Our heart is a pump and needs healthy valves to function optimally. There are 4 valves in our heart, two located between the chambers (Mitral and Tricuspid) and the other two located between the chambers and blood vessels (Aortic and Pulmonary Valves). When open, the valves allow the blood to flow only in one direction; when closed, these valves form a strong seal between the different chambers of heart as well as blood vessels.  
At this time the procedure is reserved for those people for whom an open heart procedure poses intermediate risk. For that reason, most people who have this procedure are in their 70s or 80 and often have other medical conditions that make them a better candidate for this type of heart valve surgery. TAVR can be an effective option to improve quality of life in patients who otherwise have limited choices for repair of their aortic valve.  
Our experts specialize in the techniques required for stenotic aortic valve. Consult our team to know which is an appropriate procedure for you.  
Valvular heart surgery is required if the heart valve has been damaged due to:  
Depending upon the extent and location of damage, valves can be either repaired or replaced by different procedures like:  
For all your patients suffering from severe aortic stenosis unless determined to be at low surgical risk for open heart surgery, transcatheter aortic valve replacement (TAVR), sometimes referred to as transcatheter aortic valve implantation (TAVI), is a less invasive procedure that does not require open-heart surgery.This minimally invasive surgical procedure repairs the valve without removing the old, damaged valve. Instead, it wedges a replacement valve into the aortic valve’s place.  
Somewhat similar to a stent placed in an artery, the TAVR approach delivers a fully collapsible replacement valve to the valve site through a catheter.  
Once the new valve is expanded, it pushes the old valve leaflets out of the way and the tissue in the replacement valve takes over the job of regulating blood flow.  
The knee is a complex joint that connects the bones of the legs. Knee replacement surgery is conducted when the knee’s bones and cartilage are worn down by arthritis or any injury. The replacement parts, also called prostheses, are generally made of metal and plastic and last for a long time. If traditional medication, therapy, injections and more have not brought relief to the patient, they may be eligible for knee replacement surgery.  
There are many types of knee replacement surgeries based on the extent of the procedure and the specific needs of the patient. Some common types are:  
Also known as total knee arthroplasty, TKR involves replacing the entire damaged knee joint with an artificial prosthesis. The prosthesis includes metal components for the femur and tibia and a plastic spacer in between to allow smooth movement.  
This surgery is performed when only one compartment of the knee is affected by arthritis or damage. In PKR, only the damaged portion of the knee joint is replaced with a prosthetic implant, preserving healthy bone and ligaments.  
This type of knee replacement involves replacing both knees in a single surgical procedure. It is typically performed for patients with significant arthritis or damage in both knees, allowing them to undergo one surgery and recovery period instead of two separate ones.  
This surgery is performed when a previous knee replacement has failed or requires correction. It involves removing the existing prosthesis and replacing it with a new one to address complications, instability, or wear and tear.  
In this approach, smaller incisions are made compared to traditional knee replacement surgery. Minimally invasive techniques aim to minimize muscle and tissue disruption, potentially leading to shorter hospital stays, reduced scarring, and faster recovery times.  
The procedure is recommended when other treatments, such as medication, physiotherapy, or lifestyle modifications, have failed to provide relief from knee pain or restore mobility. Some conditions may also lead to the need for a knee replacement, including:  
Osteoarthritis: A common degenerative joint disease, it may occur when the protective cartilage that cushions the bones in the knee joint wears away, leading to pain, stiffness, and limited mobility.  
Rheumatoid arthritis: This is an autoimmune condition causing inflammation and damage to the joints, including the knees. The resulting pain, swelling, and stiffness can make it difficult to perform daily activities.  
Post-traumatic arthritis: It is a form of arthritis that may develop after a knee injury, such as a fracture or ligament tear. The resulting damage to the joint can lead to pain, swelling, and decreased mobility.  
Avascular necrosis: This is a condition in which the bone tissue in the knee joint dies due to a lack of blood supply. It can be caused by trauma, medications, or medical conditions such as sickle cell anaemia.  
Knee deformities: A knee replacement may be necessary to correct a deformity in the knee joint, such as bowing or twisting.  
The doctor will take the patient’s personal and family medical history.  
The patient will have to undergo a battery of lab, diagnostic and imaging tests to ensure they are fit for the procedure.  
The doctor may start or stop certain medications before the procedure; they will also ask what the patient is using currently.  
The patient should mention medications and chronic conditions they may have.  
It is advised that individuals quit smoking a few weeks before the procedure as it can interfere with healing.  
Exercising regularly before the procedure can help with post-operative healing.  
The doctor or care team will ensure the patient is not allergic to any medications or latex that will be used during surgery. Afterwards, the anaesthetist will administer anaesthesia.  
Incisions are made in and around the knee.  
The injured or damaged parts of the knee are removed, and the joint is prepared for the prostheses.  
The doctor attaches the prostheses using special cement to fix them in place  
They check for movement, other adjustments and repairs to make.  
The incision is closed with sutures, and a bandage is applied on the site of surgery.  
The risks of knee replacement surgery are low, but they include:  
Anaesthesia-related complication  
Loosening or wear and tear of prosthesis  
Infections  
Poor wound healing  
Persistent pain  
Bleeding  
The patient may have to stay a few days in the hospital, depending on the kind of procedure performed.  
Patients must not lift heavy objects, perform strenuous activities or operate heavy machinery.  
Arrangements have to be made to have someone pick the patient up and assist them till they are able to perform daily activities themselves.  
The doctor may put a splint or suggest using a walker to aid with movement.  
Modifications have to be made at home to make it easy for the patient.  
It can take up to 4 months to be able to put weight on the ankle and resume daily activities and up to a year for a full recovery.  
Regular follow-ups can help doctors monitor for any complications.  
Pain relief medications are provided to keep patients comfortable while they heal.  
The patient will be informed about the kind and range of movement the patient can perform gradually.  
Knee arthroplasty  
Total knee replacement  
The doctor would recommend returning to regular activities after 6 weeks, but it can take up to four months to make the pain subside and up to a year for a full recovery.  
Most patients can start walking with assistance within a day or two after a full knee replacement. The timeline for walking independently varies, but it typically takes a few weeks to a few months. Full recovery and returning to normal walking patterns can take up to a year. Following a structured rehabilitation program and guidance from your healthcare provider are crucial for optimal recovery and walking abilities.  
There is an amount of pain associated with a total knee replacement, but the patient will be provided with pain medication so they can heal comfortably. In case the pain is too much, they should consult their doctor immediately.  
While the average age range of knee replacement surgery is between 50- 70, the best age to have a knee replacement is when the pain does not seem to subside, interfering with daily functioning, and traditional therapy and medications do not bring relief.  
A knee replacement is worth it if the patient has been experiencing pain and discomfort for a long time with no relief from traditional therapy and medications.  
Knee replacement surgery can take 1-3 hours, depending on the extent of the condition.  
Da Vinci robotic surgical system is used to perform the most advanced, minimally invasive surgical procedures with extreme precision. It offers the surgeon high-resolution 3D vision and superior control.  
Da Vinci Robotic Surgery is a leading edge technology that is used in several specialities to carry out the surgical procedures with proven superior patient outcomes. With the Da Vinci System, the surgeons operate through a few incisions by utilizing a high resolution 3D vision system. It features small wristed instruments that bend and rotates greater than the human hand providing a superior precision and control to the surgeon. Today, surgeons are using Da Vinci Surgical System on patients who are diagnosed with several complex conditions like cancers, urological procedures, cancers of cervix, prostate, lung, uterus, colon/rectum as well as heart disease and fibroid tumors.  
Da Vinci Robotic Surgery uses a high resolution 3D vision system, it allows the surgeons to view anatomical structures in natural colours. It provides a natural hand-eye positioning coordination plus the built in microphone facilitates efficient communication in operation theatre.  
Bone marrow in our bones is responsible for formation of blood cells. In fact, all the blood cells are formed by a subset of bone marrow cells known as “hematopoietic stem cells” or simple “stem cells”. These stem cells have special characteristics, i.e. they can renew themselves, and have the capability to develop into any type of blood cells.  
Nowadays, hematopoietic stem cells can also be obtained from peripheral blood after treatment with certain growth factors or from umbilical cord. Thus, “Hematopoietic stem cell transplantation” is now also referred to as “Bone Marrow Transplantation”, wherein the stem cells from bone marrow that produce red blood cells, white blood cells, and platelets are injected into a recipient after a short course of chemotherapy called conditioning. Today, this is a viable option for several disorders and with continued research, success has improved markedly.  
A bone marrow transplant is a medical procedure performed to replace unhealthy bone marrow stem cells with the healthy ones. This transplant is carried out to treat people with conditions like leukaemia - Blood Cancer, multiple myeloma, severe blood diseases such as aplastic anaemia, thalassemia, sickle cell anaemia and certain immune deficiency diseases.  
Typically, the stem cells are collected via a peripheral vein. The whole bone marrow transplant procedure is like donating blood or platelets. The stem cells from the bone marrow are in charge for producing blood cells like platelets (thrombocytes), white blood cells (leukocytes) and red blood cells (erythrocytes), which later are injected in a recipient after a short course of chemotherapy.  
There are two basic types of transplants, allogeneic and autologous, depending on who donates the bone marrow or stem cells.  
Allogeneic Bone Marrow Transplant:  Donor and Recipient are two separate individuals and transplant is done using the stem cells of donor. It may be-  
Autologous Bone Marrow Transplant: Donor and Recipient are same individuals, where transplant is done using patient’s own stem cells. The procedure involves giving high dose chemotherapy to patient in order to remove primary disease. Thereafter, an autologous transplant is conducted to rescue damaged bone marrow. This type of transplant has minimal complication and is preferred for diseases like multiple myeloma/lymphoma.  
There are certain conditions for which Bone Marrow Transplant is recommended.  
Yes, Bone Marrow Transplant is a complex procedure that carries significant risks and serious complications. Generally, the risks are reduced if:  
No, Bone Marrow Transplant is a medical procedure. Mostly, stem cells are collected via peripheral vein and the whole procedure is like donating blood or platelet. In some patients Bone marrow harvest is done which involves general anaesthesia to the donor.  
Damaged lungs can make it challenging for the body to receive the oxygen it requires to function. There exist many diseases as well as conditions which either damage the lungs entirely or hinder their ability to operate effectively. Some of these conditions are:  
No organ or tissue can survive without oxygen. Oxygen is used throughout the body in chemical reactions to produce energy. The chemical reactions create carbon dioxide as a waste product. Carbon dioxide must then be removed from the body. This is called “gas exchange” (exchanging oxygen for carbon dioxide). The lungs perform both sides of this vital gas exchange for the entire body, both taking in oxygen and expelling carbon dioxide.  
Normal lungs are soft and spongy. They are made up of elastic tissue that allows them to stretch. If because of any disease condition the lungs cannot perform their function effectively and the same cannot be treated with medications or medications are no longer working, transplanting lungs is the option.  
1. Chronic Obstructive Pulmonary Disease (COPD)  
Every patient is evaluated individually for his/her suitability for a lung transplant. A few of the basic requirement for a lung transplant are:  
After the lungs of a compatible donor become available, the transplant candidate is called immediately to the transplant centre to prepare for the surgery while the surgical team examines the deceased donor’s lungs to make sure they are fit for transplant. If they are, surgery on the candidate begins immediately.Surgeons may perform either a single lung transplant or a double lung transplant. There are advantages and disadvantages to each option, and the choice varies with the recipient’s lung disease and other factors. The lung transplant cost also depends on the type of procedure chosen.  
A surgeon makes a large incision in the chest which varies by the type of lung transplant:  
Complete unconsciousness is maintained throughout the whole procedure with the help of general anaesthesia. Certain lung transplant candidates are required to go on the cardiopulmonary bypass at the time of the surgery. While on bypass, the blood is pumped and enriched with oxygen with the help of a machine, instead of the heart and lungs.  
The duration of the recovery of a lung transplant varies from person to person. Some patients may leave the hospital within a week. However, some are in the hospital for two weeks or longer. The first year after the surgery is the most critical period. At this time, the patient is required to frequently visit the doctor and also get all the chest X-rays and blood tests done timely.  
From the operating room the patient will be taken to the Intensive Care Unit where there is specially trained staff to look after you. Recipients remain in the ICU until their lung function is stable and they are able to breath on their own. This takes anywhere from a few days to a week on average, but varies with each recipient, and can take several weeks.  
Once the transplanted lungs are working fine the patient can be shifted to the wards and after a few days of observation and rehabilitation, planning for discharge is made.You and your family will be advised several days in advance of your expected discharge date.  
The first-year post transplant is most crucial and during this time the patient is seen very frequently by the transplant team. The patient also needs to have blood tests, Chest X rays and lung functions frequently during this period.  
A lung transplant can significantly improve the quality of life of an individual. Most people tend to live at least ten years or more after a lung transplant; this is if they get operated from one of the best hospitals for lungs transplant in India.Many recipients of lung transplant experience the following benefits:  
A left ventricular assist device (LVAD) is a lightweight pump that helps restore normal blood flow in patients whose hearts are weakened by cardiac disease. It is used to sustain cardiac function in those with end-stage heart failure or as a bridge to heart transplants.  
Left Ventricular Assisted Device (LVAD) is designed to improve survival and quality of life of patients with end-stage heart failure. Today’s LVADs are lightweight and smaller than earlier models, so you’ll most likely to be able to move around fairly easily. An LVAD restores normal blood flow to a person whose heart has been weakened by heart disease.  
The device does not replace the heart rather it is a rescue for patients whose heart is so weak not able to sustain the blood pressure and vital functions of body or as bridge to heart transplant. LVAD has increased the survival rates of patients and more importantly improves the quality of life in certain subset of patients; however, there can be some risks like stroke, infection and bleeding.  
Left Ventricular Assist Device (LVAD) is a surgically implantable mechanical pump that is attached to the heart. An LVAD is different from an artificial heart. An artificial heart replaces the failing heart completely whereas an LVAD works with the heart to help it pump more blood with less work. It does this by continuously taking blood from the left ventricle and moving it directly to the aorta, which then delivers oxygen-rich blood throughout the body.  
The device is placed in the left ventricle (main chamber of the heart) to pump oxygen-rich blood throughout the body. The mechanical pump is put in extreme situations when the heart is too weak to function normally.  
The LVAD has both internal and external components. The actual pump sits on or next to your heart’s left ventricle with a tube attached that routes the blood to your aorta. A cable called driveline extends from the pump, out through the skin, and connects the pump to a controller and power sources worn outside the body.  
The driveline must be connected to the controller and the controller must be connected to power at all times to keep the pump working properly. The pump is powered by batteries or electricity. Each device has specific carrying cases to allow you to move about freely.  
Once your LVAD is implanted, you will be connected to the LVAD external controller and power source at all times. Your device will be on battery power whenever you’re active and connected to electrical power when you are sleeping. You will also need to have an extra controller and fully charged batteries (and power cables if applicable) available at all times as an emergency backup. You’ll need to be sure to take this backup equipment with you whenever you leave home.  
After lot of modifications present day devices are not so heavy and easy to handle than earlier models, so you’ll most likely be able to move around fairly easily, get certain kinds of moderate exercise and enjoy intimacy with your spouse or partner. Depending on your medical team’s advice and policies, you may also be able to drive. Children and pets should be kept away from the patient so that they don’t damage the equipment or pull the driveline.  
Till date more than 28,000 LVADs have been implanted globally and 10,000 patients are on device at present. Out of these, more than 500 patients are on this device for more than 10 years.  
Just like any other heart device, it can have complications so our experts are there to monitor and manage the complications that can arise. Major complications associated withs LVADS are  
Bariatric Obesity Weight loss surgery is an effective treatment option for patients suffering with morbid obesity. It also causes significant improvement in the obesity-related co-morbid conditions like Type 2 diabetes, high blood pressure, and joint pains, sleeping disorders like sleep apnea, heart diseases, infertility issues and several others.  
It is performed using laparoscopic technique (Keyhole Surgery-minimally invasive) and most of the patients start walking around on the same day of the surgery. The surgery causes weight loss because it restricts the amount of food the stomach can hold-causing less absorption. Usually the weight loss surgeries are performed using minimally invasive techniques because it causes early recovery and less pain and the cosmetic outcomes are excellent.  
The common bariatric surgery options that are available are:  
   
The right candidates are the ones who:  
   
It is one of the most common and successful weight loss procedures. It is called as the Roux-en- Y Gastric Bypass (RYGB) and is considered as the “Gold Standard” of weight loss surgery. In this procedure, a small stomach pouch is created to restrict the intake of food as well as to facilitate smaller meals. A major portion of the stomach and part of small intestine is bypassed, which reduces the absorption of food and reduces the intake of calories.  
This surgery is performed by reducing 80% of the stomach. The remaining stomach looks like a banana or a sleeve of a shirt and hence it is called as “Sleeve”. The new stomach pouch created restricts the amount of food intake, thereby leading to weight loss. This procedure is not reversible as a major portion of the stomach is removed from the body, and the remaining stomach pouch can dilate on overeating in the long run.  
Though these are uncommon but one should be cautious  
Hyperthermic Intraperitoneal Chemotherapy (HIPEC) Surgery is a highly concentrated, heated chemotherapy treatment that is delivered directly to the abdomen during surgery. The procedure treats tumors in the abdominal (peritoneal) lining that stem from colon, gastric, ovarian, appendix tumors, mesothelioma and other cancers.  
Unlike systemic chemotherapy delivery, HIPEC delivers chemotherapy directly to cancer cells in the abdomen. This allows for higher doses of cancer chemotherapy treatment. Heating the solution may also improve the absorption of chemotherapy drugs and destroy the miscroscopic cancer cells that can remain the abdomen after surgery. The operation is performed under general anesthesia and lasts for about 6-9 hours depending on its complexity.Hyperthermic Intraperitoneal Chemotherapy (HIPEC) treats advanced stage abdominal cancers, including appendiceal (appendix) cancer, colorectal cancer, primary peritoneal cancer, peritoneal mesothelioma, ovarian and stomach cancer. It is a highly concentrated, heated chemotherapy treatment that is delivered directly to the abdomen during surgery.   
The technology minimizes the rest of the body’s exposure to chemotherapy; and reduces some chemotherapy side effects. Before the patient receives HIPEC treatment, our experts perform cytoreductive surgery to remove visible tumors from the abdomen. It is a novel technique in which those abdominal malignancies are treated which were previously thought to be untreatable and were offered only palliative care.  
The indication of HIPEC is therefore very specific and it is meant for those cancer cases of abdomen in which the disease has spread only inside the abdomen and not through the blood or lymphatic. In these patients, the cancer is seen in the form of sand like particles over the inner layer of the abdominal cavity called as the peritoneal sheath. Such type of spread is usually seen in the following cancers:  
There are few types of cancers that are difficult to treat, particularly the ones located in the abdominal cavity. These cancers do not get killed with intravenous chemotherapy, as with intraperitoneal chemotherapy. HIPEC experts say that the heat makes the chemotherapy more powerful in killing these cancer cells. Hence, we are equipped with a state of the art of HIPEC treatment machine that delivers temperature at a constant temperature.  
Kidney Transplantation (Renel Transplantation), is a surgery that involves the implantation of a healthy donor kidney to a patient suffering from an end-stage renal disease (ESRD).  
A Kidney Transplant is done when the patient is suffering from End-Stage renal Disease (kidneys lose about 90% of their functioning). The common causes that may lead to this condition are:  
The patient usually has three options available:  
  
The appropriate candidates will be the one:  
  
Renal transplantation is the definitive treatment for patients with end stage renal disease (ESRD). ESRD can be defined as patients who are suffering with chronic kidney disease (CKD) and require regular dialysis or possibility of permanent dialysis requirement is imminent.  
Renal transplantation is one of the best ways to treat the patient suffering from the end-stage renal disease. Below are some of the advantages of a renal transplant:  
Before renal transplant surgery, donor and recipient have to undergo certain investigations related to fitness for surgery, matching of kidney and proof of relationship. Donor is evaluated whether he / she is fit for donation and not suffering with any disease which can impact his life after donation. Better one of his two kidneys, is left with donor. Certain legal formalities have to be done for approval of renal transplantation by committee.  
The other hand, in cadaveric donation, two to three blood group matched ESRD patients are called as per waitlist, as and when cadaveric kidney is available for transplantation. They are prepared for transplantation and one who has best cross match with donor kidney receive the kidney graft.  
  
During the renal transplant procedure, the surgeon makes an incision on one side of lower abdomen, and the donor kidney is placed in abdomen. The blood vessels of the donor kidney are connected to the arteries and veins of the patient. The ureter of the donor kidney is also connected with the bladder of the patient. A siliconized stent is placed inside donor kidney to patient urinary bladder which is usually removed two weeks after surgery by simple procedure of flexible cystoscopy. A urinary catheter and drainage tube are also placed which are removed before discharge from hospital. Abdominal incision is closed by fine suture or staples. Patient is usually kept for 7 days is hospital.  
Donor kidney is removed by laparoscopy usually which involve 3-4 small holes and one small lower abdominal cut to remove kidney. Donor is usually discharged from hospital after 4 days of surgery.  
  
The patient usually makes lot of urine in tune of half to one liter per hour which usually sets to 2-3 liter per day after 5-7 days of surgery. His creatinine improved to normal. Immunosuppressant drugs are given and monitored as per their level in blood.  
Even after getting discharged, the patient needs to visit the hospital for regular checkups initially twice a week for a month and weekly for next month. He has to continue immunosuppressant medication for life.  
Just like every transplant, renal transplant is also associated with some of the risks and complications that can occur after the kidney transplant procedure. Some of the complications a patient may experience after a renal transplant are rejection of the donor kidney, infection, bleeding, failure of the donor kidney and reaction to medications. Regular follow up and investigations are required for early diagnosis and treatment of any of these complications.  
  
