuroendocrine tumour out of 521 prostate cancers. Half of the patients had a survival over a year. 3 patients received 3 lines of efficacious palliative chemotherapy. 1 patient underwent prostatectomy after neoadjuvant chemotherapy for a localised disease. The incidence of neuroendocrine tumours among prostate cancer patients was higher than expected. Some of the patients had a relatively good outcome.Context: The optimal management strategy for men with newly diagnosed clinically localized prostate cancer remains a matter of debate. Numerous series have reported cancer control and quality-of-life (QoL) outcomes following treatment with radical prostatectomy (RP).Background: Although androgen-deprivation therapy (ADT) is the foundation of treatment for prostate cancer, the physiological impacts of ADT result in functional decline and enhanced risk of chronic disease and metabolic syndrome.Prostate cancer (PCa) is one of the most commonly diagnosed malignancies and among the leading causes of cancer-related death worldwide. It is a highly heterogeneous disease, ranging from remarkably slow progression or inertia to highly aggressive and fatal disease. As therapeutic decision-making, clinical trial design and outcome highly depend on the appropriate stratification of patients to risk groups, it is imperative to differentiate between benign versus more aggressive states. The incorporation of clinically valuable prognostic and predictive biomarkers is also potentially amenable in this process, in the timely prevention of metastatic disease and in the decision for therapy selection. This review summarizes the progress that has so far been made in the identification of the genomic events that can be used for the classification, prediction and prognostication of PCa, and as major targets for clinical intervention. We include an extensive list of emerging biomarkers for which there is enough preclinical evidence to suggest that they may constitute crucial targets for achieving significant advances in the management of the disease. Finally, we highlight the main challenges that are associated with the identification of clinically significant PCa biomarkers and recommend possible ways to overcome such limitations.Purpose: A number of observational clinical studies suggest that prior primary tumor treatment favorably influences the course of metastatic prostate cancer (PCa), but its mechanisms of action are still speculative. Here, we describe the long-lasting sensitivity to various forms of androgen deprivation in patients after radical prostatectomy (RP) for locally advanced PCa as one potential mechanism.Although prostate cancer (PC) has a significant mortality, there is debate regarding the utility of PC screening. This debate continues as major studies investigating the value of population-based screening have yet to be concluded. Despite this, there is increasing evidence from preliminary reports from these series, as well as numerous others relating to outcome prediction for PC, that early detection leads to improved outcomes and a decrease in the burden of metastatic disease on our healthcare system. PC is rarely symptomatic until it has metastasised to bone and because of this PSA-based screening remains the only widely available and reliable method of diagnosis for organ-confined disease. There is now compelling evidence to show that: 1. Cancers diagnosed by screening are more likely to be early stage, when most can be cured by a number of different treatment options. 2. The maximum benefits of screening are for men aged 50-70 years. Older men have a greater chance of a clinically insignificant cancer being diagnosed for which treatment is not necessary. 3. The familial risks of PC are well recognised. In particular, men with one or more first-degree relatives already diagnosed with the disease should be actively encouraged to undergo screening. 4. Modern histopathological assessment of fine core needle biopsies of the prostate allows for the likely behaviour of cancer present to be accurately predicted. Changes that mimic those of malignancy can be confidently identified, so these cases are no longer incorrectly diagnosed. These improvements mean that now most men aged 50-70 years diagnosed with PC will have clinically significant cancers that require treatment.We sought to investigate the long-term outcomes after radical prostatectomy (RP) and external-beam radiation therapy (EBRT) for the treatment of localized prostate cancer in Japanese patients. RP and radiation therapy are curative treatments for localized prostate cancer. However, there is controversy around which treatment is superior in Japanese patients. The aim of our retrospective study was to compare the long-term clinical outcomes of each treatment. We retrospectively evaluated the overall survival (OS), cancer-specific survival (CSS) and biochemical failure-free survival (BFS) for patients who had

been diagnosed with localized prostate cancer and treated with RP (n = 248) or conventional 2D or 3D-CRT EBRT (n = 182) between 1995 and 2009. The median OS was superior in the RP group compared with that in EBRT group (P < 0.001), although CSS was comparable for both treatment groups; BFS was superior for the EBRT group compared with that for the RP group (P = 0.04). Univariate analysis identified a prostate-specific antigen count (PSA)of ≥20 vs <20 mg/ml, clinical T-stage of the tumor and Gleason score as predictors for CSS. However, multivariate analysis did not identify a factor for CSS. Subgroup analysis was also performed based on clinical T stage, PSA and Gleason score, but there was no difference in each subgroup between RP and EBRT. Both treatments provided satisfactory clinical outcomes in terms of disease control in localized prostate cancer.Prostate cancer is the most common cancer and second leading cause of cancer deaths among men in the United States. Most men have localized disease diagnosed following an elevated serum prostate specific antigen test for cancer screening purposes. Standard treatment options consist of surgery or definitive radiation therapy directed by clinical factors that are organized into risk stratification groups. Current clinical risk stratification systems are still insufficient to differentiate lethal from indolent disease. Similarly, a subset of men in poor risk groups need to be identified for more aggressive treatment and enrollment into clinical trials. Furthermore, these clinical tools are very limited in revealing information about the biologic pathways driving these different disease phenotypes and do not offer insights for novel treatments which are needed in men with poor-risk disease. We believe molecular biomarkers may serve to bridge these inadequacies of traditional clinical factors opening the door for personalized treatment approaches that would allow tailoring of treatment options to maximize therapeutic outcome. We review the current state of prognostic and predictive tissue-based molecular biomarkers which can be used to direct localized prostate cancer treatment decisions, specifically those implicated with definitive and salvage radiation therapy.Background: The indication and effectiveness of definitive local treatment for prostate cancer in patients with a limited life expectancy remains to be established. This study is a retrospective analysis of the long-term clinical outcome of elderly patients with localized prostate cancer treated by radiotherapy or a radical prostatectomy.Background: African-Americans have twice the risk of non-Hispanic whites for presenting with advanced-stage prostate cancer. To investigate the reasons for this difference, we evaluated the association between race/ethnicity and advanced-stage prostate cancer, adjusting for demographic, socioeconomic, clinical, and pathologic factors.Purpose of review: The paucity of randomized trials comparing curative management strategies for high-risk prostate cancer makes treatment decisions in this patient population difficult. Although in the past, high-risk patients have primarily been sent for radiation therapy due to concerns that surgery was not likely to be curative and associated with high side-effect profile, there is renewed interest in radical prostatectomy as the primary treatment for high-risk disease.Current prostate cancer treatment, especially hormone refractory cancer, may create profound iatrogenic outcomes because of the adverse effects of cytotoxic agents. Suicide gene therapy has been investigated for the substitute modality for current chemotherapy because it enables the treatment targeting the cancer cells. However the classic suicide gene therapy has several profound side effects, including immune-compromised due to viral vector. Recently, stem cells have been regarded as a new upgraded cellular vehicle or vector because of its homing effects. Suicide gene therapy using genetically engineered mesenchymal stem cells or neural stem cells has the advantage of being safe, because prodrug administration not only eliminates tumor cells but consequently kills the more resistant therapeutic stem cells as well. The attractiveness of prodrug cancer gene therapy by stem cells targeted to tumors lies in activating the prodrug directly within the tumor mass, thus avoiding systemic toxicity. Therapeutic achievements using stem cells in prostate cancer include the cytosine deaminase/5-fluorocytosine prodrug system, herpes simplex virus thymidine kinase/ganciclovir, carboxyl esterase/CPT11, and interferon-beta. The aim of this study is to review the stem cell therapy in prostate cancer including its proven mechanisms and also limitations.Used for more than 60 years in metastatic prostate cancers, hormone therapy is nowadays also an option for the treatment of locally advanced prostate cancer. Adjuvant androgen deprivation combined with external beam radiotherapy has become the gold standard treatment in locally advanced prostate cancer. Combined therapy has been extensively investigated and has shown to improve oncologic outcomes. However, its toxicity is not negligible. Several side effects can be encountered: cardiovascular, bone depletion, metabolic changes and neuropsychologic effects. They may overlap treatment benefits and be responsible of a specific mortality. Nevertheless, randomized studies have demonstrated that there was no increase of specific mortality from combined treatments compared to patients treated by radiotherapy alone. Therefore, these side effects might not be a barrier to adjuvant androgenic deprivation. However,

long-term results are still needed and also accurate morbidity studies. In addition, the debate is still ongoing regarding the appropriate duration of hormone therapy.Prostate cancer can be detected incidentally after surgical therapy for benign prostatic obstruction such as holmium laser enucleation of the prostate (HoLEP), thus called incidental prostate cancer (iPCa). We aimed to review the studies on iPCa detected after HoLEP and investigate its prevalence. A detailed search of original articles was conducted via the PubMed-MEDLINE, Web of Science, Wiley Online Library and Cochrane Library databases in the last 10 years up to 1 May 2021 with the following search string solely or in combination: "prostate cancer", "prostate carcinoma", "holmium laser enucleation of the prostate" and "HoLEP". We identified 19 articles to include in our analysis and divided them into six main categories: HoLEP versus open prostatectomy and/or transurethral resection of the prostate in terms of iPCa, oncological and functional outcomes, the role of imaging modalities in detecting iPCa, predictive factors of iPCa, the role of prostate-specific antigen kinetics in detecting iPCa and the management of iPCa after HoLEP. We found that the iPCa after HoLEP rate ranges from 5.64% to 23.3%. Functional and oncological outcomes were reported to be encouraging. Oncological treatment options are available in a wide range.Prostate cancer, the second leading cause of male deaths in the United States, has increased by 126% since 1987 (Stephenson, 1998). Early diagnosis is attributed to public awareness and technologic advances. Multiple options for definitive treatment with equally positive outcomes dramatically influence the patient's decision-making process. One popular option for these patients is transperineal implantation of radioactive seeds into the prostate.Background: Due to improved imaging sensitivity, the term "oligometastatic" prostate cancer disease is diagnosed more often, leading to an increasing interest in metastasis-directed therapy (MDT). There are two types of radiation based MDT applied when treating oligometastatic disease: (1) stereotactic body radiation therapy (SBRT) generally used for bone metastases; or (2) SBRT for isolated nodal oligometastases combined with prophylactic elective nodal radiotherapy. This review aims to summarize current evidence data, which may shed light on the optimal management of this heterogeneous group of patients.Introduction: Men with symptoms suggestive of prostate cancer are now directly referred by their general practitioners to rapid access prostate assessment clinics (RAPACs). This service implements recommendations outlined by the National Cancer Control Programme. The RAPAC was introduced at Galway University Hospital, Galway, Ireland in June 2009, aiming to structure GP referral of patients with suspected prostate cancer to a urology service.Patients with a rising prostate-specific antigen (PSA) levels after definitive local therapy now represent one of the largest and fastest growing groups of men with prostate cancer. The great majority of these men are asymptomatic with no other evidence of disease, and their clinical outcomes have been widely variable and poorly understood. Recently, several groups have analyzed their institutions' data and reported on certain pathologic and clinical variables that have increased our understanding of the natural history of these men, and to some extent allowed for the development of predictive models to aid in deciding who should be treated more aggressively and who should be watched. This article reviews and critically evaluates the most relevant available data for this group of men, and offers a summary of the most useful models and predictive variables after both radical prostatectomy and radiotherapy. This article also offers recommendations for strategies to improve our current knowledge of the natural history of these men, to facilitate the development and implementation of clinical trials in this population, and to ultimately be able to offer the most appropriate recommendations to our patients in the clinic.Clinical outcome of patients with metastatic prostate cancer (mPC) at diagnosis is heterogeneous and unpredictable; thus alternative treatments such as immunotherapy are investigated. We retrospectively analyzed natural killer (NK) cells by flow cytometry in peripheral blood from 39 mPC patients, with 5 year-follow-up, and their correlation with time to castration resistance (TCR) and overall survival (OS). In parallel, NK functionality was carried out against prostate tumor cell lines, analyzed for the expression of NK cell ligands, to identify the receptors involved in PC recognition. NK cells from patients with longer TCR and OS displayed high expression of activating receptors and high cytotoxicity. The activating receptors NKp30 and NKp46 were the most obvious predictive markers of OS and TCR in a larger cohort of mPC patients (OS: $p= 0.0018$ and 0.0009; TCR: $p= 0.007$ and < 0.0001 respectively, log-rank test). Importantly, blocking experiments revealed that NKp46, along with NKG2D and DNAM-1 and, to a lesser extent NKp30, were involved in prostate tumor recognition by NK cells. These results identify NK cells as potential predictive biomarkers to stratify patients who are likely to have longer castration response, and pave the way to explore therapies aimed at enhancing NK cells in mPC patients.Purpose: Prostate cancer largely affects older men. This study aims to investigate prostate cancer in younger men (< 55 years) to shed light on the survival outcomes of this unique subset of patients in Asian context.Aim: To investigate

10-year outcomes of high-dose image-guided intensity-modulated radiation therapy (IG-IMRT) combined with long-term androgen deprivation therapy (ADT) for Japanese patients with nonmetastatic prostate cancer.Prostate cancer is the second most prevalent solid tumor diagnosed in men in the United States and Western Europe. Conventionally fractionated external beam radiation therapy (1.8-2.0 Gy/fraction) is an established treatment modality for men in all disease risk groups. Emerging evidence from experimental and clinical studies suggests that the α/β ratio for prostate cancer may be as low as 1.5 Gy, which has prompted investigators around the world to explore moderately hypofractionated radiation therapy (2.1-3.5 Gy/fraction). We review the impetus behind moderate hypofractionation and the current clinical evidence supporting moderate hypofractionated radiation therapy for prostate cancer. Although hypofractionated radiation therapy has many theoretical advantages, there is no clear evidence from prospective, randomized, controlled trials showing that hypofractionated schedules have improved outcomes or lower toxicity than conventionally fractionated regimens. Currently, hypofractionated schedules should only be used in the context of clinical trials. High dose rate brachytherapy and stereotactic body radiation therapy (fraction size 3.5 Gy and greater) are alternative approaches to hypofractionation, but are beyond the scope of this report.Background: Prostate cancer has displayed an increase in incidence unparalleled by any other tumor in the last two decades, with a steady, more gradual increase in mortality rate. Current curative strategies are focused on the detection and treatment of early-stage (T1-2 N0 M0), clinically significant tumors.Background: At present, one in six men over age 50 carries the diagnosis of prostate cancer, but only one in 33 will die of the disease. In view of these facts, conservative strategies such as active surveillance (AS) are important in the management of prostate cancer.High-risk nonmetastatic castration-resistant prostate cancer is a lethal disease that previously lacked clear treatment options. Progression to bone metastases is associated with significant morbidity and high cost. Apalutamide, an androgen receptor inhibitor, has substantial clinical response in nonmetastatic castration-resistant prostate cancer. Apalutamide + androgen deprivation therapy is well tolerated and improves metastasis-free survival, progression-free survival and time to symptomatic progression, and is associated with a favorable trend of improved overall survival. Future research is needed to elucidate mechanisms of resistance to treatment with androgen signaling inhibitors.Objective: To describe relationships between use of the Personal Patient Profile-Prostate (P3P) decision support system and patient characteristics, and perceived preparation for decision making (PrepDM), satisfaction and decisional regret in the context of prostate cancer treatment choice.Aims The aim of this study was to assess the incidence, management and outcomes of incidentally diagnosed prostate cancer following TURP. Methods A retrospective review was performed using the histopathological departments' database of all patients who underwent a TURP across two university teaching hospitals over a ten year period. Results During the study period, a total of 826 patients underwent a TURP. 72 (10.3%) had an incidental diagnosis of CaP following TURP. 46 (63.9%) were managed expectantly while 26 (36.1%) underwent active treatment. Overall mortality was 29.2% (n=21) while cancer specific mortality was 6.9% (n=5). All these patients were in the hormonal treatment sub-group. Conclusion Our study demonstrates an expectant approach is favourable in low risk disease. Curative treatment does need to be considered for younger patients with a long life expectancy or patients with higher risk disease.Men with locally advanced prostate cancer face a high risk of disease progression and cancer-related death. The traditional active treatment options for locally advanced disease, either following failure of treatment of primary curative intent or newly diagnosed, are radiotherapy and castration. Radiotherapy alone has a high failure rate, although outcome can be improved by adjuvant hormonal therapy. Castration is associated with loss of libido, sexual dysfunction, osteoporosis and hot flushes, which are significant drawbacks when patients may receive treatment for several years. Monotherapy with a non-steroidal antiandrogen offers potential benefits with respect to quality of life. Studies in the adjuvant setting are in progress. In the setting of previously untreated locally advanced disease, pooled mature data (56% deaths) from two major studies indicate no significant difference in survival outcome between bicalutamide ('Casodex') 150 mg and castration. Bicalutamide 150 mg offers quality of life benefits with respect to sexual interest and physical capacity. Preliminary data suggest that bicalutamide maintains bone mineral density. Bicalutamide 150 mg is well tolerated; gynaecomastia and breast pain, common side effects of antiandrogen monotherapy, may be managed by prophylactic irradiation or surgery. Bicalutamide 150 mg monotherapy is an alternative to castration for locally advanced prostate cancer.Approximately 15% of patients with prostate cancer are diagnosed with high-risk disease. However, the current definitions of high-risk prostate cancer include a heterogeneous group of patients with a range of prognoses. Some have the potential to progress to a lethal phenotype that can be fatal, while others can be cured

with treatment of the primary tumour alone. The optimal management of this patient subgroup is evolving. A refined classification scheme is needed to enable the early and accurate identification of high-risk disease so that more-effective treatment paradigms can be developed. We discuss several principles established from clinical trials, and highlight other questions that remain unanswered. This Review critically evaluates the existing literature focused on defining the high-risk population, the management of patients with high-risk prostate cancer, and future directions to optimize care.Despite the high long-term survival in localized prostate cancer, metastatic prostate cancer remains largely incurable even after intensive multimodal therapy. The lethality of advanced disease is driven by the lack of therapeutic regimens capable of generating durable responses in the setting of extreme tumor heterogeneity on the genetic and cell biological levels. Here, we review available prostate cancer model systems, the prostate cancer genome atlas, cellular and functional heterogeneity in the tumor microenvironment, tumor-intrinsic and tumor-extrinsic mechanisms underlying therapeutic resistance, and technological advances focused on disease detection and management. These advances, along with an improved understanding of the adaptive responses to conventional cancer therapies, anti-androgen therapy, and immunotherapy, are catalyzing development of more effective therapeutic strategies for advanced disease. In particular, knowledge of the heterotypic interactions between and coevolution of cancer and host cells in the tumor microenvironment has illuminated novel therapeutic combinations with a strong potential for more durable therapeutic responses and eventual cures for advanced disease. Improved disease management will also benefit from artificial intelligence-based expert decision support systems for proper standard of care, prognostic determinant biomarkers to minimize overtreatment of localized disease, and new standards of care accelerated by next-generation adaptive clinical trials.This chapter provides a brief overview of prostate cancer statistics, grading, diagnosis and treatment strategies that are discussed in more detail in the subsequent chapters of this book and the companion book titled "Clinical Molecular and Diagnostic Imaging of Prostate Cancer and Treatment Strategies". It also points to websites that provide additional useful information for patients affected by prostate cancer and for students and teachers to obtain practical and updated information on research, new diagnostic modalities and new therapies including new updated clinical trials. Three sections are focused on overview of prostate cancer statistics; overview of detection, diagnosis, stages and grading of prostate cancer; and treatment possibilities and options.Knowing the indolent, non-invasive nature of most types of prostate cancer, as well as the simple fact that the disease seems more likely to be associated with age rather than with other factors (50% of men at the age of 50 and 80% at the age of 80 have it [1], with or without presenting any symptom), the big challenge of this clinical entity was to determine severity indicators (so far insufficient) to guide the physician towards an adequate attitude in the clinical setting. The risk of over-diagnosing and over-treating many prostate cancer cases (indicated by all the major European and American studies) is real and poses many question marks. The present paper was meant to deliver new research data and to reset the clinical approach in prostate cancer cases.Genome sequencing and gene expression analyses of prostate tumours have highlighted the potential importance of genetic and epigenetic changes observed in WNT signalling pathway components in prostate tumours - particularly in the development of castration-resistant prostate cancer. WNT signalling is also important in the prostate tumour microenvironment, in which WNT proteins secreted by the tumour stroma promote resistance to therapy, and in prostate cancer stem or progenitor cells, in which WNT-β-catenin signals promote self-renewal or expansion. Preclinical studies have demonstrated the potential of inhibitors that target WNT receptor complexes at the cell membrane or that block the interaction of β-catenin with lymphoid enhancer-binding factor 1 and the androgen receptor, in preventing prostate cancer progression. Some WNT signalling inhibitors are in phase I trials, but they have yet to be tested in patients with prostate cancer.Prostate cancer (PC) is a major disease that affects men's health worldwide. It is the second most common form of cancer in men, surpassed only by nonmelanoma skin cancers such as basal and squamous cell carcinomas. Diagnostic strategies with population screening for prostate cancer using prostate-specific antigen (PSA) has been surrounded with controversy and debated intensively ever since the PSA protein was first purified in 1979 by Wang et al. At the same time, advances in diagnostic imaging, surgery, radiation, and chemotherapy have increased the opportunity to effectively diagnose, treat, and manage PC. Given the sheer burden of PC disease in Denmark and worldwide, new and innovative strategies for cancer diagnosis and care are needed. This article is a short review of current diagnostic and therapeutic strategies for the care and management of prostate cancer in Denmark.Essential facts Prostate cancer starts in the prostate gland, at the base of the bladder in men. It surrounds the first part of the urethra, which carries urine from the bladder. The prostate gland helps

in the production of semen, which is also carried in the urethra. It is the most common cancer in men - one in eight will develop it during their lifetime.Prostate cancer is a disease that presents a wide spectrum from low aggressiveness localized to disseminated cancer. Locally advanced prostate cancer (LAPC) is a particularly difficult to manage phase of this spectrum.Advanced prostate cancer includes a wide spectrum of disease ranging from hormone naïve or hormone sensitive to castration resistant, both containing populations of men who have demonstrable metastatic and non-metastatic states. The mainstay of treatment for metastatic hormone-sensitive prostate cancer is androgen deprivation therapy (ADT). However, recent level 1 evidence demonstrates that the addition of chemotherapy or abiraterone acetate to ADT results in significant survival advantage as compared with ADT alone. Furthermore, in non-metastatic castration-resistant prostate cancer (M0 CRPC), two second-generation anti-androgens, apalutamide and enzalutamide, when used in combination with ADT, have demonstrated a significant benefit in metastasis-free survival. Here, we review the most recent studies leading to these significant changes in the treatment of advanced prostate cancer.Prostate cancer is a heterogeneous disease with a variable natural history. Therefore, optimal management remains challenging. While many men with newly diagnosed prostate cancer may be candidates for active surveillance, there are others who will benefit from aggressive local therapy. Radical prostatectomy is associated with improvements in cancer-specific mortality, metastasis-free survival, and need for palliative treatments when compared with observation in several randomized controlled trials. Additionally, radical prostatectomy may have some oncologic benefit over radiation therapy. All aggressive therapy for prostate cancer negatively impacts erectile function and urinary continence. The decision for which treatment modality to pursue should incorporate shared decision making and consider cancer risk and severity in addition to patient preferences.Prostate cancer rates vary substantially by race, ethnicity, and geography. These disparities can be explained by variation in access to screening and treatment, variation in exposure to prostate cancer risk factors, and variation in the underlying biology of prostate carcinogenesis (including genomic propensity of some groups to develop biologically aggressive disease). It is clear that access to screening and access to treatment are critical influencing factors of prostate cancer rates; yet, even among geographically diverse populations with similar access to care (eg, low- and medium-income countries), African descent men have higher prostate cancer rates and poorer prognosis. To date, the proportion of prostate cancer that can be explained by environmental exposures is small, and the effect of these factors across different racial, ethnic, or geographical populations is poorly understood. In contrast, prostate cancer has one of the highest heritabilities of all major cancers. Numerous genetic susceptibility markers have been identified from family-based studies, candidate gene association studies, and genome-wide association studies. Some prostate cancer loci, including the risk loci found at chromosome 8q24, have consistent effects in all groups studied to date. However, replication of many susceptibility loci across race, ethnicity, and geography remains limited, and additional studies in certain populations (particularly in men of African descent) are needed to better understand the underlying genetic basis of prostate cancer.Purpose of review: Summarize recent advances in the treatment of advanced prostate cancer.Prostate cancer has a long disease history and a wide variety and uncertainty in individual patients' clinical progress. In recent years, we have seen a revolutionary advance in both prostate cancer patient care and in the research field. The power of deep sequencing has provided cistromic and transcriptomic knowledge of prostate cancer that has not discovered before. Our understanding of prostate cancer biology, from bedside and molecular imaging techniques, has also been greatly advanced. It is important that our current theragnostic schemes, including our diagnostic modalities, therapeutic responses, and the drugs available to target non-AR signaling should be improved. This review article discusses the current progress in the understanding of prostate cancer biology and the recent advances in diagnostic and therapeutic strategies.Prostate cancer remains the most frequently diagnosed non-skin malignancy in male patients, still representing one of the main causes of cancer-related death worldwide. Evidence is mounting that suggests the putative role of microbiota in the carcinogenesis as well as in modulating the efficacy and activity of anticancer treatments (e.g., chemotherapy, immune checkpoint inhibitors, targeted therapies) in a large number of hematological and solid tumors. However, few data are available regarding the interactions between prostate cancer and microbiome so far, in particular in terms of the impact of microbiota on disease development, pathogenesis, and response to medical treatments in this genitourinary malignancy. Herein, we provide an overview of current knowledge, novel insights and emerging therapeutic approaches related to gastrointestinal and genitourinary microbiome in prostate cancer patients, especially focusing on available evidence and published trials on this topic.Prostate cancer is the most common cancer and

second leading cause of cancer-related death in American men. Antiandrogen therapies are part of the standard of therapeutic regimen for advanced or metastatic prostate cancers; however, patients who receive these treatments are more likely to develop castration-resistant prostate cancer (CRPC) or neuroendocrine prostate cancer (NEPC). In the development of CRPC or NEPC, numerous genetic signaling pathways have been under preclinical investigations and in clinical trials. Accumulated evidence shows that DNA methylation, chromatin integrity, and accessibility for transcriptional regulation still play key roles in prostate cancer initiation and progression. Better understanding of how epigenetic change regulates the progression of prostate cancer and the interaction between epigenetic and genetic modulators driving NEPC may help develop a better risk stratification and more effective treatment regimens for prostate cancer patients.Background: According to the American Cancer Society, prostate cancer ranks second in terms of mortality and is a front-runner of newly detected cases. Conventional therapies neither eradicated cancer nor increased the life expectancy of patients obviating the need for less toxic as well as efficient therapies to treat cancer. Gene therapy alone, or in combination with conventional therapies, possesses a strong potential to combat cancer.Current tendencies in the treatment course of prostate cancer patients increase the need for reliable biomarkers that help in decision-making in a challenging clinical setting. Within the last decade, several novel biomarkers have been introduced. In the following comprehensive review article, we focus on diagnostic (PHI®, 4K score, SelectMDx®, ConfirmMDx®, PCA3, MiPS, ExoDX®, mpMRI) and prognostic (OncotypeDX GPS®, Prolaris®, ProMark®, DNA-ploidy, Decipher®) biomarkers that are in widespread clinical use and are supported by evidence. Hereby, we focus on multiple clinical situations in which innovative biomarkers may guide decision-making in prostate cancer therapy. In addition, we describe novel liquid biopsy approaches (circulating tumor cells, cell-free DNA) that have been described as predictive biomarkers in metastatic castration-resistant prostate cancer and might support an individual patient-centred oncological approach in the nearer future.Introduction: Prostate cancer is a common malignancy with highly variable clinical presentation and outcomes. Diagnosis and management remain a challenge and at times become highly controversial. Novel biomarker assays have shown promise as an adjunctive tool to aid in patient shared decision-making, risk stratification, and disease management. This presentation at the 2020 Jefferson Urology Symposium provided a review of current commonly used biomarkers for prostate cancer.Updates to the NCCN Guidelines for Prostate Cancer include further refinements in taking a family history, new recommendations for germline and somatic testing, use of androgen receptor blockers for nonmetastatic castration-resistant prostate cancer, advice regarding intermittent versus continuous androgen deprivation therapy, and consideration of whether to treat the primary tumor in men diagnosed with de novo metastatic prostate cancer.Purpose of review: This overview examines the rationale for dietary interventions for prostate cancer by summarizing the current evidence base and biological mechanisms for the involvement of diet in disease incidence and progression.Purpose: We sought to identify new information evaluating clinically localized prostate cancer therapies.The term ''oligometastatic prostate cancer'' refers to a heterogeneous group of disease states currently defined solely on the basis of clinical features. Oligorecurrent disease, de novo oligometastases, and oligoprogressive disease likely have unique biologic underpinnings and natural histories. Evidence suggesting the existence of a subset of patients who harbor prostate cancer with limited metastatic potential currently includes disparate and overwhelmingly retrospective reports. Nevertheless, emerging prospective data have corroborated the "better-than-expected," retrospectively observed outcomes, particularly in the setting of oligorecurrent prostate cancer. Improved functional imaging with prostate-specific membrane antigen-targeted strategies may enhance the identification of patients with oligometastatic prostate cancer in the short term. In the long term, refinement of the oligometastatic case definition likely will require biologic risk-stratification schemes. To determine optimal treatment strategies and identify patients most likely to benefit from metastasis-directed therapy, future efforts should focus on conducting high-quality, prospective trials with much-needed molecular correlative studies.Prostate cancer is the most frequently diagnosed cancer in men after skin cancer. Owing to the rising popularity of prostate-specific antigen screening, large numbers of patients are receiving a diagnosis of prostate cancer and undergoing whole-gland treatment. Some patients with a diagnosis of low-risk, localized disease may not benefit from whole-gland treatment, however, given its known morbidity. In response to advances in prostate imaging and evidence suggesting that the prognosis in prostate cancer is related to the index lesion, many patients have begun to opt for focal therapy, which targets a lesion rather than the entire prostate. This "middle ground" of therapy, between active surveillance and whole-gland treatment, is appealing to patients because the risk for side effects is believed to be lower with focal therapy than

with whole-gland treatment. This review discusses the oncologic rationale for focal therapy in localized prostate cancer, examines the major therapy modalities, and addresses future directions.Quercetin is a flavonoid agent detected in fruits and vegetables with anti-inflammatory, antioxidant, and anticancer effects. This flavonoid can suppress cell cycle transition and induce apoptosis in neoplastic cells. Therapeutic effects of quercetin have been assessed in diverse cancers including prostate cancer through the establishment of in vitro and in vivo experiments. Moreover, this agent might prevent the initiation of this type of cancer as it indirectly blocks the activity of promoters of two important genes in the pathogenesis of prostate cancer i.e. androgen receptor (AR) and prostate specific antigen (PSA). Several in vitro investigations have identified the differential influence of quercetin on normal prostate cells versus neoplastic cells, emphasizing its specific cytotoxic effects on cancerous cells. The most appreciated route of quercetin effect on prostate cancer cells is the detachment of Bax from Bcl-xL and the stimulation of caspase families. Besides, quercetin might enhance the effects of other therapeutic options against prostate cancer. For instance, a combination of TNF-related apoptosis-inducing ligand (TRAIL) and quercetin has been recommended as a novel modality for the treatment of prostate cancer. These kinds of strategies might overcome resistance to apoptosis in cancer cells. In the current paper, we summarize the recent data about the preventive and therapeutic influences of quercetin in prostate cancer.Purpose of review: The purpose of this review is to examine prostate cancer racial disparities specific to the African-American population.Clinical genomic testing is becoming routine in prostate cancer, as biomarker-driven therapies such as poly-ADP ribose polymerase (PARP) inhibitors and anti-PD1 immunotherapy are now approved for select men with castration-resistant prostate cancer harboring alterations in DNA repair genes. Challenges for precision medicine in prostate cancer include an overall low prevalence of actionable genomic alterations and a still limited understanding of the impact of tumor heterogeneity and co-occurring alterations on treatment response and outcomes across diverse patient populations. Expanded tissue-based technologies such as whole-genome sequencing, transcriptome analysis, epigenetic analysis, and single-cell RNA sequencing have not yet entered the clinical realm and could potentially improve upon our understanding of how molecular features of tumors, intratumoral heterogeneity, and the tumor microenvironment impact therapy response and resistance. Blood-based technologies including cell-free DNA, circulating tumor cells (CTCs), and extracellular vesicles (EVs) are less invasive molecular profiling resources that could also help capture intraindividual tumor heterogeneity and track dynamic changes that occur in the context of specific therapies. Furthermore, molecular imaging is an important biomarker tool within the framework of prostate cancer precision medicine with a capability to detect heterogeneity across metastases and potential therapeutic targets less invasively. Here, we review recent technological advances that may help promote the future implementation and value of precision oncology testing for patients with advanced prostate cancer.Key issues for prostate cancer patients are the detection of recurrent disease and the treatment of metastasized cancer. Early detection is a major challenge for all conventional imaging modalities. Furthermore, therapy of patients with hormone-resistant tumor lesions presents a major clinical challenge. Because the prostate-specific membrane antigen (PSMA) is frequently overexpressed in prostate cancer, several PSMA-targeting molecules are under development to detect and treat metastatic castration-resistant prostate cancer (mCRPC). mCRPC represents a situation where cure is no longer achievable and novel therapeutic approaches for palliation and increase of survival are needed. In this article, we discuss the recent development for noninvasive detection of recurrent disease and therapy of mCRPC with corresponding PSMA-targeted radioligands.The human gastrointestinal microbiome contains commensal bacteria and other microbiota that have been gaining increasing attention in the context of cancer development and response to treatment. Microbiota play a role in the maintenance of host barrier surfaces that contribute to both local inflammation and other systemic metabolic functions. In the context of prostate cancer, the gastrointestinal microbiome may play a role through metabolism of estrogen, an increase of which has been linked to the induction of prostatic neoplasia. Specific microbiota such as Bacteroides, Streptococcus, Bacteroides massiliensis, Faecalibacterium prausnitzii, Eubacterium rectalie, and Mycoplasma genitalium have been associated with differing risks of prostate cancer development or extensiveness of prostate cancer disease. In this Review, we discuss gastrointestinal microbiota's effects on prostate cancer development, the ability of the microbiome to regulate chemotherapy for prostate cancer treatment, and the importance of using Next Generation Sequencing to further discern the microbiome's systemic influence on prostate cancer.Background: The 28th Annual Prostate Cancer Foundation (PCF) Scientific Retreat was held virtually over 4 days, on October 28-29 and November 4-5, 2021.Prostate cancer incurs a substantial incidence and mortality burden, similarly to breast

cancer, and it ranks among the top ten specific causes of death in the United States. It is inherent as we maximize the detection of early prostate cancer that we increase the detection of both nonaggressive (slow growing) and aggressive (faster growing) prostate cancers. The evidence clearly supports the use of PSA screening in conjunction with DRE as a means of early detection of prostate cancer. Widespread implementation of prostate cancer screening in the United States has led to the phenomenon of stage migration with more cancers being detected at a lower stage. Such a trend has decreased the incidence of metastatic disease at diagnosis and paralleled the decrease of the mortality rate from prostate cancer. Our understanding of the natural history of prostate cancer is progressing over time, but the question of its length is unanswerable. The relatively long doubling time (on average) of early prostate cancer of 3 to 4 years or more indicates a relatively good prognosis for many men with this disease, even without early detection and treatment. Unfortunately, the poor specificity of the PSA test in men with benign prostatic hyperplasia (BPH) leads to high rates of prostate biopsy and attendant illnesses and costs. Early detection is more apt to detect a slow-growing prostate cancer than a faster growing cancer that is associated with a more rapid course of progression to metastatic disease. Hence, the launching of mass screening programs for the early detection of prostate cancer is premature. However, in the absence of solid evidence of benefit, one reasonable approach to screening at the individual level is to involve the patient in decisions about whether or not to perform a PSA test. Thus, "offering" PSA testing must be accompanied by informed discussion within the context of an ongoing patient-physician relationship. This is to be distinguished from the use of PSA testing for the purpose of "mass screening." Concepts that must be explored with the patient include: 1. The long-term ramifications of screening 2. The relatively high probability of further evaluation and biopsy with positive results 3. Potentially difficult decisions that may arise about using treatments that are associated with considerable morbidity and uncertain benefits (at the time) if cancer is discovered We should identify a future path that is evidence-based, focused on the issues that make a difference to patients, and results in better and longer lives of those with the disease and those who are at risk of getting it. If that path leads to treating fewer patients in the future, even if sometimes more aggressively, we should pursue it definitely and consequently.Prostate cancer is the most common cancer in American men and the second leading cause of death in men aged 65 years or older. This article reviews the epidemiology and the principles of screening and management of prostate cancer.Oligometastatic prostate cancer represents an intermediate state between a localized tumor and widespread metastatic disease. Its specific clinical features suggest the existence of a distinct biology which still needs to be elucidated. New imaging techniques like prostate specific membrane antigen (PSMA) PET scans have shown to perform well in the staging and restaging of this category of patients, at different phases of disease evolution. Despite limited prospective evidence, metastasis-directed therapies (MDT) are emerging as valid treatment options able to postpone systemic therapies and probably improve survival outcome. The aim of this review is to shed light on the clinical scenario of prostate cancer patients with limited metastatic disease burden and highlight the role of MDT strategies in this setting.Introduction: The 2019 Coffey-Holden Prostate Cancer Academy (CHPCA) Meeting, "Prostate Cancer Research: The Next Generation," was held 20 to 23 June, 2019, in Los Angeles, California.Recent research makes it probable that there is a hereditary form of prostate cancer. By identifying prostate cancer cases in the Swedish twin registry it was possible to show a pronounced difference in proband concordance rates and correlation of liability between monozygotic and dizygotic twin pairs, which indicates strongly that genetic factors are important for prostate cancer. In a nation-wide register cohort study it was found that the risk for prostate cancer was approximately two times higher among sons to prostate cancer patients when compared to Swedish men in general. By linkage analyses at least two loci for putative prostate cancer genes have been identified, one on chromosome 1 (1q24-25) and one on the X-chromosome (Xq27-28). Before genetic testing becomes available it was suggested that men with the familiar aggregation of prostate cancer should be evaluated with a PSA test on a regular basis.The American Cancer Society estimates approximately 268,490 new cases of prostate cancer and approximately 34,500 deaths caused by prostate cancer in the United States for 2022. Globally, a total of 1,414,259 new cases of prostate cancer and 375,304 related deaths were reported in 2020. Well-documented health disparities and inequities exist along the continuum of care for prostate cancer management-from screening to diagnostic and staging work-up, surveillance, and treatment-ultimately impacting clinical outcomes. This session-based article discusses innovative patient-centered approaches to advance equitable prostate cancer care. It begins with a review of domestic health disparities in diagnostic imaging and radiotherapy for prostate cancer, and it summarizes barriers and solutions to achieving health equity, such as equity metrics and practice

