



NCCN
GUIDELINES
FOR PATIENTS®

2025

Advanced-Stage Prostate Cancer



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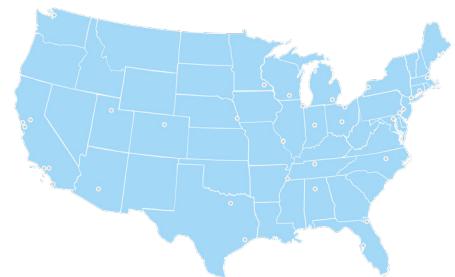


About the NCCN Guidelines for Patients®



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Cancer Network®

Did you know that top cancer centers across the United States work together to improve cancer care? This alliance of leading cancer centers is called the National Comprehensive Cancer Network® (NCCN®).



Cancer care is always changing. NCCN develops evidence-based cancer care recommendations used by health care providers worldwide. These frequently updated recommendations are the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®). The NCCN Guidelines for Patients plainly explain these expert recommendations for people with cancer and caregivers.

These NCCN Guidelines for Patients are based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Prostate Cancer, Version 2.2025 — April 16, 2025.

Learn how the NCCN Guidelines for Patients are developed

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About advanced-stage prostate cancer

- 5 What is prostate cancer?
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The prostate is a gland located deep inside the pelvis. Everyone with a prostate has a chance of getting prostate cancer. This chapter offers an overview of this common cancer.

What is prostate cancer?

Prostate cancer is a disease where cells in the prostate gland grow out of control.

The prostate is a gland located just below the bladder in the pelvis, deep inside the area of your body between your hip bones. The prostate is an important part of the male

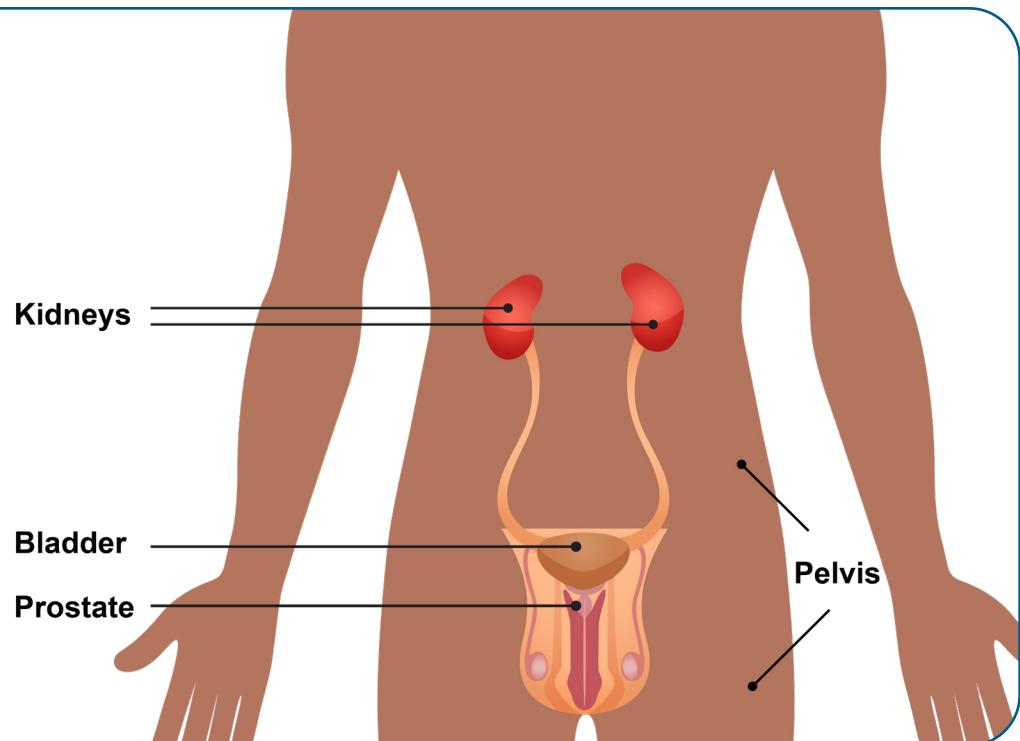
reproductive system. This system also includes the penis, seminal vesicles, and testicles.

Prostate cancer is one of the most common types of cancer. Cancer is what happens when something goes wrong with the natural cell process, which causes some cells to grow out of control.

Cancer cells don't behave like normal cells. Cancer cells develop genetic changes (mutations) that allow them to multiply and make many more cancer cells. The cancer cells crowd out and overwhelm normal cells. This can end up harming the body.

Cancer cells survive much longer than normal cells do. They replace normal cells and cause organs to stop working well. Cancer cells can also spread outside the prostate to other areas of the body.

The prostate gland is an important part of the male reproductive system. It's located in the pelvis just below the bladder and is typically about the size of a ping-pong ball.

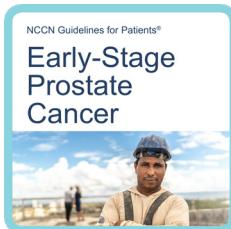


Prostate cancer is described as either early stage or advanced stage.

Early stage

Early-stage prostate cancer, also called localized prostate cancer, has not spread beyond the prostate. The cancer usually grows slowly and stays inside the prostate gland.

More information about early-stage prostate cancer can be found in the *NCCN Guidelines for Patients: Early-Stage Prostate Cancer* at [NCCN.org/patientguidelines](https://www.NCCN.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Advanced stage

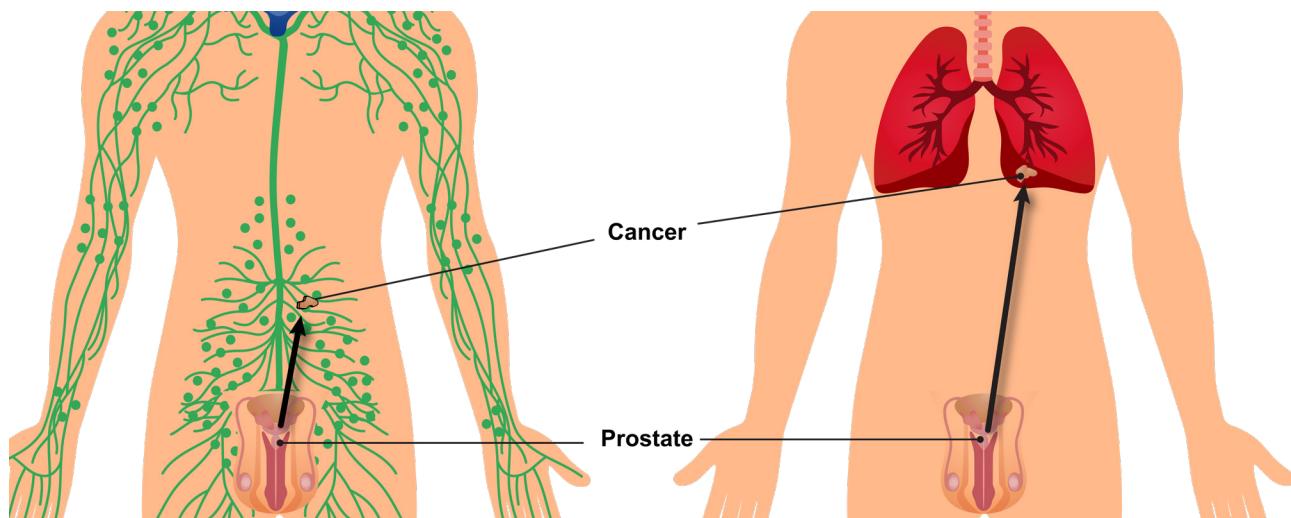
Advanced stage means that the cancer has spread beyond the prostate to other areas in the body. This spreading is called metastasis or metastatic cancer. Metastatic prostate cancer may spread to the lymph nodes, bones, liver, lungs, and other organs.

This book is all about advanced-stage prostate cancer.

- Cancer that grows from the prostate gland to nearby areas such as lymph nodes, but no farther, is called **regional prostate cancer**. (It's also called locally advanced prostate cancer. This book will call it regional prostate cancer to avoid confusion between localized and locally advanced.)

What is advanced-stage prostate cancer?

Advanced-stage prostate cancer grows outside the prostate and spreads to other areas in the body such as distant lymph nodes (bottom left), bones, or organs like the liver or lungs (bottom right). This is also called metastatic prostate cancer.



- Cancer that spreads beyond the prostate to other parts of the body is called **metastatic prostate cancer**.

How does prostate cancer spread? Cancer cells use the bloodstream like a highway to travel to distant areas in the body. Cancer cells can also spread through the lymphatic system. The lymphatic system is a network of organs and vessels that fights infections and circulates a clear fluid called lymph throughout the body.

A normal and important part of the lymphatic system are the lymph nodes. Lymph nodes are small disease-fighting clusters that filter lymph fluid to remove germs. Lymph vessels and nodes are found everywhere in the body.

Some patients have advanced-stage prostate cancer when they're first diagnosed. Others develop advanced-stage cancer after having treatment for early-stage cancer.

Can prostate cancer be cured?

Advanced-stage prostate cancer is usually a life-long disease. But treatment can slow down its growth, reduce symptoms, and help you live longer.

Recommended treatments for advanced-stage prostate cancer include hormone therapy, chemotherapy, targeted therapy, and others.

It's true that prostate cancer in the advanced stage can be fatal for some patients. But improved detection methods and better treatments continue to reduce the number of deaths from prostate cancer. Many people with

Many new tests and treatments are now available for advanced prostate cancer.

If possible, seek care or a second opinion from a medical center that specializes in prostate cancer.

advanced-stage prostate cancer continue to live with the cancer and, in the end, may die from something else.

What can you do to get the best care?

Advocate for yourself. You have an important role to play in your care. In fact, you're more likely to get the care you want by asking questions and making shared decisions with your care team.

The NCCN Guidelines for Patients will help you understand cancer care. With better understanding, you'll be more prepared to discuss your care with your team and share your concerns. Many people feel more satisfied when they play an active role in their care.

You may not know what to ask your care team. That's common. Each chapter in this book ends with an important section called *Questions to ask*. These suggested questions will help you get more information on all aspects of your care.

Take the next step and keep reading to learn what is the best care for you!

What's in this book?

This chapter provides only a brief overview of advanced-stage prostate cancer. Other chapters in this book explain:

- Symptoms and risk factors for prostate cancer
- Tests for diagnosing advanced-stage prostate cancer
- Different treatments and what they do (Hormone therapy and other therapies)
- Treatments for regional and metastatic prostate cancer
- Testing after treatment
- Treatments if cancer comes back
- Care beyond cancer treatment

Why you should read this book

Making decisions about cancer care can be stressful. You may need to make tough decisions under pressure about complex choices.

The NCCN Guidelines for Patients are trusted by patients and providers. They clearly explain current care recommendations made by respected experts in the field. Recommendations are based on the latest research and practices at leading cancer centers.

Cancer care is not the same for everyone. By following expert recommendations for your situation, you are more likely to improve your care and have better outcomes as a result. Use this book as your guide to find the information you need to make important decisions.

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Symptoms and risk factors

10 What are the symptoms of prostate cancer?

10 How did I get prostate cancer?

13 Key points

13 Questions to ask

People with prostate cancer often wonder why they developed it.

Cancer researchers don't know exactly what causes prostate cells to become cancerous, but certain factors can increase your risk. People with prostate cancer usually have one or more of these risk factors.

What are the symptoms of prostate cancer?

Prostate cancer often grows slowly and shows no symptoms for a long time. You don't have to have symptoms to have prostate cancer.

Symptoms, if they occur, may include:

- Difficulty urinating or emptying the bladder
- Urinating too frequently
- Blood in the urine or semen
- Burning or pain while urinating
- Unexplained weight loss
- Bone, hip, or back pain

It's important to know that prostate cancer has many of the same symptoms as a condition called enlarged prostate (also called benign prostatic hyperplasia, or BPH). An enlarged prostate can push against the bladder and compress the urethra. This slows the flow of

urine and can cause a feeling that you haven't fully emptied your bladder.

BPH is much more common than prostate cancer. It's difficult to tell the difference between the two conditions based on symptoms alone. But if you do have any symptoms, be sure to tell your health care providers. Some symptoms of BPH include having trouble urinating or difficulty holding in urine, pain or other sensation in your groin or pelvis, erectile dysfunction (difficulty getting an erection), or painful ejaculation.

How did I get prostate cancer?