On the other hand, the kidney taken from a deceased donor is called a deceased donor kidney, and patients must get their names listed on the waiting list to get the chance for the transplant.  
At Max, we are doing laparoscopic donor nephrotecomy that allows the patient to move around freely from the next day. Generally discharging is done on the 3rd and 4th post-operative day. However, long term follow up shows that with proper modification of lifestyle, the patients can lead a normal life.  
The type of laser surgery a doctor recommends will depend on several factors, including:  
Enlarged Prostate Surgery helps minimize urinary symptoms caused by benign prostatic hyperplasia, including:  
The most common sign is a loud popping sensation in the knee; there are many other symptoms such as:  
Your initial doctor visit will involve delving into the patient history. The doctor will have a conversation with you about your medical history and the current symptoms that you are facing.  This is usually followed by a physical examination where the doctor checks the structures of your injured knee and then compares it to your other knee that is not injured. In most cases, this physical examination is sufficient to diagnose an ACL injury.  
To confirm this diagnosis, there are other tests that are carried out. Few Tests are mentioned below:  
X-ray - Though it does not show the injury but is helpful in other ways. It shows if your injury has an association with a broken bone, which in turn helps in the treatment of the patient.  
Magnetic Resonance Imaging - Magnetic Resonance Imaging also known as MRI scan. It aids in getting better images of soft tissues such as the anterior cruciate ligament. However, it is not required in most cases, unless the doctor suggests.  
Acne is a common condition that affects the population around the world. It refers to an inflammatory skin condition that is chronic in nature. It is common during puberty with the activation of the sebaceous glands, but it can occur at any age.  While this is not a dangerous condition, it does leave scars on the skin. There are varied types of acne that exist, such as whiteheads, blackheads and cysts. Mostly people experience it between the age group of 12 to 24 and it usually appears on the face but can also include chest and back. Acne is persistent as it can pop up one after the other, and depends on treatment for control.  
Our skin has pores that are connected to the oil glands present under our skin. Follicles are small sacs responsible for producing and secreting liquid, they connect these glands to the pores. The glands produce Sebum, which is an oily liquid. It is the carrier of dead skin cells from follicles to skin. Through every follicle, a small hair grows out of the skin. There are many reasons that cause all the different forms of acne. Some of them are as follows:  
It is often fairly easy for a General Physician to look at your skin and diagnose acne. It involves examination of your chest, back, face and other places for sore nodules or blackheads. However, the severity of the acne determines the kind of treatment that will be suggested to you. The severity depends can be categorised into –  
A proper acne treatment works by reducing the oil production and pumping up skin cell turnover. It also includes fighting the bacteria to reduce inflammation and thereby preventing scarring. Most prescriptions show results between 4- 8 weeks and chances are that initially the skin gets worse than getting better. For the acne to completely clear and skin to become better, it may take a longer time.  
The General Physician prescribes medicine depending on the severity of the acne. In cases where there is a moderate case of acne, over-the-counter medicines that contain benzoyl peroxide. It is an antiseptic that aids reduction of the bacteria on the surface. It also has anti-inflammatory effects that provide instant relief. Some of them include –  
However, in case of severe acne or in cases where over-the-counter medicine doesn’t work, proper medication along with a dermatologists treatment is needed. This happens when you have a large number of pustules and papules, swelling and you are at risk of scarring.  
In a lot of cases where women are involved, hormonal therapies are suggested by the experts. This is usually suggested when the acne increases during menstruation or is directly a result of other hormonal conditions like Polycystic Ovary Syndrome.Acne can have a serious impact on your life in more than one way. It not only causes discomfort and pain but also increases the chances of leaving a permanent scar on your body forever. This further impacts your confidence level and becomes a bigger problem to deal with. This is why opting for only the best for treatment is important. Max Healthcare has a specialized department of dermatology that provides treatment for skin diseases. An expert team of dermatologists ensure that your acne is treated with utmost efficiency. Furthermore, they provide specialized treatments after carefully diagnosing your condition and keeping in mind important factors such as age, gender, and other health conditions. They also provide feasible options to take proper care of your skin once the acne is completely gone and a skincare regimen to avoid breakouts in the future. With expertise in hand and a specialized approach, it treats every patient with utmost care. Check out the best dermatologist in Delhi for acne treatment options.  
A non-cancerous form of tumor, Acoustic Neuroma occurs when nerves connecting your inner ear to the brain are affected. We all have our healthy nerves that are covered by many layers of cells known as Schwann cells that usually functions like a plastic or rubber coating on electric wires. They provide support for nerve impulses but when they start multiplying in number, it may lead to Acoustic Neuroma. Owing to this cause, it is also known as vestibular schwannomas or neurilemmoma. It has the disease to grow slowly over years and does not directly invade the brain. However, it has the tendency to push on as it is in the growing stage. As a result, it can press the cranial nerves that control sensation and facial expression. Tumor with a big size has the potential to press on cerebellum or brain stem and in many cases; it turns out to be deadly.  
Majorly there are two forms of Acoustic Neuroma: a form called Neurofibromatosis type – 2 (NF II) and sporadic form.  
It has been difficult to find the exact cause of the sporadic form but most of the cases are between the ages of 30 to 60 years. There might be a chance of exposure to some radiation to head and neck during childhood that may increase the risk. As for neurofibromatosis type 2, it is often connected to a family history wherein a person develops it on both his/her auditory nerves.  
It often becomes difficult for people to diagnose Acoustic Neuroma because the symptoms are subtle and people relate it to signs of aging. However, some of the symptoms that occur in major cases include:  
After learning about the symptoms of Acoustic Neuroma from the patient, the physician often requests some tests for the diagnosis.  
Acoustic Neuroma usually follows three main course of treatment-ObservationThis is the first step towards treatment mainly because Acoustic Neuroma has a gradual growth process. This means that doctors have to wait for years and watch if the tumor is growing and at what speed. Periodic MRI scans are done by doctors to monitor this growth and suggest other treatment options only if it is necessary.Acoustic Neuroma SurgeryThis includes, removing all parts of the tumor. In most cases, there are three main surgical approaches for removing it.  
Even though it is a noncancerous form of tumor, it requires diagnoses at the right time and treatment from the best so that, it may not cause long term problems. This is why it is essential to go for an expert like Max Healthcare. Their team of specialized doctors treat each case fairly and ensures proper treatment is provided in due time. With state-of-art techniques, they make surgeries that are effective and trustworthy. Under the care of experienced doctors, treating tumor in sensitive areas also becomes easier and one can find ways to prevent hearing loss, which is a major concern of people with Acoustic Neuroma.  
Ankle replacement surgery is commonly known as ankle arthroplasty. It is the replacement of an ankle joint damaged by arthritis with a prosthesis which is made of plastic and metal.  
The ankle joint is a joint where your shinbone rests. It is on top of a bone of your foot, known as the talus. Ankle Replacement Surgery helps to remove pain, swelling and preserve motion in the arthritic ankle joint.  
Ankle replacement surgery is done to those patients who have severe arthritis in their ankle which causes symptoms like:  
If the patient is facing one or more of these symptoms, then one should consult a podiatrist or orthopedic surgeon who will help you decide if he/she needs a surgery. In addition to this the doctor may also recommend alternative, less invasive treatments that will depend on the condition of the patient’s joint.  
Ankle Replacement Surgery is not advisable if:  
Before the procedure, one may need additional imaging tests, like X-rays, CT scan, or MRI. Patient should tell their doctor about all the medicines they take, including over-the-counter medicines like aspirin. Also, tell any recent changes in their overall health, such as a fever.  
Ankle replacement surgery requires general anesthesia with a regional nerve block and 1-2 days in the hospital. It is performed through an incision approximately 15 cm (6 inches) long over the front of the ankle.  
The worn out joint surfaces are cut away and replaced with a pair of pieces of metal with a piece of hard plastic between them that permits the joint to maneuver freely.  
If the calf muscle or Achilles tendon is tight, the surgeon may lengthen it in order to improve the ankle’s range of motion. The surgeon might use screws to stabilize the new joint and keep it positioned properly.  
The operation takes between 60 and 90 minutes.  
Like any other surgery, ankle replacement surgery too carries some risks-  
The stitches are removed about 2 weeks after surgery. In the days when surgery, it's necessary to keep your foot elevated the maximum amount as doable so as to cut back swelling.  
For about 4-6 weeks from the date of surgery patient should not bear weight on his ankle. After that, he will be transition into a pneumatic boot (it looks like a ski boot with an inflatable liner for additional compression), and encourage to work on range of motion with the ankle. Around 3 months after surgery, he will transition into a shoe with an ankle brace and may start non-impact activities.  
After a year, most patients can return to low-demand activities such as walking, biking, hiking, swimming and using an elliptical trainer. Engaging in high-impact activities, such as running or other sports that have a lot of impact on the ankle, may decrease the life expectancy of the prosthesis in the ankle.  
Max Healthcare is equipped with best technology and team of experienced doctors to perform total ankle arthroplasty. Our ankle arthroplasty specialist provides comprehensive care you need for an effective procedure and a successful recovery.  
Our doctors have years of experience, and together, perform significant number of foot and ankle surgical procedures annually. These include many revisions for patients who continue to have ankle problems following a joint replacement.  
We also work together with other specialists you need to manage your condition and follow multidisciplinary approach by providing you with many additional orthopedic services to support your treatment and recovery. These services include:  
Reviewed by Dr. Dilveer Brar, Principal Consultant, Orthopaedics & Joint Replacement, on 02-Sep-2022.  
Breast reduction surgery helps in resolving issues including:  
Breast reduction can opt at any age. However, doctors advise waiting until the time breasts are fully developed. Furthermore, breast reduction surgery can also affect breastfeeding, so it should be put on hold if someone is planning to start a family.  
Before breast reduction surgery in Delhi, India, the surgeon evaluates the patient’s medical history, and discusses the breast size expectation and explains the benefits and risks involved. Furthermore, the patient is also asked to undergo a series of lab tests, a baseline mammogram, avoid aspirin, quit smoking and take any anti-inflammatory drugs.  
During a breast reduction surgery, the breast is cut open, excess fat and tissues are removed, and the skin is stitched back together. However, in certain cases, if the excess tissue is only fat, cutting the breast is not required, liposuction may also work. The four steps involved in a breast reduction surgery include:  
A successful breast reduction surgery can effectively relieve the patient from chronic neck, back and shoulder pain. The advantages of breast reduction surgery include:  
Unlike any other surgery, breast reduction also has a few risks associated with it. Possible risks of breast reduction surgery include:  
Chemotherapy is a sort of therapy that is used to treat cancer; in this process, chemical drugs are used to kill the rapidly growing cells in the body, which is the root cause of cancer. Unlike surgery and radiation therapy that destroy, remove or damage cancer cells in a certain area, Chemotherapy can work throughout the whole body, it may also be possible that chemotherapy may be given alone or with other treatments. Sometimes chemotherapy is used to treat non-cancerous conditions, but often the doses are lower and the side effects may be reduced. There are three primary goals of chemotherapy: Cure, Control, and to Ease Symptoms caused by cancer.  
Once the cancer is diagnosed, it can be treated depending upon the stages. The cancer is generally rated with Roman numerals. If the number is higher; more serious is the nature of cancer. In some cases, doctors perform only one treatment, while in advanced stages, a combination of treatments is required. There are different types of cancer treatments and basis of diagnosis, the doctor might advise:  
Max Healthcare is counted among the leading hospitals in India and is known for offering world-class healthcare services with extremely advanced equipment with the upgraded technology that help to diagnose and find a constructive cure for every disease and problem.  
Max Institute of Cancer Care offers a state-of-the-art facility for cancer chemotherapy treatment in India. Max Healthcare provides wholesome care for patients with experts advise in Surgical Oncology, Radiation Oncology, and Medical Oncology. The facility is rated as the number one in Northern India to feature Novalis Tx for IMRT/IGRT, Radiosurgery, HIPEC and SRS/SRT.  
Max super speciality hospital provides best cancer chemotherapy treatment in Delhi and one can visit different centres including Saket, Patparganj, Shalimar Bagh and Vaishali for specialised treatments in Breast, Head and Neck, Lung, Gastrointestinal and other cancers.   
Chemotherapy may be given in different ways, depending on the type of cancer you have and the chemotherapy drugs used.  
Drugs given in the above ways are absorbed into the blood and carried around the body so they can reach all the cancer cells. For some types of cancer, chemotherapy may be injected into the fluid around the spine. This is known as intrathecal chemotherapy. Sometimes the chemotherapy may be injected into particular body cavities such as the pelvic cavity or bladder: this is known as intracavity chemotherapy.  
Drugs given in this way tend to stay in the area in which they are given and do not affect cells in other parts of the body. Chemotherapy creams may be used for some cancers of the skin: they only affect the cells in the area of skin to which the cream is applied.  
The nurse or doctor will put a short, thin tube (cannula) into a vein in the back of your hand or your forearm. You may find this a bit uncomfortable or painful, but it should not take long and the pain soon wears off. If you find it painful to have the cannula put in, an anesthetic cream can be used on the skin to numb the area beforehand. The cream takes 10–20 minutes to work.  
Once the cannula has been put in, it will be taped securely to keep it in place. A clear bag of fluid (a drip) is then attached to the cannula by a tube. Some chemotherapy drugs are given by injection into a rubber bung in the tubing of the drip. This can take from a few minutes to about 20 minutes.  
Some drugs will be given directly in the drip bag (by infusion). This can take from 20 minutes to several hours, or sometimes days. If you feel any discomfort or notice a change in sensation, redness or swelling around the area of the cannula (or along your arm) while the drug is being given, let your nurse or doctor know immediately.  
A central line is a long, thin plastic tube put into a vein in your chest. Hickman®\* or Groshong®\* lines are common types. The doctor or chemotherapy nurse will explain the procedure to you. You will be given a general or local anesthetic before the central line is put in.  
Once it is in place, the central line is either stitched or taped firmly to your chest to prevent it being pulled out of the vein.  
There is a small ‘cuff’ around the line which can be felt just under the skin. The cuff holds the line safely in place. A central line can stay in the vein for many months and means that you do not have to have cannulas put in when you have your intravenous chemotherapy. Blood can also be taken from it for testing.  
You will be able to bathe or shower; although you should prevent water from getting to the area where the tube enters the skin – a plastic dressing can be used for this. Before you go home, make sure you are confident about looking after your central line. If you have any problems, contact the staff in the chemotherapy clinic or on the ward for advice.  
Possible problems with central lines: Two potential problems with central lines are blockage and infection. Once or twice a week the line has to be flushed with saline (salt water), or heparin – a drug which prevents clotting. The nurses on the ward can teach you how to do this, or can arrange for a district nurse to visit your home and do it for you. Your doctor may also prescribe a low dose of warfarin, a drug to help prevent blood clots forming and blocking your line.  
If you notice any swelling in your arm or neck, contact the hospital staff as your line may be blocked. If you notice any reddening, darkening or soreness of the skin around the central line, or if you have a high temperature, let your doctor know, as it could be a sign that you have an infection in the line. If this happens you will need to have antibiotics through the line to clear the infection.  
Most hospitals consider a temperature above 38ºC (100.5ºF) to be high, but some hospitals use a lower or higher temperature. The doctors and nurses at your hospital will tell you which temperature they use.  
When you no longer need the central line, it will be taken out. A doctor or nurse will do this for you, usually in the out patients department. Your chest will be cleaned with antiseptic, and the line will be gently but firmly pulled until it loosens and comes free. This does not usually take more than a few minutes, but can be uncomfortable. Sometimes a small cut in the skin is needed so that the cuff can be loosened. This is done under a local anesthetic. A dressing will be put over the area where the line has been removed, and you will be asked to remain lying down until it is certain that there is no bleeding.  
Your doctor may suggest that you have a long, thin tube put into a vein in the crook of your arm. This is called a peripherally inserted central venous catheter (PICC). Your doctor or chemotherapy nurse will explain the procedure to you. You will be given a local anesthetic before the line is put in.  
Once it is in place, the PICC line is taped firmly to your arm to prevent it being pulled out of the vein. It can stay in the vein for many months. As with the central line, it means that you do not have to have cannulas put in when you have your intravenous chemotherapy. Blood can also be taken through the line for testing.  
You will be able to bend your arm, bathe and shower, although you should avoid getting water on the area around the tube − a plastic dressing can be used for this. Before you go home, make sure that you are confident about looking after your line. A nurse can flush your line and change the dressing, or a friend or relative can be taught to do this for you. If you have any problems, contact the staff in the chemotherapy clinic or on the ward for advice.  
The possible problems are the same as for central lines: blockage and infection.  
An implantable port is a thin, soft plastic tube that is put into a vein and ends in an opening (port) just under the skin on your chest or arm. The port has a thin rubber disc through which special needles can be passed to give medicines into the vein or take blood.  
The tube is a long, thin hollow tube known as a catheter and the port is a disc about 2.5 to 4 cm in diameter. The catheter is usually inserted (tunneled) under the skin of your chest. The tip of the catheter lies in a large vein just above your heart and the other end connects with the port which sits under the skin on your upper chest. A small bump can be seen and felt underneath the skin, but nothing shows on the outside of your body.  
The possible problems are the same as for central lines: blockage and infection.  
Infusion pumps may be used to give some types of chemotherapy. There are various types of portable pump. These give a controlled amount of chemotherapy into the bloodstream over a period of time (from a few days to a few weeks). The pump is connected to a central line or a PICC line. This means that you can go home with the pump and so you need fewer visits to hospital. The pumps are small enough to fit into a pocket and can be carried in a bag or belt holster.  
The chemotherapy drugs are prepared at the hospital. You, and perhaps a family member or friend, will be taught how to look after the pump. Some pumps are battery-operated and care has to be taken not to get them wet when you are washing. Your nurses or pharmacy staff will give you full instructions and should also tell you who to contact if you have any problems or questions. Some pumps are disposable and are operated by a balloon mechanism or spring control.  
Drugs given intravenously can occasionally leak into the tissues. This is called extravasation. It usually happens when a cannula dislodges and so is not positioned in the vein correctly. It very rarely happens with a central line.  
If you notice any swelling, pain, stinging or redness when you are having your chemotherapy treatment, or after you get home, it is important to contact the hospital straight away. Some chemotherapy drugs can damage the tissues, so the sooner any extravasation is dealt with, the better.   
You may be given chemotherapy tablets or capsules to take at home as all or part of your treatment. You will be told when to take them and will be given other instructions such as whether or not to take them with food. If you cannot take your medicines for any reason you should contact your doctor immediately for advice.  
The drugs that you have been given by the hospital make up a complete course of treatment, and it is important to take them exactly as they have been prescribed. Always read the labels on the boxes before you leave the hospital – if the instructions are unclear, ask your nurse, doctor or pharmacist.  
If you need to have further supplies of the chemotherapy or other medicines, it is important to get these from your hospital specialist and not from any pharmacy.  
Oral chemotherapy can cause side effects and it is important to be aware of these when taking your medicine.  
Some chemotherapy drugs are given by injection into a muscle. The doctor or nurse will explain the procedure to you. The drug is injected into the muscle of the leg or buttock. You may feel some pain or discomfort for a short time.  
Some drugs can be given by injection just under the skin. A very fine needle is used and this may be uncomfortable for a short time.  
In some conditions such as leukemia or lymphoma (cancer which starts in the lymph system) cancer cells can pass into the fluid which surrounds the brain and spinal cord. This fluid is called cerebrospinal fluid. To prevent this from happening, or to treat it if it occurs, chemotherapy may be given into the cerebrospinal fluid. For this treatment you will usually need to lie on your side with your legs drawn up. The doctor will then use local anesthetic to numb an area of skin over your spine. A needle is inserted into the space between two of the spinal bones and into the cerebrospinal fluid and the chemotherapy is injected. This procedure is called a lumbar puncture.  
It takes from 15 to 30 minutes and you may need to lie flat afterwards for a few hours. It is important to drink plenty of fluids to reduce the chance of getting a headache. If you get a headache, it may last for a few hours. Painkillers can be given to help. Chemotherapy given in this way does not usually cause any other side effects.  
 To give chemotherapy drugs in this way, a tube is inserted into the affected body cavity, for example the bladder (intravesical treatment) or the abdominal area (intraperitoneal treatment). The chemotherapy is put in through the tube. It may then be drained out again after a set period of time. Drugs given in this way may cause some irritation or inflammation in the area they are given, but they do not tend to cause side effects in other parts of the body.  
Chemotherapy creams are used for some types of skin cancer. They are put onto the affected area of skin in a thin layer and may need to be used regularly for a few weeks. They may cause some soreness or irritation of the skin in the affected area but do not cause side effects in other parts of the body. While you are using chemotherapy creams you may need to wear a dressing over the affected area of skin.  
Before you have any cancer chemotherapy, your doctor will explain the aims of the treatment to you. They will usually ask you to sign a form saying that you give your permission (consent) for the hospital staff to give you the chemotherapy.  
No medical treatment can be given without your consent, and before you are asked to sign the form, you should have been given full information about:  
If you do not understand what you have been told, let the staff know straight away so that they can explain again. Some cancer treatments are complex, so it is not unusual for people to need things explained more than once.  
It is often a good idea to have a friend or relative with you when the treatment is explained, to help you remember the discussion more fully. You may also find it useful to write down a list of questions before you go for your appointment.  
You can always ask for more time to decide about the treatment, if you feel that you can't make a decision when it is first explained to you.  
You are also free to choose not to have the treatment. The staff can explain what may happen if you do not have it. It is essential to tell a doctor, so that they can record your decision in your medical notes. You do not have to give a reason for not wanting to have treatment, but it can be helpful to let the staff know your concerns so that they can give you the best advice.  
Chemotherapy units are very specialized and not all hospitals have them, so you may need to travel for treatment. Chemotherapy drugs are usually prepared in a special area of the hospital pharmacy (admixture lab). All the drugs are carefully checked by the pharmacy staff to ensure that they are the right ones for you. Chemotherapy tablets, capsules or creams can be given to you to take home.  
Most intravenous chemotherapy drugs can be given to you as a day patient at the hospital. This may take from half an hour to a few hours. However, some treatments, such as having chemotherapy into the abdominal cavity, will mean a short stay in hospital – perhaps overnight or for a couple of days. For some chemotherapy treatments – for example, high-dose chemotherapy – you will need to stay in hospital longer, perhaps for a few weeks. Your doctor or nurse will explain exactly what your treatment will involve before it starts.  
If you are having chemotherapy by intramuscular injection, subcutaneous injection, intrathecal injection, or intracavity injection into the bladder, it is usually given in the outpatients department or the chemotherapy day unit at the hospital. It may also be given on certain wards within the hospital.  
Sometimes, specialist chemotherapy nurses can visit you at home to give intravenous chemotherapy. You can ask your doctor whether it is possible to have your treatment at home.  
Your treatment will depend on a number of factors including:  
How often you have your treatment and how long the whole course of treatment takes will depend on:  
Before starting chemotherapy treatment, you will have your height and weight checked. This is used to work out the right dose of chemotherapy for you.  
Intravenous chemotherapy is usually given as several sessions of treatment, unless you are having continuous treatment by infusion pump. Depending on the drug, or drugs, each treatment can last from a few hours to a few days. Each treatment is generally followed by a rest period of a few weeks to allow your body to recover from any side effects and so that the number of cells in your blood can go back to normal. The treatment and the rest period together make up a cycle of treatment. The number of cycles you have will depend on how well your cancer is responding to the chemotherapy.  
Your doctor or chemotherapy nurse will explain your treatment plan to you. If you have any questions, don't be afraid to ask. It often helps to make a list of questions and to take a close relative or friend with you to remind you of things you want to know but may easily forget. You may need some tests before starting your course of treatment. These will include blood tests and perhaps urine tests or heart tests.  
Before each cycle of chemotherapy, you will normally have blood tests and see the doctor or specialist chemotherapy nurse. This can take some time. If your blood is tested at another hospital, the results can be sent to the hospital where you are having your treatment. Sometimes, you may need to have x-rays or scans.  
All chemotherapy drugs are prepared specially for you and you may have to wait while the hospital pharmacy department gets them ready. To help pass the time, it can be helpful to take a book, personal stereo, iPod, newspaper, crosswords or perhaps some letters to write.  
It may take several months to have all the chemotherapy needed to treat your cancer. When chemotherapy is given by an infusion pump it can be given continuously over a time-varying from several days to several weeks. Some people have their chemotherapy as tablets or capsules take them daily for several weeks or months before they have a rest period.  
Your doctors will use blood tests and sometimes urine tests to monitor the effect that the chemotherapy is having on your body.  
If you have a tumor that can be seen on a scan or felt by the doctor, the hospital staff will regularly check the effects of the chemotherapy on cancer. The results from your blood tests and any scans or x-rays can show how much the cancer is responding to the treatment.  
Depending on the results of the tests, your treatment plan may sometimes need to be changed. There can be many reasons for this and your doctor will tell you why your treatment needs to be changed if this is necessary. It may be because the drugs you are having are starting to cause damage to particular parts of the body, such as the bone marrow, kidneys, liver, or nerves in the hands or feet. Sometimes it can be because the chemotherapy is not shrinking cancer enough. If this is the case, then changing to different drugs may be more effective.  
Sometimes, your treatment may need to be delayed because the chemotherapy drugs are stopping your bone marrow from working properly. Delaying the chemotherapy gives your bone marrow a chance to recover before the next session of drugs is given.  
If there is a special occasion coming up, or you want to go on holiday, it may be possible to arrange the timing of your treatment to fit in with this. Your doctor can tell you whether this is possible.  
After your chemotherapy has finished, you will have regular check-ups and possibly scans or x-rays. These will probably continue for several years. If you have any problems, or notice any new symptoms in between your appointments, let your doctor know as soon as possible. Many people find that they get very anxious before their appointment. This is natural and it may help to get support from family, friends or an organization during this time.  
When their treatment is finished, people often feel it is time to get back to normal. However, this can sometimes be one of the hardest times to cope with. Recovery times vary and no one can say for sure how long you should take to get over the treatment and its effects.  
The end of the visits to hospital for treatment can leave you feeling alone and neglected. Many people find that they feel very low and emotional at this time, when they had expected to be able to put the cancer and the treatment behind them. This may be the time when you need most support. Support is available to you if you would like it.  
For people whose treatment is over apart from regular check-ups, our section on adjusting to life after cancer gives useful advice.  
The main areas of your body that may be affected by chemotherapy are those where normal cells rapidly divide and grow, such as the lining of your mouth, the digestive system, your skin, hair and bone marrow (the spongy material that fills the bones and produces new blood cells).  
If you want to know more about the side effects that may be caused by your chemotherapy treatment, ask your doctor or chemotherapy nurse, as they will know the exact drugs you are taking. Although the side effects of chemotherapy can be unpleasant, they need to be weighed against the benefits of the treatment. It is important to tell your doctor or chemotherapy nurse if the treatment is making you feel unwell. You may be able to have medicines to help you, or changes can be made to your treatment to lessen any side effects.  
Chemotherapy can reduce the number of blood cells produced by the bone marrow. Bone marrow is a spongy material that fills the bones and produces the cells (called stem cells) which develop into the three different types of blood cells:  
If the number of white cells in your blood is low you are more likely to get infections as there are fewer white cells to fight off bacteria. If your temperature goes up, or you suddenly feel unwell, even with a normal temperature, contact your doctor or the hospital straight away. Most hospitals consider a temperature above 38ºC (100.5ºF) to be high, although some hospitals use a lower or higher temperature. The doctors and nurses will advise you when you need to contact the hospital.  
Your regular blood tests will show the number of white cells in your blood. If you get an infection when your white blood cell level is low, you will need to have antibiotics. These may be given as an injection at hospital or you may be given antibiotic capsules or tablets to take at home. You may need to be admitted to hospital for the antibiotic treatment.  
Helpful Hints - Infection  
Tell your doctor at once if you develop a temperature as you may need to have antibiotics. Keep clean. Always wash your hands thoroughly before preparing your food. Stay away from crowded places and from people who you know to have an infection such as a cold. Sometimes, after chemotherapy, a drug called G-CSF will be used to help your bone marrow make white blood cells more quickly and so reduce the risk of infection. G-CSF is a protein made naturally in the body that can now be produced in the laboratory.  
This means you may feel very tired and lethargic, and may also feel breathless as there is less oxygen being carried around your body. People with anemia can also feel dizzy and light-headed, and have aching muscles and joints.  
The blood tests will measure your hemoglobin. If it is low you may be offered a blood transfusion. The extra red cells in the transfusion will pick up oxygen from your lungs and take it around the body. You will feel more energetic and any breathlessness will be eased.  
Platelets are cells which are important in blood clotting. If you have a low number of platelets in your blood you may bruise very easily, and may have nosebleeds or bleed more heavily than usual from minor cuts or grazes. If you develop any unexplained bruising or bleeding, such as nosebleeds, blood spots or rashes on the skin (petechiae) or bleeding gums, you should contact your doctor or the hospital straight away. You may have to be admitted to hospital for a platelet transfusion. This is given by drip into your blood. The platelets will start to work immediately, to prevent bruising and bleeding.  
The amount of hair that falls out, if any, depends on the type of drug or combination of drugs used, the dose given and how the drug affects you personally.  
Helpful Hint - Your Hair  
Your digestive system can be affected in a number of ways by chemotherapy.  
If you do feel sick, it may start from a few minutes to several hours after the chemotherapy is given, depending on the drugs you are having. How long the sickness lasts varies.  
Helpful Hints - Eating and Digestion  
Steroids are often given to reduce nausea and vomiting. They often give a sense of well-being, as well as helping to reduce feelings of sickness and loss of appetite.  
Some chemotherapy drugs can affect the lining of the digestive system and this may cause diarrhea for a few days. Some chemotherapy drugs (or anti-sickness drugs) can cause constipation.  
Some chemotherapy drugs can affect your appetite.  
Chemotherapy can affect your sense of taste; food may taste more salty, bitter or metallic. Your normal sense of taste will come back after the chemotherapy treatment finishes.  
Helpful hints – changes to sense of taste  
Some drugs can cause a sore mouth, which may lead to mouth ulcers. If this happens it is usually about 5–10 days after the drugs are given and will clear up within three to four weeks. You can be given mouthwashes to help.  
Mouth ulcers can become infected. Your doctor or specialist nurse can give you treatment to help prevent or clear any infection. Cleaning your teeth regularly and gently with a soft toothbrush will help to keep your mouth clean. It may be helpful to see your dentist before you start your treatment. Dental treatment sometimes needs to be delayed when you are on chemotherapy because of the risk of infection and a sore mouth.  
Some people feel very tired during chemotherapy. This is quite normal. For someone who normally has a lot of energy, feeling tired all the time can be very frustrating and difficult to cope with. The hardest time may be towards the end of the course of chemotherapy.  
The tiredness will ease off gradually once the chemotherapy has ended, but it can often be three or four months until you feel back to normal. Some people find that they still feel tired a year or so afterwards.  
Some drugs can affect your skin. Your skin may become dry or slightly discoloured, which may be made worse by swimming, especially if there is chlorine in the water. Any rashes should be reported to your doctor.  
Your skin may also be more sensitive to sunlight, during and after the treatment. Protect your skin from the sun by wearing a hat, sunglasses, and loose clothing that covers your skin. Use sunscreen cream (at least factor 15) on any exposed areas.  
Chemotherapy may make your nails grow more slowly, or become brittle or flaky. You may notice white lines appearing across them. False nails or nail varnish may disguise these. Sometimes the shape or colour of your nails may change.  
Some chemotherapy drugs can affect the nerves in your hands or feet. This can cause tingling or numbness, or a sensation of pins and needles. This is called peripheral neuropathy. It is important to let your doctor know if this occurs. They may need to change the chemotherapy drug if it gets worse. Usually, it gradually gets better when the chemotherapy treatment ends. Very occasionally it can damage the nerves permanently.  
Most changes that occur during chemotherapy are temporary, and should not have a long-term effect on your sex life. There may be times when you just feel too tired, or perhaps not strong enough for the level of physical activity you are used to during sex. If your treatment is making you feel sick, you may not want to have sex at all for a while. Remember that most side effects from chemotherapy that may affect your sex life, such as tiredness or sickness, will gradually wear off once your treatment is finished.  
Anxiety may also play a part in putting you off sex. The anxiety may not be directly related to sex; you may be worried about your chances of surviving your cancer, or how your family is coping with the illness, or about your finances. Stresses like these can easily push everything else, including sex, to the back of your mind.  
There is no medical reason to stop having sex at any time during your course of chemotherapy. It is perfectly safe, and the chemotherapy drugs themselves will have no long-term physical effects on your ability to have and enjoy sexual activity. Cancer cannot be passed on to your partner during sex and it won't make the cancer worse.  
Heart valve surgery is a procedure for treatment of heart valve disease. This takes place when one of the four heart halves that are responsible for pumping blood in the right direction are not functioning properly.  
Basically, our heart is a pump that comprises muscle tissue. It consists of four chambers responsible for the pumping. The upper chambers are known as atria and the lower ones are referred to as ventricles. In between each of these chambers are valves which ensure the blood is flowing through the heart and into the right directions  
Each valve consists of flaps that are known as leaflets for tricuspid and mitral valves, and cusps in the case of pulmonary and aorta valves. These valves close and open with every heartbeat. At times the valves are not able to close and open properly which in turn affects the blood flow from your heart to the body.  
In cases where any of the valves are diseased or damaged, they demand medical intervention. A heart valve surgery therefore includes a surgeon repairing or replacing the affected heart valves. In fact, mitral valve and aortic valve are the two most commonly replaced valves. There are fairly uncommon cases of tricuspid and pulmonary valve replacement. This comprises many surgical procedures to repair the heart and include minimally invasive heart surgery and open heart surgery.  
In many cases, heart valve disease can develop before your birth or be acquired during the span of your life. Further in many cases the causes remain unknown. There are some common causes –  
There are many other conditions that can affect the valves. They have papillary muscles or chordae tendinea that can tear or simply stretch. Another case can be the dilating of annulus of the valve. Then there are also chances of stiffness of the leaflets and they an also calcify.  
There is another condition called Mitral valve prolapse that can lead to flopping back of the mitral valve leaflets to the heart’s contraction. This also impacts the tissues and they become abnormal thereby causing a leakage.  
Further other causes include heart attack, coronary artery disease, syphilis, coronary artery disease, connective tissue diseases and high blood pressure. Other lesser reasons include radiation, tumour or some type of drug abuse.  
Some of the symptoms include –  
Your doctor will have a thorough discussion, perform a physical examination and carry out certain tests before recommending a replacement surgery.  
The physical examination involves listening to the sound that your heart makes as the valves open and close. A heart murmur is the kind of swishing sound made by the bloodstream as it passes through a leaky valve or stenotic. Similarly, an irregular rhythm signifies an enlarged heart. In fact, if your heart is retaining fluid and not able to pump the way it should, the doctor can figure that out by listening to the lungs.  This is followed by a thorough examination of the body that helps assess the circulation and functioning of other organs.  
Some of the tests conducted by the doctor include –  
Basis this test the progress of the valve disease is diagnosed and further treatment method is recommended.  
In cases wherever possible, the doctor suggests heart valve repair as it allows the preservation of the valve and proper heart function. It includes –  
You will be under anaesthesia and connected to a heart-lung bypass machine that allows constant movement of the blood throughout the procedure. This surgery can be performed during open-heart surgery that includes a cut or incision in the heart. In many cases surgeons also perform a minimally invasive surgery that includes smaller incisions. This involves using long instruments that are inserted through small incisions in the chest or using robotic arms. This surgery usually comes with a shorter stay and quicker recovery.  
In cases where repairing of the heart valve is not possible at all, doctors recommend heart valve replacement. It involves removing the heart valve and replacing it with a mechanical one or one made from the tissue of human, pig or cow’s heart.These biological tissue valves also require to be eventually replaced because they tend to degenerate over the years. On the other hand, a mechanical valve requires blood-thinning medicines for all your life to avoid blood clots.The pros and cons of each type of valve replacement is discussed with the patient before making a decision. A minimal invasion is carried out during this surgery using a catheter process.  
With a diseased valve condition, every step needs to be carefully planned. That is why we at Max Healthcare make it easier for the patients to take the decision. The exceptional row of doctors takes each case differently and provides treatment methods after thoroughly studying the history and the present condition of the patient. This ensures that the surgery is not the only focus but a comfortable post-treatment plan as well.  
A Cochlear Implant is a surgically implanted electronic device that is used by people who receive minimal or no benefit from a conventional hearing aid. Often referred to as bionic ear, it works using special technologies to take place of non-working parts in the ear. It is capable of converting sound to electronic signal, which stimulates the 8th nerve.  
Cochlear implants provide a heightened sense of sound to adults and children with profound hearing loss. The implants bypass the damaged hair cells in the inner ear and directly stimulate the auditory nerve to send information to the nerve. These are not responsible for restoring or creating new hearing.  
It is a proven medical option to help your children with hearing loss communicate/interact more effectively with others.  
The assessment includes:  
The different tests that are conducted to assess the problem are:  
The purpose of Psychological Assessment and Preoperative Counselling is:  
The different surgical techniques that are available:  
Surgery under general anesthesia is required to implant the internal components. The receiver / stimulator assembly is placed inside the temporal bone and the electrodes are inserted into the cochlea, which in turn directly stimulates the hearing nerve. The implantation procedure usually takes about one to two hours.  
After three to four weeks the incision should be healed. At this point, the programming of the speech processor will be carried out and the external parts of the implant will be hooked up. The implantee will begin to hear then.  
Children who are not exposed to the hearing world must undergo extensive habilitation to improve their speech, language and hearing skills.  
Our experts follow a multi-disciplinary approach to enable the child to learn passively about the environment. The implants are responsible for addressing receptive and expressive language skills.  
Heart angioplasty surgery is also known as percutaneous coronary intervention and is the process of opening clogged heart arteries. It includes temporary insertion and inflation of a tiny balloon around your clogged artery and thereby helping it widen. Angioplasty usually includes placing a permanent small wire mesh tube known as the stent. This aids in opening the artery and decreasing the chance of it narrowing again.However, the major benefit of going for heart angioplasty surgery is that one can avoid scars or pain and a longer post-operation recovery. One of the many successes with heart angioplasty surgery has been with angioplasty.The coronary arteries play one of the significant roles in the body. They are responsible for supplying blood to the heart. As people age, the heart arteries start becoming narrow and hard, which leads to various coronary heart diseases. The narrowing and hardening of the coronary artery is known as atherosclerosis. When these arteries are blocked, blood supply to the heart is blocked, which further leads to intense chest pain – medically known as angina.  
Heart angioplasty surgery procedure can be performed through various ways as follows:  
The procedure requires one to remain hospitalized for at least a day to monitor your heart and adjust the medications accordingly. One can usually get back to work after a week of angioplasty.  
One needs to go home and stay hydrated to blush the body of the contrast dye. It is best to avoid any strenuous exercise or lifting anything heavy atleast for a few days. In fact, each case differs so it is better to have a conversation with your doctor for your specific plan. In certain cases you need to consult a doctor. Such as –  
It is vital for one to take recommendations from doctors pertaining to taking blood-thinning medications such as clopidogrel and aspirin. Patients who have undergone the procedure of angioplasty with our without any stent replacement are required to take aspirin nevertheless. In cases where there is a stent replacement involved, blood-thinning medicine such as clopidogrel is suggested for a year or longer.  
Though angioplasty is not as risky but one has to be careful with a procedure and follow pre and post routines. This is why opting for treatment from an expert like Max Healthcare is of utmost importance. Under the supervision of professionals, patients are given special care and helped through the entire process without much stress. Plus with years of experience, tackling special cases or patients with a past record of some other medical history are offered customized treatment plans.  
Heart angioplasty surgery is done usually to treat a certain type of heart disease, which is known as atherosclerosis. It refers to a condition where fatty plaques slowly start building up in your heart’s blood vessels. Angioplasty is often a suggestion in cases where medications haven’t worked or the lifestyle followed by you isn’t enough to better your heart’s health.  
However, it isn’t for everyone. In cases where your heart muscle is weak, the main artery bringing blood to your left side is narrow or simply if you have multiple diseases other options are suggested. In many cases, coronary artery bypass surgery is recommended by the doctors. It includes bypassing the blocked part of the artery from another body party.Even though less severe cases of angina can be treated with medications, most cases do require an heart angioplasty surgery to restore the complete supply of blood to the heart. Furthermore, heart angioplasty is used as an emergency treatment option right after a heart attack. It increases the chances of survival. Heart angioplasty cost rarely varies, as the prices of stents in India are capped.  
The heart angioplasty procedure is a standard treatment option for unblocking arteries. It dramatically improves the blood flow to the heart and helps in reducing chest pain caused due to angina. However, getting a stent does not mean the heart diseases are cured. It is essential for the patient to maintain a healthy life style in corporating habits that promote a healthier heart. All patients are required to follow the below-mentioned practices after a coronary stent angioplasty:  
A stent is a short wire-mesh tube that acts as a scaffold to support the coronary artery. It is usually made of metal and is permanent. Angioplasty procedure involves a balloon catheter which is placed over a guide wire that puts the stent into a blocked coronary artery. Once the catheter is in place around the blocked artery, the balloon is inflated which makes the stent to expand around the artery. The balloon is then deflated and taken out while the stent remains.  
A heart angioplasty surgery usually takes around 30 minutes to 2 hours, depending on case to case. Often, a patient with angina can go home the same day or a day later; however, patients undergoing angioplasty procedure after a heart attack will need to stay at the hospital for longer till their situation stabilises.  
Coronary arteries are blood vessels that carry oxygen and nutrients to the heart. Heart Bypass Surgery is also called Coronary Artery Bypass Grafting (CABG) is an operation that is carried out to improve the flow of blood to the heart muscle in people with coronary heart disease whose coronary arteries are severely narrowed or blocked.The operation involves taking blood vessels from other parts of the body and attaching them to the coronary arteries beyond the blockage. The blood is then able to flow around or bypass the blockage. If more than one artery is blocked you may need more than one bypass graft.  
Coronary Heart Disease which is also known as Coronary artery disease (CAD) is caused when the blood vessels are blocked or damaged; these blood vessels supply blood, oxygen and nutrients to the heart.  is Coronary heart disease is one of the most common forms of heart disease, which is found in both men and women. The disease is caused due to building up of cholesterol, fats and other material, also known as plaque, on the inner walls of arteries.  
The plaque basically builds up in four primary coronary arteries including right coronary artery, right posterior descending artery, left circumflex artery and left anterior descending artery. As the plaque grows, the heart gets less oxygen to function and the heart muscles weaken over time. This can result in heart failure and other life-threating heart-related diseases. Hence, coronary heart disease treatment is a necessity.  
Coronary heart disease starts with an injury or damage to the inner layer of a coronary artery, the damage causes the plaque to deposit at the site of injury. Over a period of time, the plaque hardens and restricts the blood flow, which is known as atherosclerosis. One must understand that CAD does not develop overnight, but it takes some noticeable amount of time. Some common causes of coronary heart disease are as follows:  
The chances of CAD become higher with age, it is a proven fact that risk of coronary heart disease begins at the age of 45 for men, while for women, the problem begins to occur at the age of 55.  
Coronary heart disease (CAD) does not cause symptoms until it is at an advanced stage. However, patients can feel cogent symptoms like indigestion, dizziness, fatigue, lack of energy. One of the most common symptoms of CAD is shortness of breath and chest pain. Other symptoms include:  
It is important to note here that most of the symptoms of CAD are often confused with heartburn or indigestion; in this case people may tend to self-diagnose the problem, which at the end makes it even more complicated. If you are feeling the above-stated symptoms, then one should take a medical advice from a cardiologist. The doctor will ask a few questions about yourself, your personal and family medical history and will perform some physical exams. After that, the doctor may ask for few tests which may include:  
Once the diagnosis is completed, the doctors advise for the best suitable option for coronary heart disease treatment. Here is the list of some common treatment options, which are meant for treating CAD:  
Max Institute of Heart and Vascular Sciences, is termed as one of the best hospitals for coronary heart disease treatment in India. The facility provides unparalleled treatments for conditions like angina, heart attack, heart failure, and coronary artery disease treatment in Delhi NCR.  
Max healthcare is known for offering world-class healthcare services and is equipped with extremely advance cutting-edge technologies to offer top-of-the-line cardiac care program to its patients. The hospital also offers procedures like Pacemaker, ACD, CRT, Heart Hole surgeries (ASD, VSD, PDA), Paediatric Cardiac Surgery, Angioplasty/Angiography. The centers are equipped with state of the art Cath Labs, operation theatres, and several other heart care technologies.  
Each multi-specialty hospital of Max Healthcare offers 24\*7 emergency services, has a blood bank, pharmacy, ATM, and other important amenities for proper patient care. And lastly as advised by every doctor across every Max Hospital "Keep enthusiastic pets away until you have healed completely".  
A computerized tomography (CT) coronary angiogram is an imaging test that evaluates the functioning of arteries that supply blood to the heart. CT angiograms are performed in the radiology department of a hospital or an outpatient imaging facility.  
ECMO (extracorporeal membrane oxygenation) is a complex system, similar to the heart-lung bypass machine used in open heart surgery. When a patient is connected to ECMO, blood flows through tubing to an artificial lung in the machine, which adds oxygen and takes out carbon dioxide. Thereafter, the blood is warmed as per the body temperature and pumped back in the body.  
ECMO Therapy is a high end rescue therapy for patients suffering from heart and lung failure but are neurologically intact. The technology provides support during high-risk procedures in the cardiac catheterization lab after a serious heart attack. It acts as a bridge for patients awaiting lung transplant. The ECMO helps keep the tissues well oxygenated, thereby making the candidate suitable for a transplant. When a patient is connected to ECMO, blood flows by tubing an artificial lung in the machine, which adds oxygen and takes out carbon dioxide.  
There are two types of Extra Corporeal Membrane (ECMO)  
Hands help us to eat, dress, write, earn a living, create art and do many other activities. To do these tasks, our hands require sensation and movement, such as joint motion, tendon gliding and muscle contraction.  
Hand surgery involves a vast range of surgery on the hand. Plastic surgeon who does hand surgery not only ensures the function of the hand, but also makes efforts to maximize the cosmetic appearance of the hand.  
Surgery on the hand can be performed for the following below reasons but not limited  
There are different types of surgeries depending upon the condition and underlying cause of the problem. These procedures include:  
The replacing or attaching skin to a part of the hand that has missing skin is called skin grafting. Mostly in finger amputations or injuries this type of surgery is considered. In skin grafting a piece of healthy skin is taken from the other side of the body and attached to the injured area.  
A skin flap also involves taking skin from another part of the body like in skin grafting. Skin flaps are used in cases when the missing skin to be treated does not have a good blood supply. So, that section of the skin is used which has its own underlying blood vessels, fat, and muscles.   
This procedure is done in case of a bone fracture, or broken bone, in part of the hand, including the fingers. In this surgery the broken bone is realigned and then till the time it heals, it is hold in place and immobilization is done with internal fixtures, such as with wires, rods, splints, and casts.  
Tendons repair surgery is to repair damaged or torn tendons. Tendons are tissues that connect muscle to the bone. Tendon injuries might occur because of reasons like infection, trauma, or sudden rupture.  
Any sort of injury too hand can damage the nerves in the hand. This can cause a loss of hand function and a loss of sensation in the hand. Some nerve injuries may heal on their own. Others may require surgery. Generally it takes 3-6 weeks time for nerves to repair and therefore surgery is done post automatic repair for effective results.  
The hands are quite prone to injury, infections. Generally in case of infections the treatment may include rest, using heat, elevation, antibiotics, and surgery. Surgical drainage is done if there is a sore or abscess in the hand due to infection or injury, therefore will remove the pus. If the infection or wound is severe, debridement may be used to clean dead and contaminated tissue from the wound. This prevents further infection and helps promote healing.  
This type of surgery is used in cases of severe hand arthritis. An artificial joint is placed on that section which has been destroyed by arthritis. This artificial joint can be of metal, plastic, silicone rubber, or your own body tissue, such as a tendon.  
In this procedure accidentally amputated fingers or hands using microsurgery are restored. It is an extremely precise and delicate surgery performed under magnification.  
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Patients who should go for Hand Surgery:  
All those patients who are suffering from any of the below should go for Hand surgery.  
Risks of anesthesia and bleeding are the common that most surgeries carry. The following risks depends upon the type of surgery being performed:  
Once the hand plastic surgery is performed, doctor will prescribe pain medication for the patient.  
To determine the effectiveness of the surgery, the doctor will also perform an in-depth physical examination, accompanied with x-rays to monitor if the patient’s recovery is progressing as expected.  
To regain the proper function of the hands, the doctor might refer the patient to a therapist, who will in turn prescribe appropriate hand exercises to restore strength, flexibility, function and mobility of the many joints of the hands and fingers.  
Intensive rehabilitation is necessary to regain optimal functioning of the hand. The healing time will depend on case-to-case basis and type of surgery is performed.  
We understand the importance of your hands in everyday life. We are committed to provide utmost care for patients with hands extremity conditions.  
We follow a multidisciplinary approach for treatment, and to facilitate a rapid recovery to a normal, productive lifestyle.  
Our teams of doctors who are hands specialists bring extensive experience and skill while maintaining personalized attention.  
Heart blockage is a problem that occurs when there is an abnormal heart rhythm. In this condition, the heart beats way too slow as compared to a normal beating rhythm, the heartbeat is driven with an electrical signal that comes from the sinoatrial node, located at the top of the right atrium. The signal travels through the atria and reaches the atrioventricular node, which tells the heart to contract and pump blood. Heart block occurs when this electrical signal is delayed or interrupted.  It is also known as the atrioventricular block (AV block).  
It is the least severe type of block, as in this situation the electrical signals slow down as they move from atria to ventricles.   
Some people are born with heart block, while others develop it at a later stage. If the former is the case then it is known as congenital heart block. There are different reasons for that which includes an autoimmune disease that passes from mother to the child or a birth defect; in this case the heart may not have developed correctly in the womb.   
People who are prone to heart block at a later stage, it is known as acquired heart block. This can be caused due to various reasons including certain changes in the genes, damage from a heart attack, muscle disorders, certain surgery that affect the heart’s electrical system or some medicines.  
If a person has a heart block problem, then they may experience the following symptoms:  
If you experience the above-mentioned symptoms for the heart block, it is highly recommended that you go for the heart blockage treatment . Once you visit a cardiologist, the doctor will ask for some general information. The doctor will first review your complete medical history and will then ask questions regarding your diet, activity level and overall health. The cardiologist will also ask you if you are on any medications (prescription or over the counter) or if you are a regular smoker. The doctor will then recommend some common diagnostic tests including:  
Electrocardiogram (ECG): This test is basically performed to record the electrical activity of the heart. The test shows the speed and rhythm of the heart and it is usually used to determine arrhythmias, heart attack, angina attack and heart block.   
Echocardiogram: This test is used to check the working and structure of the heart using ultrasound. The test uses sound waves that create a moving picture of the heart on the monitor. This helps the doctor to check the heart muscles are contracting normally.   
Holter Monitoring: If the heart rhythm is not properly detected during an ECG exam, doctors perform Holter monitoring. In this, a portable device, which is generally of an action-camera size and has wires with silver dotted electrodes. The patient needs to wear the Holter monitor to record a continuous ECG, while he/she performs his/her daily tasks. The test lasts for at least 24 to 72 hours.   
Max Institute of Cardiac Sciences provides unrivalled heart blockage treatment in India. Max Healthcare is ranked as the top cardiology hospital that offers a wide range of treatments pacemaker surgery, coronary artery bypass grafting, Heart Valve Repair or Replacement and percutaneous coronary intervention and heart transplant. If you are looking for a heart blockage treatment in Delhi NCR region then you can visit at Max Healthcare Saket, Patparganj, Shalimar, Vaishali and Saket centres.  
In hip resurfacing surgery, the head of the femur is trimmed to a rounded shape, followed by covering it with a metal cap. The cup joint of the hip is then fitted with a corresponding metal cup. The procedure is bone conserving because most of the joint is retained.The hip is a joint with a ball and socket. The top of the thigh bone (femoral head) is a smooth, rounded surface that fits into the hip socket (acetabulum). The bones are covered with smooth cartilage that lets them glide against each other when you move. It’s common for this joint to experience wear and tear as you get older, especially if you develop arthritis as you age. Osteoarthritis is a kind of arthritis that happens at the ends of the bones. It breaks down cartilage, causing swelling, pain, and deformity.  
In a traditional total hip replacement surgery, the surgeon removes the damaged bone and cartilage from your hip and replaces them with man-made parts. These bones are then replaced with a new head and socket. The head is usually metal and the socket hard plastic.  
Any kind of hip surgery should be the last possible option after trying for non-surgical methods.  
Heart angioplasty surgery is also known as percutaneous coronary intervention and is the process of opening clogged heart arteries. It includes temporary insertion and inflation of a tiny balloon around your clogged artery and thereby helping it widen. Angioplasty usually includes placing a permanent small wire mesh tube known as the stent. This aids in opening the artery and decreasing the chance of it narrowing again.However, the major benefit of going for heart angioplasty surgery is that one can avoid scars or pain and a longer post-operation recovery. One of the many successes with heart angioplasty surgery has been with angioplasty.The coronary arteries play one of the significant roles in the body. They are responsible for supplying blood to the heart. As people age, the heart arteries start becoming narrow and hard, which leads to various coronary heart diseases. The narrowing and hardening of the coronary artery is known as atherosclerosis. When these arteries are blocked, blood supply to the heart is blocked, which further leads to intense chest pain – medically known as angina.  
Heart angioplasty surgery procedure can be performed through various ways as follows:  
The procedure requires one to remain hospitalized for at least a day to monitor your heart and adjust the medications accordingly. One can usually get back to work after a week of angioplasty.  
One needs to go home and stay hydrated to blush the body of the contrast dye. It is best to avoid any strenuous exercise or lifting anything heavy atleast for a few days. In fact, each case differs so it is better to have a conversation with your doctor for your specific plan. In certain cases you need to consult a doctor. Such as –  
It is vital for one to take recommendations from doctors pertaining to taking blood-thinning medications such as clopidogrel and aspirin. Patients who have undergone the procedure of angioplasty with our without any stent replacement are required to take aspirin nevertheless. In cases where there is a stent replacement involved, blood-thinning medicine such as clopidogrel is suggested for a year or longer.  
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However, it isn’t for everyone. In cases where your heart muscle is weak, the main artery bringing blood to your left side is narrow or simply if you have multiple diseases other options are suggested. In many cases, coronary artery bypass surgery is recommended by the doctors. It includes bypassing the blocked part of the artery from another body party.Even though less severe cases of angina can be treated with medications, most cases do require an heart angioplasty surgery to restore the complete supply of blood to the heart. Furthermore, heart angioplasty is used as an emergency treatment option right after a heart attack. It increases the chances of survival. Heart angioplasty cost rarely varies, as the prices of stents in India are capped.  
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A heart angioplasty surgery usually takes around 30 minutes to 2 hours, depending on case to case. Often, a patient with angina can go home the same day or a day later; however, patients undergoing angioplasty procedure after a heart attack will need to stay at the hospital for longer till their situation stabilises.  
Meniscus repair surgery also known as Meniscus tear surgery is a procedure to repair torn knee cartilage. There are surgical and non-surgical treatments for Meniscus tear depending upon the case.  
A meniscus tear is a common knee injury. The meniscus is cushion of the knee, which protects the cartilage and prevents development of osteoarthritis. Each knee has 2 menisci (plural of meniscus)-one at the outer portion of the knee and one at the inner edge. The menisci keep your knee steady by equalization your weight across the knee. A torn meniscus can stop your knee from functioning right.  
Depending upon the intensity of the meniscus tear, which can be mild (grade1, 2) or severe (grade 3), basis the condition of the patient the doctor will choose to do any of the following:  
In Arthroscopic meniscus repair procedure, the doctor makes small cuts in knee and then inserts an arthroscope to have a clear view of the tear. Then a small device is placed that seem like a dart on the tear to sew it up and then the body will absorb these over time.  
In Arthroscopic partial meniscus repair procedure, the doctor will remove a piece of the torn meniscus so the patient’s knee can function normally.  
During this procedure, the doctor will remove the whole meniscus.  
If tear is small and on the outer edge of the meniscus, patient may not require surgical repair. As long as symptoms like excessive pain, swelling, unable to make knee movements, cracking sound or sensation does not persist and your knee is stable, nonsurgical treatment may be all you need RICE.  
Meniscus Tear Surgery can help to diagnose the pain associated with meniscus tear, and is stands out amongst the most prevalent types of treatment when the pain is serious and happens regularly. If the menisci are damaged, the knee can become unbalanced and may result in arthritis. Surgical procedure may give the best option in contrast to safeguarding the knee from further harm and later issues.  
Some key advantages of meniscus tear surgery are relief from pain and improvement in movement. A repair for meniscus tear with arthroscopic meniscus repair surgery is a safe procedure, which allows the patients to maintain comfortable active lifestyle.  
There may be some complications associated with surgery for meniscal tears, including unforeseen complications with anesthesia, such as respiratory or cardiac malfunction.  
Meniscus surgery is one of the most commonly performed surgical procedures that usually last for an hour. The surgeon inserts an arthroscope through a small incision (portal) to see the kind of repair required. This provides a transparent view of within the knee.  
Accordingly, surgical instruments are used to trim or repair the meniscus.  
In this procedure, the broken cartilage tissue is removed.  
Some cartilage tears may be repaired by sewing (stitching) the torn parts along.  
The recovery totally depends on whether you had a meniscus repair (sutures) or if simply had the torn pieces removed (partial menisectomy).  
A pacemaker refers to a small device that consists of two parts. There is a generator and wires that are placed under the skin of one’s chest for controlling the heartbeat. Doctors suggest a pacemaker for various reasons – majorly due to conditions such as arrhythmias where the heart rhythm is abnormal.  
Our hearts start to beat slowly with normal aging. Then in cases where there is a heart attack, heart muscles tend to get damaged and this further disrupts the heartbeat. Some medicines can also cause abnormal heart rate and sometimes, it could be genetics too. A pacemaker helps in fixing it, regardless of the condition that caused it.  
Their major role is to control your heartbeat. They can be temporarily implanted for treating a slow heartbeat after an attack, overdose of medication or surgery. They are also implanted permanently to slow down the heartbeat or to treat heart failure. An implanted electronic pacemaker emulates the actions of your natural pacemaker. It includes two parts –  
They monitor your heartbeat, slow it down or pace it up by sending electrical signals to your heart. They also come with sensors that detect breathing rate or body motion that further sends signals to your heart to function properly and meet the need for a balanced level of oxygen and blood.  
There are three types of pacemakers that are mentioned below:  
This refers to a pacemaker that carries electrical impulses from pulse generator and takes it to the right ventricle of your heart.  
This one carries electrical impulses from pulse generator to both the right atrium and right ventricle of your heart. The role of the impulses is to monitor the timing of contractions between the two chambers.  
This is recommended to people who have had a heart failure and their heart’s electrical systems demand repairing. Unlike a normal pacemaker, this one stimulates both the lowers chambers, thereby making the heartbeat more efficiently. It resets the pumping mechanism of the ventricles and therefore is also referred to as cardiac resynchronization therapy.  
Many tests are carried out to recommend if the pacemaker implantation is needed.  
This one is a painless and simple test that is done to detect and record the electrical activity of your heart. It shows how fast he heart is beating and how steady or irregular is the rhythm. This also records the timing and strength of the signals as they transmit through the heart.  
It records your heart’s electrical activity for 24 or48 hours. One has to wear it while carrying on with his/her regular activities. It allows one to monitor the heart for a longer time than a standard EKG. For many of the event monitors, one has to push the start button whenever he/she feels the symptoms. Other event monitors automatically start the event monitors when they sense some abnormal heart rhythm.  
This involves usage of sound waves to create a moving picture of your heart. It shows the shape and size of your heart and concludes how well is your heart chamber and valve working. It also points to the areas where there is poor blood flow, muscles that aren’t contracting normally, or injury to the muscle caused by poor blood flow.  
This involves passing a thin and flexible wire through your vein in your upper thigh or arm to your heart. It records your heart’s electrical signals.  
This involves exercising to make your heart work and beat faster while other heart tests like echo or EKG are done. If some people find it difficult to exercise, medicines are given, to increase heart rate.  
It is implanted in two ways–  
Usually a complete pacemaker check is required post six weeks after the implantation. Adjustments are made after discussions with your doctor and how the recovery happens. The treatment for a pacemaker is usually invasive but still requires care. That is why it is essential to opt for a reliable and trusted medical facility such as Max Healthcare that utilizes the skills of experienced doctors and state-of-art equipment for a effortless procedure.   
Biopsies and FNAC are the first step towards treatment of most disorders. With precise image guidance, it is easy to target the disease in its early stage as well as provide material for specialized pathological testing to improve patient outcomes.  
FNAC involves the insertion of a fine needle into the lesion and removal of cells on a slide. These cells are then sent for testing. Needle biopsies are procedures, which are done to get a tissue sample for testing. A thick needle is inserted inside the lesion and then multiple pieces of tissues are then sent for specialized testing.  
In the past, surgery was done to get the biopsy samples. These procedures were long and had more chances of complications. But with the help of CT and ultrasound guidance, the lesions that are small or deep inside the body can be accessed safely with minimal chance of complications. The procedure is done under local anaesthesia and in most cases the patient is discharged within the same day.Our experts specialize in doing biopsy from lung lesions, omentum, lymphnodes and deeper pelvic masses.  
Similarly, thin or thick flexible tubes (catheters) can be inserted through the skin to drain collections inside the body to provide relief to patients and send them home faster. These catheters are flexible and cause minimal discomfort to patients.  
Coronary artery bypass grafting refers to a surgical treatment used for patients who have one or more coronary arteries blocked. This procedure involves grafting of a new blood vessel that bypasses the clogged artery and allows sufficient blood flow to the cardiac muscles.  
There have been many improvements in terms of developing various approaches of minimally invasive surgeries and robotic-assisted procedure is one such milestone. It comes with various advantages. A normal traditional open-heart surgery involves  cutting the chest and dividing the breast bone. It is known as the median sternotomy approach and demands a 10 – 12 inch incision through the sternal bone. However, the robotic procedure involves much smaller incisions between the ribs. Major incisions are avoided and it doesn’t involve cutting the sternum as a result of which the traumatic impact of the surgery is reduced in large number. This leads to less pain, faster recover, lesser blood loss during the procedure and lesser complications. It also allows the surgeon to have better view of the heart as opposed to a traditional surgery.  
There are two main techniques used in this surgery –  
Minimally-invasive direct coronary artery bypass: This technique is also known MIDCAB, it is a sort of a grafting which includes mammary artery graft that is dissected inside the chest. Using three pencil-sized incisions and later following the suturing of the mammary artery graft to the heart vessel with a 2-inch incision made between the ribs in the left chest. This procedure can also be done without putting the patient on a heart-lung machine and is therefore also referred to as the “off pump” procedure.  
Totally endoscopic coronary artery bypass: This technique is also known as TRCAB, it is a sort of a grafting which includes entire procedure being done through three ports themselves and not requiring any additional incisions.  
Any healthcare experts recommend a robotic cardiac surgery of there is an artery bypass procedure required to improve the blood flow to one’s heart. It is also recommended in cases where –  
In cases where there is a plaque build-up in the arteries and they get blocked, there are certain symptoms that point towards a surgery. Some of those symptoms include–  
One of the major reasons why people go for a robotic cardiac surgery and not an open-heart surgery is because it involves fewer risks. The less invasive nature of this procedure includes lesser complications.  However there are a few risks involved such as –  
In order to check if you are eligible for the surgery, your medical history along with your lifestyle is reviewed to understand the severity of the disease.  
This is the usual sequence of events that follows during a robotic cardiac surgery –  
Post the surgery, the patient is moved to the recovery area for proper monitoring. This is followed by a short hospital stay, which is shorter than what is followed by a traditional heart surgery. You are allowed to go back home once the pain subsides, your nausea is under control and your lab results are normal.  
Robotic procedure leads to less scars on your chest. In most cases, an open heart surgery may leave a 10 inch scare, however a robotic cardiac surgery has fewer and smaller scars on the side of your chest.   
Transcatheter aortic valve replacement (TAVR) also called Transcatheter Aortic Valve Implantation (TAVI) is a minimally invasive procedure that allows the surgeon to replace a damaged or narrowed aortic valve by deploying a catheter through the blood vessels.  
In India, almost 13% of the population is suffering from heart problems. The more serious cases such as severe aortic stenosis (narrowing of the heart’s aortic valve) might need an open heart surgery. The open heart surgery or surgical AVR is a high-risk, complex procedure to perform, especially on patients above 70 years of age. This number of elderly patients unable to go through surgical AVR or any other viable solution goes as high as 30-40%.  
As a safer option for these high-risk patients, transcatheter aortic valve replacement came into being. It is a minimally invasive procedure of replacing a damaged aortic valve. TAVI procedure has proven to be a game-changer as it brings down the risk factor to the minimum.  
As the word ‘transcatheter’ in the name suggests, this less invasive surgical procedure uses a specialized catheter (a thin, hollow tube) to replace the old, damaged valve. Unlike a conventional open heart surgery, transcatheter aortic valve replacement (TAVR) does not require to surgically open the chest. transcatheter aortic valve replacement procedure (TAVI) can be performed through small openings without causing any harm to chest bones or other organs.  
TAVI has proven to be a boon for high-risk heart patients.  
Here are some major benefits of TAVI heart surgery over conventional Surgical AVR:  
Here are the Major Steps Involved in the TAVI Procedure:  
Currently, tavr procedure is reserved for the people whose bodies are too weak to undergo an open heart surgery. Therefore, the majority of the patients who undergo tavr surgery are over 70 years. Apart from these aged patients, here are some other cases for which transcatheter aortic valve surgery is the best alternative to the complicated surgical procedures:  
Breast implants are prosthesis which is inserted into the breast tissue to alter the size and shape of breasts. It can be further divided into saline implants, silicone implants and alternative composition implants. This form of surgery requires advanced technology and experienced reconstructive surgeons, and Max Hospital has established its name as one of the best breast enlargement surgery hospital in Delhi, India.Breast augmentation also termed, augmentation mammoplasty, is a surgery to increase breast size by placing breast implants under the tissue of or muscles of the chest. Through this procedure, certain women feel more positive about their overall personality, whereas, for others, it's just a part of rebuilding their breasts for various conditions. There are usually 2 types of implants used by the surgeon:  
Both types of implants do come in various sizes and have smooth or textured shells. Each has its pros and cons, so it is a matter of preference. Most women prefer Saline implants to Silicon implants because of the risk of leakage.  
A breast implant surgery is done to:  
Before the procedure, it is the doctor who helps in the selection of implants for the patient. This can be carried out by placing various implants into a bra to find whether they feel comfortable or not.  
Once the patient is given anaesthesia, the surgeon will make an incision in one of the below areas:  
The location where the incision has been performed can affect how visible the scars would be after the surgery. It will also decide the complications that a patient may experience after breast enlargement treatment. The surgeon will put the breast implant into the pocket above or below the chest muscle. After the implant is placed, the surgeon will close the incision with sutures and may also place temporary drains to prevent fluid or blood accumulation.  
The patient’s breast will be wrapped in gauze or a surgical bra. The scars of a breast enlargement surgery may fade in two or three months, depending on the skin type of the patient.  
Following the surgery, some pain, swelling and tenderness are normal, which may last for a month or longer, but should go away with time. For most women, scars will turn into thin lines over the time. The surgeon may prescribe some medications to relieve pain and nausea and will also discuss ways to take care of the surgical area.  
At the surgeon’s recommendation, a patient is likely to return to work within a few weeks. However, it is strongly advised to avoid any strenuous activities that could increase blood pressure and pulse rate, for a minimum of two weeks. Be sure to ask the surgeon about a schedule for follow-up visits along with the precautions which need to be taken.Also Read | Asymmetrical Face Surgery  
The surgeon and patient should discuss all possible incision options. The following options are available:  
  