quality improvement projects. Next, a global perspective is provided that describes approaches to address financial and geographic barriers to prostate cancer care, including specific examples of strategies that emphasize the use of the cheapest method of care delivery while maintaining outcomes for drug delivery and radiotherapy.Essential facts Prostate cancer is the most common cancer in men and makes up 26 per cent of all male cancer diagnoses in the UK. According to the charity Prostate Cancer UK, more than 40,000 men are diagnosed with the disease every year. However, prostate cancer can be slow growing and many men have a cancer that will not cause them harm in their lifetime, says the National Institute for Health and Care Excellence (NICE).Prostate cancer is the most common cancer in men and the second leading cause of cancer deaths. New advances in screening and imaging allow earlier diagnosis, and improved surgical techniques have reduced sexual dysfunction and incontinence that often resulted from radical prostatectomy. However, many questions remain. How can prostate cancer best be detected in an early curable form? What is the role of tumor markers? Who should be screened and how? What prognostic tools can help with decisions about appropriate therapy?Prostate cancer is the most common cancer among men in the UK. It is a disease with no specific preventable risk factors, no specific signs and symptoms, and a significant health burden. This article explains the various treatment options available for patients with prostate cancer, with the aim of assisting nurses in supporting person-centred decision-making. It also discusses the risk factors, signs and symptoms, diagnosis, staging, grading and risk stratification of prostate cancer.Prostate cancer (PCa) is the second most common cancer among men in the United States. While the use of prostate-specific antigen has improved the ability to screen and ultimately diagnose PCa, there still remain false positives due to noncancerous conditions in the prostate gland itself and other prognostic biomarkers for PCa are needed. Contents within extracellular vesicles (EVs) have emerged as promising biomarkers that can give valuable information about disease state, and have the additional benefit of being acquired through noninvasive liquid biopsies. Meaningful communication between cancer cells and the microenvironment are carried by EVs, which impact important cellular processes in prostate cancer such as metastasis, immune regulation, and drug resistance.Cancer stem cells have been defined as cells within a tumor that possesses the capacity to self-renew and to cause the heterogeneous lineages of cancer cells that comprise the tumor. Experimental evidence showed that these highly tumorigenic cells might be responsible for initiation and progression of cancer into invasive and metastatic disease. Eradicating prostate cancer stem cells, the root of the problem, has been considered as a promising target in prostate cancer treatment to improve the prognosis for patients with advanced stages of the disease.Introduction: Prostate cancer is the most common solid organ malignancy in men in the United States. Until recently, treatment options for men with metastatic disease were limited and patients faced poor outcomes with minimal alternatives. The landscape of prostate cancer treatment has transformed and taken shape over the last 20 years with novel hormonal and non-hormonal therapeutics that have demonstrated significant improvement in survival. However, patients with advanced disease still face imminent progression on hormone blockade therapy.Anti-androgen therapy continues to be a basic pilar of treatment for both localized and metastatic prostate cancer. The advent of new generation of androgen receptor targeted agents (ARTA) transformed the care of patients with advanced disease. After such a success, the steps were taken to incorporate a new generation of ARTAs into the treatment landscape of localized prostate cancer. High-risk prostate cancer represents the most aggressive form of localized disease with significant metastatic potential and poor outcome. Here, the impact of novel therapies will likely be profound and transforming. This clinical space has already been a showcase for multidisciplinary treatment where the combination of local therapies with systemic treatment gradually improved patient outcomes and the chances of cure. The most recent step in redefining the treatment of localized disease is the adoption of novel ARTAs moving forward the multidisciplinary platform. In this narrative review, we discuss current clinical evidence supporting the use of novel ARTAs in patients with localized high-risk prostate cancer and cover recent developments in biomarker-driven strategies for treatment individualization in this clinical context.In the United States of America male prostate cancer (PCa) is the most dominant malignancy and the second highest cause of cancer-related mortality risk compared to lung and colon cancers. MicroRNAs (miRNAs) are a class of endogenously expressed small, non-coding, single-stranded RNA which function as regulators of gene expression. They influence various physiological and pathophysiological processes. In this review, we focus on the regulation of miRNAs in prostate cancer and their mechanisms which contribute to prostate carcinogenesis. The relation of miRNAs with androgen signaling is highlighted and the prospects of miRNAs for clinical therapies are discussed.Prostate cancer is the most common cancer in men. Its

incidence increases with age. New treatment options have been introduced and there is a clear trend to more aggressive treatment in newly diagnosed metastatic disease. While prolonged survival of patients has been achieved, the new expensive drugs are associated with an increased burden on the healthcare system. Meanwhile, similarly to other tumour entities, there is a pool of different drugs available with comparable oncologic efficacy, but different side-effects. Effective diagnostic investigation and treatment decisions require additional factors, above and beyond clinical parameters, for a more individual treatment approach. In castration-resistant prostate cancer (CRPCA), there are promising molecular markers for treatment decisions. In metastatic disease, liquid biopsies and next generation sequencing of metastatic biopsies allow for genetic analysis. These will provide more insight into tumour dynamics and allow for patient selection. This review concentrates on molecular markers in CRPCA.Objective: To critically analyze the available evidence regarding the incidence, etiopathogenesis, and management of prostate cancer (CaP) in transgender women. In addition, this article aims to present a recent case report of a transgender woman with a unique presentation at the author's institution.Prostate cancer is common among men in the United States. Factors of possible importance in the etiology of prostate cancer include diet, primarily implicated by ecologic studies of national, regional, and ethnic variation in rates; endocrine function, implicated by the importance of endocrine function in normal prostatic growth and in the treatment of prostate cancer; genetic susceptibility, supported by familial aggregation; some aspect of sexual behavior, suggested by case-control differences in sexual behavior; and occupational exposure, particularly cadmium exposure. Despite the public health importance of prostate cancer, it has received only moderate epidemiologic study; thus the etiologic importance of these and other possible determinants of prostate cancer risk is uncertain [55].The canine prostate gland shares many morphological and functional similarities with the human prostate and dogs are the only other large mammals that commonly develop spontaneous prostate cancer. However, the incidence of prostate cancer is much lower in dogs and the precise cell of origin is not known. Dogs with prostate cancer usually present with advanced disease that does not respond to androgen deprivation therapy. Similar to humans, affected dogs often develop osteoblastic bone metastases in the pelvis and/or lumbar spine with associated pain and neurological deficits. Other clinical signs include weight loss, lethargy, and abnormal urination and/or defecation. Surgery, chemotherapy, and radiation have been used to treat dogs with prostate cancer, but success has been limited by the location and aggressive nature of the disease. It is evident that better methods of early detection and more effective therapies are needed for prostate cancer in dogs and advanced prostate carcinoma in men. Dogs with naturally-occurring prostate cancer are relevant models for the disease in humans and pre-clinical studies of new diagnostics and therapies in dogs may benefit both humans and dogs with prostate cancer.Introduction: The 23rd Annual Prostate Cancer Foundation (PCF) Scientific Retreat was convened October 27-29, 2016, in Carlsbad, CA.The first edition of Clinical Practice Guidelines for Prostate Cancer was created mainly by the Japanese Urological Association as a part of the 2003-2004 Ministry of Health, Labour and Welfare (MHLW) Scientific Research Fund-supported Thorough Researches for the Evaluation of Medical Technologies. The guidelines were aimed to be used by general urologists committed to the treatment of all stages of prostate cancer patients. The guidelines supervised by the Japanese Urological Association were published in May 2006. The present edition of the guidelines are accepted as a good summary of prostate cancer treatment. However, since the present edition is over 3 years old, a revision of the guidelines is planned to update the contents and findings. In this article, I will summarize the changes and updates in each field.Prostate cancer is now a common disease in men over 50 years of age. Medical therapies for prostate cancer are based on discoveries from the mid-twentieth century, and in the long term are rarely curative. Most treatments are directed towards an androgen receptor-expressing, highly proliferative target cell, which does indeed form the vast majority of cells in a prostate tumour. However, by invoking the existence of a cancer stem cell which, like normal epithelial stem cells in the prostate, does not express androgen receptor and is relatively quiescent, the observed resistance to most medical therapies can be explained. The phenotype of the prostate cancer stem cells is that of a basal cell and cultures derived from cancers, but not benign tissues, express a range of prostate cancer-associated RNAs. Furthermore, stem cells purified on the basis of alpha2beta1 high integrin and CD133 cell surface antigen expression, from an established culture of Gleason 4 (2+2) prostate cancer (P4E6), were able to form multiple intraprostatic tumours in nude mice when grafted orthotopically in a matrigel plug containing human prostatic stroma. The final tumours reexpressed androgen receptor and displayed a histology similar to that of a Gleason 4 cancer.Aim: To review the current landscape of outlier genes in the field of prostate cancer.Numerous, relatively

well-characterized androgen-independent osteotropic prostate cancer cell lines are now available to interrogate clinically relevant fundamental questions of prostate cancer metastasis and lethal progression systematically. Mounting basic and translational science efforts reveal that, very likely, the currently incurable form of androgen independent osseous prostate cancer originates from a more undifferentiated or "stem cell" like component, coexisting within a heterogeneous tumor mass containing more differentiated epithelial cancer subtypes. Current therapeutic preclinical investigations point toward the use of epigenetic modifiers, such as histone deacetylase inhibitors, to abrogate the continued survival of prostate cancer cells and likely can be used relatively chronically, with little morbidity. Telomere maintenance is critical in the immortalization of prostate cancer cells, and all known androgen independent cell line variants invariably express telomerase, and, thus, an argument can be made that these aggressive cells are likened to immature, progenitor variants. The arena of telomere biology has evolved enough to provide precise, nontoxic small molecule inhibitors of telomerase that limit viability of androgen-independent cell lines, yielding apoptosis. Both epigenetic modifiers and telomerase-directed small molecule inhibitors have enhanced efficacy when given in combination with conventional and novel cytotoxic drugs. Better knowledge of the "stem cell" nature of prostate cancer will help direct the molecularly targeted therapies of the near future.Prostate carcinoma is a growing concern in our aging society. While the disease often follows a indolent course, it is the second leading cause of cancer-related deaths in males. Prostate cancer screening is promising but remains unproven and controversial. The therapy of prostate cancer has changed little over the past 10 years. The tumor remains refractory to conventional chemotherapeutic agents. True containment of this disease will require novel strategies of diagnosis, biologic assessment, and therapy.With the significant increase of the average lifespan in the industrial world, the number of elderly people, as a proportion of the total population, has risen dramatically. It has been estimated that this trend will accelerate and that, by the year 2020, the number of people aged >80 years will soar by 135%. With age being the greatest risk factor for prostate cancer, this disease has understandably become one of the greatest public health concerns. Recently, considerable attention has been focused on prostate cancer management in the elderly, with specific emphasis on the question of whether, or not, it should differ from that of younger patients. We thoroughly reviewed the existing evidence on screening, diagnosis and treatment of prostate cancer in the elderly and concluded that age alone should not constitute an obstruction for optimal treatment administration. Physicians treating aged prostate cancer patients should be trained in an individualized approach, based on clinical performance status and comorbitities.Prostate cancer is a unique and heterogeneous disease. Currently, a major unmet clinical need exists to develop biomarkers that enable indolent disease to be distinguished from aggressive disease. The prostate is an abundant secretor of glycoproteins of all types, and alterations in glycans are, therefore, attractive as potential biomarkers and therapeutic targets. Despite progress over the past decade in profiling the genome and proteome, the prostate cancer glycoproteome remains relatively understudied. A wide range of alterations in the glycoproteins on prostate cancer cells can occur, including increased sialylation and fucosylation, increased O-β-N-acetylglucosamine (GlcNAc) conjugation, the emergence of cryptic and high-mannose N-glycans and alterations to proteoglycans. Glycosylation can alter protein function and has a key role in many important biological processes in cancer including cell adhesion, migration, interactions with the cell matrix, immune surveillance, cell signalling and cellular metabolism; altered glycosylation in prostate cancer might modify some, or all of these processes. In the past three years, powerful tools such as glycosylation-specific antibodies and glycosylation gene signatures have been developed, which enable detailed analyses of changes in glycosylation. Thus, emerging data on these often overlooked modifications have the potential to improve risk stratification and therapeutic strategies in patients with prostate cancer.Purpose of review: Present highlights from recent research examining the treatment of advanced prostate cancer.Prostate cancer is the second-most widespread cancer in men worldwide. Treatment choices are limited to prostatectomy, hormonal therapy, and radiotherapy, which commonly have deleterious side effects and vary in their efficacy, depending on the stage of the disease. Among novel experimental strategies, gene therapy holds great promise for the treatment of prostate cancer. However, its use is currently limited by the lack of delivery systems able to selectively deliver the therapeutic genes to the tumors after intravenous administration without major drawbacks. To remediate this problem, a wide range of nonviral delivery approaches have been developed to specifically deliver DNA-based therapeutic agents to their site of action. This review provides an overview of the various nonviral delivery strategies and gene therapy concepts used to deliver therapeutic DNA to prostate cancer cells, and focuses on recent therapeutic advances made so far.The National Comprehensive Cancer Network, an

NPO organization comprised of university hospitals and cancer centers in the US. The publication of clinical practice guidelines on the treatment, diagnosis, prevention and screening is one of important activities. Background factors of prostate cancer patients, such as the prevalence, age at the diagnosis and mortality are markedly different between Western countries and Asia. Thus, various factors should be taken into consideration at the treatment choice for individual patients. Experts from Asian countries were published as the Asia Consensus Statement. In this review, we explain important points of the Asia Consensus Statement such as differences in the epidemiological backgrounds of patients, differences in treatment options and differences in medical insurance systems.Effective biomarkers provide the potential to significantly improve treatment decisions and outcomes in prostate cancer patients. While the literature is inundated with prostate cancer biomarkers in the early phases of testing, very few reach the clinic. Research should be focused on progressing effective biomarkers from discovery to clinical utility and implementation. Presented here is an overview of the biomarker development pathway and a discussion of the current issues impeding our efforts to deliver biomarkers that improve clinical outcomes in men with prostate cancer.The staging, screening and diagnosis, and treatment of prostate cancer are discussed. Prostate cancer kills about 40,000 men in the United States each year. Signs and symptoms range from dysuria to features of advanced metastatic disease. The American Urological System of staging prostate cancer designates four stages, A through D. The tumor is graded histologically with the Gleason scale. Methods used in the screening and diagnosis of prostate cancer include digital rectal examination, the prostate-specific antigen (PSA) assay, biopsy, transrectal ultrasonography, and determination of PSA density, velocity, and age specificity. The value of screening and treatment remains controversial because tumors are generally slow-growing and conclusive data showing an effect on survival time are lacking. Treatment methods consist of prostatectomy, radiation therapy, and hormonal drug therapy or bilateral orchiectomy. The choice is influenced primarily by the stage of the disease but also by the patient's age, physical condition, and response to prior therapy. Patients with stage A or B disease are considered for prostatectomy or radiation therapy. The primary treatment for stage C disease is radiation therapy. For stage D, the main approaches are watchful waiting and bilateral orchiectomy or hormonal drug therapy to reduce androgenic stimulation of prostate tissue. Long-term survival rates are high for stages A and B and considerably lower for stages C and D. Prostate cancer responds to estrogens, but adverse effects are frequent and potentially severe. Luteinizing hormone-releasing hormone agonists (leuprolide and goserelin) are as effective as estrogens but have less toxicity; a disadvantage of these agents is an initial flaring of the disease. Other hormonal agents used include antiandrogens-progestins, flutamide, and bicalutamide. Secondary hormonal treatments (aminoglutethimide and ketoconazole) are less effective than initial hormonal therapy. Antineoplastic agents have little or no effectiveness in prostate cancer. Although the value of screening for and treating prostate cancer continues to be debated, many experts recommend annual screening for all men over 50. Research to identify more effective drugs for treating advanced disease continues.Prostate cancer remains one of the most lethal malignancies among men worldwide. Although the primary tumor can be successfully managed by surgery and radiotherapy, advanced metastatic carcinoma requires better therapeutic approaches. In this context, a deeper understanding of the molecular mechanisms that underlie the initiation and progression of this disease is urgently needed, leading to the identification of new diagnostic/prognostic markers and the development of more effective treatments. Herein, the current state of knowledge of prostate cancer genetic alterations is discussed, with a focus on their potential in tumor detection and staging as well as in the screening of novel therapeutics.For decades, androgen deprivation was the standard of care for metastatic prostate cancer. Chemotherapy, then novel anti-androgen therapies, changed the treatment paradigm. Large phase III randomized clinical trials were conducted over the course of the last decade, first among patients with castration resistant prostate cancer, then among those with hormone-sensitive disease. Today, androgen deprivation therapy alone is no longer the gold standard and should be associated either with chemotherapy in high-volume disease, or novel anti-androgen therapy. As such, each case should be discussed with a specialist to choose the most appropriate treatment.The combination of radiation treatment and long-term androgen deprivation therapy (ADT) has been shown in multiple clinical trials to prolong overall survival in men with high-risk prostate cancer compared with either treatment alone. New radiation technologies enable the safe delivery of high radiation doses that improve cancer control compared with lower radiation doses. Based on the results of multiple randomized trials, clinical practice guidelines for high-risk prostate cancer recommend total radiation doses of at least 75.6 Gy, with long-term (2-3 years) ADT. Ongoing research into hypofractionated radiation treatment, whole-pelvic radiation, and combinations of radiation with novel hormonal agents

could further improve cancer control and survival outcomes for patients with high-risk prostate cancer.Prostate cancer is the most common, non-dermatologic cancer in men. Since prostate cancer is highly associated with increased age, the incidence of this disease is expected to increase as the population ages. In its initial stages prostate cancer depends upon the actions of androgen, and androgen deprivation therapy induces tumor regression. Currently, androgen deprivation is achieved by either surgical or chemical androgen blockade. Unfortunately, nearly all prostate cancer patients develop tumors that grow despite androgen blockade and ultimately relapse. Many alterations in prostate cancer cells contribute to this state. Although chemotherapy induces short remissions in some patients, there are no curative therapies for metastatic disease. This review summarizes our current understanding in androgen signaling and the mechanisms that allow tumor cells to bypass androgen manipulation therapy. The identification of novel survival pathways and effector molecules that drive androgen independent growth is necessary to develop effective therapies for advanced prostate cancers.Purpose of review: In recent clinical trials, immunotherapeutic agents have demonstrated promising results for the treatment of prostate cancer. This review discusses emerging immunotherapies for prostate cancer and their evolving role in sequencing and combination therapy.In many studies, it has been demonstrated that (1)H MRSI of the human prostate has great potential to aid prostate cancer management, e.g. in the detection and localisation of cancer foci in the prostate or in the assessment of its aggressiveness. It is particularly powerful in combination with T2 -weighted MRI. Nevertheless, the technique is currently mainly used in a research setting. This review provides an overview of the state-of-the-art of three-dimensional MRSI, including the specific hardware required, dedicated data acquisition sequences and information on the spectral content with background on the MR-visible metabolites. In clinical practice, it is important that relevant MRSI results become available rapidly, reliably and in an easy digestible way. However, this functionality is currently not fully available for prostate MRSI, which is a major obstacle for routine use by inexperienced clinicians. Routine use requires more automation in the processing of raw data than is currently available. Therefore, we pay specific attention in this review on the status and prospects of the automated handling of prostate MRSI data, including quality control. The clinical potential of three-dimensional MRSI of the prostate is illustrated with literature examples on prostate cancer detection, its localisation in the prostate, its role in the assessment of cancer aggressiveness and in the selection and monitoring of therapy.Background: The 26th Annual Prostate Cancer Foundation (PCF) Scientific Retreat was held from October 24-26, 2019 in Carlsbad, CA.Prostate cancer is the most common malignant neoplasm in men and the second most frequent cause of cancer death for males in the United States. Recently, emerging evidence suggests that prostate cancer stem cells (CSCs) may play a critical role in the development and progression of prostate cancer. Therefore, targeting prostate CSCs for the prevention of tumor progression and treatment of prostate cancer could become a novel strategy for better treatment of patients diagnosed with prostate cancer. In this review article, we will summarize the most recent advances in the prostate CSCs field, with particular emphasis on targeting prostate CSCs to treat prostate cancer.Introduction: Wnt signaling is important for normal development, cell proliferation, and cell differentiation. However, aberrations in the pathway can lead to tumorigenesis and cancer progression. Recent genome-wide studies have demonstrated the frequent occurrence of Wnt pathway alterations in prostate cancer. Although alterations in the canonical Wnt pathway in prostate cancer may have an impact on prognosis, recent studies suggest that the noncanonical Wnt pathway also plays an important role in disease progression and treatment resistance.Areas covered: We review the literature with regard to the potential prognostic significance of noncanonical Wnt signaling in prostate cancer. After a brief overview of the canonical and noncanonical Wnt pathways, we discuss the preclinical and clinical evidence for activation of Wnt signaling in prostate cancer. We focus on clinical evidence for noncanonical Wnt pathway components to serve as potential prognostic biomarkers.Expert opinion: Although many therapeutic options are available for men with prostate cancer, there remains an unmet need for prognostic and predictive biomarkers to precisely guide clinical management. Early evidence suggests that components of the noncanonical Wnt pathway may serve as prognostic biomarkers. However, prospective validation studies are necessary before these biomarkers can be routinely applied in the clinic.Purpose/objectives: To review the clinical manifestations, current treatment, and nursing management of prostate cancer.Objective: The purpose of this article is to discuss the information that is important to note in imaging reports of patients with prostate cancer.INTRODUCTION To interpret data and update the traditional categorization of prostate cancer in order to help treating clinicians make more informed decisions. These updates include guidance regarding how to best use next generation imaging (NGI) with the caveat that the new

imaging technologies are still a work in progress.Purpose of review: The successful development of effective cancer immunotherapy, in particular immune checkpoint inhibitors, has changed the treatment paradigm of many tumor types. In light of the limited efficacy of checkpoint inhibitors demonstrated in recent clinical trials in refractory prostate cancer, this review highlights important recent and ongoing studies that are shaping the pursuit of effective immunotherapy for prostate cancer.As a result of the growing incidence of cancer as well as increased survival of patients, an increasing number of people are living longer with cancer. In recent years, research has shown that physical activity not only protects against a number of cancer types, but is also valuable for patients undergoing cancer treatment and during the rehabilitation phase, as well as for improving function and quality of life. Regular physical activity is an effective way to reduce the side effects of cancer, resulting in part from physical inactivity and in part from the disease itself. Too much rest can lead to a decrease in aerobic fitness, strength, mobility and unwanted weight gain in the patient. In prostate cancer patients, hormonal treatment especially accelerates this process. In this paper we summarize the available evidence concerning the role of exercise in prostate cancer prevention, treatment and rehabilitation.Prostate cancer screening is an absolutely controversial topic and under debate. The points of view from which the problem is analyzed also influence this issue; patient, physician and Health Care authorities have different interests that most of the times are not comprehensively analyzed. Currently, no clinical guideline supports the performance of a population screening with active recruitment, but they do support the credible information to the man who desires its performance of potential benefits and risks (opportunistic screening), as well as its performance in certain risk groups. Nevertheless, what is inherent to any screening program is the overdiagnosis of clinically irrelevant disease, which in prostate cancer has been calculated around 50%, and that, from our point of view, gives cause to the correct implementation of active surveillance programs to tamponade the potential deleterious effects of active therapies of prostate cancer.The American Cancer Society and other national medical organizations emphasize the need for routine screening for prostate cancer in men over the age of 50. The serum prostate-specific antigen (PSA) assay is the test most commonly recommended for the purpose of screening. However, when PSA screening is examined critically from the standpoint of the principles of screening, evidence from prospective studies to support the routine use of PSA testing is lacking. Data suggest that screening often detects what may be indolent, nonaggressive prostate cancer. The treatment of such a cancer with radiation or radical prostatectomy can result in significant morbidity, including urinary incontinence and impotence, without a proven decrease in mortality. Evidence from randomized clinical trials in support of routine PSA screening is urgently needed.From a clinical perspective, prostate-specific membrane antigen (PSMA) is a valuable target for both diagnosis and radioligand therapy (RLT) of prostate cancer. The term 'specific' has been used to characterize a histologic hallmark of overexpression in the membrane of most prostate cancer. Many PSMA ligands have been developed since the previous decade and have been used in several clinical trials and clinical studies. However, procedure, specification, protocol, interpretation criteria, radiation dose, and cost-effectiveness of PSMA ligands have not been fully explained. Regardless of worldwide use of promising PSMA-ligand PET and RLT, it has not been approved in Japan. Expedited introduction of PSMA-ligand PET and RLT to Japan and implementation of clinical study are eager for many patients with prostate cancer.Despite radical treatment, many men with prostate cancer will develop recurrence of their disease. In an exciting era of new therapies for prostate cancer in general, we focus on how these will specifically benefit those men with recurrent disease. We consider salvage treatments aimed at those with local recurrence confined to the prostate gland, therapies for those presenting with metastatic recurrence and the approach to men presenting with a rising prostate-specific antigen but no demonstrable disease (M0). In general, men with recurrent disease are often under-represented in randomized clinical trials. Consequently, evidence to guide treatment for these men is often lacking and this needs to be addressed in order to improve and better define our approach to this problem in the future.Purpose of review: This review provides an update on research into the association between obesity and prostate cancer.This article reviews the definition, incidence, pathological characteristics and natural history of low risk localised prostate cancer. Low risk disease is typically defined as clinical stage T1/T2a, biopsy Gleason score 7], understaging on biopsy compared to prostatectomy specimen, pathological stage, indolent cancer or progression after expectant therapy). We also detail the predictive variables used in each model for estimations, their internal validation parameters, the samples used to generate them, and the external validations if they were done. Many of them are presented with their URL address, where they may be consulted on line, this making easier their implementation. Finally we expose our thoughts about the use of probability density functions as a

useful tool for validation of these predictive models that help in the definition of cut points facilitating their clinical use and credibility.Prostate cancer is the most prevalent nondermatological malignancy affecting men in the Western world. An increase in public awareness has led to earlier detection. Accepted treatments for localized prostate cancer include active surveillance, radical prostatectomy, interstitial brachytherapy, external beam radiotherapy and watchful waiting. The authors discuss the rationale for the different approaches together with outcomes including toxicity. Novel approaches are also explored. The management of locally advanced disease has long been a challenge and the evolving evidence is reviewed.The incidence of prostate cancer rises steeply in men over the age of 50 years. Mortality due to prostate cancer also increases, but not at the same rate as the incidence. In the U.S.A., a man has a lifetime risk of developing prostate cancer of about 1 in 11, but his risk of dying of the disease is about 1 in 22-33. Tumor DNA ploidy is one of the predictive features of the growth rate of prostate cancer. Patients with diploid tumors have a more favorable prognosis than those with aneuploid tumors, regardless of the stage or grade. Patients with stage A1 defined disease (less than 5% of the specimen being cancerous) have a relatively low risk of progression (about 12%) and death (about 3%). Evidence suggests that transurethral resection of the prostate (TURP) is effective in removing disease in about 62% of cases. Expectant management involves following a patient and giving hormonal therapy or TURP as necessary. Four studies with follow-up periods of 4-10 years have shown that the metastatic disease rate ranges from 9 to 37% and that deaths from prostate cancer range from 9 to 16%. Results from animal studies suggest that hormonal therapy only improves survival if it is given at the time of tumor implantation or shortly after, though it can be effective palliative treatment.Prostate cancer treatments often affect quality of life and problems may present at any point during treatment. Measuring and identifying issues of quality of life (QoL) may create an opportunity for the patient to discuss problems and induce information transfer from health professional to patient and vice versa. Many practitioners already assess QoL in patients with prostate cancer because treatment for the disease can have a dramatic impact on lifestyle. QoL may facilitate a more holistic approach to patient care. Using a QoL assessment tool may promote and enhance the current service provision and aid identification of bothersome side-effects, for example loss of libido, gynaecomastia (i.e. abnormal over-development of the breasts in a man), and hot flushes. The Functional Assessment of Cancer Therapy-Prostate scale (FACT-P) (Cella et al, 1993) is a prostate-specific QoL assessment tool, which can be self-administered and takes little time to complete. This may be a useful tool in the ongoing management of patients with advanced prostate cancer. With the emphasis on quality of service for cancer patients (Department of Health (DH), 2000; DH, 2007a; National Health Service Improvement, 2009), it is paramount that health professionals continually examine practice and the quality of the service delivered. Addressing QoL issues for the patient with cancer should be a priority. This article will outline the significant side-effects that a patient with advanced prostate cancer may sustain and attempts to indicate how QoL assessment tools may contribute to care management and delivery.The increasing incidence of prostate cancer stood for years as a seemingly unshakable axiom of modern medicine. Recent evidence illustrates that the incidence of prostate cancer may have peaked and raises questions about the relative meaning of prostate cancer in the future. This article reviews the many antagonistic factors that will affect prostate cancer incidence and mortality. No projections are offered about incidence and mortality, but it is believed that the number of patient-years with prostate cancer will increase and present new clinical challenges.Prostate cancer is now the commonest cancer diagnosed in Australia. In 2005 there were 5913 men diagnosed with prostate cancer in New South Wales alone (31% of male cancers; 17% of all cancers). However, that year there were only 980 deaths from prostate cancer in NSW, and so prostate cancer dropped to be the fourth commonest cause of cancer death, ahead of breast cancer with 877 deaths. This discrepancy is a major cause of the angst experienced in the detection and management of prostate cancer. What is needed is a way to separate the significant prostate cancers from the insignificant ones, and accept that identifying them is a very different issue to managing them aggressively.Purpose of review: The ability to accurately localize and target prostate cancer, whether for staging or future interventions, is an important concept in prostate cancer management. In this review, we describe the emerging technologies that allow for enhanced visualization and precise targeting of the prostate cancer.Differentiation status influences the prognosis for localized prostate cancer. In this issue of Cancer Cell, Mak and coworkers describe a signaling pathway involving estrogen receptor beta (ERbeta) that governs whether prostate carcinoma cells maintain an epithelial phenotype or undergo epithelial-mesenchymal transition, suggesting that ERbeta would have prognostic or therapeutic value.The landscape of genetic testing for prostate cancer is rapidly evolving. There is increasing evidence that individuals with germline mutations in DNA-repair

genes are more responsive to targeted therapies. Due to potential implications for treatment, these genes should be taken into consideration when determining the scope of genetic testing.Prostate cancer is the most commonly diagnosed cancer among Canadian men, excluding non-melanoma skin cancer. Prostate cancer incidence increases almost exponentially with age; most cases are diagnosed in men aged 65 years or older. With the possible exception of animal fat consumption, no known widespread modifiable risk factors have been identified. Although the prognosis is good if appropriate treatment occurs in the early stages of disease, the ability of existing early detection techniques to decrease mortality has not yet been demonstrated. The considerable economic and societal burden of prostate cancer and its treatment, coupled with the projected large increase in the number of new prostate cancer cases as the population ages, make this disease a very important public health issue.Purpose: Hereditary prostate cancer accounts for 5% to 10% of all prostate cancer cases. We assessed clinical characteristics and survival in patients with hereditary prostate cancerExpression profiling and proteomics have the potential to transform the management of prostate cancer, identifying new markers for screening, diagnosis, prognosis, monitoring and targets for therapy. Expression profiling has revealed that the majority of prostate cancers contain fusion genes resulting in the upregulation of ETS family transcription factors. New diagnostic markers to replace PSA are being actively sought using a variety of proteomic platforms. Nevertheless, no single molecular marker has yet been discovered that is any more reliable for predicting outcome than histopathological grading. In the future, small custom-built chips will be used to detect a small panel of RNA or protein markers to answer specific questions concerning patient management for each type of cancer.Background and objectives: The purpose is to update the consensus statements on management of prostate cancer in West Africa. In 2010, "Prostate Cancer: Guidelines for diagnosis and treatment in West Africa" was first published. Since then, there have been several developments in diagnosis and management of prostate cancer. These need to be incorporated to produce a 2019 update. The aspiration is that it will serve as a benchmark for the basic standard of care for patients with prostate cancer in West Africa or even as a working document for the development of guidelines for treatment of prostate cancer by urological associations, other professional societies, institutions or government.Prostate cancer remains the only solid tumor diagnosed using transrectal ultrasound-guided sampling of the gland, and not an image-based, lesion-directed approach. This technique has limitations in that it underdiagnoses clinically significant disease and overdiagnoses indolent tumors resulting in overtreatment of patients. Technical advances in MRI in the last decade have made this method the preferred imaging modality for prostate anatomy and for risk assessment of prostate cancer. As of 2018, the indications for MRI in the diagnosis and risk assessment of prostate cancer have expanded from preoperative evaluation to the pre-biopsy setting, as well as for surveillance protocols. This article summarizes the current role of multiparametric MRI in the diagnosis, risk assessment, and treatment of prostate cancer.Objective: To obtain an update of the treatment of advanced prostate cancer.Random systematic ultrasonographically guided transrectal core biopsies of the prostate were performed in 73 patients with pulmonary malignancies to exclude prostate cancer as a primary malignant neoplasm. Of the patients 41 had normal prostates as judged by digital rectal examination, 27 had firm prostates and 5 had clinical stage B nodules. Hypoechoic areas were seen on transrectal ultrasonography in 14 of the 41 patients (34%) with normal prostates. Biopsy of the hypoechoic areas in this subgroup detected only 1 grade II prostate cancer. In another patient with normal transrectal ultrasound grade I cancer was detected by mapping of the prostate with 6 systematic ultrasonographically guided transrectal core biopsies. Of the remaining 39 patients with normal prostates transrectal ultrasound detected no hypoechoic defect in 26, a specificity for the detection of prostate cancer of 67%. Multiple core biopsies revealed prostate cancer in 15 of the 32 cases of palpably abnormal prostates, including 12 that were hypoechoic. Prostate cancer is a rare histopathological finding in men with normal prostates on rectal examination. Transrectal ultrasound detected only 1 of 2 low volume prostate cancers in our study group. Thus, ultrasound seems to have little use in patients with prostates that appear normal on digital examination, and its specificity is low.Almost 90% of patients with metastatic castration-resistant prostate cancer have a clinically actionable genetic alteration, according to a recently published study. Among these patients, researchers found that 65% had genetic changes that could be targeted by investigational or FDA-approved drugs currently used for other cancers, leading to new individualized treatment strategies.Objectives: Previously East Asian men had been considered less likely to develop or die of prostate cancer. Emerging research and the onset of prostate-specific antigen screening in East Asian countries suggests that this may not be the case. We sought to analyze epidemiology and molecular genetic data and recent trends in the management of prostate cancer among East Asian