Many people who develop prostate cancer wonder where it came from and how they got it. Cancer researchers don't know what causes prostate cells to grow out of control (become cancerous). The fact is, everyone with a prostate has a risk of getting prostate cancer.

Several factors are linked to a higher risk of prostate cancer. These are called risk factors. A risk factor is anything that increases your chance of getting cancer. Risk factors don't necessarily cause prostate cancer, but people with prostate cancer usually have one or more of these risk factors:

Age

The biggest risk factor for prostate cancer is age. Prostate cancer is diagnosed most often in those aged 65 years and above. Your chances of getting prostate cancer increase as you become older.

Where does the prostate fit in?

The prostate is a gland located in the pelvis—the area between your hips. The prostate is important for sexual reproduction.

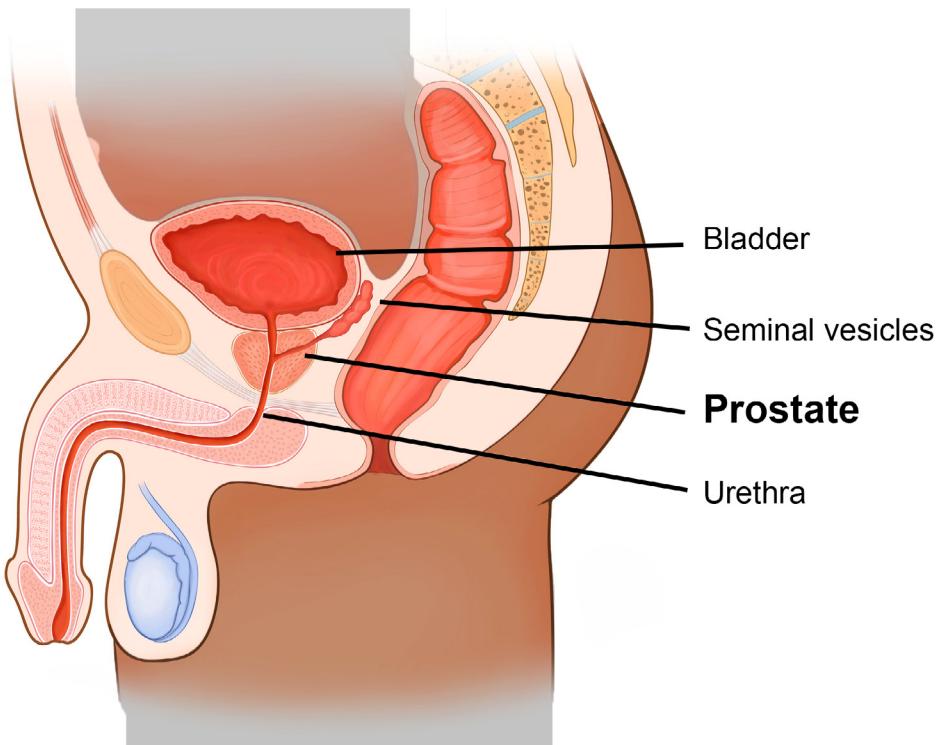
Prostate: A gland in the male reproductive system. A gland is an organ that makes fluids or chemicals the body needs. The prostate gland makes a fluid that nourishes and helps transmit sperm. The prostate also contains muscles that help propel semen through the urethra during ejaculation.

Semen: A fluid made up of liquids from the prostate and the seminal vesicles as well as sperm from the testicles. During ejaculation, semen is released from the body through the urethra and out through the penis.

Urethra: A tube that carries urine from the bladder and out of the body. The prostate surrounds the urethra just beneath the bladder.

Seminal vesicles: Two glands that make and store another part of the fluid that becomes semen. The seminal vesicles are located above the prostate and behind the bladder.

Bladder: An organ that holds urine.



Family history

Your family health history is information about the diseases and health conditions in your family. A family history reflects a pattern of certain diseases among family members. Having a close family member with prostate cancer (a sibling or parent) increases the chance of getting it yourself.

People with a family history of certain cancers (breast, ovarian, colon, pancreatic, and others) may also be at higher risk for prostate cancer.

Genetic factors

If cancer occurs often in your family, genetic testing can be done to find specific genetic changes known to be linked with prostate cancer and other cancers. For instance, having an inherited genetic change in the *BRCA2* gene increases your risk of getting prostate cancer.

Race

In the United States, Black males are more likely than white males to develop prostate cancer. Prostate cancer in Black males is also more likely to occur at an earlier age and be more aggressive and more advanced when diagnosed. Black males are also twice as likely to die from prostate cancer compared to white males.

Prostate cancer is diagnosed less often in Hispanic and Asian males than in Black and white males.

Several things contribute to these differences, such as barriers to accessing health care (including early detection screening), biological and genetic factors, and other causes. Researchers are trying to understand the

What does aggressive mean?

When health care professionals describe cancer as aggressive, they mean the cancer is likely to grow or spread more rapidly than average.

Aggressive can also be used to describe therapy that may be stronger or more intense than other treatment options.

reasons for these differences and what can be done to improve outcomes.

In light of these issues, Black males are encouraged to talk with their health care providers about getting screening tests earlier and perhaps more often than what's recommended for those at average risk.

Diet and lifestyle

No diet has been found to cause prostate cancer or to prevent it. However, eating food that's high in fat, such as meat and dairy products, has been linked with an increased risk of prostate cancer. Smoking and obesity also increase the risks of developing and dying from prostate cancer.

On the other hand, those who eat more fruits and vegetables have a lower risk of developing advanced prostate cancer. Maintaining a healthy body weight through diet and exercise may slow the growth of prostate cancer and lower your risk of dying from it.

Key points

- Everyone with a prostate is at risk for prostate cancer.
- Advanced-stage prostate cancer has spread outside the prostate to other areas in the body. This spreading is called metastasis.
- Advanced-stage prostate cancer is usually a life-long disease. Treatment can slow it down, reduce its symptoms, and help people live longer.
- Age is the leading risk factor for prostate cancer. As you age, your chances of developing prostate cancer increase.
- Having a close family member with prostate cancer means that you have a higher chance of getting it yourself.
- People with a family history of certain other cancers may also be at a higher risk for prostate cancer.

Questions to ask

- If I don't have any symptoms, do I need any treatment?
- Why do I have prostate cancer if I don't have any of the risk factors?
- Is my prostate cancer hereditary?
- How does having a relative with breast cancer increase my risk for prostate cancer?
- What are the chances that prostate cancer has spread to another part of my body?

“

**It's OK to have bad days, but don't let yourself stay there.
A positive attitude goes a long way.”**

3

Tests for prostate cancer

15 Common prostate tests

17 General health tests

18 Diagnostic tests

24 Tumor staging

24 What's next?

25 Key points

25 Questions to ask

Several tests are needed to diagnose prostate cancer and learn how advanced it is. The results of these tests will help your providers plan the best treatment for you.

Health care providers use a variety of tests to find prostate cancer and determine how advanced the cancer is.

Tests are used to plan treatment, check how well treatment is working, and monitor your health after treatment ends.

This chapter will help you know what tests you might have and what to expect during testing. Not every person with prostate cancer will receive every test listed here.

PSA testing

Prostate-specific antigen (PSA) is a protein made inside the prostate gland. If there's something wrong with the prostate, the prostate may make more PSA. An unusually high amount of PSA in the blood may be a sign of prostate cancer.

But a high PSA level doesn't automatically mean you have prostate cancer. Rather, it's a warning sign that you may need further testing.

Common prostate tests

Common prostate cancer tests are used to detect the possibility of prostate cancer in someone who's undiagnosed. They're also used to check and monitor prostate cancer in patients who have been diagnosed.

Two common tests are the prostate-specific antigen (PSA) test and the digital rectal exam.

PSA test

This is a blood test that measures the amount of PSA in your bloodstream. PSA is a protein made inside the prostate gland. Its job is to help semen transport sperm. All prostate cells, both normal cells and cancer cells, make PSA.

If there's something wrong with the prostate—like prostate cancer—the prostate may make more PSA. While most PSA goes into semen, a little bit ends up in the bloodstream, too.



An unusually high amount of PSA in the blood may be a sign of prostate cancer. Likewise, an increase in PSA after treatment may indicate that the treatment is losing effectiveness.

However, age and other factors—such as an enlarged prostate or a urinary tract infection—can also cause high levels of PSA. This means that a PSA test by itself can't provide a diagnosis of prostate cancer. That's why a PSA test is often paired with imaging or a digital rectal exam, or both, to decide whether you need a biopsy.

PSA level (also called total PSA) is measured in nanograms of PSA per milliliter (ng/mL) of blood.

Digital rectal exam

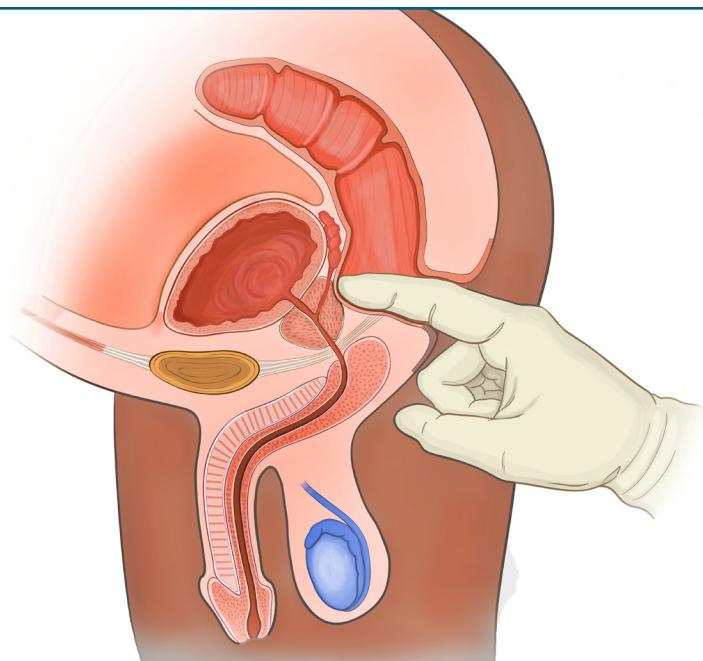
A digital rectal exam (also called a prostate exam) may be an awkward and unpleasant form of testing. But it's the simplest and most direct way to check the size and texture of your prostate.

For this test, the doctor will insert a gloved finger into your rectum to feel your prostate for any signs of cancer. An irregular or hardened part of the prostate could be a sign of a tumor.

Not all parts of the prostate can be felt during a digital rectal exam, though. So it's usually paired with a PSA test and other factors—your age, race, family history, and more—to determine whether you need further testing.

Digital rectal exam

A digital rectal exam is a procedure in which your doctor inserts a finger into your rectum to feel your prostate. An irregular or hardened part of the prostate could be a sign of a tumor. Not all parts of the prostate can be felt during this exam, though. So other tests, like PSA level and imaging, are used to get a more complete picture of your prostate health.



General health tests

Health history

Your care team needs to have all your health information. They'll ask you about any health problems and treatments you've had in your life. Be prepared to talk about any illness or injury you've had and when it happened. Also tell your care team about any symptoms you have.

Bring a list of your regular medications and any over-the-counter medicines, herbals, or supplements you take. Some of these (such as saw palmetto, St. John's wort, or finasteride [Propecia] for hair loss) can cause changes in your PSA level, so your provider needs to know if you're taking them.

Family history

Some cancers and other diseases can run in families. Your care team will ask about the health history of family members who are

blood relatives. This information is called a family history.