Incision choice depends on several factors, including how much enlargement is required, the patient’s anatomy, the type of implant, and surgeon-patient preference.  
Breast augmentation can generally be done as an outpatient procedure, or one may stay overnight in the hospital for a monitoring basis. The entire procedure gets over in about 1 to 2 hours, and the patient will likely be given general anaesthesia.The surgeon will make a cut under the breasts, under the arms, or around her nipples, depending on the body, the type of implant, and how much enlargement is being done.After the incision is made, the surgeon opens up the area around breast tissue and separates it from the chest's muscles and connective tissue. This will result in a pocket either behind or near the pectoral muscle. The surgeon will then insert the implant into this pocket and centre it behind your nipple.  
Saline implants are not pre-filled with sterile saltwater. Once they're inserted in their desired place, then only they are filled with sterile saltwater. Silicone implants are pre-filled with silicone gel. The breast implant is being inserted into a pocket above or below the chest muscle. Once the implant is in place, the surgeon will close the cuts with sutures or surgical tape.  
A successful breast implant surgery helps in the following ways:  
This procedure can have certain complications like:  
Normally, Insurance doesn't cover breast enlargement surgery. However, it will cover breast implants for women who have had mastectomies due to breast cancer. If one needs further surgery, later on, the health insurance may not cover that, either. Having breast implants may also affect insurance rates later on. It is advisable to speak to your insurance company while you plan for the surgery.  
Septoplasty is a surgical procedure that is meant to correct a deviated septum. The septum is the wall of bone and cartilage that divides the nose into two separate nostrils. A deviated septum occurs when the septum moves to one side of the nose, which makes it look crooked.  
A deviated septum can be congenital or may be caused due to an injury or trauma to the nose. The septoplasty surgery may be performed in adults or children and is done as outpatient basis. It is usually performed under local or general anaesthesia. The surgery can also be done to treat conditions that are blocking the nasal airway. Additionally, Septoplasty may be performed alongside rhinoplasty surgery to improve the nose appearance.  
Septoplasty surgery is done to correct the deviated septum and improve breathing. If your deviated septum blocks one or both nostrils and makes it hard to breathe through your nose, then you may want to go for this surgery. In general, you may be considered as a good candidate for septoplasty if you:  
The following reasons may not make you a good candidate for septoplasty:  
Your doctor may perform an endoscopy to check for the deviated septum and whether it is the root cause of breathing difficulties. In this procedure, the numbing medicine is sprayed into the nose. A small camera attached to a scope is then inserted to check for the deviated septum.Your doctor will explain the septoplasty surgery in detail along with its risk and benefits. The doctor will ask if you take any medications, including over-the-counter drugs, herbs, and vitamins. They will also ask about allergies along with the family history of any bleeding disorder. Some other preparation that is required for the surgery includes:  
After the surgical procedure is complete, you will be shifted to a recovery room where the staff carefully monitors your vitals and conditions. Your surgeon may also place splints and internal tubes to support the bone as it begins to heal, though these are quite rare. The surgery usually takes one to two hours to complete. However, it may take longer based on the procedure.  
Septoplasty surgery comes with some risks, which are there with any major surgery. Some possible complications of the surgery include:  
In most cases, you will be able to go home on the same day as the surgery. Your nose will be swollen and will be packed with dressing to control bleeding. Your doctor will also prescribe pain medications. One may also experience congestion or bleeding. However, these usually go away within two weeks after the surgery. Your surgeon may also ask to follow some precautions, including:  
Intrauterine Insemination (IUI) is an procedure to treat infertility, it involves the placement of sperm past the cervix into the woman's uterus during the time of ovulation. This makes the progression to the fallopian tubes much easier and shorter, and there is a better chance that more sperm may come across the egg.  
During the phase of natural conception, sperms travel from the vagina up to the fallopian tubes through the cervix into the uterus. With the IUI technique, sperm are "washed" and concentrated and placed directly into the uterus, which is closer to the egg. The goal of this procedure is to increase the chances of pregnancy in certain couples.  
Artificial Insemination can be broadly classified into two types which are as follows:  
Each doctor will have specific instructions for the IUI procedure. After the initial consultation, when you and your internal physician have determined that IUI is the best course to pursue, a typical schedule may comprise the following:  
You may have several lab visits during your period for bloodwork, ultrasounds, and medication instructions. If the doctor prescribes medications, it is recommended to have them while on your period.  
About a week after medication, you'll likely have another set of investigations and ultrasound as well. The doctor will decide accordingly when you're ovulating based on test results. The time for this is basically 10 to 16 days after starting medications.  
Your male partner has to give a semen sample on the day of the procedure, or there will be a thawing of donor sperm. The sperm will be taken to a lab where the specimen will be "washed", a process that involves the removal of seminal fluid and other debris so that the sperm is very concentrated and unlikely to irritate the uterus.  
Once the specimen is collected in the lab, the semen sample is then "washed" to concentrate the sperm and remove the seminal fluid (seminal fluid can cause severe cramping in the woman). This entire task takes around a minimum of 2 hours to complete.  
Intrauterine Insemination is a very simple and safe procedure, and the risk of serious complications is relatively low. Risks and complications include:  
The doctor will instruct you to return for a thorough check-up about two weeks after the fertilization process, once your home kit gives a positive result.  
In case you don't become pregnant, the doctor will recommend you to try IUI again before progressing to various other fertility treatment options. Often, the same therapy is advised for three to six months to maximize the chances of pregnancy.  
Tympanoplasty is a type of ear surgery done to patch up the hole in the eardrum. The eardrum, or tympanic membrane, is a thin tissue that divides the middle and outer ear canal. The eardrum allows you to hear as it vibrates when the sound waves enter the ear.  
However, if the eardrum is damaged or has a hole in it, it may result in a ruptured eardrum. This can lead to hearing loss. The hole in the eardrum could be congenital or may be caused due to an injury or trauma. Other causes for ruptured eardrums include ear infections, pressure changes, acoustic trauma, and more.  
Tympanoplasty surgery is done to reconstruct the hole in the eardrum. The surgery is usually done under general anaesthesia. A tissue graft is taken from the patient, usually behind the ear, and the surgery usually takes around two hours.   
Tympanoplasty surgery is done to repair the hole or tear in the eardrum. The surgery is also done to improve the hearing of a patient. That said, if you meet the following conditions, then you may be considered as a good candidate for tympanoplasty surgery:  
The following reasons may not make you a good candidate for tympanoplasty surgery:  
Your doctor may perform different tests to determine the ruptured eardrum. He may perform a physical examination using an otoscope or microscope to check for the hole in the eardrum. The doctor specifies laboratory tests to check for any bacterial infection. The doctor may also perform tympanometry. A device is inserted into the ear canal to measure the eardrum's response to a slight change in air pressure.   
Your doctor will explain the tympanoplasty surgery in detail, along with its risk and benefits. The doctor will ask if you take any medications, including over-the-counter drugs, herbs, and vitamins. They will also ask about allergies and the family history of any bleeding disorder. Some other preparation that is required for the surgery includes:  
Tympanoplasty surgery is done with in-patient hospitalization, meaning that you have to stay for 24 hours in the hospital after the surgery is completed. The surgery is usually done with general anaesthesia. The surgeon can either enter the inner ear via an ear canal (transcanal approach) or by making an incision behind the ear (postauricular approach). The process is done to reach the tympanic membrane perforation. The surgeon then uses two techniques to perform the surgery: underlay or overlay.   
In the underlay technique, the graft is placed under the existing eardrum with a foam-like material that easily dissolves after several weeks. The eardrum uses the graft to cover the area of perforation. In the overlay technique, the surgeon removes the eardrum and places the graft to cover all the areas of the eardrum. The skin of the ear canal uses the graft to build a new eardrum. Once the graft is placed in the proper location and held in a foam-like material, the surgeon then sutures the incision and packs it with dressing. The whole surgery usually takes around two years to be completed.  
Tympanoplasty is major surgery, and as with any surgery, there are certain risks like bleeding and infection. However, the complications are relatively rare when it comes to tympanoplasty surgery. Other possible complications include:  
After the tympanoplasty surgery, you may notice some drainage in the first three or five days. You may also feel pain and soreness after the surgery, though it should go away after the first five days of the surgery. Your doctor will prescribe pain medicines to treat the pain. The recovery from the surgery can take two or three months. During the period, the hearing will gradually begin to improve as the packing material dissolves over time. You may be able to go back to your routine after two or three weeks from the surgery. Your surgeon may also ask to follow some precautions, including:  
A hip replacement is a surgical procedure that includes the removal and replacement of portions of an injured hip joint either with an artificial joint or implant. It is aimed to relieve extremely severe hip pain and stiffness caused by hip arthritis and to improve function.  
The implants used in this procedure are as follows:  
Hip implants generally last for around 13 to 15 years. After this time period, the patient undergoes another surgery which is known as Hip revision surgery.  
There are several conditions involved in hip degeneration, thereby making hip replacement surgery necessary.These include:  
You might consider hip replacement if you have:  
The three major types of hip replacement are:  
Total Hip Replacement: Most commonly performed hip surgery which involves worn-out or damaged areas of the hip being replaced with artificial implants. During the procedure, the doctor inserts a stem into the patient’s femur for stability. The head of the femur is replaced with a ball made up of metallic or ceramic alloy and the natural socket in the hip joint is replaced with a durable plastic cup.  
Hemi Hip Replacement (Hip hemiarthroplasty): This procedure involves the removal and replacement of the patient’s femoral head only. It does not replace the socket. Surgeons typically perform this surgery in old age patients to repair certain types of hip fractures.  
Hip Resurfacing: Hip resurfacing helps to relieve pain from cartilage loss. It involves resurfacing of the femoral head and socket. Most commonly performed in younger patients.  
The diagnosis of patients requiring this procedure is mostly symptom-oriented which includes pain, loss of range of motion, and functional impairments in activities of daily life.  
Apart from those certain special investigations like X-Ray, CT scans, and MRI is carried out to know the exact level of damage involved.  
Hip replacement surgery can be performed in two ways namely traditional hip replacement and minimally invasive technique.  
During Traditional hip replacement, the patient is given anesthesia at first. The doctor makes an incision along the side of the hip and dissects the muscles to expose the hip joint. After this, the ball portion of the joint is removed by cutting the femur with a saw. Then an artificial joint is attached to it using either cement or uncemented implants that allows the remaining bone to attach to the new joint.  
The doctor then prepares the surface of the hipbone by removing any damaged cartilage and attaches the replacement socket part to the hipbone. The new ball part of the femur is then inserted into the socket part of the hip. A drain may be put in to help drain any fluid. The doctor then reattaches the muscles and closes the incision.   
In the minimally-invasive approach, doctors make one to two incisions from 2 to 5 inches long. The same procedure is performed through these small cuts as with standard hip replacement surgery. The small incisions are mainly aimed to limit blood loss, ease pain after surgery, shorten hospital stays, reduce scar appearance, and accelerate healing.  
Generally, hip replacement surgery does have a very good prognosis. However, like all other surgeries, this also has some risks associated with it. These are as follows:  
Recovery after hip replacement surgery starts immediately and the patient is encouraged to get up and move around as soon as possible after surgery. Six to eight weeks of intense physiotherapy regime is required by the patient to improve muscle strength and range of motion.  
While in the recovery stage, patients need to be sure about the following things:  
FAQs reviewed by Dr. Ramneek Mahajan, Senior Director, Orthopaedics & Head of Joint Reconstruction (Hip & Knee) Unit.  
For diagnosis, if other methods do not provide conclusive results, the doctor may recommend a keyhole surgery to diagnose the following conditions:   
Keyhole surgery can also be performed to treat different conditions, including:  
Keyhole surgery is much more common now as it offers less painful experience and minimum scarring. The surgery is also safer than open surgery, and people recover faster than open surgery. That said, you may be a good candidate for keyhole surgery if you meet the following conditions:   
The following reasons may not make you a good candidate for keyhole surgery:  
Depending on the condition, your doctor will recommend keyhole surgery. The medical team will also provide some pre-surgery instructions to you. The doctor will ask if you take any medications, including over-the-counter drugs (like aspirin), herbs, and vitamins. The doctor will also ask about allergies and any bleeding disorder family history. Before the surgery, you may need specific tests to diagnose the condition. Some other preparation that is required for the surgery includes:  
Keyhole surgery is usually done as an outpatient procedure, though in some cases, it may require in-patient hospitalization. The latter means that you have to stay at the hospital for 24 hours and more. You will be given general anaesthesia. The surgeon will then make small incisions through the skin (usually 10mm and 5mm). The surgeon inserts an instrument known as a laparoscope.  
The laparoscopy is a small, narrow tube with a light and a camera attached to it, allowing the surgeon to see the area through a monitor. The surgeon inserts small surgical tools and a tube to pump gas, usually carbon dioxide, to see the internal organs. Depending on the specific part of the body, the doctor may perform the following surgical procedure:  
Arthroscopy: When the keyhole surgery is performed to see a joint, it is known as arthroscopy. The surgeon inserts a narrow tube through the incision during the procedure, and corrective surgery is performed with special instruments.  
Parathyroidectomy: This procedure removes the parathyroid glands using keyhole surgery. The surgeon makes small incisions in the skin of the neck and gains access to the thyroid gland and parathyroid glands. The surgeon then removes the damaged glands.  
Laparoscopy: When the surgery is performed to access the abdomen and female pelvic organs, it is generally known as laparoscopy.  
Video-assisted thoracoscopic surgery (VATS):  In this VATS, the surgeon inserts a small camera known as a thoracoscope and small instructions through the incisions in the chest to perform the surgery on the lungs, chest, and esophagus.  
Once the procedure is completed, the surgeon removes all the instruments, and the incisions are stitched up and dressed.  
The complications after keyhole surgery are generally low as compared to open surgery. However, like any other major surgery, there are some risks associated with it, including bleeding, infection, and complications related to anaesthesia. Other complications may include:   
In many cases, you will be able to go home on the same day of the keyhole surgery. However, you need to stay for 1 to 3 days in hospital in other cases. The total recovery will depend on the type of surgical procedure that you have gone through. In some cases, you may feel some pain in the shoulder or back due to the gas used during the surgery. However, the pain should resolve within a few days.  
Your doctor will prescribe medications for pain and swelling. However, these typically go away within two weeks after the surgery. Your surgeon may also ask to follow some precautions, including:  
Liposuction surgery, often called Lipoplasty or Body Contouring, is a cosmetic surgical procedure that removes excess fat from particular body regions, like the abdomen, hips, thighs, buttocks, arms, or neck for men and women. Otherwise, a person cannot get rid of it through diet or exercise.However, Liposuction surgery procedure isn't typically considered an overall weight-loss method or a weight-loss alternative. This cosmetic surgery doesn't improve cellulite dimpling or any other skin surface irregularities or remove stretch marks, but can be performed for breast reduction or treatment of gynecomastia.  
During weight gain, fat cells increase in size and volume, so Liposuction surgery procedure helps to reduce the fat cells in a particular region. The amount of fat removed depends solely on the appearance of the site and the volume of fat. The resulting contour changes are generally permanent, as long as the weight remains steady.  
After liposuction cosmetic surgery, the skin adapts itself to the new contours of the treated areas. Therefore, if a person has good skin tone and elasticity, the skin will likely appear smooth and vice versa.  
The patient is thoroughly evaluated at least one to two weeks before undergoing the Liposuction Surgery, and all compulsory blood tests, medical history, physical measurements, and photographs are taken. In addition, the patient may need further evaluation, medical clearance from a primary physician, EKG, and other tests performed before the procedure, depending on the past and physical examination results.   
There are various liposuction surgery techniques in use. However, the common thing among all these is the presence of a cannula, which is joined to a vacuum to pull out the fat easily from the body.  
There are several possible risks directly linked to liposuction surgery that you still have to consider, including:  
The recovery time differs for each patient. It varies from a few days with the tumescent liposuction surgery method to two weeks with the traditional liposuction surgery. Therefore, the patient should ask their surgeon to estimate the recovery period. Laser-assisted methods result in recovery in roughly the same time, depending on which technique is applied.Although sometimes surgeons tend to use the tumescent form along with the laser, they claim that the laser technique results in less recovery time, but this is a result of the use of the tumescent process, which has a shortened recovery time compared to the traditional method.  
Results can vary from minor improvement to significantly satisfying. This type of improvement depends on the kind of procedure performed, the hand skill of the doctor, and the laxity of the area before the surgery. However, most patients find this surgery very helpful, and most results are anticipated to be either good or excellent.  
A person suffering from any disturbance or abnormality in the colon, rectum and anus may be a good candidate for colorectal surgery. Apart from this, the following reasons also make a good candidate for this surgery:   
The following reasons may not make a good candidate for colorectal surgery:  
Colorectal surgeries are major surgical procedures. The doctor may perform several tests and scans. These may include blood and urine tests, EKG (electrocardiogram), X-ray, ultrasound, and more. The doctor will advise stopping taking over-the-counter medications, such as aspirin.   
One also need to prepare for bowel by taking laxatives before the surgery. The goal behind this is to clear the lower digestive tract to give the surgeon a clear and clean surgical field. This also prevents post-operative infections. Apart from this, other preparations for abdominal surgery may require the following:   
Colorectal surgery is generally performed under local anaesthesia, intravenous sedation or general anaesthesia. The surgery begins by making incisions around the abdomen. There are several ways to perform colorectal surgery, depending on the conditions that need to be treated. Some of the most often used techniques are as follows:   
Colectomy: The surgery is done to remove part of all of the colon. The surgery can be performed as open or laparoscopic. The surgeon makes an incision in the abdomen during the procedure and cuts a part or entire colon. The surgeon then reconnects the digestive system by rejoining the remaining portion or connecting the intestine to an opening created in the abdomen.    
Colostomy: The surgical procedure involves creating a hole in the abdomen and pulling one end of the colon through it. Colostomy can be temporary or permanent, depending on the condition. The surgeon makes an incision in the abdomen during the procedure and pulls the colon. The surgeon then attaches a colostomy bag to collect the stool.   
Laparoscopic surgery: This type of surgery is performed in the abdomen to minimize pain and enable speedy recovery. The surgeon makes a small incision in the abdomen during the procedure and inserts a tube with a camera attached to it. Once the surgery is completed, the surgeon then sutures the small incisions.   
Anoplasty: The surgery is performed to reconstruct the anus and is often done in case of anal stenosis.   
Hemorrhoidectomy: This surgical procedure is done to remove haemorrhoids. During the procedure, the surgeon makes incisions around the haemorrhoid and ties off the swollen vein inside it. The surgeon then removes the haemorrhoid and sutures the incision site.   
Ileal pouch-anal anastomosis: Also known as IPPA or J-pouch procedure, the surgery removes the entire colon and rectum. The surgeon then creates a pouch from the small intestine’s end and attaches it to the anus. The surgeon then makes a temporary opening in the abdominal wall to eliminate waste. Once the J-pouch is healed, the surgeon performs the second procedure to close the opening and allow the waste to pass normally.   
Lateral internal sphincterotomy: This surgical procedure is performed to treat chronic anal fissures. In this procedure, the surgeon cuts a small portion of the anal sphincter muscle, which reduces spams and pain. This allows anal fissures to heal.   
Like any other major surgery, there are some risks associated with colorectal surgery, including bleeding, infection, and reaction to anaesthesia. Other complications may include:   
Depending on the type of surgery, patients may need to stay in the hospital for one or two days. The recovery time for colorectal surgery is approximately six to eight weeks, though it may be longer in some cases. The doctor will provide a post-operative care package to ensure minimal complications and faster recovery. The doctor may also ask to come back on the fifth or seventh day to monitor the progress. Apart from this, other post-operative care includes:   
Abdominal surgery is a broad term used for various surgical procedures around the abdominal region. These can be used to treat or diagnose medical conditions present in that area. The surgery can be performed on multiple sites like the small intestines, spleen, stomach, appendix, and rectum (or colon). The surgery made be needed for different reasons like infection, bowel disease, or tumours. Abdominal surgery can also be done to treat different types of hernias like umbilical or inguinal.   
Abdominal surgeries can be broadly classified as laparotomies and laparoscopic surgeries. Laparotomies surgeries are considered major operations that require large incisions to operate. The laparoscopic surgeries are done with small incisions and have less postoperative pain.   
The following reasons may not make a good candidate for abdominal surgery:  
Spine surgery involves various surgical techniques to treat conditions affecting the spine and spinal cord. The surgery may involve removing herniated or damaged discs, draining the infection, stabilising the spine, decompressing nerves, or correcting spinal deformities.  
Discectomy: This procedure involves removing all or part of a herniated disc that is pressing against spinal nerves, relieving pain in the back and leg and restoring nerve function.  
Spinal Fusion: This surgery joins two or more vertebrae together using bone grafts or implants to stabilise the spine, often performed to treat spinal instability, degenerative disc disease, or deformities.  
Laminectomy: It involves removing the back part of a vertebra (lamina) to relieve pressure on the spinal cord and nerves caused by conditions like spinal stenosis, tumours, or discs.  
Artificial Disc Replacement: It involves removing a damaged disc and replacing it with an artificial disc to preserve motion in the spine.  
Vertebroplasty/Kyphoplasty: These minimally invasive procedures involve injecting bone cement into the fractured vertebrae to stabilise the spine and relieve pain caused by compression fractures.  
Spine surgery is typically recommended when conservative treatments such as medication, physical therapy, or spinal injections fail to provide adequate relief. It may be necessary in the following cases:  
Spinal cord compression or nerve impingement causing severe pain, weakness, or numbness.  
Spinal deformities like scoliosis or kyphosis cause functional limitations or affect vital organs besides cosmetic disfigurement.  
Spinal tumours or infections requiring surgical intervention to preserve spine stability and remove compression.  
Spinal instability due to trauma or degenerative conditions.  
Severe spinal cord injury resulting in paralysis or loss of motor function, usually due to traumatic Injury.  
Pain relief: spine surgery aims to alleviate chronic pain caused by compressed nerves or damaged spinal structures.  
Improved functionality: By decompressing nerves and stabilising the spine, surgery can restore mobility and enhance overall functionality.  
Enhanced quality of life: Surgery can significantly improve a patient's quality of life by reducing disability, increasing independence, and enabling the resumption of daily activities.  
Prevention of further damage: Surgery can prevent the progression of certain spinal conditions, reducing the risk of long-term complications.  
Correction of spinal deformities: spine surgery can correct deformities such as scoliosis or kyphosis, improving posture and appearance and preserving vital organ function along with preventing neurological deterioration.  
The decision to undergo spine surgery is typically made in consultation with a spine specialist or neurosurgeon, or orthopaedic. The following factors are considered when determining the candidacy for spine surgery:  
Conservative treatment failure: Surgery is often recommended when non-surgical treatments have proven ineffective.  
Severity of symptoms: Candidates with severe pain, weakness, or loss of function are more likely to benefit from surgery.  
Diagnostic imaging: MRI, CT scans, or X-rays help assess the extent of spinal cord damage and aid in surgical planning.  
Overall health: Candidates should be in reasonably good health to undergo surgery and tolerate anaesthesia, usually general.  
Preparing for spine surgery involves several steps:  
Medical evaluation: Your surgeon will conduct a comprehensive evaluation, including medical history, physical examination, and review of diagnostic tests.  
Pre-operative instructions: You will receive specific instructions regarding fasting, medication management, and discontinuation of blood-thinning drugs prior to surgery.  
Lifestyle adjustments: Your surgeon may recommend lifestyle modifications such as weight loss, smoking cessation, or physical therapy to optimise surgical outcomes.  
Arranging support: Ensure you have a support system in place to assist with post-operative care, transportation, and daily activities during recovery.  
The choice of surgery will depend on the underlying condition being treated. spine surgery is typically performed under general anaesthesia and involves the following steps:  
Incision: An appropriate size incision is made over the affected area of the spine, allowing access to the spinal structures. Minimally invasive entails giving small incisions.  
Depending on the procedure, the surgeon may remove herniated discs, stabilise the spine with implants, decompress nerves, or correct deformities.  
Fusion or artificial disc placement: In cases where fusion is necessary, bone grafts along with implants are used to fuse adjacent vertebrae. In artificial disc replacement, a prosthetic disc is inserted after removing the naturally affected disc.  
Closure: The incision is closed using sutures or staples, and a sterile dressing is applied.  
Hospital stay: The duration of the hospital stay varies depending on the procedure performed. It can range from a few days to a week.  
Pain management: You may experience post-operative pain, which can be managed with pain medications prescribed by your surgeon/anaesthetic.  
Limited mobility: Initially, you may experience restricted movement and need to use assistive devices like a walker or cane. Physical therapy will be initiated to gradually regain strength and mobility.  
Follow-up appointments: Regular follow-up visits with your surgeon will be scheduled to monitor your progress, remove sutures/staples, and assess the healing process.  
While spine surgery is generally safe, however like any  other surgical procedure, it carries some risks and potential complications, including:  
Infection  
Bleeding  
Nerve and spinal cord damage  
Blood clots  
Implant failure  
non-union (failed fusion)  
Allergic reactions to anaesthesia or medications  
Recovery from spine surgery varies depending on the type and complexity of the procedure, as well as individual factors. Generally, the following guidelines apply:  
Physical therapy: Physical therapy plays a crucial role in restoring strength, flexibility, and functionality. Your surgeon may prescribe a tailored rehabilitation program in consultation with a physiotherapist.  
Gradual resumption of activities: You will be advised to gradually increase physical activities and avoid heavy lifting or strenuous exercises during the initial recovery period.  
Pain management: Your surgeon will prescribe pain medications as needed to manage discomfort during the recovery process.  
Follow post-operative instructions: Adhere to the post-operative instructions provided by your surgeon regarding wound care, medication, and activity restrictions.  
During the recovery period, it is important to take the following precautions:  
Avoid heavy lifting or strenuous activities until cleared by your surgeon.  
Practice good posture and body mechanics to avoid putting undue stress on the spine.  
Follow a balanced diet and maintain a healthy weight to reduce strain on the spine.  
Quit smoking if you are a smoker, as it hinders the healing process and increases the risk of complications.  
The prognosis after spine surgery varies depending on the individual's overall health, the severity of the condition being treated, and the success of the surgery. While surgery can provide significant relief and functional improvement, complete recovery may take several months. It is essential to have realistic expectations and actively participate in the rehabilitation process to achieve the best possible outcome.  
After spine surgery, contact your doctor if you experience any of the following symptoms:  
Worsening pain or new onset of severe pain  
Persistent fever  
Increased redness, swelling, or drainage at the surgical site  
Numbness, weakness, or loss of bladder or bowel control  
Difficulty breathing or chest pain  
Recovery time varies but can range from several weeks to several months, depending on the procedure and individual factors.  
With proper rehabilitation and adherence to post-operative instructions, many people are able to resume normal activities and regain functionality.  
In some cases, non-surgical treatments may be effective. However, if conservative approaches fail to provide relief, surgery may be necessary.  
Yes, many spinal cord surgeries can now be performed using minimally invasive techniques, which offer smaller incisions, reduced blood loss, and faster recovery compared to traditional open surgery.  
The ability to drive will depend on your overall recovery, mobility, and clearance from your surgeon. Follow your surgeon's guidelines regarding driving restrictions.  
Reviewed by Dr. Abhishek Srivastava, Senior Consultant – Spine Surgery on 07-July-2023.  
Tonsillectomy is a surgical procedure to remove the tonsils. Tonsils are the two small glands located around the back of the mouth and nasal cavity. Tonsils protect the body by capturing the germs from the mouth and preventing them from entering the body.There are three types of tonsils: palatine, adenoids, and lingual. However, sometimes the tonsils can get infected and can cause tonsillitis. This makes the tonsils swell, making it difficult to swallow food, with fever and more.  
Frequent tonsillitis may be one of the reasons for performing tonsillectomy surgery. Moreover, the surgery can also be performed to remove the enlarged tonsil causing breathing problems like snoring or sleep apnea. Tonsillectomy is one of the most common surgeries done on kids and teens compared to adults. The recovery period after tonsillectomy is usually 10 days to 2 weeks, depending on the type of surgery performed and other conditions.   
People who have infected or swollen tonsils for a prolonged period are usually the best candidates for tonsillectomy surgery. In some cases, the tonsils are so big that they block the airway and makes it hard for the person to breathe properly. Your doctor may consider you a good candidate for tonsillectomy if you meet the following conditions:   
Tonsillectomy is not recommended for children who are under 3 years of age. Moreover, the following reasons may not make you a good candidate for tonsillectomy:  
Your doctor will explain the whole procedure in great detail. They will ask if you take any medications, including over-the-counter drugs, herbs, and vitamins. The doctor may tell you to stop taking certain medicines before the surgery. They will ask about allergies along with the family history of any bleeding disorder and then give some instructions, including diet and alcohol restrictions. Apart from this, you may be asked to:   
Your doctor will ask you not to eat anything starting at midnight the night before the surgery. However, one can have some liquids, though it is always better to check with your doctor to see what is allowed to take before the surgery.   
Tonsillectomy surgery is generally done as day care procedure, meaning that one can go home on the same day of the surgery. However, in some cases, the doctor may recommend an overnight stay if there are any complications. The whole surgery takes about an hour and is performed under general anaesthesia. The tonsillectomy surgery can be performed using different techniques. The most common ones are as follows:   
The surgeon removes the tonsils using a scalpel in this procedure. The surgeon dissects the tonsils and sutures the muscles to close them.   
In this procedure, the surgeon burns the tonsillar tissues and cauterizes the area to stop bleeding. This technique is relatively common and can sometimes run the risk of injury to the surrounding tissues around the tonsil.   
In this technique, the surgeon uses a medical device with ultrasonic energy to vibrate the blade at around 55,000 cycles per second. The tonsils are cur and coagulated simultaneously.   
In this procedure, the surgeon uses a microdebrider, a rotary device that shaves the tissues away. It may be used to perform a partial tonsillectomy and is recommended for enlarged tonsils.   
An ionized saline layer is charged with radiofrequency waves in this procedure. The energy breaks the molecular bonds in the tissue and separates it without affecting the surrounding tissues.   
A highly precise technique with minimal bleeding. Higher temperatures reached during laser surgery can potentially harm neighboring tissues. The only downside is the exceedingly high cost of laser surgery.   
Tonsillectomy surgery is usually considered a safe procedure. However, there are some possible complications after the surgery. These may include:   
Patients can experience some pain after the tonsillectomy surgery. In some cases, there might be a sore throat after the surgery. One might also feel pain in the jaws, ears or neck after the surgery. In most cases, you will start walking the next day after the surgery. You can resume your daily strenuous activities two-three weeks after the surgery. Generally, recovery after tonsillectomy surgery can take a week or more. The doctor may recommend the following for a speedy recovery after the surgery:   
Hepatectomy is a surgical procedure performed to remove a diseased liver. The liver is one of the most vital organs present in the body. The liver is basically divided into sections, called lobes, and acts as a filter for blood. Hence, a segment can be safely removed without affecting other parts of the liver. It eliminates harmful substances from the blood that is later passed out of the body as waste. It performs several vital functions such as:  
Hepatectomy surgery is performed for several conditions which affect the liver. These are as follows:  
Hepatocellular carcinoma. It consists of cancers arising from liver cells and are limited to one part of the liver. These can easily be treated with Partial Hepatectomy, whereas cancers that spread to the liver from the colon or carcinoid tumour, a part of the liver can be resected if the cancer is restricted to one part of the liver.  
Benign liver tumours  
Hepatolithiasis   
Parasitic cysts in the liver  
Large liver hemangiomas  
Chronic or acute liver failure  
Congenital diseases  
Apart from general blood tests like CBC and kidney function tests, certain other liver-specific tests are advised as well. These are as follows:  
Higher AFB levels in people with liver tumours indicate malignancy. The protein is used as a marker for liver cancers and certain other tumours. It also serves as a marker for patients on follow up basis, and if the level rises again, it indicates the return of the disease.  
These are recommended to be done before the surgery in order to check the status of liver functioning.  
The liver helps prevent bleeding by the production of some proteins that help in clotting. A compromised or damaged liver is unable to make enough of these clotting factors, which could increase the risk of clotting. Prothrombin time and partial prothrombin time(PTT) are the two tests that come under this category.  
This is done initially to know about the extent of the disease and the damage involved. Based on the ultrasound findings, other imaging tests are advised as well, or even a biopsy is performed to confirm the diagnosis.  
This helps to differentiate between benign and malignant tumours. After a plain MRI, a contrast dye called Gadolinium is inserted into the vein to assess the blood vessels and other associated structures more clearly. It also gives details about other parts of the body.  
This nuclear medicine imaging technique provides a three-dimensional image of the liver or pancreas and other surrounding structures. This is used in conjunction with a CT scan to produce more detailed and clear images of the liver.  
This is done to assess the structures of various blood vessels of an organ. These give information regarding the extent of the tumour and help the doctors to plan the surgery accordingly. A CT or MR angiography procedure can also be performed instead of injecting into the liver artery directly. Direct injection into the liver artery is useful to guide some types of non-surgical treatment like embolization of cancer.  
This consists of:  
Hepatectomy is performed in two ways, either through open surgery or through laparoscopy. Open surgery is the most common approach used by doctors in most cases.  
In this procedure, the incision is made under the ribs and in the middle of the abdomen. Afterwards, ligaments, veins, arteries and bile ducts to the part of the liver going to be resected are identified and accordingly isolated.  
Several techniques are used to remove the affected parts of the liver. These involve an Ultrasonic surgical aspirator. The laser may also be used in combination with this procedure. A wedge resection may be used for superficial lesions where only the affected part of the liver along with some other parts of surrounding tissues is removed. In certain cases, one or more affected segments or a lobe of the liver may be removed.  
Surgery is performed with the help of a laparoscope. Sometimes the doctor performing this surgery may have to convert it to open surgery in case of any complication.  
This procedure involves removing only one part of the liver, approximately 60% of the liver is removed, and care must be taken during surgery to minimize blood loss or any other injury to vital structures like bile ducts and blood vessels. Since the liver is very much capable of regeneration, therefore a part of the liver is removed, after which the cells of the remaining part multiply in order to replace the removed portion. This can be carried out only if the remaining part is normal.  
This is also called Complete Hepatectomy and involves the removal of the entire lobe of the liver. This is followed by Liver transplantation.  
These comprise of the following:  
Liver cancer gets treated for those people who are able to receive a successful organ transplant. The liver cancer issue is also resolved for those individuals who undergo surgery to remove tumours or parts of the liver. Liver cancer, if not treated successfully, proves fatal, but researchers are working daily to find more effective treatments.  
Reviewed by Dr. Karamjot Singh Bedi, Consultant, Liver Transplant and Biliary Sciences, Gastrointestinal Surgery, Surgical Gastroenterology on 02-September-2022  
Cervical disc replacement surgery involves the removal of the diseased cervical disc and replacing it with an artificial one. Before the invention of this procedure, the affected disc was removed, and the vertebrae above and below were fused to prevent motion.  
This treatment is a newly adopted surgical method to achieve neck movement in patients with a displaced disc. This relieves the additional stress on the remaining vertebrae.  
The cervical spine comprises cervical vertebrae stacked on one another, forming the neck. These are separated by cervical discs that act as cushions to prevent friction, are shock absorbers, and allow movement of the neck. When this space becomes too narrow, part of the disc may press on the spinal cord or nerves and cause pain, numbness, or weakness. Surgery may be advised when these symptoms fail to respond to non-surgical therapies.  
In the absence of space between the cervical vertebrae due to cervical disk degeneration or wear and tear, the cervical disc may need replacement. Cervical discs begin to collapse and tend to bulge with age. It usually affects people over 60 years or more. Some people may present more clinical symptoms from cervical disc degeneration than others. These symptoms may include:  
Pain and stiffness in the neck  
Headache  
Pain that travels down through the shoulders or into the arms  
Weakness in shoulders, arms, hands, or legs  
Numbness or "pins and needles" like feeling in the arms  
Ideal candidates for cervical artificial disc replacement surgery may have the following indications:  
Confirmed diagnosis: An MRI or CT scan imaging shows the degeneration of one or more discs; clinical symptoms should be correlated to confirm the diagnosis.  
Radicular pain and neurological deficits: An inflamed cervical nerve root is usually associated with pain, tingling, numbness, and weakness that radiate to the arm and hand.   
Non-surgical treatments have been tried: Surgery would be the best choice if the symptoms don't subside within 4 to 6 weeks despite non-surgical treatments.  
The patient's health: Candidates for cervical ADR must be in generally good health and capable of recovering well from the surgery.  
Cervical ADR should be avoided in patients with any of the following:  
Advanced spinal degeneration: Replacing a damaged disc does not help fix problems related to an ossified ligament or degenerating facet joints, such as osteoarthritis or ankylosing spondylitis. Also, artificial cervical discs require approval for use at three adjacent spinal levels as opposed to already approved for use at two adjacent spinal levels by the FDA.   
Weakened bones: In weak bones such as osteoporosis or a bone infection, the artificial disc may not stay intact after the surgery.  
Prior cervical spine surgery:  Instability from a previous neck surgery may further lower the chances for cervical ADR to be successful.  
Allergy: If the patient is allergic to any of the materials used as a prosthesis, either a different disc must be chosen, or the procedure should be avoided.  
Many other potential contraindications exist, for instance, having a severe spinal deformity, an underlying medical condition that would make the surgery and/or the recovery period intolerable to the patient.  
Before scheduling an appointment for the surgery, inform the surgeons about any ongoing medicines for other medical conditions. A complete body examination and imaging tests assist the operating doctors in preparing an appropriate treatment plan.  
A thorough medical and physical evaluation should be done before any surgical procedure.   
It is essential to inform the treating orthopaedic surgeon about any ongoing medications since some medicines need to be stopped or have their doses reduced before the surgery begins. The following over-the-counter medicines may cause excessive bleeding and should be stopped two weeks before surgery:  
Non-steroidal anti-inflammatory medications or painkillers  
A few arthritis medications  
Blood thinners need to be stopped three days before surgery and two days after to control bleeding during the procedure.  
Other Factors to be Considered are:  
Quit smoking and use of tobacco products: Smoking increases the risk of surgical complications and detrimental effects on bones. It also prolongs the healing process.  
Simple changes made at home can make life easier during the recovery period. It will be challenging to reach high shelves and cupboards for the first several weeks after the surgery. Hence, placing the routinely required belongings at a lower level is advised. Hiring a caregiver might help achieve simple tasks such as bathing, dressing, cooking, and laundry. If this is not feasible, staying at a rehabilitation facility may prove helpful.  
Smoking and drinking should be stopped for a week before surgery until wholly healed from surgery. Following a well-regulated exercise regime and a nutritionally balanced diet can help faster recovery. Research says that people who smoke are more susceptible to suffering complications from joint replacement surgery than non-smokers. About 12 hours of fasting is recommended before the surgical procedure to avoid anaesthetic complications.  
A single-level cervical artificial disc replacement surgery involves the following steps:  
The patient is made to lie face up on the operating table. General anaesthesia is administered to put the patient to sleep and prevent pain or discomfort during the procedure.  
A small cut is made in front of the neck, and the affected disc is removed along with any fragments of bone pressing against the nerve root.  
The disc space is surgically restored to its normal disc height. This relieves pressure on the adjacent nerves.  
Live x-ray imaging provides visual guidance using which the artificial disc device is placed in the prepared disc space.   
The incision is sewn up once the artificial disc is placed and attached to the two adjacent vertebrae (above and below).  
Possible cervical disc replacement surgery complications include:  
General surgery risks: All surgeries are accompanied by certain risks. These may include - the risk of infection, adverse reaction to medications, and excessive blood loss.  
Difficulty speaking and swallowing: After cervical disc replacement surgery, most people experience soreness and swelling in the throat, which may cause difficulty with speaking and swallowing.  
Heterotopic ossification: Abnormal bone-like material may outgrow the muscles or ligaments due to surgical trauma. In cases where heterotopic ossification occurs, it may lead to an unnoticeable reduced range of neck motion.  
Artificial disc migration: The disc implant may move over time if its attachment to the bone weakens and if the device's hardware fails.  
Pain not relieved: Pain may continue despite successful surgery.  
Paralysis: In case there is an injury to the spinal cord, or a nerve root during the procedure, paralysis may occur in one or more limbs.  
Disk replacement is a new type of spine surgery, so there is limited information on possible long-term risks and outcomes. Discussing the risks and benefits of disk replacement surgery with the operating surgeon compared with more traditional types of cervical spine surgery may help clear doubts and worries.  
There is usually some pain and discomfort in the days and weeks following cervical artificial disc replacement (ADR) surgery. Most commonly, the recovering patient has some pain and soreness at the incision site at the front of the neck. Other symptoms may also be present, such as difficulty swallowing or speaking. As the recovery continues, pain and other symptoms can usually be successfully managed and go away in time.  
Reviewed by Dr. Priyank Uniyal, Consultant - Spine Surgery, Spine Surgery on 02-Sep-2022  
People suffering from back pain are commonly referred for back pain physiotherapy for 4 to 6 weeks. This treatment helps to decrease back pain, improve function and muscle strength, maintain a correct posture as well as prevent the occurrence of back pain in the future. Back pain is one of the most common musculoskeletal disorder targeting all age groups.  
A recent research indicates that about 60- 80% of the population are affected with back pain around the globe. There could be many reasons for pain like aging, trauma, nutrition disorders and genetic factors, even smoking, weight gain, lifting heavy weights, depression, stress, anxiety, decreased flexibility and decreased disc fluid makes individual susceptible to all forms of low back pain. So, physiotherapy is the most widely used form of treatment aided for relief from back pain.  
Physiotherapy is a healthcare treatment. It can be used as a primary mode of treatment or a combination of treatment which includes Electrotherapy i.e. ultrasound therapy, shortwave diathermy, interferential therapy along with traction and manual therapy.  
The main purpose of physiotherapy for back pain is to regain function, reduce pain, to correct posture and to return to your activity. Physiotherapists help to restore the body function through ergonomic advice, Proper education, gentle exercises and manual therapy.  
Therapists can help improve different systems of the body, such as:  
Physiotherapy treatment helps to relieve back pain by recommending preventive measures and proper exercises according to the patients’ conditions.  
There are two types of physiotherapy for back pain. These two are:  
Passive physical therapy: If exercise is too painful and difficult to perform, the therapist includes treatment of heat fermentation, electrical stimulation, and ice packs on the patient's back. This pre-treatment stimulation is used to warm up the muscles before doing physical exercises and ice packs can be used to soothe the sore muscles and soft tissues.  
The key role of physiotherapy in the management of back pain is as follows:  
Proper Education and early treatment: Education and Early treatment encourage the early movement of the back.  
Manipulate physiotherapy: This aspect of the therapy concentrates on mobilizing the back pain. This aspect of physiotherapy specifically targets pain points of the back.  
Stabilization exercises: This aspect of physiotherapy focuses on improving the stability and strengthening of the muscles which may have been weakened due to back pain.  
Exercises and stretchings: A series of exercises and stretches are recommended depending on the individual's condition and the causes of back pain.   
Appropriate posture: physiotherapy for back pain focuses on providing postural guidelines, different techniques to correct posture and habits that a patient should inculcate in order to improve the condition.  
Ergonomic devices: Back pain is majorly caused due to prolonged standing or sitting in faulty posture. Physiotherapists recommend and guide the patient on using ergonomic devices in order to avoid lower back pain.  
The doctor may recommend physiotherapy before and after surgery for faster recovery. Physical therapy and exercise are beneficial in both cases as it helps in strengthen of the muscles, improves pain as well ensures faster recovery.   
Physiotherapy is considered as a crucial part for non-surgical and surgical treatments, as the recovery depends on the patient's physical condition. The goal of physiotherapy post-treatment is to reduce and relieve pain, improve bodily function and develop coping strategies for the future.  
The problem of back pain can be successfully treated with physiotherapy with consistent exercise and practice. Physiotherapy for back pain helps to strengthen the abdominal muscles and can also help to take the release stress on the lower back. Post physiotherapy, it is important for the patient to continue exercise to sustain the strength developed during physical therapy.  
Shoulder Replacement Surgery is also known as a Hemi shoulder arthroplasty. It is a shoulder replacement surgery in which the arm bone is replaced with a prosthetic metal implant, and the remaining half of the shoulder joint, called the glenoid, is left intact.  
There are two types of hemiarthroplasties:  
Stemmed Hemi shoulder arthroplasty: This procedure replaces the head of the humerus with a metal ball and stem, which is similar to the component used in a total shoulder replacement. It is advised when -  
The head of the humeral bone is severely fractured or arthritic, but the socket is normal.  
In patients with large rotator cuff tear.  
Resurfacing Hemi shoulder arthroplasty: It involves replacing the joint surface of the humeral head with a cap-like prosthesis and no stem. This procedure preserves bone and prevents the risk of component wear and loosening.  
Shoulder replacement surgery is advised to patients with severe, persistent conditions of shoulder osteoarthritis in which only the humeral head is damaged. If the shoulder pain limits routine activities and all non-surgical methods of treatment have failed, including anti-inflammatory medications, cortisone injections, and physical therapy, then shoulder replacement surgery should be considered.  
A shoulder replacement surgery alleviates pain, improves motion, strength and function. However, the way a shoulder replacement ultimately performs depends upon numerous factors such as the patient's activity level, age, and overall health. An orthopaedic surgeon must thoroughly screen each patient to determine the most appropriate type of shoulder replacement.  
The general indications for patients who are eligible for hemi shoulder arthroplasty include the following:  
Pain due to glenohumeral osteoarthritis that has failed conservative therapy with sparring of the glenoid articular surface  
Patients with primary arthritis where rotor cuff is deficient  
Glenohumeral arthritis with inadequate glenoid bone stock   
Patients at risk for glenoid component loosening, especially younger patients and those requiring heavy usage of their shoulder, are ideal candidates for surgery.  
Patients with osteonecrosis without the involvement of glenoid  
In cases of proximal humerus fractures  
Acute fracture indications for hemi shoulder arthroplasty are:  
Near four-part fractures  
Near three-part fractures when the poor quality of bone compromises open reduction and internal fixation  
Near three- and four-part fractures with concomitant dislocation of the humeral head.  
Absolute contraindications for Shoulder Replacement Surgery are:  
Patients with an existing infection  
Neuropathic joint  
Patients who are not motivated for surgery.  
Coraco-acromial ligament deficiency  
Ankylosed shoulder  
Previous glenohumeral arthrodesis  
Incongruent glenoid and humeral surfaces  
Severe loss of glenoid articular cartilage  
Fracture treatable with ORIF  
Nondisplaced fractures treatable nonoperatively  
  