men.The management of prostate cancer is a complex issue with a varying range of treatment options available. Magnetic resonance (MR) imaging of the prostate has been available for sometime but has the limitation of only anatomical evaluation. Three-dimensional MR spectroscopy is emerging as a new and sensitive tool in the metabolic evaluation of prostate cancer. This article reviews the principle, techniques, and methods of evaluation of spectroscopy and also discusses the applications of spectroscopy in the current management of prostate cancer.Few would challenge the important health burden associated with prostate cancer. This concern, combined with the emergence of a biochemical test that has the potential for early detection, has fueled enthusiasm for concerted efforts aimed at early detection and treatment of prostate cancer. Reflecting the approach and perspective of the Canadian Task Force on the Periodic Health Examination, this report argues for the objective evaluation of evidence to address the question of whether to initiate and promote early detection campaigns for prostate cancer. Specifically, 3 questions are addressed: "what is the goal of early detection?", "how should the existing evidence be evaluated?" and "how should evidence guide our actions and policies?". After reviewing the evidence using its standardized rules of evidence, the Canadian Task Force has concluded that there presently is insufficient evidence to promote the early detection of prostate cancer in asymptomatic men.The prediction of life expectancy in prostate cancer screening and treatment is a controversial topic that evokes various opinions regarding its validity. The authors believe incorporating life expectancy prediction into the treatment algorithms for prostate cancer is important. Using a combination of clinical judgment and specific predictive tools, physicians can estimate the life expectancy of patients with prostate cancer. These estimates can then be used to help guide treatment discussion. Estimating life expectancy benefits older men in whom decisions regarding the best form of treatment may be difficult.The incidence of prostate cancer has recently increased in Japan. Since Huggins demonstrated the dramatic effect of antiandrogenic treatment, patients with prostate cancer are widely treated by bilateral orchiectomy and high dose estrogen. As the incidence of cardiovascular disease has also gradually increased in patients of prostate cancer treated by estrogen in Japan, radiotherapy, radical prostatectomy, antiandrogen such as chlormadinone acetate, cyproterone acetate and anticancer chemotherapy are now sought and tested clinically. The authors have emphasized multidisciplinary treatment according to the stage of prostate cancer. In particular, early prostate cancer without metastasis should be radically treated with radiotherapy or prostatectomy.MRI spectroscopy is a non invasive method for detecting active metabolites used as markers. Chorine and citrate are used for analyzing prostate cancer. MRI spectroscopy combines morphologic imaging and metabolic cartography. This combination allows a new approach for the diagnosis of prostate cancer in patients with negative biopsy and high Levels of PSA. With MRI spectroscopy the Local staging of prostate cancer has a better accuracy than with MRI alone. It can also be used for the diagnosis of residual disease and recurrence in patients treated with conservative therapy.Androgen receptor (AR) is the main target for prostate cancer therapy. Clinical approaches for AR inactivation include chemical castration, inhibition of androgen synthesis and AR antagonists (anti-androgens). However, treatment resistance occurs for which an important number of therapy escape mechanisms have been identified. Herein, we summarise the current knowledge of molecular mechanisms underlying therapy resistance in prostate cancer. Moreover, the tumour escape mechanisms are arranged into the concepts of target modification, bypass signalling, histologic transformation, cancer stem cells and miscellaneous mechanisms. This may help researchers to compare and understand same or similar concepts of therapy resistance in prostate cancer and other cancer types.Prostate Cancer (PCa) is the second most common cancer in United States and remains the second leading cause of death in the Western world. Because the median age of diagnosis for men with prostate cancer is greater than 75 years, PCa can be considered a disease of the elderly. Several disease-specific factors (e.g., stage, tumor grade, prostate-specific antigen (PSA) level) and patient-specific factors (e.g., age, co-morbidity, and functional status) need to be considered in the decision-making process. In an attempt to incorporate these important factors to select optimal treatment for older individuals, several decision models have been published, yet their utility in clinical practice remains poorly understood. Current guidelines for the management of patients with PCa do not make specific recommendations for the elderly. Clearly there is a need to improve our understanding of the complex interrelationships between old age, co-morbidities, and their impact on expected outcomes.Throughout the past decade, significant improvements in optimizing the management of T3 prostate cancer have been made. Phase III randomized studies have demonstrated the superiority of combined hormone therapy and radiation therapy over radiation therapy alone. Radiotherapy dose escalation using conformal techniques has improved local control and lowered toxicity. These

advances have changed the approach to treatment of T3 prostate cancer from that directed at palliation of symptoms to earlier interventions directed at prolongation of survival. The contemporary role of radiation therapy in clinical T3 prostate cancer in the context of other treatment options is reviewed in this article.It is well-known that the interaction of both genetic and epigenetic mechanisms results in the formation of malignant tumor. Epigenetic mechanism includes DNA methylation, histone modifications, and miRNA regulation. DNA aberrant methylation (hypermethylation and hypomethylation), which leads to genomic instability and inappropriate gene expression, is the best-characterized alteration in prostate cancer. It plays an important role in the initiation and development of prostate cancer. Meanwhile, DNA methylation, as a hotspot in researches of epigenetics, would provide a new methodology and approach for early clinical diagnosis, prognosis and medication treatment of prostate cancer. According to recent studies on DNA hypermethylation and DNA hypomethylation, this review highlights the potential epigenetic mechanism of prostate cancer and discusses the latest research progress in clinical translation.Background: We analyzed the racial differences in physical well-being, social/family well-being, functional well-being, emotional well-being, and prostate cancer specific worry among men with clinically localized prostate cancer.Treatment of locally advanced prostate cancer remains controversial. Treatment options include radical prostatectomy (PR), radiotherapy (RT) and hormonotherapy (HT). A Medline database search with key words "prostate cancer", "locally advanced", "high risk" and "treatment" in articles published during the last 15 years was done. Fifty one out of 329 papers were selected and reviewed. Selection criteria were a minimum of scientific evidence level of IIa, except for some specific level IV reference. Numerous randomized studies show that patients may benefit of a combined therapy with RT and HT. RP has shown its usefulness in selected cases of locally advanced prostate cancer. Results of long follow-up series are similar to those obtained with RT and HT. Furthermore, the possibility of clinical over staging is an argument in favour of RP. We perform an updated revision of every possible choice available in the treatment of these tumours.Aim: Research suggests that anxiety may be a common response to a cancer diagnosis, but research is needed to examine anxiety before diagnosis. Anxiety before diagnosis may relate to the comprehension of relevant health information or openness to potential treatments. This study examined anxiety and these outcomes in men who were waiting to learn of a prostate cancer diagnosis.Reliable study results are scarce in prostate cancer for several reasons. The treated tumors represent a wide variety of natural history and therapeutic response. One assumes to select 'soft' or minimally toxic treatment for patients with good prognostic factors while aggressive treatment is reserved for infaust prognosis. Stage, grade and prognostic factors may influence the indication and choice of treatment. Better treatment selection will depend on the outcome of actual ongoing randomized trials, the development of new drugs or existing drugs in new indications and, above all, basic studies on the growth potential and invasiveness of the prostate cancer cell. Defining the correct treatment for the right cancer in the right patient is our clinical challenge for the next decade.Laparoscopic surgical techniques were originally applied to the staging of prostate cancer in the form of laparoscopic pelvic lymph node dissection. The efficiency of laparoscopic pelvic lymph node dissection has proven to be comparable to open lymphadenectomy in tissue yield and also shows a considerable decrease in postoperative morbidity. Subsequently, laparoscopy has been used as an adjuvant to perineal prostatectomy for preliminary dissection of the seminal vesicles. Laparoscopic radical prostatectomy has been performed but the long-term efficacy of this treatment is unknown at this point. Future clinical applications of laparoscopic surgical techniques in the diagnosis and treatment of prostate cancer include harvesting of primary and metastatic prostatic tissue for adjuvant gene therapies for prostate cancer.Tissue microarray (TMA) technology is a method for high-throughput analysis of tissue biomarkers, commonly used in translational cancer research. TMAs allow performing a variety of in situ applications on hundreds of tissue samples simultaneously using the same protocols as for conventional slides. Thereby, precious material from patient samples remains largely preserved while costs in resources and time in laboratory processing decrease. Therefore, a TMA is a powerful tool to identify and study biomarkers that may have a potential diagnostic, prognostic, and predictive value. Depending on the research question, there are different types of TMAs, such as progression TMA, outcome TMA, and tumor heterogeneity TMA. Since the first introduction of the TMA method almost 20 years ago, most laboratories used manual tissue arrayers for manufacturing. Nowadays, automatic or semiautomatic devices are commercially available, which largely facilitates the technical construction. However, preparatory work remains the most time-consuming part in preparing TMAs. This chapter focuses on issues involved in design and construction of prostate cancer TMAs.Prostate carcinoma is the most common non-cutaneous malignancy in men in developed countries and the incidence has been

steadily rising in the developing countries. Active research in recent years has led to tremendous progress in our understanding of the biology and genetics, and marked improvement in diagnosis and treatment of prostate cancer. Gleason grading has remained as the cornerstone for management of patients with prostate cancer. However, the grading system has continuously evolving since its inception in response to changes in the clinical practice of diagnosis and treatment of prostate cancer. The modification of Gleason grading system implemented by the International Society of Urological Pathology in 2005 has profoundly changed the way prostate cancer is graded and consequently how patients are managed. Several prostate cancer histological types with distinct clinical and pathological features have been rediscovered or redefined. Finally, elucidations of the molecular and genetic mechanism helps not only better understand the pathogenesis of prostate cancer, but also identify biomarkers for improved diagnosis, risk stratification and clinical management. This article briefly reviews the most recent advances in the Gleason grading system, new histological types and molecular genetics of prostate cancer.In 2010 and during the following decade, two guidelines were published for the management of prostate cancer in West Africa. A key recommendation of the guidelines was the need for the development of a Clinical Audit Tool which should help surgeons and institutions to identify the gaps between the recommended standards and current practice. In this paper, a Clinical Audit Tool, WAPCAT, was developed to facilitate and implement the audit process for the management of Prostate cancer in a West African healthcare institution.Even though the incidence has decreased, locally advanced prostate cancer remains a treatment challenge. Primary androgen ablation remains an option, but must be used judiciously as a high number of patients ultimately progress and die of prostate cancer. Unfortunately, while there is not good data that more aggressive treatment impacts significantly on survival, it does appear that some patients can be rendered free of disease. The failure rate with surgery alone has been high and androgen ablation has been used as a frequent adjunct. The randomized trials completed so far suggest that holding the androgen ablation for failure is as effective for survival. Randomized data with adjuvant radiation shows a significant decrease in biochemical and clinical failure, but a survival advantage is also not yet apparent. Historically, the results of primary radiation have been poor and have been only modestly improved with the addition of androgen ablation. In retrospective studies, favorable results have been achieved with dose escalation utilizing intensity modulated external beam radiation therapy or brachytherapy without the need for androgen ablation.Objective: To investigate time spent in hormone-sensitive and castration-resistant disease states in men with advanced prostate cancer in Sweden, and the associated health economic impact.Current approaches to the management of prostate cancer include surgery, radiation therapy, or hormonal manipulation either individually or in combination. With an increase in understanding of the etiology and natural history of prostate cancer, the influence of dietary factors on the disease is becoming more evident. There have been a number of studies in this regard that have demonstrated a relationship between prostate cancer and numerous dietary constituents including vitamins. The fat-soluble vitamins A and D have both been found to affect the growth of prostate cancer in preclinical experiments. Of the two, vitamin D has been the focus of greater attention in recent years, and there are indications that it may be useful both in the prevention and treatment of prostate cancer. This article reviews the current literature in this area to determine if treatment with vitamin D would be a viable management alternative for the patient described in the case study.Histologic grading remains the most useful tissue-based predictor of prognosis of prostate cancer. The Gleason system is now the only grading system recommended by the World Health Organization (WHO) for prostatic carcinoma. In recent years, there has been a gradual shift of how the Gleason grading is applied in practice. There has been a general trend toward upgrading of prostate cancer. A consensus conference was organized in 2005 by the International Society of Urological Pathology with the purpose to standardize both the perception of histologic patterns and how grade information is compiled and reported. The recommendations regarding pattern interpretation are summarized and discussed in this review.Project Data Share and Sage Bionetworks/DREAM are launching the Prostate Cancer DREAM Challenge to improve a predictive model of disease progression and treatment toxicity in prostate cancer using historical trial data. Predictions identified through this challenge have the potential to translate into reduced trial redundancy, better clinical decision tools, and improved patient outcomes. The challenge launches on March 16, 2015.Hypoxia-inducible factor 1 (HIF-1) has a close relation with prostate cancer. It is involved not only in angiogenesis, cell proliferation/survival and glucose metabolism but also in p53, p21 and signal transduction pathway in prostate cancer. Further studies of HIF-1 may yield new approaches to the diagnosis and treatment of prostate cancer. We present a review of the structure and biological functions of HIF-1 and its relation with prostate cancer.Prostate cancer is the

most prevalent non-cutaneous cancer in men worldwide. As a result of increased survival rates, men and their partners are living longer with the sexual sequelae of active treatments for prostate cancer, including surgery, radiotherapy and hormone therapy. The effect of erectile dysfunction on the patient and his partner is complex; many men experience psychosocial effects influenced by their hegemonic masculine beliefs. Some men experience difficulties in addressing their needs and require support while they attempt to reframe their beliefs about masculinity. The PLISSIT model can be used to guide healthcare practitioners in assessing and addressing the needs of this group of patients. The man's partner should be included in assessment and interventions where appropriate.Prostate cancer remains a significant health concern for men throughout the world. Recently, there has developed an expanding multidisciplinary body of literature suggesting a link between chronic inflammation and prostate cancer. In support of this hypothesis, population studies have found an increased relative risk of prostate cancer in men with a prior history of certain sexually transmitted infections or prostatitis. Furthermore, genetic epidemiological data have implicated germline variants of several genes associated with the immunological aspects of inflammation in modulating prostate cancer risk. The molecular pathogenesis of prostate cancer has been characterized by somatic alterations of genes involved in defenses against inflammatory damage and in tissue recovery. A novel putative prostate cancer precursor lesion, proliferative inflammatory atrophy, which shares some molecular traits with prostate intraepithelial neoplasia and prostate cancer, has been characterized. Here, we review the evidence associating chronic inflammation and prostate cancer and consider a number of animal models of prostate inflammation that should allow the elucidation of the mechanisms by which prostatic inflammation could lead to the initiation and progression of prostate cancer. These emerging insights into chronic inflammation in the etiology of prostate carcinogenesis hold the promise of spawning new diagnostic and therapeutic modalities for men with prostate cancer.Among the male population, one of the most common cancers is prostate cancer. The predominant number of patients suffering from this pathology are patients of the older age group. Today, modern medicine has a large number of methods of radical treatment of prostate cancer with good survival rates. However, elderly and senile patients are quite difficult to treat surgically due to the presence of comorbidity. Any concomitant pathology should be compensated in time in the preoperative period in order to achieve the maximum possible positive clinical results after surgery.There are few methods bringing several relatively recent advances in therapy of certain types of prostate cancer. Belonging to personalized therapies, they use cells (normal or pathologic) from the patient, modify and reintroduce them in the patient's body, leading to an increased efficiency against the neoplastic tissue, proving to increase the patient's lifespan and/ or tumor progression.Advanced prostate cancer patients frequently deal with intractable prostatic bleeding which is a difficult problem to manage. Intraurethral high-dose rate (HDR) brachytherapy may palliate this condition. Advanced prostate cancer patients with intractable prostatic bleeding were offered brachytherapy with Iridium-192 using a Micro-selectron HDR machine. During a 5-year period, analysis was performed in 23 patients with a median age and Gleason score of 78 years and 9, respectively. Following brachytherapy, haematuria resolved in 19 of the 23 patients and was recurrence free at 6 months. Intraurethral HDR brachytherapy is a potentially effective modality for treating haematuria in patients with advanced prostate cancer.Purpose: To investigate diagnostic accuracy of detection of prostate cancer by magnetic resonance: to evaluate the performance of T2WI, DCEMRI and CSI and to correlate the results with biopsy and radical prostatectomy histopathological data.The role of nuclear medicine diagnostic bone scanning is well established in prostate cancer. This case provides an insight into the specific role that bone scanning plays in monitoring response to hormone therapy and an example of significant global skeletal response. The case highlights the remarkable efficacy of timely hormone therapy in high-grade prostate cancer with widespread bony metastasis. In addition, the range of hormone therapy currently available for clinical application in the management of metastatic prostate cancer is detailed. Finally, the case represents an incidental diagnosis of prostate cancer after evaluation of nonspecific symptoms.Annually, approximately 20 million men are prostate-specific-antigen screened, and 1.3 million undergo an invasive biopsy to diagnose roughly 200,000 new cases, 50% of which end up being indolent. Approximately 30,000 men die of prostate cancer (PCa) yearly. Importantly, an estimated US$8 billion is spent on unnecessary biopsies. Thus, an integrative analysis and predictive model of prognosis is needed to help identify only lethal and aggressive forms of the disease.In this review article adjuvant and neoadjuvant therapies in patients at high risk for localized prostate cancer are presented in some detail. Adjuvant hormone therapy by antiandrogens as well as antineoplastic chemotherapeutic agents such as estramustine and taxanes are referred. Neoadjuvant therapies in addition to systemic therapy before or after local treatment for

prostate cancer may improve the outcome of high risk patients otherwise destined to treatment fail. Data regarding some substances used in neoadjuvant therapies such as androgen deprivation therapy and use of rapamycin with its analogs, as well as some novel therapeutic approach strategies are also discussed.Prostate Cancer Foundation (PCF) convened its 19th Annual Scientific Retreat October 25-27, 2012, in Carlsbad, CA. Each year, this event brings together diverse researchers in a collaborative forum to present and discuss new and largely unpublished findings for prostate cancer diagnosis, prognosis, and treatment and defines the challenges to ending this disease as a threat to life and well-being. Several themes resonated at the multidisciplinary meeting, notably (i) the roles of field cancerization, tumor microenvironment, epithelial plasticity, signal transduction pathways in cancer progression, and disease resistance; (ii) intratumoral heterogeneity and consequences for precision medicine; (iii) resistance mechanisms to androgen axis inhibitors; and (iv) advances in molecular imaging and therapeutics for better detection and treatment.In 2010, an estimated 24,600 Canadian men were diagnosed with prostate cancer (Canadian Cancer Society, 2011). Upon diagnosis, men and their family members begin an arduous journey of information gathering surrounding prostate cancer and its various forms of treatment. Men have to consider the impact a treatment may potentially have on their quality of life and, frequently, they experience decisional conflict and require support. In May 2008, the Prostate Cancer Assessment Clinic opened to receive men for an evaluation of a possible prostate cancer. Our inter-professional model of care provides support, guidance and education to our patients from assessment to diagnosis and treatment planning. A major goal of our diagnostic assessment unit has been to improve the patient experience. Communication is defined as "to make known, to exchange information or opinions" (Cayne, Lechner, et al., 1988). Nursing is the critical link for information exchange that is patient-centred and collaborative. The focus of this paper will highlight the development and implementation of nurse-led initiatives within our program to improve the prostate cancer patient experience. These initiatives include: a patient information guide, prostate biopsy care, patient resources, community links, surgery education classes and implementation of a decision aid. Communication is the key.Results of conservatively treated localized prostate cancer are rather homogenous in different series if identical statistical methods are used- about 50% cancer-specific survival after 15 years, a rate much higher than that for men who undergo radical treatment. As the high mortality is accompanied by high costs, morbidity surveillance does not seem to be the optimal treatment in the average patient diagnosed with localized prostate cancer today.Prostate cancer is the most common type of cancer diagnosed in men in the United States and accounts for 43% of all newly diagnosed malignancies. This year, approximately 218,890 men were diagnosed with prostate cancer (American Cancer Society, 2007). Of all men diagnosed with cancer each year, more than 30% will be diagnosed with prostate cancer. Receiving a diagnosis of cancer can be very difficult and emotionally challenging for patients and their families. There is limited research surrounding the psychosocial and educational needs of men diagnosed with prostate cancer and the effectiveness of existing support services for this population. The purpose of this qualitative and grounded theory study was to explore the psychosocial needs of men with prostate cancer using a previously developed cancer model. Demographic questionnaires and focus groups were used with a sample of 16 men aged between 49 and 81 years. The results of the qualitative analysis revealed consistency with a previously tested breast cancer model and identified unique concerns of men within three stages of the prostate cancer experience. Implications for nursing research and practice are presented.Annually the Prostate Cancer Foundation (PCF) organizes a scientific retreat to assemble the premier prostate cancer researchers from around the world to share and review the latest progress made in the field and to evaluate future directions. This report highlights some of the most significant advances made in prostate cancer research in 2010 that were presented at the 17th Annual PCF Scientific Retreat.Prostate cancer is a serious oncological disease in males. There has been a significant escalation in the incidence of this malignancy in the Czech Republic and in developed countries of Europe recently. Conversely, in countries with an altered health system, a minor increase in new cases of this disease is recorded. The causes of the high incidence of prostate cancer in developed countries appear to be the introduction of the prostate specific antigen (PSA) test and prostate biopsy, an aging population, and the consequent increased risk of cancer. The possible contribution of physical and chemical carcinogens associated with environmental pollution and negative lifestyle changes should not be forgotten either. The mortality rate for prostate cancer remains stable, with a slight decline in recent years. The article provides an overview of trends in the incidence and mortality of prostate cancer in the Czech Republic and Europe.Multiple studies of the impact of lifestyle factors on the development of prostate cancer have yielded inconsistent results. This may be due to unrecognized heterogeneity of the study populations,

specifically genetic polymorphisms, which directly affect lifestyle interventions. We review some known polymorphisms and mechanisms of action as related to dietary and other lifestyle interventions and prostate cancer carcinogenesis. Further identification of genes affected by dietary/environmental changes will enable knowledgeable lifestyle interventions on an individual basis.The 16th Annual Prostate Cancer Foundation (PCF) Scientific Retreat was held September 23-25, 2009 at Incline Village, NV. This report highlights some of the game-changing research reports from this conference.Introduction: The Prouts Neck Meetings on Prostate Cancer began in 1985 through the efforts of the Organ Systems Branch of the National Cancer Institute to stimulate new research and focused around specific questions in prostate tumorigenesis and therapy.In this article the basic biology and function of fatty acids (FAs) will be reviewed. The literature relating to FAs and prostate cancer will be evaluated and possible mechanisms for the mode of action of FAs in the carcinogenesis and progression of prostate cancer will be discussed. In addition, the potential role for specific FAs in the treatment and prevention of prostate cancer will be assessed.Prostate cancers have a justified reputation as one of the most heterogeneous human tumours. Indeed, there are some who consider that advanced and castration-resistant prostate cancers are incurable, as a direct result of this heterogeneity. However, tumour heterogeneity can be defined in different ways. To a clinician, prostate cancer is a number of different diseases, the treatments for which remain equally heterogeneous and uncertain. To the pathologist, the histopathological appearances of the tumours are notoriously heterogeneous. Indeed, the genius of Donald Gleason in the 1960s was to devise a classification system designed to take into account the heterogeneity of the tumours both individually and in the whole prostate context. To the cell biologist, a prostate tumour consists of multiple epithelial cell types, inter-mingled with various fibroblasts, neuroendocrine cells, endothelial cells, macrophages and lymphocytes, all of which interact to influence treatment responses in a patient-specific manner. Finally, genetic analyses of prostate cancers have been compromised by the variable gene rearrangements and paucity of activating mutations observed, even in large numbers of patient tumours with consistent clinical diagnoses and/or outcomes. Research into familial susceptibility has even generated the least tractable outcome of such studies: the genetic loci are of low penetrance and are of course heterogeneous. By fractionating the tumour (and patient-matched non-malignant tissues) heterogeneity can be resolved, revealing homogeneous markers of patient outcomes.The intention of these guidelines is to provide a framework on which to base treatment decisions. Prostate cancer is a complex disease, with many controversial aspects of management and a dearth of sound data to support treatment recommendations. Several variables, including life expectancy, disease characteristics, predicted outcomes, and patient preferences, must be considered by the patient and physician in tailoring prostate cancer therapy to the individual.The review highlights analytics capacities of immunochemical and molecular-genetic methods used in the non-invasive test for prostate cancer and monitoring of efficacy of anticancer therapy. The perspectives of their applications in clinical practice also have been evaluated.Since the effectiveness of androgen deprivation for treatment of advanced prostate cancer was first demonstrated, prevention strategies and medical therapies for prostate cancer have been based on understanding the biologic underpinnings of the disease. Prostate cancer treatment is one of the best examples of a systematic therapeutic approach to target not only the cancer cells themselves, but the microenvironment in which they are proliferating. As the population ages and prostate cancer prevalence increases, challenges remain in the diagnosis of clinically relevant prostate cancer as well as the management of the metastatic and androgen-independent metastatic disease states.Critical analysis of the evidence supporting the use of prognostic markers is needed for these to be used most appropriately in patient management. The College of American Pathologists recently sponsored a national conference to review the status of tumor markers for carcinomas of the breast, colon, and prostate gland. The conclusions of the Prostate Cancer Working Group are presented in this report. Currently, the TNM (Tumor, Lymph Node, Metastasis) staging system, histologic grading (Gleason system), and serum prostate-specific antigen are recommended for general use as prognostic markers in prostate cancer. Data support the use of DNA ploidy analysis in specific clinical settings, although general use is not currently recommended. The Working Group concluded that other markers do not have sufficient support in the literature to recommend routine use at the present time.The state of the science for prostate cancer is presented including a review of current screening, diagnosis, and treatment options for localized prostate cancer. Educational resource options appropriate for this population are outlined.Through the use of digital rectal examination, prostate-specific antigen and improved biopsy technique, it is possible to diagnose early stage prostate cancer. The management of this disease, however, has generated considerable controversy. The

decision whether to treat actively or conservatively must be made on the basis of accurate staging and grading technique, a patient's life expectancy and performance status. This article will show the current staging and management of prostate cancer as practiced in Japan.The applications of combined MR imaging and MR spectroscopic imaging of prostate cancer have expanded significantly over the past 10 years and have reached the point of clinical trial results to test robustness and clinical significance. MR spectroscopic imaging extends the diagnostic evaluation of prostate cancer beyond the morphologic information provided by MR imaging throughout the detection of cellular metabolites. The combined metabolic and anatomic information provided by MR imaging and MR spectroscopic imaging has allowed a more accurate assessment of the presence, location, extent, and aggressiveness of prostate cancer both before and after treatment. This information has already demonstrated the ability to improve therapeutic planning for individual prostate cancer patients and shows great promise in the assessment of therapeutic response and the evaluation of new treatment regimes.Objectives: To identify complications of various forms of treatments for prostate cancer and their influence on patients' quality of life with the ultimate goal of suggesting a Quality of Life Questionnaire specific for prostate cancer for further validation.Prostate cancer remains the most common noncutaneous human malignancy, and the second most lethal tumour among men. The clinical presentation of this tumour has recently completely changed, which is followed with the new diagnostic and therapeutic approach. However, the natural history of the disease is often prolonged, and the survival benefits of local therapy for men with low-risk tumours may not be realized for a decade or more, as is increasingly well demonstrated in long-term observational cohorts in both Europe and United States. A significant proportion of men with prostate cancer is over-diagnosed, in the sense that diagnosis may not improve their lifespan or quality of life. However, the extent to which over-diagnosis represents a true problem relates to the consistency with which diagnosis leads invariably to active treatment. Mainly due to PSA screening, prostate cancer is diagnosed at progressively earlier stages and with lower risk features; despite these trends, there are less patients now than a decade ago who undergo a trial of active surveillance only. Rates of brachytherapy and hormonal therapy have risen markedly. Important progress has been achieved in recent years in prostate cancer risk assessment. These advances, in combination with biomarkers in later stages of development, should be expected in the next years to yield further improvements in clinicians' ability to diagnose prostate cancer early, and guide appropriately selected patients toward the tailored treatment.Treatment choice for localized prostate cancer (PCa) is a controversial issue, and mortality risk is probably the most decisive factor in this regard. The study aimed to compare prostate-cancer-specific mortality risk estimates for different treatment options assigned by patients managed with active surveillance (AS), radical prostatectomy (RP) and patients who had discontinued AS (DAS). Patients initially managed with AS or RP (N = 370) were matched according to length of therapy. All patients completed mailed questionnaires assessing their mortality risk estimates (in %) and prostate-cancer-specific anxiety. Differences in risk estimates among the three treatment groups were analyzed using ANOVA, relationships of clinical and psychosocial variables with risk estimates using standard multiple regression. In all treatment groups, the prostate- cancer-specific mortality risk was overestimated. This applied whether it was the patient's own treatment or the alternative treatment option. RP patients assigned a mortality risk to AS that was almost three times higher than that assigned to RP (50.9 ± 25.0 vs. 17.8 ± 19.7, d = 1.48; $p < 0.001$). Anxiety was significantly associated with risk estimates for AS ($p = 0.008$) and RP ($p = 0.001$). Compared with clinical data that suggest that the prostate-cancer-specific mortality risk for AS is low and does not significantly differ from that for RP, patients strongly overestimated the mortality risk. This was most markedly so in RP patients, who drastically overestimated the benefits of RP compared to the risk of AS. This overestimation could increase overtreatment and should therefore be corrected by better patient education.The standard treatments of localized prostate cancer include surgical resection and/or radiotherapy. Recently in 2016, Zhao et al. described a tool to predict which patients will most likely gain from postoperative radiotherapy. Such a method can personalize treatment plan by maximizing benefit but minimizing harm.Prostate cancer is the most common malignancy and the second leading cause of cancer related deaths in the United States. Established risk factors for prostate cancer incidence include older age, African-American race, and positive family history. Prostate cancer has substantial inherited predisposition and certain genetic variants are associated with increased risk of disease. Screening and imaging should target high-risk populations based on their genetic predisposition.Multiparametric magnetic resonance imaging (mpMRI) has improved the detection of clinically significant prostate cancer. It remains unclear, however, whether mpMRI can safely replace confirmatory or surveillance biopsies in men with low-risk disease managed with active

surveillance (AS). Overall, 166 men were upgraded at a median of 29 mo (interquartile range 13-54). The overall negative predictive value (NPV) of mpMRI was 79.5% and ranged from 74.4% to 84.6% for all AS biopsies up to the fourth surveillance biopsy. In men with prostate-specific antigen density ≥0.15 ng/ml/cm3, the overall NPV of mpMRI was 65.5% and ranged from 57.1% to 73.3% across serial mpMRI scans. These findings support the hypothesis that mpMRI is helpful but insufficient to rule out pathological reclassification, especially at confirmatory biopsy or in the presence of other risk factors. PATIENT SUMMARY: Multiparametric magnetic resonance imaging (mpMRI) alone misses a considerable percentage of clinically significant prostate cancers (Gleason grade group ≥2) in men on active surveillance for low-risk prostate cancer. We conclude that mpMRI alone cannot safely replace surveillance prostate biopsies, particularly at confirmatory biopsy or in the presence of other risk factors.Between 1951 and 1966, more than twelve hundred homeless, alcoholic men from New York's skid row were subjected to invasive medical procedures, including open perineal biopsy of the prostate gland. If positive for cancer, men typically underwent prostatectomy, surgical castration, and estrogen treatments. The Bowery series was meant to answer important questions about prostate cancer's diagnosis, natural history, prevention, and treatment. While the Bowery series had little ultimate impact on practice, in part due to ethical problems, its means and goals were prescient. In the ensuing decades, technological tinkering catalyzed the transformation of prostate cancer attitudes and interventions in directions that the Bowery series' promoters had anticipated. These largely forgotten set of practices are a window into how we have come to believe that the screen and radical treatment paradigm in prostate cancer is efficacious and the underlying logic of the twentieth-century American quest to control cancer and our fears of cancer.Androgen independence and bone metastasis are lethal complications in patients with advanced prostate cancer. Presently, there is no cure for patients with androgen-independent prostate cancer. In order to develop more effective therapies for this disease, the molecular events involved in the development of androgen independence and bone metastasis must be elucidated and then targeted by therapeutic agents. Several studies presented at a recent conference on prostate cancer sponsored by the American Association for Cancer Research (AACR) provided evidence that prostate cancer metastasis to bone is mediated by the prostate cancer cell expression of molecules that allow the cells to invade, grow in and stimulate cells in the bone microenvironment resulting in an osteoblastic reaction. Androgen independence was reportedly mediated by an increased expression of survival genes following androgen ablation therapies and several molecular mechanisms involved in genetic instability. Treatment strategies are being designed to target some of the molecular events involved in androgen independence and bone metastasis. Targeting these molecular events with combinational therapies will hopefully delay the progression to androgen independence in patients with early stage disease, suppress the growth of androgen-independent cells in patients with advanced disease and enhance the chemosensitivity of androgen-independent cells.Background: Previous Commission on Cancer studies on prostate cancer have examined time trends in disease stage, treatment patterns, and survival. The most current National Cancer Data Base data for prostate cancer are reviewed in this report.Treatment decisions after diagnosis of clinically localised prostate cancer are difficult due to variability in tumour behaviour. We therefore examined one of the most promising biomarkers in prostate cancer, Ki-67, in a cohort of 808 patients diagnosed with prostate cancer between 1990 and 1996 and treated conservatively. Ki-67 expression was assessed immunohistochemically, in two laboratories, by two different scoring methods and the results compared with cancer-specific and overall survival. The power of the biomarker was compared with Gleason score and initial serum prostate-specific antigen (PSA). Both methods showed that Ki-67 provided additional prognostic information beyond that available from Gleason score and PSA: for the semi-quantitative method, Deltachi(2) (1 d.f.)=24.6 (P<0.0001), overall survival chi(2)=20.5 (P<0.0001), and for the quantitative method, Deltachi(2) (1 d.f.)=15.1 (P=0.0001), overall survival chi(2)=10.85 (P=0.001). Ki-67 is a powerful biomarker in localised prostate cancer and adds to a model predicting the need for radical or conservative therapy. As it is already in widespread use in routine pathology, it is confirmed as the most promising biomarker to be applied into routine practice.Recent advances in detection combined with increasingly effective treatment for prostate cancer has led to significant improvements in life expectancy. More men are living longer with the significant physical and emotional after-effects of prostate cancer treatment.Current high-throughput screening techniques using DNA arrays have identified hundreds of new candidate biomarkers for diagnosis and risk prediction of prostate cancer. Large-scale analysis of clinical prostate cancer specimens is a key prerequisite for the validation of these genes. We have constructed a tissue microarray from more than 2,500 prostate cancers with full histo-pathological and clinical long-term follow-up data and analyzed

expression and gene copy number patterns of 16 different candidate markers for their ability to predict prostate cancer progression and patient prognosis. The best candidates were used to extend established clinical prediction tools (nomograms) that were based on nonmolecular data only, such as prostate-specific antigene (PSA), clinical stage, and histological grading (Gleason grade). Using this approach, we could identify ANXA3 as an independent marker, which was capable of increasing the accuracy of the clinical nomogram, thereby fulfilling the criteria of a novel prognostic prostate cancer marker. This approach of integrating large-scale clinical and molecular variables may provide a new paradigm for the use of molecular profiling to predict the clinical outcome in prostate cancer.Prostate cancer is a uniquely problematic male health issue. Findings from a study employing an ethnographic approach are presented to describe the ways in which 14 men's lives were changed as a result of this experience. The theoretical basis of the study centered on embodiment to explore the personal impact of prostate cancer, its treatment, and its side effects. The findings suggest that cancer was experienced sequentially, beginning at the time of diagnosis with the problematizing of the normally "silent" male body. This trajectory of experience progressed to emphasize the importance placed on treatment side effects, embodied vulnerability, and the impact of the cancer on men's "embodied" lives. In this article, I focus on the final phase of the illness experience and illustrate how the men confronted existential threat alongside physical changes, and the way each change resulted in a new outlook on life and its priorities following cancer.For the treatment of locally advanced prostate cancer, agents that induce androgen deprivation might be given several months prior to radical prostatectomy with the hope of reducing the size and extent of tumour prior to surgery.A lack of appropriate diagnostic tools for prostate cancer has led to overdiagnosis and over treatment. In a recent publication in the New England Journal of Medicine, Hamdy et al showed no difference in the outcomes of patients that had undergone either radical prostatectomy, radiotherapy, or active monitoring. In an effort to enhance clinical stratification, the development of improved, more accurate diagnostic tools is actively being pursued. Herein, we explore recent advances in prostate cancer screening, including biomarker assays, genetic testing, and specialized fields, such as mathematical oncology. These newly developed, highly sensitive diagnostic assays may potentially aid clinicians in selecting appropriate therapies for patients in the very near future.Prostate cancer can have diverse effects on patients' quality of life (QoL). Standard QoL questionnaires do not address all of the concerns expressed by such patients. The primary purpose of this study was to identify those issues with the greatest influence on the QoL of patients with prostate cancer. A secondary aim was to compare the performance of the Schedule for the Evaluation of Individual Quality of Life-Direct Weighting (SEIQoL-DW) semi-structured interview with the Functional Assessment of Cancer Therapy-Prostate questionnaire (FACT-P). A mixed population of patients with prostate cancer (including those with localized and metastatic disease) completed the SEIQoL-DW and the FACT-P. The SEIQoL-DW was satisfactorily completed by 180 patients, including 93 patients with metastatic disease. Patients identified 144 separate QoL concerns, and these were then independently grouped by three of the authors into 13 distinct themes. The most frequently identified themes were 'leisure and hobbies', 'family' and 'health'. The themes that patients considered to be the most important were 'partner/spouse', 'family' and 'health'. Patients were most satisfied with their QoL in the domains of 'family', 'partner/spouse' and 'friends'. They were least satisfied with 'sexuality', 'mobility' and 'psychological factors'. Patients with metastatic disease rated their QoL significantly ($P<0.0001$) lower than other patients using the FACT-P, but not using the SEIQoL-DW ($P=0.07$). Patients with prostate cancer identified numerous QoL concerns that are not included (or are underrepresented) in standard health-related QoL questionnaires such as the FACT-P. Health-related QoL questionnaires may underestimate the QoL of patients with metastatic disease.In Australia prostate cancer is the most commonly diagnosed cancer in men, with around 20,000 diagnosed each year (AIHW 2013, 2014). The many who survive it often battle with significant side-effects from treatment such as incontinence, loss of sexual function, fatigue and psychology issues.The use of the NPCP grading system does not contradict the principle that an accurate prediction of tumor volume, presence, and extent of metastases, therapeutic response, and clinical behavior of prostate cancer cannot be entirely based on the grade of the disease at the time of initial diagnosis. The morphology of prostate cancer, like any other cancer, is probably no more than one of a group of parameters that are decisive for the prediction of the biology and clinical course of the disease. Nevertheless, the present data support the premise that the NPCP system of grading prostate cancer, among others, is a very helpful indicator of the extent and behavior of prostate malignancy. Table 6 illustrates the correlation between grades and stages of prostatic carcinoma that can be drawn from the preceding data.The place of endocrine therapy, either alone or in combination with radiotherapy and