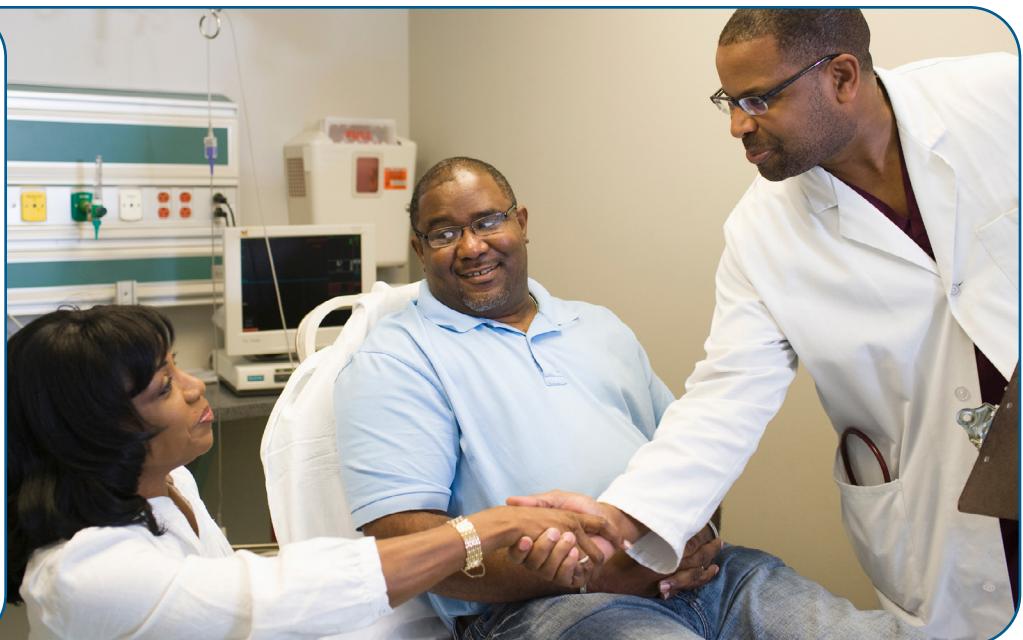
It's important to ask members from both sides of the family about all cancers, not just prostate cancer. Ask family members if any relatives had cancer, at what age they were diagnosed, and if they died from it.

Also ask family members about other health issues like heart disease, stroke, and diabetes. Share this information and any changes to your family history with your care team.

Symptoms and quality of life

Your provider will ask you a series of questions about what symptoms you may have (such as peeing frequently, difficulty peeing or pooping, or sexual problems). You'll also be asked how these symptoms affect your quality of life.

When you go for health care visits, bring someone with you to listen, ask questions, and write down the answers.



Quality of life refers to your overall satisfaction with your well-being and your ability to participate in regular activities. It's important to answer all these questions honestly and completely so your care team has a full and up-to-date assessment of how you're doing.

Blood and urine tests

For a blood test, a needle is inserted into a vein in your arm to remove a sample of blood. The sample is examined in a lab where cells, proteins, and other components in the blood are tested for signs of disease or other conditions.

If your PSA level is high, you may need additional blood or urine testing.

Diagnostic tests

Diagnostic tests are used to confirm you have cancer. They're also used to find out if the cancer is localized or advanced. Diagnostic tests can help plan treatment after you've been diagnosed and can detect whether the cancer is still growing or spreading after treatment.

Diagnostic tests include imaging scans, biopsies, and genetic tests.

Imaging tests

An imaging test takes pictures (images) of the insides of your body. The images can reveal cancer, including its size, location, and other features such as the size of the prostate itself. The images may show where the cancer started (primary tumor) and whether the cancer has spread (metastasized).



Who's on your care team?

Treating prostate cancer takes a team approach. Some members of your care team will be with you throughout your treatment, while others will be there for parts of it.

Your team should communicate and work together to bring the best knowledge from each specialty.

Lead members of your team should include prostate cancer specialists such as a urologist, radiation oncologist, and medical oncologist.

Other common team members include your primary care doctor, nurse, physical therapist, physician assistant, mental health care provider, nutritionist or dietitian, genetic counselor, pharmacist, patient navigator, social worker, sex therapist, and others.

After your scan, your images will be studied by a radiologist. A radiologist is an expert at reading imaging tests. The radiologist will send the results to your care team. This information helps to plan the next steps of your care. Your team will discuss the results with you. Be sure to ask any questions you may have.

Imaging can come before, during, or after a biopsy. Imaging may also be used after cancer treatment to see how well it worked and to check if the cancer comes back.

Imaging methods for prostate cancer include MRI, CT, PET, ultrasound, bone scan, or a combination of these.

MRI scan

A magnetic resonance imaging (MRI) scan uses radio waves and powerful magnets to provide a detailed view of the cancer within the prostate. It's also used to see if cancer has spread to nearby lymph nodes or to the bones in your pelvis.

MRI is frequently used before a biopsy to locate any suspicious areas in the prostate for the biopsy to target.

More commonly, it's used after diagnosis to learn whether the cancer has advanced outside the prostate or into the lymph nodes. MRI scans can help to plan treatment, and are also used after treatment to check whether the cancer has come back (recurrence).

Because an MRI uses magnets, you can't bring any metal objects (such as a phone, jewelry, wristwatch, or belt with a metal buckle) into the imaging room.

CT scan

A computed tomography (CT or CAT) scan takes many x-rays of your body from different angles. A computer combines all the x-ray pictures to make a series of cross-sectional images.

A CT scan is most often used after diagnosis to determine the extent of cancer in your body (your cancer stage).

PET scan

A positron emission tomography (PET) scan highlights cells in your body that may be cancerous. You may have a PET scan after you've been diagnosed to determine the extent of your cancer or to see if it has metastasized. PET imaging can also show how well treatment is working.

A PET scan requires injecting a radioactive substance called a tracer into your bloodstream. The tracer targets your cancer cells, which show up as bright spots on the scan.

Because PET uses a different imaging method, it's often combined with other types of imaging, such as CT or MRI, to provide an even more detailed image. These combined methods are called PET/CT and PET/MRI scans.

PSMA-PET

PET scans use different types of tracers. The most common tracer in prostate cancer locates a protein called prostate-specific membrane antigen (PSMA) on the surface of prostate cancer cells. Prostate cancer cells can make a lot of PSMA, so tracers that target this specific protein were developed.

Not everyone with prostate cancer will need a PSMA-PET scan. It's mostly used to monitor prostate cancer for recurrence. It's also used to determine whether targeted therapy can treat certain cases of metastatic prostate cancer.

Bone scan

A bone scan can detect whether cancer has spread to your bones. A bone scan may be used if you have bone pain, have a high risk for bone metastasis, or have changes in certain test results. Bone scans may also be used to monitor how well treatment is working.

A bone scan uses a radioactive tracer to make pictures of the inside of bones. Before the pictures are taken, the tracer is injected into your bloodstream.

A special camera will take pictures of the tracer in your bones. Areas of bone damage absorb more tracer than healthy bone. Bone damage can be caused by cancer, cancer treatment, or other health problems. These damaged areas show up as bright spots in the scans.

Ultrasound

Ultrasound imaging is commonly used to help guide a biopsy of the prostate. This is called transrectal ultrasound (TRUS) imaging.

During a biopsy, an ultrasound probe is inserted into the rectum. The probe is about the size of a finger. The device uses high-energy sound waves to create a view of the prostate from inside the body.

These images allow the surgeon to remove a small sample of the prostate without having to open up your abdomen.

At some centers, your saved MRI images can be combined with real-time ultrasound to provide a more detailed view for a more precise biopsy. This is called MRI-TRUS fusion.

PET imaging

A positron emission tomography (PET) scan highlights cells in your body that may be cancerous. A PET scan is used after you've been diagnosed to determine the extent of your cancer or to see if it has metastasized. PET imaging can also show how well treatment is working.



Biopsy

A biopsy is a procedure in which a sample of cells, fluid, or tissue is removed from your body and tested for cancer. It's the main way to confirm whether you have cancer.

A biopsy sample may be taken from the prostate, from the metastasis (an area of cancer that has spread outside of the prostate), or sometimes from both.

Biopsy of the prostate

For this procedure, you'll lie on your side with your knees curled up or you'll lie on your back with your legs raised. You'll be given anesthesia to numb the pain or to make you fall asleep.

Your doctor or other provider will insert a lubricated probe into your rectum. The probe provides images that allow your doctor to see your prostate inside your body.

A hollow needle will then be inserted either through the perineum (the skin between the anus and scrotum) or through the rectum and into the prostate gland.

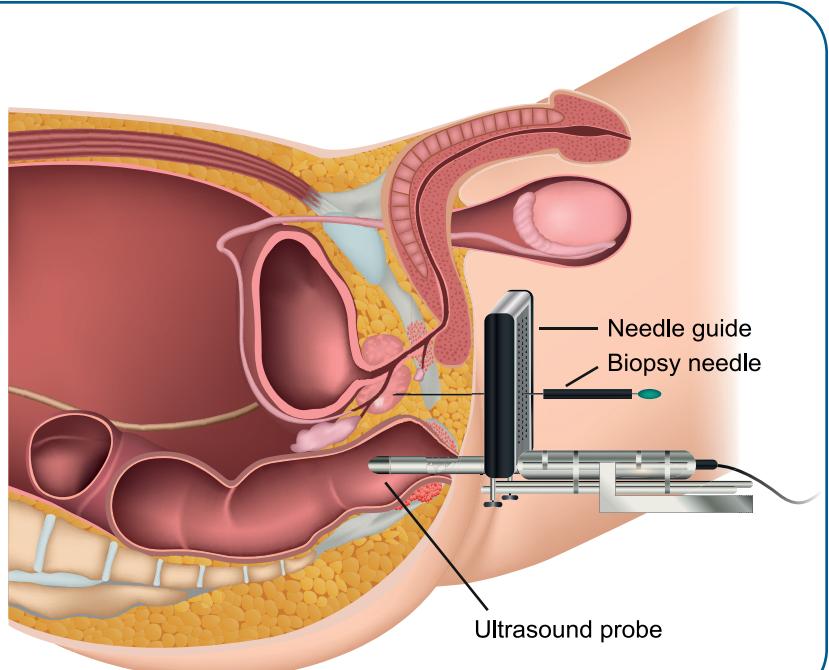
When the needle is removed, it will pull out a small sample of prostate tissue called a core. A core sample is only about as wide as a toothpick and about the length of a raisin.

Your doctor will usually take at least 12 random core samples from different parts of the prostate and/or several targeted samples from suspicious areas of the prostate identified on the MRI. Checking different areas provides a more complete evaluation of cancer throughout the gland.

After the biopsy samples are removed, a specialist called a pathologist will examine the samples under a microscope and test them for cancer cells. The pathologist will find out how many of the core samples contain cancer and

Biopsy of the prostate

A biopsy removes a sample of tissue that is tested for cancer. Shown here is a transperineal biopsy, in which a needle is inserted through the perineum and into the prostate. An ultrasound probe, which goes into the rectum, helps the doctor guide the needle into the prostate. MRI scans of your prostate may be combined with the ultrasound image to provide a highly accurate picture of the cancer.



will also measure the percentage of cancer in each core.

With this information, the pathologist can estimate the amount of cancer in the prostate and how aggressive it may be. Also, by knowing where each core sample was taken, the pathologist can tell if the cancer is concentrated in a certain section of the prostate.

The pathologist will put these results into a report. Ask your provider or another member of your care team to review the pathology report with you.

Sometimes, a blood sample is taken, called a liquid biopsy, to look for cancer cells in the blood.

Having a biopsy may cause complications. A complication is an unwanted and unplanned result from a procedure. Complications may include infection, bleeding from the rectum, or blood in the urine, stool, or semen. These usually go away after a few days. Blood in the semen may take longer to go away.

It's also important to know that a biopsy won't cause prostate cancer to spread or worsen.

Biopsy of the metastasis

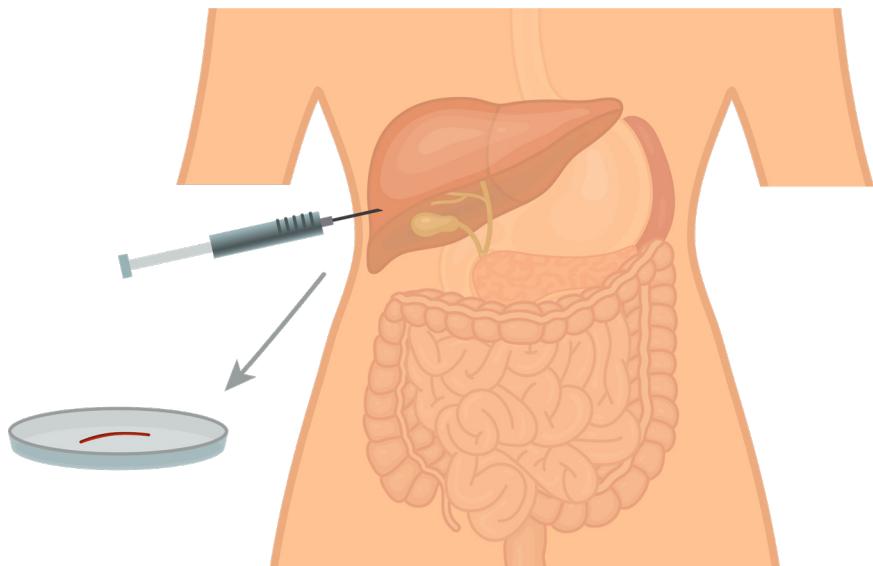
A biopsy of a metastasis can be taken from tumor tissue in a lymph node, an internal organ, or a bone. This biopsy is performed in a similar way to a prostate biopsy—using a hollow needle to remove cores of tissue.