Relative contraindications are:  
Poor overall health of the surgical candidate  
Deltoid paralysis  
Unrealistic patient expectations  
True (Grashey) AP of the shoulder are taken 30-40 degrees oblique to the coronal plane of the body to determine the extent of DJD and delineation of fracture pattern  
An axillary view is taken to look for posterior wear of the glenoid, and it also helps quantify displacement in cases of fracture.  
This is done to determine the glenoid version and glenoid bone stock.  
It is also useful if the fracture pattern is poorly represented after radiographic evaluation.  
It helps evaluate the rotor cuff.  
Patients are anaesthetized to provide excellent pain control in the immediate postoperative period and permit the minimization of general anaesthetic during the procedure. The anesthesiologist administers general anaesthesia for the entire duration of the surgical procedure.  
The patient is asked to lie in the modified beach-chair/semi-Fowler position with knees flexed. A McConnell headrest allows proper positioning with the patient toward the top portion of the table and the affected shoulder's arm hanging off the table edge nearest the primary surgeon. The entire arm should then be draped and prepped in a meticulous sterile fashion.  
Incisions are made, and the joint is operated upon.  
The skin is finally closed with absorbable sutures.  
Pain medication is prescribed at the surgeon's discretion, depending on the patient's pain level and ability to tolerate it. It is suggested that the process of weaning the patient from the pain medication should begin a few days after the operation.  
Preoperative laboratory tests are ordered based on the patient's age and medical history. Tests are ordered for all patients older than 50 years, such as:  
Complete blood count test  
Urine analysis  
Electrocardiography (ECG).  
Specialists counsel patients with a medical history to obtain medical clearance in advance of surgery.  
Most surgeries have risks and complications. Hemi shoulder arthroplasty has the following possible complications:  
The progressive degeneration of the glenoid cartilage subsequent to hemi shoulder arthroplasty happens most frequently. Younger patients placing higher pressure on their shoulders are at risk.  
Instability after a hemi shoulder arthroplasty procedure is one of the relatively more common postoperative complications. The damage or dysfunction of any passive or active shoulder stabilizers leads to instability. Etiologies include component malposition, deltoid dysfunction, inadequate subscapularis repair or rupture, and soft-tissue imbalance.  
An active infection is an uncommon complication, but potentially devastating.  
Although radiolucency at the bone-cement interface is rare, progression and clinical symptoms necessitating revision surgery are rare.  
Preserving deltoid function is a critical part of hemi shoulder arthroplasty. Deltoid dysfunction, caused either by axillary nerve injury or deltoid dehiscence, results in loss of function and pain.  
Severely injured soft tissues during the initial trauma and delayed surgical intervention are associated with higher rates of heterotopic ossification.  
Hypotension may occur in patients who have undergone hemi shoulder arthroplasty and may need to take vasopressors to control it.  
When hemi shoulder arthroplasty is being carried out for treating fractures, there's always a risk of fracture non-union or malunion. It is specifically an issue when the bone quality is poor.  
Postoperative periprosthetic fracture is common in the elderly and those with osteoporosis. It frequently occurs as the result of trauma from falls. Stable fractures may be treated nonoperatively. However, surgical intervention is warranted with any unstable periprosthetic fracture.  
Sometimes, pain may not subside for a long time. The surgeon needs to determine the appropriate cause and suggests either surgical or non-surgical intervention to improve pain and quality of life.  
A well-planned rehabilitation program is critical to the success of a hemi shoulder arthroplasty.  
Most patients are required to wear a sling for three to four weeks.  
Gentle physiotherapy begins immediately following surgery to restore range of motion and progress to include exercises that strengthen the shoulder joint.  
Total rehabilitation may take several months, but specific recovery time varies by patient and demand, as with all surgical procedures.  
Reviewed by Dr. Gaurav Saini, Senior Consultant - Trauma & Sports Medicine, Institute of Orthopedic Surgery, Orthopaedics & Joint Replacement on 29-August-2022  
Transurethral resection of the prostate, often abbreviated as TURP, is a procedure that helps treat urinary problems caused by an enlarged prostate.  
A resectoscope, an optical instrument, is passed through the tip of the penis and into the urethra to see and remove excess prostate tissue that is obstructing the flow of urine. TURP is carried out for men with moderate to severe blockage of urine and who have failed to respond to medicines. It is considered to be the most effective treatment for an enlarged prostate. Newer methods have also been introduced that cause lesser complications than TURP, and LASERS, especially High Power Holmium Laser, is the best and is called HOLEP.  
Only males possess the prostate gland, which is located below the urinary bladder and surrounds the urethra. The urethra functions as a tube that carries urine out of the body, and the prostate produces semen.  
TURP prostate surgery is recommended in the following cases:  
Difficulty initiating urination  
Slow urination  
Increased frequency of urination at night  
Stopping and beginning again while urinating  
The feeling of not emptying the bladder entirely   
Urinary tract infections  
Before the surgery, doctors perform a thorough medical history to assess any pre-existing medical conditions that may interfere with the surgery. The tests recommended by doctors before a TURP procedure are:  
Ultrasound: This test helps assess the irregularity of the midline gap present in the prostate at the neck of the bladder.  
MRI:  This scan allows the doctor to see an overall image of the area to be operated on.  
VCUG shows a cone-like widening of the prostatic urethra.  
RUG/VCUG allows for evaluation of possible post-TURP stricture.  
First, anaesthesia is administered for the patient to be comfortable during surgery. The patient may be either sedated or given spinal anaesthesia to remain conscious. In addition, prophylactic antibiotics may be injected to prevent infection. The procedure usually requires about 60 to 90 minutes.The resectoscope is pushed into the tip of the penis and extended through the urethra and into the prostate area. As a result, no cuts or incisions are required.  
The resectoscope helps to trim the tissue one at a time from the inside of the prostate gland. The irrigating fluid carries the bits and pieces of the cut tissue into the bladder. Then, they are removed at the end of the procedure.  
TURP is indicated to treat the following conditions:  
Acute urinary retention  
Recurrent urinary tract infection  
Recurrent hematuria  
Azotemia  
Symptomatic bladder outlet obstruction  
Obstructed urine flow due to benign prostatic hypertrophy or benign prostatic hyperplasia (BPH) is a common cause of an enlarged prostate  
The blocked flow of urine  
Severely enlarged prostate  
TURP procedure is contraindicated in the following cases:  
Prostate cancer  
When the patient cannot tolerate the risks or the possible consequences of the procedure  
Anticoagulation  
Extremely large prostate that is greater than 100 g, in which a simple prostatectomy or HOLEP should be preferred.  
Some things to expect before the TURP procedure are:  
The doctor will explain the surgery process and answer any queries at the consultation.  
A consent form that permits the doctor to do the procedure must be signed.  
Doctors review the medical history and perform a physical exam to evaluate the health status before the procedure. Certain blood tests and other tests may be advised.  
Avoid eating or drinking anything for 8 hours before the procedure to avoid complications from anaesthesia.  
Inform the doctor about any sensitivity or allergies to any medicines, iodine, latex, contrast dyes, tape, or anaesthesia.  
The doctors should be informed of all medicines being taken, inclusive of herbal medicines, vitamins, and supplements.  
Any history of bleeding disorders should be informed.  
Avoid smoking to improve health and recovery from surgery.  
A sedative is injected before the procedure to help the patient relax.  
Doctors advise stopping medications that increase the risk of bleeding, such as  
Blood thinners like warfarin or clopidogrel   
Pain killers such as aspirin, ibuprofen or naproxen sodium  
Antibiotics may be prescribed to prevent any infections of the urinary tract.  
TURP is considered to be a safe procedure since most men show improvement in health after the procedure. However, every surgery carries some risks. Some of them include:  
Inability to urinate temporarily: Urinating may be difficult for the first few days after the surgery. A catheter may be placed into the penis to carry urine out of the bladder.  
Blood in the urine   
Urinary tract infection: The infection may be caused due to the presence of the catheter. Some men may experience frequent episodes of urinary tract infection.   
Fever  
Pain or redness in the calf, leg, or thigh, which could indicate the presence of a blood clot  
Dry orgasm: This is a common and long-term effect of prostate surgery. The semen releases into the bladder instead of the penis during ejaculation; a condition termed retrograde ejaculation. It is not harmful and doesn't affect sexual pleasure. However, it can affect the ability to father a child.  
Erectile dysfunction: The chances of erectile dysfunction after prostate treatments are slightly high.  
Heavy bleeding: Some patients may require a blood transfusion due to excessive blood loss during surgery.   
Rarely do patients experience a loss of bladder control, which is a long-term complication of TURP.  
Seldom the body absorbs excess fluid that is used to wash the surgical area during the procedure, a condition known as TURP syndrome. It can be life-threatening. The risk of this condition can be eliminated with a technique called bipolar TURP.  
Some men may require re-treatment after TURP because the symptoms may not have improved or may have recurred despite treatment.  
Hospitalization is required for two to three days. A urinary catheter is placed for 24 to 48 hours or until the swelling subsides. This catheter allows the passage of urine. This is because the swelling may block urine flow.  
Some patients may notice red-coloured urine that indicates the presence of blood in the urine. This is normal unless the urine appears like thick ketchup, in which case, the doctor should be informed immediately.  
For some, urination may be painful or sense an urgency to urinate. This condition improves in six to eight weeks.  
To enhance recovery, doctors may suggest:  
To flush the bladder, increase the intake of water.  
Eating high-fibre foods prevents constipation and straining during a bowel movement. A stool softener can be taken if need be.  
Doctors will inform about when to resume the blood thinners if taken previously.  
Avoid strenuous activities like lifting heavy objects for four to six weeks.  
Avoid having sex for at least four to six weeks after the surgery.  
Reviewed by Dr. Anil Kumar Varshney, Senior Director, Urology on 23-Sep-2022  
Know About Our High Power Holmium Laser For Management of Enlarged Prostate!  
Know more about robotic urology surgery  
What are the Common Urinary Problems in Elderly?  
Radical Prostatectomy is a surgical procedure that removes the entire prostate gland and associated lymph nodes to treat men with localised prostate cancer. It removes the cancer-infiltrated prostate gland and seminal vesicles and lymph nodes as per template.   
The prostate gland is a tiny organ located just below bladders in men. Its primary function is nourishment and helps transport sperm.  
If a person is diagnosed with Cancer in the prostate, the doctor may suggest a radical prostatectomy. It will reduce the chances of metastasis of Cancer.  
Doctors will ensure that Cancer has not spread beyond the prostate gland. While they cannot be 100% sure, they can predict the risk of spreading by studying biopsy and PSA levels. If the doctor is not satisfied, they can go for tests like CT scans, bone scans, MRI scans, and the PSMA PET CT Scan. Men under the age of 75 with contained prostate cancer who have a life expectancy of 10 more years can undergo this procedure.  
Usually, prostate cancer affects older men once they reach 50 years. People with a family history of Cancer should go for these tests earlier. Following exams are done to diagnose prostate cancer:  
Digital Rectal Exam (DRE): During their complete health check-ups, a digital rectal exam is performed. The doctor will insert a gloved, lubricated finger into your rectum and examine the prostate gland. If the doctor feels any abnormality in texture, shape, or size, further evaluation is performed.  
Prostate-Specific Antigen Test (PSA test): PSA or prostate-specific antigen is a biological substance produced by the prostate gland. A blood sample is taken from the patient and is checked for PSA levels. If the PSA levels are high or in abnormal amounts, it may show infection, inflammation, or Cancer of the prostate.  
To confirm a diagnosis of prostate cancer, the following tests can be done:  
Ultrasound and MRI: But to be sure, a biopsy is performed. Here, a sample of cells is extracted from your prostate gland. A thin needle is inserted into the prostate to collect samples. Then, the tissue sample is sent to pathology to analyse for any abnormality.  
When a biopsy confirms the diagnosis of Cancer, the next step is to assess the aggressiveness of the Cancer cells. A sample of your cancer cells is examined in a laboratory to see how much cancer cells differ from healthy cells. A higher grade suggests that the Cancer is more aggressive and likely to spread quickly.  
Gleason score: The Gleason scale is used to grade prostate cancer cells. The Gleason scores depend on severity and range from 6 to 10. A score of 6 suggests that prostate cancer is of mild severity. A score of 7 suggests that prostate cancer is of medium severity. Cancers with a score of 8 to 10 are severe.  
Genomic testing: Genomic testing examines your prostate cancer cells to see if there are any gene abnormalities.   
Following tests are done to know if the Cancer is contained or spread out to other tissues:  
Bone scan  
Ultrasound – Whole Abdomen/PVR  
CT scan with or without contrast  
MRI - Multiparametric  
PET scan - PSMA  
The doctor will decide which test the patient should undergo. If the prostate cancer is contained in the prostate gland and all other criteria are met, the urologist may recommend a radical prostatectomy.  
After the diagnosis is confirmed and professionals have suggested going with radical Prostatectomy, a surgeon can conduct the surgery with a variety of procedures, including:  
Robot-assisted radical prostatectomy: In this procedure, the surgeon makes five to six small incisions in your lower abdomen. They sit at a console and operate instruments connected to computer-assisted mechanical equipment (robot). The robotic equipment enables a more exact response to the surgeon's hand movement.  
Open Radical Prostatectomy: The surgeon typically makes an incision in the lower abdomen to remove the prostate.  
Simple Prostatectomy is rarely advised. Doctors may recommend it for men with benign enlarged prostate glands or severe urinary symptoms. Unlike Radical Prostatectomy, this procedure does not involve the complete removal of the prostate gland. Only a small portion is removed to free urine flow.  
Men under the age of 75 with contained prostate cancer who have a life expectancy of 10 more years can undergo this procedure.  
The Cancer is in the prostate gland, but the patient is at high risk of metastasis.  
Radical prostatectomy surgery may not be the right fit if:  
Doctors may perform some pre-operative tests to make sure the patient can undergo the procedure with no complications.  
The patient will be cleared for surgery from different departments, such as cardio, neuro, pulmonary, etc.  
The patient should inform doctors about every medication and health supplement they are on. It is crucial if you are on blood-thinning medication and pain relievers such as warfarin and aspirin.  
The patient should inform the staff about allergies. These may be mentioned in medical records, but let the hospital staff know if they've discovered a new one.  
The patient should ideally not drink or eat anything after midnight.  
Patients are informed and given instruments to give themselves an enema. This is done to clean bowels before surgery.  
The general risk of surgery are as follows:  
Blood clots  
Breathing problems  
Allergic reactions to anaesthesia  
Bleeding  
Infection  
Heart attack  
Stroke  
Urinary Incontinence  
Difficulty controlling bowel movements  
A urethral stricture  
Erectile dysfunction  
Injury near the rectum  
The patent will become infertile without loss of pleasure  
Complications after Prostatectomy affect less than 10% of men, and they are usually curable or temporary.  
Reviewed by Dr. Anil Kumar Varshney, Senior Director, Urology on 23-Aug-2022  
Know more about robotic urology surgery  
How can you be screened for Prostate Cancer?  
Increased Prevalence of Urological Disease Due To Ageing Population Affecting Quality Of Life  
Da Vinci-The Next Level Technology in Surgical Excellence and Patient Safety  
Uterus removal surgery, also known as Hysterectomy, is a surgical procedure to remove the uterus or womb. The uterus is where the baby grows during pregnancy. The surgery treats some conditions like fibroid, abnormal uterine bleeding, adenomyosis, uterine prolapse and certain types of cancers etc. Uterus removal surgery generally involves removing the uterus. However, the surgeon may also remove the ovaries and fallopian tubes in some cases.  
After uterus removal surgery, one will not be able to get pregnant. Moreover, one will stop having menstrual periods after the surgery. This major surgical procedure might be the last resort if the condition does not go away with other treatments and medications. The uterus removal surgery usually lasts one to three hours, depending upon the surgical procedure. The recovery period of the surgery is typically six to eight weeks.  
Uterus removal surgery (Hysterectomy) is performed to treat severe conditions like gynecologic cancer, fibroids, chronic pain, and more.  
Here are some of the conditions that may require uterus removal surgery:  
Fibroids  
Adenomyosis  
Endometriosis  
Abnormal uterine bleeding not controlled by medicines  
Pelvic inflammatory disease  
Uterine prolapse  
Ovarian or uterine cancer  
Patients with previous abdominal surgery/infection have higher chances of adhesions  
Uncontrolled Diabetes  
Hypertension  
Thyroid disorder  
Medical disorders like Heart disease and Chronic kidney disease etc.  
Obesity  
Anaemia  
Patient on blood thinners  
Preparation for uterus removal surgery is similar to any other major surgery. The doctor will discuss the surgical procedure in detail and explain its benefits and risks. If there are any medical conditions, ensure they are well-controlled before the surgery.  
The doctor may also prescribe specific tests like cervical cytology, endometrial biopsy or pelvic ultrasound to confirm the medical condition. ECG, Chest X-Ray and some blood tests are done to check fitness for Anaesthesia.  
Apart from this, other preparations for abdominal surgery may require:  
Pre Anaesthetic checkup (PAC)  
Stop taking blood-thinning medications for 5-7 days before the surgery  
Not to eat or drink anything at least 6-8 hours before the surgery  
Follow the doctor’s instructions for bowel preparation  
Avoid wearing jewellery to the hospital  
Keep all your documents and reports well organised  
Arrange for help at home because post-surgery, your doctor will be restricting some of your activities  
Uterus removal surgery is done after inpatient hospitalisation, meaning that one needs to stay in the hospital for two to three days. The surgery begins by administrating general/regional anaesthesia. The surgery generally lasts one to three hours.  
Depending on the conditions and symptoms, your doctor may perform the following types of uterus removal surgery:  
This is one of the most common types of uterus removal surgery. In this procedure, the surgeon removes the entire uterus and the cervix (neck of the womb) with or without removing tubes and ovaries.  
During a partial hysterectomy, the surgeon removes only a portion of the uterus and may leave the cervix intact. This is not routinely performed.  
In this type of uterus removal surgery, the doctor removes the womb and the surrounding tissues and organs, including the ovaries, fallopian tubes, parametrium, lymph glands, fatty tissues, and part of the vagina. This is usually performed in cancer patients.  
During surgery, your doctor may also remove your fallopian tubes and ovaries (salpingo-oophorectomy). This leads to surgical menopause. Discuss with your doctor ahead of time if you need this.  
There are several different surgical approaches to performing a Uterus Removal Surgery (Hysterectomy). These include:  
During this surgical approach, the surgeon removes the uterus vaginally and sutures back the incision to aid healing. This procedure generally doesn’t leave any external cuts, meaning there won’t be any visible scars.  
During a laparoscopic hysterectomy, the surgeon makes small incisions in the abdomen and inserts a laparoscope, a long, thin tube with a light and camera attached at the top. Surgery is completed through special instruments using these small cuts (usually 3-5 mm ).  
Da Vinci Robot is used during surgery by experienced surgeons. Robotic surgery being more precise helps in delicate and complex procedures that may be difficult or impossible with other methods. Often, robotic hysterectomy surgery makes minimally invasive surgery possible.  
A horizontal bikini-line incision, which lies about an inch above your pubic bone or vertical incision, may be given on the abdomen depending on the reason for surgery and the condition of the patient. The surgeon then removes the uterus and stitches the incision.  
Selecting the correct approach to surgery plays a vital role in the success of the surgery and minimising the complications. Treatment has to be tailored as per the clinical profile of the patient.  
Like any other major surgery, there are some risks associated with uterus removal surgery, including bleeding, infection, and reaction to anaesthesia.  
Other complications may include:  
Blood clots in the legs may travel to other body parts.  
Damage to urinary bladder, ureter, bowel or other abdominal structures that may require further repair.  
Once the uterus removal surgery is over, patients may need to stay in the hospital for one or two days. The stay may be extended if the patient has a post-operative fever, paralytic ileus or other concerns. The total recovery from uterus removal surgery usually takes six to eight weeks. Robotic and Laparoscopic surgeries usually have lesser bleeding, less post-op pain and discomfort, and faster return to normal activities.  
After the surgery, one may feel soreness, itching, and pain at the incision site for a few days. The doctor will usually remove the drainage tube from the bladder within 48 hours of the surgery. The patient will be encouraged to get out of bed and take short walks as soon as possible. The doctor will ask to come back on the seventh to tenth day after discharge for the dressing change and monitor progress.  
Apart from this, post-operative care includes:  
Stay physically active as advised by the physiotherapist  
Avoid indulging in strenuous physical activities, bending for at least 8-10 weeks  
No sexual intercourse for at least 8-10 weeks after the surgery  
Avoid prolonged cough and constipation  
Keep the incision area clean and dry  
Take vitamin supplements  
Maintain a healthy lifestyle  
Take a lot of water, fruits, and high fibre diet (as advised by the dietician)  
Follow your doctor’s recommendations regarding resuming normal activities  
Reviewed by Dr. Ankita Singh, Senior Consultant, Obstetrics And Gynaecology on 21-June-2022  
Vaginal surgery is a surgical procedure to construct or repair the vagina. Vaginal surgery typically falls under cosmetic and reconstructive surgery. The main objective behind vaginal surgery or vaginal rejuvenation surgery is to reduce the pain and improve the appearance, function, and sensitivity of the vagina.The surgery can also be used to tighten up the vagina that has become loose after childbirth or ageing. Moreover, the surgery can also be performed for transgender people undergoing gender-affirmation surgery, which helps them achieve their preferred gender identity.  
The following conditions make a good candidate for vagina surgery:  
The doctor may not recommend vagina surgery for the following reasons:  
Vaginal surgery can be a major operation that requires careful preparation. The doctor will tell the surgical procedure in detail, and one should ask about the potential risk and benefits of the surgery. The doctor may also suggest some lifestyle changes a few months before the surgery, like quitting smoking, as it may delay the healing process and may cause complications during the surgery. They may also prescribe some tests before the surgery. Apart from this, other preparations may be required for the vagina surgery, including:  
Vagina surgery is generally performed under general anaesthesia, meaning that a patient will be unconscious during the whole surgery. However, depending on the condition, the surgeon may use the following surgical techniques:  
The procedure is performed to repair or create the vagina. The surgical procedure is mainly done for gender confirmation in transgender. During the procedure, the surgeon makes a vaginal cavity between the rectum and urethra. The surgeon then uses the skin of the penis and scrotum to build the inner and outer labia of the vagina and uses the tissues from the foreskin to create a new opening for the vagina. The surgery is also performed to repair injuries after childbirth and repair congenital disabilities.  
Also known as labia minora reduction, Labiaplasty is a plastic surgery done to alter the inner and outer labia. The surgery can be performed by different procedures: edge resection and wedge resection. In edge resection, the surgeon trims the excess edge of the labia. In wedge resection, the surgeon cuts wedge-shaped slivers of skin from the centre of the labia minor and sutures the skin together with absorbable stitches.   
Like any other major surgery, there are some risks and complications associated with vagina surgery. These may include:  
Recovery from vagina surgery may take up to two months. Patients may experience swelling and discomfort for the first few days. Labia swelling is normal and will gradually go away after six weeks. Moreover, one can also expect vaginal discharge in the first four weeks after the surgery. The doctor will provide detailed post-operative instructions for a speedy recovery. These may include:  
Reviewed by Dr. Ankita Chandna, Associate Director, Obstetrics And Gynaecology on 22-June-2022  
Hysterectomy is surgery in which a woman’s uterus is removed. A hysterectomy involves removing other organs, such as the ovaries or fallopian tubes, based on the reason for performing the surgery. Robotic assisted Hysterectomy is when a surgeon uses robot to perform hysterectomy. Going through hysterectomy puts a pause on menstruation and the ability to become pregnant for women. When hysterectomy is done by making small incisions using a thin, lighted scope with a camera at the end (a laparoscope). This procedure is called a laparoscopic hysterectomy.  
It is the second-most common surgery operated on women after C-Section. Some benefits of robotic hysterectomy are minimal invasion, reduced hospitalisation, speedy recovery and less postoperative morbidity. Robotic hysterectomy is a method that provides a high-powered 3-D view of the operating area and allows a comprehensive range of motion that is more precise than the human hand. It also permits the use of surgical instruments from different angles and positions that would be tedious to achieve otherwise.  
The most valuable advantage of this procedure is the reduction of the need for open surgery, including conversions during laparoscopic hysterectomies. Long-term benefits of robotic hysterectomy need to be evaluated and appropriate indications, especially in benign conditions, thereby reducing the incidence of open surgery in gynaecology.  
Doctors recommend hysterectomy when uterus-related problems do not respond to other forms of treatment. Some common reasons why a hysterectomy is advised are:  
Some of the most common indications for robotic hysterectomy include leiomyomata, pelvic relaxation, uterine cancer, excessive bleeding, and endometriosis. Robotic-assisted hysterectomy may be especially helpful in:  
Robotic hysterectomy is an elective procedure in some cases, excluding those of tumours and post-menopause. Patients suffering from debilitating diseases may opt-out of getting this surgical procedure done.  
Before scheduling an appointment for the surgery, inform the surgeons about any underlying medical conditions. A complete body examination and imaging tests assist the operating doctors. Sometime before the day of the surgery, a physical exam is required. The surgeon may also order blood tests, a chest X-ray, or an electrocardiogram (ECG) to check for any other underlying medical conditions. The family history is assessed to prevent anaesthetic complications.  
Sometime before the allotted day of robotic surgery, a physical exam is required. The surgeon may also order blood tests, a chest X-ray, or an electrocardiogram (ECG) to check for any other underlying medical conditions.  
Wearing loose-fitting clothing and a button-front shirt at the hospital visit for the surgery is helpful. A general meeting with the surgical team is scheduled to discuss the kind of general anaesthetic administered and the patient’s history in depth.  
Robotic hysterectomy is a very safe surgical procedure that involves minor complications. Nevertheless, in reality, every surgery carries certain risks and complications. Some of them may include:  
It is imperative to follow the surgeon’s guidelines after the surgery for optimum results. One must go for follow-up appointments for proper evaluation of results. Taking any medicines as directed is vital. Some pain during early recovery is usual. This is what can be expected during recovery at home:  
One must inform the surgeon about any of the following incidences during recovery:  
Most women recover from a robotic hysterectomy within a short time. The procedure is less painful compared to traditional hysterectomies. Since the incisions are tiny, people can resume their daily activities more quickly. Except for the hysterectomy for cervical cancer, the outcomes of robotic surgery are as successful as open surgery with a shorter recovery period.   
Robotic surgery is not advisable for hysterectomies done for cervical cancer except for early cervical cancer, where there is an advantage over the laparotomy approach in terms of blood loss, blood transfusion, complications, and length of hospital stay with the exception of prolonged operating times.  
Reviewed by Dr. Ankita Chandna, Associate Director, Obstetrics And Gynaecology on 21-September-2022  
Salpingo-Oophorectomy is a surgical procedure performed to remove the ovaries and fallopian tubes. It may be unilateral (when only one side of the ovary and fallopian tube is removed) or bilateral (ovary and fallopian tube of both sides are removed).  
This procedure is routinely performed at times with uterus removal or to treat ovarian diseases like ovarian cancer, endometriosis, ovarian cysts, ovarian torsion, ovarian ectopic pregnancy, ovarian abscess, and more. It can also be performed for women at an exceptionally high risk of developing ovarian cancer. This is known as a risk-reducing (prophylactic) salpingo-oophorectomy.  
This procedure effectively lowers the chances of breast cancer and ovarian cancer. Salpingo-oophorectomy does not involve the removal of the uterus, a procedure known as Hysterectomy. However, these procedures can be performed simultaneously.  
Depending upon the reason for the surgeon to remove an ovary, doctors can choose one of the following types of oophorectomy procedures:  
An Salpingo-Oophorectomy may be performed for:  
Salpingo-oophorectomy can be approached in several ways. The surgical procedure usually takes between 1 to 4 hours, depending on the primary aetiology and surgery plan. It can be performed in the following ways:  
Traditional surgery requires general/regional anaesthesia. An incision is made on the abdomen (vertical or transverse depending on the disease), and the tubes and ovaries are removed. The open wound is then closed with sutures or staples.  
Laparoscopic surgery can be carried out under general anaesthesia. A laparoscope is a tube with a light and a camera that is passed through a small incision. The tubes and ovaries are removed through these small incisions using tiny tools. Laparoscopy is beneficial since it provides faster recovery and patients experience lesser pain.  
Robotic surgery is also done through small incisions. In addition, the surgeon uses a robotic arm instead of a laparoscope. The laparoscope is equipped with a camera and a robotic arm that allows for high-definition visualization of the area to be operated. Precise movements of the robotic arm permit the surgeon to locate, access and remove the ovaries and fallopian tubes.   
The candidates for Salpingo-oophorectomy include the following:  
Salpingo-oophorectomy surgery is relatively a safe procedure, but as with any surgery, it carries some risks. These include:  
In the long term, menopause increases the risk of heart disease and osteoporosis.  
Doctors advise the following to make a recovery for patients more comfortable:  
Reviewed by Dr. Ankita Singh, Senior Consultant, Obstetrics And Gynaecology on 29-Aug-2022  
Penile cancer is a rare condition with reported rates of up to 3.3 per one lakh men in India. There are different types of penile cancer, such as melanoma, squamous cell carcinoma, basal cell carcinoma, and more.  
But squamous cell carcinoma is the most common type affecting the penis. Although there are various treatments for penile cancer, total Penectomy is recommended if cancer has grown deep inside the penis and there are no other options.  
Total penectomy is a surgical procedure that is performed for locally advanced penile cancer. The procedure removes all parts of the penis, including the roots that lead to the pelvis. This is a significant operation and requires the creation of a new opening in the perineum (area between scrotum and anus) for passing urine in a sitting position.  
Total penectomy surgery is a major surgery done either in general or spinal anaesthesia. The outlook of the surgery is generally favourable, and overall disease response and prognosis depend on whether the disease has spread outside the penis to lymph nodes or distant areas.  
Inguinal-pelvic Lymph node dissection is usually required in candidates for total Penectomy. The surgeon might need to remove the scrotum and testicles along with total Penectomy in some cases.  
The following makes a good candidate for total penectomy surgery:  
The following candidates are not suitable for a total penectomy:  
Total Penectomy is an operation which has physical and psychological implications. However, for a particular subset of the patient with localised disease, total Penectomy is the best option and potentially curative.  
Before the surgery, usually, a biopsy is planned to evaluate the primary penile lesion and confirm the diagnosis. The doctor will also order some tests like blood tests, CT Scan, MRI, ultrasound, and more to check for penile cancer growth and assess spread to lymph nodes or distant areas.  
The patient will have an office consultation with the doctor to discuss the details of the total penectomy surgery. The doctor will explain the techniques involved during the surgery along with its risks and benefits.  
Just like any other major surgery, total penectomy may lead to some complications.  
After the surgery is complete, the patient needs to stay in the hospital for a few days. The surgeon may put a temporary urinary catheter to drain urine from the bladder. The medical team will provide specific instructions on how to take care of the catheter.  
After the surgery, the patient will not be able to have sexual intercourse for the rest of their life. The patient may sometimes experience the feeling of stress, and talking to a counsellor may be helpful. Moreover, due to the diverted urethra, the patient needs to sit down to urinate. In some cases, surgical reconstruction of the penis may be possible.  
The doctor will also provide information about the medications that need to be taken after the surgery. Special instructions may include:  
One should immediately call the doctor if the following symptoms persist:  
Hormone therapy is the treatment of cancer that slows or stops cancer growth by using hormones. Synonyms of hormone therapy are hormonal therapy, hormone treatment, or endocrine therapy.  
Hormones are natural substances produced by the glands in the body. They are carried by the bloodstream and act as messengers between one part of the body to another. Doctors recommend hormone therapy to treat some cancers, such as breast cancer and prostate cancer.  
Hormone replacement therapy medicines contain female hormones. When the body stops producing estrogen, this therapy replaces it. It treats common conditions such as menopausal symptoms such as vaginal discharge and hot flashes. In addition, hormone therapy prevents bone loss and reduces the chances of fracture in postmenopausal women.  
Systemic estrogen in the form of pill, ring, gel, skin patch, cream, or spray contains a higher dose of estrogen absorbed throughout the body. It treats the typical menopausal symptoms.  
Vaginal estrogen preparations in the form of a ring, cream, or tablet, consist of low doses of estrogen. This minimizes the quantity of estrogen absorbed by the body. Hence, low-dose vaginal preparations are used to treat vaginal and urinary symptoms of menopause.  
In women with a uterus present, only estrogen therapy is not enough. Combining estrogen with progesterone or progestin will prevent the stimulation of the growth of the uterus lining, thereby increasing the risk of endometrial cancer. However, if the uterus has been removed, progestin is not required.  
Hormone therapy is the choice of treatment for the following cases:  
Doctors record the patient's medical history and family history and perform a physical examination before the hormone therapy. The doctor enquires in detail about the patient's medical history and records questions such as:  
Doctors may advise certain tests before the procedure. These may include:  
Hormone therapy can be delivered by various methods. Some of these are:  
Oral medicines in the form of pills, capsules, or liquids can be taken just like other medicines. However, this type of therapy is not applicable to all cases. It is important to follow the doctor's prescriptions thoroughly.  
Some hormone therapy drugs can be injected into the leg, hip, or arm. These injections are given intramuscularly (IM). In addition, some drugs can be injected just under the skin of the abdomen by a method called subcutaneous injections (SC). The dose and frequency depend on the drug prescribed and the condition to be treated. Some injections may be given by the doctor, while others can be self-injected.  
The surgery for hormone therapy aims at removing the glands that produce these hormones. For instance, an orchiectomy, a surgical procedure to remove the testicles, which is the body's main source of testosterone, can be an alternative for some men with prostate cancer who need hormone therapy. Likewise, oophorectomy is a surgical procedure carried out to remove the ovaries, which are the body's primary source of estrogen and progesterone production. For women with breast cancer, this can be the treatment choice.  
Side effects from this type of hormone therapy occur from drugs that lower hormone levels in the body. An advantage of this therapy is that it doesn't require long-term treatment with medicines. A possible drawback is that it is permanent, so it can't be reversed once done.  
Hormone therapy is recommended for women with the following conditions:  
Systemic estrogen therapy remains the most effective treatment to relieve bothersome menopausal hot flashes and night sweats that may be from moderate to severe in intensity.  
Estrogen can control vaginal symptoms of menopause. These include itching, burning, dryness, and discomfort during intercourse.  
Administration of systemic estrogen protects against osteoporosis- bone-thinning disease. However, doctors recommend bisphosphonates to treat osteoporosis. But estrogen therapy may help if other treatments fail to respond.  
Estrogen helps decrease the risk of medical conditions such as osteoporosis, stroke, heart disease, dementia, mood swings, and more.  
Hormone therapy is not recommended for women who:  
Follow the instructions given by the doctor prior to the hormone therapy procedure. Some of which include:  
No matter how beneficial for women going through menopause, hormone therapy carries certain risks. These include:  
Some less common side effects of hormone therapy include:  
It is essential to look for any signs and symptoms that may be discomforting. Report to the doctor immediately if any of the following is experienced so that the doctors can re-evaluate and adjust the dosage accordingly:  
While certain types of cancer, such as CML, always have a target (a protein or a gene), not much cancer does. The doctor may request tests to learn about the genes, proteins, and other variables specific to the patient’s tumour to find the best-targeted therapy for it. This aids in the discovery of the best effective medication.  
There are FDA-approved targeted therapies for many cancers, including breast cancer, prostate cancer, and colon cancer. There are mainly two types of targeted therapies:  
These are small particles which are tiny enough to slip inside cancer cells and destroy them.  
These are biomolecules which cannot enter cells because of their large size. They attack cancer cells from the outside of cells.  
Hormone therapies either prevent the body from producing the hormones that some breast and prostate cancers require growing, or they prevent the hormones from acting.  
The most prevalent targeted medicines are signal transduction inhibitors. They disrupt signals that tell cells to divide excessively and rapidly.  
Because it is abnormal, this sort of targeted therapy attempts to change the proteins that control how the instructions of genes in cancer cells are carried out or expressed.  
Cancer cells frequently discover a way to avoid the natural process of apoptosis, in which healthy cells die as they age or get damaged. Cancer cells die naturally because of apoptosis inducers.  
Angiogenesis inhibitors prevent the formation of blood vessels, which cancer cells use to get nutrients and oxygen.   
Immunotherapies employ the immune system to kill cancer cells. Some enhance the immune system, allowing it to do a better job of detecting cancer. Others label tumour cells to make it easier for the immune system to detect them.  
Targeted therapies can have different effects on the cancer cells, such as:  
The dose of targeted therapy is determined by a variety of criteria, including body weight and the risk of experiencing severe adverse effects.  
Some targeted therapy is provided as an infusion. The patient can receive this infusion of drugs intravenously. An IV delivers the drug directly into the bloodstream through a tiny tube called a catheter. Some patients may have a central venous catheter (CVC) or port implanted, allowing treatment to be administered in the same line each time. It stays in place as long as the patient is receiving treatment, so they won’t have to be poked with a needle every time.  
When taking a targeted therapy drug by mouth, the patient consumes the tablet, capsule, or liquid, just like any other medicine. Oral targeted therapy is typically administered at home. If the patient is taking targeted drugs orally, they should follow all instructions about handling and storing targeted drugs if taken by mouth. Sometimes, the patient might be told to wear gloves while touching pills and capsules.  
A patient is a good fit for targeted therapy if the following conditions are met:  
To get a better idea about the targeted therapy and expected outcomes, the patient should ask their healthcare providers the following questions:  
During targeted therapy for cancer, not everyone will experience side effects. Side effects of cancer treatments will vary from person to person and drug to drug.  
Many people experience abnormal changes in their skin, such as dry skin, photosensitivity, rash, changes in hair growth, etc.  
Few targeted drugs, such as angiogenesis inhibitors, can raise blood pressure.  
This is a rare complication of some targeted drug therapy. These problems arise because some drugs stop or interfere growth of new blood vessels, which leads to bruising and bleeding.  
Some drugs can create blood clots in the lungs and legs.  
Some of these medicines impede wound healing by inhibiting the formation of new blood vessels. This can cause existing wounds (cuts) to reopen and fresh wounds not heal.  
Certain drugs can damage the heart, especially if used with certain chemotherapy drugs. The doctor may test the patient’s heart function before starting treatment.  
Certain targeted treatment medications work by essentially disabling the body’s immune system. If the immune system attacks the healthy components of the body, this can have catastrophic consequences. This is not frequent, but it can be fatal for certain people.  
The other side effects of targeted therapy include:  
Make sure other family members and loved ones do not come in contact with the medicine or any bodily fluids for a short time after taking the target drug.  
Healthcare providers will explain to the patient how to manage the side effects of targeted therapy. Doctors may prescribe other medicine for skin rashes and vomiting, diarrhoea, headaches, etc. However, if the patient is facing extreme side effects, they should contact their doctors immediately.  
Targeted therapy has a higher success rate than chemotherapy. But it does not mean that it can completely cure cancer. It may be possible that it can reduce or stop the growth of cancer, which in turn, can make the patient eligible for surgery.  
The patient should follow up with their doctor timely to assess the cancer growth. This way, they can come up with a different treatment if needed.  
Sclerotherapy is a procedure in which a solution is injected into the vein of lower limbs to treat varicose and spider veins. The solution scars the vein and forces blood to reroute through healthier veins. The collapsed vein eventually fades by getting reabsorbed into local tissue. It is the treatment of choice for minor varicosities.  
Treated veins fade within a few weeks after sclerotherapy. However, sometimes it may take up to a month to see desired results. Some cases require several sclerotherapy treatments.  
Sclerotherapy aims at treating varicose veins and spider veins. This procedure may be carried out for cosmetic reasons. People may consider sclerotherapy when other methods have failed to provide the desired results. Sclerotherapy may be considered when the veins are too twisted or uncomfortable.  
Sclerotherapy help improve symptoms such as:  
Doctors record the patient's medical history and family history and perform a physical examination before the sclerotherapy procedure.  
The doctor evaluates:  
The doctor enquires in detail about the patient's medical history and records questions such as:  
Doctors may advise certain tests before the procedure. These may include:  
Depending on the veins involved, an ultrasound imaging of the veins can be taken.  
Before sclerotherapy, initial consultation with a dermatologist or vascular medicine specialist is scheduled to discuss details of the procedure. Eligible candidates are those with:  
People who should not consider sclerotherapy procedure are:  
Follow the instructions given by the doctor prior to the sclerotherapy. Some of which include:  
A few complications associated with sclerotherapy includes:  
After the sclerotherapy, patients can get up and walk around. Follow the instructions given by the doctors. These may include:  
As one gets older, the appearance and shape of the face is altered because of regular hormonal changes. Skin texture becomes less elastic and looser, and fat deposits decrease in certain facial areas and increase in others. People with the following features are the best candidates for Surgery:  
Before a facial plastic surgery:  
During the procedure:   
In general, a facelift involves elevating the skin and tightening the underlying tissues and muscles. There is removal and redistribution of fat in the face and the neck. Facial skin is then re-covered over the newly repositioned facial contour, additional skin is detached, and the wound is stitched in the end.  
A facelift procedure generally takes around two to four hours but might take longer if other cosmetic procedures are done simultaneously.  
The final outcome of this procedure not only helps in the restoration of a youthful and attractive appearance, but it also helps making individuals feel a lot more confident and positive about themselves.  
After a facelift surgery, the patient may experience:  
During the few days post-surgery, the patient is advised to:  
Most people are extremely satisfied with the final results after the completion of the procedure. There will be swelling, bruising, skin discoloration, tenderness, and numbness for around two weeks after the surgery. The surgical scars are hidden either in the hairline or the natural lines of the face and will vanish over time. Exposure to sunlight to be avoided initially for few days as recommended by the doctor also.  
Reviewed by Dr. Manoj Johar, Senior Director, Aesthetic And Reconstructive Surgery on 31-August-2022.  
In most of the cases, Asymmetrical Face Surgery is done because of the following reasons:  
Before the surgery, the surgeon would look into complete medical history of the patient, including health issues, medications and allergies, if any. Further, some medical tests will also be performed to assess the current health state.  
Whether it is a chin implant, cheek implant or any other facial implants, it is essential that a patient:  
A surgeon would draw surgical markings on the face to indicate the locations where the surgery needs to be done. A patient is positioned supine (face-up) on the operation table, and general anaesthesia is administered. Though surgery may last for one or two hours; the duration will depend on the part of the face involved.  
  