surgery, remains highly controversial in the treatment of non-metastatic prostate cancer. The authors review the results of isolated endocrine therapy or associated with local therapy. At the present time, there are few arguments in favour of the use of endocrine therapy in the following situations: isolated treatment of localized or locally advanced cancer prior to radical prostatectomy, after radical prostatectomy. Current data suggest a benefit of endocrine therapy in combination with radiotherapy in patients with high-grade localized or locally advanced cancer.Purpose: Evidence suggests that men diagnosed with prostate cancer live as long as or longer than those without a diagnosis. We postulate that a reason for this paradox is increased preventive and therapeutic health care interventions following a prostate cancer diagnosis. We explored this phenomenon in patients surgically treated for prostate cancer.Purpose of review: For men newly diagnosed with prostate cancer, there are limited tools to understand the risk of disease progression and guide the treatment decision process. We will provide an overview of current prostate cancer biomarker discovery and validation strategies that are geared toward identifying aggressive, clinically significant disease at the time of diagnosis.In China, the incidence of prostate cancer has been increasing in recent years. Hormonal therapy has been the mainstay of the therapeutic options for metastatic diseases for many years. But many metastatic tumors progress at a median of two to five years and become hormonal refractory prostate cancer (HRPC). This article summarizes in the advances of diagnostic criteria, molecular biological features, prediction markers, new therapeutic agents and further researches to be undertaken concerning HRPC.Methods: Salvage surgery was done in 43 patients who did not respond to radiation therapy of prostate cancer between 1982-1991. Thirty-five patients underwent salvage prostatectomy and 8, cystoprostatectomy.Objective: To explore the expression of I-5α-reductase (SRD5A1)and its prognostic role in prostate cancer .The prostate cancer is a complex pathology involving oncological, functional and psychosocial items. The prostate's center of CHUV harmonize the know-how of urologists, oncologist, radiotherapists and clinical nurses to offer a global management to patients attempts by prostate cancer, from diagnosis to therapy and follow-up.The study included 164 prostate cancer patients with a history of acute or chronic urinary retention. Conservative therapy or transurethral resection of the prostate were carried out to all patients as treatment for urinary retention. There was studied an influence of transurethral resection of the prostate on the survival of patients with prostate cancer and development of radiation complications following radiotherapy. Overall survival of prostate cancer patients who underwent transurethral resection of the prostate was significantly higher than in patients who had only conservative therapy as a treatment of dysuria. The frequency of radiation complications was lower in patients who had transurethral resection of the prostate prior radiation therapy.Background: Prostate cancer mortality and incidence rates have been gradually increasing for decades in the United States, with an accelerated increase in incidence noted in the past several years. This study explores in detail the occurrence of prostate cancer in southeast Michigan from 1973 through 1991.Active surveillance (AS) has been claimed to avoid overtreatment of prostate cancer (PCa). It remains unclear which patients may benefit from AS. One way to clarify this is to improve the definition of insignificant PCa. PSA and Gleason score--the basic instruments used to select patients for AS--suffer from systematic errors. The nomograms used to define insignificant PCa are based on patients whose disease was classified before changes were introduced in the 2005 Consensus Conference on Gleason Grading; thus, the experience obtained cannot be directly applied to today's patients. Additionally, despite the standardization of prostate-specific antigen assays promoted by the World Health Organization, differences persist and could lead to misclassification of patients. These factors lead to an incorrect classification of patients into risk groups. Although new variables would increase risk group classification, the necessary first step is to optimize the use of both prostate-specific antigen serum levels and Gleason score.Recently the deaths from prostatic cancer deaths outnumber the deaths from bladder cancer which used to be the most frequent cause of death in urologic cancer. The management of prostate cancer will become more important in the future society with increase in the elderly population size, though there still remain several hazards to be solved. The present paper is a summary of 8 articles presented at the symposium on "Management of Prostate Cancer--Current Status and Hazards", 39th Annual Meeting of Central Section of Japanese Urological Association held in November, 1989. Mass screening in function with early detection, radical surgery, radiation therapy and endocrine therapy and/or chemotherapy of carcinoma of the prostate were discussed.Prostate cancer is the most common cancer in men in the United States. Management of prostatic cancer has evolved over the last two decades based on a clearer understanding of the natural history and on improvements in the techniques of radiation therapy, surgery, and hormonal manipulation. Additionally, better methods of prevention and treatment of complications have helped to provide curative therapies

for more patients of all ages. Discussion on these topics is followed by a section on special problems in management of elderly patients with prostate cancer.Prostate cancer incidence and mortality rates in Denmark are reviewed for a 50-year period from 1943 to 1992. The prostate cancer incidence rate nearly tripled and prostate cancer mortality rate increased during this period. Until recently in Denmark the routine management of prostate cancer has been by deferred hormonal therapy. Morbidity and mortality associated with prostate cancer are analysed in a group of 1459 patients aged 55-74 years, who were diagnosed as having clinically localized prostate cancer in the 5-year period 1983 to 1987. In this group of patients prostate cancer is demonstrated to cause significant morbidity. Furthermore, the patients suffered significant excess mortality and loss of life expectancy.Prostate cancer remains one of the leading causes of morbidity and mortality in elderly men. It is the second most common form of malignancy and the third leading cause of cancer deaths. The cause remains unknown, and only with early detection can this illness be cured. Unfortunately, early warning signs are rare, but any change in urinary pattern should be considered due to prostate cancer until proven otherwise. This discussion will focus on pathophysiology, diagnosis, early detection, evaluation, staging, and treatment modalities for prostate cancer.The generalist physician (family physician or general internist) provides primary care services and coordinates the care of other specialists for most Americans. These physicians develop continuous relationships with patients that can span decades. This therapeutic relationship is an important aspect of the services that generalist physicians provide. Generalist physicians serve as the first line of defense in screening for cancer and other serious health conditions. Prostate cancer is a prevalent and important condition. However, generalist physicians will encounter 10 times as many older men who will die of heart disease than of prostate cancer. Until more conclusive evidence is available to support the aggressive diagnosis and treatment of early stage prostate cancer, the generalist physician should refrain from screening for prostate cancer without counseling men about the risks, benefits, alternatives and uncertainties of early diagnosis and treatment of prostate cancer.The ACS National Prostate Cancer Detection Project was established in 1987 to demonstrate the feasibility of early detection as a cancer control strategy for prostate cancer. Ten years later, the compliance results suggest that early detection programs can achieve long-term participation in a healthy population.The best approximation of the natural course of early prostate cancer comes from studies on deferred treatment. In such studies, the 10-year disease-specific survival rate is 85-90% for patients with clinically localized tumours and 74% for those with tumours not confined to the prostate gland; 15-year data are sparse and diverging. Patients with poorly differentiated tumours have a worse prognosis than those with well or moderately differentiated tumours. Endocrine treatment of early prostate cancer is a revitalized concept, with the majority of the evidence for a beneficial effect coming from uncontrolled studies. Recently, however, data from two randomized studies have suggested that endocrine treatment may prolong survival in patients with non-metastatic prostate cancer. Also, in studies of radiotherapy for localized prostate cancer, a longer survival has been seen in patients randomized to neoadjuvant or adjuvant endocrine treatment compared with placebo. The current trend for earlier treatment means that the total time on endocrine therapy has increased and patients are younger when treatment is initiated. Therefore, randomized studies should not only substantiate a possible survival benefit of endocrine treatment, but also assess potential long-term side effects and their impact on quality of life.With the increased incidence of prostate cancer, decisions regarding its treatment are now both complex and frequent. Accurate staging is crucial. Then appropriate treatment can be decided on, using nondogmatic common sense.The dog is a well-accepted model for prostate cancer in man because of the striking similarities between both species with respect to the clinical course of the disease as well as to its similar histopathology. Cytogenetic investigations of human prostate cancers has revealed the frequent occurrence of trisomies 7, 8, and 17. In this report, we present a case of prostate carcinoma in a dog characterized by polysomy 13 as the sole cytogenetic abnormality. Along with the known homology between canine chromosome 13 and human chromosome 8 these findings suggest that a homologous area on both chromosomes plays a crucial role in subsets of prostate cancer in both species.Fertility preservation has become an important aspect of cancer treatment given the gonadotoxic effects of oncologic therapies. It is now considered standard of care to offer sperm banking to men undergoing treatment for primaries that affect young individuals. Less is known regarding fertility preservation of patients afflicted with prostate cancer. This cohort has progressively expanded and grown younger in the post-PSA era. Prostatectomy, radiation, chemotherapy and androgen blockade all pose unique challenges to the infertility specialist. Optimum management becomes even more uncertain for those men with metastatic prostate cancer. Most of these individuals will have received multiple forms of therapy, each carrying a distinct insult to the

patient's reproductive potential. We describe a case of successful ex vivo sperm extraction and live birth in a patient previously treated with radiation and chronic androgen deprivation for metastatic prostate cancer. The presented case demonstrates that conception after radiation therapy and chronic androgen deprivation is feasible. We propose that fertility counselling and sperm cryopreservation should be considered for all prostate cancer patients. Additionally, for those individuals undergoing external beam radiotherapy, testicular shielding should be routinely offered in the event further family building is desired.We evaluated 64 patients with clinically localized prostate cancer (on the basis of rectal examination, serum acid phosphatase, bone scan and pelvic computerized tomography scan) by transrectal sonography before radical prostatectomy. Of the 48 patients with histologically proved localized prostate cancer sonography overstaged the disease in 5 (10%) and correctly staged it in 43 (90%). All overstaged cancer patients were scanned after either prostatic biopsy (4) or transurethral prostatectomy (1) established the diagnosis of prostate cancer. Of the 16 patients with histologically proved, locally advanced prostate cancer (that is extracapsular extension and/or seminal vesicle invasion) sonography understaged the disease in 10 (62%) and correctly staged the disease in 6 (38%). These data suggest that sonography is associated with considerable staging errors when used to evaluate men with clinically localized prostate cancer.Purpose: We investigate the ultimate need for palliative treatments and hospital care in prostate cancer patients treated with noncurative intent.Data from the American College of Surgeons' prostate cancer surveys covering nearly a decade of experience demonstrate that the problem of prostate cancer is unique among black men in the United States. These data show that the distribution of stage at diagnosis changed across the 10-year interval. The data indicate that there have been improvements in the 5-year survival rates of both black and white patients, but the prostate cancer-specific survival of black patients remains significantly poorer than that of whites.In the past ten years, the treatment of prostate cancer has undergone remarkable changes. Furthermore, systematic prostate biopsy under transrectal ultrasonography or the measurement of prostate specific antigen has provided significant improvement in the detection of prostate cancer. Considering the increasing detection of prostate cancer, it is very important to clarify prognostic parameters in order to select the optimal treatment of given patients with localized or advanced prostate cancer. Recent statistical analyses showed that tumor volume, lymph node involvement and Gleason score would be significant prognostic indicators in localized prostate cancer. In advanced cancer, the response to the initial endocrine therapy might be a good prognostic parameter in addition to the histopathological features of primary tumors. In order to determine the factors which predict the prognosis of prostate cancer more accurately, the molecular biological approach is now ongoing, and may provide novel parameters for the decision making in the treatment of prostate cancer.There were 35,000 deaths from prostate cancer estimated in 1993. The mortality rate among African American men from prostate cancer is 2-3 times higher than among Caucasian Men between the ages of 50-70. There may be many reason for this disproportionate mortality such as a genetic basis, diet or a difference in doubling time between the ethnic groups. Differences in access to care has also been suggested as a cause for this difference. But what has been clearly demonstrated is that African Americans are diagnosed with prostate cancer at a more advanced stage. Thus, health seeking barriers that delay the diagnosis of prostate cancer until cure or long-term quality survival is no longer possible, may be a primary reason for this disproportionate mortality. Since a higher percentage of African Americans present with advanced and remote prostate cancer, it seems reasonable to focus our attention on programs directed towards early detection of prostate cancer in this high risk population. However there are several controversies associated with early detection such as its benefit, over-treatment, and cost. Perhaps the investigation and resolution of these issues should begin in a high risk population.In patients with stage A (T1) and B (T2) prostate cancer with negative lymph nodes, the 10-year outcome following treatment with external beam radiation is the same as that following radical prostatectomy. The value of external beam radiation in stage C (T3,4) prostate cancer has been demonstrated by 10- and 15-year results in thousands of patients. External beam radiation has emerged as the standard against which new therapies for locally advanced prostate cancer should be compared in prospective trials. New conformal radiation techniques are expected to further improve local control and decrease the morbidity of external beam radiation.An attempt has been made to use various morphological patterns as predictors of the pathobiology of clinically active prostate cancer. At the present time, the most predictable and time-tested procedure is that of the Gleason grading and subsequent score results. Even though there may be some deficiencies, it is the best that is currently available to the surgical pathologist and urologist. All other morphological procedures can be additive to the Gleason grading system.The role of acid phosphatase in the definition of response to treatment for

prostate cancer is unclear. To better define its predictive value, especially regarding survival rate, we reviewed the clinical course of 76 men with Stage D2 prostate cancer who were treated with combination chemotherapy.Not all cancers are suitable for screening programmes. The disease must be frequent, serious and able to be diagnosed at a stage at which it is curable and an easily acceptable and very specific screening test must be available. The justification for prostate cancer screening is controversial and this screening cannot be recommended on the basis of current knowledge. In this study, the authors evaluated, in the light of the recent literature, to what degree prostate cancer satisfies the theoretical criteria for cancer screening.Radiotherapy is an effective management option in the treatment of organ-confined prostate cancer with survival results and local control possibilities similar to those of surgery. Although radiotherapy is used in locally advanced (stage-C) prostate cancer, there are significant developments that may make treatment more effective, such as hormonal cytoreduction, neutron radiotherapy and conformal therapy.Fifty-seven patients with clinically localized prostate cancer were treated by radical prostatectomy or external radiation therapy following pelvic lymphadenectomy. Comparing the outcome of radiotherapy with that of prostatectomy in 42 T2 patients without lymph node metastasis, the 5-year cause-specific survival did not differ between the radical prostatectomy group (n = 31) and radiotherapy group (n = 11). The 5-year disease-free survival of the prostatectomy group, however, was superior to that of radiotherapy group (p = 0.01). To cure patients with T2 prostate cancer, therefore, it is supposed that radical prostatectomy should be performed. To improve the treatment outcome after radiotherapy, stereotactic radiosurgery for prostate cancer has been attempted in our institution. Phantom experiments using a linear accelerator demonstrated a round dose distribution, and high reproducibility of prostate positioning was confirmed by CT when a thermoplastic immobilization device was used to fix the pelvis. In one patient with localized prostate cancer treated by radiosurgery, acute complication has not been recognized during the 5 week follow-up. Radiosurgery may be available to treat clinically localized prostate cancer.The extensive use of prostate-specific antigen determination has considerably increased the incidence of prostate cancer. Due to earlier diagnosis, localized small cancers are found that in all probability are clinically insignificant. Overdiagnosis leads to overtreatment and to significant adverse effects. Localized prostate cancers of elderly patients having multiple diseases have often merely been monitored without therapy. Active monitoring should now be adventured also for younger men, whose tumor fulfils the criteria of minimal cancer.The incidence of prostate cancer is increasing sharply in Denmark and an increasing proportion of patients have clinically localised disease at diagnosis. The therapeutic strategy encompasses intended curative therapy: radical prostatectomy with complete removal of the prostate gland and seminal vesicles performed as an open procedure or laparoscopically, external beam radiation therapy, or implantation of radioactive seeds into the prostate (brachytherapy). In older patients with good prognostic factors, active surveillance should be considered. The various therapeutic modalities are reviewed.The aim of the study was to evaluate clinical value of transperineal saturation biopsy (TPSB) in 52 patients with suspicious for prostate cancer (PCa): 31 - primary patients and 17 - men with non-effective transrectal biopsy. PCa was diagnosed in 31 of 52 (59,6%) patients. Focal lesions revealed in 6 (19,4%), multifocal - in another 25 (80,6%) cases. TPSB is very helpful in primary diagnosis and for therapy planning.With Men's Health Week running from 10 to 16 June this year, there is an increasing focus on men's health. Prostate cancer may be traditionally associated with elderly men, but with improvements in screening techniques increasing numbers of patients are being diagnosed at a younger age, perhaps changing the view of this disease.Many improvements have been made regarding the management of prostate cancer. The standard therapeutic options for localised prostate cancer remain radical prostatectomy, external beam radiation therapy, and brachytherapy. However, some minimally invasive treatments are being investigated, including high intensity focused ultrasound and cryotherapy. In the future these therapies may replace standard treatments in selected patients. On the other hand, only few advances have been made in the treatment of non-localised prostate cancer. Locally advanced cancer is treated with combination of radiotherapy and hormonotherapy, and metastatic cancer is treated with hormone therapy. Docetaxel may improve patient survival in hormone-refractory disease.In more than 50% of the cases, the diagnosis of prostate cancer is made at the time of extra-prostatic or distant disease involving poor prognosis for cure. Small tumours for which curative treatment is possible are asymptomatic. Thus, useful early diagnosis of prostatic cancer is based on digital rectal examination and PSA concentration. PSA levels are also indicative of tumour volume. Thus, determining dissemination becomes significant only in the case of elevated PSA, indicating a large tumour.One hundred and twenty-two patients with localized prostate cancer were included in a surveillance study. The risk of developing metastases and dying of prostate

cancer after 10 years was 20 and 15% respectively. These figures are comparable with results in recent reports on long-term follow-up of after radical prostatectomy and radiation therapy.With intensified screening and the use of new diagnostic tools for prostate cancer (prostate-specific antigen, rectal ultrasound, magnetic resonance imaging with rectal coils, etc), the number of newly diagnosed cases of prostate cancer is rising rapidly, whereas the frequency of death due to prostate cancer remains almost stable. It must therefore be assumed that the number of patients in whom a diagnosed prostate cancer will not be fatal is also increasing. Consequently, not every prostatic carcinoma requires radical treatment when diagnosed. Also, it must be concluded that not every man who is a long-term survivor after radical prostatectomy owes his survival to the treatment. Long-term survivorship may reflect the relatively benign biological potential of this disease in an individual patient. Therefore, there is an inherent risk of overtreating patients and this must be weighed against the costs, the postoperative morbidity and the, albeit low, mortality of a radical prostatectomy. Nevertheless, as long as we do not have diagnostic tools which, at an early stage of prostate cancer, enable us to determine whether a carcinoma will ultimately have a fatal outcome, we are obliged to offer radical prostatectomy to younger patients (who have a life expectancy of more than 10 years) as long as they have organ-confined disease.Risk stratification in prostate cancer remains a significant clinical challenge. A study in this issue of the JCI describes an exciting application of high-throughput functional genomic technology to further refine our understanding of treatment failure risk in prostate cancer patients.The intermediate and long-term results of primary full-gland cryoablation for localized prostate cancer with moderate- and high-risk patients suggests a cancer control rate similar to what can be achieved with radiotherapy and surgery, with an acceptable rate of complications. A recent shift in the treatment paradigm toward unilateral cryoablation (hemiablation) or ablation of unifocal lesion(s) in select patients suggests the ability of this approach to maintain a quality of life closer to the pretreatment level. However, trials with longer oncologic follow-up are needed. The development of more accurate imaging-based techniques-ie, image-guided prostate biopsy sampling and image-guided prostate cryoablation-is of paramount importance to selecting appropriate candidates for an organ-sparing procedure. To make this approach scientifically sound, further investigation to establish patient selection criteria, the development of molecular and imaging parameters of cryoablative efficacy, and regular careful follow-up of these patients is needed.Moleculo-genetic pathways of development and progression of prostate cancer have been studied. In the norm, paracrine regulation of the glandular secretory epithelium are predominant due to the influence of hormonal and protein factors of the stroma. The altered prostatic epithelium becomes independent from the stroma and androgens and, consequently, prone to metastasizing, following activation of protooncogenes (growth factor genes), inactivation of gene-suppressors, hyperexpression of certain growth factors and apoptosis inhibitor Bcl-2, and inactivation of androgen receptor. In inoperable prostate cancer, palliative treatment should include antiandrogen therapy, inhibition of growth factors and activation of apoptosis. Prevention and medication for prostate cancer targeting apoptosis, growth factors and androgens should be based on recent achievements in experimental genotherapy and selective use of proliferation inhibitors and apoptosis activators which are to be fed to the gland via viral and non-viral vectors. Molecular-biological markers of risk for cancer, its early detection, prognosis of clinical course and effectiveness of treatment are discussed. A modality for laboratory diagnosis and complex treatment of prostate cancer offering maximum survival so far has been suggested.1. When obtaining a screening history for prostate cancer, important risk factors include age, family history, and ethnicity. The digital rectal examination remains the "gold standard" physical examination screening technique. 2. If prostate cancer is detected at an early stage, it is potentially curable. It is incumbent upon occupational health care providers to afford those constituents who fall into a high risk category, or who are > or = 40 years of age, every opportunity for prostate cancer screening. 3. Education is the "sine-qua-non" of complete health care provision for prostate cancer clients. The occupational health care provider can play a pivotal role in allaying a client's fear and misconception of this disease. 4. Providing appropriate assessment and advocacy for clients returning to the workplace following diagnosis and treatment of prostate cancer is crucial.The heat shock proteins (HSP) constitute a superfamily of chaperone proteins present in all cells and in all cell compartments, operating in a complex interplay with synergistic/overlapping multiplicity of functions, even though the common effect is cell protection. Several reasons explain the need for investigating HSP in prostate cancer: (1) these molecules function as chaperones of tumorigenesis accompanying the emergence of prostate cancer cells, (2) they appear as useful molecular markers associated with disease aggressiveness and with resistance to anticancer therapies including hormone therapy, radiotherapy, chemotherapy and hyperthermia, and (3) they can

be used as targets for therapies. The latter can be accomplished by: (i) interrupting the interaction of HSP (mainly HSPC1) with various client proteins that are protected from degradation when chaperoned by the HSP; (ii) using the chaperone and adjuvant capabilities of certain HSP to present antigenic peptides to the immune system, so this system can recognise the prostate tumour cells as foreign to mount an effective antitumoral response; and (iii) using treatment planning models taking into account the HSP expression levels to obtain more effective therapies. In summary, the study of the HSP during tumorigenesis as well as during cancer progression, and the inclusion of treatment designs targeting HSP combined with other treatment modalities, should improve prostate cancer survival in the near future.Cancer cells encounter a hypoxic microenvironment during tumor growth and progression. In addition, androgen-deprivation therapy against prostate cancer can develop secondary to a hypoxic condition caused by drastic blood supply reduction because androgen drives angiogenic inducers including vascular endothelial growth factor (VEGF) and inhibits angiogenesis inhibitor prostatic pigment epithelium-derived factor (PEDF). Extreme hypoxic conditions are not suitable for cancer survival, however, cancer cells soon adapt to a hypoxic environment and survive. We established a prostate cancer cell line cultured under chronic hypoxia and analyzed a castration-resistant phenotype. Here, the Vav3 was identified as a key oncogenic molecule associated with castration-resistance under chronic hypoxia. We analyzed the functions of Vav3 and Vav3-mediated signaling to establish a novel therapeutic target for castration-resistant prostate cancer.The early detection of asymptomatic prostate cancer has led to the increased incidence of tumours that are unlikely to become symptomatic during life, so called indolent cancers. The prediction of low risk and indolent prostate cancer is needed to avoid overtreatment by unnecessary invasive therapies, and select men for active surveillance. Some of the currently available nomograms predicting these low risk tumours have been validated in independent populations. However, assessment to the compliance with their treatment advises based on the calculation of probability are scarce. The ultimate value of nomograms for the urologic practice can only be assessed by analysing their practical implementation.Purpose of review: Prostate cancer continues to represent a major health problem. It represents the most common cancer in US men, with an estimated 186 320 new cases diagnosed in 2008. It is the second leading cause of cancer death in men in the United States. Despite several attempts, the median survival for men with metastatic castrate-resistant prostate cancer is 1-2 years, with improvements in survival seen primarily with docetaxel-based therapies. Treatment options are limited, and there is a clear need for therapies that improve outcome. The purpose of this article is to discuss recent developments in the field of metastatic hormone-refractory prostate cancer, including new cytotoxic agents, antiproliferative agents, immune-based therapies, circulating tumor markers and antiangiogenic agents.Prostate cancer is the second most common malignancy among males after lung cancer. The growth of prostate cancer cells depends on the presence of androgens, a group of steroid hormones that include testosterone and its more active metabolite dihydrotestoste-rone. Most prostate cancers are androgen-dependent and respond to the antiandrogens or androgen-deprivation therapy. However, the progression to an androgen-independent stage occurs frequently. Possible mechanisms that could be involved in the development of hormone resistant prostate cancer causes including androgen receptor (AR) mutations, AR amplification/over expression, interaction between AR and other growth factors, and enhanced signaling in a ligand-independent manner are discussed.The definition of clinically significant prostate cancer is a dynamic process that was initiated many decades ago, when there was already evidence that a great proportion of patients with prostate cancer diagnosed at autopsy never had any clinical symptoms. Autopsy studies led to examinations of radical prostatectomy (RP) specimens and the establishment of the definition of significant cancer at RP: tumour volume of 0.5 cm3 , Gleason grade 6 [Grade Group (GrG) 1], and organ-confined disease. RP studies were then used to develop prediction models for significant cancer by the use of needle biopsies. The first such model was used to delineate the first active surveillance (AS) criteria, known as the 'Epstein' criteria, in which patients with a cancer Gleason score of 3 + 3 = 6 (GrG1) involving fewer than two cores, and <50% of any given core, and a prostate-specific antigen density of <0.15 ng/ml per cm3 had a minimal risk of significant cancer at RP. These were adopted as components of the 'very-low-risk category' of the National Comprehensive Cancer Network guidelines, in which AS is supported as a management option. With the increase in the popularity of AS, much research has been carried out to better define significant/insignificant cancer, in order to be able to safely offer AS to a larger proportion of patients without the risk of undertreatment. Research has focused on allowing higher volume tumours, focal extraprostatic extension, and a limited amount of Gleason pattern 4, and the significance of different morphological patterns of Gleason 4. Other areas of research that will probably impact on the field but that are not covered in this review

include the molecular classification of tumours and imaging techniques.Oligometastatic prostate cancer has been proposed as an intermediate stage between localized and extensively disseminated disease. Oligometastatic disease is being diagnosed more frequently due to the advances in imaging tests. Nevertheless, there is no consensus definition yet of oligometastatic prostate cancer. The importance of this entity is that several studies have pointed out that local and metastasis directed treatment may improve survival in selected patients. However, we need the results of well controlled prospective randomized clinical trials to help a better understanding and management of oligometastatic prostate cancer.Prostate cancer is frequently characterized as a multifocal disease with great intratumoral heterogeneity as well as a high propensity to metastasize to bone. Consequently, modeling prostate tumor has remained a challenging task for researchers in this field. In the past decades, genomic advances have led to the identification of key molecular alterations in prostate cancer. Moreover, resistance towards second-generation androgen-deprivation therapy, namely abiraterone and enzalutamide has unveiled androgen receptor-independent diseases with distinctive histopathological and clinical features. In this review, we have critically evaluated the commonly used preclinical models of prostate cancer with respect to their capability of recapitulating the key genomic alterations, histopathological features and bone metastatic potential of human prostate tumors. In addition, we have also discussed the potential use of the emerging organoid models in prostate cancer research, which possess clear advantages over the commonly used preclinical tumor models. We anticipate that no single model can faithfully recapitulate the complexity of prostate cancer, and thus, propose the use of a cost- and time-efficient integrated tumor modeling approach for future prostate cancer investigations.Proton therapy is a promising, but costly, treatment for prostate cancer. Theoretical physical advantages exist; yet to date, it has been shown only to be comparably safe and effective when compared with the alternatives and not necessarily superior. If clinically meaningful benefits do exist for patients, more rigorous study will be needed to detect them and society will require this to justify the investment of time and money. New technical advances in proton beam delivery coupled with shortened overall treatment times and declining device costs have the potential to make this a more cost-effective therapy in the years ahead.Improvements in diagnostic techniques have led to prostate cancer being diagnosed in younger patients and at an earlier stage of disease. The question therefore arises as to what is the best treatment for early prostate cancer. The main issues to be considered are whether the cancer is likely to progress quicker if these patients do not receive early treatment and what the quality of life implications are for patients receiving early treatment. As yet, due to the lack of valid comparisons of treatments, there is no clear "best treatment" for early prostate cancer. A number of clinical trials, comparing current treatments or investigating potential new treatment options for early prostate cancer, are in progress. The results of these should clarify the relative benefits of currently available treatments. This article reviews the latest information on the incidence, prognosis and current treatments for early prostate cancer and discusses the need for new treatments. Potential clinical benefits and cost implications of new treatments for early prostate cancer, such as improved surgical and radiotherapy techniques and adjuvant medical therapy, are also evaluated.One hundred forty-six patients with clinically nonmetastatic carcinoma of the prostate were treated at Columbia-Presbyterian Medical Center from 1964 through 1976. Of these 146 patients, 24 (16.4%) had developed at least one additional primary cancer. This review contrasts the 122 patients who had a single primary prostate cancer only with the 24 patients who had additional primary carcinomas with respect to age, racial distribution, clinical stage, and prostate cancer histology including Gleason's score, patterns of failure of prostate cancer, and survival data. Local failure and distant failure were less in the multiple primary group. Patients with high Gleason's scores appear to be at greater risk for second primaries. Five-year observed survival (by actuarial life table method) for the single prostate primary group was 76.5%, and 5-year observed survival of the prostate multiple primary group where prostate cancer appeared first was 71%.The progression of human prostate cancer from histomorphologic to clinical expression often requires several decades. This study emphasizes the importance of developing relevant human prostate cancer models to study the molecular events leading to prostate cancer progression. These models will provide a rational basis for chemopreventive and treatment strategies to retard the progression of human prostate cancer from its localized to its metastatic state. In our laboratory, we have established the LNCaP progression and ARCaP models and the in vitro three-dimensional growth models involving prostate cancer and bone stroma to study the progression of prostate cancer. We propose that prostate cancer may progress from an androgen-dependent to an androgen-independent state. While existing as androgen-independent tumors (defined as tumors capable of growing in castrated hosts and secreting PSA in serum), prostate cancer may assume three different phenotypes

as it progresses: androgen-independent while remaining androgen-responsive; androgen-independent and unresponsive to androgen stimulation; and androgen-independent but suppressed by androgen. It is conceivable that any androgen-independent human prostate cancer may contain variable proportions of cells that exhibit these three phenotypes. This concept may have important implications in determining strategies for chemopreventive and therapeutic trials. We have established three-dimensional growth models of prostate cancer cells either in collagen gel or microgravity-simulated growth conditions to form viable and functional organoids which contain prostate cancer epithelial cells admixed with prostate or bone stromal cells. These in vitro models combined with the in vivo models described above will enhance our understanding of the regulatory mechanism of prostate cancer growth and progression, and hence could improve efficiency in screening chemopreventive and therapeutic agents which alter the biologic behaviors of human prostate cancer.Prostate cancer is a prevalent disease that is characterized by a presumably long latency period and a moderate propensity to metastasize. Although a range of mechanisms have been implicated in prostate carcinogenesis, the factors determining the initiation of metastasis remain obscure. The synchronized function of prostate cells depends on their metabolic and electrical coupling; disturbance of these functions has long been suggested to be integral to prostate carcinogenesis. However, although connexins form intercellular channels involved in gap-junction-mediated intercellular coupling (GJIC), whether these proteins also have GJIC-independent roles in cancer progression and metastasis remains a matter of debate. Some data indicate a correlation between connexin expression and the invasive potential of prostate cancer cells, which points to stage-specific functions of connexins during prostate cancer development. For example, restoration of connexin expression seems to be crucial for the formation of invasive cell subsets within heterogeneous prostate cancer cell populations that have undergone aberrant differentiation. Consequently, the clinical application of therapeutic and prophylactic approaches focused on the modulation of connexin expression in prostate cancer cells should be reconsidered.Objective: To morphometrically compare local atherosclerotic changes in cancerous prostate with those in noncancerous prostate specimens, as epidemiological studies report a positive association between the prevalence of general atherosclerosis and prostate cancer.Multiparametric MRI (mpMRI) is an imaging modality that combines anatomical MR imaging with one or more functional MRI sequences. It has become a versatile tool for detecting and characterising prostate cancer (PCa). The traditional role of mpMRI was confined to PCa staging, but due to the advanced imaging techniques, its role has expanded to various stages in clinical practises including tumour detection, disease monitor during active surveillance and sequential imaging for patient follow-up. Meanwhile, with the growing speed of data generation and the increasing volume of imaging data, it is highly demanded to apply computerised methods to process mpMRI data and extract useful information. Hence quantitative analysis for imaging data using radiomics has become an emerging paradigm. The application of radiomics approaches in prostate cancer has not only enabled automatic localisation of the disease but also provided a non-invasive solution to assess tumour biology (e.g. aggressiveness and the presence of hypoxia). This article reviews mpMRI and its expanding role in PCa detection, staging and patient management. Following that, an overview of prostate radiomics will be provided, with a special focus on its current applications as well as its future directions.Prostate cancer is becoming the most common cancer in men. In parallel, role of diet as contributing or protector factor of prostate cancer is supported by experimental studies, clinical observations and intervention studies. Among the prostate cancer risk factor, role of energy intake, especially saturated fat, has been demonstrated. Similarly, omega-3, lycopene, pomegranate juice and vitamin D protective role have been shown. Informed and educated population is necessary to limit energy intake and promote consumption of foods potentially protective.Prostate cancer continues to be the most commonly diagnosed cancer among Canadian men. The introduction of routine screening and advanced treatment options have allowed for a decrease in prostate cancer-related mortality, but outcomes following treatment continue to vary widely. In addition, the overtreatment of indolent prostate cancers causes unnecessary treatment toxicities and burdens health care systems. Accurate identification of patients who should undergo aggressive treatment, and those which should be managed more conservatively, needs to be implemented. More tumour and patient information is needed to stratify patients into low-, intermediate-, and high-risk groups to guide treatment options. This paper reviews the current literature on personalised prostate cancer management, including targeting tumour hypoxia, genomic and radiomic prognosticators, and radiobiological tumour targeting. A review of the current applications and future directions for the use of big data in radiation therapy is also presented. Prostate cancer management has a lot to gain from the implementation of personalised medicine into practice.