Biomarker testing

A biomarker is something found in your body that can be measured to assess your health. In cancer care, a biomarker can be used to target cancer. Certain mutations (changes) in the tumor's DNA are biomarkers.

Biopsy of the metastasis

Prostate cancer may metastasize to lymph nodes, bones, or internal organs. A biopsy of a metastasis (as seen here, taken from the liver) uses a hollow needle to remove a small core of tissue. The tissue is tested in a lab to look for cancer cells.



Biomarker testing looks for such changes. When possible, biomarker testing is performed on a piece of tumor tissue removed during a biopsy or surgery. If this isn't an option, a sample of your blood can be tested instead.

Importantly, biomarker testing can help guide treatment. It can find out whether someone's cancer has a mutation that can be treated with therapy that targets that specific mutation.

Biomarker testing can also identify whether the cancer is at a lower or higher risk of growing and spreading. If the cancer is low risk, you may be able to put off treatment, which also avoids treatment-related complications and side effects. If the cancer is high risk, your provider may recommend starting treatment soon.

Biomarker-targeted therapy is discussed in *Chapter 4: Prostate cancer treatments*.

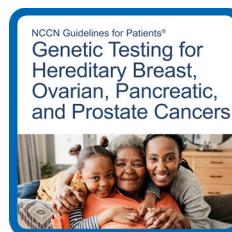
Biomarker testing is different from genetic testing. Biomarker testing looks for somatic mutations. Somatic (or acquired) mutations happened in your lifetime and can't be passed down in families. Genetic testing is used to find germline (inherited) mutations, which are passed from parents to children.

Genetic testing for inherited risk

Most prostate cancers aren't hereditary. But if you have a family history of certain cancers or you have higher-risk or advanced prostate cancer, your provider might suggest genetic testing to find out if you have a germline (inherited) cancer risk.

Your provider can talk to you about testing or refer you to a genetic counselor. A genetic counselor is an expert who has special training in genetic diseases. A genetic counselor can help you decide whether you're a good candidate for genetic testing, including whether your risk is high enough to make genetic testing worthwhile. A genetic counselor can also interpret the results of these tests for you.

For information on genetic testing for hereditary prostate cancer, see *NCCN Guidelines for Patients: Genetic Testing for Hereditary Breast, Ovarian, Pancreatic, and Prostate Cancers* at [NCCN.org/patientguidelines](https://www.NCCN.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



Tumor staging

Tumors come in different shapes and sizes. So it's not easy to compare one tumor to another. To solve this problem, cancer experts created the tumor, node, metastasis (TNM) system to describe any prostate tumor. It's based on the results of your imaging scans, biopsies, and blood tests.

In this system, the letters T, N, and M stand for different areas of cancer growth:

- **T (tumor)** – Describes the size of the main (primary) tumor and if it has grown outside the prostate
- **N (node)** – Identifies whether cancer has spread to lymph nodes
- **M (metastasis)** – Indicates if cancer has spread (metastasized) to parts of the body outside of the pelvis

Your provider will assign a number to each letter, based on your test results. The larger the tumor or the more the cancer has spread, the higher the number. These scores are combined to assign a “stage” to the cancer.

Staging is a way to describe how much cancer is in your body and how far it has spread. It's done when you're first diagnosed. Knowing your stage is important for predicting the course of your disease and for making a treatment plan.

Measurements and assessments not covered in this book include PSA density, Gleason score, Grade Group, and risk groups. To learn more about these, see the *NCCN Guidelines for Patients: Early-Stage Prostate Cancer*, which can be found at [NCCN.org/patientguidelines](https://www.nccn.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app.



How to read a TNM score

Let's say your prostate cancer is given a TNM score of T4, N1, M1. This score means that the tumor has grown outside the prostate gland (T4) and has spread to nearby lymph nodes (N1) and to one or more distant parts of the body (M1).

Why know your TNM score? For one, it lets you know the extent of your cancer. It also helps predict your risk for the cancer to spread. Your level of risk helps indicate the most appropriate treatment for you.

What's next?

After you've been tested and diagnosed with prostate cancer, your care team will work with you to develop a plan for treatment.

The next chapter describes the different treatment options for advanced-stage prostate cancer. After that chapter, you'll read about which of those treatments may be right for you and your particular type of cancer.

Key points

- Tests are used to plan treatment and check how well treatment is working.
- A high or rising amount of PSA in the bloodstream may be a sign of prostate cancer.
- Imaging tests are used to see where the cancer has spread beyond the prostate. Imaging also shows the size and location of the cancer.
- A biopsy is a procedure that removes samples of cells or tissue, which are tested for cancer.
- Biomarker testing looks for specific changes that can be used to identify characteristics of cancer. Finding these biomarkers can lead to targeted treatment.
- A genetic test is used to find out if you have an inherited risk for cancer. You can talk to your doctor about germline testing or ask to be referred to a genetic counselor.

Questions to ask

- What tests will I have? How do I prepare for testing?
- Do the tests have any risks?
- Will any of the tests hurt?
- What are the advantages and disadvantages of having genetic testing?
- How soon will I know my test results and who will explain them to me?

4

Prostate cancer treatments

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There's more than one treatment for advanced prostate cancer.

This chapter describes the many treatment options. Talk with your care team about which treatment might be best for you.

Prostate cancer is a complex disease with many treatment options. Recommended treatments for advanced-stage prostate cancer include hormone therapy as well as non-hormone therapies like chemotherapy, immunotherapy, targeted therapy, and radiation therapy.

Often, hormone therapy is combined with one or more other therapies. Combining therapies can be more effective than using either therapy alone.

Hormone therapy

Hormone therapy is a systemic (whole-body) treatment that adds, blocks, or removes hormones. A hormone is a natural chemical made by a gland in the body. Its job is to activate cells or organs.

Male hormones are called androgens. The main androgen is testosterone. Most of the testosterone in the body is made by the testicles. Testosterone helps produce sperm, among other functions.

But testosterone also helps prostate cancer grow. A type of hormone therapy called androgen deprivation therapy (ADT) can stop

your body from making testosterone or block cancer cells from using testosterone. This can shrink the tumor or slow tumor growth for a while.

Hormone therapies for prostate cancer include luteinizing hormone-releasing hormone (LHRH) agonists and LHRH antagonists, both of which cause the testicles to stop making testosterone.

Most LHRH agonists and LHRH antagonists are injections. These may be given monthly, or 2, 3, or 4 times a year. Relugolix (Orgovyx) is an LHRH antagonist that comes as a tablet that's taken once a day. Anti-androgens and androgen synthesis inhibitors are available as pills and taken 1 to 3 times a day, depending on the medication. **See Guide 1.**

You might hear the term “castration” used when describing prostate cancer or its treatment. This term describes a drastic reduction of testosterone. Castration can be done with hormone-lowering medication or by surgical removal of one or both testicles (orchiectomy).

Although orchiectomy is a surgical procedure, it's still considered hormone therapy because it removes the primary source of testosterone: the testicles. While drug hormone therapy can be reversed when the medication is stopped, orchiectomy is permanent and can't be reversed.

Surgical removal of the testicles is much less common these days because systemic hormone therapy is often just as effective at blocking testosterone. Still, some patients prefer this one-time procedure over daily medications or periodic injections.

Newer hormone therapies

Hormone therapy is the main treatment for advanced-stage prostate cancer. Therapies that have been used for decades (such as bicalutamide, flutamide, and nilutamide) are sometimes still used for treating prostate cancer.

However, newer hormone therapies are better at delaying the spread of cancer and extending life. These newer drugs include abiraterone, apalutamide, darolutamide, and enzalutamide. You may hear your treatment team refer to these as novel, advanced, or next-generation hormone therapies.

Side effects of hormone therapy

Hormone therapy can have significant side effects. Many factors affect your risk for side effects including your age, your health before treatment, how long or often you have treatment, and other things.

In general, the longer you're on hormone therapy, the greater your risk for side effects. These can include tiredness (fatigue), hot flashes, mood changes, weight gain, changes in penis length and testicle size, tenderness and growth of your breasts, and loss of muscle mass.

Guide 1

Hormone therapy drugs for advanced-stage prostate cancer

Anti-androgens

block receptors on prostate cancer cells from receiving testosterone.

- Apalutamide (Erleada)
- Bicalutamide (Casodex)
- Darolutamide (Nubeqa)
- Enzalutamide (Xtandi)
- Flutamide (Eulexin)
- Nilutamide (Nilandron)

LHRH agonists

prevent the release of luteinizing hormone-releasing hormone (LHRH), which causes the testicles to stop making testosterone.

- Goserelin (Zoladex)
- Leuprolide (Lupron Depot, Eligard)
- Triptorelin (Trelstar)

LHRH antagonists

block or stop the pituitary gland (located in the brain) from making LHRH. This causes the testicles to stop making testosterone.

- Degarelix (Firmagon)
- Relugolix (Orgovyx)

Androgen synthesis inhibitors

block androgen production.

- Abiraterone (Zytiga, Yonsa)
- Ketoconazole (Nizoral)

Thinning and weakening of your bones (osteoporosis) and bone fractures can also happen. When you start ADT, you'll have a test to measure your bone density. If your bone density is low, your care team can recommend medications to strengthen your bones. Taking daily calcium and vitamin D can also help keep your bones strong while on ADT.

Hormone therapy also increases the risk for diabetes and cardiovascular disease. If you already have either of these conditions, hormone therapy can cause them to get worse. Hormone therapy may increase the risk of death from heart issues. Be sure to talk to your care team about your personal risk.

LHRH agonists can cause a surge in testosterone for a few weeks before dropping to an undetectable level. This increase is called a testosterone flare. A testosterone flare can cause bone pain and urinary problems. But these symptoms will go away after the first few weeks of treatment. You might be given an anti-androgen medicine to prevent testosterone flare.

The sexual side effects of hormone therapy can be a significant cause of stress. Hormone therapy may reduce your desire for sex and cause erectile dysfunction.

Erectile dysfunction means having difficulty or being unable to have an erection of the penis. Erectile dysfunction medicines (such as Viagra and Cialis) aren't as effective for those on hormone therapy. These drugs don't restore the loss of sexual desire caused by lower androgen levels.

However, some treatments that may improve erectile function include injections of



TIP

Regular exercise can lessen the symptoms and side effects of hormone therapy, including:

- weight gain
- fatigue
- loss of bone and muscle mass

Physical activity can also improve your general health and make you feel better. Ask your care team to recommend an exercise program for you.

medication into the penis, vacuum constriction devices (“penis pump”), or surgical implants that produce an erection.

Your sex drive and your ability to have an erection may gradually return after stopping hormone therapy, though the process may take up to a year or more. Some patients never regain full ability to have an erection.

Erectile dysfunction is a leading cause of depression in patients with prostate cancer. Ask your care team about therapy or counseling if you're having problems due to erectile dysfunction or symptoms of depression. Help is available.

Talk to your care team about how to manage the side effects of hormone therapy. They have ways to lessen or soothe most of these

problems. Bones can be strengthened with medicine as well as with physical activity. Exercise and eating a healthy diet can also help with fatigue, mood, and weight gain.

Loss of sex drive, erectile dysfunction, and other sexual side effects usually go away after you stop hormone therapy. In the meantime, consider talking to your partner and/or a therapist to help you deal with any problems you're having. You're not alone—emotional support is an important part of cancer care.

Hormone therapy resistance

Hormone therapy can be very effective at shrinking or slowing the growth of your prostate cancer. But for people with metastatic prostate cancer, hormone therapy can lose this effect over time, even when their testosterone is at a very low level.

Why? Because the cancer eventually learns how to survive without using much testosterone, which makes it unaffected by hormone therapy. The cancer can “resist” the hormone therapy. This is called hormone-resistant prostate cancer (also called castration-resistant prostate cancer).

It's important to know that prostate cancer that's resistant to hormone therapy is still treatable. So most people with hormone-resistant prostate cancer stay on ADT to keep their testosterone at a low level.

Other hormone-reducing drugs are also still used. These hormone therapies are often combined with non-hormone treatments like chemotherapy, targeted therapy, or immunotherapy to help get better results.