Similarly, the type of implant may also decide the surgical procedures to be followed by the surgeon. If it is a cheek implant, the surgeon will place the implant either through an upper lip or lower eyelid. If it is a chin implant surgery, the implant will be placed through a patient’s lower lip or under the chin by using a sterilised clamp. A surgeon may close the incision with sutures or use bandage or tape.  
A patient should expect a little pain and discomfort, particularly around the incision areas, for a few days after the surgery. The surgeon will prescribe pain relievers as required. In some cases, a surgeon may place a small, thin tube under the skin to drain excess blood or fluid. Also, some bruising and swelling after the surgery is normal, which may subside within a few weeks.  
Depending on the extent of facial implant surgery, a patient may need to take a few week’s off work. During the recovery period, a patient should stay away from heavy work, swimming and strenuous exercises.  
There are various ways through which a facial implant surgery can transform the face of a person and boost confidence. The benefits of facial implant surgery include:  
Though facial implant surgery is safe, there are some potential risks associated with it. After the surgery, a patient may witness blood clots, heavy bleeding, temporary numbness, infection, short-term nausea, allergic reaction to dressings or antiseptic solutions and formation of a large blood clot (haematoma) under an incision.  
Some patients also have trouble in talking or smiling for several weeks, along with pain, swelling and bruising around the operated site. Implant malposition, displacement, exposure and extension are some of the other implant related side effects  
Max Hospital provides facial implant surgery at best cost in Delhi NCR, India. Book an online appointment or video consultation now and get a second opinion from experts.   
Breast liposuction is one of the treatment options for breast hypertrophy. Breast hypertrophy is a condition where the breast tissues grow rapidly, become heavy, and causes problems. Liposuction is widely popular for its utility and efficiency, as it does not cause high blood loss or any evident scars. It removes the extra fatty tissues with a safe and effective method with minimal scarring.  
Breast liposuction can be used as an alternative to open breast reduction surgery procedures in selected patients with predominantly fatty and heavy breasts. Patients who have minimal sagging are better candidates. It is also indicated in patients who don’t want to have visible scars and preserve breastfeeding ability in the future.  
Patients who mainly have glandular hypertrophy and severe sagging(ptosis) are not suitable for this procedure.  
Larger breasts can cause a variety of physical and psychological problems. They include:  
Breast liposuction surgery are often used to improve body appearance and balance irregular shapes. Types of breast liposuction include:  
This is the most common type of breast liposuction. This procedure involves injecting a solution into the area before the fat is removed. The solution can be up to three times the fat that needs to be removed, consisting of local anaesthesia (lidocaine), IV salt solution, and the drug epinephrine that contracts the blood vessels. Anaesthesia numbs the area while epinephrine reduces blood loss, bruising, and swelling. The IV solution helps to suction out the fat easily.  
VASER Lipo method uses ultrasound vibration waves to turn the fat into liquid; later, these liquid cells are vacuumed out. This technique can be used together with the tumescent technique and in follow-up procedures or for greater precision.   
PowerX liposuction cannulas have rotating motorised cannulas, which makes them more precise and less traumatic than conventional liposuction, and it also reduces the surgeon’s efforts, thereby enabling him to treat more areas in less time.  
A combination of all three techniques above is often used to make the procedure more effective and also safer as they complement each other.   
Breast liposuction advantages include:  
The doctor may ask about the medical history, whether one had a breast lump removed or any other medical condition that can affect the breasts. The surgeon may also take photos and measurements to analyse how much breast tissue needs to be removed. The doctor may also recommend:  
Before the surgical procedure, general anaesthesia is given to relax the patient. The type of surgical method depends on multiple factors, such as the shape and size of the breasts and the amount of tissue that needs to be removed.  
This is a widely used treatment and the best option for small reductions. Depending on the need, the surgeon may also use drainage tubes. The doctor may also recommend wearing a surgical bra.  
After the liposuction, one may experience:  
The doctor may ask to take a few precautionary measures before and after the surgery, such as:  
These measures will ensure proper healing post-surgery.  
The most common complication for breast liposuction is a hematoma. Hematoma is a health condition in which blood is collected outside blood vessels. It can appear under the skin as purplish bruises.  
Breast Liposuction Surgery can cause complications such as:  
Breast liposuction surgery recovery differs from case to case. Recovery varies from one week to a few weeks. The surgeon will ask for a follow-up appointment for check-ups and removing bandages. Post-surgery, please be careful about:  
The prognosis for breast liposuction is very positive in the right candidates. However, it is not meant for all patients with heavy breasts, and this decision is finally made by your plastic surgeon after assessing your suitability. The treatment makes one feel better and more comfortable about the appearance. Pain, irritation, and scars will disappear with time. One might need to wear a supportive bra for a month. The rate of recovery is faster, and patients can work and do regular activities after one week.  
Facial plastic surgery is a group of different procedures done to treat or reshape structures of the face and neck, including ears, chin, cheekbones, neckline, and more. However, it is more than mere cosmetic changes. Plastic surgery is a surgical speciality that improves a person's aesthetics and appearance. In plastic surgery, the word 'plastic' is derived from the ancient Greek work known as 'plastikos', which means to mould or give form. There are different types of facial plastic surgeries that help to treat any deformity related to the face and correct conditions like sun damage, facial trauma, or effects of ageing. Reconstructive plastic surgery may be done to help treat congenital deformities like protruding ears, crooked smiles, cleft lip and palate, and more.  
A candidate is considered good for facial plastic surgery if he/she meets the following conditions:  
Facial plastic surgery should be avoided in medically unfit patients, and extra caution is taken in thefollowing patients:  
The surgeon will explain the process in great detail and how it will transform or affect the body. In addition, the patient will be informed about the Facial Plastic Surgery procedure, the benefits, risks, and possible complications. During this stage, one should understand all the possible outcomes of the surgery before making any decision. Here are some questions one might ask the surgeon before the facial plastic surgery:  
Once done, the clinical team will review general questions about patient health, current medications, lifestyle issues (like smoking), and more. Apart from this, some preparation is also required for facial plastic surgery, including:  
The primary goal of facial plastic surgery is to correct any deformity of the face or improve facial aesthetics. Depending upon the condition, the doctor will recommend the following facial plastic surgery:  
Facial plastic surgery can dramatically change facial appearance. At first, patients might experience some swelling, which may be there for a few months. There might be some bleeding or drainage from the site of the incision. However, it generally goes away on its own after a few days. The medical team will provide a detailed post-operative care plan, which may include:  
There might be some possible complications with facial plastic surgery, including swelling, hair loss, skin loss, and others. Scars from facial plastic surgery may be permanent in some cases.  
Flap surgery is a surgical procedure performed to repair tissue damage that may be caused due to multiple reasons. The surgery is done by transferring the healthy tissue from one part of the body to another. A flap is a tissue that is still attached to its blood supply. The surgeon moves the tissue to the area that may have lost skin, fat, muscle, bone and more during the procedure. Flap surgery can also be used for reconstruction, like breast reconstruction, or to correct a defect caused by an injury or surgery. Different types of flap surgeries depend on the flap's location and structure, along with the area that needs to be treated.  
Modern flap techniques have contributed a lot to improving patients form and function, and recent advances in flap techniques have made these more robust and with better functionality, especially in the field of Breast and Head and Neck Cancer reconstruction. 3D printing technology has helped make Bone reconstruction like lower jaw for cancer very accurate and also reduced operating time.  
The following patients may benefit from flap surgery:   
In most medically fit patients, flap surgery which is major complex surgery is considered safe with a low complication rate. Although flap surgery is not avoidable in the patients where it is required, extra caution is observed in the patients with the following conditions:  
The first and foremost step to take while preparing for the surgery is to know the complete details about the flap surgery. Ask your surgeon about flap surgery in great detail, including the benefits of having the surgery and the potential risk factors. Once done, the doctor may prescribe some tests like the doppler test to examine the blood supply of the donor and recipient sites.  
Other tests may include MRI, CT scan, blood tests, urine tests, X-ray, and more to get a detailed overview. Your doctor will also ask about allergies or a family history of bleeding disorders. Other preparations for flap surgery may require the following:  
In this procedure, the tissues are transferred from an area next to the recipient site. The local flaps may be further classified as:  
The flap may contain a single tissue or several types. Depending on the tissues, the flap may be taken from:  
Once the surgery is done, the surgeon then sutures the recipient and donor site and applies a dressing. In some cases, the surgeon may also put a drainage tube to move the excess fluid from the surgical site.  
Flap surgery is a complex surgery. Like any other major surgery, it also poses risks and complications like infection, bleeding, and blood clots. Other complications may include:  
Major flap surgeries may need ICU care for 2 days. After the surgery, one may feel some soreness and pain at the incision site for a few days. The doctor will prescribe medications for the pain. One will be encouraged to get out of bed and go for short walks as soon as possible. The doctor will provide a postoperative plan to ensure a speedy recovery. These may include:  
Researchers have also successfully developed treatment modalities to lower the chances of rejection of a donor's kidney when a recipient's antibodies act against a donor's tissue and cells. This treatment modality is termed positive crossmatch kidney transplant. Moreover, scientists continue to evaluate the effects of antibodies after transplant and potential treatments to reduce the levels of antibodies. Again, this is to prevent kidney rejection after a transplant.  
A patient is diagnosed with end-stage kidney disease when their GFR falls below 15. Patients who are also positive for the following medical conditions are ideal for receiving a kidney transplant:  
With ABO Incompatible Kidney Transplant, the patient is given medical therapy to prevent rejection before and after the transplant. Medical therapy lowers the levels of antibodies in the recipient's body and lowers the risk of rejection.  
During the procedure, patients are anaesthetized with general anaesthesia and sedation. Next, the donor is prepared for kidney removal and the recipient. Once the recipient's bed is ready, the donor's kidney is placed in the recipient's body, and the incisions are closed with sutures or staples. Next, both are sent to the recovery room. Once the vitals are stable, the donor is sent to a regular room. On the other hand, the recipient is kept in isolation in the ICU or regular room.  
Medicines are given to help with pain, and exercises are to be practised to prevent pneumonia. Moreover, getting out of bed needs to be practised several times a day to promote blood circulation in the legs. The first meal served is clear liquids to prevent nausea and vomiting from the anaesthesia. Eventually, the meal is adjusted based on the patient's tolerance level.  
The surgery takes a mental toll on the recipient due to the isolation period, steroids, and immunosuppressants. Hence, it is essential to get counselled by a specialist before the surgical procedure. The pateint need to follow the following instructions-  
Patients with kidney transplants are at high risk and require isolation from people to avoid getting infected. Certain complications are treatable, while others may pose a threat to life. Some complications and risks associated with the kidney transplant surgery include:  
The recipient's body may not accept the newly transplanted kidney due to various reasons. Some reasons include inadequate or failed immunosuppression, missed doses of immunosuppressants, failed or compromised isolation after the surgery, infections, and more.  
If proper care is not taken, the recipient may easily catch infections. This may result from cold, cough, seasonal flu, repetitive pus formation, improper wound healing, injuries, and more.   
Surgical complications may cause delayed wound healing, delayed graft function, vascular thrombosis and stenosis, urinary leakage, ureteral obstruction, lymphocele, and in severe cases, even death.  
The long-term success of a ABO-incompatible Kidney Transplant depends on how well the patient manages their condition after the surgery. It is thus advised to follow strict protocols as instructed by the doctor.  
Vertebroplasty is a surgical procedure performed to treat compression fractures of the spine. In this procedure, bone cement is used at the site of fractured vertebrae, which hardens up over a period of time, thereby stabilizing the fracture and providing adequate support to the spine. The main aim of this procedure is to relieve the patient of pain and discomfort along with restoration of mobility and resumption of activities in daily life.  
Vertebroplasty surgery is most commonly used for people who were unable to benefit much from the conservative approach of treatment like bed rest, medications, lumbosacral support, braces and physical therapy. Vertebroplasty surgery procedure is recommended by the doctors even if any complication arises due to any fractured vertebrae like deep vein thrombosis, severe osteoporosis, and respiratory issues.  
The complications of vertebroplasty can be classified as mild, moderate and severe.  
Reviewed by Dr. Priyank Uniyal, Consultant - Spine Surgery on 14-Sep-2022  
Sinus surgery is a procedure that targets to open the sinus pathways and clear all the blockages present inside them. This is an ideal option for people suffering from ongoing and recurrent sinus infections, abnormal sinus structure, and abnormal growths in the sinus.Sinuses are air-filled cavities inside a person's skull, located around the eyes and nose and in front of the face. Normal sinuses contain no bacteria or other germs. However, mucus can drain out most of the time, and the air can flow through the sinuses. The mucus forms a protective layer to help keep out unwanted particles like pollutants, dirt, and infectious organisms.  
A doctor will often resort to other treatments and procedures before surgery. However, surgical intervention is the final option if conservative treatments don't give the desired results. The goal of the surgery is to get rid of all the obstacles blocking the sinuses' drainage pathways. This may include extraction of the following things:  
A person requires sinus surgery to treat various problems, but common reasons include sinusitis and nasal polyps.  
It is also termed a nasal infection. It is the inflammation of the nasal sinuses. The most common symptoms include:  
Nasal polyps are due to inflammation of the nasal lining inside the nasal passages and sinuses. They can vary in size but are mostly the shape of a teardrop.  
If the nasal polyps are larger in size or present as clusters, it may lead to breathing difficulties and affect the sense of smell. They can also block a person's sinuses, further leading to infections. The commonly seen symptoms are:  
Following are the most common types of sinus surgery:  
The steps performed during a sinus surgery are as follows:  
The complications that can happen while performing sinus surgery are primarily rare and include the following:  
After completion of the procedure, bleeding tends to occur within the first 24 hours. However, it can sometimes occur later, ranging from a few days to weeks. If a clot develops near the septum, the bony partition between the nasal passages, it must be taken off.  
The septum may get damaged during sinus surgery. However, this is an infrequent complication, and the chances are very bleak.  
Brain fluid can sneak into the nose and, in extreme cases, can lead to meningitis, an infection of the brain. While this matter is scarce, it is often identified and repaired while undergoing the initial surgery.  
As the sinuses are located very near the eye, bleeding can occasionally happen in the eye region. This occurs when the thin layer of bone separating the sinus from the eye is damaged. This is very rare and is usually noticed and treated at the same time while the surgery is in progress.  
In sporadic cases, vision loss and blindness have been noted. But, apart from that, few reports of damage to the muscles that perform the eye's movement, leading to temporary or permanent double vision.  
Other incidents may lead to a change in the functioning of tear ducts, causing enormous tearing.  
The sinus influences the resonance of a person's vocal cord. Complications of sinus surgery can sometimes lead to a change in someone's voice, making it a little hoarse.  
Generally, after sinus surgery, a person's sense of smell is expected to improve due to the restoration of airflow. But in some cases, it can worsen according to the level of swelling or infection. This often lasts temporarily but can be prolonged too.  
Sinus infections are the main reason to undergo sinus surgery. A person with sinusitis can develop other conditions in this area post-surgery.  
However, this complication can also occur if a person doesn't undergo long-term sinus infection surgery.  
Sinus surgery usually improves airflow. However, in rare cases, surgery can worsen this. In addition, small amounts of scar tissue may also build up in the nasal passage that will require another procedure to remove.  
After sinus surgery, follow-up care is essential to ensure proper sinus healing, which can take up to five days for your regular physical activity. It is always recommended to avoid certain activities that elevate blood pressure, such as lifting weights and jogging, until you get clearance from your doctor.  
Sinus surgery is the last mode of treatment for those patients experiencing sinus problems who have not responded to medical treatment. Some people notice an immediate and highly satisfying improvement in their symptoms after surgery. In contrast, it may take a little more time lasting from a few days to weeks in other individuals. Some patients require ongoing care even after recovering from surgery.  
Bladder Neck incision is a surgical technique performed primarily in men to treat urinary problems caused by a bladder neck obstruction (BNO). The bladder neck is a junction between the urinary bladder and the urethra. In most cases, this obstruction is caused by an enlarged prostate, but there can be other reasons also. A bladder neck incision will provide a better urine flow and relieve uncomfortable urinary symptoms.   
A 'bladder neck stenosis' is scarring at the neck of the bladder where it connects to the prostate, while a 'urethral stricture' is scarring within the urethra itself. Both forms of scarring cause a narrowing of the urethra, much like a rubber band around a ponytail.  
Following tests are performed to diagnose BNO:  
If the patient has a history of previous prostate resection (TURP) and the doctor suspects that a bladder neck obstruction is present, they may use this test. In this test, images of the urethra are taken by using contrast imaging.  
This entails seeing inside the bladder with equipment known as a cystoscope. The doctor will insert a cystoscope into the bladder through the urethra during the endoscopic procedure.  
During video urodynamics, X-rays or ultrasound are used to capture detailed images of the bladder in real-time. A small catheter will be placed to empty the patient's bladder. The catheter is to fill the bladder with fluid. When the bladder is full, the patient is urged to cough and urinate as much as possible. Thus, the images allow doctors to observe BNO as the bladder fills and empties.  
It involves recording the electrical activity of muscles of the urinary bladder and nearby sphincter muscles to detect any functional problems. This test is more frequently done in females.  
BNO may be treated with medication or via surgical procedures such as bladder neck incision. The specific treatment plan will vary from person to person.  
Medication(s) such as alpha-blockers drug therapy is usually the first step in treating bladder neck obstruction. They help by relaxing the bladder and neck muscles.  
A resectoscope is introduced into the urethra during the procedure. A resectoscope is a long, thin tube with a camera that allows doctors to observe the bladder neck better. After inserting the resectoscope, a cutting device (electric current/laser) attached to the resectoscope will make a small incision in the bladder neck wall.  
The patient will go through some routine tests. These tests are done before any surgery.  
Blood tests include complete cell count (CBC), complete metabolic panel (CMP), liver function test, kidney function test, etc. Tests like urinalysis are done to rule out infection before surgery. If the infection is present, it should be treated before surgery. An electrocardiogram(ECG) and X-ray are done to evaluate heart health. It assesses the heart to ensure it is safe during the surgery.  
Doctors and nurses will go over the risk of the procedure, and they will ask for the patient's consent to the surgery.  
Avoid alcohol one week before and two weeks after surgery to avoid bleeding problems.  
The patient should tell the staff about all their medication and supplements. They will need to stop taking blood thinners and pain medication such as ibuprofen.  
The patient may not eat or drink anything for at least six hours before the surgery.  
Following the surgery, the doctor will inform the patient about the length of their hospital stay. Because patients cannot drive themselves home after surgery, they must arrange for a vehicle and a companion.  
General complications present during any surgery:  
Complications specific to bladder neck incision:  
Cystoscopy is a diagnostic procedure that allows the doctor to examine the inner lining of the bladder and urethra. The procedure uses a thin, optical instrument known as a cystoscope. The scope has a tiny lens and light attached to one end, an eyepiece at another, and is inserted in the urethra and into the bladder.  
Before the procedure of Cystoscopy, local anaesthetic jelly or general anaesthesia is given to numb the urethra. Doctors recommend Cystoscopy to diagnose and treat urinary tract conditions, including blood in urine, frequent urinary tract infections, difficulty in passing urine, problems with control of urine, taking biopsies from the inner lining and removing bladder stones, DJ stents, etc.  
There are two types of cystoscopies; the choice depends on the purpose of the diagnosis or treatment. They include:  
This method uses cystoscopes made of metals that do not bend. This type is used when the doctor needs to pass instruments through the tube to collect samples or remove tumours from the bladder/transurethral prostate surgeries.  
Flexible Cystoscopy uses special bendable scopes made of fibre optics to examine the bladder and urethra.  
Before a urologist performs Cystoscopy, he may ask the patient about his medical history, allergies, and precautions to take before the procedure. The doctor may recommend:  
Before the procedure, the doctor might ask the patient to:  
Cystoscopy procedures can take 15 to 30 minutes. Before the procedure, the doctor asks the patient to empty the bladder. The doctor will also monitor the patient's vital signs and try to make them comfortable.  
Before beginning the procedure, the doctor can give a sedative (makes the patient feel sleepy and relaxed, aware of surroundings) or anaesthesia (no awareness). Both medications are given through a vein in the arm.  
Anaesthetic jelly is inserted into the urethra (urinary passage) a few minutes before the procedure to make it numb. The patient will be fully awake and aware of the procedure, but will not have pain.  
The doctor will carefully insert the cystoscope into the urethra using a small sheath. In special cases, larger scopes can be needed to take samples or to pass instruments into the bladder.  
The cystoscope has a lens attached to one end that magnifies the inner surfaces of the urethra and bladder. This is connected to a camera system, and the magnified images are viewed on an HD/UHD monitor screen. This helps to examine the bladder and urethra for different causes and conditions.  
The doctor will fill the sterile solution into the patient's bladder as it inflates the bladder and helps the doctor to get a better look inside. The solution can make a person feel the need to urinate; the patient can do so after the procedure is completed.  
The doctor can collect tissue samples from the bladder for testing.  
The doctor may recommend a cystoscopy if a person experiences:  
It is a diagnostic procedure, used to diagnose, monitor, evaluate and treat health conditions affecting the bladder and urethra. The doctor may recommend a patient cystoscopy to:   
Cystoscopy procedures can help to determine the underlying causes of recurrent urinary tract infections. The signs and systems can include blood in the urine, overactive bladder, or painful urination.  
Cystoscope tubes can be used to pass instruments in the urinary tract to treat a few conditions. Small bladder tumours, bladder stones, enlarged prostate and foreign bodies can be removed through the procedure of Cystoscopy.  
The procedure can be conducted to diagnose bladder cancer, bladder stones, bladder inflammation, urinary fistulas, or recurrent urinary tract infections.  
This is an x-ray procedure, in which a special radiopaque dye is injected into the urinary tract to create images of the urinary tract system and to diagnose various abnormalities.  
The doctor may also recommend another diagnostic procedure called ureteroscopy. This method uses a smaller device to examine the tubes connecting the kidneys and the urinary bladder.  
The side effects after Cystoscopy include:  
Side effects subside maximally by 48 hours. Consult a doctor if the problems last longer and cause severe painful urination.  
Cystoscopy is a low-risk procedure. Some complications include:  
In a few cases, a cystoscope may cause the germs to travel to the urinary tract leading to an infection.  
Before the procedure, journal anaesthesia or sedation is given to numb the area. After the procedure, the patient can experience abdominal pain, sensitivity, and a burning sensation while urinating. The symptoms are mild and get better with time.  
A cystoscopy procedure may sometimes lead to blood in the urine.  
A person can have serious complications if he experiences the following symptoms:  
When a patient is at home, he/she needs to take care and have enough rest to relieve the symptoms.  
Reviewed by Dr. Ruchir Maheshwari, Associate Director, Urology on 23-Sep-2022.  
Orchiectomy is a surgical procedure to remove one or both testicles. The testicles produce sperm and a hormone called testosterone. After removing both testicles, the testosterone level in the blood falls quickly, and it is useful to treat prostate cancer and male breast cancer. It is also helpful to prevent testicular cancer.  
Alternative treatment options are also available for prostate cancer, such as frequent injections or tablets to reduce the level of testosterone in the blood. Few men prefer this surgery as a one-time treatment instead of having regular injections or tablets. The treatment is irreversible, and a patient may find the post-surgery upsetting.  
The three types of orchiectomy procedure are:  
Simple orchiectomy is performed under local anaesthesia, and the surgery is completed in 30 minutes. This treatment is usually done bilaterally by removing both testes to prevent testosterone production in prostate cancer or for sex reassignment surgery.  
In this procedure, only the tissue of the testicles is removed, leaving the testes lining intact. Sometimes one side testis may be removed for treatment of torsion of testis/ small atrophic testis/ pus in testis.  
This surgery removes both the testes and spermatic cord to prevent the spread of testicular cancer into regional lymph nodes and other organs in the abdomen. The surgery is done through an incision in the groin.  
A doctor may suggest this surgery to a male diagnosed with breast cancer or prostate cancer to stop hormone production. A person may wish to do orchiectomy surgery to transition from male to female, as removing the testes reduces the production of testosterone.Simple and subcapsular orchiectomy is performed if a person experiences testicular trauma or has prostate cancer.  
Other conditions that need orchiectomy treatment include:  
Orchiectomy treatment removes primary testicular cancer and allows the doctor to collect tissue samples for diagnosis. This treatment is also used for male breast cancer and prostate cancer. Hormones such as androgens and testosterone encourage cancer cell growth. Removing the testes reduces hormone levels.  
Transgender women may choose orchiectomy for gender transition as the procedure reduces male hormone levels in the body. This treatment can be performed as a single surgery or as part of comprehensive gender reassignment surgery.  
Injuries or trauma due to sports, motorcycle accidents, or other factors can cause severe damage to testicles. In case of major damage, the doctor may recommend removing the testes.  
May also recommend orchiectomy.  
The need for orchiectomy surgery depends on the underlying condition, which is diagnosed by physical examination and tests. The doctor recommends the patient undergo a routine blood and urine tests along with chest X-ray and ECG to assess general health.  
Before the surgery, local or general anaesthesia is injected to numb the part.  
The procedure for subcapsular orchiectomy is similar to simple orchiectomy. However, one major difference in this procedure is that only glandular tissue is removed instead of the entire testes. This type of orchiectomy maintains the normal appearance of the scrotum.  
After the surgery, the doctor may give painkillers to relieve some pain.  
Preparing for surgery includes taking precautionary steps such as not taking blood-thinning medicines like aspirin for a few days before surgery. The patient must also avoid smoking and drinking for a few days before surgery to speed up the healing process. Also, the patient must inform the doctor about any medication or supplements he is taking.  
The doctor may take blood samples to make sure the patient is healthy enough for the surgery and indicators of cancer.  
Before the surgery, the patient must make sure he has a ride home. Get rest for a few days and plan in advance how to limit physical activity after surgery.  
Orchiectomy effectively removes the tumour and can prevent cancer growth. The treatment is highly effective, but it can cause some complications. After the treatment, the patient may experience hot flashes or erection problems. Orchiectomy is a safe procedure, but a patient may experience:  
A patient may also experience long-term effects due to less testosterone in the body, such as osteoporosis and infertility.  
A patient may feel better after surgery, but the entire recovery process takes several weeks. While recovering, a patient should:  
Avoid lifting heavy objects, running, or having sex. Consult the doctor before getting back to sports and other major physical activities  
Use mild soap and clean the area gently with water. Make sure the area is dry to prevent infection and faster recovery.  
After surgery, a patient may feel pain, swelling, discomfort, and tenderness. Taking over-the-counter medication such as non-steroidal anti-inflammatory drugs can relieve pain. Apply an ice pack to ease the discomfort.  
Eat fibre-rich food and drink plenty of water to avoid the problem of constipation, as pushing too heavily may cause pain.  
Reviewed by Dr. Gaurav Garg (Uro), Consultant - Urology, Urology on 23-Sep-2022.  
Stereotactic Radiosurgery (SRS) also known as Stereotactic Radiation Therapy (SRT) is an advanced, non-surgical, and specialized form of radiation therapy that comprises multiple, non-coplanar photon radiation beams and allows us to deliver high precision radiation to localized lesions or a well-defined cancerous or non-cancerous tumour using 3D imaging and localization techniques.  
Brain metastases are the most common intracranial malignancies; out of a hundred, almost 10 to 20 per cent of cancer patients develop brain metastases during their health complications.  
This modernized form of radiation treatment involves a team of specialists, including radiologists, radiation oncologists, physicists, radiation therapists and nurses, and other specialized doctors and other technical staff.  
Although SRS typically refers to a one-day treatment, sometimes radiation oncologists recommend multiple stereotactic delivered treatments depending on the core and spreading area of the disease. Fractionated stereotactic radiation therapy (SRT) basically refers to the delivery of two to five focused radiation treatments and is not always applied on consecutive days.  
This type of treatment is mainly used to combat very small cancers that include cancers in the lymph nodes, spinal cord tumours, cancer in the lung, and cancer spread in the brain.  
Stereotactic Radiosurgery (SRS) is important alternatives to invasive surgery, especially for those patients who are unable to undergo surgery, for cancerous/non-cancerous tumours, and for other abnormalities that are mentioned below:  
Stereotactic radiosurgery has become an increasingly alternative to invasive surgery for patients who have brain tumours but are smaller in size. The surgery is also chosen by people in their early stages of the disease.  
One may not be a good candidate for stereotactic radiosurgery (SRS) in case:  
Before undergoing surgery, it is important to discuss any pre-existing allergies or other health complications and ongoing medications with the concerned doctor or a radiation specialist and adjust them accordingly for the smooth completion of the procedure.  
Preparation for Stereotactic Radiosurgery (SRS) and Stereotactic Radiation Therapy (SRT) may vary depending on the current clinical condition of the patient and other conditions but usually involves the following steps:  
Before the surgical procedure, keep in mind that Stereotactic radiosurgery can lead to several health complications. Although stereotactic radiosurgery doesn't require any surgical incisions, so it's usually not riskier than traditional surgical procedures. Nevertheless, most patients develop some early complications or experience side effects that are usually mild and short-term, such as headaches, gastrointestinal upset, tiredness, and fatigue.  
Apart from this, there is also a slight possibility of developing cancer from radiation therapy. One should be diagnosed on a regular basis by a radiation oncologist for recurring and new malignant cells.  
The most common Stereotactic Radiation Therapy (SRT) side effects during brain tumour treatments include:  
Hemicolectomy is a surgery performed to remove the diseased part of the colon and preserve the healthy one. For instance, removing the right side of the colon and attaching a small part of the intestine to the healthy colon is called a right hemicolectomy.   
It is carried out to treat colon-related disorders such as colon cancers, severe diverticulitis, Crohn's disease, and other diseases.   
Based on the side of the colon removed, it can be divided into two types:  
Hemicolectomy is done to remove the diseased part of the colon and save the healthy part of the colon. Colectomy is commonly performed in the following conditions:  
Some contraindications of hemicolectomy include:  
Before the surgery, doctors perform a thorough medical history to assess any pre-existing medical conditions that may interfere with the procedure. The tests recommended by doctors before a hemicolectomy procedure are:  
Hemicolectomy can be performed in three ways:  
The colon has three parts:  
Firstly, a doctor administers general anaesthesia to sedate the patient. During surgery, an IV drip is inserted to control pain and balance body electrolytes. Next, a nasogastric tube is pushed through the nose into the stomach. Subsequently, a catheter is inserted into the bladder to drain urine. After these procedures, the patient is ready for surgery.  
Small incisions are made to access the surgical site, and a thin scope is pushed within. The surgical instruments are then inserted, and the surgeon performs the surgery. This procedure is also called keyhole surgery. Open surgery is indicated if the surgeon cannot achieve success through the laparoscopic method.  
The procedure is done the same way as in laparoscopy, except that the surgery is done by a robot guided by the surgeon. This improves the precision with which the surgery is performed.  
Longer cuts are made in the body to access the colon. Hence, the recovery may take longer.   
The hemicolectomy procedure takes about 3-4 hours. However, it may take longer, depending on any complications that may occur during the procedure.  
During the presurgical consultation visit, the doctor conducts a complete physical examination before the surgery to assess for any medical conditions. Some medical conditions affect surgical procedures. The potential risks and benefits of the surgery are discussed. In addition, a list of presurgical restrictions and other instructions to follow is given.  
Sometimes, the doctor may have to attach the colon/small intestine to the skin to allow for the elimination of waste matter from the body. This is called a stoma, and a bag is applied to the skin around the stoma. The patient is well informed about whether this procedure is likely to be required or not and also the duration for which it is likely to be required.  
Doctors recommend stopping blood thinners from preventing bleeding during the surgery. These medicines should be stopped for some time before the surgery, depending on the medicine which is being taken.  
Laxatives may be prescribed a few days before the surgery to empty the bowels and clear the digestive tract, a procedure called bowel prep. This step helps reduce the risk of infection.   
One has to avoid eating for at least 6-8 hours before the operation to prevent any side effects of anaesthesia. Orally clear liquids can be taken up to 3 hours before a planned surgery in discussion with the treating team. Oral liquid intake till 3 hours before surgery has been shown to significantly help patients recover better and faster.  
Taking someone along for the surgery is crucial since they can provide support and assist with the postoperative instructions. It may take several hours for the effects of the anaesthesia to wear away.  
Like most abdominal surgeries, Hemicolectomy also carries some risks in the form of the following complications:  
Hemicolectomy is a major surgery that requires time to heal. Returning to routine activities may take some time. Feeling dizzy from anaesthesia post-surgery is normal. Pain medications administered through IV help control pain after the surgery.  
The doctor follows up for the next few days to check for how much food can be eaten, assess for any signs of infection or complications from the surgery, and check for gas and solid waste passage.  
Some patients may require an additional stay at the hospital of a week or two until they recover enough to return home. This is true for patients with open hemicolectomy. For controlling pain at home, doctors prescribe painkillers such as ibuprofen, paracetamol, or diclofenac sodium and medicines to manage constipation.  
Avoid lifting any heavy objects for about six to eight weeks.  
Nowadays, it is preferred that patients be allowed ora diet in some form after about 6 hours of surgery. This would gradually escalate depending on the patient's recovery and tolerance to the oral diet. In the long-term, usually, no significant change in the diet is needed after the procedure, but in case of diarrhoea or stomach cramps, some of the foods that may help regulate bowel movements are:  
Doctors recommend drinking excess water to balance electrolytes and prevent dehydration in the body.  
Thyroidectomy is indicated when the thyroid gland needs to be removed. Thyroidectomy is a procedure in which the thyroid gland is surgically removed. The thyroid gland is a butterfly-shaped gland located at the base of the neck. It produces hormones that control heart rate, metabolic rate, brain development, muscle, and digestive function, and bone maintenance.  
Thyroidectomy treats thyroid disorders like cancer, a benign enlargement of the thyroid termed goitre, and an overactive thyroid gland termed hyperthyroidism.  
Thyroidectomy can be classified into two types based on the amount of the thyroid gland that needs to be removed.   
These types are:  
Thyroidectomy is indicated to remove a large goitre or nodule or for thyroid cancer or an overactive gland which cannot be treated with medications. Conditions that may require thyroidectomy include:  
Doctors record the patient's medical history and family history and perform a physical examination before the procedure.  
The doctor enquires in detail about the patient's medical history and records questions such as:  
Doctors may advise certain tests before the procedure. These may include:  
Fine Needle Biopsy  
A thyroid fine needle biopsy is a procedure to diagnose whether the nodule is cancerous or benign. This helps formulate the correct treatment plan. The method involves numbing the biopsy site, after which a thin gauge needle is inserted to obtain a sample for testing. The patient can return to work the same day.  
Thyroid Scanning  
A thyroid scan gives an image of the thyroid gland taken after a low dose of a radioactive isotope that has been injected or swallowed. It (radioactive isotope) is typically taken up by the thyroid cells. The scan provides information on whether the whole gland or a specific nodule is hyper-functioning.  
Ultrasonography  
In this procedure, high-frequency sound waves pass through the skin and are reflected in the machine to create detailed thyroid images. Tiny nodules with a width of 2-3mm can be seen through ultrasonography. It helps distinguish thyroid cysts from solid nodules. It can be used as a lead during fine needle biopsy for aspirating the thyroid nodules.  
Blood tests may be advised to assess thyroid hormone levels.  
Thyroidectomy is performed under general anesthesia. During the procedure, monitors are placed on the body to check vital signs such as blood pressure, heart rate, pulse, and blood oxygen.  
Incisions in the center of the neck in the skin crease are made so that the scar is less visible. Then, the gland is accessed and removed. If the surgery is being carried out for thyroid cancer, the lymph nodes are examined and may be removed. The procedure lasts for about one to two hours. However, the time taken to complete the surgery may vary depending on the extent of the disease.  
Conventional thyroidectomy: An incision in the center of the neck is made to access the thyroid gland.  
Endoscopic thyroidectomy: Smaller incisions in the neck are made. Using an endoscope, surgical instruments and a small video camera are inserted through the small incisions. This camera guides the surgeon through the procedure.  
It is a must to follow the instructions given by the doctor before the procedure. Some of these include:  
Thyroidectomy is typically a safe procedure but carries certain risks of complications. Some of them include the following:  
Reviewed by Dr. Anshu Alok, Senior Consultant, Endocrinology & Diabetes on 31-Oct-2022.  
Cardiac catheterisation allows a catheter to be directed through a blood vessel to the heart. Cardiac catheterisation provides essential information about the components of the heart, such as heart valves, heart muscles, and blood vessels. In addition, this procedure can help diagnose or treat certain heart conditions, such as embolisms or arrhythmias.  
This process permits doctors to perform different heart tests, treat conditions, or do a biopsy (remove tissues for examination). It is also required for certain heart procedures, such as coronary stenting and angioplasty.   
Cardiac catheterisation is usually done under local anaesthesia. The patient is usually not put to sleep during the procedure. Medicines are given to help the patient relax. Recovery time for this procedure is quick and carries negligible risk in experienced centres.  
Cardiac catheterisation is a standard procedure to diagnose or treat various heart ailments. For instance, arrhythmias, chest pain, or heart valve problems can be diagnosed and treated by this procedure. Cardiac catheterisation may be carried out during the diagnosis or treatment of:  
Cardiac catheterisation enables a doctor to:  
Cardiac catheterisation is done at the same time as other heart procedures, like:  
The doctor first evaluates the overall health, records a medical history, and performs a physical examination. Then, they may advise undergoing some tests to confirm that the procedure is safe.   
Cardiac catheterisation is helpful for diagnostic and therapeutic purposes. Some indications include the following:  
There are no absolute contraindications of cardiac catheterisation. However, it cannot be done when the patient refuses treatment.  
The relative contraindications are:  
Some pre-operative preparation recommended by doctors include:  
As with most procedures related to the heart and blood vessels, cardiac catheterisation carries some risks. However, major complications are rare.  
Possible risks of cardiac catheterisation include:  
Post-operatively, the patient stays in the recovery room, where their vital signs are continuously monitored.  
Once the vital signs are normal and no signs of any risk are evident, the patient is moved to the ICU or normal ward. After removing the catheter, a technician or nurse applies pressure to the insertion sites. For example, if the catheter was placed in the groin area, one must lie flat to prevent excessive bleeding. This permits the healing of the artery.  
The number of days one has to stay at the hospital depends on the overall health of the patient and the motive for the catheterisation. The site of catheter insertion may feel sore for a few days. Inform the doctor in case of bleeding or new or increased swelling, or pain at or near the access site.  
Orthotopic Liver Transplant is a surgical procedure in which the diseased native liver is replaced with a new one taken from a recently deceased individual in the same anatomic position. Orthotopic Liver Transplant is the treatment of choice for end-stage liver disease (chronic liver failure).  
A deceased donor is one who has pledged to donate their organs/s upon their natural death. The surgical procedure is complex and requires meticulous harvesting of the donor organ and implantation into the recipient. Since a liver transplant is a high-risk procedure, it requires major lifestyle changes post-operation.  
Orthotopic Liver Transplant is indicated in people with acute or chronic liver disease that cannot be treated with non-surgical treatment or alternative forms of surgery. It can be done in both adults and children. The most common indications are:  
Ideal candidates are those with a confirmed diagnosis of end-stage liver failure. Any other mode cannot treat it. Some other factors that influence patient selection are:  
  