Using specific tumour and patient characteristics to personalise prostate radiotherapy in the era of precision medicine will improve survival, decrease unnecessary toxicities, and minimise the heterogeneity of outcomes following treatment.The search for a classic biomarker for prostate cancer has been on for a very long time, and it is still elusive. Despite the extensive and prolonged use of the prostate-specific antigen (PSA) as a screening tool for prostate cancer, many clinicians still identify its limitations in the grading of tumors, and monitoring of response to treatment. These limitations are based on the concealment of cancer by low levels of PSA, and over diagnosis and over treatment that are resultant of excessively high levels of antigens. To overcome these limitations, a plethora of candidate biomarkers have been investigated and identified. Regrettably, none of these putative biomarkers has shown ideal utility for prostate cancer detection and prognostication. In spite of these, various patents have been filed and granted for several of these biomarkers. The discovery of an exclusive marker for prostate cancer may be mired by the heterogeneity of the disease, since the molecular mediators of the disease are linked with its etiopathogenesis. Thus the search for biomarkers of prostate cancer must recognize its etiology and downstream mediators. In this review, PCGEM1, a patented prostatespecific non-coding RNA gene with an upregulated transcription in African American malignancy will be discussed in relationship to the etiology of prostate cancer.Prostate-specific membrane antigen (PSMA) positron emission tomography-computed tomography (PET-CT) imaging for the localization of prostate cancer is increasingly available in Germany. The advances and limitations in different disease stages are reviewed. As the clinical relevance of oligometastatic disease in primary cancer detected by PSMA PET-CT imaging is not yet completely understood, it should only be used in clinical trials. In recurrent prostate cancer after therapy with curative intent, PSMA PET-CT shows encouraging potential for the planning of salvage therapy. In metastatic castration-resistant prostate cancer evidence for its use is not available.Prostate cancer is a life-threatening and highly heterogeneous malignancy. In the past decade, circulating tumor cells (CTCs) have been suggested to play a critical role in the occurrence and progression of prostate cancer. In particular, as the "seed" of the cancer metastasis cascade, CTCs determine numerous biological behaviors, such as tumor invasion into adjacent tissues and migration to distant organs. Many studies have shown that CTCs are necessary in the processes of tumor progression, including tumorigenesis, invasion, metastasis, and colonization. Furthermore, CTCs express various biomarkers relevant to prostate cancer and thus can be applied clinically in noninvasive tests. Moreover, CTCs can serve as potential prognostic targets in prostate cancer due to their roles in regulating many processes associated with cancer metastasis. In this review, we discuss the isolation and detection of CTCs as predictive markers of prostate cancer, and we discuss their clinical application in the diagnosis and prognosis of prostate cancer and in monitoring the response to treatment and the prediction of metastasis.This article provides an overview of imaging modalities that aid in diagnosing, staging, and assessing therapeutic response in prostate cancer. Prostate cancer is the second most common type of cancer in American men and the second leading cause of cancer death among men. Prostate cancer is difficult to diagnose in early stages, and advanced disease often recurs after treatment. To localize sites of recurrence many imaging modalities have been used with varying success. This article presents case studies of PET scanning using carbon 11 acetate and discusses intravenously infused ascorbate, a complementary and alternative medicine therapy for prostate cancer.Prostate cancer is the most prevalent cancer in men and can be managed effectively if diagnosed early and monitored. Currently, prostate-specific antigen testing in conjunction with a digital rectal exam has been utilized for screening at-risk men. However, the lack of specificity of prostate-specific antigen as a marker for prostate cancer combined with the asymptomatic and slow-growing nature of prostate tumors has resulted in many men being overdiagnosed and subjected to surgery or treatment with adverse side effects. The focus in the research community currently has been on discovering noninvasive surrogate markers such as proteins, circulating tumor cells and nucleic acids in the blood or urine of patients with prostate cancer. These markers, in combination with prostate-specific antigen, are providing promise that a personalized multiparametric approach to prostate cancer diagnosis and monitoring will aid in managing this disease.Prostate cancer is the most common non-skin-related cancer in men. With advances in technology, the care and treatment for men with this disease continues to become more complex. Large databases offer researchers a unique opportunity to conduct prostate cancer research in various areas, and provide important information that helps patients and providers determine prognosis after treatment. Furthermore, the studies using these databases may provide information on how side effects from various treatments can affect one's quality of life. Finally, information from these datasets can help to identify factors that determine why patients receive the treatments they do. Despite this, these databases are not without limitations. In this

review, we discuss various available, national, multicenter, and institutional databases in the context of prostate cancer research, citing numerous important studies that have impacted on our understanding of prostate cancer outcomes.Many important features of the biology of prostate cancer have not been discussed in this review, which has emphasized the traditional criteria for characterizing the biologic behavior of the disease: volume, grade, and invasiveness. Studies of the pathology of prostate cancer found at autopsy or in the clinic, the natural history of the disease, and the results of treatment trials leave little room for doubt that large cancers, particularly those that are not well differentiated or that invade outside of the prostate, will prove lethal if not effectively treated. We do not know whether some small prostate cancers are potentially dangerous. Perhaps studies of nuclear features, DNA content, or oncogene expression will be able to distinguish the potentially lethal small cancers from the truly "latent" small cancers. We do, however, have strong evidence that every big cancer is dangerous. Autopsy studies have established that there are not two forms of prostate cancer, but one. Initial malignant transformation in the prostate produces an adenocarcinoma histologically indistinguishable from any other prostate cancer. However, a promoter seems to be necessary to activate the tumor and allow it to express its malignant potential. The strong correlation between the prevalence of large, proliferative cancers found at autopsy and the clinical incidence and mortality rate of prostate cancer in populations around the world strongly supports the concept of a multistep process in the pathogenesis of the disease. If McNeal's detailed volumetric studies are accurate, then we can estimate the proportion of "autopsy" cancers that are large enough to threaten the life and well-being of their host. This proportion appears to be about 20 per cent, and these are the undetected but "clinically important" cancers. The dilemma of prostate cancer becomes less puzzling when viewed in this light. In a daunting display of the power of the paradox of prostate cancer, Chodak estimated that if every cancer present in American men were to be found and treated, 75,000 men would die from the treatment, whereas less than 30,000 are expected to die of the disease this year! But this paradox can be explained by introducing time into the analysis, basing estimates on the lifetime risks rather than the annual incidence. For a 50-year-old man, the lifetime risk of developing cancer in the prostate is about 42 per cent, the risk of developing the disease clinically is 9.5 per cent, and the risk of dying from the disease is 2.9 per cent.(ABSTRACT TRUNCATED AT 400 WORDS)D-glucuronyl C5-epimerase (GLCE) is involved in breast and lung carcinogenesis as a potential tumor suppressor gene, acting through inhibition of tumor angiogenesis and invasion/metastasis pathways. However, in prostate tumors, increased GLCE expression is associated with advanced disease, suggesting versatile effects of GLCE in different cancers. To investigate further the potential cancer-promoting effect of GLCE in prostate cancer, GLCE was ectopically re-expressed in morphologically different LNCaP and PC3 prostate cancer cells. Transcriptional profiles of normal PNT2 prostate cells, LNCaP, PC3 and DU145 prostate cancer cells, and GLCE-expressing LNCaP and PC3 cells were determined. Comparative analysis revealed the genes whose expression was changed in prostate cancer cells compared with normal PNT2 cells, and those differently expressed between the cancer cell lines (ACTA2, IL6, SERPINE1, TAGLN, SEMA3A, and CDH2). GLCE re-expression influenced mainly angiogenesis-involved genes (ANGPT1, SERPINE1, IGF1, PDGFB, TNF, IL8, TEK, IFNA1, and IFNB1) but in a cell type-specific manner (from basic deregulation of angiogenesis in LNCaP cells to significant activation in PC3 cells). Invasion/metastasis pathway was also affected (MMP1, MMP2, MMP9, S100A4, ITGA1, ITGB3, ERBB2, and FAS). The obtained results suggest activation of angiogenesis as a main molecular mechanism of pro-oncogenic effect of GLCE in prostate cancer. GLCE up-regulation plus expression pattern of a panel of six genes, discriminating morphologically different prostate cancer cell sub-types, is suggested as a potential marker of aggressive prostate cancer.Prostate cancer is a major global health care challenge. Due to the recent relevant improvements in the diagnosis, imaging and treatment, management of these patients is becoming extremely complex. However, new multiple diagnostic procedures and treatment options, tailored on the single patient, require a multidisciplinary effort. Molecular imaging is gaining importance in the decision making process of prostate cancer patients, playing a key role in the majority of clinical setting, including staging, restaging during biochemical recurrence and castration-resistant stage. Moreover recent significant advances are changing the management of these patients impacting on the choice of therapeutic strategy. In particular, prostate-specific membrane antigen PET imaging is assuming the role of the gatekeeper addressing patients to the correct treatment option and also, in the advanced stages, selecting patients potentially suitable for targeted α- or β-therapy bridging to the fascinating concept of theranostic. Even if radioligand therapy found its first clinical application in 1946, in the last few years several α- or β-radionuclide prostate-specific membrane antigen-labeled for targeted therapy

have been proposed where other treatment options do not show a significant impact on survival. The theranostic field is experiencing a rapid growth in prostate cancer giving to nuclear medicine a central role that has to be confirmed by further prospective studies.Recent advances in the treatment of castration-resistant prostate cancer (CRPC) have started to change the therapeutic landscape allowing clinicians to choose from a broad range of treatment options. Understanding the mechanisms that transform prostate cancer (PCA) into a castration-resistant state has enabled investigators to explore critical pathways involved in such process allowing for rational therapeutic design. These novel therapies complement the modest success that chemotherapy has demonstrated in recent years. In this review, we discuss the different mechanisms that render PCA castration resistant and elaborate on the nonchemotherapy approaches evolving in CRPC. These include agents targeting the epidermal growth factor receptor, endothelin receptor antagonists, angiogenesis inhibitors, immunomodulatory agents, immunotherapy, novel antiandrogens, and delivery of cytotoxic agents via therapeutic antibodies. This timely review coincides with the identification of newer therapies in this setting affirming our steady movement towards better disease control.Prostate cancer is the most common cancer among men and the second leading cause of cancer-related death. For patients who develop metastatic disease, tissue-based and circulating-tumor-based molecular and genomic biomarkers have emerged as a means of improving outcomes through the application of precision medicine. However, the benefit is limited to a minority of patients. An additional approach to further characterize the biology of advanced prostate cancer is through the use of phenotypic precision medicine, or the identification and targeting of phenotypic features of an individual patient's cancer. In this review article, we will discuss the background, potential clinical benefits, and limitations of genomic and phenotypic precision medicine in prostate cancer. We will also highlight how the emergence of image-based phenotypic medicine may lead to greater characterization of advanced prostate cancer disease burden and more individualized treatment approaches in patients.Many controversies surround the management of prostate cancer to include screening practices, diagnosis, and treatment options. The lack of randomized prospective studies comparing the various definitive treatment modalities currently available occasionally can make the decision process challenging for patients and their providers. In this setting of controversy, the cost of treating clinically localized prostate cancer is significant. In the face of these unanswered questions, this article summarizes some important principles regarding the diagnosis and treatment of prostate cancer. This review is limited to the diagnosis and management of clinically localized disease.Purpose: Many patients who undergo surgery or radiation therapy to treat localized prostate cancer experience an increase in serum prostate specific antigen (PSA) after treatment. This study documents patterns of PSA recurrence after surgery or radiation to treat localized prostate cancer and quantifies the extent to which an increasing PSA predicts death from prostate cancer.Purpose: Prostate cancer mortality is predicted to nearly double by 2040 in Sub-Saharan Africa (SSA). The lack of prostate cancer screening in SSA contributes to late-stage diagnosis, treatment delays, and poor survival among patients. We analyzed the availability and use of prostate cancer screening, diagnostic and treatment guidelines, procedures, and costs in few SSA countries to determine factors for consideration in the development of prostate cancer screening guidelines for SSA.Since they were first described in the 1990s, circulating microRNAs (miRNAs) have provided an active and rapidly evolving area of current research that has the potential to transform cancer diagnostics and therapeutics. In particular, miRNAs could provide potential new biomarkers for prostate cancer, the most common cause of cancer in UK men. Current diagnostic tests for prostate cancer have low specificity and poor sensitivity. Further, although many prostate cancers are so slow growing as not to pose a major risk to health, there is currently no test to distinguish between these and cancers that will become aggressive and life threatening. Circulating miRNAs are highly stable and are both detectable and quantifiable in a range of accessible bio fluids, thus have the potential to be useful diagnostic, prognostic and predictive biomarkers. This review aims to summarise the current understanding of circulating miRNAs in prostate cancer patients and their potential role as biomarkers.In patients with lymph node-positive and metastatic prostate cancer there is currently no consensus about the best possible management. Multimodal approaches including systemic and local treatment have shown to improve survival. However, the role of radical prostatectomy (RP) is currently unclear. While treatment of the primary tumor is recommended in highly selected lymph node-positive prostate cancer patients, no prospective data exist to support resection of the primary tumor in metastatic patients as a treatment modality to improve overall survival. However, recent observational studies have suggested a survival benefit after prostate tumor cytoreduction. This article reviews existing evidence on the role of RP in lymph node-positive and metastatic prostate cancer

patients.Mortality from prostate cancer is two to three times greater among African-American men between the ages of 50 and 70 than among American Caucasian men of similar ages. Also, African-Americans tend to present with more advanced tumors than their American Caucasian counterparts. This article explores differences between the two races that may account for the disproportionately high mortality among African-Americans and their more advanced disease stage at presentation. These include epidemiologic and histologic features of prostate cancer; clinical, biologic, and environmental factors; and barriers to health care. Various important issues that warrant further investigation are also highlighted.New imaging techniques are more sensitive in prostate cancer and reveal sites of disease that may never have been seen with conventional imaging, resulting in stage migration and potentially a change in the clinical management. Until long-term data provide a better understanding of the natural history of the disease defined by more sensitive imaging, patients and clinicians should recognise the considerable uncertainty about whether these improve outcomes. It is hoped that the next iteration of the TNM classification will recognise the problem in some way.The causes of prostate cancer reflect a complex interaction between environmental and genetic factors. Improvement in screening has reduced the incidence of prostate cancer, and risk assessment schemata have enhanced therapy, both for localized disease and for locally recurrent prostate cancer. The use of hormone therapy has been further evaluated, as primary therapy for locally advanced cancers, for lymph node-positive cancers, and for de novo metastatic cancer. Modest inroads have been made in the treatment and understanding of androgen-independent prostate cancer. Advances have been made in the understanding of the risk factors, genetic and environmental, associated with the development and progression of prostate cancer; in screening; and in optimizing therapy for localized, locally recurrent, and advanced disease. This article reviews the most salient observations reported between November 1, 1997 and October 31, 1998.Prostate cancer is the most frequent malignancy in the worldwide male population; it is also one of the most common among all the leading cancer-related death causes. In the last two decades, the therapeutic scenario of metastatic castration-resistant prostate cancer has been enriched by the use of chemotherapy and androgen receptor signaling inhibitors (ARSI) and, more recently, by immunotherapy and poly(ADP-ribose) polymerase (PARP) inhibitors. At the same time, several trials have shown the survival benefits related to the administration of novel ARSIs among patients with non-castration-resistant metastatic disease along with nonmetastatic castration-resistant cancer too. Consequently, the therapeutic course of this malignancy has been radically expanded, ensuring survival benefits never seen before. Among the more recently emerging agents, the so-called "antibody-drug conjugates" (ADCs) are noteworthy because of their clinical practice changing outcomes obtained in the management of other malignancies (including breast cancer). The ADCs are novel compounds consisting of cytotoxic agents (also known as the payload) linked to specific antibodies able to recognize antigens expressed over cancer cells' surfaces. As for prostate cancer, researchers are focusing on STEAP1, TROP2, PSMA, CD46 and B7-H3 as optimal antigens which may be targeted by ADCs. In this paper, we review the pivotal trials that have currently changed the therapeutic approach to prostate cancer, both in the nonmetastatic castration-resistant and metastatic settings. Therefore, we focus on recently published and ongoing trials designed to investigate the clinical activity of ADCs against prostate malignancy, characterizing these agents. Lastly, we briefly discuss some ADCs-related issues with corresponding strategies to overwhelm them, along with future perspectives for these promising novel compounds.Purpose: The impact of family history on the diagnosis of the prostate cancer among Asian population remains controversial. We evaluated whether a positive family history of the prostate cancer in Korean men is associated with the diagnosis and aggressiveness of the prostate cancer.The routine determination of PSA has generated an important consequence: a really favourable migration of the tumour stage at the moment of diagnosis. It implies an exponential increase in the requirement of primary treatments with curative intention. Radical prostatectomy with preservation of neuro-vascular bundles is the gold standard for the treatment of localized prostate cancer but laparoscopic and robotic surgery have arrived with force during last five years. These therapeutic approaches and the new emerging techniques (those interventions that are not routine practice in the prostate cancer) guided by images present a constant research activity. Here, we perform a review of every possibility to treat the cancer of prostate.The biological diversity of prostate cancer confounds standardization of therapy. Advances in molecular profiling suggest that differences in the genetic composition of tumors significantly contribute to the complexity of the disease. Alternative pre-mRNA splicing is a key genetic process underlying biological diversity. During alternative splicing, coding and noncoding regions of a single gene are rearranged to generate several messenger RNA transcripts yielding distinct protein

isoforms with differing biological functions. Misregulation of the splicing machinery and mutations in key regulatory elements affect splicing of cancer-relevant genes. In prostate cancer, aberrant and alternative splicing generates proteins that influence cell phenotypes and survival of patients. Splicing events may be exploited for clinical benefit, and technological advances are beginning to uncover novel biomarkers and therapeutic targets. Since splicing mediates information transfer from the genome to the proteome, it adds an important dimension to '-omics'-based molecular signatures used to individualize care of patients.The cure of advanced prostate cancer (PCa) will be achieved through the clinical application of biological observations. To achieve this, a new classification of human PCa is needed. Unlike in previous classifications of PCa which were based on anatomic determinates of outcome, we propose to integrate emerging PCa biology into this taxonomy. Three biologically based categories were identified (amphotropic, clonal expansion, and heterotopic), and each has unique features that influence therapy selection. It is unlikely that any single agent or modality will successfully control PCa. It is hoped that the classification and trial designs we propose will facilitate the application of integrated treatment and prevention strategies.Nearly five decades following its conception, the Gleason grading system remains a cornerstone in the prognostication and management of patients with prostate cancer. In the past few years, a debate has been growing whether Gleason score 3 + 3 = 6 prostate cancer is a clinically significant disease. Clinical, molecular and genetic research is addressing the question whether well characterized Gleason score 3 + 3 = 6 disease has the ability to affect the morbidity and quality of life of an individual in whom it is diagnosed. The consequences of treatment of Gleason score 3 + 3 = 6 disease are considerable; few men get through their treatments without sustaining some harm. Further modification of the classification of prostate cancer and dropping the label cancer for Gleason score 3 + 3 = 6 disease might be warranted.The value of screening for prostate cancer has been a contentious issue within the medical literature for several decades. At the crux of the matter lies a judgment call of whether the potential benefits of screening, a reduction in prostate cancer and all-cause mortality, outweigh the limitations, overdiagnosis and overtreatment. The study by Schrϕder et al. reports 9, 11 and 13-year follow-up data on men participating in the European randomized study of screening for prostate cancer (ERSPC). While the authors report a significant reduction in prostate cancer mortality, they conclude that potential harms associated with screening currently circumvent any recommendation for a population-based approach to screening for prostate cancer.Prostate cancer is one of the most common malignancies in westernised countries. An alarming fact is that the incidence of prostate cancer is showing an upward trend. The author discusses the anatomy and physiology, epidemiology, aetiology and management of this disease.An expanding and increasingly older population, a rising incidence of prostate cancer, and uncertainties regarding treatment effectiveness have made this disease a target of special concern. The natural history of the cancer must be a consequence of host-tumor interactions, but little is known for sure about this subject. The growth rate of the tumor is determined by many factors, including genetic instability. At present, tumor grade, volume, and ploidy are the most useful techniques for judging the growth rate and metastatic potential. Stage A1 tumors generally are indolent, whereas stage A2 tumors are more aggressive. The natural history of stage B lesions is not well documented. The author asks two questions (Is cure necessary in those in whom it may be possible? Is cure possible in those in whom it may be necessary?) and reviews the problems inherent in screening for prostate cancer at this time.Urologists have considered themselves to be the experts in the use of digital rectal examination for the evaluation of diseases of the prostate. However, without close attention to the teaching of this examination, it probably is inaccurate and unreliable. Moreover, many patients who are destined to die of prostate cancer never develop a palpable abnormality. In patients with prostate cancer, a palpable abnormality usually indicates the presence of carcinoma, but the majority of patients will be upstaged by pathologic examination. In patients undergoing a digitally guided biopsy, it appears critical that those with a negative biopsy be followed closely, as they have a measurable risk of developing overt carcinoma. It is unclear how transrectal ultrasound will interface with digital rectal examination because of the multiple echo patterns this disease can exhibit.Prostate cancer is the second most prevalent cancer in males worldwide and the commonest cancer in males in the UK. The recent updates on the diagnosis and treatment of prostate cancer were discussed at a multidisciplinary day event organized by the British Institute of Radiology and held in London in November 2016. This day covered the use of the prostate-specific antigen biomarker and of advanced imaging techniques such as multiparametric and whole-body MRI, choline positron emission tomography/CT and gallium-labelled prostate-specific membrane antigen for the detection of prostate cancer. In addition, the results of several trials assessing the management of the disease were discussed, in particular the Prostate Cancer

Intervention Versus Observation Trial and Prostate Testing for Cancer and Treatment trials which evaluated the gain of intervention vs observation, and four randomized controlled trials comparing hypofractionated and standard radiotherapy regimen. Further to this event, this commentary highlights the topical issues relating to recently published guidelines and to trials for the management of prostate cancer where these were discussed.Background: Previous Commission on Cancer data from the National Cancer Data Base (NCDB) examined time trends in disease stage, treatment patterns, and survival for patients with selected cancers. The most current (1992) data for prostate cancer are described in this Communication.Prostate cancer is the number one malignancy among men. The search for causative factors has proven to be difficult and, accordingly, treatment options for advanced prostate cancer remain limited. However, technologic breakthroughs in the fields of genetics and molecular biology have advanced our understanding of the mechanisms involved in prostate carcinogenesis. The aim of this article is to review the most recent evidence for the role of various genetic insults at specific steps in tumor formation and to suggest potential therapeutic targets.The present paper gives a comprehensive overview of recent data, especially prospective randomized trials, which support an important role for nutrition in the development of prostate cancer. Prostate cancer seems to be an ideal candidate for chemoprevention, in order to interfere by modification of nutritional habits with its onset, its incidence and ultimately with its progression, especially in high risk groups.Prostate cancer is the most common cancer in men and is recognised as a significant health problem. Treatment of advanced or metastatic prostate cancer is challenging, and support and care should be tailored to meet the individual's needs. This article focuses on the pharmacological management of metastatic prostate cancer and the nurse's role in providing patients with information about the disease. It is hoped that this article will be used as a resource to improve patient care.Prostate cancer continues to be a significant public health issue worldwide, particularly in countries where men have life expectancies long enough to clinically manifest the disease. In many countries, it remains one of the leading causes of cancer-related morbidity and mortality. Although significant progress has been made over the past few decades, many elements regarding the diagnosis and management of patients with prostate cancer remain enigmatic. In this Prostate Cancer special issue, our expert authors present and examine clinically relevant topics and look ahead to future research.A 71-year-old man was admitted to the department of general surgery at our hospital due to constipation. A large bowel endoscopic examination revealed a stenosis of the rectum near the anus. The pathological diagnosis of the biopsy was poorly differentiated adenocarcinoma. After a computed tomography/magnetic resonance imaging examination, rectal cancer infiltrating the prostate was the diagnosis. External beam radiation therapy and chemotherapy were performed. After those neoadjuvant therapies, an abdominoperineal resection of the rectum (Miles) and a retropubic radical prostatectomy were performed. The final pathological diagnosis was prostate cancer infiltrating the rectum. Prostate cancer infiltrating the rectum is rare because of the Denonvillier's fascia barrier. However, it is difficult to distinguish prostate cancer infiltrating the rectum from rectal cancer infiltrating the prostate. Thus, when we see rectal cancer infiltrating the prostate, prostate cancer infiltrating the rectum should be suspected, serum prostate specific antigen (PSA) level should be determined, and PSA immunostaining should be performed.The discovery of TMPRSS2-ETS gene fusions in prostate cancer dramatically changed our view of solid tumors. Unveiling the molecular principles of the fusion illustrates the potential for clinical applications with regard to prognosis, diagnosis and therapy. In this review, we summarize the current knowledge about TMPRSS2-ETS gene fusions and delineate how genetic analysis of fusion positive prostate cancer cases can be used as a prognostic marker in clinical routine. The characteristic morphological features of the gene fusion and its detection in prostate biopsies and in urine make it a promising target to identify aggressive tumors. By increasing our knowledge about fusion positive prostate cancer, we will improve the possibility to offer target specific and individualized therapeutic approaches.Patients with prostate carcinoma paradoxically have both a hypercoagulable state and a bleeding diathesis. Hypercoagulability manifested by venous and arterial thrombosis has been documented in several large clinical trials. However, many investigators have reported a high risk of postoperative bleeding in prostate cancer patients. Disseminated intravascular coagulopathy has also been commonly noted at different clinical stages of this indolent cancer. In this article we review clinical, laboratory, and experimental evidence for abnormalities of various components of the coagulation and plasminogen pathways and analyze their contribution in prostate cancer growth, progression, and angiogenesis. Finally, we propose potential therapeutic antiangiogenic strategies in patients with prostate cancer.The oligometastatic state of prostate cancer (PC) is of clinical importance because of its implications for surgery, radiotherapy, and systemic therapy.

Improving the definition of oligometastatic PC will offer an opportunity to discover whether disease burden is a clinically meaningful variable or if oligometastasis is a distinctive state of PC with a largely unexplored biological background.Although most patients with prostate cancer respond to initial androgen-deprivation therapy, progression to castration-resistant prostate cancer (CRPC) is almost inevitable. In 2004, the docetaxel/prednisone regimen was approved for the management of patients with metastatic CRPC, becoming the standard first-line therapy. Recent advances have also led to an unprecedented number of approved new drugs; thus, providing several treatment options for patients with metastatic CRPC. Five new drugs have received US Food and Drug Administration-approval between 2010 and 2012: sipuleucel-T, an immunotherapeutic agent; cabazitaxel, a novel microtubule inhibitor; abiraterone acetate, a new androgen biosynthesis inhibitor; enzalutamide, a novel androgen receptor inhibitor; and denosumab, a bone-targeting agent. Such drugs are either already marketed or about to be marketed in the Middle East. Data supporting the approval of each of these agents are described in this review, as are recent approaches to the treatment of metastatic CRPC.The androgen receptor (AR), ligand-induced transcription factor, is expressed in primary prostate cancer and in metastases. AR regulates multiple cellular events, proliferation, apoptosis, migration, invasion, and differentiation. Its expression in prostate cancer cells is regulated by steroid and peptide hormones. AR downregulation by various compounds which are contained in fruits and vegetables is considered a chemopreventive strategy for prostate cancer. There is a bidirectional interaction between the AR and micro-RNA (miRNA) in prostate cancer; androgens may upregulate or downregulate the selected miRNA, whereas the AR itself is a target of miRNA. AR mutations have been discovered in prostate cancer, and their incidence may increase with tumor progression. AR mutations and increased expression of selected coactivators contribute to the acquisition of agonistic properties of anti-androgens. Expression of some of the coactivators is enhanced during androgen ablation. AR activity is regulated by peptides such as cytokines or growth factors which reduce the concentration of androgen required for maximal stimulation of the receptor. In prostate cancer, variant ARs which exhibit constitutive activity were detected. Novel therapies which interfere with intracrine synthesis of androgens or inhibit nuclear translocation of the AR have been introduced in the clinic.Prostate cancer is the most common malignant disease in Sweden and the most common cause of cancer-related death among Swedish men. There is, however, a wide geographical variation in the age-standardized incidence and mortality rates. The highest incidence is found in north-western Europe and the US and the lowest in the Asian countries. The reasons for these discrepancies are thought to be related to environmental factors such as variations in dietary pattern. High intake of calories, high Body Mass Index, and consumption of animal fat are all associated with an increased risk of prostate cancer, while high intake of soy and other phytoestrogens, selenium, vitamin A and high serum levels of vitamin D are associated with low risk. As well, gonadal hormones and growth factors are believed to be involved in the complex etiology of prostate cancer. Genetic factors play an important role in the development of prostate cancer, and a hereditary form of the disease, accounting for approximately 5-10% of cases, has been identified. In order to develop effective preventive strategies to reduce prostate cancer mortality and morbidity, it is necessary to expand our knowledge about the etiology of this common disease.The natural history of clinically localized prostate cancer is controversial. However, the data that is available suggests outcomes are good for men with well and moderately differentiated disease, but relatively poor for men with poorly differentiated cancer. For example, in one synthesis of individual-patient level data from six series, ten-year prostate cancer-specific mortality for men with well, moderate, and poorly differentiated disease was estimated at 13%, 13%, and 66%, respectively. Tumor grade is the dominant predictor of prognosis. Few studies report on risks of morbidity due to local cancer progression; the data available suggest this risk is relatively low. Cancer-specific mortality figures overestimate the impact of disease among older men with competing causes of mortality. Given the available data on prognosis of men with localized prostate cancer not treated for cure, clinical trials designed to measure the effectiveness of aggressive therapy will need to be large.Thousands of men will be faced with a diagnosis of prostate cancer this year and will turn to their primary care physician for advice about which treatment is best. Unfortunately, there are no easy answers, and multiple factors, including the patient's age, must be weighed in decision making. In this article, Drs Williams and Love sift through the pros and cons of the available treatment options for various profiles of organ-confined disease.With the rapidly developing use of next-generation sequencing technologies, there has been a surge in our knowledge of the genomic landscape of prostate cancer and a movement toward developing a molecular subclassification system for the disease. With this new understanding comes great clinical potential, both for the development of biomarkers as well as new therapeutic

targets. Herein, we highlight the potential clinical use of recent discoveries and how they fit into our current paradigm. We describe the challenges that lie ahead as we move from genomic sequencing toward routine clinical practice and adopt precision cancer care for patients with prostate cancer.The aim of this study was to confirm the role of screening by determining the percentage of clinically localized prostate cancer (stage A and B) in patients with prostate cancer detected on screening and in those presenting to urologic clinic for the symptoms of urination impairment or ostalgia. During the study, 1,000 men aged > or = 50 from the community of Cepin and village of Josipovac near Osijek were examined. The subjects with elevated concentration of total prostate specific antigen and/or digital rectal examination suspect of carcinoma underwent transperineal biopsy of the prostate. Clinical staging was performed in patients with prostate cancer detected on screening, and data on clinical staging for prostate cancer patients treated during the 1996-1997 period were retrieved from patient files of the Department of Urology, University Hospital "Osijek". On screening, 28 (80%) patients with localized prostate cancer and seven (20%) patients with metastases were detected. In the group of patients examined on an outpatient basis for the signs and symptoms of prostatism, there were 30 (83.4%) patients with metastases and only six (16.6%) patients with localized prostate cancer. Study results indicated that an early diagnosis of prostate cancer could be made by use of noninvasive and inexpensive methods that cause no major discomfort to the patient. Accordingly, these results appear to strongly support such screening in men, if not in all those aged over 50, then at least in the otherwise healthy, 50-70 age group.MicroRNAs (MiRNAs) act as key post-transcriptional regulators of gene expression. This review examines current advances in the study of the role of miRNAs in cancer, including prostate cancer. Issues devoted to the nomenclature, biogenesis, the role of miRNAs as oncogenes and tumor suppressors, and their role in the diagnosis, treatment, and prognosis of prostate cancer are discussed. Assessment ofthe role of miRNAs in the development of prostate cancer will promote early diagnosis and will be important for the development of new approaches to the disease treatment.Purpose: To determine if familial prostate cancer patients have a less favorable prognosis than patients with sporadic prostate cancer after treatment for localized disease with either radiotherapy (RT) or radical prostatectomy (RP).Those involved in prostate cancer treatment are often frustrated by the surfeit of careful comparative studies. This frustration is also true in the field of recurrent prostate cancer, where no randomized studies comparing competing treatment methods have been attempted. With an increasing number of men undergoing treatment of localized disease and more sensitive methods of detecting or predicting local failure, a large pool of men suffering failure after attempted cure will soon exist. If any firm conclusions are to be advanced in the management of recurrent prostate cancer, then large randomized comparative trials must be initiated now. New paradigms in thinking about prostate cancer must be developed in order to account for the advancements in prostate sciences in the past 10 years. Serially sectioning of radical prostatectomy specimens with whole-mount evaluation has disclosed an alarming rate of microscopic extraprostatic disease. The sensitivity of serum PSA in detecting microscopic locally recurrent disease has revolutionized the diagnosis of this stage of prostate cancer. Analysis of the DNA ploidy of tumors now provides new prognostic information apart from grade and stage of the primary lesion, and this technique should be used to stratify treatment groups whenever feasible. Carefully designed, multi-institutional studies would prospectively evaluate the benefit of early endocrine therapy versus delayed therapy versus radiation therapy in patients with the earliest stage of advanced prostate cancer--pathologic stage C2 or C3 disease. A prospective study of endocrine therapy versus radical prostatectomy and endocrine therapy should be attempted in patients with pathologic D1 prostate cancer.(ABSTRACT TRUNCATED AT 250 WORDS)Prostate cancer is the most common non-skin cancer among men in most western populations, and it is the second leading cause of cancer death among U.S. men. Despite its high morbidity, the etiology of prostate cancer remains largely unknown. Advancing age, race, and a family history of prostate cancer are the only established risk factors. Many putative risk factors, including androgens, diet, physical activity, sexual factors, inflammation, and obesity, have been implicated, but their roles in prostate cancer etiology remain unclear. It is estimated that as much as 42% of the risk of prostate cancer may be accounted for by genetic influences, including individual and combined effects of rare, highly penetrant genes, more common weakly penetrant genes, and genes acting in concert with each other. Numerous genetic variants in the androgen biosynthesis/metabolism, carcinogen metabolism, DNA repair, and chronic inflammation pathways, have been explored, but the results are largely inconclusive. The pathogenesis of prostate cancer likely involves interplay between environmental and genetic factors. To unravel these complex relationships, large well-designed interdisciplinary epidemiologic studies are needed. With newly

available molecular tools, a new generation of large-scale multidisciplinary population-based studies is beginning to investigate gene-gene and gene-environment interactions. Results of these studies may lead to better detection, treatment, and, ultimately, prevention of prostate cancer.1. Prostate cancer is the most common cause of cancer in men in the United States. Although the value and significance of early detection and diagnosis of prostate cancer continue to generate much discussion, the array of diagnostic studies has increased and become more accurate. 2. The two most widely used methods in initial detection for prostate cancer are the digital rectal examination (DRE) and the serum prostate-specific antigen (PSA) assay. 3. The well-informed nurse plays an important role in the implementation and care of the patient, encouraging treatment compliance and monitoring the patient's response to therapy.Despite advances in diagnosis and treatment, prostate cancer remains the second leading cause of cancer related mortality in men. Prognosis is variable and dependent on several clinical and genetic factors, including BRCA gene mutations. Recent clinical studies have reported that BRCA-associated prostate cancer is a more aggressive subtype with a higher probability of nodal involvement and distant metastases at the time of diagnosis, but radiological findings have not been described. Accurate recognition of those tumors could help guide clinical management and prompt testing and counseling for BRCA mutations. We have recently encountered four patients with BRCA-associated prostate cancer who underwent multiparametric MRI. The MRI appearances of these tumors, which were generally locally advanced and aggressive in appearance, are presented to facilitate recognition of BRCA-associated prostate cancer and guide potential genetic testing and counseling.Prostate cancer heritability is attributed to a combination of rare, moderate to highly penetrant genetic variants as well as commonly occurring variants conferring modest risks [single nucleotide polymorphisms (SNPs)]. Some of the former type of variants (e.g., BRCA2 mutations) predispose particularly to aggressive prostate cancer and confer poorer prognoses compared to men who do not carry mutations. Molecularly targeted treatments such as PARP inhibitors have improved outcomes in men carrying somatic and/or germline DNA repair gene mutations. Ongoing clinical trials are exploring other molecular targeted approaches based on prostate cancer somatic alterations. Genome wide association studies have identified >250 loci that associate with prostate cancer risk. Multi-ancestry analyses have identified shared as well as population specific risk SNPs. Prostate cancer risk SNPs can be used to estimate a polygenic risk score (PRS) to determine an individual's genetic risk of prostate cancer. The odds ratio of prostate cancer development in men whose PRS lies in the top 1% of the risk profile ranges from 9 to 11. Ongoing studies are investigating the utility of a prostate cancer PRS to target population screening to those at highest risk. With the advent of personalized medicine and development of DNA sequencing technologies, access to clinical genetic testing is increasing, and oncology guidelines from bodies such as NCCN and ESMO have been updated to provide criteria for germline testing of "at risk" healthy men as well as those with prostate cancer. Both germline and somatic prostate cancer research have significantly evolved in the past decade and will lead to further development of precision medicine approaches to prostate cancer treatment as well as potentially developing precision population screening models.Meaningful changes to the approach of prostate cancer staging and management have been made over the past decade with increasing demand for high-quality multiparametric MR imaging (mpMRI) of the prostate. This article focuses on the evolving paradigm of prostate cancer staging, with emphasis on the role of mpMRI on staging and its integration into clinical decision making. Current prostate cancer staging systems are defined and mpMRI's role in the detection of non-organ-confined disease and how it has an impact on the selection of appropriate next steps are discussed. Several imaging pitfalls, limitations, and future directions of mpMRI also are discussed.Diagnosis of prostate cancer (PCa) recurrence after therapy with curative intent currently depends primarily on biochemical serum analyses. When recurrence is suspected, further treatment decisions rely heavily on the confirmation of disease presence and determination of its extent. This is complicated by the fact that benign conditions can mimic biochemical recurrence, and serum studies do not reliably discriminate between local and distant recurrence. This review discusses the contemporary imaging paradigm for the evaluation of local PCa recurrence. The multidisciplinary implications for urologists, radiation oncologists and radiologists are examined. Emerging techniques and future directions of PCa imaging research are discussed.Stephen Wright's recent experience of prostate cancer and other illnesses has caused him to reflect on what it is to be a man, a sick person and a nurse. He has drawn deeply on his spirituality to avoid being 'captured' by fear.Purpose of review: The goal of this article is to discuss current genomic testing options in localized prostate cancer.Prostate cancer is the most frequently diagnosed malignancy in men. However, African American/Black men are 60 % more likely to be diagnosed with and 2.4 times