Now more than ever, those living with cancer are living better, longer lives thanks to the power of research and advancements in treatment.”

Non-hormone therapy

Hormone therapy may be the first treatment recommended for advanced prostate cancer, but it's not the only one. Other systemic (whole-body) treatments that don't use hormones can also slow cancer growth, prevent cancer symptoms, and prolong life.

If you're given non-hormone therapy, you'll also stay on ADT to make sure your testosterone remains at the lowest possible level. **See Guide 2.**

Chemotherapy

Chemotherapy damages rapidly dividing cells throughout the body. Cancer cells divide and multiply rapidly, which makes them a good target for chemotherapy.

But chemotherapy can harm healthy cells, too. That's how it can cause side effects. Because chemotherapy can be a tough treatment to go through, it's recommended only for those who are able to physically tolerate it.

Despite the side effects, it can help people with metastatic prostate cancer live significantly longer.

Chemotherapy for prostate cancer is a liquid medicine given by intravenous infusion. This means that it's slowly injected into a vein for up to an hour. It's given every 3 weeks for a total

of 6 to 10 times (cycles), along with a daily steroid.

Docetaxel

Docetaxel (Taxotere) is the chemotherapy medicine used most often to treat patients with advanced prostate cancer. Although docetaxel can't cure prostate cancer, it can help people

Guide 2

Non-hormone systemic therapies for advanced prostate cancer

Type of therapy	Brand name	Generic name	Drug form
Chemotherapies	Taxotere	Docetaxel	Infusion into a vein
	Jevtana	Cabazitaxel	
	Paraplatin	Carboplatin	
	Platinol	Cisplatin	
	Novantrone	Mitoxantrone	
Immunotherapies	Provenge	Sipuleucel-T	Infusion into a vein
	Keytruda	Pembrolizumab	
Biomarker-targeted therapies	Rubraca	Rucaparib	Tablet
	Lynparza	Olaparib (plus abiraterone)	
	Akeega	Niraparib/abiraterone	
	Talzenna	Talazoparib (plus enzalutamide)	
Radiopharmaceuticals	Pluvicto	Lutetium-177	Infusion into a vein
	Xofigo	Radium-223	
Bone-targeted therapies	Prolia, Xgeva	Denosumab	Injection
	Zometa	Zoledronic acid	
	Fosamax	Alendronate	

live longer as well as reduce their pain and other symptoms. Docetaxel is an option for some who are taking ADT for the first time. Docetaxel is also used to treat metastases after ADT fails to stop cancer growth.

Cabazitaxel

Cabazitaxel (Jevtana) is a chemotherapy option if docetaxel isn't effective. Cabazitaxel can't cure prostate cancer, but it can help people live longer and improve pain and other symptoms.

Carboplatin and cisplatin

Carboplatin and cisplatin are chemotherapy drugs made from platinum. These are sometimes used for patients with very advanced or aggressive cancer. Usually, either carboplatin or cisplatin is combined with another chemotherapy medicine such as cabazitaxel or docetaxel.

Mitoxantrone

Mitoxantrone (Novantrone) is used to relieve pain and decrease the need for pain medications. It's an option if you aren't able to tolerate other therapies.

Immunotherapy

The immune system is the body's natural defense against infection and disease. Immunotherapy boosts the ability of your immune system to find and destroy cancer cells. Immunotherapy is usually given by itself for treating prostate cancer.

Immunotherapy drugs include sipuleucel-T and pembrolizumab.

Sipuleucel-T

Sipuleucel-T (Provenge) is intended for those with hormone-resistant metastatic prostate cancer who have few or no symptoms.

This drug is known as a "cancer vaccine." First, immune cells are collected from your body and sent to a lab. The immune cells are then activated to identify and target prostate cancer cells. Lastly, the immune cells are injected back into your body where they attack cancer cells.

Pembrolizumab

Pembrolizumab (Keytruda) is a type of immunotherapy called an immune checkpoint inhibitor.

For a small percentage of people whose prostate cancer is due to specific genetic mutations, pembrolizumab can restore the immune system's ability to detect and destroy cancer cells.

Biomarker-targeted therapy

This treatment targets specific genetic changes—germline (inherited) or somatic (acquired) mutations—that are found through biomarker testing.

Biomarker-targeted therapies are useful only in patients whose prostate cancer is due to such genetic changes. This includes mutations in *BRCA1*, *BRCA2*, and other genes that repair damaged DNA. About 1 in 4 patients with metastatic hormone-resistant prostate cancer have this kind of genetic mutation.

Biomarker-targeted therapies (also known as PARP inhibitors) for advanced prostate cancer include rucaparib (Rubraca), olaparib

(Lynparza), niraparib and abiraterone (Akeega), and talazoparib (Talzenna).

Because genetic mutations differ between people, a treatment that helps one person may not help another.

Radiopharmaceuticals

A radiopharmaceutical is a medicine that contains a radioactive substance. This substance releases radiation to kill cancer cells. The radiation doesn't travel far from cancer cells so nearby healthy tissue remains mostly unharmed.

Radiopharmaceuticals are injected into a vein (intravenous injection). Because radiopharmaceuticals leave the body through the gut, common side effects are nausea, diarrhea, and vomiting.

Radiopharmaceutical drugs include lutetium-177 and radium-223:

Lutetium-177

Lutetium-177 (Pluvicto) is a targeted radiopharmaceutical that looks for a particular protein (prostate-specific membrane antigen, PSMA) on the surface of prostate cancer cells anywhere in the body. When the drug finds PSMA, it attaches itself to the cancer cells and implants a small amount of its radioactive substance in them. The cancer cells absorb the radiation from the drug and die.

Lutetium-177 is an intravenous infusion given once every 6 weeks for up to 6 doses. You'll need a PSMA-PET scan to find out if this treatment may work for you.

Radium-223

Radium-223 (Xofigo) is used to treat prostate cancer that has metastasized in bone but hasn't spread to other organs.

Radium-223 is an injection given once a month for 6 months. It collects in bones and gives off radiation that can kill prostate cancer cells there. You'll need to have blood tests before each dose. A bone-targeting therapy, either denosumab or zoledronic acid, is often given with radium-223.

Radium-223 is also used to reduce pain from bone metastases.

Radiation therapy

Radiation therapy uses high-energy rays to kill cancer cells and shrink tumors. Radiation therapy is given in regular doses over a certain period of time.

External beam radiation therapy (EBRT) is the type of radiation used for prostate cancer. EBRT uses a machine that aims radiation precisely at cancer inside the body while trying to avoid healthy tissue. This technique delivers higher doses of radiation more safely.

For metastatic prostate cancer, radiation therapy is mainly used for cancer that returns after initial treatment (recurrence). Radiation therapy is also used as palliative treatment to relieve the pain of bone metastases.

Some of the possible side effects of radiation therapy are urinary and bowel problems, erectile dysfunction, and fatigue.

Clinical trials

Another way to receive treatment for cancer is through a clinical trial.

A clinical trial is a type of medical research study. After being developed and tested in a lab, potential new ways of fighting cancer need to be studied in people.

If found to be safe and effective in a clinical trial, a drug, device, or treatment approach may be approved by the U.S. Food and Drug Administration (FDA).

Everyone with cancer should carefully consider all of the treatment options available for their cancer type, including standard treatments and clinical trials. Talk to your doctor about whether a clinical trial may make sense for you.

Phases

Most cancer clinical trials focus on treatment and are done in phases.

- **Phase 1 trials** study the safety and side effects of an investigational drug or treatment approach.
- **Phase 2 trials** study how well the drug or approach works against a specific type of cancer.
- **Phase 3 trials** test the drug or approach against a standard treatment. If the results are good, it may be approved by the FDA.
- **Phase 4 trials** study the safety and benefit of an FDA-approved treatment.

Everyone with cancer can ask for and should be given information about clinical trials.

Knowing all the options means not missing out on clinical trial opportunities for promising new treatments.



“

Without clinical trials, our treatment wouldn't change. It would always remain the same. Some people refer to clinical trials as receiving tomorrow's best treatment today.”

Who can enroll?

It depends on the clinical trial's rules, called eligibility criteria. The rules may be about age, cancer type and stage, treatment history, or general health. They ensure that participants are alike in specific ways and that the trial is as safe as possible for the participants.

Informed consent

Clinical trials are managed by a research team. This group of experts will review the study with you in detail, including its purpose and the risks and benefits of joining. All of this information is also provided in an informed consent form. Read the form carefully and ask questions before signing it. Take time to discuss it with people you trust. Keep in mind that you can leave and seek treatment outside of the clinical trial at any time.

Will I get a placebo?

Placebos (inactive versions of real medicines) are almost never used alone in cancer clinical trials. It is common to receive either a placebo with a standard treatment, or a new drug with a standard treatment. You will be informed, verbally and in writing, if a placebo is part of a clinical trial before you enroll.



Finding a clinical trial

In the United States

NCCN Cancer Centers
NCCN.org/cancercenters

The National Cancer Institute (NCI)
cancer.gov/about-cancer/treatment/clinical-trials/search

Worldwide

The U.S. National Library of Medicine (NLM)
clinicaltrials.gov/

Need help finding a clinical trial?

NCI's Cancer Information Service (CIS)
1.800.4.CANCER (1.800.422.6237)
cancer.gov/contact

Are clinical trials free?

There is no fee to enroll in a clinical trial. The study sponsor pays for research-related costs, including the study drug. But you may need to pay for other services, like transportation or childcare, due to extra appointments. During the trial, you will continue to receive standard cancer care. This care is often covered by insurance.

Supportive care

Supportive care (also called palliative care) treats cancer symptoms, the side effects of cancer treatment, and other related health issues.

Supportive care is available at any stage of cancer, not just at the end of life. In fact, people who start supportive care when they begin treatment tend to have better quality of life and potentially improved outcomes.

Bone-targeted therapy

Supportive care may be especially useful for patients with bone metastases. Prostate cancer that metastasizes to bones can cause severe pain, fractures (breaks) in bones, bone loss (osteoporosis), and squeezing (compression) of the spinal cord.

Some treatments for prostate cancer, like hormone therapy, can also cause osteoporosis and increase your risk of fractures.

Medicines that target bones can help to relieve bone pain and reduce the risk of bone problems. Some medicines work by slowing or stopping bone breakdown, while others help increase bone thickness. Drugs include Prolia (denosumab), Xgeva (denosumab), Zometa (zoledronic acid), and Fosamax (alendronate).

For more information, see *Chapter 7: Supportive care and other assistance*.

What's next?

This chapter described the available treatment options for advanced-stage prostate cancer, which includes both regional and metastatic prostate cancer.

If you've been diagnosed with regional prostate cancer, turn to the next chapter to read about the typical therapies included in your treatment plan.

If you've been diagnosed with metastatic prostate cancer, go to *Chapter 6: Metastatic prostate cancer treatment* to read about the common (and uncommon) treatment options for this advanced-stage cancer.



What is shared decision-making?

Some people with cancer want their health care providers to just tell them which treatment to have. Doctors, nurses, and other providers are the experts, right? While it's true that your treatment team has lots of experience and knowledge, you're also an expert—you're the expert on you.

It's a good idea for your team to share the responsibility of your treatment with you. And it's a good idea for you to fully participate in making decisions about your care.

In shared decision-making, you and your care team share information, discuss the options, and agree on a treatment plan.

Here's what your treatment team should share with you:

- An explanation of the likely benefits and potential harms of each treatment option.
- The likelihood of cure, recurrence, progression, and possible mortality with each treatment option.

- The side effects of each treatment option along with their impact on quality of life, including sexual, urinary, and bowel function.

And here's what you should share with your treatment team:

- Your preferences and feelings about treatment, side effects, risks, and quality of life. These should be key parts of your treatment plan.

If the provider who's leading your treatment team doesn't talk with you about shared decision-making, feel free to speak up and ask about it.

Key points

- Testosterone helps prostate cancer grow.
- Hormone therapy treats prostate cancer by stopping testosterone from being made or by blocking cancer cells from using testosterone.
- Hormone therapy can eventually lose its effectiveness against prostate cancer. This becomes hormone-resistant prostate cancer.
- Hormone therapy is often combined with one or more other therapies, which can be more effective together at slowing or shrinking advanced prostate cancer.
- Other treatments used with hormone therapy for advanced prostate cancer include chemotherapy, immunotherapy, target therapy, radiopharmaceuticals, and radiation therapy.
- Hormone therapy can cause a number of possible side effects. But treatment and therapy are available.
- Supportive care relieves the symptoms caused by cancer and the side effects caused by its treatment. Everyone with advanced-stage prostate cancer should be offered supportive care.