Have been diagnosed with:  
  
 Certain donor requirements include:  
The contraindications to liver transplant can be divided into absolute and relative contraindications:  
   
Firstly, eligibility tests of the donor and recipient are carried out by performing several full-body checkups. A complete body assessment helps doctors identify any pre-existing medical conditions that may play a significant role during or after the transplant procedure. All the risks and complications, along with the benefits of the operation, are explained to the patient, and consent for the same is obtained.   
The goals of the assessment process are to determine that the recipient is:  
Specific tests, procedures, and consultations that may be advised are:  
The evaluation may also include the following:  
After the tests and evaluation are completed, a meeting with the transplant and ethics committee of the transplant hospital is scheduled, where the donor and recipient families are questioned to prevent any forceful and criminal acts. Once the committee is satisfied, the patient is placed on the transplant waiting list.  
Before the transplant surgery, liver-support therapy might be indicated. Virtually all liver transplants are done using the orthotopic technique.   
Patients are anaesthetized to provide excellent pain control in the immediate postoperative period and permit the minimization of general anaesthetic during the procedure. The anesthesiologist administers general anaesthesia for the entire duration of the surgical procedure.  
The transplant operation can be divided based on the presence of the liver in the body:   
The operation is done through a cut in the upper abdomen. The hepatectomy requires dividing all the ligamentous attachments to the liver, common bile duct, hepatic artery, vein, and portal vein. Most of the time, the retrohepatic portion of the inferior vena cava is taken out along with the liver. An alternative technique, however, preserves the recipient's vena cava.  
An ice-cold organ preservation solution replaces the donor's blood in the liver until the allograft liver is implanted. Implantation includes the connection of the inferior vena cava, hepatic artery and portal vein. The bile duct is formed after the blood flow is restored to the new liver; it is done by joining it to the recipient's bile duct or the small intestine.   
The surgery would require at least eight to ten hours. Sometimes it may be longer or shorter depending on the difficulty of the procedure.  
Most liver transplants utilise the entire liver from a non-living donor for the transplant, specifically for adult recipients. However, in India, due to low decreased donations, LDLT is common in which a part of the liver is taken from a healthy liver. A major advancement in paediatric liver transplantation is the development of reduced-size liver transplants. A portion of an adult liver is transplanted in an infant or young child.  
Between the removal of the liver from the donor to its placement in the recipient, the liver is stored in a temperature-cooled preservation solution. The reduced temperature delays the process of deterioration from normal metabolic processes. The storage solution is specifically designed to counteract the unwanted effects of cold ischemia.   
The skin is finally closed with absorbable sutures.  
Pain medication is prescribed at the surgeon's discretion and depending on the patient's pain level and ability to tolerate it. It is suggested that weaning the patient from the pain medication should begin a few days after the operation.  
Some of the complications associated with liver transplant surgery are:  
Orthotopic Liver Transplant is a major procedure and requires immense postoperative care. Some of the points that may help are as follows:  
The lobe of the lung can be removed using different types of procedures. Each procedure has a different preparation technique, recovery process, complications, and prognosis. Deciding the kind of lobectomy depends on the location and size of the tumour. The three types of lobectomy procedures are:  
Lobectomy surgery is needed when a problem is detected in any lobes. The affected lobe is removed through surgery to prevent the spread of disease to other lobes and nearby tissue.  
Lung diseases that can be treated with lobectomy include:  
These lung diseases can spread to the surrounding lobes and other body parts and affect lung functioning. Surgery is needed to remove the infected part and maintain lung function in such cases.  
Before lobectomy treatment, the doctor can ask the patient about their medical history and conduct a physical examination. Other tests, such as blood tests and breathing tests, can be performed. A breathing test is conducted to determine the patient's ability to breathe comfortably after the surgery.  
The doctor will also review the medications and may recommend stopping a few medicines before surgery.  
Before the surgery, the doctor will explain the types of procedures and risks involved. While preparing for surgery, the doctor will recommend the following:  
During a lobectomy, an incision is made at the level of the affected lobe. The incision is made in front of the chest, under the nipple. The surgeon accesses the chest cavity, and the lobe is removed through the exposed ribs.  
If a patient is undergoing open lobectomy:  
If a patient is undergoing video thoracoscopic surgery   
If a patient is undergoing robots assisted thoracoscopic surgery:  
Antibiotics may be given before and after the procedure to reduce the risk of infections.  
Like any other surgical procedure, lobectomy can lead to bleeding or infections. The treatment can cause complications like leakage in the lung, and the patient will need a drainage tube for a long duration. The leak heals on its own and does not require further treatment.  
The risk and complications of the surgery include:  
Other major complications due to lobectomy include:  
A person may also experience Post Thoracotomy Pain Syndrome, a condition in which a person experiences persistent chest pain for years after lung surgery.  
Keep the dressing clean and dry. Follow the bathing instructions given by the surgeon. After surgery, the patient will also be taught deep breathing exercises and coughing methods to expand the lungs. Before taking any medicine, consult the doctor.   
While healing at home, makes sure to avoid exposure to:  
If the appendix becomes inflamed and swollen, it may increase bacteria that can form pus. This build-up of pus and bacteria may result in pain around the belly button and spread to the lower abdomen region; simple daily tasks such as walking and coughing can increase the pain. A person with appendicitis may experience vomiting, nausea, and diarrhoea.  
In such cases, laparoscopic appendectomy surgery is needed to remove the inflamed appendix.  
A person needs an appendectomy if they show symptoms of appendicitis. The appendix may burst and cause a severe life-threatening infection called peritonitis, in the abdomen.  
Follow the instructions given by the surgeon.  
The doctor may also give additional instructions depending on the symptoms.  
The doctor may conduct a physical examination, examine physical symptoms, and recommend blood tests and imaging tests to diagnose appendicitis. The surgeon would also ask about the patient's complete medical history, current medications, and allergies.  
After examining and diagnosing appendicitis, the doctor will perform an appendectomy to prevent complications.  
Laparoscopic appendectomy surgery lasts for one hour. The patient may go home the same day after surgery or remain in the hospital for two days to recover. If the patient has experienced an appendix burst before the surgery, they may have to stay in the hospital for a week. The procedure of laparoscopic appendectomy is as follows:  
After the surgery, the patient's heart rate, breathing, and vital signs are closely monitored.  
Laparoscopic appendectomy has lesser complications and is less painful, with a faster recovery time and a small scar. However, possible complications and risks include:  
Once discharged the patient must rest and take care of for 1 to 2 weeks.  
Appendectomy is a common surgical procedure to treat appendicitis. The recovery time and complications depend on the severity of appendicitis and its rupture. A person after a laparoscopic appendectomy can live a normal and healthy life.  
Jaw implant surgery, also known as jaw augmentation, is a procedure performed to enhance the structure and aesthetics of the jawline. This surgical intervention involves the placement of artificial implants to reshape and enhance the size and contour of the jaw.  
There are several types of jaw implants available, each designed to address specific concerns and desired outcomes. The common types of jaw implants include:  
Mandibular Angle Implants: These implants are placed at the angles of the jaw to increase the width and definition of the lower jaw.  
Chin Implants: It is used to augment and enhance the size and shape of the chin. They provide balance and symmetry to the facial profile.  
Pre-jowl Implants: These implants are used to improve the contour and definition of the jawline by filling in the area just in front of the jowls.  
Full Jaw Implants: Full jaw implants involve placing implants along the entire jawline to enhance the overall shape and size of the jaw.  
Jaw implant surgery is recommended for individuals who have the following concerns:  
Weak or receding chin: A weak chin can negatively impact facial harmony and balance. Jaw implants can help create a more defined and proportionate chin.  
Lack of jawline definition: Individuals with a poorly defined jawline may opt for jaw implant surgery to achieve a more sculpted and attractive facial profile.  
Facial trauma or congenital defects: Patients with facial trauma or congenital deformities affecting the jaw may undergo jaw implant surgery to restore proper jaw function and aesthetics.  
Facial asymmetry: If the lower jaw is significantly smaller or uneven compared to the upper jaw, jaw implant surgery can help achieve facial asymmetry.  
The ideal candidate for jaw implant surgery is someone who:  
Is in good overall health: Candidates should have no underlying medical conditions that could pose risks during surgery or hinder the recovery process.  
Has realistic expectations: It is essential for candidates to have realistic expectations regarding the outcome of the surgery. A thorough consultation with the surgeon can help set appropriate expectations.  
Has facial concerns that can be addressed with jaw implants: Candidates should have specific concerns related to the size, shape, or symmetry of the jawline that can be improved with implants.  
Is committed to post-operative care: The recovery process requires adherence to post-operative instructions provided by the surgeon. Candidates must be willing to follow these instructions diligently.  
Before the surgery, the surgeon will conduct a comprehensive evaluation of the candidate's overall health and specific jaw concerns. This evaluation may include a physical examination, medical history review, and imaging tests such as X-rays or CT scans.  
During the preparation phase, candidates may be required to:  
Cease smoking and avoid certain medications: Smoking and certain medications can interfere with the healing process. Candidates may be advised to quit smoking and avoid blood-thinning medications.  
Arrange for post-operative care: Candidates may need to make arrangements for someone to assist them during the initial stages of recovery.  
Follow pre-operative fasting instructions: To minimise the risk of complications during anaesthesia, candidates may be required to fast for a certain period before the surgery.  
Jaw implant surgery typically follows these general steps:  
Anaesthesia: The procedure is usually performed under general anaesthesia, ensuring the patient is unconscious and pain-free during the surgery.  
Incisions: The surgeon makes small incisions inside the mouth or under the chin to access the jawbone. These incisions are strategically placed to minimise visible scarring.  
Implant placement: The selected jaw implants are carefully positioned and secured to the jawbone using screws or other fixation techniques. The surgeon ensures proper alignment and symmetry.  
Wound closure: The incisions are closed with sutures, and sometimes dissolvable stitches are used. The surgeon may also place bandages or dressings to protect the surgical site.  
Recovery and monitoring: After the surgery, the patient is taken to a recovery area and monitored closely by medical professionals until they are fully awake and stable.  
The recovery period following jaw implant surgery varies for each individual, but there are some general guidelines to follow:  
Pain management: Pain and discomfort are common after surgery. The surgeon may prescribe pain medication to manage the discomfort during the initial stages of recovery.  
Swelling and bruising: Swelling and bruising around the surgical site are expected. Applying cold compresses and keeping the head elevated can help reduce swelling.  
Soft diet: Initially, a soft diet may be recommended to avoid placing excessive strain on the jaw. The surgeon will provide specific dietary instructions based on the individual's progress.  
Oral hygiene: Maintaining oral hygiene is important during recovery. The surgeon may provide instructions on how to clean the mouth and any special precautions to take.  
Follow-up appointments: Regular follow-up appointments with the surgeon are essential to monitor the healing process, remove stitches, and address any concerns or complications that may arise.  
Although jaw implant surgery is generally safe, there are potential complications that can occur, including:  
Infection: The risk of infection is present with any surgical procedure. Proper wound care and adherence to post-operative instructions can minimise this risk.  
Implant shifting or rejection: In rare cases, the jaw implants may shift or be rejected by the body. This can result in asymmetry or the need for additional corrective procedures.  
Nerve damage: The surgery involves working in close proximity to nerves in the jaw area. There can be temporary or permanent nerve damage, which can lead to altered sensation or muscle weakness.  
Poor wound healing: Certain factors, such as smoking or underlying medical conditions, can impair the healing process and increase the risk of complications.  
Unsatisfactory aesthetic outcome: Despite careful planning and execution, the final aesthetic result may not meet the patient's expectations. It is crucial to communicate openly with the surgeon about desired outcomes during the consultation phase.  
Jaw implant surgery duration can vary depending on the complexity of the procedure, but it generally takes between 1 to 3 hours.  
Jaw implants are designed to provide long-lasting results. However, over time, natural ageing processes and changes in body composition may affect the appearance of the jawline.  
The incisions for jaw implant surgery are typically made inside the mouth or under the chin, resulting in minimal visible scarring. The surgeon will make efforts to minimise scarring during the procedure.  
The timeline for resuming normal activities may vary. Generally, patients can expect to return to work and non-strenuous activities within 1 to 2 weeks. However, more physically demanding activities should be avoided for several weeks.  
In the initial stages of recovery, a soft diet is recommended to avoid putting excessive strain on the jaw. The surgeon will provide specific dietary instructions based on individual progress.  
Yes, jaw implant surgery can be combined with other procedures, such as nose surgery or chin surgery, to achieve comprehensive facial harmony. The suitability of combination procedures will be evaluated by the surgeon.  
There is a small risk of temporary or permanent numbness or altered sensation in the jaw area. This can occur due to the manipulation of nerves during the surgery. However, such occurrences are usually rare.  
Swelling is expected after jaw implant surgery and typically peaks within the first few days. It gradually subsides over the following weeks, with most swelling resolving within 2 to 4 weeks.  
Jaw implants can be removed or replaced if desired. Revision surgery may be performed to adjust the size or shape of the jaw implants or to address any complications that may arise.  
Dermal fillers or fat grafting can provide temporary enhancement to the jawline. However, these alternatives do not offer the same level of customisation and long-term results as jaw implant surgery.  
Reviewed by Dr. Rohit Chandra, Senior Consultant, Aesthetic And Reconstructive Surgery on 11-July-2023.  
Arthrodesis is a process by which two joint-forming bones are joined together to reduce pain. It is also known as fusion surgery since two bones are fused surgically. It is a safe procedure used in circumstances like severe arthritis, fractures, and arthritis pain in several body parts. When pain persists in the spine, ankle, finger, thumb, wrists, and other joints and other conditions affecting joint mobility, arthrodesis may provide relief.  
The procedure makes the bone solid, reduces pain, and improves stability but removes the ability to move that joint. If other treatment modalities fail to provide relief, arthrodesis can be performed. However, doctors consider it the last resort nowadays and suggest it only after exhausting all other options. Ideally, both bones to be joined must be strong and intact for arthrodesis. In addition, the candidate should have a robust immune system for appropriate healing. A bone graft may be used to fuse the joints.  
The process of arthrodesis can occur naturally but can be surgically performed to achieve faster results. The bone needed can be taken from the patient's body (autograft) or a substitute such as a cadaver. It can also be obtained from a tissue bank and may be synthetic. The surgery is generally done on the spine but can also be performed on the thumb, finger, wrist, spine, and knees. Arthrodesis can also be classified based on the number of joints to be fused. For example, an operation on the feet can be double or triple arthrodesis.  
Arthrodesis is best suited for candidates with the following:  
Arthrodesis is considered only when other treatment modalities have failed to improve patients' health. This therapy primarily focuses on relieving pain and correcting bone anomalies and deformities. The indications of arthrodesis are:  
Contraindications for arthrodesis procedure include the following:  
Tests and necessary preparations are discussed with the patient to ensure the success of the surgery. Some tests include:  
Except for standard preoperative studies, no specific laboratory tests are warranted if the pain is from degenerative joint disease. However, arthritis panels are ordered to eliminate inflammatory arthropathy or gout when the underlying diagnosis is not as precise. If Charcot arthropathy (painless destructed joints) is suspected, imaging studies or bone biopsies are advised. A joint-fluid analysis is performed if gout or infectious disease (such as Tuberculosis) is suspected.   
Standard x-rays may be advised to visualize the affected joint.  
At the consultation before the surgery, one must inform the doctor about any ongoing medications and pre-existing medical conditions. A complete body scan helps assess undiagnosed conditions and prepare the treatment plan.  
The patient must be thoroughly examined before the surgical procedure.   
It is essential to inform the treating orthopaedic surgeon about ongoing medications since some medicines may interfere with the surgical procedure. Blood thinners must be stopped three days before the surgery and two days after to control the bleeding.  
Other factors that one should consider are:  
Usually, the conditions can be treated using non-surgical methods such as medications, rehabilitation, and pain injections. However, arthrodesis is considered only when the patient experiences excruciating pain that does not respond to all non-surgical treatments.  
First, all cartilage is removed to bring the bones in direct contact. Then, the joint is fixed with metal wires, screws, external pins, and rods. This permits the joint to fuse in one particular position and heal. Additionally, it makes the bone immovable.   
The procedure is often indicated in areas that require the least range of motion. For instance, ankles are preferred over the knee or hip joints for arthrodesis.  
Arthrodesis is generally a safe procedure and rarely leads to complications. However, if they occur, they are treatable. Some of them include:  
Balloon Kyphoplasty treats compression fractures of the spine. Bone cement is used at the site of fractured vertebrae, which hardens over time, stabilises the fracture, and provides adequate support to the spine. The aim is to relieve the patient of pain and discomfort while restoring mobility and resumption of activities in daily life.  
It is commonly used for people who have not benefited much from traditional treatment like bed rest, physical therapy, medications, braces, and lumbosacral support.  
The doctor will take the patient's medical history, followed by a physical examination to determine the exact location and nature of the pain. Apart from this, the doctor suggests imaging tests like CT-scan or MRI scans. Additionally:   
Balloon Kyphoplasty is generally well-tolerated, with minor complications usually occurring at a rate of 1 percent to 3 percent. But patients can face risks such as:  
Reviewed by Dr Akshay Kumar Saxena, Senior Consultant - Orthopaedics & Joint Replacement, Spine Surgery on 09-Jan-2023.  
A robotic cystectomy is a minimally invasive procedure that is used to treat diseases of the urinary bladder requiring partial or complete removal of the bladder. Radical cystectomy is done when the urinary bladder has cancer, and it has spread to the muscle wall. Smaller incisions are made compared to open cystectomy, in which a significant incision helps remove the entire bladder.  
Robotic surgery is one of the recent advancements in treating cancers. Robotic cystectomy benefits from the robot's arms and allows for greater flexibility than traditional laparoscopic methods. This greater flexibility permits the surgeon to accomplish complex tasks like internal stitches meticulously in the form of urinary diversion or neobladder. Additionally, the robotic platform provides the surgeon with a 3D high-definition view of the inside of the abdomen. This enhanced vision helps with precision.  
A robotic partial cystectomy is indicated in cases where cancer only affects a part of the bladder, or the patient has noncancerous bladder diseases. However, for major cases, radical cystectomy is required. Robotic surgery permits minor invasion and faster healing. Hence, it can be done in patients with diabetes and other medical conditions with caution.  
Robotic cystectomy is indicated for patients with:  
Robotic cystectomy is contraindicated in patients with:  
A meeting with the surgical team is scheduled to discuss the patient's history in depth and evaluation of disease. The urologist may advise Cystoscopy to view the internal part of the bladder and perform a biopsy and imaging studies like CT scan/MRI /PET CT scan to evaluate the tumour size, shape, and extent of disease.  
The urologist also advises certain blood tests and imaging scans such as a chest X-ray or an electrocardiogram (ECG), Echo to evaluate any other underlying medical condition. The family history is assessed to prevent anaesthetic complications.  
At the consultation visit for the surgery, the doctor shares details of the procedure and answers queries. Then, the doctor gives the postoperative instructions to follow. A consent form for the surgery is signed at this appointment.  
Robotic cystectomy can be performed under general anaesthesia. The surgeon operates through the robotic console and controls the surgical instruments via robotic arms. Once anaesthesia is in effect, the operating surgeon makes incisions or minor cuts over the abdomen and makes provision for the robotic laparoscope to enter the surgical site. The laparoscopic probe carries a small camera and the surgical instruments required to carry out the procedure. On entering the abdomen, it is inflated, and everything inside is projected onto television screens.  
The surgeon uses robotic instruments and removes cancerous tissues from the lymph nodes, bladder, and surrounding areas that look suspicious. If urinary tract reconstruction is indicated, the surgeon may decide to do it in a traditional open fashion or with robotic assistance based on the condition.  
The robot enables extreme precision and reduces postoperative patient discomfort significantly.  
Robotic cystectomy is a minimally invasive procedure but comes with its own set of risks and complications, which include:  
Patients may also experience changes in passing urine after the surgery. Since the bladder reduces in size after the partial cystectomy, the patient may feel the urge to urinate frequently. In addition, sexual side-effects may be seen in some patients, such as maintaining erections (erectile dysfunction) and discomfort while having coitus. This happens because, during the surgery, the seminal vesicles and prostate may need to be removed; thus, these men may never produce semen.  
In women, intercourse is possible but may cause discomfort if part of the vagina is removed. This is because the nerves may be affected, which causes arousal and orgasm.  
After the robotic cystectomy procedure, the patient is moved to the recovery room. Here, their vitals are monitored, and once stable, the patient is transferred to the standard room.  
At home  
Following the guidelines explained by the operating surgeon after the surgery is essential for the best postoperative care. One must timely schedule follow-up appointments for proper evaluation of results from the surgery. It is necessary to follow the doctor's protocols for taking the medicines. Some pain during early recovery can be expected.  
When recovering at home, the following can be expected:  
After robotic cystectomy, if any of the following are experienced, it is essential to contact the doctor immediately.  
Valvuloplasty is a procedure to repair a heart valve that has narrowed opening. In other words, this procedure treats valve stenosis.  
Four valves are present within our heart, namely the aortic, mitral, tricuspid, and pulmonary valves, which open and close turn by turn to allow the blood to flow through the heart. The role of heart valves is to ensure the unidirectional flow of blood through the heart. However, during valve stenosis, the valve leaflets undergo thickening and tend to join together, resulting in decreased blood flow via the valve.  
Other terms given for Valvuloplasty are as follows:  
Symptoms of Valvuloplasty are as follows:  
Valvuloplasty is done to increase the opening of the diseased heart valve which includes:  
Valvuloplasty is generally advised by the doctor if there is severe stenosis in an individual producing certain symptoms.  
Valvuloplasty is generally performed under local anaesthesia in a room called cardiac catheterization laboratory. The doctor inserts a catheter fitted with a balloon in a blood vessel near the groin region. The catheter is carefully placed on the stenosed valve in the heart and is inflated to open up the valve, thereby improving the blood flow.  
The doctor may repeatedly inflate and deflate the balloon to open up the valve. Once the valve opening is achieved, the balloon is deflated, and the catheter with the balloon is removed. Local pressure is applied in the groin region to prevent bleeding, and the patient has to keep the leg immobile for 6 hours.  
The aim of a Valvuloplasty is to improve the blood flow through the heart and reduce symptoms. However, there are chances that the valve may become narrow again, and for that, the patient may need to undergo another valvuloplasty or another heart procedure, like surgical valve repair or replacement, in the future.  
Various risk factors associated with this procedure are as follows:  
This procedure improves blood flow and should immediately decrease the symptoms of valve disease. Once the patient recovers from the procedure and consults the doctor about further follow-up appointments and care, they can go home.  
Patients can resume most of their normal activities the day after the procedure. Consult the doctor regarding driving, returning to work and continuing an exercise program regime or yoga.  
Reviewed by Dr. Ripen Gupta, Senior Director & Unit Head Cardiac Sciences, Cardiology, Cardiac Electrophysiology-Pacemaker on 13-Jan-2023.  
The patient might be allowed to have a Mitral Valve Replacement if they meet the following conditions:  
One should avoid mitral valve replacement if:  
The Mitral Valve provides nutrient and oxygen-rich blood to flow through heart chambers. It is supposed to close and open with the heartbeat by obstructing and opening the blood flow. However, a diseased Mitral Valve cannot do that. The signs and symptoms of Mitral Valve disease are as follows:  
The diagnosis of Mitral Valve disease is made by performing tests, imaging, and going through the medical history. During the physical exam, the physician will listen for a heart murmur. If there is any abnormality, they will do further tests. Some of them are:   
 After determining the disease, doctors will identify its stage and can come up with an appropriate treatment plan. Following are the four stages of Mitral Valve disease:   
For stage D and sometimes for Stage C, the doctor may suggest mitral valve replacement.   
Eventually, even if no symptoms are present, a damaged mitral valve may need to be repaired or replaced. The doctor may fix the existing mitral valve for it to work. If that is not an option, the patient may need to have a Mitral Valve replaced.  
They will replace the faulty Mitral Valve with an artificial metal or a biological valve. A metal valve will last a lifetime, but it will require the use of blood thinners. The biological valve will last between 15 and 20 years, and the patient will not be required to take blood-thinning medication. Some factors influence survival rates:  
The surgeons open the chest to access the heart and the damaged valve. The technique varies from patient to patient, but it usually takes at least two hours and is often much longer. Any tissue or calcium deposits interfering with the valve’s proper function along with the faulty Mitral Valve are removed, and they will then sew the replacement valve into the space where the old valve was located.   
The surgeon confirms that the new valve is functioning. After which, the blood flow to the heart is restored. The surgery is done while the patient is on a Cardiopulmonary Bypass or CPB.  
Possible complications of Mitral Valve Replacement Surgery:  
In most cases, Mitral Valve Replacement patients stay in the hospital for five to seven days. They might go home sooner if the operation was minimally invasive.   
During the first few days after a heart valve replacement, the patient will be provided with pain medication as needed. The staff will regularly evaluate blood pressure, respiration, and heart function. Depending on the rate of healing and the type of surgery performed, full recovery could take a few weeks to several months.  
Infection is the most serious risk following surgery; thus, keeping incisions sterile is critical. If symptoms of an illness appear, contact a doctor immediately.  
Follow-up check-ups are essential because they assist doctors in evaluating if the patient is ready to resume normal activities. A support system should be in place for the patient after surgery. Ask relatives and friends to help around the house and drive to medical appointments.  
Reviewed by Dr. Balbir Singh, Chairman - Cardiac Sciences, Cardiology, Cardiac Electrophysiology - Pacemaker on 18-Jan-2023.  
Diagnosing radial head fractures begins with a physical examination. The doctor will detect signs of a fracture more effectively than an X-ray. To formulate an effective treatment plan, doctors assess the size and severity of the fracture and displacement in the bone. Pressure may be applied to the joint to test the joint stability and surrounding tissues. Surgery can be avoided if the pieces of bone in the radial head remain intact.  
Standard radiographic imaging of the elbow with anteroposterior and lateral projections with radial head-capitellum view (modified lateral view with the tube angled 45° towards the radial head, as described by Greenspan) helps in assessing the severity of the fracture.  
A CT scan can provide better information about any concomitant lesions, displacement and comminution of the fracture that may not be evident on standard radiographs.  
It is challenging for patients with destabilized injuries to stabilize the fragments with head replacement. Other contraindications of this surgery are:  
Before scheduling an appointment for the surgery, inform the surgeons about existing medical conditions. A complete body examination and imaging tests assist the operating doctors in preparing an appropriate treatment plan.  
A thorough medical and physical evaluation is a must before any surgical procedure. A cardiologist must also evaluate patients with chronic medical conditions such as heart disease before the surgery.  
It is essential to inform the treating orthopaedic surgeon about any ongoing medications since some medicines need to be stopped before the surgery begins like the following over-the-counter medicines may cause excessive bleeding and should be stopped two weeks before surgery:  
The primary care doctor or cardiologist advises patients on blood thinners to stop taking these medications before surgery.  
Radial head replacement surgery is complex and requires technical and surgical expertise. Specific complications that may follow post-operatively are:  
The surgical wound is given a waterproof dressing after the surgery. The dressing should not be fidgeted with for at least 14 days. The dressing should be replaced immediately with a waterproof bandage if removed for any reason. Physiotherapist consultation is a must before getting discharged from the hospital since they assist with exercises and care instructions for the treated elbow. A protective sling needs tobe worn around the elbow for four weeks, and intermittently movements of the elbow need to be performed within certain limits.  
After four weeks, one may stop wearing the sling and move the elbow actively through a more excellent range than before. Driving may be resumed after 4-6 weeks of surgery. Muscle strengthening workouts are advised to practice after 8-10 weeks. Forceful arm use or lifting heavy objects must be avoided for at least three months. Outpatient physiotherapy can be arranged and be continued for the next 3-6 months for optimum recovery.  
An appointment should be scheduled for a follow-up session about two weeks after the procedure. Scheduling follow-up appointments for at least 12 months after surgery or until a satisfactory recovery is achieved, is imperative.  
Reviewed by Dr. Vikas Gupta, Director - Orthopaedics and Head - Hand & Shoulder Surgery Orthopaedics & Joint Replacement, Arthroscopy & Sports Injury on 11-Feb-2023.  
Maxillectomy can be total or partial. Depending on which part of the maxilla is removed, there are different types of maxillectomy. The kinds of maxillectomy are:  
The symptoms may include:  
The patient needs to be examined clinically, where the surgeon evaluates the extent of involvement of the disease. Imaging in the form of CT scan or MRI scan is essential to evaluate the deeper involvement in these cases.  
If an obturator or dental plate is planned to cover the defect, then a dental impression is also taken before surgery.  
The surgery for maxillectomy requires incisions over the face to access and remove the affected maxillary bones. Medial maxillectomy can be performed through the nostrils.  
For any other type of maxillectomy, the procedure is as follows:  
A temporary feeding tube is placed to help the patient get proper nutrition till the wound heals. A breathing tube in the neck may be needed in select cases. Depending upon the type of reconstruction, the patient may be discharged in 3-7 days.  
Reconstruction options include an obturator/dental plate or local flap, or free flaps (microvascular flaps).  
The risks and complications include:  
Patients may need inputs from speech and swallowing therapists and dietitians to improve their swallowing and oral diet gradually.  
Reviewed by Dr. Akshat Malik, Senior Consultant, Cancer Care / Oncology, Surgical Oncology, Head & Neck Oncology, Robotic Surgery on 15-Feb-2023.  
Tomotherapy is a type of radiation therapy to kill tumour cells in the body and is a treatment method for tumours. This therapy damages the cancer cell's DNA and prevents cancer cells from further division and growth. It is an advanced radiation therapy used to treat cancerous and noncancerous tumours.  
Tomotherapy, also known as helical tomotherapy, is intensity-modulated radiation therapy (IMRT). The therapy is commonly used to treat prostate, brain, lung, breast, head, and neck cancers. Combined with CT scanning, it is an advanced technology that gives accurate and precise treatment, using powerful radiation beams to treat inoperable tumours.  
In tomotherapy, radiation beams are aimed at the tumour from multiple directions. The treatment uses a CT scanner that rotates in a spiral pattern around the patient. Before the treatment, 3D images of the tumour are taken, which helps the doctor examine the tumour's size and spread. This process helps the doctor analyse the right intensity of radiation to kill the tumour cells without causing much damage to nearby tissue.  
The primary goal of the treatment is to target the tumour cells and to control and limit the side effects and damage to nearby tissue.  
Tomotherapy uses imaging procedures that provide images of the moving tumours (tumours can slightly move from their place). With the help of these images, doctors can target these tumours precisely without causing any harm to nearby tissues or organs.  
The technique is noninvasive and continuously monitors the targeted area by the radiation. IMRT breaks the radiation waves into tiny beams that enter the body from multiple angles and attack the tumour. This treatment efficiently delivers high-dose radiation beams to the targeted area.  
Some cancers that can be treated with chemotherapy treatment are:  
Tomotherapy efficiently integrates planning patient positioning and radiation treatment with one machine. The tomotherapy treatment is painless, and each session lasts 10 to 20 minutes.  
After the treatment, the patient will be monitored closely to check for side effects.  
The doctor may ask to undergo imaging tests to examine the efficiency of radiation and treatment. If a patient observes any side effects or allergic reactions to the radiation treatment, consult the doctor immediately.  
Tomotherapy is used:  
Tomotherapy has several advantages such as:  
Radiation treatment often causes side effects. The side effects depend on the amount of radiation the body part is under treatment. Therapy can cause temporary side effects, including:  
Tomotherapy may cause few side effects but is highly effective. It may take a few days or weeks to recover from the side effects. The outlook for patients is good as the therapy completely eradicates the cancer cells while preserving the healthy cells.  
Orthognathic surgery is a surgical procedure to treat problems related to jaws. The jaw can be broadly classified into the upper jaw (maxilla) and lower jaw (mandible). The upper jaw is responsible for shaping the middle face, while the lower jaw moves to open or close the mouth for speaking or eating. The lower jaw also provides shape to the chin and lower face. However, there may be irregularities of the bones in some cases, which can affect essential functions like sleeping, talking, chewing, or following a daily routine.  
Orthognathic surgery is performed to correct such abnormal jaw relationships. The surgery is also known as corrective jaw surgery and is performed by an oral and maxillofacial surgeon. In addition, orthognathic surgery can sometimes correct aesthetic issues like a congenital disability, unbalanced facial appearance, or more.  
Orthognathic surgery is performed to treat functional issues caused by jaw problems. The following reasons may make a person a good candidate for this surgery, including:  
The doctor will talk in detail about orthognathic surgery, including the potential risks and benefits. In some cases, the orthodontist places braces or aligners onto the teeth a few months before the surgery to align the teeth. The oral and maxillofacial surgeon will prescribe tests like X-rays, 3D CT scans, and more. The surgeon also uses virtual surgical planning (VSP) in some cases to guide them during the procedure for the best results.  
Medical tests and evaluations  
Take pictures of the face from different angles to examine the bone structure, shape, fat distribution, and more.  
Taking certain medications or applying certain products to prepare the skin before the surgery  
Avoid taking anti-inflammatory drugs and herbal supplements  
Stop smoking  
Stay hydrated  
Some teeth, like impacted wisdom teeth, might have to be removed a few months before the jaw surgery.  
Orthognathic surgery is generally performed with inpatient hospitalisation, meaning that patients need to stay in the hospital for two to four days after the procedure. The surgery is done under general anaesthesia. The surgical procedure is done inside the mouth, meaning that there will be no visible scars.  
However, the surgeon may make small incisions outside the mouth in some cases. The surgeon then performs the surgery to align the jaw position and uses tiny plates, wires, screws, and more to secure its place. The surgery usually takes two to three hours, depending on the complexity of the procedure. Orthognathic surgery can be performed on the lower jaw, chin, or upper jaw.  
Depending on the condition, the surgeon may use the following surgical techniques:  
Also known as upper jaw surgery, the procedure is performed from the inside of the mouth. The surgeon makes a through the gum behind the back teeth of the upper jaw to access the jawbone. The bone is then cut with a small saw and aligned to its normal position. The surgeon then uses metal plates and screws to secure the position and stitches the wound with dissolvable stitches.  
The surgery is performed to treat the low jaw. The surgeon cuts through the gum behind the back teeth during the procedure to access the jawbone. The surgeon then cuts it with a small saw and moves it to its new position. The surgeon then secures it with small plates and screens. In some cases, the surgeon also makes a small ‘stab’ incision outside the mouth to insert the screws. Lastly, the doctor stitches the wound with dissolvable stitches.  
This is a type of cosmetic surgery that reposition or reshape the chin to improve facial appearance. There are two types of genioplasty surgery, including:  
Sliding genioplasty: In this procedure, the surgeon cuts along the border of the lower gums and makes an incision in the layer of the soft tissues to gain access to the chin bone. The surgeon then cuts the bone away from the rest of the jaw and slides it to its new position. The bone is then reattached to the jaw with metal plates and screws.  
Chin Implant: In this procedure, the surgeon makes a small incision on the inside of the mouth or under the chin. The surgeon then inserts an implant through the incision and positions it around the chin bone.  
The surgery treats temporomandibular joint disorder (TMJ). During the procedure, the surgeon makes an incision from the inside sideburn area to the front of the ear to expose the TMJ capsule. The capsule is opened to reveal the disk. The surgeon then repairs or remove the damaged disk, remove scar tissue, or smoothen the bone. Once done, the surgeon then stitches the incision.  
The surgery is also performed to treat TMJ. During the procedure, the surgeon puts two hypodermic needles into the joint and flushes it with a sterile saline solution. The fluid washes any chemical byproduct of inflammation and helps reduce the pressure that causes the joints to be stiff. This procedure can also be performed using a specialised arthroscope.  
It is generally safe to go for orthognathic surgery. However, it also has some risks and complications, as with any surgery. These may include:  
Infection  
Jaw fracture  
Blood loss  
Pain and swelling  
Problem with bite or alignment  
Jaw joint pain  
Jaw position relapse  
Nerve damage  
Root canals  
Patients that go through orthognathic surgery can take about six to eight weeks to heal properly. After the surgery, one may feel swelling and discomfort for the first few days. The swelling generally goes away after three weeks.  
The doctor will monitor the progress with follow-up appointments during the next two months. The doctor will brief in detail about proper oral hygiene and how to minimise the risk of complications. These might include:  
Follow wound care instructions  
Eat easy-to-chew foods  
Maintain proper oral hygiene  
Don’t use straws for the first three weeks after the surgery  
Avoid strenuous physical activities  
Avoid excessive pressure or motion on and around the incisions  
Avoid using makeup till allowed by the surgeon   
Avoid direct sun exposure for a few weeks   
Reviewed by Dr. Anurag Singh, Principal Consultant - Oral & Maxillofacial Surgeon and Implantologist, Dental Care, Maxillofacial Surgery and Implantology on 27-Feb-2023.  
Robotic prostatectomy, also known as robotic radical prostatectomy, is a minimally invasive surgical procedure that uses a surgical robot to remove the prostate gland. The prostate gland is situated in the male pelvis below the urinary bladder and surrounds the urethra. This surgery is done for the treatment of localised prostate cancer.  
The minimally invasive robot-assisted prostatectomy surgery can result in shorter hospital stays and quicker recovery as compared to traditional prostatectomy. During the process, the surgeon uses a special robotic machine to perform the surgery using a control panel in the operating room to move the robotic arms and operate through small incisions. This surgery does not require any big cuts, and the whole procedure is carried out through just four small holes.  
Robotic prostatectomy may be recommended for patients with prostate cancer who are in the early stages of the disease and have the chance of a complete cure. It may also be recommended for patients in whom other treatments failed, such as radiation therapy, and cancer has come back in the prostate.  
Robotic prostatectomy offers several advantages over traditional open surgery, including smaller incisions, less blood loss, and a shorter hospital stay. It also provides the surgeon with greater precision and dexterity, allowing for more precise removal of the prostate gland and reduced damage to surrounding tissues. This allows the surgeon to even be able to save the nerves responsible for the erection of the penis, which travel very close to the prostate. As a result, patients may experience less pain and have a faster recovery compared to traditional surgery, and have better functional outcomes in terms of return of urinary continence and penile erections.  
The robotic prostatectomy is a recommended option for treating prostate cancer, especially if it is in the early stages. The goal of the surgery is to remove all the cancer cells by removing the whole of the prostate gland. The best candidates for this surgery should be:  
The following conditions make an individual not a good candidate for robotic surgery:   
The doctor will provide all the necessary details and instructions about the robotic radical prostatectomy surgery . In addition, the doctor may modify the diet, help prepare bowel movements, and give medications or supplements before the surgery. The doctor may also ask to quit smoking before the surgery as it delays the healing process and may also increase the risk of any complication post-surgery.  
The doctor may also prescribe some tests like ultrasound, MRI, digital rectal exam, and prostate-specific antigen test to confirm the stage and grade of the prostate cancer. Apart from this, certain preparation needs to be done before a robotic radical prostatectomy surgery. These include:  
Before the robotic prostatectomy surgery, the doctor will give general anaesthesia, meaning that one will not be awake during the procedure. The surgery is usually done with in-patient hospitalisation, which means one has to stay for some days in the hospital.  
The robotic prostatectomy surgery begins with the surgeon making five small incisions in the lower abdomen. The surgeon then inserts the robotic arms and camera through the incisions using the specialised control panel. The three-dimensional endoscope provides a magnified view (up to 12x zoom) of the structures that surround the prostate gland. The surgeon uses the console to control the robotic arms with precise movement controls. The prostate gland is cut and removed through one of the incisions. The surgeon performs intracorporeal suturing to minimise the risk of any complications.  
The surgery usually takes two to three hours to complete. Once done, the patient will be guided to the recovery room. The medical team monitors the condition and helps recover from post-surgery pain and complications.  
In addition to the risks associated with the surgery itself, there are also certain side effects that patients may experience following robotic prostatectomy. The most common side effects include:  
Please note that not all patients will experience these side effects, and they may be temporary or long-lasting.  
Robotic prostatectomy is major surgery, and just like any other surgery, it also comes with some risk of developing complications. Some common complications may include reactions to anaesthesia, bleeding, or infection. Some of the common complications from robotic prostatectomy include:  
After the robotic prostatectomy surgery, patients may need to stay in the hospital for one or two days. During the stay in the hospital, the patients are expected to walk the next day of the surgery to ensure a speedy recovery.  
The medical team may also provide instructions for some breathing exercises to expand the lungs and prevent infections. The urinary catheter will be in place when the patient leaves the hospital.  
However, it will be removed at the next follow-up visit, which is usually after ten days. The recovery period of the robotic prostatectomy is usually four to six weeks. The doctor will also provide a detailed post-operative care package that will help in a speedy recovery. These may include:  
The success rate of robotic prostatectomy is high. The surgery has a low risk of complications and a high success rate in removing cancerous tissue. Patients may experience some side effects after surgery, such as incontinence and impotence. However, these side effects are usually temporary and can be managed with medication or therapy.  
Patients who undergo a robotic prostatectomy will need to have follow-up appointments with their surgeon to monitor their recovery. The surgeon usually follows up with a PSA test to ensure that cancer has not returned. Patients may also need to undergo additional treatments, such as radiation therapy if cancer recurs.  
The prognosis for patients who undergo a robotic prostatectomy is very good. The surgery has a high success rate, and most of the patients recover completely and are cancer free. A small proportion of patients who have the high-grade disease may require adjuvant therapy following surgery.  
Patients who experience complications or side effects after a robotic prostatectomy should consult their doctor immediately. Complications may include bleeding, infection or difficulty urinating. Side effects may include incontinence, impotence, or fatigue. Patients should also contact their doctor if they notice any signs of cancer recurrence, such as blood in the urine or difficulty urinating.  
Robotic prostatectomy is a minimally invasive surgery that is used to remove the prostate gland. The success rate of robotic prostatectomy depends on several factors, such as the experience of the surgeon, the stage of cancer, and the patient's overall health. According to a study, the success rate of robotic prostatectomy in terms of cancer control is about 90-95%. However, the success rate may vary depending on individual circumstances.  