more likely to die from prostate cancer, compared to Non-Hispanic White men. Despite the increased burden of this malignancy, no evidence-based recommendation regarding prostate cancer screening exists for the high-risk population. Moreover, in addition to screening and detection, African American men may constitute a prime population for chemoprevention. Early detection and chemoprevention may thus represent an integral part of prostate cancer control in this population. Importantly, recent research has elucidated biological differences in the prostate tumors of African American compared to European American men. The latter may enable a more favorable response in African American men to specific chemopreventive agents that target relevant signal transduction pathways. Based on this evolving evidence, the aims of this review are threefold. First, we aim to summarize the biological differences that were reported in the prostate tumors of African American and European American men. Second, we will review the single- and multi-target chemopreventive agents placing specific emphasis on the pathways implicated in prostate carcinogenesis. And lastly, we will discuss the most promising nutraceutical chemopreventive compounds. Our review underscores the promise of chemoprevention in prostate cancer control, as well as provides justification for further investment in this filed to ultimately reduce prostate cancer morbidity and mortality in this high-risk population of African American men.Purpose of review: Summarizes the rapid progress being made in treatment of advanced prostate cancer.Purpose of review: Patients with clinically localized prostate cancer often undergo multiple therapies during their disease trajectory, either as planned combinations or as salvage for recurrence. Most studies of health-related quality of life in men with prostate cancer have focused on those receiving one modality or another. This review summarizes the little that is known about health-related quality of life after multiple therapies.Computed tomography (CT), MRI, and Ultrasound play an evolving role in prostate cancer management. Multi-parametric MRI has high sensitivity and negative predictive value in prostate cancer diagnosis, leading to increased utilization as part of an active surveillance paradigm in low-to-intermediate-risk patients, and local tumor staging in high-grade cancers. CT is modestly sensitive in staging high-grade tumors to evaluate for nodal, liver, lung, and bone metastasis, and is preferred for assessing treatment related complications. Until recently, ultrasound has been limited to a guidance modality for biopsy and treatment; however, advances in micro-ultrasound technology aim to expand its role diagnosing and managing prostate cancer.Despite the clinical importance of prostate cancer, the molecular mechanisms underlying the development and progression of prostate cancer are poorly understood. The lack of knowledge on the mechanisms has probably been one of the most important reasons why no new treatment modalities have been developed to cure the disease. Recent studies, especially those performed by comparative genomic hybridization, have revealed the frequent chromosomal alterations that most likely harbor the genes critical for the progression of prostate cancer. Such genetic aberrations include losses of 8p, 10q, 16q, and 13q as well as gains of 7p, 7q, 8q, and Xq. Unfortunately, the target genes for these alterations are, in most of the cases, not known. We have recently identified the androgen receptor (AR) gene as a target gene for the Xq12 amplification found in one-third of the hormone-refractory prostate cancer. The findings suggest that the AR gene amplification and overexpression is involved in the emergence of hormone-refractory prostate cancer.Transrectal ultrasonography is a new procedure for detecting prostate cancer. Better imaging of the prostate results in a better understanding of the appearance of prostate cancer and a heightened awareness of cancer location within the prostate. The appearance of malignancy frequently is a hypoechoic lesion, most often in the peripheral zone of the prostate. Biopsy of suspected areas of the prostate is also more accurate when done in conjunction with transrectal ultrasonography, which also allows evaluation of lesions not yet palpable on rectal examination. This has introduced the concepts of early detection and mass screening for prostate cancer. Although controversial and limited by low specificity, transrectal ultrasonography is a valuable addition for better detection of prostate cancer.Prostate cancer incidences in most Asian populations have rapidly increased, and prostate cancer ranks as the highest incidence of male cancer in Japan since 2015. Androgen depriva- tion therapy (ADT) remains the main first-line treatment for patients with metastatic prostate cancer (mPCa). However, treatment benefits last for 3-5 years when disease transforms into metastatic castration-resistant prostate cancer (mCRPC). Currently, management paradigms for mPCa are dramatically changing. Two multicenter, randomized trials have redefined first-line treatment, with the demonstration of improved overall survival with the addition of docetaxel chemotherapy to ADT. Several data have re- ported the impact on survival of radiotherapy of the prostate even in patients diagnosed with mPCa. The objective of this review is to summarize an overview of current multidisciplinary approaches for mPCa and mCRPC.Prostate cancer is the most common type of cancer and frequent cause of cancer-related mortality in men worldwide. Despite its

commonness, the underlying molecular mechanism of prostate cancer is not completely understood. Long noncoding RNAs (lncRNAs) are being implicated in the complex network of an apparent cancer initiatome and hundreds of lncRNAs are differentially expressed in various types of cancer including prostate cancer. While many lncRNAs exhibit oncogenic function and are named "Onco-lncRNAs", only a few lncRNAs inhibit cell proliferation or induce apoptosis and, hence, act as tumor suppressors. In this review, we highlight recent findings of emerging roles for lncRNAs in prostate cancer and discuss rapid translational lncRNA research for clinical application in diagnosis, prognosis and potential treatment.Over the past decade, interest has been growing in the quality of life of men with prostate cancer. Traditionally considered a group with few psychological complications, 10% to 20% of men with prostate cancer are found to have clinically significant levels of psychological distress. This article reviews the prevalence of psychiatric symptomatology among prostate cancer patients, the psychological challenges of coping with the disease, and general guidelines for treatment.Accurate tumor detection and establishment of disease extent are important for optimal management of prostate cancer. Disease stage, beginning with identification of the index prostate lesion, followed by primary tumor, lymph node, and distant metastasis evaluation, provide crucial clinical information that not only have prognostic and predictive value, but guide patient management. A wide array of radiological imaging modalities including ultrasound, computed tomography, and magnetic resonance imaging have been used for the purpose of prostate cancer staging with variable diagnostic performance. Especially, the last years have seen remarkable technological advances in magnetic resonance imaging technology, enabling referring clinicians and radiologists to obtain even more valuable data regarding staging of prostate cancer. Marked improvements have been seen in detection of the index prostate lesion and evaluation of extraprostatic extension while further improvements are still needed in identifying metastatic lymph nodes. Novel approaches such as whole-body MRI are emerging for more accurate and reproducible assessment of bone metastasis. Post-treatment assessment of prostate cancer using radiological imaging is a topic with rapidly changing clinical context and special consideration is needed for the biochemical setting, that is, the relatively high serum prostate-specific antigen levels in studies assessing the value of radiological imaging for post-treatment assessment and emerging therapeutic approaches such as early salvage radiation therapy. The scope of this review is to provide the reader insight into the various ways radiology contribute to staging of prostate cancer in the context of both primary staging and post-treatment assessment. The strengths and limitations of each imaging modality are highlighted as well as topics that warrant future research.The main goal of prostate cancer tissue biomarkers is to improve diagnostic and prognostic accuracy. A particularly important question is whether the cancer needs immediate treatment or if treatment can be deferred. It is highly unlikely that a single biomarker that provides comprehensive prognostic information about a newly diagnosed prostate cancer will be forthcoming. Despite extensive research efforts, very few biomarkers of prostate cancer have been successfully implemented into clinical practice today. This can be partly explained by a lack of standardised methods for performance and interpretation of immunohistochemistry, but also by poor study design with insufficient biomaterial or inappropriate statistical analysis. Also appropriate cohorts to test prostate cancer biomarkers do not exist. It must be kept in mind that unsuccessful integration of new biomarkers in nomograms can also be explained by the good performance of the clinical and pathological base model with serum PSA as the only independent biomarker. A new biomarker must be powerful enough to improve this prediction model and not merely replace.Stage A1 prostate cancer implies indolence. If only well-differentiated low-volume tumors are considered, the rate of cancer growth, clinical progression, and prostate cancer death is exceedingly low. All but a very few of these patients will need observation alone. Younger patients (those less than 60 years of age) and those with more moderately differentiated tumors or with serological or ultrasound evidence of residual cancer need further evaluation. It is likely that patients within this group are those who have in past studies experienced a higher degree of progression and cancer mortality. A stepped-up effort to detect nonpalpable prostate cancer has included PSA and transrectal ultrasound with random biopsies. Prostate cancer screening using a serum test and/or ultrasound has allowed increased detection of otherwise clinically silent cancer (stage A). Occult prostate cancer identified by needle biopsy or detected through elevated PSA levels most often is peripheral zone cancer and more aggressive than that arising in the transitional zone. A reclassification of stage A is therefore needed and a new scheme for TNM staging was recently introduced (Table 4). Because of its more aggressive potential, the new stage T1c will likely require different treatment recommendations than those for traditional stage A1 (T1a). More time and evaluation will be needed to estimate the prognosis of those diagnosed with minimal stage T1c prostate cancer.In a study published

in The Lancet, long-term androgen suppression (AS) combined with radiotherapy, compared with AS alone, improved outcomes in patients with locally advanced but nonmetastatic prostate cancer. The combined therapy significantly reduced prostate-cancer-specific deaths at 10 years from 23.9% to 11.9% (P <0.001), and improved overall survival.The incidence of prostate cancer, while still lower than in Western nations, is increasing rapidly in Asian countries due to a more westernized lifestyle. Prostate cancer mortality is declining in the USA, where most prostate cancers are diagnosed in the early stage. In contrast, the mortality rates of prostate cancer in Asian countries are expected to continue to increase, because the percentage of advanced-stage prostate cancers remains high. Therefore, early detection by prostate-specific antigen screening and a comprehensive strategy for cancer prevention are essential for Asian people. The exposure rate of prostate-specific antigen screening is very low in Asian countries. Increased prostate-specific antigen screening may reduce the mortality rate. The stances regarding population screening differ among countries. Urological associations should promote population screening. Reliable data from Asian countries are needed. The prostate cancer incidence is low in Asian countries, perhaps due to high soy consumption. Isoflavones may prevent prostate cancer in Asian countries, but that is not yet clear. A large, multinational study in Asia is needed to clarify whether or not isoflavone consumption shows efficacy in preventing prostate cancer. Clinical data suggest that hormonal therapy is more effective in Asians than in Westerners. Clinical guidelines should consider including hormonal therapy as one of the options for the treatment of localized prostate cancer. At the same time, effort should be made to decrease the adverse effects of each treatment. Collaborative studies on the treatment of prostate cancer should be carried out among Asian countries.Genetic studies have provided remarkable clues to the causes of prostate cancer (PCa). For example, in addition to the expected role of androgens in facilitating the development of PCa, the possibility that infections might lead to prostate cancer has been raised with the identification of RNASEL and MSR1 as familial prostate cancer genes; that insight will profoundly affect future studies and may ultimately lead to new approaches to the prevention of prostate cancer. The identification of key molecular alterations in prostate cancer cells implicates carcinogen defenses, including GSTP1, growth factor signaling pathways (such as NKX3.1, PTEN and p27) and androgens as critical determinants of the phenotype of PCa cells and defines specific targets for detection, diagnosis and treatment of PCa.Each of the three most common contemporary treatments for localized prostate cancer, radical prostatectomy, external beam radiotherapy, and brachytherapy, can have adverse effects on sexual health. Sexual health outcome can be improved by treatment-specific factors, such as the use of nerve-sparing technique during radical prostatectomy, or worsened by the use of androgen deprivation before external beam radiotherapy or brachytherapy. Contemporary studies that have used validated questionnaires to evaluate multiple components of patient-reported sexuality following prostate cancer treatments provide benchmarks of sexual outcome expectations that are of interest to patients selecting their prostate cancer treatment.Value in health care is measured by outcomes and expense. An agreed upon desirable outcome can be indexed against the health care expenditure required for procurement. Prostate cancer treatment is an especially difficult subject for investigation of value. The late onset of the disease, coupled with competitive mortality risk, confounds value analysis. When cost considerations are made paramount, observation is the apparent treatment of choice. J. Surg. Oncol. 2016;114:288-290. © 2016 Wiley Periodicals, Inc.Purpose: We analyzed the pathological and oncologic characteristics of anteriorly located prostate cancer and assessed the usefulness of magnetic resonance imaging to detect anterior prostate cancer.There have been many significant advances in the treatment of prostate cancer, yet it remains a growing problem for men's health. Many men die from prostate cancer each year and many more live with non-cancerous, but debilitating, prostate disorders. This article discusses advanced (metastatic) prostate cancer, provides nurses with an overview of treatment options available to men with this condition, and offers a starting point from which to examine further evidence. It aims to encourage nurses to ensure that the patient is involved in making any decisions that could potentially impact on his health and wellbeing. In line with current thinking, the patient must be at the heart of every decision and be provided with greater choice and control (Department of Health, 2010).Prostate cancer (PC) is a common malignancy among elderly males and is noncurable once it becomes metastatic. In recent years, a number of antigen-delivery systems have emerged as viable and promising immunotherapeutic agents against PC. The approval of sipuleucel-T by the US FDA for the treatment of males with asymptomatic or minimally symptomatic castrate resistant PC was a landmark in cancer immunotherapy, making this the first approved immunotherapeutic. A number of vaccines are under clinical investigation, each having its own set of advantages and disadvantages. Here, we discuss the basic technologies underlying these different

delivery modes, we discuss the completed and current human clinical trials, as well as the use of vaccines in combination with immune checkpoint inhibitors.Purpose of review: To explore several serum and genetic-based biomarkers that may prove useful in following men being managed with active surveillance for localized prostate cancer by predicting those that either have the potential to develop, or already harbor occult high grade disease.The vasculature plays an important role in the normal and malignant prostate. Under basal conditions both glandular epithelial and stromal prostate cells produce an abundance of blood flow and angiogenesis regulating substances and the expression of these is generally increased in prostate tumors. The proportion of proliferating endothelial cells is high in the normal prostate compared to other tissues in the body. After castration effects on the vasculature, such as decreased blood flow and vascular regression, precede effects on the glandular compartment. Correspondingly, hormone induced prostate growth is characterized by early effects on the vasculature such as increased blood flow and endothelial cell proliferation, thus indicating that the vasculature may be involved in the androgenic regulation of the prostate. Prostatic intraepithelial neoplasia (PIN) and prostate cancer are associated with increased vascular density and in experimental models prostate cancer growth is apparently angiogenesis-dependent since tumor growth and progression can be inhibited by antiangiogenic treatment. Moreover, vascular density has been related to prognosis in prostate cancer patients. A better understanding of the pathways regulating angiogenesis in the normal prostate and how these pathways change during malignant transformation can hopefully lead to better prognostic markers and therapies for the large group of patients with prostate cancer. The purpose of this review is therefore to summarize the current knowledge on the role and regulation of the vasculature in the prostate and its potential clinical applications.Prostate cancer is one of the most common causes of cancer-related death. The management of prostate cancer patients has become increasingly complex, consequently calling on the need for identifying and validating prognostic and predictive biomarkers. Growing evidence indicates that microRNAs play a crucial role in the pathobiology of neoplastic diseases. The deregulation of the cellular "miRNome" in prostate cancer has been connected with multiple tumor-promoting activities such as aberrant activation of growth signals, anti-apoptotic effects, prometastatic mechanisms, alteration of the androgen receptor pathway, and regulation of the cancer stem cell phenotype. With the elucidation of molecular mechanisms controlled by microRNAs, investigations have been conducted in an attempt to exploit these molecules in the clinical setting. Moreover, the multifaceted biological activity of microRNAs makes them an attractive candidate as anticancer agents. This review summarizes the current knowledge on microRNA deregulation in prostate cancer, and the rationale underlying their exploitation as cancer biomarkers and therapeutics.Objective: To describe the diffusion of six main health technologies used for management of prostate cancer, to estimate the economic consequences of technological changes, and to explore factors behind the diffusion.Objective: This study explores men with advanced prostate cancers' own practices for promoting and maintaining emotional well-being using Interpretative Phenomenological Analysis.Urinary incontinence is a common adverse effect associated with treatment for early stage prostate cancer. The influence of this factor on treatment selection decisions by patients and their partners has been explored only minimally in the literature. Data regarding the actual incidence of incontinence associated with prostate cancer treatment are confusing because of the lack of standardized definitions of incontinence. Radical prostatectomy is associated with higher rates of urinary adverse effects than is radiation therapy. Brachytherapy appears to be associated with a low risk of incontinence, whereas cryosurgery is associated with significant urinary adverse effects. Including incontinence, urethral sloughing, and bladder neck obstruction. The influence of these adverse effects on decision making regarding prostate cancer treatment selection is difficult to ascertain. Research indicates that both men and their partners appear to have difficulty processing information presented to them regarding the probability of urinary adverse effects and the degree to which these adverse effects may have an impact on their daily lives.Prostate cancer is one of the malignancies that affects men and significantly contributes to increased mortality rates in men globally. Patients affected with prostate cancer present with either a localized or advanced disease. In this review, we aim to provide a holistic overview of prostate cancer, including the diagnosis of the disease, mutations leading to the onset and progression of the disease, and treatment options. Prostate cancer diagnoses include a digital rectal examination, prostate-specific antigen analysis, and prostate biopsies. Mutations in certain genes are linked to the onset, progression, and metastasis of the cancer. Treatment for localized prostate cancer encompasses active surveillance, ablative radiotherapy, and radical prostatectomy. Men who relapse or present metastatic prostate cancer receive androgen deprivation therapy (ADT), salvage radiotherapy, and chemotherapy. Currently,

available treatment options are more effective when used as combination therapy; however, despite available treatment options, prostate cancer remains to be incurable. There has been ongoing research on finding and identifying other treatment approaches such as the use of traditional medicine, the application of nanotechnologies, and gene therapy to combat prostate cancer, drug resistance, as well as to reduce the adverse effects that come with current treatment options. In this article, we summarize the genes involved in prostate cancer, available treatment options, and current research on alternative treatment options.Currently there is little effective treatment available for castration resistant prostate cancer, which is responsible for the majority of prostate cancer related deaths. Emerging evidence suggested that cancer stem cells might play an important role in resistance to traditional cancer therapies, and the studies of cancer stem cells (including specific isolation and targeting on those cells) might benefit the discovery of novel treatment of prostate cancer, especially castration resistant disease. In this review, we summarized major biomarkers for prostate cancer stem cells, as well as their functional mechanisms and potential application in clinical diagnosis and treatment of patients.With an incidence of approximately 60,000 per year prostate cancer is the most common malignant neoplasm in men with a relatively low mortality rate and a high mean age of primary diagnosis of about 70 years. The disease remains usually clinically occult over a long period of time and generally manifests primarily in a locally advanced or metastasized stage. Due to screening using the PSA level (prostate specific antigen) in blood serum, diagnosis and therapy nowadays are oftentimes possible at an early stage. The prostate carcinoma is classified using risk groups based on the level of PSA, the local tumor spread and the histological degree of differentiation (Gleason score). If no metastases are detected during staging a local curative therapy is indicated, provided that the patient is eligible for this due to age, comorbidity and life expectancy. Depending on the risk group of the patient, radical prostatectomy, percutaneous radiotherapy, brachytherapy or active surveillance are available as curative therapy concepts. Focal therapies such as HIFU, electrovaporization or cryotherapy are currently considered to be experimental. If metastases are already present at primary diagnosis, palliative, systemic therapy can be performed with an androgen deprivation therapy and chemotherapy. At an advanced and hormone refractory stage, treatment with an osteotropic radiotracer or palliative radiotherapy can reduce bone metastases and alleviate respective symptoms.Background/aim: An evaluation if radiomic features of CT perfusion (CTP) can predict tumor grade and aggressiveness in prostate cancer was performed.Accurate identification of prostate cancer in frozen sections at the time of surgery can be challenging, limiting the surgeon's ability to best determine resection margins during prostatectomy. We performed desorption electrospray ionization mass spectrometry imaging (DESI-MSI) on 54 banked human cancerous and normal prostate tissue specimens to investigate the spatial distribution of a wide variety of small metabolites, carbohydrates, and lipids. In contrast to several previous studies, our method included Krebs cycle intermediates (m/z <200), which we found to be highly informative in distinguishing cancer from benign tissue. Malignant prostate cells showed marked metabolic derangements compared with their benign counterparts. Using the "Least absolute shrinkage and selection operator" (Lasso), we analyzed all metabolites from the DESI-MS data and identified parsimonious sets of metabolic profiles for distinguishing between cancer and normal tissue. In an independent set of samples, we could use these models to classify prostate cancer from benign specimens with nearly 90% accuracy per patient. Based on previous work in prostate cancer showing that glucose levels are high while citrate is low, we found that measurement of the glucose/citrate ion signal ratio accurately predicted cancer when this ratio exceeds 1.0 and normal prostate when the ratio is less than 0.5. After brief tissue preparation, the glucose/citrate ratio can be recorded on a tissue sample in 1 min or less, which is in sharp contrast to the 20 min or more required by histopathological examination of frozen tissue specimens.Objective: To investigate the relationship between the long noncoding RNA (lncRNA) Prostate cancer-associated transcription factors 14 (PCAT14) and the clinical characteristics of prostate cancer and immune cell infiltration.Background: The worldwide incidence of prostate cancer has been rising rapidly, likely due to intensified effort in early detection and screening. Intense effort is also directed at novel schemas of chemoprevention and therapy. Incidence data are insufficient to identify the true magnitude of prostate cancer in a given population. The true prevalence of prostate cancer must be identified.Background: Prostate cancer is the sixth most important cancer in the world, and its incidence in blacks has been on the increase. It is a very important cause of morbidity and mortality. In North-eastern Nigeria, reports on prostate cancer have been scarce. The aim of this paper is to highlight the clinico-pathological features and management of prostate cancer in north-eastern Nigeria.Liver metastasis from prostate cancer is uncommon and remains poorly understood. We computer searched the clinical records of all our

patients registered into a database to identify patients that presented or developed liver metastases. A total of 27 prostate cancer patients with ultrasound or CT/MR imaging evidence of liver metastases were included in our analysis. The liver metastasis rate from metastatic prostate cancer was 4.29%. Eight (29.63%) patients had previously untreated, hormone-naive prostate cancer (synchronous liver metastases at diagnosis of prostate cancer), whereas 19 (70.37%) patients had already been diagnosed as having hormone-refractory prostate cancer. In the hormone-naive group, the median overall survival after liver metastases diagnosis was 38 months and half of the patients were still alive at the latest follow-up, whereas only 6 months in the hormone-refractory group ($p = 0.003$). High concentration of serum neuron-specific enolase and previous chemotherapy were associated with a significantly poor overall survival after liver metastases in the hormone-refractory group using Kaplan–Meier curves and logrank tests for univariate analysis.It is a paradigm in cancer treatment that early detection and treatment improves survival. However, although screening measures lead to a higher rate of detection, for small bulk localised prostate cancer it remains unclear whether early detection and early treatment will lead to an overall decrease in mortality. The management options include surveillance, radiotherapy, and radical prostatectomy but there is no evidence base to evaluate the benefits of each approach. Advanced prostate cancer is managed by hormonal therapy. There have been major changes in treatment over the last two decades with the use of more humane treatment and developments in both chemotherapy and radiation. In this article we review the natural history and management of prostate cancer.The objective was to investigate how prostate cancer and its treatment affects sexual, urinary and bowel functions and to what extent eventual complications cause distress. A questionnaire was sent to 431 men aged 50-80 years with prostate cancer diagnosed in 1992 in the Stockholm area (Sweden) and 435 randomly selected men with a similar age distribution. Sexual function, as compared with their youth, was diminished in a majority of all men. The prostate cancer patients were, however, more likely to report low frequency and/or intensity in all aspects of sexual function. A majority of the men were distressed by a waning sexual capacity. The proportion of men with prostate cancer who were severely distressed owing to a decline in sexual function was larger than in the reference group. The willingness to trade off an intact sexual function for long-term survival varied considerably among the men in the reference group. Urinary and bowel symptoms were less common than a waning sexual function in both groups, and few appeared to be severely distressed by urinary or bowel symptoms. A decline in sexual functions was the most common cause of disease-specific distress in men with prostate cancer.The role of palliative radiation treatment of prostate cancer is well recognized. Appreciation of the value of definitive radiation therapy in management of locally advanced prostate cancer is increasing. Optimal management requires careful patient selection with multidiscipline evaluation to provide accurate grading and staging, availability of adequate facilities, and careful planning the treatment. Definitive radiation therapy may be used as primary treatment, or in management of endocrine treatment failure, and in postoperative residual or recurrent cancers. Similar techniques may be employed in the management of locally symptomatic Stage D cancer. Definitive radiation therapy is useful management of some Stage B and many Stage C locally advanced and nonresectable cancers of the prostate.Objective: To explore the preferences of male primary care patients and their spouses for the outcomes of prostate cancer screening and treatment, and quality of life with metastatic prostate cancer.Objective: Review of the oncological results of the radical prostatectomy as initial treatment of prostate cancer, according to the surgical approach and the risk stratification using D'Amico risk groups.Despite much recent progress, prostate cancer continues to represent a major cause of cancer-related mortality and morbidity in men. Since early studies on the role of the androgen receptor that led to the advent of androgen deprivation therapy in the 1940s, there has long been intensive interest in the basic mechanisms underlying prostate cancer initiation and progression, as well as the potential to target these processes for therapeutic intervention. Here, we present an overview of major themes in prostate cancer research, focusing on current knowledge of principal events in cancer initiation and progression. We discuss recent advances, including new insights into the mechanisms of castration resistance, identification of stem cells and tumor-initiating cells, and development of mouse models for preclinical evaluation of novel therapuetics. Overall, we highlight the tremendous research progress made in recent years, and underscore the challenges that lie ahead.The effects of stage and therapy of prostate cancer on the immune response were evaluated in 193 patients with an histologic diagnosis of prostatic malignancy. There was little or no effect, as measured by these generally non-specific tests, on the immune response. The host-tumor immune interaction is difficult to evaluate in prostate cancer. The complexities of measuring prostate tumor immunity are discussed and the literature is reviewed.Attitude

to prostate cancer topics has developed during last several decades explosively. Vast amount of information also brings flood of controversial opinions. Development in spiral upwards could only result from discussion based on evidence. We have not yet been able to achieve a primary prevention of the disease. Much information is promising and doubtlessly represents large potential. As the detection of cases in the early stage increases, the diagnosis of less aggressive or non aggressive forms, that need not to be radically treated, increases as well. We have a chance, though still limited, to differentiate forms of the disease more precisely than whenever before and the precise diagnostics should be included into the daily clinical practice. Surgical techniques have been developed and improved. It is necessary to adopt and use them because it can further improve already relatively good surgical results.Prostatic multi-parametric magnetic resonance imaging (MP-MRI) has recently had a wide development becoming a key tool in the diagnostic and therapeutic decisions in prostate cancer (Pca). The fast development both in technology and in reading (PIRADS V2) requires a continuous updating of knowledge within this area. The aim of this article is to present an updated revision of technical aspects, reading patterns and prostatic MP-MRI in Pca, with a multidisciplinary approach. Currently guidelines establish the use of the MP-MRI when there is a high PSA and a negative prostatic biopsy; tumor staging; evaluation in candidates to active surveillance; focal treatments plans and tumoral recurrence evaluation. Although it is used in other indications in some centers, like its use in patients suspicious of Pca but with no previous biopsy, there is still the need of a cost/benefit assessment for its use to be wider.The authors present a flyover of current management of prostate cancer. The topics include active surveillance, surgery, radiotherapy, high-intensity focalized ultrasound (HIFU). Current hormone treatment modalities as well as chemotherapy for hormone-resistant prostate cancer (HRPC) management are also reported. Reasonable evidence has supported the safety and feasibility, during a period of 5-10 years, of an active surveillance regimen for men with low-risk prostate cancer. Radical prostatectomy is an effective form of therapy for patients with clinically significant prostate cancer. Outcomes are highly sensitive to variations in surgical technique. The risks of perioperative complications such as urinary and sexual dysfunction appear to be as great with robotic-assisted prostatectomy as with any other technique. External beam radiotherapy (EBRT) is an effective noninvasive form of curative therapy with a long-term risk of troublesome bowel and sexual and urinary dysfunction. EBRT can also be used in adjuvant manner or in combination. Brachytherapy, is a convenient effective form of radiotherapy targeted for selected patients with clinically confined cancer without evidence of extraprostatic extension on imaging. Excellent outcomes require meticulous technique. Acute urinary symptoms are frequent; and the long-term risks of proctitis and erectile dysfunction seem comparable to the risks associated with external beam radiotherapy. HIFU has been used widely in Europe for complete ablation of the prostate, especially in the elderly who are unwilling or unable to undergo more invasive radical therapy. For low- or intermediate-risk cancer, the short- and intermediate-term oncologic results have been acceptable but need confirmation in prospective multicenter trials presently underway. HIFU is associated with a risk of acute urinary symptoms requiring transurethral resection before or after HIFU. Erectile function has not been adequately documented after HIFU. HIFU holds promise for focal ablation of prostate cancer and in case of recurrence after EBRT. Androgen-deprivation therapy is not recommended for men with localized prostate cancer. For locally extensive cancer, androgen-deprivation therapy should be used alone only for the relief of local symptoms in men with a life expectancy of < 5 years who are not eligible for more aggressive treatment. Management of HRPC is actually accepted with docetaxel chemotherapy based regimens.Since the dissemination of prostate-specific antigen screening, most men with prostate cancer are now diagnosed with localized, low-risk prostate cancer that is unlikely to be lethal. Nevertheless, nearly all of these men undergo primary treatment with surgery or radiation, placing them at risk for longstanding side effects, including erectile dysfunction and impaired urinary function. Active surveillance and other observational strategies (ie, expectant management) have produced excellent long-term disease-specific survival and minimal morbidity for men with prostate cancer. Despite this, expectant management remains underused for men with localized prostate cancer. In this review, various approaches to the expectant management of men with prostate cancer are summarized, including watchful waiting and active surveillance strategies. Contemporary cancer-specific and health care quality-of-life outcomes are described for each of these approaches. Finally, contemporary patterns of use, potential disparities in care, and ongoing research and controversies surrounding expectant management of men with localized prostate cancer are discussed.New gene expressed in prostate (NGEP) is a newly diagnosed prostate-specific gene that is expressed only in normal prostate and prostate cancer cells. Discovery of tissue-specific markers may promote the development of novel

targets for immunotherapy of prostate cancer. In the present study, the staining pattern and clinical significance of NGEP were evaluated in a series of prostate tissues composed of 123 prostate cancer, 19 high-grade prostatic intraepithelial neoplasia and 44 samples of benign prostate tissue included in tissue microarrays using immunohistochemistry. Our study demonstrated that NGEP localized mainly in the apical and lateral membranes and was also partially distributed in the cytoplasm of epithelial cells of normal prostate tissue. All of the examined prostate tissues expressed NGEP with a variety of intensities; the level of expression was significantly more in the benign prostate tissues compared to malignant prostate samples (P value <0.001). Among prostate adenocarcinoma samples, a significant and inverse correlation was observed between the intensity of NGEP expression and increased Gleason score (P = 0.007). Taken together, we found that NGEP protein is widely expressed in low-grade to high-grade prostate adenocarcinomas as well as benign prostate tissues, and the intensity of expression is inversely proportional to the level of malignancy. NGEP could be an attractive target for immune-based therapy of prostate cancer patients as an alternative to the conventional therapies particularly in indolent patients.Major advances through tumor profiling technologies, that include next-generation sequencing, epigenetic, proteomic and transcriptomic methods, have been made in primary prostate cancer, providing novel biomarkers that may guide precision medicine in the near future. Areas covered: The authors provided an overview of novel molecular biomarkers in tissue, blood and urine that may be used as clinical tools to assess prognosis, improve selection criteria for active surveillance programs, and detect disease relapse early in localized prostate cancer. Expert commentary: Active surveillance (AS) in localized prostate cancer is an accepted strategy in patients with very low-risk prostate cancer. Many more patients may benefit from watchful waiting, and include patients of higher clinical stage and grade, however selection criteria have to be optimized and early recognition of transformation from localized to lethal disease has to be improved by addition of molecular biomarkers. The role of non-invasive biomarkers is challenging the need for repeat biopsies, commonly performed at 1 and 4 years in men under AS programs.The paper discusses the 5-year results of early diagnosis of prostate cancer using prostate-specific antigen density and prostate-specific antigen transitory zone density, which improves differential diagnosis efficiency.The incidence of prostate cancer continues to increase in the US. Compared with other common cancers such as those of the breast and lung, the causes of prostate cancer remain poorly understood. Research endeavors continue to identify predictors of risk for prostate cancer, of which familial and genetic factors are among the strongest. Known risk factors can show significant heterogeneity in their association with prostate cancer development. However, the identification and further characterization of risk modifiers might provide insight into treatment and prevention of prostate cancer.Men with non-metastatic prostate cancer have many treatment options. For over 35 years, radiation therapy has been a mainstay of treatment for this disease. With improvements in technology and better use of pretreatment prognostic factors, such as prostate specific antigen level and Gleason score, biochemical and clinical results have steadily improved. This article reviews the current status of radiation therapy in the treatment of prostate cancer. Results of treatment utilizing three-dimensional conformal and conventional techniques are compared and contrasted. The appropriate use of adjuvant hormones and particle beam therapy in the management of this disease is also discussed. Finally, the toxicity and future directions of radiation therapy in the treatment of prostate cancer are addressed.Local recurrent prostate cancer after radical treatment is found in the majority of men with a rising PSA. Salvage treatment procedures for recurrent disease, such as radiation therapy and ablative procedures, can provide long-term responses in well-selected cases. Prostate magnetic resonance imaging (MRI) allows diagnosis and staging, and the value provides information on treatment selection, treatment planning and treatment guidance in local recurrent prostate cancer.The purpose of this study was to explore young British men's understandings of prostate health and cancer of the prostate. A total of 16 White-British men between 31-50 years of age took part in interviews face-to-face or through computer-mediated communication. Thematic analysis broadly informed by grounded theory identified two key themes; 'limited knowledge about the prostate' and 'early detection & unpleasant procedures'. Accounts are discussed with reference to implications for improving men's understandings of prostate cancer, and likelihood of self-referral for prostate screening where necessary.Objectives: To explore links between access to care and quality of life for underserved men with prostate cancer through a literature review.Prostate cancer was the first cancer in which immunotherapy vaccine was approved by FDA in 2010 named Sipuleucel-T. No new immunotherapies have been approved since, as phase 3 trials didn't show any improvement in overall survival (OS) especially with immune checkpoint inhibitors. Currently tremendous amount of research is going on, in studying microenvironment of

prostate cancer, finding new targets and biomarkers, and trying different combination therapies. Some of the new targets explored are VISTA and PARP inhibitors. Combination therapies have shown promising results in early phase trials and likely in near future we will have an effective immunotherapy for advanced prostate cancer. In this article we will review the current data and future of immunotherapy in prostate cancer.Current therapeutic modalities for advanced prostate cancer are palliative in nature, with no effective treatment increasing survival in patients with metastatic prostate cancer. Apoptosis as a molecular process of genetically regulated cell death has a critical endpoint that coincides with the goal of successful treatment of prostate cancer. Expression of key regulators of the apoptotic pathway such as bcl-2 and caspases within individual prostate tumors appear to correlate with the prostate cancer cell's sensitivity to traditional therapeutic modalities, including androgen ablation and radiotherapy. Androgen-dependent prostate tumors undergo apoptosis in response to androgen-ablation. Cancer regression after radiation occurs by disruption of the reproductive integrity of the tumor cells and via activation of the apoptotic pathway. Increasing the sensitivity of prostate tumor cells to die via apoptosis increases the efficacy of fractionated therapy by reducing tumor cell survival. Thus signaling interaction between androgen ablation and radiotherapy may be synergistic in maximally activating the apoptotic potential of prostate cancer cells. The role of molecular technology in identifying apoptosis regulation in association with combination hormonal ablation and radiotherapy for the treatment of advanced prostate cancer holds tremendous promise, as any approach significantly decreasing the apoptotic threshold may lead to total synergistic killing of tumor cells. This review is an attempt to summarize the current knowledge of the clinical consequences of sequencing androgen ablation and radiotherapy in the treatment of prostate cancer patients and the molecular parameters underlying a potential optimization of such a combination strategy.Several other newer therapeutic modalities are being investigated to determine their potential role in the treatment of prostate cancer. Cryotherapy, microwave hyperthermia, laser therapy, and high-intensity focused ultrasound have all been introduced in recent years. Each of these techniques is based on a different principle, yet they all attempt to kill prostate cancer cells in a minimally invasive manner. Insufficient follow-up data are available to allow strong recommendations regarding these treatments.Proteomics has offered the hope of biomarker discovery to improve the management of prostate cancer. Markers are needed for screening and diagnosis, distinguishing latent from aggressive disease, defining the men who will benefit from therapy, differentiating localized from metastatic disease, predicting outcome and identifying new targets for therapy. There are many potential sources of proteins derived from the prostate, including urine, prostatic fluid (expressed or ejaculate), serum, and plasma or tissue, each with distinct advantages and limitations. Equally, there are many methodological platforms for proteomic studies of the prostate. Despite the promise, protoemics has yielded little of relevance to the management of prostate cancer, and most of the work that has been published is either irreproducible or of no clinical value.External beam radiotherapy is one of the curative treatment options for localised prostate cancer. This article will describe recent advances in prostate radiotherapy, focussing on the results of randomised trials which have addressed the role of radiation dose escalation and of adjuvant hormone therapy. Current controversies will then be considered, including the merits of radiotherapy in comparison with alternative approaches to early prostate cancer, and the possible role of adjuvant radiation following surgery. Finally, future developments will be described, including hypofractionation and dose individualisation, which have the potential to further improve the outcome of external beam radiotherapy for prostate cancer.Prostate cancer is the second most common cancer and the fifth cause of cancer death in males. Currently, there are no effective therapies for prostate cancer yet, and the status of treatment remains severe. In this study, we analyzed the composition of tumor-infiltrating immune cells (TIICs) in prostate cancer and paracancerous samples based on the gene expression profiles using CIBERSORT. Calculation of the TIIC subset proportions in 52 paired prostate cancer and paracancerous samples showed that their proportions were similar in intergroup and varied in intragroup. Compared with the paracancerous samples, the proportion of M0 macrophages was significantly increased in prostate cancer samples. Cox regression analysis using the TIIC subpopulations as continuous variables revealed that high plasma cell proportion was associated with poor 3-year Disease-Free Survival (DFS) in prostate cancer (hazard ratios = 1.8e-76, p = 0.001). Moreover, three immune clusters, which presented distinct prognosis, were identified using hierarchical clustering analysis based on the proportions of TIIC subpopulations. Among them, cluster 1 had superior 3-year DFS, while cluster 3 showed inferior 3-year DFS (p = 0.025). In summary, our research provided a comprehensive analysis on the TIIC composition in prostate cancer and suggested that both plasma cells and different cluster patterns were associated with the prostate cancer prognosis, which