Questions to ask

- Does any option offer a cure or long-term cancer control?
- How do my age, race, overall health, and other factors affect my treatment options?
- What symptoms and side effects should I report right away, and who should I contact?
- Will treatment affect my ability to urinate? Or have an erection?
- Will you stop or change my treatment if there are serious side effects?

5

Regional prostate cancer treatment

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Regional prostate cancer has grown outside the prostate gland to nearby areas like lymph nodes, but not any farther. It usually requires both local and systemic (whole-body) treatment.

About regional prostate cancer

Regional prostate cancer is cancer that has spread from the prostate gland to neighboring tissue, such as nearby lymph nodes, the bladder, or the rectum. But it hasn't spread any farther. (To read about prostate cancer that has spread to distant lymph nodes, bones, or organs, turn to *Chapter 6: Metastatic prostate cancer treatment*.) Regional prostate cancer is also sometimes called locally advanced prostate cancer.

Treatment

The key concern about prostate cancer that spreads just outside the prostate is that it could continue to spread farther (metastasize) to other areas of the body. As a result, treatment for regional prostate cancer is more aggressive than treatment for early-stage prostate cancer.

Treatment takes aim at cancer in the prostate itself as well as cancer outside the prostate. So it often includes both local therapy (radiation therapy or prostate surgery) and systemic therapy (hormone therapy).

Treatment options are also based on life expectancy and symptoms. The longer the life expectancy and the more symptoms, the more aggressive the treatment is. **See Guide 3.**

Life expectancy

Life expectancy is the average lifespan of a person. It's measured in years. An estimate of your life expectancy may be a key factor in deciding which tests and treatments you'll need.

It's important to know that life expectancy—when used for cancer care—is an estimate based on large numbers of people. That means life expectancy can be applied to a certain population or age range, but it's not as easy to make a precise estimate of the lifespan of an individual person.

Life expectancy: More than 5 years or you have symptoms

If your life expectancy estimate is more than 5 years or you have symptoms, treatment options include:

Radiation and hormone therapy

External beam radiation therapy (EBRT) along with long-term (2 years) hormone therapy plus abiraterone (Zytiga, an androgen inhibitor) is the preferred initial treatment for patients who have regional prostate cancer and a longer life expectancy or symptoms. Preferred treatments have the most evidence they work better and may be safer than other therapies.

EBRT treats the prostate as well as cancerous lymph nodes, while long-term hormone therapy lowers testosterone to a minimal level to prevent the cancer from getting worse.

Another option for initial treatment is radiation therapy plus long-term (2 to 3 years) hormone therapy without the addition of abiraterone. This may be an option for those who can't take abiraterone due to other health conditions.

Hormone therapy with or without abiraterone

Androgen deprivation therapy (ADT) on its own is an option for patients with regional prostate cancer who have other significant or life-threatening health problems.

Abiraterone can be added to ADT, which may help patients live longer although it may come with more side effects. You'll take a steroid to reduce these effects.

Prostate surgery

Prostatectomy means removing the prostate gland by surgery. A radical prostatectomy removes not only the entire prostate but also the surrounding tissue and seminal vesicles. A pelvic lymph node dissection (PLND) is an operation to remove the nearby lymph nodes. A radical prostatectomy with PLND is a treatment option only in certain cases of regional prostate cancer. It's used when:

- The tumor has not grown outside the prostate.
- The tumor can be removed completely with surgery.
- You have an estimated life expectancy of 10 or more years.
- You have no other serious health conditions.

Guide 3

Regional prostate cancer: Initial therapy options

Life expectancy	Initial treatment
More than 5 years or you have symptoms	Radiation and hormone therapy
	Hormone therapy + abiraterone
	Hormone therapy
	Radical prostatectomy and removal of pelvic lymph nodes
5 years or less and you have no symptoms	Observation
	Radiation therapy
	Radiation and hormone therapy
	Hormone therapy

A radical prostatectomy is a complex procedure and requires a great deal of skill. Surgeons who are experienced in this type of surgery often have better results.

Still, the cavernous nerve bundles may be damaged or removed during surgery. The cavernous nerves control the ability to have erections. These nerves run alongside the prostate. Surgeons do their best to preserve these nerves when performing a prostatectomy, but damage to the nerves during surgery is sometimes unavoidable—especially when the cancer is more aggressive.

Possible side effects of radical prostatectomy can include urinary incontinence and erectile dysfunction.

Urinary incontinence (being unable to hold your urine) is usually temporary. Most patients gradually recover control of their bladder after a few months or so. Doing exercises to strengthen the pelvic floor can help. If incontinence continues to be a problem,

another surgical procedure can be done to improve it.

Erectile dysfunction may slowly improve over several months to 2 years after the surgery. However, you may never regain the same erectile function you once had. Treatment options include pills (like Viagra and Cialis), injections of medication into the penis, vacuum constriction devices (“penis pump”), and surgical implants that produce an erection.

Erectile dysfunction is a leading cause of depression in patients with prostate cancer. Ask your care team about therapy or counseling if you’re having any problems due to erectile dysfunction or any symptoms of depression. Help is available.

Additional therapy after prostate surgery

After the surgery, the removed prostate tissue will be tested. If you had pelvic lymph node dissection, the lymph nodes will also be tested. If testing shows adverse (high-risk) features in the tissue (**see Guide 4**) or if cancer has

Guide 4

Adverse features that may be found after prostate surgery

If tests show any of these high-risk features after prostate surgery, you may need additional therapy:

Cancer in the normal-looking tissue removed with the tumor (surgical margin)

Cancer outside the layer surrounding the prostate

Cancer in the seminal vesicle(s)

A detectable level of PSA

spread to the lymph nodes, you might need to have additional treatment:

- **No adverse features and no cancer in lymph nodes** – These results mean that no additional treatment is needed. Your cancer will be monitored. Monitoring involves periodic PSA tests and sometimes digital rectal exams. If your PSA level begins to rise during monitoring, you may need treatment for PSA recurrence.
- **Adverse features** – If test results find adverse features in prostate tissue but no cancer in the lymph nodes after surgery, the preferred option is being monitored for cancer recurrence. Additional treatment is also an option.
- **Cancer found in lymph nodes** – If your prostate surgery shows that cancer has spread to your lymph nodes, but there are no other adverse features, then additional treatment may be your next option. Monitoring is also a reasonable option if your PSA level is undetectable. However, if your PSA level begins to rise during monitoring, you may need treatment for PSA recurrence.

Additional treatment for PSA recurrence is discussed later in this chapter on page 44.

Life expectancy: 5 years or less and you have no symptoms

Treatment is less aggressive for people with regional prostate cancer whose life expectancy estimate is 5 years or less and who have no symptoms:



I had a radical prostatectomy. Because my prostate cancer was very close to one nerve bundle, I chose to have it removed also. I wasn't troubled by this because I learned that there are other ways of getting erections.”

Observation

Observation is an option for patients with a life expectancy of 5 years or less. It's for those with other serious health problems whose prostate cancer isn't causing any symptoms. Observation involves occasional PSA tests and watching for symptoms, which can be treated with pain-relieving (palliative) therapy.

Radiation therapy with or without hormone therapy

If you have no symptoms at this time, but you or your doctor feel that you're likely to develop cancer symptoms, you have the option of radiation therapy or long-term hormone therapy, or both, to prevent symptoms from developing.

Hormone therapy

ADT on its own is an option for patients with regional disease, no symptoms, and a life expectancy of 5 years or less. It's used to slow cancer and delay or reduce symptoms. ADT may include an LHRH agonist, an LHRH antagonist, or surgical removal of the testicles.

Testing after treatment

After initial treatment, you'll have follow-up tests to find out how well your therapy is working. Periodic prostate-specific antigen (PSA) tests and occasional imaging scans can indicate whether the cancer is under control.

If you've had a radical prostatectomy, all the cells that make PSA should have been removed by prostate surgery. So your PSA level should be undetectable by the time you have your first PSA check after surgery. If you had radiation therapy, your PSA should fall steadily and then remain at a low level.

PSA is very low or undetectable

If your PSA is very low after radiation therapy or undetectable after prostate surgery, you'll be monitored for cancer recurrence.

Monitoring involves PSA testing every 6 to 12 months for several years. Patients with a high risk of recurrence may have PSA testing more often, such as every 3 months. You'll continue to be monitored on an ongoing basis or until signs or symptoms occur.

PSA is elevated or rising

If your PSA doesn't fall to an undetectable level after prostate surgery, you may still have cancer (persistence). Or, if your PSA drops after initial treatment but rises again months or years later, it probably means the cancer has come back (recurrence). In either case, further treatment is available.

Treatment for persistence or recurrence

If you have PSA persistence or recurrence after your initial therapy, your life expectancy estimate will guide what treatment you may have next.

More than 5 years

Before deciding on any treatment, you'll need some more tests to find out how aggressive the cancer may be. Tests include PSA doubling time; imaging with whole-body PSMA-PET, CT, or MRI scan; and possibly a biopsy. Results of these tests will indicate your next treatment.

Treatment for cancer persistence or recurrence is also based on whether your initial treatment for regional prostate cancer was radiation therapy or prostate surgery. **See Guide 5.**

5 years or less

If your life expectancy estimate is 5 years or less and you have persistent or recurrent prostate cancer, observation may be a better option than undergoing treatment. Observation involves checking up on your prostate cancer and noting symptoms.

Treatment for symptoms is mainly focused on supportive care. This means easing or stopping the symptoms instead of trying to treat the cancer. This approach helps maintain your quality of life without the burden of unnecessary treatment.

Guide 5

Treatment for PSA persistence or recurrence

Initial therapy	Test results	Management options
Radical prostatectomy	Raised PSA, but no other signs of cancer	<ul style="list-style-type: none"> • Radiation therapy with or without hormone therapy (preferred) • Monitoring
	Cancer in pelvic lymph nodes	<ul style="list-style-type: none"> • Radiation therapy and hormone therapy • Radiation therapy and hormone therapy + abiraterone
	Cancer has spread to another area of the body (metastasized)	<ul style="list-style-type: none"> • Advanced treatment required
Radiation therapy	Raised PSA or abnormal digital rectal exam, but no other signs of cancer or Cancer only in the prostate	<ul style="list-style-type: none"> • Monitoring • Hormone therapy • Radical prostatectomy and removal of pelvic lymph nodes • Cryotherapy • High-intensity focused ultrasound • Re-irradiation
	Cancer in pelvic lymph nodes	<ul style="list-style-type: none"> • Monitoring • Hormone therapy with or without abiraterone • Radiation of pelvic lymph nodes with or without hormone therapy • Re-irradiation of pelvic lymph nodes with or without hormone therapy • Removal of pelvic lymph nodes with or without hormone therapy
	Cancer has spread to another area of the body (metastasized)	<ul style="list-style-type: none"> • Advanced treatment required

What's next?

After you've been treated for regional prostate cancer, you'll continue to have tests and visits to watch out for cancer to return or to treat your existing cancer.

Surveillance is a key part of your follow-up plan. Be sure to continue to go to follow-up visits, have your PSA tested regularly, and stay in touch with your treatment team.

If the cancer comes back again but doesn't spread beyond the pelvis, you can continue to have treatment for persistence/recurrence.

If the cancer comes back again but spreads to another area of the body, you'll need more advanced treatment. See the next chapter for treatment options for metastatic prostate cancer.

Key points

- Regional prostate cancer has spread from the prostate gland to neighboring tissue, but no farther.
- The main concern about regional prostate cancer is that it could continue to spread to other areas of the body.
- Treatment for regional prostate cancer often includes both local therapy and systemic therapy.
- The preferred initial treatment for regional prostate cancer in people with a longer life expectancy or symptoms is external beam radiation therapy (EBRT), long-term androgen deprivation therapy (ADT), and abiraterone.

- Treatment is less aggressive for people with regional prostate cancer whose life expectancy is 5 years or less and who have no symptoms.
- Prostate-specific antigen (PSA) persistence is when your PSA doesn't fall to an undetectable level. This indicates the cancer hasn't gone away.
- PSA recurrence is when your PSA level drops after initial treatment but rises again. This indicates the cancer has come back.

Questions to ask

- How long do I have to decide about treatment? Is there a social worker or someone who can help me decide?
- Will the treatment hurt? How soon will I be able to go back to work?
- When will you know if the treatment is or isn't working?
- What are my chances that the cancer will progress or metastasize after treatment?
- Will my choice for treatment now affect my available options if the cancer returns in the future?