Robotic prostatectomy is considered better than traditional open surgery due to several advantages. These include smaller incisions, less blood loss, reduced pain and discomfort, faster recovery, and shorter hospital stays. The robotic technology used in the surgery allows the surgeon to have better visualisation and precision, leading to improved outcomes.  
The length of hospital stay for a robotic prostatectomy is usually 2-3 days, depending on individual circumstances. However, patients may need to stay longer if there are any complications or if they require additional monitoring.  
Pain after a robotic prostatectomy is typically mild to moderate and can be managed with pain medications. Patients may experience discomfort around the incision sites and may also have some urinary discomfort. However, most patients are able to manage their pain with medications, and the discomfort usually subsides within a week's time.  
Patients are typically advised to avoid any strenuous activity or exercise for at least 4-6 weeks after robotic prostatectomy. This allows the body to heal and reduces the risk of complications. Patients should also avoid heavy lifting and any activity that puts pressure on the surgical site.  
New robotic technology has greatly assisted surgeons in performing radical prostatectomy. The technology allows for better visualisation and precision during the surgery, which leads to improved outcomes. Surgeons are able to perform the surgery with smaller incisions, resulting in less blood loss, reduced pain, and faster recovery.  
Recovery after prostate surgery can take several weeks to months. Patients may experience some discomfort and fatigue during the recovery period and may need to take time off from work. Patients may also experience some urinary incontinence and sexual dysfunction, which can improve over time with the help of rehabilitation exercises.  
The cost of robotic prostatectomy surgery varies depending on several factors, such as the hospital, surgeon's fee, and insurance coverage. Patients are advised to check with their insurance provider to see if the procedure is covered.  
Robotic surgery is considered better than traditional open surgery for prostate removal due to several advantages. These include smaller incisions, less blood loss, reduced pain and discomfort, faster recovery, and shorter hospital stays. The robotic technology used in the surgery allows the surgeon to have better visualisation and precision, leading to improved outcomes. Robotic surgery has now become the gold standard for treating prostate cancer and has replaced open surgery at almost all centres.  
Reviewed by Dr. Tushar Aditya Narain, Senior Consultant, Robotic Surgery, Uro-Oncology, Cancer Care / Oncology, Surgical Oncology on 23-Mar-2023.  
Dental surgery is a broad term used for any surgical procedure performed on teeth, gums, jaws, and more. There are several types of dental procedures every year. These generally include root canals, dental implants, tooth extraction, and more.  
Dental surgery is performed by an oral and maxillofacial surgeon or periodontist.The surgery can treat dental conditions like tooth decay, gum disease, missing teeth, temporomandibular joint disorders, and more. Usually, dental surgery is done as an outpatient procedure and has a lower risk of complications.  
If you meet the following conditions, you may be considered a good candidate for dental surgery:  
The following reasons may not make you a good candidate for dental surgery:  
Preparing for dental surgery is similar to any other major surgery. Consult with your doctor to know all the aspects of the surgery, including procedure details, potential risks and benefits. You will be advised to avoid alcohol or smoking before the surgery, as it can hinder the process of healing. Your doctor will also ask about your allergies or family history of bleeding disorders.  
The doctor may also prescribe specific tests like dental X-rays and 3D images to view the condition better. Apart from this, you may be asked to:  
Dental surgery is generally performed as an outpatient procedure, meaning that you can go home on the same day of the surgery. The surgery usually is performed under local anaesthesia, intravenous sedation or general anaesthesia. Depending on the conditions and symptoms, your doctor may perform the following surgical procedures:  
Like any other surgery, dental surgery also comes with its share of risks and complications. You may experience some mild bleeding or numbness just after the surgery. Other complications may include:  
Recovery from dental surgery usually takes a few days. However, in some cases, like dental bone grafts, the recovery period may be longer. Your oral surgeon will provide special post-operative instructions to promote proper healing and prevent any complications. The doctor may suggest:  
A craniotomy is a procedure in which a segment of the skull bone is removed to access the brain. After the surgery, this segment is replaced with either a bone graft or a bone flap.  
This surgery is performed to remove aneurysms and brain tumours or to excise brain tumours surgically. In addition, in cases of trauma or injury, there are chances of swelling developing intracranially; to prevent that, a craniotomy may be performed. The surgery is performed by an experienced neurosurgeon.  
In some cases, the patient is kept awake to monitor brain function, while in others, they are sedated. For instance, if the surgery is to be performed in areas of the brain that controls movement, vision or speech, patients are kept awake to monitor brain function. This ensures that the surgeon is treating the right area of the brain. In addition, it lowers the risk of developing speech, movement or vision impairment.  
Craniotomies are of different types, named after the technique or location of the surgery, as follows:  
A craniotomy is indicated in cases where the individual is at risk of developing swelling in the cranial cavity or a tumour has been diagnosed and needs to be surgically removed.  
A craniotomy is performed for the treatment of the following conditions of the brain:  
In addition, this procedure is used to implant medical devices in the brain to allow movement in people with movement disorders such as Parkinson's disease.  
A craniotomy is not the ideal choice of treatment for patients with advanced age, poor overall health, or severe cardiopulmonary disease.  
Some common instructions that should be followed before surgery include the following:  
As with any brain surgery, craniotomy also carries potential risks and complications. These include:  
Like every surgical procedure, craniotomy carries some risks. These include:  
The care during the recovery period depends on the type of surgery. This includes:  
During the stay, doctors will likely:  
Reviewed by Dr. Anil Dhar, Senior Consultant and Unit Head Neurosurgery, Neurosciences, Spine Surgery on 28-Mar-2023.  
Immunotherapy is used to treat cancer. It assists the immune system in fighting cancer cells in the body. In addition, the immune system helps the body fight infections and other diseases. It comprises white blood cells, organs, and lymph system tissues. Immunotherapy is a biological therapy that utilises products derived from living organisms to treat cancer. The immune system comprises several organs, tissues, and cells that work together to protect the body from foreign invaders that can cause disease.  
When a disease or infection-causing agent, such as bacteria, viruses, or fungi, enters the body, the immune system tries to eliminate the invaders. This self-defence system works to keep a person from falling ill. Immunotherapy uses substances made naturally or artificially in a lab to boost the immune system. It functions to:  
The immune cells produce cytokines, which are protein molecules. They are introduced into the body through immunotherapy to stimulate the immune system and make it simpler for the immune cells to identify and target the cancer cells.  
Doctors use the following types of immunotherapies to treat cancer:  
Various forms of immunotherapy can be administered in different ways, such as:  
Immunotherapy is performed for people with cancer. Some types include:  
Allergen immunotherapy is given for patients with IgE-mediated allergic diseases like:  
Other indications include:  
People who are not ideal candidates for immunotherapy are:  
The doctor assesses the medical and familial histories and performs a physical examination. The following tests are advised to diagnose cancer:  
Follow the instructions given by the doctor prior to the procedure. Some of them include:  
Immunotherapy carries some complications, which can be explained as follows:  
Reviewed by Dr. Devavrat Arya, Director, Cancer Care / Oncology, Breast Cancer, Musculoskeletal Oncology, Medical Oncology, Thoracic Oncology on 05-Apr-2023.  
Peritoneal dialysis is a treatment that removes waste and toxins from a person's blood when their kidneys can't function adequately.  
In peritoneal dialysis, the dialysis fluid is passed through a catheter into the patient's abdomen. The lining of the abdomen, known as the peritoneum, functions as a filter and removes the waste from the blood. After the process is completed, the fluid, along with the filtered waste, flows out through the abdomen.  
There are two types of peritoneal dialysis. They are:  
A person with chronic kidney disease reaching end-stage renal disease needs dialysis. It may be due to:  
Dialysis can be performed in two ways:  
In hemodialysis, a person needs to visit a hospital where the blood is removed from the body and sent into a machine for filtration, and the filtered blood is returned to the body.  
A major advantage of peritoneal dialysis is it can be done according to patients' convenience. It provides greater flexibility and independence. Peritoneal dialysis is done more frequently than hemodialysis; this causes less accumulation of sodium, potassium and other fluids in the blood.  
Peritoneal dialysis is an option for a person:  
Peritoneal dialysis may not work out for everyone. A person shouldn't consider peritoneal dialysis if they have:  
The need for peritoneal dialysis is evaluated by conducting blood and urine tests, and sometimes kidney biopsy, along with imaging tests such as CT scans, MRI, and x-ray.  
After peritoneal dialysis, the doctor may conduct tests to see if dialysis removes the waste from the blood. The test includes:  
If the dialysis procedure is not working, the doctor may increase the number of exchanges and the amount of solution or the concentration of dextrose in the solution.  
Peritoneal dialysis can cause potential complications such as:  
A person with kidney dysfunction and peritoneal dialysis treatment must avoid prescriptions and over-the-counter medications such as nonsteroidal anti-inflammatory drugs. Such prescriptions can cause further damage to the kidneys.  
As dialysis is a lifelong process, a person needs to make lifestyle and diet changes.  
Eat healthy food and take prescribed medication to improve the dialysis result. Take nutritional supplements and avoid high-potassium food. Ensure the diet includes a high amount of protein, as peritoneal dialysis removes protein from the waste. Take a renal diet and check the daily intake of sodium, phosphorus, and potassium.  
The Whipple procedure, also termed pancreaticoduodenectomy, is the primary surgical treatment for pancreatic cancer that occurs within the head of the pancreas. During this procedure, surgeons detach the head of the pancreas, the duodenum, a part of the bile duct, the distal stomach, the gallbladder, and associated lymph nodes. On average, the surgery takes about six hours. Most patients are required to remain in the hospital under observation for 7-10 days following Whipple’s procedure.  
A Whipple’s procedure may be the best treatment option for patients with cancers of the head of the pancreas, ampulla of Vater, second or third part of duodenum or lower bile duct.  
The doctor may recommend the patient to get a Whipple’s procedure for various conditions such as :  
Pancreatic cancer is the most common reason for the surgeon to perform a Whipple’s procedure. A Whipple’s procedure can be performed in various ways:  
If patients have cancer, they may go through either radiation or chemotherapy before having the surgery.   
The surgeon will instruct the patients to stop taking certain particular medications in the days leading up to their surgery. Patients should do the following:  
Whipple’s procedure can be described in a few steps:  
Few people who go through the Whipple’s procedure present with certain complications, which include:  
In the delayed postoperative period, some patients may develop the following:   
Contact the doctor if the following issues occur:  
For the majority of tumours and cancers of the pancreas, Whipple’s procedure is the only treatment option consistent with long-term survival or cure. The survival rate for patients undergoing Whipple’s procedure has improved over the last two decades. The chances of long-term survival after a Whipple’s procedure depend on many factors, such as indication for surgery, cancer stage, etc.  
The Whipple procedure, also known as pancreaticoduodenectomy, is a surgical procedure performed to treat certain conditions affecting the pancreas, bile duct, and small intestine.  
The Whipple procedure is recommended for various conditions, including pancreatic cancer, tumours of the bile duct or duodenum, chronic pancreatitis, and certain benign pancreatic or bile duct disorders.  
The Whipple procedure can treat pancreatic cancer, tumours of the bile duct or duodenum, chronic pancreatitis, ampullary cancer, and certain benign pancreatic or bile duct disorders.  
The Whipple procedure involves the removal of the head of the pancreas, a portion of the bile duct, the gallbladder, and a part of the small intestine. The remaining organs are then reconstructed to restore the normal flow of digestive juices and bile.  
The Whipple procedure involves the removal of the head of the pancreas, the common bile duct, the gallbladder, and a portion of the duodenum (the first part of the small intestine). The remaining organs are then reconnected to restore normal digestion.  
Potential risks and complications of the Whipple procedure include infection, bleeding, leakage at the surgical site, delayed gastric emptying, bile duct complications, pancreatic fistula, and rare complications such as blood clots and pneumonia.  
The recovery time after the Whipple procedure can vary, but generally, it may take several weeks to a few months to fully recover and resume normal activities.  
Following the Whipple procedure, dietary changes may be necessary to manage digestion and absorption. These changes may include a low-fat diet, smaller and more frequent meals, pancreatic enzyme supplementation, and adjustments based on individual needs.  
Yes, in select cases, the Whipple procedure can be performed using minimally invasive techniques such as laparoscopy or robotic-assisted surgery. These approaches may result in smaller incisions, less pain, and shorter recovery times for some patients. However, open surgery remains the standard way of performing the Whipple procedure.  
Yes, the Whipple procedure is considered a major surgery due to the complexity and extent of organ removal and reconstruction involved.  
Pre-operative preparations for the Whipple procedure may include medical evaluations, imaging tests, blood work, and discontinuation or adjustment of certain medications. Bowel preparation and dietary restrictions may also be advised.  
Yes, the Whipple procedure involves making an incision in the abdomen, so it is likely that you will have a scar. The size and appearance of the scar can vary depending on the surgical technique used and individual factors.  
Yes, the Whipple procedure is commonly performed to treat pancreatic cancer, particularly if the tumour is confined to the head of the pancreas and has not spread to other organs.  
The Whipple procedure primarily focuses on treating conditions involving the pancreas, bile duct, and duodenum. However, in some cases, it may be used to treat tumours affecting nearby organs, such as the ampulla of Vater.  
The success rate of the Whipple procedure for treating pancreatic conditions depends on various factors, including the specific condition being treated and the stage at which it is diagnosed. It is best to discuss the success rate with your healthcare provider, as it can vary.  
In some cases, alternative treatment options such as chemotherapy, radiation therapy, or targeted therapies may be considered. The suitability of alternatives depends on the individual's specific condition and other factors and should be discussed with a healthcare provider.  
The length of hospital stay after the Whipple procedure can vary, but it typically ranges from one to two weeks, depending on individual factors and the extent of the surgery.  
Potential long-term effects of the Whipple procedure can include changes in digestion and absorption, weight loss, diabetes or glucose intolerance, vitamin deficiencies, and the need for pancreatic enzyme supplementation. Regular follow-up care is important to manage and address these potential effects.  
Yes, the Whipple procedure can potentially cause digestive problems and malabsorption due to changes in the normal flow of digestive juices and bile. These issues may require dietary adjustments and sometimes the use of pancreatic enzyme supplements.  
The Whipple procedure can be performed on select elderly patients who are otherwise healthy and able to tolerate the surgery. The decision to proceed with the surgery in elderly patients is based on a thorough evaluation of their overall health and individual circumstances.  
During the recovery period after the Whipple procedure, you can expect a gradual improvement in strength and energy levels. Follow-up appointments, monitoring, and adherence to dietary recommendations and medication regimens are crucial for a successful recovery.  
The ability to resume normal activities after the Whipple procedure varies for each individual and depends on factors such as overall health, the extent of surgery, and the healing process. It is important to follow the guidance of your healthcare provider regarding activity restrictions and gradually return to normal activities.  
Following the Whipple procedure, dietary restrictions may be necessary, such as avoiding high-fat foods, eating smaller and more frequent meals, and limiting certain foods that may cause digestive discomfort. These restrictions aim to support digestion and minimize potential complications.  
Nutritional supplements may be necessary after the Whipple procedure to address potential deficiencies and support overall nutrition. This may include pancreatic enzyme supplements, vitamins, and minerals as prescribed by your healthcare provider.  
The Whipple procedure is generally not the first-line treatment for chronic pancreatitis. It may be considered in specific cases where there are complications or other factors that warrant surgical intervention. The appropriateness of the Whipple procedure for chronic pancreatitis depends on individual circumstances and should be discussed with a healthcare provider.  
The decision to perform the Whipple procedure on individuals with pre-existing medical conditions depends on the specific condition, overall health, and surgical risk assessment. Each case is evaluated individually, and the feasibility of the procedure is determined by the healthcare team.  
Signs of complications after the Whipple procedure may include excessive fever, significant pain, vomiting, bleeding, infection, leakage at the surgical site, or other less common complications. It is important to promptly report any concerning symptoms to your healthcare provider for evaluation and management.  
The Whipple procedure may be considered a treatment option for cystic fibrosis-related pancreatic issues, particularly if there are complications such as severe pancreatic damage or blockage of the bile duct. The suitability of the procedure would be assessed on an individual basis.  
The Whipple procedure can be performed on paediatric patients in certain cases where there are specific indications and appropriate evaluation of the risks and benefits. The decision to proceed with the procedure in paediatric patients is made on a case-by-case basis and requires specialized care.  
The Whipple procedure can be used to remove certain benign tumours in the pancreas, depending on their location and characteristics. The decision to proceed with the procedure for benign tumours is based on individual factors and the recommendations of the healthcare team.  
Pain management plays a crucial role after the Whipple procedure to ensure comfort and facilitates the healing process. A combination of pain medications, including opioids and other analgesics, as well as non-medication approaches, such as breathing exercises or physical therapy, may be employed.  
Yes, the Whipple procedure can be used to treat ampullary cancer, which is a type of cancer that affects the ampulla of Vater, the structure where the common bile duct and pancreatic duct meet. The specific approach depends on the characteristics and stage of the cancer.  
The Whipple procedure can be performed on individuals with diabetes. However, it is important to manage diabetes carefully both before and after the procedure to maintain stable blood sugar levels and optimize overall health during the recovery process.  
The Whipple procedure can affect digestion and absorption of nutrients due to changes in the normal flow of digestive juices and bile. This may lead to challenges in digesting fats and absorbing certain nutrients, necessitating dietary adjustments and sometimes the use of pancreatic enzyme supplements.  
The Whipple procedure can be performed on individuals with liver disease, depending on the specific liver condition, its severity, and the overall health of the patient. It may entail a very high risk in individuals with severe liver disease and may not be advisable in this setting. The suitability of the procedure would be evaluated on a case-by-case basis in consultation with a healthcare provider specialising in liver and pancreatic surgeries.  
FAQs Reviewed by Dr. Vivek Mangla, Director - Gastrointestinal and Hepatopancreatobiliary (GI & HPB) Surgical Oncology, Cancer Care / Oncology, Surgical Oncology, Gastrointestinal & Hepatobiliary Oncology, Gastro Intestinal & Hepatopancreatobiliary Surgical Oncology, Robotic Surgery on 26-Jun-2023.  
A woman may opt for a hysterectomy when experiencing the following symptoms/conditions:  
Various imaging techniques can be used for diagnosing conditions that require a laparoscopic hysterectomy. Some include CT scans, MRIs, and ultrasounds (sonography). These scans help the doctor get clear pictures of the condition of the organ to be treated and the surgical site. Cervical cytology (pap test) may be carried out to detect the presence of cancer cells. An endometrial biopsy may be advised to detect abnormal cells along the uterine lining.  
A total laparoscopic hysterectomy is performed under general anaesthesia. The following steps are involved in the procedure:  
Patients who have been diagnosed with the following may be advised a total laparoscopic hysterectomy:  
Patients who can bear the stress of the surgery and are otherwise healthy can opt for this treatment.  
Patients who are experiencing the following are not ideal candidates for a total laparoscopic hysterectomy:  
After the procedure, some of the common side effects that are imminent are:  
These risks are uncommon and shall be discussed with the patient before the surgery.  
Minor abdominal discomfort after surgery is common. These are termed “wind pains”. This occurs due to medical air inside the abdomen and should stop within a few days.  
Reviewed by Dr. Seema Jain, Director, Obstetrics And Gynaecology, Robotic Surgery on 13-Apr-2023.  
Dialysis treatment is needed when a person's kidney can no longer function. The kidneys filter blood and remove waste from the blood. This waste is then sent to the bladder and eliminated through urine. With kidney failure, toxins, and waste builds in the bloodstream. These toxins can poison the body and damage other body parts. Kidney dialysis removes toxins and other waste and also filters the blood.  
Dialysis filters and purifies blood through a machine. This helps to keep a balance of fluids and electrolytes in the body after kidney failure.  
There are two types of kidney dialysis.  
Hemodialysis lasts about 4 hours and must be performed thrice a week.  
The process of hemodialysis:  
The process is monitored to measure blood pressure and adjust the blood flow in and out of the body. The side effects of hemodialysis are as follows:  
The process of peritoneal dialysis:  
A patient needs to do this process 3 times.  
The decision to choose the type of kidney dialysis treatment depends on several factors, such as:  
Before choosing the type of dialysis, the doctor will discuss the pros and cons of each type.  
Kidney dialysis is usually needed when there is kidney failure and the patient reaches end-stage renal disease. Kidneys play a major role in body functioning; from filtering blood to removing waste, it also helps to control blood pressure and regulate the level of certain chemical elements in the blood, such as sodium and potassium.  
Kidneys even activate vitamin D, which improves the absorption of calcium in the body. Kidney failure can be identified with a few common symptoms, such as fatigue, swelling, nausea, loss of weight, and breathlessness.  
The kidneys' primary function is removing waste and extra bodily fluid. In case of kidney failure, these functions are performed through dialysis.  
Dialysis balances the patient's body by:  
Different factors that increase the risk of kidney failure include high blood pressure, diabetes, and other kidney diseases.  
Dialysis can result in a few complications.  
Dialysis can be time-consuming and expensive. In case of acute kidney failure, maintaining good blood pressure can help slow down the deterioration of the kidney. Another alternative for kidney dialysis is a kidney transplant.  
A kidney transplant offers the patient a better lifestyle, such as freedom from dialysis restrictions on fluid consumption and dietary intake.  
Contact the doctor in case one experience:  
Patients with kidney dialysis can live for many years. Outlook for patients depends on age, general health, cause of kidney failure, and other factors. Patients usually live healthy lives even after kidney failure with the help of dialysis.  
Reviewed by Dr. Manoj Arora, Associate Director, Nephrology on 13-Apr-2023.  
It is the procedure in which the whole blood is withdrawn from the donor/patient, prevented from coagulation immediately upon withdrawal, and separated into components (plasma & cellular components) by centrifugation ( continuous/dis-continuous method ) with the return of separated cellular components to the donor/patient.  
If relatively small amounts of plasma, e.g.500ml, are removed and replaced by saline, plasmapheresis is more appropriate.  
If more plasma is removed, then it becomes necessary to infuse plasma or plasma protein fraction (albumin) to replace the lost plasma proteins; this is called plasma exchange.  
Therapeutic Plasmapheresis – it is performed with the objective of removing some particular constituents from a patient's plasma. (The term plasma exchange rather than plasmapheresis is normally used for this procedure.)  
Plasmapheresis of normal donors for preparation of plasma fraction, e.g. in donor hyperimmunized to Rh, plasma is used for the production of Anti-Rh immunoglobulin.  
Plasmapheresis is a therapeutic intervention that involves extracorporeal removal, return, or exchange of blood plasma or its components. The mechanism of this procedure is accomplished by either centrifugation or filtration using semipermeable membranes.  
The two ways to separate the elements of blood using machines are:  
During plasma exchange, the machine eliminates unhealthy plasma. Then, it replaces it with healthy plasma received from a donor, saline, albumin, or a combination of the two.  
The different techniques commonly used in plasmapheresis.  
Plasma exchange treats a wide range of medical conditions, such as:  
A Transfusion Medicine specialist doctor, along with the blood bank Technician, performs plasma exchange in a hospital ICU setting. The entire process of plasma exchange takes about three to five hours.  
The machines are highly sophisticated, in which at no point in time the patient's blood is exposed outside; it remains within a sterile kit which is used for the procedure. This kit is a single-use kit & is discarded after use in the patient.  
Plasmapheresis is a therapeutic modality for many conditions. It is advocated when a substance in the plasma, for example, immunoglobulin, is acutely toxic and can be efficiently removed. Various conditions fall into this category, including neurologic, hematologic, metabolic, dermatologic, rheumatologic, renal diseases, and intoxications.  
The AFSA, Apheresis Applications Committee of the American Society for Apheresis, regularly evaluates potential indications for apheresis.  
It categorizes them from I to IV based on the available medical literature. The following are some indications and their categorization from society's guidelines.  
Category I indications - disorders for which plasmapheresis is the first-line therapy, include the following:  
Category II indications - disorders for which plasmapheresis is the second-line therapy include the following:  
Category III indications - disorders for which the role of apheresis is not established include the following:  
Category IV indications - disorders in which published evidence suggests that apheresis may be ineffective or harmful include the following:  
Some evidence suggests that plasmapheresis can be successfully employed in patients to alleviate infection-related symptoms associated with antibody-dependent enhancement (ADE) of bacterial disease.  
Plasmapheresis is contraindicated in the following patients:  
The main is proper vascular access. In most cases, central venous catheters are used in PEX, especially in acute conditions. They can be placed in the internal jugular, femoral and subclavian veins. However, if life-long treatment is needed (e.g. LDL apheresis), arteriovenous fistula creation may be required.  
Considerations in the selection of replacement fluid include the type of procedure, the indication, and the patient's coagulation status.  
Depending on the underlying disease.  
Some combination of albumin + NS +FFP  
Plasmapheresis is a procedure that is very safe. However, complications do occur & adverse events occur in about 4% of procedures. The great majority of adverse events are mild. Reported adverse events are  
Thus, plasmapheresis is a valuable treatment in patients with autoimmune diseases in which all other treatment modalities have failed. Hence, it can be employed as a treatment of choice in certain autoimmune diseases involving the oral cavity in which the adverse effects of other treatment modalities outweigh the therapeutic effects. This area holds scope for further studies and trials, thereby providing patients with untreatable diseases with a new treatment modality with fewer side effects and faster recoveries.  
Reviewed by Dr. Sangeeta Pathak, Associate Director & Head - Transfusion Medicine, Transfusion Medicine on 27-Apr-2023.  
The term "vasectomy" originates from the tubes in the scrotum blocked during the procedure, called vas deferens. Vasectomy is a simple, low-risk type of male birth control which cuts the supply of sperm so that they are not ejaculated and cause pregnancy. It is done by incising and sealing the tubes that carry sperm. A doctor can perform it at the hospital or a clinic. The procedure is quick, and the person can return home the same day. It is very effective at preventing pregnancy.  
Vasectomies are considered to be permanent, so they cannot be reversed. Hence, one should be 100% sure they do not want to have babies for the rest of their lives. Although vasectomies are reversible, they are considered a permanent form of male birth control. However, it offers no protection from contracting sexually transmitted diseases.  
Vasectomy is a safe, predictable, and effective birth control choice for individuals who are sure they do not want babies in the future. It is also recommended for men who desire inexpensive outpatient permanent surgical sterilisation.  
Vasectomy is recommended for those individuals who are certain they do not want to get a woman pregnant in the future. This is because a vasectomy makes a person sterile or makes them unable to get a woman pregnant. A vasectomy is not advisable as a short-term type of birth control for men. In addition, the procedure to reverse a vasectomy is complex.  
Vasectomy may be a good option for a man who fits the following criteria:  
Vasectomy may not be a good option for someone who:  
For getting a vasectomy, one must get the following tests done:  
After the surgery, arrange a ride home to avoid any movement and pressure on the surgical area caused by driving.  
Vasectomy is a quick and painless outpatient surgical procedure. In most cases, patients return home the same day. Vasectomy is of two types:  
The scrotum is anaesthetized with a local anaesthetic. Then two small incisions are made in the skin on each side of the scrotum to access the vas deferens - tubes that carry sperm out of the testicles. Each tube is then ligated, and a small part of it is removed. Next, the tubes are sealed with heat or tied with a suture. Finally, the incisions are stitched using dissolvable sutures.  
The scrotum is anaesthetized with a local anaesthetic. Next, a tiny puncture hole is made in the skin of the scrotum to get access to the tubes. Then, the same procedure as a conventional vasectomy is carried out. Finally, the tubes are sealed by tying or heat sealing.  
The advantage of no-scalpel vasectomy is there is the lesser bleeding, and no stitches are required. In addition, it is less painful and less likely to cause any complications.  
A potential concern with vasectomy is that the patient may change their mind about wanting a baby. Although it might be possible to reverse the vasectomy, there's no guarantee it will work. Reversal surgery is more complicated than vasectomy. It can be expensive and may be ineffective in some cases.  
Another technique available to father a child following a vasectomy is in vitro fertilization. However, this technique is expensive and not consistently effective. So, it is crucial to be sure before getting a vasectomy. Side effects immediately post-surgery include:  
Delayed complications include:  
Following a vasectomy, the patient may experience bruising, pain and swelling which subsides in a few days. One must follow the instructions religiously as given by the doctor, such as:  
Ejaculating semen after a vasectomy is common. Still, it will not contain any sperm (after ejaculating about 20 times).  
Reviewed by Dr. Atul N.C. Peters, Director - Bariatric, Minimal Access & General Surgery, Laparoscopic / Minimal Access Surgery, Bariatric Surgery / Metabolic, General Surgery, Department of General Surgery and Robotics on 27-Apr-2023.  
Varicocele is the enlargement of veins in the scrotum. Varicocele occurs due to the stagnation of blood flow to the scrotum and causes infertility. To treat this, a varicocelectomy is performed. This procedure involves the removal of enlarged veins, leading to an improved scenario in the scrotum and helping resolve fertility issues. The scrotum is like a sac that holds the testicles, an organ that produces sperm.  
The blood accumulates in this region since it cannot return to the heart, and thus causes the veins to enlarge. As a result, sperm count is affected, and infertility occurs. Varicocelectomy is one of the most common surgical procedures used to treat male infertility. This procedure is moderately painful and recovers in about three days.  
Doctors prescribe over-the-counter pain relievers to manage pain and discomfort. However, it is essential to note that varicocele doesn't regress on its own but may get larger or more noticeable. They can also shrink the testicles if they become too large.  
It is unnecessary to treat a varicocele unless the man plans to father a baby and is part of his infertility treatment or he has continuous dragging pain in the scrotum and groin region. However, in case diagnosed in young males, it is recommended to monitor it annually.  
Varicocelectomy can be performed in men who:  
General contraindications for the surgery include:  
Varicocelectomy is an outpatient procedure. Before a varicocelectomy procedure, the patient's general health is evaluated, and vitals such as pulse rate, body temperature, and blood pressure are noted. In addition, the patient must inform the doctor about the following:  
Varicocelectomy can be performed in two ways:  
Depending on what the case requires, the surgery can be performed.  
An incision is created to access the enlarged veins during open surgery. The following are the popular approaches in open surgery varicocelectomy:  
Less invasive methods are used during minimally invasive surgery. Minimally invasive varicocelectomy procedures include:  
Like all surgical procedures carry minimal risks, varicocelectomy may also result in some minor complications. However, these complications are often treatable and heal well. Sometimes, fluid may build up around the testicles, a condition known as hydrocele. If a person fails to maintain good hygiene, they may develop infections and may experience redness, inflammation, drainage, fever, nausea or vomiting.  
The post-operative care and instructions that may be given after a varicocelectomy procedure include:  
Reviewed by Dr. Vijay Kumar, Associate Director & Unit Head ( Reconstructive & Laparoscopic Urology), Urology on 02-May-2023.  
Ovarian cancer is cancer that affects the ovaries. The best treatment option for ovarian cancer is surgery, which involves removing the affected tissues and organs. Ovarian surgery may be performed as an initial treatment or after chemotherapy.  
The patient needs to visit the hospital for the surgery on the scheduled date and time. However, if the patient experiences any of the following symptoms before the surgery, they need to contact their healthcare provider immediately:  
Ovarian cancer surgery involves the removal of the cancerous growth in the ovary. The surgery performed depends on factors such as the stage and the location of the tumour, and the patient's overall health. The most common surgical procedures for ovarian cancer include:  
The surgery may be performed using open surgery or laparoscopic surgery, which involves the use of a camera and small incisions. The surgeon may also take tissue samples for further testing.  
Before undergoing ovarian cancer surgery, the patient needs to prepare both physically and mentally. The preparation may involve various steps, such as:  
Like any surgery, ovarian cancer surgery carries some risks and complications, such as:  
The recovery period after ovarian cancer surgery varies among individuals and depends on various factors like the type of surgery performed, the individual's overall health, and the extent of cancer. The recovery may involve various steps, such as:  
Surgery is the primary treatment for ovarian cancer. The type of surgery performed depends on factors such as the stage of cancer and the extent of the disease. In early-stage ovarian cancer, a surgeon may perform a total hysterectomy, which removes the uterus, cervix, and both ovaries. For more advanced ovarian cancer, a surgeon may perform a debulking surgery, which involves removing as much of the tumour as possible. In some cases, a surgeon may also remove the omentum, lymph nodes, and other nearby tissues. The goal of surgery is removing as much cancer as possible while preserving the person's ability to have children if desired.  
The recovery time after ovarian cancer surgery depends on the extent of the surgery, the patient's overall health, and other factors. Typically, a patient will stay in the hospital for a few days after surgery, and it may take several weeks to recover fully. During the recovery period, patients may experience fatigue, pain, and discomfort. They may need time off work and limit their activities. To aid in recovery, patients should follow their doctor's instructions, eat a healthy diet, and engage in light physical activity as soon as possible. It's important for patients to follow up with their doctor regularly to monitor their recovery and address any complications that may arise.  
The length of ovary removal surgery depends on factors such as the type of surgery performeand the patient's individual circumstances. A simple ovarian cystectomy may only take an hour or less, while a more extensive surgery to remove both ovaries and other tissues may take several hours. Surgery is performed under general anaesthesia, and the patient may need to stay in the hospital for a few days for recovery. After surgery, the patient may experience pain and discomfort, but medication can help manage these symptoms.  
Optimal debulking surgery for ovarian cancer is a surgical procedure aimed at removing as much of the tumour as possible while preserving organ function and quality of life. The surgery may involve removing the ovaries, fallopian tubes, uterus, omentum, and other surrounding tissues. This type of surgery is typically performed in women with advanced-stage ovarian cancer and is associated with improved survival rates.  
The timing of chemotherapy after ovarian cancer surgery varies, consideting factors such as the stage and extent of cancer, as well as other individual factors. In general, chemotherapy may start within a few weeks of surgery once the patient has had time to recover. Chemotherapy may be given intravenously or directly into the abdominal cavity, depending on the extent of cancer. The chemotherapy regimen may last several months, and patients may experience side effects like fatigue, nausea, and hair loss. The timing of chemotherapy will be determined by the patient's doctor, who will consider the individual circumstances of each patient.  
The method used to remove an ovary tumour depends on factors such as the size, location and extent of the tumour and the individual's general health. In some cases, a laparoscopic approach is taken; a small incision is made in the abdomen, and a tiny camera and surgical instruments are inserted to remove the tumour. For larger tumours, open surgery may be required; a larger incision is made in the abdomen to remove the ovary. In some cases, the surgeon may also need to remove nearby lymph nodes or other tissue.  
When one ovary is removed, the remaining ovary will usually continue to function normally, and the woman's menstrual cycle will not be affected. However, if both ovaries are removed, menopause may occur, which can cause symptoms such as hot flashes, vaginal dryness, and mood swings. Women who experience premature menopause (before the age of 40) may also have a higher risk of osteoporosis and other health problems. In select cases, hormone replacement therapy may be recommended to help manage menopause symptoms and reduce the risk of health problems.  
The cost of ovarian cancer surgery can vary depending on factors, including the type of surgery, the hospital and surgeon's fees, and any additional treatments required. Check with the insurance provider to understand what costs will be covered.  
Reviewed by Dr. Kanika Gupta, Senior Director – Surgical Oncology (Gynae & Robotic Surgery), Cancer Care / Oncology, Gynecologic Oncology, Surgical Oncology, Robotic Surgery on 02-May-2023.  
Intensity-modulated radiotherapy is an advanced radiation technique for treating cancerous and benign tumours. IMRT uses photons and protons of different intensities to kill cancer. The radiation intensity and shape can be controlled, so it only destroys the targeted tissue and leaves the normal tissues unaffected.  
Therefore, limiting the side effects of usual cancer radiation therapy, when compared to conventional radiation, IMRT requires somewhat longer daily treatment times as well as additional planning and safety tests before the patient may begin treatment.  
Most of the tumours can be treated with IMRT. However, it is more suitable for tumours surrounded by sensitive critical organs like brain tumours, head and neck cancer etc.  
Intensity-modulated radiation therapy is a high-precision radiotherapy technique that uses computer-controlled devices to deliver specific radiation doses to a malignant tumour or particular locations inside the tumour. By modulating the intensity of the radiation beam in many tiny sections, IMRT allows the radiation dose to adapt more accurately to the three-dimensional (3-D) structure of the target tissue. IMRT also enables larger radiation doses to be directed at the tumour while minimising the dosage to normal healthy tissues around it.  
A physical examination and medical history review is performed before treatment planning. Following that, there is a treatment simulation session that includes CT scans. A tiny mark or tattoo may be placed on the patient's skin to help position and target the equipment. This scan will be used by the radiation oncologist to create a personalised treatment plan.  
If the patient has radiotherapy to their head or neck, they may need to wear a radiotherapy mask during the treatment. They may wear a mask called a shell or mould. Most masks are made of mesh material with lots of holes. Moulds are also used for other body parts, such as the breast or limbs. The mould keeps the treatment area completely still, so the treatment will be as accurate as possible.  
Prior to the simulation and therapy, the patient may be instructed to follow a specific bowel and bladder preparation routine or to fast. During the CT scan, intravenous contrast material may be administered to help clarify the tumour.  
Sometimes additional scanning procedures, such as positron emission tomography (PET) and magnetic resonance imaging (MRI), may be necessary for IMRT planning. These images can be combined with the planned CT to assist the radiation oncologist in pinpointing the exact position of the tumour target.  
In other circumstances, radio-dense markers must be inserted into the target for a more exact location. IMRT treatments often begin a week or two after simulation.  
To receive the treatment, the patient lies down on a radiation couch. The radiographers will assist them in getting into the proper position and putting on any necessary moulds. They might receive therapy with a LINAC machine or another radiation machine, such as a TomoTherapy machine.  
The radiographers will leave the patient alone in the room after they are properly positioned. This is done to protect them from radiation. X-rays are frequently taken before therapy. This is known as image-guided radiation, ensuring you are in the correct posture (IGRT).  
The radiographers keep an eye on the patient, either through a window or on a closed-circuit television screen (CCTV). They can communicate with them over an intercom. During the treatment, they may instruct them to hold their breath or take shallow breaths. When the patient is receiving radiation, you cannot feel it. It does not hurt. It could take anywhere from 15 to 30 minutes or more.  
The time it takes depends on the nature of the cancer and the treatment plan. Generally, an IMRT treatment takes about 10 to 30 minutes. The patient may be in the treatment room for up to an hour, but every cancer is different. It's a good idea to ask the doctor what to expect.  
While each procedure is short, the patient needs more than one. Doctors usually prescribe IMRT 5 days a week for a couple of weeks. Exactly how many times they will go also depends on their particular cancer and treatment plan.  
IMRT is not supposed to be painful. If a patient develops discomfort because of the treatment position or positioning devices, the machine can be turned off anytime. Some patients may have therapy-related side effects as their treatment advances. The nature of the side effects is determined by the healthy tissues irradiated near the tumour. The radiation oncologist and the nurse will review the potential side effects and how to manage them.  
Radiation therapy can have unintended consequences. These issues could be caused by the treatment itself or by radiation damage to healthy cells in the treatment area.  
It is important to understand that side effects are mostly organ/site-specific. Usually, when treated by trained radiation oncologists, side effects are under control and manageable.  
While undergoing IMRT, the patient must take care of themselves to feel as strong as possible and to minimise any adverse effects as much as possible. Throughout the treatment, eat a healthy, balanced diet, get plenty of rest, and care for the skin area exposed to radiation.  
Wear loose garments made of soft fabrics such as cotton. Avoid scratching or rubbing the treated area. Do not apply anything hot or cold on the treated area, such as an ice pack or heating pad. When taking a shower or bath, only use lukewarm water.  
Following therapy, the patient's doctor will probably want to see them frequently to see how well it worked. They will also monitor things and assist with any side effects. The patient should continue to see their doctor for follow-up appointments for the foreseeable future.  
Reviewed by Dr. Dodul Mondal, Associate Director - Radiation Oncology, Head & Neck Oncology, Musculoskeletal Oncology, Radiation Oncology, Neuro Oncology, Cancer Care / Oncology on 09-May-2023.  
A meniscectomy is a surgical treatment that removes all or a part of the meniscus. The meniscus is the cartilage that surrounds the knee. A full or partial meniscectomy is recommended for someone who tears their meniscus. A partial meniscectomy is always preferred, as a full meniscectomy can increase the risk of arthritis. Meniscectomy may be performed under general anaesthesia.  
Two C-shaped cartilage (soft tissue) discs connect the thigh bone to the shinbone. These are known as menisci. They function as shock absorbers and provide stability to the knees.  
Meniscus tears are common in athletes who take part in contact sports, such as football and hockey.  
However, this injury can also occur when someone kneels, squat, or lift anything heavy. As one ages, the bones and tissues around the knee continue to wear down, increasing the risk of injury. The leg may swell and feel stiff if they tear their meniscus.  
Indication of Surgery if :  
A damaged or torn meniscus is usually identified during a physical check-up. The doctor will try to move the patient's knee and leg in a different position, ask them to walk and squat and look for signs of a meniscus tear.  
A meniscectomy is a good option if:  
Meniscectomy is not recommended if  
Some steps to take before undergoing a meniscectomy:  
There are two types of meniscectomies:  
About the meniscectomy procedure and how it is performed  
Meniscectomy is considered a safe procedure. However, there are a few major risks:  
The recovery depends on the type of surgery the patient had. Sometimes, the recovery from meniscus surgery is measured in days to weeks, and in cases of a meniscus repair might take a few months to recover fully. The concept of recovery begins before surgery. Physical therapy before surgery is essential and extremely beneficial; the stronger the leg before surgery, the better the prognosis.  
Pain management after surgery is important for proper recovery following meniscus surgery. One can take care of themselves by wearing an ice compression sleeve or a knee compression sleeve throughout the day, as well as taking anti-inflammatories to reduce inflammation.  
Factors that affect recovery include the type of meniscectomy, severity of the injury, overall health, usual physical activity, and physical therapy rehabilitation.  
Reviewed by Dr. Karan Baveja, Consultant, Orthopaedics & Joint Replacement, Arthroscopy & Sports Injury on 02-May-2023.  
Yellow peel is a cosmetic treatment used to improve the appearance of the skin. It is a type of chemical peel that contains a blend of natural ingredients, including lactic acid, salicylic acid, and resorcinol. The treatment works by exfoliating the top skin layer and stimulating collagen production, resulting in a smoother and brighter complexion.  
  