should be helpful for the clinical surveillance and treatment of prostate cancer.Prostate cancer is often a complex disease and one in which many aspects of the disease and the affected patient must be taken into consideration before decisions about diagnostic work-up, treatments, follow-up, etc. can be made. The current chapter reflects the current recommendations of the European Prostate Cancer Guideline Group made on the basis of criteria of evidence-based medicine after extensive review of the literature available up to December 2005.Although prostate cancer is among the most common male cancers, little information is available on risk factors. The paper reviews trends in prostate cancer incidence, and possible risk factors are discussed. Incidence appears to have peaked and is predicted to stabilize at a higher level due to screening. Besides heredity, epidemiological studies on prostate cancer produce equivocal results. Lifestyle and environment are likely to have an important impact on prostate cancer risk, but significant and clinically relevant risk factors have yet to be identified.The lack of reliable imaging tools in detecting prostate cancer makes a random biopsy still the standard of care to detect prostate cancer. To reduce the number of cores during a biopsy and therefore the risk of biopsy-related complications, an imaging tool which provides reliable guided biopsies is required. Transrectal real-time elastography has shown to have the ability to visualize prostate cancer foci to some extent. In addition to the conventional B-mode image of transrectal ultrasound, it adds information about the stiffness of the prostate tissue. This review highlights the most important studies on elastography to follow the improvements in techniques and to outline the ability to detect prostate cancer and guide biopsies.Recent work directed toward understanding the molecular features of advanced prostate cancers has revealed a relatively high incidence of both germline and somatic alterations in genes involved in DNA damage repair (DDR). Many of these alterations likely play a critical role in the pathogenesis of more aggressive prostate cancers-leading to genomic instability and an increased probability of the development of lethal disease. However, because the ability to repair DNA damage with a high degree of fidelity is critical to an individual cell's survival, tumor cells harboring alterations in DDR pathway genes are also more susceptible to drugs that induce DNA damage or impair alternative DNA repair pathways. In addition, because the genomic instability that results from these alterations can lead to an inherently higher number of mutations than occur in cells with intact DDR pathways, patients with genomic instability may be more likely to respond to immune checkpoint inhibitors, presumably owing to a correspondingly high neoantigen burden. In this review, we discuss the emerging molecular taxonomy that is providing a framework for precision oncology initiatives aimed at developing targeted approaches for treating prostate cancer.Prostate specific antigen (PSA) has replaced prostatic acid phosphatase as the preeminent clinical tumor marker in the management of patients with prostate cancer. Serum PSA levels have been shown to be proportional to clinical and pathologic stage of prostate cancer and in particular to correlate closely with prostate cancer volume. Serum levels of PSA thus serve as a useful adjunct in the initial clinical staging of men with prostate cancer. Serum PSA values provide a unique and valuable tool in monitoring prostate cancer progression over time and its response to surgical, radiation, and/or hormonal therapies. Unfortunately, its lack of specificity for prostate cancer leaves many questions unanswered as to the efficacy and advisability of using PSA as a screening test for this cancer.Prostate cancer is the commonest cancer in the developed world. There is an inherited component to this disease as shown in familial and twin studies. However, the discovery of these variants has been difficult. The emergence of genome-wide association studies has led to the identification of over 46 susceptibility loci. Their clinical utility to predict risk, response to treatment, or treatment toxicity, remains undefined. Large consortia are needed to achieve adequate statistical power to answer these genetic-clinical and genetic-epidemiological questions. International collaborations are currently underway to link genetic with clinical/epidemiological data to develop risk prediction models, which could direct screening and treatment programs.Prostate cancer and chronic prostatitis are prevalent disorders in men. The cause of prostate cancer and chronic prostatitis is multifocal and diverse. Both disorders exhibit characteristic elevation of serum prostate-specific antigen, currently the primary screening test for prostate cancer. Prostate inflammation, regardless of cause, is the histopathologic hallmark of chronic prostatitis. In general, inflammation is associated with multiple cancers, and prostate inflammation, in particular, is a suggested factor in the development and progression of prostate cancer. This review addresses the link between chronic prostatitis and prostate cancer, especially as it relates to clinical practice.Background: The optimal hormone treatment strategy in prostate cancer is uncertain, particularly in patients with metastatic disease. We aimed to compare the relative benefits and harms of intermittent androgen deprivation (IAD) to continuous androgen deprivation (CAD) in all stages of prostate cancer.Purpose: Digital rectal examination is widely performed for following patients with

localized prostate cancer after definitive therapy. This examination has marginal efficacy for detecting initial prostate cancer and postoperative recurrence. To determine the efficacy of digital rectal examination in terms of new information provided after radiotherapy we analyzed the results of digital rectal examination in the followup of patients with prostate cancer after radiotherapy.Originally described in 1964 as an idiopathic dermatosis occurring in women, Sweet's syndrome (acute febrile neutrophilic dermatosis) is associated with malignancy, typically haematological. We report a case occurring in a man receiving radical radiotherapy for locally advanced prostate cancer. To our knowledge, prostate cancer associated with Sweet's syndrome has been reported only once previously in the absence of other concurrent solid or haematological malignancy.For radiotherapy of prostate cancer, MRI is used increasingly for delineation of the prostate gland. For focal treatment of low-risk prostate cancer or focal dose escalation for intermediate and high-risk cancer, delineation of the tumor is also required. While multi-parametric MRI is well established for detection of tumors and for staging of the disease, delineation of the tumor inside the prostate is not common practice. Guidelines, such as the PI-RADS classification, exist for tumor detection and staging, but no such guidelines are available for tumor delineation. Indeed, interobserver studies show substantial variation in tumor contours. Computer-aided tumor detection and delineation may help improve the robustness of the interpretation of multi-parametric MRI data. Comparing the performance of an earlier developed model for tumor segmentation with expert delineations, we found a significant correlation between tumor probability in a voxel and the number of experts identifying this voxel as tumor. This suggests that the model agrees with 'the wisdom of the crowd', and thus could serve as a reference for individual physicians in their decision making. With multi-parametric MRI it becomes feasible to revisit the GTV-CTV concept in radiotherapy of prostate cancer. While detection of index lesions is quite reliable, contouring variability and the low sensitivity to small lesions suggest that the remainder of the prostate should be treated as CTV. Clinical trials that investigate the options for dose differentiation, for example with dose escalation to the visible tumor or dose reduction to the CTV, are therefore warranted.In Japan, where the mortality rate of prostate cancer is lower than in Western countries, radical prostatectomy or hormonal therapy has been applied more frequently than radiation therapy. However, the number of patients with prostate cancer has been increasing recently and the importance of radiation therapy has rapidly been recognized. Although there have been no randomized trials, results from several institutions in Western countries suggest that similar results of cancer control are achieved with either radiation therapy or radical prostatectomy. For higher-risk cases, conformal high-dose therapy or adjuvant hormonal therapy is more appropriate. In this article, the results of radiation therapy for prostate cancer were reviewed, with a view to the appropriate choice of therapy in Japan.The 2011 American Urological Association (AUA) annual meeting took place in Washington, DC, USA, on May 14-19. It is the largest gathering of urologists in the world, providing unparalleled access to groundbreaking research, new guidelines and the latest advances in urologic medicine. The opportunity to exchange knowledge among urologists on a worldwide level was provided by participation of more than 80 countries in this scientific meeting. As one of the most important subjects, there were more than 500 presented studies in prostate cancer. In this review we will highlight some of the findings and the clinical significance of a few of these abstracts concerning prostate cancer staging and markers.Despite recent advances, current diagnostic tests and treatment of prostate cancer have limitations. In the last few years, numerous biomolecules have been investigated with the aim of improving diagnosis, including kallikrein-like proteases, growth factors and neuroendocrine markers. Analysis of susceptibility genes has also been a focus of attention. Extensive research into new therapeutic approaches is also underway, including targeting angiogenesis, immune regulation and stromal-epithelial interactions. Gene therapy, gene chip technology and proteomics have emerged as promising innovations. The host of novel diagnostic markers and therapies require appropriate validation, both phenotypical and functional. A further consideration is the need to re-evaluate clinical trial design and end points to facilitate progression of promising targets through the clinical trial process. Overall, the outlook for the treatment of prostate cancer looks promising, with any advances likely to require both a multimodal and multidisciplinary approach.There is a great need to identify new and better prognostic and predictive biomarkers to stratify prostate cancer patients for optimal treatment. The aims of this study were to characterize the expression profile of pre-B cell leukemia homeobox (PBX) transcription factors in prostate cancer with an emphasis on investigating whether PBX3 harbours any prognostic value. The expression profile of PBX3 and PBX1 in prostate tissue was determined by immunohistochemical and immunoblot analysis. Furthermore, the expression of PBX3 transcript variants was analyzed by RT-PCR, NanoString Technologies®, and by analyzing RNA sequence data. The potential of PBX3 to

predict prognosis, either at mRNA or protein level, was studied in four independent cohorts. PBX3 was mainly expressed in the nucleus of normal prostate basal cells, while it showed cytosolic expression in prostatic intraepithelial neoplasia and cancer cells. We detected four PBX3 transcript variants in prostate tissue. Competing risk regression analysis revealed that high PBX3 expression was associated with slower progression to castration resistant prostate cancer (sub-hazard ratio (SHR) 0.18, 95% CI: 0.081-0.42, p values < 0.001). PBX3 expression had a high predictive accuracy (area under the curve (AUC) = 0.82) when combined with Gleason score and age. Patients undergoing radical prostatectomy, with high levels of PBX3 mRNA, had improved prostate cancer specific survival compared to patients expressing low levels (SHR 0.21, 95% CI: 0.46-0.93, p values < 0.001, and AUC = 0.75). Our findings strongly indicate that PBX3 has potential as a biomarker, both as part of a larger gene panel and as an immunohistochemical marker, for aggressive prostate cancer.As the leading culprit in cancer incidence for American men, prostate cancer continues to pose significant diagnostic, prognostic, and therapeutic tribulations for clinicians. The vast spectrum of disease behavior warrants better molecular classification to facilitate the development of more robust biomarkers that can identify the more aggressive and clinically significant tumor subtypes that require treatment. The untranslated portion of the human transcriptome, namely noncoding RNAs (ncRNA), is emerging as a key player in cancer initiation and progression and boasts many attractive features for both biomarker and therapeutic research. Genetic linkage studies show that many ncRNAs are located in cancer-associated genomic regions that are frequently deleted or amplified in prostate cancer, whereas aberrant ncRNA expression patterns have well-established links with prostate tumor cell proliferation and survival. The dysregulation of pathways controlled by ncRNAs results in a cascade of multicellular events leading to carcinogenesis and tumor progression. The characterization of RNA species, their functions, and their clinical applicability is a major area of biologic and clinical importance. This review summarizes the growing body of evidence, supporting a pivotal role for ncRNAs in the pathogenesis of prostate cancer. We highlight the most promising ncRNA biomarkers for detection and risk stratification and present the state-of-play for RNA-based personalized medicine in treating the "untreatable" prostate tumors.The heterogeneity of prostate cancer has made imaging modalities of crucial importance in this disease. Accurate diagnosis and staging of the volume and extent of disease, especially in advanced and metastatic prostate cancer, can help to tailor the timing and modalities of treatment. While MRI has been effective in the detection of significant prostate cancer, its use in the identification and quantification of extraprostatic disease is limited. This gap is now being filled by PSMA PET. PSMA PET scans have now been shown to have a role in all stages in the prostate cancer journey. Emerging evidence has shown its promise in primary staging, restaging and theranostics. In this paper, we review the evidence for the use of PSMA PET in the various stages of prostate cancer, from initial diagnosis to advanced metastatic disease where other systemic treatments have failed.Prostate cancer is generally multifocal and consists of a dominant focus-measured by tumour volume and deemed the index lesion-and one or more separate, secondary tumour foci of smaller volume. Much laboratory and clinical evidence has shown that we need to rethink how we regard low-grade and low-volume prostate lesions. In this Personal View, we discuss why small, low-grade Gleason pattern prostate lesions, which are currently designated as prostate cancer, could be regarded as non-malignant. These lesions either do not meet the criteria of the hallmarks of cancer or robust evidence that they do so is absent, by contrast with large lesions with a high Gleason grade, which seem to cause most metastatic disease.Perineal radical prostatectomy (PRP) is one of the oldest surgical procedures for prostate cancer, but its use has declined over the past 30 years. New studies show that PRP is not only minimally invasive but beneficial from an economic perspective and should not yet be abandoned in the treatment of early prostate cancer.The treatment of prostate cancer with remote metastases has advanced greatly in recent years. Treatment options are dependent on the extent of the metastases, the patient’s general condition and wishes, and the treatment response. We present an overview of the latest options for systemic treatment of patients with metastatic prostate cancer, based on availability in Norway.Controversies abound in relation to the treatment of every stage of prostate cancer and its natural history. We critically evaluate the controversies and information that exist. An ongoing autopsy project at Wayne State University aims to: define the prevalence of incidental cancer in subjects between 20 and 70 years of age; study the potential difference between Caucasians and Blacks; and to analyze other associated histological lesions such as prostatic intraepithelial neoplasia (PIN) and atypical adenomatous hyperplasia. Initial results note that there was only a weak correlation between high-grade PIN and incidental carcinoma, both lesions started to present at an early age with a progressive increase after the seventh decade, and there was no racial

difference observed among Caucasians and African-American males. These results pose several questions which need further explanation. Most studies use digitorectal examination, transrectal 7-MHz ultrasonography and prostate-specific antigen for the early diagnosis of prostate cancer, we attempt to determine the best and most economical combination presently available. In discussing the therapeutic options for patients with localized prostate cancer, we review our personal experience with surgery and radiotherapy.Objective: To investigate the prevalence of physical symptoms that were 'ever' and 'currently' experienced by survivors of prostate cancer at a population level, to assess burden and thus inform policy to support survivors.Intraductal cribriform (IDC) and invasive cribriform morphologies are associated with worse prostate cancer outcomes. Limited retrospective studies have associated IDC and cribriform morphology with germline mutations in DNA repair genes, particularly BRCA2. These findings, which prompted the National Comprehensive Cancer Network (NCCN) Guidelines for Prostate Cancer and Genetic/Familial High- Risk Assessment to consider germline testing for individuals with IDC/cribriform histology, have been questioned in a recent prospective study. A deepened understanding of the molecular mechanisms driving disease aggressiveness in cribriform morphology is critical to provide more clarity in clinical decision making. This review summarizes the current understanding of IDC and cribriform prostate cancer, with an emphasis on clinical outcomes and molecular alterations.Prostate multiparametric MR imaging (mpMRI) plays an important role in local evaluation after treatment of prostate cancer. After radical prostatectomy, radiation therapy, and focal therapy, mpMRI can be used to visualize normal post-treatment changes and to diagnose locally recurrent disease. An understanding of the various treatments and expected changes is essential for complete and accurate post-treatment mpMRI interpretation.Despite significant progress in early detection and improved treatment modalities prostate cancer remains the second leading cause of cancer death in American men which results in about 30,000 deaths per year in the USA. An aggressive phenotype leading to 2.58% risk of dying from prostate cancer still exists and immunotherapy has offered new possibilities to treat metastatic prostate cancer that cannot be treated by other modalities. Cancer immunotherapy is a rapidly growing field of research aimed at identifying biomarkers in immunodiagnosis and to develop new therapies by enabling the immune system to detect and destroy cancer cells. Immunotherapy falls into three different broad categories which are checkpoint inhibitors, cytokines, and vaccine immunotherapy. While immunotherapy to treat prostate cancer is still limited progress has been made; for treatment of advanced prostate cancer sipuleucel-T has been administered to patients in personalized doses to destroy prostate cancer cells which is promising and invites further research to determine immunotherapies for advanced prostate cancer. Antibody-based targeted immunotherapy and dendritic-cell-based vaccination are among the therapies that are currently being evaluated as promising approaches to treat prostate cancer. Combination immunotherapies include prostate cancer vaccines and radiotherapy for castration resistant prostate cancer. Microbial vectors for prostate cancer immunotherapy have been developed and bacterial strains have been engineered to express cancer-specific antigens, cytokines, and prodrug-converting cytokines. These approaches are addressed in the present review.In the United States, more than 90 percent of prostate cancers are detected by serum prostate-specific antigen testing. Most patients are found to have localized prostate cancer, and most of these patients undergo surgery or radiotherapy. However, many patients have low-risk cancer and can follow an active surveillance protocol instead of undergoing invasive treatments. Active surveillance is a new concept in which low-risk patients are closely followed and proceed to intervention only if their cancer progresses. Clinical guidelines can help in selecting between treatment or active surveillance based on the cancer's stage and grade, the patient's prostate-specific antigen level, and the comorbidity-adjusted life expectancy. Radical prostatectomy or external beam radiation therapy is recommended for higher-risk patients. These treatments are almost equivalent in effectiveness, but have different adverse effect profiles. Brachytherapy is an option for low- and moderate-risk patients. Evidence is insufficient to determine whether laparoscopic or robotic surgery or cryotherapy is superior to open radical prostatectomy.Objectives: We aimed to compare the presenting features and management of prostate cancer among different racial groups.Recent advances in the diagnosis and treatment of patients with prostate cancer have altered clinical management of the disease. Although direct rectal examination remains the standard clinical tool for staging prostate cancer, transrectal ultrasound appears to be about twice as sensitive for detection. Prostate-specific antigen (PSA) has replaced prostate-specific acid phosphatase as a serum tumor marker for prostate cancer. When used in conjunction with measurement of prostate volume by transrectal ultrasound, PSA values may identify patients at increased risk for occult cancer. Use of transrectal ultrasound and PSA values has also improved the

accuracy of clinical staging. Modifications in the technique of radical prostatectomy have minimized the morbidity associated with this procedure, making it a more attractive therapeutic option in patients with localized prostate cancer. In patients with metastatic disease, total androgen blockade is an option that appears superior to standard hormonal therapy.The article presents an analysis of domestic and international literature on local recurrence of prostate cancer after radical prostatectomy. The authors describe the most advanced methods of diagnosis and treatment of local recurrence commonly used in clinical practice.Prostate cancer is the most common malignancy in men, in general. Most patients diagnosed with prostate cancer have localized disease confined to the prostate. A small percentage of patients with aggressive tumors will progress to develop local, extracapsular tumor extension and distant metastases. The aim of prostate cancer management is to identify and treat those patients with aggressive disease before they develop locally advanced or metastatic disease, and to avoid overtreating indolent tumors, which are unlikely to be life threatening. Imaging has been shown to be valuable in local staging of prostate cancer and as an aid to the management of clinically significant disease. In this article, we discuss the different established imaging modalities and emerging techniques for prostate cancer imaging in patients with clinically localized disease who may be suitable for radical treatment.It is important that treatment decisions be based upon scientific data, as opposed to anecdotal experience and expert opinion. The goal of this article is to provide an update on phase III clinical trials in localized and locoregional prostate cancer. Studies comparing surgery and observation for localized disease are reviewed, as are studies comparing various forms of radiotherapy. The effectiveness of certain neoadjuvant and adjuvant therapies is also addressed. Although there are numerous phase III studies ongoing in these areas, there are still large gaps in our understanding of the treatment of localized disease, and additional clinical trials are needed.Recent decades have seen dramatic changes in the management of prostate cancer based on novel research findings. Prostate-specific antigen (PSA) screening has been introduced, and then recently modified to include new strategies and biomarkers. Management of advanced disease has been transformed by the rapid introduction of new agents. We have moved from a "one-size-fits-all" approach in prostate cancer management to multidisciplinary strategies tailored to the individual patient and his specific cancer. This editorial marks the launch of the article collection Spotlight on prostate cancer (http://www.biomedcentral.com/bmcmed/series/SPR), and here, guest editors Sigrid Carlsson and Andrew Vickers give an overview of the past, present, and future of prostate cancer research and management.Antiandrogen therapy is an important modality in the treatment of prostate cancer. Recent research into the role of angiogenesis in tumour growth and metastasis has uncovered links between antiandrogen therapy, radiation therapy and angiogenesis, which have exciting implications for the treatment of prostate cancer. Angiogenic cytokines such as vascular endothelial growth factor (VEGF) have been identified in prostate cancer cells and tumours, and androgens appear to stimulate VEGF. This article assesses the antiangiogenic effects of hormonal therapy and assesses the role that angiogenesis may play in the observed cooperation between hormonal and radiation therapies for prostate cancer.Management options for localized prostate cancer include radical prostatectomy (RP), radiation therapy (external-beam radiation therapy [EBRT] or brachytherapy), with and without androgen-deprivation therapy (ADT), or active surveillance, also known as watchful waiting. Ultimately, the choice of treatment is determined by a variety of factors, including institutional preference, individual physician judgment, patient preference, and resource availability. In this editorial, we make the case for radiation therapy (EBRT or brachytherapy) as the management modality of choice for localized prostate cancer.Prostate cancer is a significant cause of death among men of all races in the United States, and it does disproportionately affect Black men. This disease poses a number of questions that desperately need answers. These questions involve not just the cause and prevention of the prostate cancer, but a very real and valid question is "does screening for and aggressive treatment of prostate cancer save lives." Almost all questions in prostate cancer are not questions unique to blacks or whites, or any specific population. These questions can only be answered through well-designed basic and clinical research studies. This research must be supported by both physician and patient participation. Conveying truthful, accurate information in this disease in which so much is unanswered is imperative. In American medical history, black men have often been misled or misinformed oftentimes by well-meaning paternalistic individuals. Physicians and laymen teaching about this disease must themselves realize and then truthfully convey "what is known, what is not known, and what is believed." This will allow the layman to make educated decisions regarding screening, treatment, and participation in clinical studies.Quality of life (QoL) is not included among the end points in many studies, and QoL results are underreported in many phase 3 oncology trials. We

performed a systematic review to describe QoL prevalence and heterogeneity in QoL reporting in recently published prostate cancer phase 3 trials. A PubMed search was performed to identify primary publications of randomized phase 3 trials testing anticancer drugs in prostate cancer, issued between 2012 and 2018. We analyzed QoL inclusion among end points, presence of QoL results, and methodology of QoL analysis. Seventy-two publications were identified (15 early-stage, 20 advanced hormone-sensitive, and 37 castration-resistant prostate cancer [CRPC]). QoL was not listed among study end points in 23 studies (31.9%) (40.0% early stage, 40.0% advanced hormone sensitive, and 24.3% CRPC). QoL results were absent in 15 (30.6%) of 49 primary publications of trials that included QoL among end points. Overall, as a result of absent end point or unpublished results, QoL data were lacking in 38 (52.8%) primary publications (53.3% early stage, 55.0% in advanced hormone sensitive, and 51.4% in CRPC). The most commonly used QoL tools were Functional Assessment of Cancer Therapy-Prostate (FACT-P) (21, 53.8%) and European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC QLQ-C30) (14, 35.9%); most common methods of analysis were mean changes or mean scores (28, 71.8%), time to deterioration (14, 35.9%), and proportion of patients with response (10, 25.6%). In conclusion, QoL data are lacking in a not negligible proportion of recently published phase 3 trials in prostate cancer, although the presence of QoL results is better in positive trials, especially in CRPC. The methodology of QoL analysis is heterogeneous for type of instruments, analysis, and presentation of results.Background: Prostate cancer commonly presents with positive pelvic lymph nodes. The appropriate management of patients with prostate cancer is controversial and no satisfactory randomized trials have been conducted.Discriminating patients with a low risk of progression from those with lethal prostate cancer is one of the main challenges in prostate cancer management. Indeed, such discrimination is essential if we aim to avoid overtreatment in men with indolent disease and to improve survival in those men with lethal disease. We are reporting on the current literature on such prognostic tools that are now available, their clinical role and their limitations in individualizing care. There is an urgent need to incorporate such genomic tools into new platform-based clinical trial structures to further develop and validate prognostic and predictive biomarkers and provide prostate cancer patients with an effective and cost-efficient access to new drugs in the setting of personalized treatment.Clinical and epidemiological research on prostate cancer is faced with some unusual methodological challenges. The very high prevalence of latent cancer, much of which never becomes clinically manifest, complicates the approach to screening and the conduct of epidemiological studies. Cost-effectiveness issues are especially relevant regarding screening policies, and these trade-offs are complicated by the absence of definitive results on the effectiveness of the various treatment options. The presentation of advanced disease is also unusual, in that the vast majority of patients do not have measurable disease suitable for traditional studies of new chemotherapy agents. These problems necessitate creative approaches to the design and analysis of research studies in this disease: cost-effectiveness analysis is crucial to the evaluation of screening policies; opportunistic designs will be essential to the valid study of cancer etiology, eg, the use of cystoprostatectomy series for studies of epidemiologic risk factors; and posttreatment changes in PSA levels may be valuable as a criterion for screening new agents in advanced disease. Regardless of these new methods, traditional methodological approaches are essential to the valid study of prostate cancer. Randomization is required for valid comparison of treatments and screening strategies. Statistical analysis should observe the intent-to-treat principle whereby patient groups are analyzed with respect to the planned, rather than the delivered therapy, and studies should have sufficiently large sample sizes to reliably distinguish the true effects of the interventions from random statistical fluctuation. Recently, meta-analysis has become popular as a tool for synthesizing the information from available studies on a specific clinical problem. Its most conspicuous success has been in showing the efficacy of adjuvant therapy in breast cancer, for which many individual studies appeared to give conflicting results.64 In this setting there was a large number of published randomized trials, many of which had large sample sizes and long follow-up, and so the meta-analysis was able to show convincingly a small but clinically meaningful treatment effect on long-term disease recurrence and survival. This is similar to the situation in localized prostate cancer in all respects except for the availability of randomized trials. Unfortunately there is no free lunch. This technique can only be applied if the high quality data are available. One must be similarly cautious in applying decision analytic techniques (and also cost-effectiveness analysis) to try to resolve clinical dilemmas.(ABSTRACT TRUNCATED AT 400 WORDS)Prostate-specific membrane antigen (PSMA) is a transmembrane glycoprotein that is highly expressed on prostate adenocarcinomas, exhibits only limited expression in benign and extraprostatic tissues, and thus represents an ideal target for the diagnosis and

management of prostate cancer. Since its discovery over 30 y ago, significant effort has been made to develop clinical technology targeting PSMA. The last 5 y have seen an explosion of development of new agents targeting PSMA for diagnostic and therapeutic use. Imaging agents targeting PSMA have been developed for SPECT and PET platforms. PSMA PET imaging appears to outperform traditional imaging in the high-risk localized-disease state, in patients with biochemical recurrence after treatment, and in advanced disease. To date, most of the reported clinical studies of therapeutic agents have used PSMA-targeted radiometals to deliver β-radiation to metastatic disease sites, with 177Lu being the most widely investigated therapeutic radioisotope. Studies of both antibodies and small-molecule agents have been published and have demonstrated encouraging results. Safety appears generally limited to mild transient bone marrow toxicity and xerostomia because of uptake of the small-molecule agents in the salivary glands. Radiologic responses can be dramatic, and decreases in pain have been observed. The effect on overall survival, however, has yet to be demonstrated.The treatment of prostate cancer presents the patient and clinician with several options. The choice of modality is often the most difficult. For low- and intermediate-risk disease, the choice is often between surgery and brachytherapy because the other major option, external-beam radiotherapy, has toxicity that generally only makes sense in the risk/benefit analysis for high-risk prostate cancer. The comparison of brachytherapy and surgery may be done on several levels. This review will focus the comparison on toxicity, the "soft" endpoints of biochemical relapse-free survival and clinical relapse-free survival, and the "hard" endpoint of prostate cancer-specific mortality.Early detection of prostate cancer is associated with the diagnosis of a considerable proportion of cancers that are indolent, and that will hardly ever become symptomatic during lifetime. Such overdiagnosis should be avoided in all forms of screening because of potential adverse psychological and somatic side effects. The main threat of overdiagnosis is overtreatment of indolent disease. Men with prostate cancer that is likely to be indolent may be offered active surveillance. Evaluation of active surveillance studies and validation of new biological parameters for risk assessment are expected.Objectives: Though the external beam radiation therapy is a standard treatment option for both organ-confined and regionally advanced prostate cancer, unluckily, despite more and more effective advances in radiation delivery procedures, the prostate cancer radioresistance still occurs in a significant amount of patients undergone radiotherapy. This review aims to highlight the molecular aberrations of prostate cancer cell growth- and apoptosis signaling pathways that might induce, together with both prostate cancer cell/cancer stem cells gene- and surrounding microenvironment crucial implications, the tumor radioresistance.Objectives: Quality of life (QOL) issues are important for patients with prostate cancer because side effects from treatment are substantial, while the disease itself may be indolent. This article reviews prostate cancer QOL studies.Prostate cancer is a public health problem of the elderly men. It has been estimated that one in six men will develop prostate cancer in his lifetime in the USA. There is thus a huge clinical demand for effective therapies for the prevention and treatment of the disease. Here, the scientific evidence supporting the effectiveness of melatonin in inhibiting the development and progression of prostate cancer is reviewed. The rational use of melatonin in prostate cancer prevention, stabilization of clinically localized favourable-risk prostate cancer and palliative treatment of advanced or metastatic tumour is discussed within the context of the molecular pathogenesis of the disease.Prostate cancer was a neglected area in psycho-oncology. There is now a growing number of studies on the psychosocial aspects of having prostate cancer and the possibilities to reduce these problems in educational and group interventions. In this issue of Patient Education and Counseling, studies are presented on several psychosocial and educational aspects in prostate cancer patients: screening events and outcomes, assessing the unmet information, support and care delivery needs, reacting to the diagnosis of prostate cancer, informational needs of men on hormonal therapy, changes in health-related quality of life three months after the diagnosis, information-seeking behaviors and information needs of partners, quality of leaflets, video information in decision making, and patient perceptions and priorities in a rehabilitation program. Conclusions are presented on neglected research areas in psychosocial and educational aspects of living with prostate cancer.To date, there are no studies conclusively documenting that one treatment for localized prostate cancer is superior to another in terms of overall survival. Therefore, patients must consider other outcomes when choosing primary therapy for localized disease. One of the most important factors patients consider when choosing their treatment is the effect of therapy on their quality of life (QOL). Over the past decade, there have been an increasing number of studies assessing health related QOL (HRQOL) outcomes in localized prostate cancer. The goal of this article is to review our current understanding of HRQOL in this disease. We will begin by examining the established HRQOL instruments for use in localized prostate

cancer. We will then discuss the effect of various treatments on QOL and review the literature comparing HRQOL outcomes between therapies.Purpose: Management of locally advanced prostate cancer remains controversial. Various single and combination modality approaches have been advocated, but an accepted standard of care remains undefined. The purpose of this review is to define the current knowledge in managing locally advanced prostate cancer and to propose new treatment approaches based on current knowledge.Prostate cancer is biologically and clinically a heterogeneous disease and its imaging evaluation will need to be tailored to the specific phases of the disease in a patient-specific, risk-adapted manner. We first present a brief overview of the natural history of prostate cancer before discussing the role of various imaging tools, including opportunities and challenges, for different clinical phases of this common disease in men. We then review the preclinical and clinical evidence on the potential and emerging role of positron emission tomography with various radiotracers in the imaging evaluation of men with prostate cancer.In the human genome, there is a group of RNAs, called long non-coding RNA (lncRNA) with do not have the function of encoding proteins and whose transcript length is greater than 200 nucleotides. The disorders of lncRNAs are often involved in the occurrence and progression of malignant tumors. A large number of studies have indicated the aberrant expression of lncRNAs in prostate cancer (PCa) can regulate gene expressions at epigenetic, transcriptional and post-transcriptional levels and cause changes in the biological behaviors of PCa cells. Some lncRNAs have been shown to be closely related to the castration resistance of PCa. In recent years, a variety of lncRNAs have been detected in the PCa tissue, prostatic fluid, serum, and urine, and somehow influenced radiotherapy and chemotherapy of tumors. The expressions of some lncRNAs are also associated with disease prognosis. Thus, lncRNAs are expected to become new diagnostic markers and a therapeutic target for PCa. This review focuses on the roles and action modes and mechanisms of some lncRNAs as well as their potential value of clinical application in the diagnosis, treatment and prognosis of PCa.Prostate cancer remains a common cause of cancer death in men. Applications of new genomic technologies to the recent development of high-quality prostate cancer models in multiple contexts have added great molecular insight into the development of and progression to metastasis. Genomic analysis of DNA, RNA, and protein alterations allows for the global assessment of this disease and provides the molecular framework to improve risk classification, outcome prediction, and development of targeted therapies. The creation of expression profiles and signatures will allow the evaluation of cancer phenotypes and give insight into determining those with increased risk of cancer, identification of critical pathways involved in the development of cancer, prediction of disease outcome, and assessment of the response of cancer to established and novel therapies. This review focuses on highlighting recent work in genomics and on its role in evaluating potential genetic modifiers of prostate cancer and novel biomarkers that may help with prostate cancer diagnosis, its potential to provide a better understanding of prostate cancer behavior and transition to metastatic disease, and its role in current and new therapies in prostate cancer. This framework has the exciting potential to be predictive and provide personalized and individual treatment to the large number of men diagnosed with prostate cancer each year.Results presented at the American Urological Association 2020 Virtual Meeting demonstrated that of men who received prior RT or surgery for localized prostate cancer, those that had RT were found to have a 32% higher risk of developing castrate-resistant disease.A group of patients with high risk prostate cancer was identified in the late 1990s. Since then, management of this group of patients has undergone some serious changes. The article provides a brief overview of the most significant changes, primarily in surgical treatment, over the past 3 years. Besides, the authors present their views on perspective treatments and possible changes in the near future.Randomized clinical trials assessing novel therapies in men with localized prostate cancer frequently require large patient numbers and more than a decade of follow-up to demonstrate improvements in overall survival. As the landscape of treatment options for prostate cancer is rapidly changing, clinical trials requiring long follow-up threaten to impede treatment improvements and run the risk of results being obsolete by the time that they are reported in publication. To address these issues, there has been tremendous interest in identifying an intermediate clinical endpoint that can be assessed earlier in the disease course to serve as a robust surrogate for overall survival in men with localized prostate cancer. Herein we review the relevant data for surrogate endpoints in localized prostate cancer, highlighting the work performed by the Intermediate Clinical Endpoints in Cancer of the Prostate Working Group identifying metastasis-free survival as a valid surrogate for men treated for localized prostate cancer.Background: Men with prostate cancer will not die of the disease until it progresses to the metastatic castration resistant stage. At that stage, the median survival is 9 to 30 months.Background: A variety of innovative approaches to the prevention of