6

Metastatic prostate cancer treatment

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When prostate cancer spreads to other parts of the body, then systemic (whole-body) therapy is needed. This chapter explains the treatment options for distant metastatic prostate cancer.

About metastatic prostate cancer

Metastatic prostate cancer is cancer that has spread (metastasized) outside the prostate and beyond the pelvis to other areas of the body.

Areas where prostate cancer tends to spread are:

- Lymph nodes farther away from the prostate
- Bones in the spine, pelvis, or ribs
- Organs such as the liver, lungs, and brain

You may already have metastatic cancer when you're first diagnosed. Or your cancer may become metastatic after you've had treatment for early-stage or regional prostate cancer.

Metastatic prostate cancer can be difficult to treat. However, a variety of therapies are available to target the cancer, stop or slow its progress, reduce symptoms, and prolong life.

Main treatment

The main treatment for metastatic prostate cancer is hormone therapy, specifically androgen deprivation therapy (ADT).

The aim of ADT is to reduce androgens (mostly testosterone) to a point where they don't provide fuel for the cancer. This low point is called castration level, which is when there's nearly zero testosterone in the bloodstream.

Patients whose metastatic prostate cancer is newly diagnosed will begin ADT to get their testosterone down to castration level. Patients with metastatic prostate cancer who are already being treated with ADT will continue the treatment to keep testosterone at a minimal level.

ADT comes in a few forms. These include drugs (a luteinizing hormone-releasing hormone [LHRH] agonist with or without an anti-androgen, or an LHRH antagonist) or sometimes surgery (removal of the testicles).

Although ADT is the main therapy for advanced prostate cancer, it's not usually given on its own anymore. Adding 1 or 2 additional therapies to ADT may help you live longer and with fewer symptoms. You may hear this called doublet therapy (ADT + another therapy) or triplet therapy (ADT + 2 additional therapies).

Additional therapies include second hormone therapy, chemotherapy, immunotherapy, targeted therapy, and radiopharmaceuticals.

Which additional therapy you'll have depends on several considerations. The first consideration is whether ADT is still effective for you. To put it into medical terms, is your cancer **hormone resistant** or is it **hormone sensitive**?

Hormone-resistant prostate cancer (also called castration-resistant prostate cancer) is cancer that learns how to grow without using testosterone as its fuel. As a result, hormone therapy is no longer as effective against it—most of the cancer becomes “resistant” to ADT.

If you've had ADT but it's no longer working well, go to page 52 to read about treatment options for hormone-resistant metastatic prostate cancer.

Hormone-sensitive prostate cancer

(also called castration-sensitive prostate cancer) is not currently being treated with ADT or has never been treated with ADT. (This doesn't include ADT given as short-term additional therapy, such as hormone therapy given during radiation therapy.) As a result, this cancer is “sensitive” to hormone therapy. That is, hormone therapy can still treat it.

You may also hear it called by its former name, castration-naïve prostate cancer, which means that hormone therapy is a new (“naïve”) treatment for the cancer.

If this describes your cancer, read the following section about treatment options for hormone-sensitive prostate cancer.

“When you are deciding on your treatment options, remember that even though some decisions need to be made fast, don’t rush. Think through your options and get second, or even third opinions. Have people you can trust to talk through your options, so you feel comfortable in your decisions.”



Hormone-sensitive treatment

As its name implies, hormone-sensitive metastatic prostate cancer is treated mainly with hormone therapy. ADT is considered the first hormone therapy. But a second hormone-reducing therapy is commonly added to ADT for treating advanced prostate cancer. It can prevent your cancer from growing and spreading farther. **See Guide 6.**

Preferred treatments

Preferred treatments have the most evidence that they work well and may be safer than other therapies. Preferred treatment options for hormone-sensitive prostate cancer include ADT plus a second hormone-reducing medicine (doublet therapy).

Medical research has shown that patients on ADT plus another hormone-reducing medicine tend to live longer than those on ADT alone.

The preferred options for second hormone-reducing medicines are abiraterone, apalutamide, or enzalutamide. Your care team will talk to you about which medicine might work best for you.

If you're prescribed abiraterone, you'll also be given a steroid to help reduce its side effects.

Preferred treatments for hormone-sensitive metastatic prostate cancer also include triplet therapy options: ADT and a chemotherapy medicine (docetaxel) plus a hormone-reducing medicine (either abiraterone or darolutamide).

This adds up to a lot of medicine. So triplet therapy is recommended more often for people who have multiple metastases who also can physically tolerate chemotherapy while on hormone therapy plus other treatment.

Guide 6

Preferred treatments for hormone-sensitive prostate cancer

Doublet therapy options

ADT + abiraterone (Zytiga)

ADT + apalutamide (Erleada)

ADT + enzalutamide (Xtandi)

Triplet therapy options

ADT + chemotherapy (docetaxel) +

abiraterone (Zytiga)

darolutamide (Nubeqa)

Other recommended treatments

Besides preferred treatments, there are also other recommended treatments. Other recommended therapies may not work quite as well as preferred therapies, but they can still help treat cancer.

One such option is ADT plus external beam radiation therapy (EBRT) to help stop low-volume hormone-sensitive prostate cancer from spreading farther. Low-volume prostate cancer means having zero to a few metastases in bones and/or some metastases in distant lymph nodes, with no metastases in internal organs. In some cases, abiraterone is given in addition to ADT and EBRT for a stronger effect.

While this book doesn't list all the other recommended treatments for hormone-sensitive prostate cancer, you should know they are also available to you.

Follow-up visits

After treatment, you'll have follow-up tests regularly to see how well the treatment is working and to check for any signs or symptoms that the cancer has returned.

If you have no signs or symptoms, your current treatment may be keeping your cancer under control. Your provider will continue to give you tests. If your situation remains stable, you'll stay on your current treatment unless changes or symptoms begin to occur.

If follow-up tests find that treatment isn't working and your hormone-sensitive prostate cancer is growing or spreading, then you may have developed hormone-resistant prostate cancer. This is discussed next.

Many patients with advanced prostate cancer eventually receive 2, 3, or more different therapies in the course of their treatment.



Hormone-resistant treatment

Hormone-resistant metastatic prostate cancer keeps growing even when testosterone is at a very low level.

It can do this because some cancer cells learn to adapt and survive without the usual supply of testosterone. Also, the cancer may get some androgens from the adrenal glands, which make a small amount of testosterone. Even the tumor itself can create androgens that help cancer cells grow. As these cells multiply, ADT gradually loses its effectiveness against the cancer.

ADT

To treat hormone-resistant metastatic prostate cancer, your testosterone needs to remain at castration level. So it's still important to have ADT. Your care team may keep you on

your same ADT treatment or might ask you to switch to a different medicine.

Besides ADT, your care team will recommend additional treatment. **See Guide 7.** Which treatment you'll receive depends on a few factors. These include:

- Your previous treatment (if any)
- Location of the metastasis in your body
- Amount of metastatic disease
- Symptoms
- Potential side effects
- Your preferences

In addition to ADT, treatment options for hormone-resistant prostate cancer include second hormone therapy, chemotherapy, immunotherapy, biomarker-targeted therapies, and radiopharmaceuticals—or a combination of these treatments.

Guide 7

Preferred treatment options for hormone-resistant prostate cancer

	Type of therapy	Treatment	When to use
Preferred options	Second hormone therapy	ADT + abiraterone (Zytiga) ADT + enzalutamide (Xtandi)	If you have not been treated with abiraterone, enzalutamide, apalutamide, or darolutamide before
	Chemotherapy	ADT + docetaxel (Taxotere) ADT + cabazitaxel (Jevtana)	If you have not been treated with docetaxel before If you have been treated with docetaxel before

There are also specialized treatments for those with particular features of hormone-resistant prostate cancer. Therapies used in certain cases work best for people with specific

cancer features or health circumstances. **See Guide 8.**

If you were originally diagnosed with early prostate cancer or hormone-sensitive prostate

Guide 8

Treatments used in certain cases of hormone-resistant prostate cancer

Specific case	Treatment
If you have few or no symptoms and prostate cancer hasn't spread to other internal organs	ADT + sipuleucel-T (Provenge)
If you have a <i>BRCA</i> mutation and haven't already been treated with second hormone therapy	ADT + niraparib/abiraterone (Akeega) + prednisone ADT + olaparib (Lynparza) + abiraterone (Zytiga)
If you have a <i>BRCA</i> mutation and were already treated with hormone therapy	ADT + rucaparib (Rubraca)
If you have a DNA-repair gene mutation (<i>BRCA</i> or other) and haven't already been treated with second hormone therapy	ADT + talazoparib (Talzenna) + enzalutamide (Xtandi)
If you have a DNA-repair gene mutation (<i>BRCA</i> or other) and were already treated with hormone therapy	ADT + olaparib (Lynparza)
If you have aggressive metastatic prostate cancer and docetaxel isn't a good option	ADT + cabazitaxel (Jevtana) + steroid, with or without carboplatin
If you need pain relief but can't take other therapies	ADT + mitoxantrone (Novantrone) + prednisone
If you have bone metastases that are causing symptoms but have no other metastases	ADT + radium-223 (Xofigo)
If your prostate cancer produces PSMA and you already received hormone therapy	ADT + lutetium-177 (Pluvicto)
If you have certain genetic mutations (high microsatellite instability or high tumor mutational burden) and were already treated with hormone therapy with or without chemotherapy	ADT + pembrolizumab (Keytruda)

cancer, then you may have already had ADT and chemotherapy or next-generation hormone therapy. Having had either of these therapies will affect which treatment you'll have next.

Second hormone therapy

ADT is the first hormone therapy used for treating metastatic prostate cancer. If prostate cancer becomes hormone resistant, then a second hormone therapy is commonly added. A second hormone therapy may be able to slow down the cancer or keep it from spreading farther.

The preferred second therapy options include newer (next-generation) hormone therapies:

- Abiraterone (Zytiga)
- Enzalutamide (Xtandi)

Other second hormone therapy

If the preferred second hormone therapies don't slow down your cancer, there are other recommended hormone-reducing options:

- Adding one of the early-generation anti-androgens (nilutamide, flutamide, or bicalutamide) may be effective if newer hormone therapies aren't an option due to cost or availability.
- Stopping an anti-androgen may also be effective. Sometimes stopping the drug has the opposite effect of lowering PSA levels in some patients.
- A corticosteroid (hydrocortisone, prednisone, or dexamethasone) can be a hormone-reducing therapy itself when used in addition to ADT.

- Ketoconazole (Nizoral) is a pill that's occasionally prescribed when second hormone therapy or chemotherapy can't be used or isn't available. It's taken with a steroid (hydrocortisone) to reduce side effects such as nausea and vomiting.

Chemotherapy

ADT plus chemotherapy can be the first treatment for metastatic prostate cancer or it can be given later if other treatments haven't worked well. Chemotherapy can be given as a single drug (such as docetaxel) or as a pair (cabazitaxel and carboplatin) if the cancer is more aggressive.

Docetaxel is the preferred option for chemotherapy. Other chemotherapy drugs may be used in certain cases. These include cabazitaxel, cisplatin, carboplatin, and mitoxantrone. You can also take a steroid (prednisone or dexamethasone) to reduce the side effects of chemotherapy.

Immunotherapy

Immunotherapy drugs boost the body's immune system to fight cancer. However, immunotherapy for prostate cancer is used only for certain patients. Immunotherapy drugs include:

- Sipuleucel-T (Provenge) can be used for patients whose hormone-resistant metastatic prostate cancer is causing few or no symptoms. Such patients usually have less cancer and a stronger immune system, which allows this immunotherapy to be more effective. Sipuleucel-T is not recommended for those whose prostate cancer has spread to internal organs.

- Pembrolizumab (Keytruda) is recommended only for patients whose hormone-resistant metastatic prostate cancer has grown or spread despite having chemotherapy and second hormone therapy. Patients' test results will also show specific genetic changes (defects in DNA called mismatch repair deficiency and high microsatellite instability).

Targeted therapy

Biomarker-targeted therapies are useful only in patients whose hormone-resistant metastatic prostate cancer is linked with specific genetic mutations. These drugs are called PARP inhibitors because they target PARP, which is a protein that cells use to repair damaged DNA.