Yellow peel works by penetrating the skin's surface and breaking down the bonds between dead skin cells, allowing them to be sloughed away. The solution also stimulates collagen production, which helps to plump and firm the skin. The lactic acid in the peel has natural lightening properties, making it an effective treatment for hyperpigmentation. Salicylic acid helps to unclog pores and reduce inflammation, making yellow peel an excellent choice for those with acne-prone skin.  
Yellow peel is indicated for a variety of skin concerns, including  
  
Yellow peel treatment is suitable for people with various skin concerns, but not everyone is a good candidate for this type of chemical peel. The ideal candidate for yellow peel treatment is someone who:  
  
Yellow peel treatment usually takes about 30 minutes to an hour and can be performed in a dermatologist's office. The procedure involves the following steps:  
The number of treatment sessions required may vary depending on the individual's skin concerns and desired results. Generally, a series of 3-6 treatments, spaced 2-4 weeks apart, are recommended for optimal results.  
  
After a yellow peel treatment, the skin may be slightly red and sensitive, and some mild peeling may occur for a few days. This is a normal part of the exfoliation process, and it is important to avoid picking or scratching the skin to prevent scarring or infection.  
While yellow peel treatment is generally safe and well-tolerated, there are some potential risks and complications to be aware of, including:  
  
Before undergoing yellow peel treatment, patients should inform their skincare professional of any medications, topical treatments, or skin conditions they may have.  
Patients should also avoid waxing, laser hair removal, or any other hair removal treatments for at least a week before the treatment to prevent further irritation or damage to the skin.  
  
Yellow peel treatment can provide a range of benefits for the skin, including  
  
After undergoing yellow peel treatment, it is important to avoid direct sunlight and wear sunscreen, avoid harsh or abrasive products on the skin, and apply a soothing cream or serum to help calm the skin.  
It is also recommended to schedule follow-up appointments with the skincare professional to monitor progress and adjust the treatment plan as needed.  
  
Yellow peel treatment can provide long-lasting results for the skin when combined with proper skin care and sun protection. However, results may vary depending on the individual's skin concerns and the number of treatments received.  
Patients should continue to maintain a healthy skincare routine, including daily sunscreen use, to maximise the benefits of yellow peel treatment.  
  
Patients should consult a dermatologist or skincare professional if they experience any unusual or severe side effects after undergoing yellow peel treatment, such as excessive redness, swelling, or scarring.  
  
Yes, yellow peel treatment can provide a range of benefits for the skin, including smoother texture, even skin tone, reduced acne, and improved skin elasticity.  
The cost of yellow peel treatment varies depending on the location, provider, and number of treatments required.  
Yellow peel treatment may cause a slight tingling or burning sensation during the application, but this typically subsides quickly. Patients may experience mild discomfort or redness in the treated area for a few days after treatment.  
While rare, there is a minimal risk of hyperpigmentation with any chemical peel treatment, including the yellow peel.  
Yes, chemical peels can help to reduce the appearance of dark spots, hyperpigmentation, and other discolourations on the skin. Yellow peel treatment, in particular, can be effective for improving overall skin tone and reducing the appearance of sun damage.  
It is typically recommended to wait at least 6-8 hours after a chemical peel before washing the face.  
Yellow peel treatment should only be performed by a licensed skincare professional. Attempting to perform a chemical peel at home can lead to injury or further skin damage.  
A Hair Transplant Surgery is a surgical procedure in which a surgeon removes hair from one part of the body (called as donor's site) and moves it to a bald part of the body (known as the recipient site).  
This procedure is performed by a plastic or dermatological surgeon and under local anaesthesia. The session takes around 6-8 hours.   
There are various techniques for transplanting hair follicles, and each has its advantages and disadvantages. In this minimally invasive treatment, hair follicles are transplanted to the bald scalp using grafts (these grafts are genetically resistant to balding).  
The different types of hair transplants include:  
This is the most preferred technique. Follicular unit extraction (FUE) is a minimally invasive hair transplant procedure widely known for its use of androgenetic alopecia (AGA). In this procedure, individual hair follicles are removed from the donor area using micro punching of size 07/08mm and transplanted on the recipient area. This transplant is commonly performed on a person with hair thinning or baldness who has enough donor hair on the body. With the use of the latest technique & highest safety standards, the chance of any side effects at our setup is almost nil. Some patients may, however, experience swelling or numbness in the transplanted area, which is 100% normal.  
Follicular unit transplant (FUT) is a minimally invasive surgery used to improve the head appearance of the scalp, eyebrows or facial hair. In this method, one large strip of the donor scalp from the back side of the head is removed, and individual hair follicles are extracted. These individual hair follicles are placed into the bald parts of the scalp. This surgery may cause side effects such as pain, swelling, bleeding, bumps, or scarring. The recovery time is higher as compared to the FUE technique, and the chances of a scar on the donor area are higher.  
Losing 50 to 100 hairstyles for a day is considered normal as the new hair grows simultaneously. However, extreme or abnormal hair loss may indicate an underlying problem.  
A person may experience the following symptoms that might need a hair transplant. The symptoms are:  
A hair transplant is commonly used to treat male baldness, and hair loss occurs due to pattern baldness.  
A person needs to visit a doctor in case of severe and persistent hair loss. They need to visit a dermatologist if they have the following:  
A Dermatologists performs a hair transplant to restore hair on:  
Wound debridement becomes a necessity when an open wound fails to heal completely. The presence of pus, a layer of infection, slough tissue, and dead cells can prevent the wound borders from approximating.  
For absolute closure of the wound, debriding the obstructing layers can help heal. However, wound healing may be delayed due to patient factors such as diabetes, low immunity, vascular insufficiency, neurological deficits, and more. Debridement helps expedite the process of healing by removing the necrotic tissue, nonviable tissue, and any foreign material.  
Debridement is indicated when wound healing is delayed to the extent that it may lead to gangrene. Dead tissues harbour bacteria that may thrive and cause more extensive infections. Debridement promotes healing and lowers the risk of complications. Debridement may be advised when:  
Doctors record the patient's medical history and family history and perform a physical examination before the procedure.  
The doctor evaluates the wound to be debrided and decides which type of debridement method would be the best approach to treat the case.  
The doctor enquires in detail about the patient's medical history and records questions such as:  
Doctors may advise certain tests before the procedure. These may include:  
Debridement has a multitude of approaches. These include:  
A combination of the above methods can be used to achieve a better result.  
Debridement is commonly done when a necrotic, devitalized tissue fails to heal. It is an important aspect of wound management. Common indications are:  
Contraindication of wound debridement includes the following conditions:  
Follow the instructions given by the doctor prior to the procedure. Some of which include:  
Debridement itself is a safe procedure but may lead to complications depending on the patient's medical history and the doctor's experience. Some complications that may occur include:  
Despite these potential complications, it has been well-established that some wounds don't heal without debridement.  
The recovery after a debridement procedure takes about six to twelve weeks. Complete recovery depends on the wound's size, location, severity, and the debridement method employed for wound management.  
Some instructions given by the doctors to ensure smooth recovery are:  
Reverse shoulder arthroplasty is an orthopaedic procedure that involves replacing the damaged bone in the shoulder joint with a prosthesis. This innovative surgical technique provides significant pain relief and improves the range of movement in the shoulder. It is commonly used to treat conditions such as rotator cuff tear arthropathy, displaced proximal humerus fractures, and failed shoulder arthroplasty.  
Surgery becomes an option when severe pain and shoulder weakness significantly affect daily activities. If conservative treatment methods like medication, injections, and physical therapy fail to provide relief, reverse shoulder arthroplasty may be recommended.  
It is particularly effective for rotator cuff injuries, which often require a traditional shoulder replacement but can still result in limited mobility. Reverse total shoulder replacement addresses this issue by utilising the deltoid muscle to lift the arm away from the body, restoring functionality.  
Reverse shoulder arthroplasty is recommended for individuals with specific shoulder-related issues, including:  
To be eligible for the procedure, patients should have low functional demand, be physiologically younger than 70 years, possess sufficient glenoid bone stock, and have a fully functional deltoid muscle with an intact axillary nerve.  
While reverse shoulder arthroplasty is a beneficial procedure, not all patients are ideal candidates. Some contraindications include:  
Before recommending reverse shoulder arthroplasty, orthopaedic surgeons utilise various imaging techniques to evaluate bone and soft tissue alterations. X-rays and CT scans are commonly employed for preoperative imaging. More advanced procedures, such as 3D scanning, are also utilised to precisely plan the surgery.  
To ensure a successful surgery, thorough preparation is crucial. This includes:  
A comprehensive medical and physical evaluation is conducted before the surgery. Patients with heart disease should also be evaluated by a cardiologist.  
Patients must inform their orthopaedic surgeon about any ongoing medications. Certain medications, such as blood thinners, non-steroidal anti-inflammatory drugs, and specific arthritis medications, may need to be stopped before surgery.  
Simple adjustments at home can facilitate a smoother recovery process. Lowering frequently used belongings and considering hiring a caregiver or staying at a rehabilitation facility can assist with daily tasks during the initial weeks of recovery. Smoking and drinking should be avoided, and adhering to an exercise regime and a balanced diet can aid in a faster recovery.  
Prior to the surgery, a comprehensive consultation with the surgical team takes place to discuss the patient's medical history, anaesthesia options, and other relevant details.  
The reverse shoulder arthroplasty procedure typically takes about 2 hours. The surgeon makes an incision on the front or top of the shoulder to remove the damaged bone and replace it with prosthetic components. The components consist of a metal ball screwed into the shoulder socket and a plastic cup secured into the upper arm bone.  
While reverse total shoulder replacement is a highly technical procedure, complications can still arise. These may include bleeding, nerve damage, and infection. Components of the shoulder joint replacement may also experience wear, loosening, or dislocation, requiring revision surgery.  
  
Following the surgery, intravenous antibiotics and pain medications are prescribed. Most patients can resume solid food intake and begin moving the day after the surgery. Discharge usually occurs on the second or third post-operative day, depending on the patient's comfort.  
Rehabilitation and precautions post-surgery include following the prescribed home exercise regimen, avoiding sudden and extreme arm or body movements for the first six weeks, refraining from excessive rehab exercises, and avoiding heavy lifting or repetitive movements that strain the shoulder joint.  
Reviewed by Dr. Karan Baveja, Consultant, Orthopaedics & Joint Replacement, Arthroscopy & Sports Injury on 02-May-2023.  
Cosmetic Dentistry (aesthetic dentistry), or cosmetic dental procedures, refers to a range of dental procedures designed to improve the appearance of teeth, gums, and the overall smile. These procedures can include teeth whitening, dental implants, veneers, and orthodontics. The goal of cosmetic dentistry is to enhance the appearance of the teeth and smile, leading to improved confidence and self-esteem.  
There are several types of cosmetic dentistry, including:  
The teeth and surrounding structures, including the gums and jawbone.  
Some common reasons why someone might be a candidate for cosmetic teeth surgery includes:  
Here are some potential benefits of cosmetic teeth surgery:  
Cosmetic dentistry encompasses a range of different procedures, each of which is designed to address a specific cosmetic concern. These procedures can include teeth whitening, dental implants, veneers, and orthodontics. The specific procedure used will depend on the individual patient's needs and goals.  
The dentist will conduct a comprehensive evaluation to assess the patient's oral health and identify any underlying dental issues that may impact the cosmetic outcome of the procedure.  
The dentist will also discuss the patient's goals and expectations for the procedure and provide information about the specific risks and benefits of the chosen procedure.  
The specific details of the procedure will depend on the chosen technique and generally involves making alterations to the teeth, gums, or surrounding structures to improve the overall appearance of the smile.  
Cosmetic dentistry focuses on improving the appearance of a person's teeth, gums, and smile. This includes procedures such as teeth whitening, bonding, veneers, gum contouring, and dental implants.  
Cosmetic dentistry is considered safe when performed by a qualified and experienced dental professional. However, like any surgical procedure, some risks are involved, such as infections and bleeding. It is essential to choose a reputable dental professional and follow all pre-and post-operative instructions carefully.  
The cost of cosmetic tooth caps, also known as dental crowns, can vary depending on several factors, such as the type of material used, the location of the dental practice, and the complexity of the case.  
The cost of cosmetic teeth filling, also known as composite bonding, can vary depending on the condition, the location of the dental practice and the complexity of the case.  
Some cosmetic dentistry procedures, such as dental implants and veneers, are considered permanent solutions for certain dental problems. However, other treatments, such as teeth whitening and composite bonding, may require touch-ups or maintenance to maintain their appearance. It's essential to discuss the expected longevity of any cosmetic dental procedure with your dental professional before undergoing treatment.  
Reviewed by Dr. Sanjit Singh, Senior consultant- Cosmetic Dentistry, Endodontics , Implantology and General Dentistry, Dental Care, Implantologist , Endodontist & Cosmetic Dentist on 25-May-2023.  
Pars plana vitrectomy is a technique used to remove vitreous humour and/ or scar tissues that affect the retina using special tools. The extraction is done through Pars Plana (a part of the eye near the junction of the iris and sclera). This surgery is employed to gain access to the posterior segment of the eye for treating ailments such as retinal detachment, vitreous haemorrhage, etc.  
There are multiple reasons for a Pars plana vitrectomy. It may be done to drain virus fluids which have become cloudy or bloody or filled with bits of tissue affecting vision. It may also be done to gain access to retinas. More conditions when vitrectomy is needed:  
Specific conditions where pars plana vitrectomy is used are:  
Pars plana vitrectomy is a low-risk surgery and has a success rate of 90%. Even if the patient is 60 or older. The patient might be a good fit if:  
The patient should avoid the surgery if:  
The patient should have an in-depth conversation with their eye doctor. The doctor will explain the surgical procedure, risks and complications, and prognosis.  
The patient will need to have a physical exam from their primary care physician before surgery to be sure they can survive the procedure. Plus, they can take any measurement if required.  
Before surgery, the doctor will most likely examine the eye once more with tools and light. They may need to dilate their pupils. They may choose to perform an ultrasound to examine the retina more precisely.  
Patients should inform their healthcare practitioner about all medications and supplements they are taking. Some medications must be continued or discontinued on the day of surgery. Blood thinners and pain medicines should be discontinued at least one week before surgery.  
Avoid alcohol one week before and two weeks after surgery to avoid bleeding problems.  
Patients should discuss all medications and supplements they are taking with their healthcare provider. Some medicines need to be continued or stopped on the day of surgery. Drugs such as blood thinners and pain relievers should be stopped at least one week before the surgery.  
Patients may need to avoid eating and drinking anything the night before the surgery.  
Possible complications of pars plana vitrectomy include:  
These medical issues can result in eyesight loss. Some of them can even end in blindness if not addressed. In some circumstances, vitrectomy can restore lost vision. In an emergency, such as an eye injury, the patient may require a vitrectomy. In other circumstances, the eye doctor may schedule a vitrectomy ahead of time.  
A pars plana vitrectomy is a low-risk treatment with a high success rate that can treat plenty of eye problems.  
Lumbar disc replacement, also known as total disc replacement or artificial disc replacement, is a surgical procedure used to treat degenerative disc disease in the lumbar region of the spine. It involves replacing a damaged or degenerated intervertebral disc with an artificial disc implant.  
  
Lumbar disc replacement is a procedure performed to treat severe back pain and other symptoms caused by a damaged or degenerated lumbar disc in the lower back. Here are some reasons why this procedure may be necessary:  
Here are some potential benefits of lumbar disc replacement:  
The specific criteria for being a candidate for lumbar disc replacement may vary depending on the individual patient and the surgeon's judgment. However, some general factors that are typically considered include:  
Preparing for the treatment involves a comprehensive evaluation of your medical history, physical exam, and diagnostic tests.  
Here is a general overview of the procedure:  
Like any surgery, lumbar disc replacement is associated with certain risks and complications, including:  
Here is a general overview of the recovery process:  
The results can vary, but many individuals experienced significant improvement in their symptoms, including reduced pain and increased mobility. The artificial implant is designed to mimic the natural movement and function of the disc.  
The lumbar disc replacement surgery cost can depend on the type of implant used, the surgeon's experience and skill level, the location of the procedure, and the patient's insurance coverage.  
The success rate varies and depends on factors such as the patient's age, health condition, type of replacement, and postoperative care. Generally, the success rate is estimated to be between 70-90%.  
The longevity varies from patient to patient, but on average, it can last between 10-20 years.  
Disc replacement is better than fusion for some patients, as it allows for more mobility and preservation of the natural spinal motion. However, it is important to note that fusion may be a better option for others, depending on the condition.  
Yes, FDA has approved the use of artificial lumbar discs for the treatment of chronic low back pain.  
Disc replacement surgery is considered a serious procedure and involves a significant amount of risks and potential complications, including infection, nerve damage, and implant failure.  
No, lumbar discs do not regenerate once they have degenerated.  
Artificial lumbar discs are made of various materials, including metal and plastic.  
  
Reviewed by Dr Ashish Gupta, Senior Director, Neurosurgery, Spine Surgery on 29-May-2023.  
Ventriculoperitoneal shunting is a surgical procedure used to treat hydrocephalus, a condition characterised by the accumulation of excess cerebrospinal fluid (CSF) in the brain's ventricles. This procedure involves the insertion of a ventriculoperitoneal (VP) shunt, a medical device that diverts the fluid away from the brain, relieving pressure and restoring normal CSF flow.  
There are two primary types of VP shunts:  
A programmable VP shunt, also known as an adjustable valve, features external and adjustable valves that can be readjusted as needed. Surgeons often prefer programmable valves for placement due to their flexibility and customization options.  
A non-programmable VP shunt has a pre-programmed valve that activates when the fluid reaches a certain volume. These valves typically have three to five pressure settings, with higher pressure draining less fluid and lower pressure draining more fluid.  
Surgery for ventriculoperitoneal shunting is necessary when an individual is diagnosed with hydrocephalus. Hydrocephalus can occur in both babies and older adults, and surgery is required to address the underlying cause of fluid accumulation. Several factors can disrupt the normal flow of CSF, leading to hydrocephalus, including blockages in the ventricles, overproduction of fluid, poor fluid absorption by blood vessels, cysts, tumours, inflammation in the brain, infections, and trauma.  
Surgery for ventriculoperitoneal shunting is necessary when an individual is diagnosed with hydrocephalus. Hydrocephalus can occur in both babies and older adults, and surgery is required to address the underlying cause of fluid accumulation. Several factors can disrupt the normal flow of CSF, leading to hydrocephalus, including blockages in the ventricles, overproduction of fluid, poor fluid absorption by blood vessels, cysts, tumours, inflammation in the brain, infections, and trauma.  
Individuals diagnosed with hydrocephalus, leading to the excessive accumulation of cerebrospinal fluid in the brain, are the primary candidates for ventriculoperitoneal shunting. In cases where hydrocephalus is present in newborns, immediate treatment with VP shunting is crucial.  
The ventriculoperitoneal shunting procedure involves several steps to alleviate the accumulation of excess cerebrospinal fluid. Here is an overview of the surgical process:  
Although VP shunt treatment is generally safe, there are potential complications that can arise during or after surgery. Some of these complications include:  
It is important to monitor for symptoms such as fever, fatigue, abdominal pain, or headache, as they may indicate an infection. If any of these symptoms arise, it is essential to notify the doctor immediately.  
Proper post-operative care is crucial for a smooth recovery after VP shunt surgery. Here are some important aspects to consider:  
By following these guidelines and seeking regular follow-up care, individuals can optimise their recovery and support the successful outcome of ventriculoperitoneal shunting.  
Reviewed by Dr Ashish Gupta, Senior Director, Neurosurgery, Spine Surgery on 13-June-2023.  
Adenoidectomy is a surgery used to remove adenoid glands when they become swollen or enlarged due to infections or allergies. Enlarged and inflamed adenoid is known as adenoiditis; this makes breathing difficult and causes respiratory infections.  
Adenoid glands are situated behind the nose at the roof. It is a mass of lymphoid tissue (which appears as a small lump of tissue) behind the nasal passage. Adenoids play an important role in young children, as they act as a part of the immune system and protect the child's body from bacteria and viruses.  
Removing adenoid glands can help the patient to breathe easily and sleep more comfortably. Adenoids automatically shrink around the age of 10-11 years and are completely gone by the teenage years.  
A patient needs adenoidectomy surgery when their adenoid gland becomes enlarged, which can partially or completely block the airway. Patients with enlarged adenoids can have breathing problems, infections, and other complications, which may lead to snoring problems or conditions such as sleep apnea.  
It can cause complications such as chronic nasal drainage, sinus infections, frequent ear infections, or fluid in the ear which can lead to temporary hearing loss. A patient with enlarged adenoids who is not responding to medical treatment needs immediate attention to remove adenoids through surgery and prevent complications that can have long-term effects.  
A patient needs adenoidectomy surgery when:  
A patient with enlarged adenoid glands can have breathing problems, ear infections, and recurring sinusitis. A doctor will check the symptoms and patient's health history and examine the adenoids by placing a small camera in the patient's nose. The doctor may also recommend imaging tests such as an X-ray to examine the adenoids.  
Based on symptoms and physical examination of the ears, nose and throat, doctors may recommend adenoidectomy.  
Adenoidectomy is a short surgical procedure performed by an ENT surgeon (ear, nose, throat specialist). The procedure takes about 20 to 30 minutes on average.  
General anaesthesia is given to the patient before the surgery. The anesthesiologist combines a mixture of gas and intravenous medication for general anaesthesia. This is given through the mouth, and it keeps the patient asleep during the surgery.  
The process of adenoidectomy:  
After surgery, the patient is taken into the recovery room until he or she awakens from the anaesthesia. There are no scars or stitches involved in this surgery.  
Patients who have recurrent nose infections, mouth breathing or obstructive sleep apnea and suffer from airway blockage causing breathing problems are best candidates for adenoidectomy.  
Adenoidectomy can cause complications and have long-term side effects. Complications due to anaesthesia include:  
Complications- during procedure such as:  
The patient may experience an upset stomach and vomiting for the first 24 hours after surgery. Contact a doctor immediately if the child experiences nausea or bleeding through the nose or mouth.  
After an adenoidectomy, a patient experiences mild pain and discomfort, including sore throat, bad breath, and a running nose. Taking proper care can prevent complications.  
After adenoid removal, with care and medicines, children recover within 4-5 days.  
Hand surgery is a specialised field of medicine that deals with the treatment of injuries, disorders, and diseases affecting the hand, wrist, and forearm. The goal of hand surgery is to restore the function and appearance of the hand, enabling patients to perform daily tasks and improve their quality of life. Hand surgery requires a high level of skill and expertise, as the structures and functions of the hand are complex and delicate.  
Hand and wrist surgery, hand reconstruction surgery, hand trauma surgery, hand microsurgery.  
The hand is composed of bones, muscles, tendons, ligaments, nerves, blood vessels and skin. The wrist may also be involved, depending on the extent of the condition.  
The type of surgery recommended depends on the individual's specific condition and the severity of their symptoms. A few examples of hand surgeries performed are:  
Hand surgery can provide several benefits, including:  
Hand surgery involves various surgical procedures, including reconstructive surgery, microsurgery, and minimally invasive surgery. The type of procedure depends on the specific condition and its severity.  
As with any surgical procedure, hand surgery carries risks, including:  
Overall, hand surgery is a highly specialised field of medicine that can improve the function and appearance of the hand and wrist. By working closely with a skilled surgeon and following postoperative instructions, patients can achieve improved hand and wrist function, reduced pain and discomfort, and a better quality of life.  
The most common hand surgeries include carpal tunnel release, trigger finger release, and tendon repair. Other common procedures include fracture repair, arthroscopy, and nerve repair.  
Hand surgery can be serious depending on the type of procedure being performed.  
Recovery time for hand surgery varies depending on the type of procedure performed, the extent of the surgery, and the individual patient. In general, patients can expect some pain and discomfort for the first few days or weeks following surgery and may need to limit their hand use for several weeks to allow for proper healing.  
The length of hand surgery varies depending on the type and complexity of the procedure.  
Whether or not you need a cast after hand surgery depends on the type of procedure performed. Some surgeries require a cast to immobilise the hand and allow for proper healing, while others do not.  
The extent to which you can use your hand after hand surgery depends on the type and complexity of the procedure. In most cases, patients need to limit their hand use for several weeks to allow for proper healing. Your surgeon will provide specific instructions on hand use following surgery.  
The amount of pain and discomfort experienced following hand surgery varies depending on the type of procedure performed and the individual patient. Some patients may experience mild discomfort for a few days, while others may experience more significant pain for several weeks. Your surgeon will provide the necessary medications to ensure a comfortable recovery.  
Reviewed by Dr. Vikas Gupta, Director, Orthopaedics and Head - Hand & Shoulder Surgery on 13-July-2023.  
An Automatic Implantable Cardioverter Defibrillator (AICD), also known as an Implantable Cardioverter Defibrillator (ICD), is a medical device that is used to monitor and treat abnormal heart rhythms, particularly life-threatening arrhythmias such as ventricular tachycardia and ventricular fibrillation. The AICD is an essential device in the management of cardiac arrhythmias, providing rapid and potentially life-saving interventions when necessary.  
The primary function of an AICD is to detect and terminate dangerous arrhythmias by delivering an electrical shock to the heart. It consists of three main components: the pulse generator, the leads, and the programmer. The pulse generator, which is typically implanted under the skin in the upper chest area, contains a battery and the necessary electronics to monitor the heart rhythm. The leads, which are thin insulated wires, are threaded through veins and positioned within the heart chambers to sense the electrical signals and deliver shocks if needed. The programmer is a device used by healthcare professionals to program and retrieve data from the AICD.  
The implantation of an AICD is typically performed in a hospital setting under local anaesthesia. A small incision is made in the chest, and the leads are threaded through veins into the heart chambers using fluoroscopy for guidance. Once the leads are in place, they are connected to the pulse generator, which is then implanted under the skin. It takes an hour to complete the proecdure, and patients are often required to stay in the hospital overnight for observation.  
AICDs are primarily indicated for individuals at high risk of developing life-threatening ventricular arrhythmias. These may include patients with a history of cardiac arrest, sustained ventricular tachycardia, certain types of congenital heart diseases, and certain inherited cardiac conditions such as hypertrophic cardiomyopathy and long QT syndrome. Additionally, AICDs may be considered for individuals with a history of heart failure who are at risk of sudden cardiac death.  
The AICD provides several benefits for patients with high-risk arrhythmias. Its ability to rapidly detect and terminate life-threatening rhythms can save lives by restoring normal heart rhythm. The device continually monitors the heart's electrical activity, allowing for the detection of arrhythmias even before symptoms occur. Furthermore, AICDs can be programmed to deliver different levels of therapy depending on the severity of the arrhythmia, such as pacing, cardioversion (low-energy shock), or defibrillation (high-energy shock). This adaptability ensures appropriate treatment tailored to the individual patient's needs.  
Although AICDs are generally safe and well-tolerated, there are potential risks and complications associated with the implantation and ongoing use of these devices. These may include infection at the implantation site, bleeding, damage to blood vessels or the heart during lead insertion, pneumothorax (collapsed lung), and device-related complications such as lead fracture or malfunction. There is also a small risk of inappropriate shocks due to misinterpretation of heart rhythms or noise artefacts, which can cause anxiety and discomfort for patients.  
After the implantation of an AICD, regular follow-up visits with healthcare professionals are necessary. During these visits, the AICD is checked, and its programming can be adjusted if needed. Additionally, patients are typically advised to avoid activities that may interfere with the device, such as contact sports or strong electromagnetic fields.  
Reviewed by Dr. (Col.) Manjinder Sandhu, Principal Director - Cardiology, Cardiac Sciences, Interventional Cardiology, Cardiac Electrophysiology-Pacemaker on 11-July-2023.  
Total elbow replacement, also known as total elbow arthroplasty, is a surgical procedure that involves replacing a damaged or diseased elbow joint with an artificial joint. This procedure is typically recommended for people with severe arthritis, trauma, or other conditions that have extensively damaged the elbow joint. The goal of total elbow replacement is to alleviate pain, restore function, and improve the quality of life for patients with debilitating elbow conditions.  
Total elbow replacement surgery may be necessary when:  
Total elbow replacement surgery offers several benefits:  
Not everyone with elbow pain or arthritis is a suitable candidate for total elbow replacement. The following factors are considered to determine the right candidate:  
Preparing for total elbow replacement involves several steps:  
Total elbow replacement procedure typically follows these steps-  
The recovery process after total elbow replacement involves the following:  
1. Are there any risks or complications associated with total elbow replacement?Like any surgical procedure, total elbow replacement carries risks such as infection, blood clots, nerve damage, implant failure, and stiffness. However, serious complications are relatively rare (less than 1 per cent).  
2. How long does the artificial elbow joint last?The lifespan of an artificial elbow joint depends on factors such as the patient's age, activity level, and adherence to post-operative care. With proper care and avoidance of excessive strain on the joint, the implant can last for 10 to 15 years or longer.  
3. Can I regain full range of motion and strength in my elbow after total elbow replacement?While total elbow replacement can significantly improve mobility and strength, achieving a full range of motion and strength may not always be possible. The extent of recovery varies for each individual and depends on factors such as pre-existing conditions, rehabilitation compliance, and overall health.  
4. When can I resume driving after total elbow replacement?The ability to drive after total elbow replacement varies and depends on factors such as the recovery progress, strength, and mobility of the operated arm. It is important to consult with the surgeon and follow their recommendations before resuming driving.  
5. Are there any alternatives to total elbow replacement?In some cases, alternative treatments such as medications, physical therapy, corticosteroid injections, or arthroscopic surgery may be considered before opting for total elbow replacement. The decision depends on the specific condition and the recommendation of the healthcare provider.  
Reviewed by Dr. Nikunj Agrawal, Principal Consultant, Orthopaedics & Joint Replacement on 27-July-2023.  
Splenectomy is the surgical removal of the spleen, which is an important organ of the human body. The spleen is located on the left side of the upper abdomen, right below the ribcage. The major functions of the spleen include storage and filtration of blood and synthesis of leukocytes (White Blood Cells) that help in fighting against infections. Another important function of the spleen is helping to get rid of aged or damaged erythrocytes (Red Blood Corpuscles), and that is exactly why it is also known as the "Graveyard of RBC".   
While it plays an important role in the human body, a ruptured spleen can prove fatal and requires immediate removal. The spleen can get damaged due to various reasons, primarily​ abdominal injury. Other conditions include splenomegaly (enlargement of the spleen), cancerous situations, blood disorders, sepsis, the presence of benign tumours or cysts, and many others. The abdominal injury can be due to a stab injury or any other traumatic condition.  
Splenectomy may be recommended in the following cases:  
Splenectomy can be​ classified into three types depending upon the involved operative procedure:  
Another classification of splenectomy is based on the amount of spleen to be removed-  
Just like any other surgical procedures, splenectomy is also associated with the appearance of several complications, such as:  
Reviewed by Dr. Alok Gupta, Associate Director, Institute of Minimal Access, Laparoscopic & Bariatric Surgery  
Laser lithotripsy or Laser surgery for stone removal is a minimally invasive procedure used to break down and remove stones in the urinary tract. It involves using laser energy to fragment the stones into smaller pieces, which pass through natural urine flow.   
There are two major types of laser surgery for stone removal:  
Laser surgery for stone removal may be recommended in the following situations:  
The following factors make an individual the right candidate for laser stone removal surgery-  
Before undergoing laser surgery for stone removal, the following steps may be involved:  
The procedure for laser surgery for stone removal may vary depending on the type of surgery performed (flexible ureteroscopy or PCNL). The following provides an overview of each procedure:  
The recovery and follow-up process typically involves the following:  
Like any surgery, laser surgery for stone removal carries certain risks and potential complications. Some possible complications include:  
Reviewed by Dr. Pankaj Gaur, Senior Consultant, Renal Transplant, Urology.  
Pericardiocentesis is a procedure that removes fluid building up in the sac around the heart, an area called the pericardium. It is done using a needle and a tiny catheter to drain the excess fluid.  
The fibrous sac surrounding the heart called the pericardium, is made of two thin layers. The layers are filled with fluid that reduces friction between them as they rub against each other when the heart beats. However, when too much fluid builds up between these two layers, the condition is called pericardial effusion. In these conditions, the normal functioning of the heart is affected. Pericardiocentesis is then required to drain the fluid and prevent future build-up of fluid.  
The build-up of fluid around the heart is a sign of many medical conditions. This fluid build-up leads to shortness of breath and chest pain that is treatable with medicine. However, it is life-threatening and needs immediate draining in most cases. Some conditions that can cause pericardial effusion include:  
Before the surgery, doctors perform a thorough medical history to assess any pre-existing medical conditions that may interfere with the procedure. The tests recommended by doctors before a pericardiocentesis procedure are:  
There are three main approaches to performing pericardiocentesis:  
A cardiologist and a surgical team perform the procedure. The most common form of pericardiocentesis is catheter-based and is performed in the following way:  
There are numerous indications for pericardiocentesis. Some include:  
Pericardiocentesis has no absolute contraindications. Withdrawal of even a tiny amount of fluid in a very unstable patient can immediately improve the hemodynamics of the patient.  
Relative contraindications include:  
At the presurgical consultation visit, the potential risks and benefits of the surgery are discussed. In addition, a list of presurgical restrictions and other instructions to follow is given.  
A proper medical history should be given to the doctors at this appointment. In general, it is recommended to follow the given instructions, such as:  
Pericardiocentesis is a relatively safe procedure. However, all surgical procedures carry some risks, such as:  
In general, after pericardiocentesis, the person may feel:  
Reviewed by Dr. Vinay Kumar Bahl, Principal Director, Cardiac Sciences.  
Robotic surgery is a new way to treat hernias. Using robotic arms is better than the usual laparoscopic methods because the robot can move more easily. This helps the surgeon do tricky things like repairs and stitches inside the body very carefully and without much trouble. Also, the robot lets the surgeon see the inside of the belly in 3D and high-definition.  
Hernias almost always require surgery. They do not respond to medication and never heal on their own. All hernias require to be repaired effectively to get relief from the symptoms and the possibility of a subsequent surgical emergency. Hernias can become a surgical emergency if its contents become confined or strangulated.  
Most hernias can be diagnosed with a physical examination by a doctor or a specialist. Some imaging techniques like an ultrasound, CT scan, or MRI may be needed to confirm the diagnosis of abdominal hernias. Hiatal hernias, however, additionally require imaging techniques such as upper GI scans done in radiology or by upper endoscopy.  
Robotic hernia surgery can be carried out under general anaesthesia, which means the patient is asleep and feels no pain.  
Hernias can be either the enlargement of an anatomic defect or the development of a new defect in a compromised tissue. The surgeon may use a mesh over the hernia to repair it and close it with sutures.  
The eligibility for robotic hernia surgery depends on the following factors:  
Patients who are not healthy and suffer from debilitating diseases may take a long time for the healing process to complete.  
Robotic surgeries rarely have post-operative complications. However, some of them may be:  
Here's what you can expect as you recover at home:  
Reviewed by Dr. Bachan Singh Barthwal, Senior Director, Laparoscopic & Robotic General Surgery.  
Appendix surgery, also known as appendectomy, is a surgical procedure performed to remove the appendix, a small pouch attached to the large intestine. This procedure is commonly done when the appendix becomes inflamed, a condition known as appendicitis, which can be painful and potentially life-threatening.  
There are three main types of appendix surgery: open appendix surgery, laparoscopic appendix surgery, and robotic appendix surgery.  
Regardless of the type of appendix surgery performed, the primary goal is to remove the inflamed appendix safely and effectively while minimising the risks and side effects of the procedure.  
Before undergoing appendix surgery, several preparations are necessary. These preparations ensure that the patient is in the best possible condition for the surgery and minimise the risks involved. The pre-operative preparations generally include:  
These preparations help ensure a smooth and successful surgery while minimising the risks involved.  
The procedure for appendix surgery generally involves the following steps:  
During these appointments, the doctor may remove any stitches or staples, evaluate the incision site, and address any concerns or complications.  
Like any surgical procedure, appendix surgery carries certain risks and potential complications. These risks may vary depending on the patient's overall health, the severity of appendicitis, and the surgical approach used. Some common risks include:  
After appendix surgery, there are certain postoperative measures and guidelines that patients should follow to ensure a smooth recovery. These measures may include:  
The success rate depends on the severity of appendicitis, the surgical approach used, the surgeon's expertise, and the patient's overall health.  
Overall, appendix surgery has a success rate of over 95% in treating appendicitis and relieving associated symptoms. With advances in surgical techniques and anaesthesia, the risks and complications associated with appendix surgery have been significantly reduced.  
Q1. How long is recovery after an appendix operation?Recovery after an appendix operation typically takes 1-2 weeks. However, it can vary depending on the type of surgery, the patient's age and overall health, and how quickly they recover from the anaesthesia.  
Q2. Is appendix surgery painful?Appendix surgery, also known as appendectomy, can be painful.  
Q3. What food can cause appendicitis?There is no specific food that causes appendicitis.  
Q4. Is removing the appendix a major surgery?Appendectomy (removal of the appendix) is considered a minor surgery.  
Reviewed by Dr. Bachan Singh Barthwal, Senior Director, Laparoscopic & Robotic General Surgery.  
Endoscopic sinus surgery is also referred to as Functional Endoscopic Sinus Surgery (FESS), as it helps restore the function of the sinus. This is a minimally invasive surgical procedure performed to eliminate blockages and other conditions in the sinus. This is carried out with the help of a nasal endoscope. This procedure helps to relieve sinus symptoms without making incisions in and around the area of the nose.  
FESS is carried out when the patient has either a chronic sinus inflammation or chronic infection in the sinus region, which doesn't heal even after taking medications involving antibiotics. With this surgery's help, the passage between the nose and the sinus is widened, and the mucus trapped in the sinus can be removed accordingly. This surgery is carried out on an inpatient basis under general anaesthesia. The doctor thoroughly examines the patient and goes through the patient's entire medical history, followed by a physical examination.  
Afterwards, certain tests are conducted by the doctor, which is as follows:   
Nasal endoscopy to access the nasal passages and sinuses with the help of an endoscope to determine any possible signs of inflammation and infection.  
Non-contrast CT scan of sinuses to look for the extent of disease and to study the sinus anatomy of the patient before the surgery.  
Patients require this procedure mainly because of the following:  
Various goals of endoscopic sinus surgery are as follows:  
Before the procedure, the patient is expected to follow and share valuable information with the doctor. These are as follows:  
FESS is the standard procedure performed by doctors to treat various conditions of the sinus. The doctors continue to modify their approach depending on the patient's condition. The basic steps involved in this procedure are as follows:  
The doctor provides the patients with a particular set of instructions for relieving discomfort and keeping the sinuses clear after FESS. These comprise the following :  
Although FESS is a minimally invasive procedure and a relatively safe one, there are still a few complications that can be experienced by patients at certain times. These are as follows:  
Patients require a few months at least to recover fully from FESS in order to feel completely normal like before. The majority of the patients resume their work activities after a period of two weeks.  
Reviewed by Dr. Sumit Mrig, Associate Director and Head, ENT(Ear Nose Throat) on 08-Aug-2023.  
Gallbladder stone surgery/Cholecystectomy is a surgery for gallbladder removal. Cholecystectomy is commonly performed when a patient experiences issues related to gallstones, which are hardened deposits that can form in the gallbladder. Gallstones can cause pain, inflammation, infection, or blockage of the bile ducts. If these issues become severe or recurrent, a cholecystectomy may be recommended.  
There are three main types of gallbladder stone surgery, including  
Follow the following instructions to make sure the surgery is completed successfully.  
The patient needs to follow a few instructions to prevent complications after surgery.  
After gallbladder stone surgery, it is important to follow a specific diet plan. In the first few days after surgery, it is best to stick to a clear liquid diet followed by a full liquid diet. Once you start to feel better, you can gradually add in soft, low-fat foods like boiled eggs, mashed potatoes, and steamed vegetables. Avoid fatty, fried, and spicy foods, as these can cause discomfort and digestive problems. You should also avoid alcohol and caffeine for a few weeks after surgery.  
While gallbladder surgery is generally safe, there are some risks involved. These can include bleeding, infection, damage to nearby organs, and problems with anaesthesia. In rare cases, there may also be complications like bile leakage or difficulty digesting fatty foods. However, these risks are generally low, and most people recover from surgery without any major problems.  
If you have severe abdominal pain, fever, or jaundice (yellowing of the skin and eyes), you should see a doctor right away. These can be signs of serious complications like a bile duct blockage or infection. You should also seek medical attention if you have ongoing digestive problems after gallbladder surgery, such as diarrhoea, nausea, or vomiting.  
Reviewed by Dr. Bachan Singh Barthwal, Senior Director, Laparoscopic & Robotic General Surgery.  
Joint replacement surgery is performed to replace a damaged or worn-out joint with an artificial joint (prosthesis). This procedure is commonly used to relieve pain, restore function, and improve the quality of life for individuals with severe joint conditions.  
Joint replacement surgery may be recommended when conservative treatments, such as medication, physical therapy, or assistive devices, fail to provide adequate relief. Common indications for joint replacement surgery include:  
While each case is unique, the following factors are often considered when determining the right candidate:  
Preparation for joint replacement surgery involves several steps:  
After joint replacement surgery, the patient's recovery and rehabilitation process plays a crucial role in achieving optimal outcomes. Here are some key aspects:  
While joint replacement surgeries are generally safe and successful, there are potential complications and risks associated with the procedure. These may include:  
Reviewed by Dr. L. Tomar, Senior Director & Unit Head, Orthopaedics & Joint Replacement.