prostate cancer are now available, including selenium, alpha tocopherol, dietary interventions, and vitamin D. Perhaps the most promising opportunity is based upon considerable evidence that cumulative androgen exposure of the prostate contributes to the age-related risk of prostate cancer.Age-adjusted mortality rates from prostate cancer between 1991 and 1995 are approximately two times worse among African-American men than Caucasian men. Age-specific mortality rates from prostate cancer are reported to be three times greater among African-American men compared with Caucasian men between the ages of 40 and 60 years. These statistics lead one to ask whether the difference in outcome is secondary to a more rapidly growing prostate cancer among African-American men compared with Caucasian men, or is it a result of delayed diagnosis among African-American men, which would account for there being more advanced prostate cancer at presentation? This report demonstrates many histological and biological differences that may account for clinical outcome differences.Androgen deprivation therapy (ADT) has been conventional treatment of newly diagnosed metastatic prostate cancer for more than 70 years. However, all patients eventually become castration-resistant and a significant proportion of life span is spent in the castration-resistant state. Prospective randomized control trials have incorporated early chemotherapy along with ADT based on the hypothesis that a significant level of resistance to ADT already exists in newly diagnosed metastatic prostate cancer and ADT exhibits synergistic antitumor activity with taxanes. We discuss the changing landscape of management of patients with newly diagnosed metastatic prostate cancer based on recently published landmark randomized trials.Prostate cancer is the second most common cause of cancer-related death in men in the USA, but the effect of prostate cancer diagnosis and treatment on men in a sexual minority group, including men who have sex with men and transgender women, is poorly understood. Efforts to study this population are complicated, as cancer registries do not routinely collect information on sexual orientation. As a result, epidemiological data regarding this population have come from small studies that have included disparate rates of prostate cancer screening, diagnosis and treatment. Qualitative studies indicate that prostate cancer is experienced differently by sexual minorities, with distinct health-care needs that arise owing to differences in sexual practices, social support systems and relationships with the medical community. Notably, sexual minorities have been reported to experience poorer health-related quality of life outcomes than heterosexual men, and tend to have less robust social support systems, experience increased psychological distress caused by sexual dysfunction (areas of which are unmeasured after treatment), experience isolation within the health-care system and express increased levels of dissatisfaction with treatment. The incidence of prostate cancer actually seems to be decreased in men from sexual minorities living with HIV, despite there being no differences in screening and treatment, with poor cancer-specific mortality. Although the literature on patients with prostate cancer in men from sexual minority groups has historically been sparse, peer-reviewed research in this area has grown considerably during the past decade and has become an important field of study.Objectives: To examine the relationship between the recently defined Gleason grade groups and prostate cancer-specific mortality.In soils and surface waters in the Sumy region increased content of heavy metals (copper, manganese, iron, chromium, lead and zinc) according to Novomoskovskaya geological expedition (1991) and the report of the State Administration of Environmental Protection in the Sumy region "On state of the environment in the Sumy region " for 2012. Therefore, in this region is extremely important to study the possible impact of adverse environmental factors on the occurrence of pathological processes, especially cancer in the population. The aim of the study was to investigate the possible factors influencing the prostate cancer morbidity among the general population in different areas of Sumy region. Screening analysis of prostate cancer morbidity among the population of Sumy region was conducted and the data of the Sumy Regional Oncology Center on the prevalence of cancer among the population of the Sumy region in the last 10 years were studied. The environmental situation of the Sumy region in recent years was studied; areas with the highest pollution of surface waters and soils were identified. Comparison of pollution of Sumy regions and prostate cancer morbidity were conducted The study of the ecological situation in Sumy region and analysis of the level of environmental pollution in some areas showed that the highest incidence of prostate cancer observed in areas with poor ecological state of water resources and soil. Significant fluctuations in the level of breast cancer morbidity in different areas of Sumy region were also found. The study showed that the incidence of prostate cancer among the population of Sumy region associated with adverse environmental factors.Prostate cancer is the most frequently diagnosed malignancy and the second most common cause of cancer-related death in men in the United States. Unfortunately, at the current time, no curative treatments are available for metastatic prostate cancer. As is the case for most solid tumors, the recruitment of blood vessels (angiogenesis) is key for the

progression and metastasis of prostate cancer. Inhibition of this process is an attractive approach to treatment. Many antiangiogenic agents are currently in clinical development. The following discussion will outline the importance of angiogenesis in the metastasis and progression of prostate cancer, summarize the current surrogate markers of angiogenesis available for the drug development of antiangiogenic agents, and review examples of investigational agents that target tumor angiogenesis (e.g., TNP-470, Thalidomide, CC5013, Carboxyamido-triazole (CAI), Endostatin. SU5416, SU6668, Bevacizumab (Anti-VEGFrhuMAb), and 2-Methoxyestradiol).Pelvic lymph node involvement in prostate cancer is a significant poor prognostic factor with very little evidence on the optimal management options for these patients. It is estimated that lymph node-positive patients make up 12% of newly diagnosed prostate cancer and this figure is expected to rise with the advancement and increasing use of novel imaging. The controversy around this subgroup of patients is whether this is an intermediary stage before disseminated disease and hence amenable to curative treatment options. Systemic therapies have been the mainstay of treatment for these patients for decades, but in recent years, studies have emerged supporting the addition of local therapy. This review will focus on the current multimodal management approach for clinical and pathological lymph node-positive prostate cancer with a focus on radiotherapy options and aims to provide the rationale for a curative approach with a combination of local and systemic therapy.Purpose of review: Issues relating to the disease are critical in the diagnosis, management, and prognostication of prostate cancer.Prostate cancer (PCa) is one of the leading causes of cancer-related death in men. Despite considerable advances in prostate cancer early detection and clinical management, validation of new biomarkers able to predict the natural history of tumor progression is still necessary in order to reduce overtreatment and to guide therapeutic decisions. MicroRNAs are endogenous noncoding RNAs which offer a fast fine-tuning and energy-saving mechanism for posttranscriptional control of protein expression. Growing evidence indicate that these RNAs are able to regulate basic cell functions and their aberrant expression has been significantly correlated with cancer development. Therefore, detection of microRNAs in tumor tissues and body fluids represents a new tool for early diagnosis and patient prognosis prediction. In this review, we summarize current knowledge about microRNA deregulation in prostate cancer mainly focusing on the different clinical aspects of the disease. We also highlight the potential roles of microRNAs in PCa management, while also discussing several current challenges and needed future research.Predictive factors stratify cancer patients into homogeneous groups for treatment. There is an acute need for accurate predictive factors in patients with prostate cancer given the marked variation in treatment recommendations. These factors should be obtained prior to therapy and should include patient factors, serum factors and tissue-specific factors derived from biopsies. This review evaluates the current state of knowledge regarding quantitative methods in prostate tissue specimens, classifying predictive factors in prostate cancer into four categories. The first category, predictive factors recommended for widespread clinical use, includes Gleason grade; nontissue markers include clinical stage and serum prostate-specific antigen. The second category, predictive factors that are often collected but of unproven significance, includes DNA ploidy and volume of cancerous material in the needle biopsy. The third category, predictive factors not used for routine patient management, includes cell proliferation markers (mitotic figures, proliferating cell nuclear antigen, Ki-67 and MIB-1), apoptotic markers, microvessel density and perineural invasion. The fourth category, predictive factors under investigation, includes morphometric features, such as nuclear roundness and size, chromatin texture, silver-staining nucleolar organizer regions and nucleolar size. Standards are required for virtually every aspect of morphometric study, and these features require validation before their acceptance as clinically relevant in prostate cancer. Predictive factors in radical prostatectomies include cancer volume and extent in radical prostatectomy specimens and quantitation of number and size of lymph node metastases. Neural network models provide greater accuracy for combinations of predictive factors than traditional statistical methods of analysis, such as logistic regression and Cox models, and are expected to be incorporated into routine use in the next few years.Despite extensive clinical research of different chemotherapy agents for more than three decades, the role of chemotherapy in prostate cancer was only established in 2004, after demonstrating a survival benefit with docetaxel in metastatic castration-resistant prostate cancer. 6 years later, second-line chemotherapy using cabazitaxel, after disease progression on docetaxel, demonstrated an additional survival improvement. Recently, docetaxel given alongside standard hormonal therapy in newly diagnosed advanced prostate cancer was found to lead to significantly improved patient outcomes. This article aims to cover the role of chemotherapy in prostate cancer and the latest developments.Prostate cancer is the most common type of cancer in Norway, with more than 2,400 new cases each year. Hormones, diet, and chemical

and genetic factors are implicated in the aetiology. It is not clear whether alcohol and tobacco increase the risk of prostate cancer. Median age at diagnosis is 74-75 years. The incidence has increased steadily with a doubling of the number of cases over 20-25 year periods. Prostate cancer mortality in Norway is the highest among the Nordic countries and among the highest in the world. Five-year relative survival for all cases combined is 60%. Approximately 55-60% of the patients dies from the disease. The incidence is lower in the three northernmost counties. Elsewhere in the country the incidence varies between counties according to variations in diagnostic practice. Serological analysis of Prostate Specific Antigen after 1990 has lead to an increase in the number of new cases, mainly because of earlier diagnosis. Prostate cancer is often a slowly growing tumour which is clinically asymptomatic for many years. Latent carcinoma is found at autopsy in 30-35% of men above 50 years of age. Today, prevention of prostate cancer is not feasible, though specific advice about life style and diet might decrease the risk.Background: Metastatic prostate cancer (PCa) is associated with considerable diminished overall survival (OS). Standard treatment for metastatic PCa has long been androgen deprivation therapy alone, with patients initially responding to this treatment and then progressing to a castration-resistant phase.It is clear that there is significant need for improved staging and therapy of prostate cancer. The attributes and strengths of MoAbs seem particularly well-suited to the setting of prostate cancer. Recent progress in the application of MoAbs to in vivo imaging and therapy is encouraging. Clearly, further such efforts in prostate cancer are warranted.Purpose: We compared the effectiveness of PCA3 (prostate cancer antigen 3) and select comparators for improving initial or repeat biopsy decision making in men at risk for prostate cancer, or treatment choices in men with prostate cancer.Background: It is challenging to decide in which way we should care for localized prostate cancer. The current guideline can be accepted as an appropriate foundation. However, there are doubts if guideline recommendations are implemented.The development of new technologies has stimulated a crusade of screening for earlier detection of prostate cancer. This effort has resulted in controversy regarding its clinical use in this format. Until randomized clinical screening trials define the value of prostate cancer screening, clinicians who use screening approaches must gain a strong understanding of the natural history of the disease, the strengths and weaknesses of available screening methodologies, and epidemiologic considerations of prostate cancer risk.Prostate cancer is the second leading cause of internal malignancy among men worldwide, with an annual incidence of 679,000 cases, and an annual mortality load of 220,000 deaths, making it the sixth leading cause of cancer mortality among men. It is generally on the increase. Environmental and lifestyle factors may have an aetiological role in prostate cancer and hence may provide potential targets for future intervention. In fact, because of the disease high prevalence, slowly progressive nature, and long latency prostate cancer is a very good candidate for chemoprevention. Dietary agents have gained considerable attention as chemopreventive agents against prostate cancer. The methodology for this review included computerized literature searches of the PubMed database using the keywords 'chemoprevention of prostate cancer' from 1992 to 2007. This mini-review examines the influence of plant-derived dietary agents for which articles reported statistically significant effects in the management of prostate cancer.Dietary factors and other naturally occurring substances may emerge as potent therapeutic or preventative agents in the battle against prostate cancer. Much of the current support for these agents is epidemiologically based, but new prospective studies are now underway which may support their use in conventional medical practice.The role of autophagy is known to be highly complex and context-dependent, leading to both cancer suppression and progression in several tumors including melanoma, breast and prostate cancer. In the present review, recent advances in an understanding of the involvement of autophagy in prostate cancer treatment are described. The regulatory effects of androgens on prostate cancer cell autophagy are particularly discussed in order to highlight the effects of autophagy modulation during androgen deprivation. A critical evaluation of the studies examined in the present review suggests the attractive possibility of autophagy inhibition combined with hormonal therapy as a promising approach for prostate cancer treatment.Androgen deprivation has been the standard therapy for advanced and metastatic prostate cancer for over half a century, as prostate tumors are initially dependent on androgens for growth and survival. Unfortunately, in most patients undergoing androgen ablation, relapse (recurrent tumor growth) eventually occurs. The actions of the principal androgens, testosterone and dihydrotestosterone (DHT), are mediated via androgen receptors (ARs), ligand-activated transcription factors that belong to the nuclear receptor superfamily. Because of the presence of transcriptionally active ARs in tumors from recurrent or androgen-independent disease, there is a heightened interest in new therapeutic paradigms that target the AR and its regulatory pathways. The regulation of AR levels is highly complex with control exerted

by several pathways and in a cell-, tissue-, and developmental-stage specific manner. Androgens are important regulators of AR mRNA and protein through transcriptional and post-transcriptional mechanisms. This article reviews the evidence implicating the AR in recurrent prostate cancer and discusses the multiple mechanisms that regulate AR levels in normal and neoplastic cells. The complexity of AR regulation suggests that there will be an ample array of potential new drug targets for modulating levels of this receptor, a key signaling molecule in prostate cancer.Prostate cancer is now the second most common cause of male cancer-related deaths in the USA. This article reviews the factors that account for the recent rapid increase in incidence. It also discusses the different management options currently available, with an emphasis on early prostate cancer and the role of radical prostatectomy.Purpose: To determine the extent of cell proliferation and apoptosis during treatment and progression of prostate cancer and to determine whether staining for tissue transglutaminase is a better histological marker than TUNEL for neoadjuvant androgen ablation treatment of localized prostate cancer.Radiotherapy, both external beam and more recently, interstitial, have been therapeutic options for localized prostate cancer. Management of patients who have failed of local radiotherapy remains a challenge. Herein the current therapeutic options are reviewed.In a context where there is evidence that not every patient with low risk prostate cancer needs to be treated from the start, active treatments are expensive and public health care systems need to save money, studies on cost-effectiveness are a priority. To elaborate this article, we reviewed the publications on cost and cost-effectiveness of localized prostate cancer treatments that include active surveillance. In patients with low risk localized prostate cancer active surveillance is more cost-effective than active treatment. With time active surveillance may be more expensive than brachytherapy or radical prostatectomy. The frequency of prostatic biopsies and the percentage of conversions to active treatment will be determinant in final costs of active surveillance.We describe a 75-year-old man with undifferentiated prostate cancer that was treated with radiation therapy. He presented at a nearby general hospital with dysuria and pain upon micturition. He was diagnosed with undifferentiated prostate cancer by a needle biopsy and referred to our hospital for further examination and treatment. Enhanced computed tomography and magnetic resonance images showed prostate cancer and right obturator lymph node metastasis measuring 2.5 cm. Cystoscopy and colonoscopy revealed direct invasion of the urinary bladder and rectum. We constructed a vesical fistula and an artificial anus, and then treated the primary tumor and lymph node metastasis with radiation. Undifferentiated prostate cancer is extremely rare and to our knowledge only a few cases have been reported. We suggest that radiation might be effective for treating undifferentiated prostate cancer with or without local invasion and/or metastasis along with total body control.Magnetic resonance imaging (MRI) is increasingly being recognized as a valuable tool for the assessment of prostate cancer. In recent years, MRI technology has matured, image acquisition and interpretation have improved, and a multitude of clinical studies have demonstrated the potential of MRI techniques for contributing to prostate cancer care. This review will provide a brief overview of MRI techniques relevant to prostate cancer, including MR spectroscopic imaging, and discuss the ways that they can aid in diagnosis, treatment selection, and post-treatment follow-up.Prostate cancer is the most common noncutaneous cancer affecting men today. It largely affects men in the fifth and sixth decade of life. Screening for prostate cancer, though controversial, is still the only way to detect early prostate cancer. Multiple newer options such as blood tests and genetic markers are being used in the clinical domain today to improve cancer detection and avoid unnecessary biopsies. To date, biopsy of the prostate remains the only modality to stratify the grade of cancer. Significant improvements in the imaging technology have improved localizing and detecting the disease. Treatment of prostate cancer is stratified on the basis of the grade and volume of the disease. There are multiple treatment options involved in the management of prostate cancer. Treatment of localized prostate cancer still continues to have very high cure rates and long-term cancer-specific survival rates.Genes involved in cancer generation are usually tumor suppressors and oncogenes. Progressive genetic alterations in these genes are involved in the mechanisms of tumorigenesis. In prostate cancer, additionally several chromosomal loci that should harbor mutated genes have been proposed. Some genes have been found altered in prostate cancer, such as PTEN, TP53, AR, RNASEL (HPC1), ELAC2 (HPC2), CDKN2A and MSR1 and those can be natural targets for new strategies of treatment. Besides, gene therapy has been suggested to be suitable for prostate cancer treatment. This approach includes ex vivo corrective therapy, suicide, and antisense therapy.Prostate cancer remains the most common malignancy diagnosed in men andis the third leading cause of cancer death among men in the United States and Europe.On this basis, it is anticipated by many that the rates of prostate cancer mortality may rise in the years to come. As a result, a number of new

challenges have emerged in prostate cancer, forcing urologists to consider new paradigms in the disease management: both to improve methods of detection and to be more effective in managing the likely increasing numbers of men with advanced disease.The use of positron emission tomography (PET) with 18F-fluorodeoxyglucose (FDG) in prostate cancer depends on the phase of the disease along the natural history of this prevalent malignancy in men. Incidental high FDG uptake in the prostate gland, although rare, should prompt further investigation with at least a measurement of serum prostate specific antigen level. Although in general FDG uptake level may significantly overlap among normal, benign, and malignant tissues, aggressive primary tumors with Gleason score > 7 tend to display high FDG uptake. PET with FDG may be useful in staging of those patients with aggressive primary tumors and can localize the site of disease in a small fraction of men with biochemical failure and negative conventional imaging studies. FDG-PET may be quite useful in treatment response assessment and prognostication of patients with castrate-resistant metastatic prostate cancer.Purpose: Diabetes mellitus is associated with a decreased risk of prostate cancer. However, previous studies examining the associations between diabetes mellitus and prostate cancer prognosis have produced mixed results. Here, we aim to summarize the effect of diabetes mellitus on prostate cancer prognosis.Prostate cancer remains a common cancer diagnosis and cause of cancer-related death in men. Despite its high prevalence, screening for prostate cancer for early detection remains controversial. This article outlines evidence from contemporary prostate cancer screening clinical trials and presents an overview of therapeutic options across the spectrum of prostate-cancer states.An increasing amount of evidence points at important roles for estrogen receptors in prostate carcinogenesis and progression. Of the two estrogen receptors, estrogen receptor β is the most prominent within the prostate gland. Although there is much yet to be known, the findings from the discovery of the receptor in 1996 until now point at a role of the receptor in maintaining differentiation and reducing cellular proliferation in the prostate. Moreover, estrogen receptor β is the main target for phytoestrogens, perhaps at least partially explaining the difference in incidence of prostate cancer in the Western world compared to Asia where the intake of soy-based, phytoestrogen-rich food is higher. The tumor suppressive capability of estrogen receptor β makes it a promising drug target for the treatment and prevention of prostate cancer. This review will focus on different aspects of estrogen receptor signaling and prostate cancer.Patients with localized prostate cancer (PCa) have several therapeutic options with good prognosis. However, survival of patients with high-risk, advanced PCa is significantly less than patients with early-stage, organ-confined disease. Testosterone and other androgens have been directly linked to PCa progression since 1941. In this review, we chronicle the discoveries that led to modern therapeutic strategies for PCa. Specifically highlighted is the biology of androgen receptor (AR), the nuclear receptor transcription factor largely responsible for androgen-stimulated and castrate-recurrent (CR) PCa. Current PCa treatment paradigms can be classified into three distinct but interrelated categories: targeting AR at pre-receptor, receptor, or post-receptor signaling. The continuing challenge of disease relapse as CR and/or metastatic tumors, destined to occur within three years of the initial treatment, is also discussed. We conclude that the success of PCa therapies in the future depends on targeting molecular mechanisms underlying tumor recurrence that still may affect AR at pre-receptor, receptor, and post-receptor levels.The Notch signalling pathway plays a fundamental role in tissue development due to its involvement in cell fate determination and postnatal tissue differentiation. Its capacity to regulate cell growth and development has been linked to the occurrence of several cancers including that of the prostate. The transmembrane receptor Notch-1 of this pathway has been linked to the oncogenic role of Notch signalling in prostate adenocarcinoma. Other studies have suggested a tumour suppressive function for Notch-1. This review focuses on the role of Notch-1 in prostate cancer development and maintenance and relates this to the fundamental role of Notch in normal prostate development. The current understanding of the aberrant Notch signalling characteristic of prostate cancer is discussed, and recent therapeutic advances in this field are presented.Prostate cancer and its management have been intensely debated for years. Recommendations range from ardent support for active screening and immediate treatment to resolute avoidance of screening and active surveillance. There is a growing body of level I evidence establishing a clear survival advantage for treatment of subsets of patients with clinically localized prostate cancer. This chapter presents a review of these randomized controlled trials. We argue that an understanding of this literature is relevant not only to those considering active surveillance but also to those evaluating the merits of screening. In addition, a number of important evidence-based conclusions concerning what should and should not be done can be gleaned from these trials.External beam radiotherapy (EBRT) for the treatment of loco-regional prostate cancer yields similar survival rates to radical

prostatectomy (10-year survival: 90-95%, 60-70% and 50-60% in T1, T2 and T3-stages, respectively). Post-operative radiotherapy in high-risk prostate cancer may improve the local and distant disease-free survival of patients. Using the recently developed technology of the 3D-conformal RT and of the intensity-modulated RT (IMRT), the focalized administration of a higher radiation dose is allowed keeping exposure of surrounding normal tissues to low levels. Cytoprotection with amifostine administration before EBRT fractions may reduce the incidence of early and late radiation sequel from the bladder and rectum. The developments in radiobiology suggest that large radiotherapy fractions may be more efficacious than standard radiotherapy, so that hypofractionation of radiotherapy may further improve local control rates. The use of interstitial high-dose rate implants to boost the prostate after an initial course of EBRT has been applied successfully in various institutes, with further improvement of the results obtained with EBRT. Chemotherapeutic agents, such as docetaxel and liposomal doxorubicin, as well as novel biological agents introduced into clinical practice (i.e. anti-erbB, anti-angiogenic and apoptosis-modulating agents) have shown significant radiosensitizing activity and deserve clinical evaluation in conjunction with radiotherapy.Prostate cancer is a major public health problem in the Western world, and the second most common male malignancies in the European Union. Detection of the disease is possible at an early stage, using serum prostate specific antigen measurement and prostatic biopsies. To date, however, screening for prostate cancer has not been shown to be of benefit to patients in improving outcome. This is compounded by uncertainties surrounding treatment efficacy, as more men appear to die with prostate cancer than from it. Studies addressing these issues are underway in Europe and the U.S.A. Clinicians are currently unable to advise their patients with any degree of certainty as to the appropriateness of treatment for prostate cancer, because of their inability to differentiate tumours that will progress from those that will remain quiescent. This article reviews the various clinical, pathological and experimental markers available, and their value in providing prognostic information, which may assist clinicians and patients in making management decisions. Further research is still required to understand the biological behaviour of prostate cancer and to assess the value of screening and treatment efficacy in order to advise patients, clinicians and health care systems accordingly.Prostate cancer is a common disease amongst elderly men. Compared with younger patients, men over the age of 75 are more likely to present with advanced disease and have a greater risk of death from prostate cancer despite higher death rates from competing causes. Treatment options for advanced prostate cancer have improved considerably in the last two years. The immunotherapy sipuleucel-T, the cytotoxic cabazitaxel, the androgen biosynthesis inhibitor abiraterone acetate, the radioisotope radium-223 and the antiandrogen enzalutamide have all been shown to improve survival in randomized phase III studies for patients with metastatic castration-resistant prostate cancer. This review will focus on the clinical data regarding new treatment developments specifically applied to elderly patients with advanced prostate cancer.Using a transdisciplinary methodological approach we have conducted a multifactorial analysis in Martinique and Guadeloupe in order to elucidate the aetiology of prostate cancer. In 2002, world age standardized rates of prostate cancer were 152 new cases per 100,000 person-years in the two islands; one of the highest worldwide rates and much higher than those reported for other Caribbean islands and metropolitan France. Using a linear regression analysis, we found that the growth curves of incidence rates for Martinique and metropolitan France have been significantly diverging since 1983. That these curves are not parallel suggests that although a Caribbean genetic susceptibility factor may be involved in carcinogenesis, this factor cannot per se account for the observed growing incidence. On the basis of mapping analysis of soil pollution, we further showed that water contamination by pesticides originates from banana plantations. Moreover, we have established retrospectively that general population subjects investigated in 1972 in Martinique for the presence of organochlorinated pesticides in their adipose tissue had been contaminated by extremely high levels of DDT, DDE, alpha, beta and gammaHCH, aldrin and dieldrin. Our study leads to the conclusion that the growing incidence of prostate cancer cannot be related either to a modification of ethnographic factors nor to a change in lifestyle and therefore suggests that environmental factors such as the intensive and prolonged exposure to carcinogenic, mutagenic and reproductive toxin pesticides may cause prostate cancer.Because the present ability to treat and cure patients with prostate cancer is limited to those patients with pathologically organ-confined disease, it has become increasingly important to diagnose this disease at an early stage, when cure is most likely. Recent advances in imaging may allow the urologist and the pathologist to make the diagnosis of prostate cancer much earlier in the natural course of the disease. It therefore becomes imperative to have methods available to predict which patients have a high probability of progressing so that treatment can be assigned logically and

appropriately. Our current methods of prognosis determination (stage and grade) do not allow accurate assessment of tumor behavior in the majority of individual patients with prostate cancer. Therefore, more accurate quantification of nuclear and cellular changes that take place as a tumor progresses to take on the aggressive (metastatic) phenotype are urgently needed. Experimental techniques have proven useful in answering these questions and now seem ready for large-scale testing in clinical studies.Prostate cancer has become one of the most common malignancies in the world. The incidence of prostate cancer has rapidly increasing over the last decade in East Asia. In Japan, age-adjusted death rates due to prostate cancer rose from 4.4 to 8.6 per 100,000 between 1980 and 1998. Recent research has focused on age, race-related differences, patterns of familial aggregation, genetic factors, hormones, and diet. Epidemiological approach has identified several possible risk factors that may be useful for the prevention of prostate cancer and targeting high-risk individuals for early detection.Background: Compelling evidence indicates that environmental and life-style factors, in addition to well-known risk factors such as testosterone level and age, are important for the development of prostate cancer.Purpose of review: The role of testosterone in the development of prostate cancer and the safety of testosterone therapy (TTh) after prostate cancer treatment, or in the setting of active surveillance, remains controversial. There are many concerns about using TTh in men, particularly those with a history of prostate cancer, ranging from a possible increased risk of cardiovascular disease to cancer progression or recurrence. With many prostate cancer patients living longer, and hypogonadism having significant morbidity, much care must go into the decision to treat. Here, we review the literature investigating the effects of testosterone on the prostate as well as the efficacy and safety of exogenous testosterone in men with a history of prostate cancer.CEA level has been measured in a series of prostate cancer patients. Data are presented to show CEA correlation with clinical course and acid phosphatase level.Whereas androgen deprivation and chemotherapy have become the cornerstone of therapy for advanced prostate cancer, novel therapies are being developed that may expand upon currently available treatments. The identification of antigens expressed by prostate tissue and/or prostate cancer that are recognized by T cells or antibodies creates opportunities to develop novel immunotherapeutic approaches including tumor vaccines. Proteins expressed in prostate cancer-including prostate-specific antigen, prostatic acid phosphatase, and prostate membrane antigen-have been used as immunologic targets for immunotherapy. Moreover, innovations in cancer genomics and proteomics also will aid in the identification of immunologic targets. Emerging trials have demonstrated that immunotherapy may generate not only immune responses in patients but also clinical responses. Future studies will be directed at capitalizing on these findings.In 2007, prostate cancer was the subject of a large number of communications in international conferences. The most innovating studies that are likely to modify patient management were selected. The topics included cancer detection, active surveillance, surgery and treatment of urinary incontinence after prostatectomy, radiotherapy, and high-intensity focalized ultrasound (HIFU). Current hormone treatment modalities as well as the new therapies for hormone-resistant prostate cancer management were also evaluated in detail.Lymph node status is an important determinant for the management of patients with newly diagnosed prostate cancer. Given the significant limitations of cross-sectional and functional preoperative imaging in the detection of small metastases, pelvic lymph node dissection remains the only reliable staging method in clinically localized prostate cancer. Although lymph node dissection is a well-established form of staging in prostate cancer, controversy remains about indications and the surgical extent of the procedure. Reported practices vary from omitting pelvic lymph node dissection in low-risk disease to routine pelvic lymph node dissection in all radical prostatectomy patients. This review highlights the recent literature concerning pelvic lymphadenectomy in prostate cancer with respect to anatomical extent and oncologic outcome.Investigations on androgen signaling alterations in the late stages of prostate cancer revealed new molecular mechanisms that may be in part responsible for failure of endocrine therapy. Both primary and metastatic lesions from prostate cancer express androgen receptor protein. Amplification of androgen receptor gene occurs in a subset of prostate cancer patients. Several point mutations of androgen receptor gene have been described; they generate receptors which are functionally activated by androgens, other steroids, and even by antihormones. The frequency of androgen receptor mutations may be high in tumor metastases. Functional activity of androgen receptor is influenced by nonsteroidal factors, such as peptide growth factors and second messengers. Thus, prostate cancer cells adapt to low androgen environment by various mechanisms utilizing androgen receptor. Therefore, new strategies for switching off the androgen receptor are needed.Prostate cancer co-opts a unique set of cellular pathways in its initiation and progression. The heterogeneity of prostate cancers is evident at earlier stages, and has led to

rigorous efforts to stratify the localized prostate cancers, so that progression to advanced stages could be predicted based upon salient features of the early disease. The deregulated androgen receptor signaling is undeniably most important in the progression of the majority of prostate tumors. It is perhaps because of the primacy of the androgen receptor governed transcriptional program in prostate epithelium cells that once this program is corrupted, the consequences of the ensuing changes in activity are pleotropic and could contribute to malignancy in multiple ways. Following localized surgical and radiation therapies, 20-40% of patients will relapse and progress, and will be treated with androgen deprivation therapies. The successful development of the new agents that inhibit androgen signaling has changed the progression free survival in hormone resistant disease, but this has not changed the almost ubiquitous development of truly resistant phenotypes in advanced prostate cancer. This review summarizes the current understanding of the molecular pathways involved in localized and metastatic prostate cancer, with an emphasis on the clinical implications of the new knowledge.Although the incidence of latent or incidental cancer of the prostate is quite similar among Japanese and Americans, the incidence of clinically manifest prostate cancer and the mortality rates of prostate cancer are significantly higher in the latter. But, recently, the incidence of clinical cancer in Japan has been increasing exponentially, and the change in dietary habits is considered to be a major cause of this increase. Comparing the histological differences of prostate cancer between the Japanese and the Americans, the cribriform pattern is predominant in Japanese clinically significant cancer. On the other hand, a simple glandular pattern is predominant in American clinically significant cancer. These differences between Japanese and American prostate cancer suggest that each prostate cancer arises from different sources. For the organ-confined prostate cancer (stage A2 and B); radical prostatectomy has been considered the definitive treatment. But radiotherapy is now considered another radical treatment for localized prostate cancer which results in reduced morbidity. A heavy particle beam and brachytherapy are an even more radical modality that can deliver a greater dose of radiation to a localized lesion without affecting the surrounding normal tissue. For locally advanced prostate cancer (stage C); For the purpose of downstaging and radical treatment of locally advanced prostate cancer, combination of neoadjuvant hormonal therapy and radical prostatectomy has been expected. This regimen resulted in a significant decrease of positive surgical margins, but did not result in decrease of PSA failure. The impact on patient survival will be determined by the long-term follow-up. For advanced prostate cancer (stage D); In the study of the comparison of bilateral orchiectomy with or without flutamide in stage D2 prostate cancer, neither significant improvement of combination group on progression-free survival nor overall survival has been shown. From this result, the true efficacy of MAB is not certain.The incidence of prostate cancer in the Japanese population has increased because of the increase in life expectancy, consumption of westernized diets, and improvements in prostate cancer screening by using the prostate-specific antigen (PSA)test. Further, in the past 10 years, there have been great advancements in the treatment options available for prostate cancer. Radical treatment methods, such as robot-assisted surgery, intensity-modulated radiation therapy, and particle beam radiation therapy, may have anticancer effects and may improve the quality of life by preserving micturition ability and sexual function. Radiotherapy and endocrine therapy have been shown to prevent postoperative recurrence. Endocrine therapy has been demonstrated to be effective in preventing recurrence after radiotherapy. Moreover, endocrine therapy can be administered to patients at all stages of prostate cancer and is often used as the initial treatment for advanced prostate cancer, particularly in patients with metastasis. However, recurrence(relapse)after endocrine therapy is associated with a poor prognosis. In this study, we describe all the available treatment options for prostate cancer and the treatable and untreatable forms of recurrent prostate cancer.Despite the revolutionary progress in cancer treatment using immune checkpoint inhibitors (ICIs), remarkable responses in prostate cancer treatment have not yet been achieved. The disappointing previous results of ICIs have required further studies towards combined treatment targeting other pathways and restricted the eligibility criteria for patients with high mutation burdens, especially those with mismatch repair deficiency. Cancer immunotherapies activate adaptive immune systems, rather than directly attack tumor cells with their own cytotoxicity. Therefore, refractoriness to ICIs can not only be derived from the intractable nature of tumor cells per se , but also from their hostile milieu. Here, we reviewed the prostate cancer immunotherapies exploring clinical trials to date, along with the molecular characteristics of prostate cancer and its microenvironment.Zinc is a group IIB heavy metal. It is an important regulator of major cell signaling pathways in most mammalian cells, functions as an antioxidant and plays a role in maintaining genomic stability. Zinc deficiency leads to severe diseases in the brain, pancreas, liver, kidneys and reproductive organs. Zinc loss occurs during tumor development

in a variety of cancers. The prostate normally contains abundant intracellular zinc and zinc loss is a hallmark of the development of prostate cancer development. The underlying mechanism of this loss is not clearly understood. The knowledge that excess zinc prevents the growth of prostate cancers suggests that zinc-mediated therapeutics could be an effective approach for cancer prevention and treatment, although challenges remain. This review summarizes the specific roles of zinc in several cancer types focusing on prostate cancer. The relationship between prostate cancer and the dysregulation of zinc homeostasis is examined in detail in an effort to understand the role of zinc in prostate cancer.Prostate cancer, the most frequent non-cutaneous malignancy in aging men, is a growing medical problem, representing the second leading cause of male cancer deaths. Despite its high morbidity, the etiology of prostate cancer remains largely unknown. Several studies have documented hormonal imbalance, such as alteration in androgens and estrogens, obesity, family history and growth factors, as risk factors in the pathogenesis of prostate cancer. Insulin is a growth-promoting hormone that is reported to be involved in the pathogenesis of various malignancies, such as breast and bladder cancers. Insulin is known to increase cancer risk through its effect on cell proliferation, differentiation and apoptosis. In the last decade, converging evidence from epidemiological and clinical studies suggests that the insulin is involved in the tumorigenesis and neoplastic growth of the prostate. Several mechanisms have been suggested to explain the possible causal relationship between insulin and prostate cancer, such as the sympathoexcitatory effect of insulin, alteration of sex hormone metabolism, insulin-like growth factor pathway, signal transduction mechanism and dyslipidemia. The present paper reviews relevant existing studies related to the role of insulin in the pathogenesis of prostate carcinoma.Due to its relatively indolent disease course, the sensitivity of PSA testing, and the emergence of novel PET imaging, metastatic prostate cancer is particularly likely to present with a limited volume of disease. Patients with up to five metastatic lesions should be considered for an oligometastatic treatment approach. Systemic therapy remains the cornerstone of treatment for these patients. The optimal type and duration are unknown; however, the addition of a second agent to ADT appears to be beneficial. Multiple recent studies have found significant benefits to the integration of systemic therapy and local metastasis-directed therapies (MDT), including radiation and surgery, to the prostate and metastatic sites. MDT may also be used in select patients wishing to delay the initiation of systemic therapy. For patients with isolated regional nodal recurrences, whole pelvic radiotherapy or extensive lymphadenectomy is preferred, in combination with ADT.Objectives: To study attitudes regarding possible inheritance of prostate cancer among sons of men with prostate cancer.Context: To date, there is no Level 1 evidence comparing the efficacy of radical prostatectomy and radiotherapy for patients with clinically-localized prostate cancer.This review contrasts a traditional biomedical model with an outcomes model and illustrates the distinction in approaches with regards to prostate cancer. The traditional biomedical model emphasizes diagnosis and treatment of medical conditions. The principal data are diagnosis and disease status. In contrast, an outcomes model emphasizes life expectancy and health-related quality of life. According to the traditional model, screening for prostate cancer is encouraged and focus is on the number of cases diagnosed and the success of treatment. Treatment success is measured by recurrence rates or disease-free survival; however, among all men with the potential for a diagnosis of prostate cancer, most will die of other causes. Treatment may have significant consequences in terms of quality of life without clear evidence that it improves survival. The outcomes model argues that decisions for screening and treatment of prostate cancer must be shared between an informed patient and his physician.Family studies of prostate cancer, in keeping with studies of many other common cancers, have shown an increased risk to relatives of cases over and above the general population. Male relatives of early onset prostate cancer cases are also at increased risk over relatives of later onset cases. These observations, together with a few families with four or more cases of prostate cancer, suggest that there is a high penetrance, inherited form of this cancer. Further evidence comes from the increased risk of prostate cancer in BRCA1 mutation carriers but more particularly from the recent report of the mapping of a prostate cancer susceptibility gene to chromosome 1.

Subheading 2

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