Biomarker-targeted therapies include:

- Olaparib (Lynparza) plus abiraterone and a steroid can be used for patients with a *BRCA* mutation before having second hormone therapy or chemotherapy. Olaparib may also be used for patients whose metastatic cancer has grown or spread after second hormone therapy (abiraterone or enzalutamide) and who have a mutation in a *BRCA* gene or other gene that repairs DNA.
- Rucaparib (Rubraca) can be used for patients with a *BRCA* mutation whose cancer has already been treated with second hormone therapy.
- Niraparib and abiraterone (Akeega) plus prednisone is a targeted therapy for patients with a *BRCA* mutation. Patients should also be on an LHRH agonist, LHRH antagonist, or have had

orchietomy (surgical removal of the testicles).

- Talazoparib (Talzenna), taken with enzalutamide (Xtandi), is another targeted therapy for patients with a mutation in a *BRCA* or other DNA-repair gene.

Radiopharmaceuticals

If your initial or other treatments haven't worked well, your care team may suggest a radiopharmaceutical drug.

- Lutetium-177 (Pluvicto) isn't used until after a second hormone therapy has been given. First, you'll have PSMA-PET imaging to confirm the treatment could work.
- Radium-223 (Xofigo) can be used if prostate cancer has spread mainly to bones but not to internal organs. It should only be used in combination with ADT, not with second hormone therapy or chemotherapy.

Clinical trial

Participating in a clinical trial is often an option. You can try to join a clinical trial at any time. You don't need to wait until you feel like you have no other options.

Supportive care

Supportive care for patients with bone metastases includes:

- **Bone-targeted therapy** – Denosumab or zoledronic acid to help prevent fractures

- **Palliative radiation therapy** – Direct radiation to painful bone tumors or tumors that interfere with bodily functions
- **Other treatments** – Calcium or vitamin D supplements to help prevent fractures

Follow-up visits

After treatment, you'll have follow-up tests regularly to see how well the treatment is working and if there are any side effects from treatment. Tests include:

- Physical exam with PSA test every 3 to 6 months or more often
- Imaging if cancer symptoms occur
- Imaging as needed to look for cancer growth or spread

No growth or spread

If the cancer doesn't grow or spread, your current treatment may be keeping your cancer under control.

Your provider will continue to give you tests. If your situation remains stable, you'll stay on your current treatment unless changes or symptoms begin to occur.

Growth or spread

If your cancer grows or spreads, your treatment team may suggest you retry a therapy you've had before or try a new and different therapy.

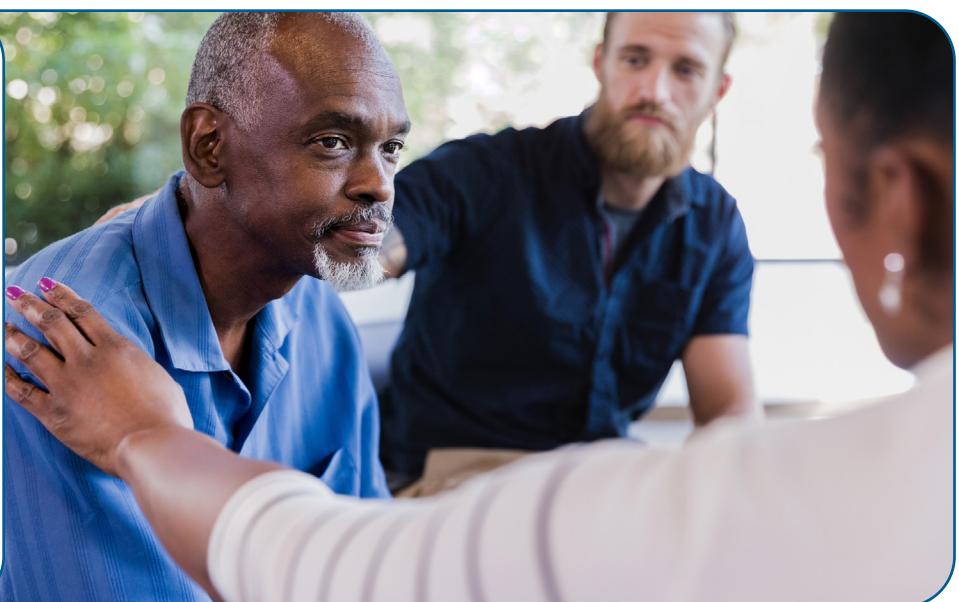
Many patients with advanced prostate cancer eventually receive 2, 3, or more different therapies in the course of their treatment.

If possible, consider all the treatment options. Talk with your team about what you want from treatment. You may ask for a second opinion before you start another therapy. You can explore any clinical trials that are available. And you always have the option to stop systemic therapy.

You'll continue to be offered supportive care.

Many people diagnosed with cancer find support groups to be helpful.

A support group provides the opportunity to talk with others who are going through, or have been through, similar experiences.



What's next?

Surveillance is a key part of your follow-up plan. Be sure to continue to go to follow-up visits and stay in touch with your treatment team.

It's common to feel frustration, anger, regret, despair, and uncertainty—even all at the same time. Know that you can have prostate cancer and still find happiness after diagnosis and treatment.

Try to enjoy life as much as possible. Talk with family or friends. Join a support group to learn how other patients are dealing with their cancer. Or talk to your doctor or another member of your care team. They can point you to professionals who can help you deal with these feelings and guide you toward your next steps.

Key points

- Metastatic prostate cancer has spread outside the prostate and beyond the pelvis to other areas of the body, such as distant lymph nodes, bones, or organs.
- The first treatment for advanced metastatic prostate cancer is usually ADT. Adding another therapy or two to ADT may help you live longer and with fewer symptoms.
- Hormone-sensitive prostate cancer is treated mainly with hormone therapy.
- Hormone-resistant prostate cancer has learned how to grow without using testosterone as its fuel. It's treated with

ADT and another type of therapy—often a newer hormone therapy or chemotherapy.

- Second hormone therapy is commonly added to ADT as a preferred treatment option for advanced prostate cancer.
- Prostate cancer and its treatment may cause you to feel frustration, anger, regret, despair, and uncertainty. Know that you can still find happiness after diagnosis and treatment.

Questions to ask

- Will hormone therapy still work for me if I was treated with it already?
- If one type of hormone therapy doesn't work, what other treatments are available for me?
- What treatments can control my cancer and reduce my bone pain?
- If cancer comes back after a few years, what treatment should I have then?
- Should I consider a clinical trial, and can you help me find one?

7

Supportive care and other assistance

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Supportive care addresses the symptoms and side effects of prostate cancer, as well as psychological, social, financial, and spiritual issues. Many resources are available to help you feel better and answer your questions.

The main concern for most patients with cancer is to find treatment that works.

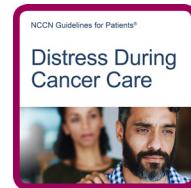
Having cancer is about more than just treatment, though. Cancer care can be a rollercoaster that includes many additional physical and emotional challenges. It's important to know that you can get support for these challenges.

Supportive care

Supportive care helps improve your quality of life during and after cancer treatment. The goal of supportive care (also called palliative care) is to prevent or manage side effects and symptoms, like pain and cancer-related fatigue.

Supportive care also addresses the mental, social, and spiritual concerns faced by those with cancer.

Supportive care is available to everyone with cancer and their families, not just those at the end of life.



It's important to ask for help

Depression, anxiety, fear, and distress are very common feelings for people with cancer. These feelings can make it harder to deal with cancer and cancer treatment. They can hold you back even when you want to move forward.

Getting help when you're feeling worried or hopeless is an important part of cancer care. If you're feeling anxious or overwhelmed, ask your treatment team for help.

More information about cancer and distress is available at [NCCN.org/patientguidelines](https://www.NCCN.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](https://www.NCCN.org/PatientGuidesforCancer) app.

Supportive care can also help with:

- Making treatment decisions
- Coordinating your care
- Paying for care
- Planning for advanced care and end of life

It's important to talk openly with your treatment team about supportive care.

Some medical centers have patient navigators or other staff members who coordinate nonclinical supportive care. Ask questions and reach out if you need more information about supportive care.

Anxiety and depression

Many people with prostate cancer experience symptoms of distress, such as anxiety and depression. You may feel anxious during testing, or you may experience depression during a hard part of treatment, or because your life is not the same as it was before cancer. Tell your treatment team if you're experiencing these symptoms so that you can get help.

Help can include support groups, talk therapy, or medication. At your cancer center, patient navigators, social workers, and other experts can help. Some people also feel better by exercising, talking with loved ones, or relaxing.

“Report any unusual feelings of sadness, loss of interest in activities, anxiety, and sleep problems to your doctor. Many people experience these feelings, and they should not go untreated.”

Support groups

Many people diagnosed with cancer find support groups to be helpful. A support group provides the opportunity to talk with others who are going through, or have been through, similar experiences.

Support groups often include people at different stages of treatment. Some people may be newly diagnosed, while others may be finished with treatment. If your hospital or community doesn't have support groups for people with cancer, have a look at the online resources listed on page 66 of this book.

Financial concerns

The financial cost of prostate cancer can be overwhelming. As a result, many people with prostate cancer and their loved ones struggle with the cost of treatment, as well as the stress of paying for it.



To make things worse, you may miss work during treatment or become unemployed. Or you may have trouble paying for or getting medicines. Or you may have too little or no health insurance.

If you struggle to pay for food, housing, treatment, follow-up care, and other expenses, or you have difficulty getting to appointments, talk with your care team's social worker, patient navigator, and hospital financial services staff. They can help you find financial support and transportation options.

You can also talk to your treatment team about work, health insurance, or money problems. Your team can include information in your treatment plan to help you manage your finances and medical costs.

If your doctors and care providers don't talk about how to pay for treatment, it's okay for you to ask them about it first.

Survivorship

Survivorship focuses on the health and well-being of a person with cancer from diagnosis until the end of life. This includes the physical, mental, emotional, social, and financial effects of cancer that begin at diagnosis, continue through treatment, and arise afterward.

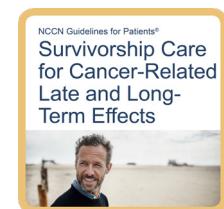
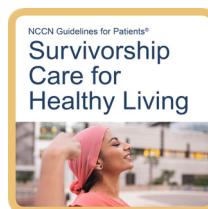
Survivorship also includes concerns about follow-up care, late effects of treatment, cancer recurrence, and quality of life. Support from family members, friends, and caregivers is also an important part of survivorship.

Consider quality of life

Quality of life is a term used often in cancer care. It refers to a person's overall enjoyment of life, including their sense of well-being and ability to participate in regular activities.

For some people, aggressive cancer treatment may extend their life but reduce their quality of life. That's one reason why quality of life should be an important consideration when making decisions about cancer treatment.

Read more about survivorship in *NCCN Guidelines for Patients: Survivorship Care for Healthy Living and Survivorship Care for Cancer-Related Late and Long-Term Effects*, available at [NCCN.org/patientguidelines](https://www.NCCN.org/patientguidelines) and on the [NCCN Patient Guides for Cancer](#) app



Advance care planning

When cancer is diagnosed at an advanced stage or keeps progressing despite all treatment efforts, it may be time to consider what lies ahead. Even when cancers are curable, talking about future scenarios should begin when starting treatment.

This exploration of what's important to you is called advance care planning.

Advance care planning is for everyone, not just for those who are very sick. Advance care planning means deciding what care you would want if you become unable to make medical decisions for yourself. It's about making sure that your wishes are understood and respected.

The focus is on you receiving the best possible care at the end of your life. Patients with incurable cancer can set up an advance care plan early to help them feel less stressed and better able to cope with their condition.

The advance care planning process starts with an open and honest discussion with your care team about your prognosis—what you may experience in the coming months—and the medications or therapies that may give you the best quality of life.

Quality of life refers to a person's overall enjoyment of life, including their sense of well-being and ability to participate in their usual activities.

This discussion should include important people in your life such as your spouse or partner and family members or friends who are likely to be with you at the end.

Make your wishes clear. It's important that everyone clearly understands the goals of your care and your personal wishes about what should—and should not—be done. You can decide if there is a point where you might want to stop cancer treatment. You can also decide what treatments you would want for symptom relief.



Be your own advocate. Talk to someone who has gone through the same thing as you. Ask a lot of questions, even the ones you are afraid to ask. You have to protect yourself and ensure you make the best decisions for you, and get the best care for your particular situation.”

Once you've made these decisions, you'll fill out a legal document that explains what you want to be done if you aren't able to tell your care team yourself. This document is called an advance directive. Your health care providers are required to follow the instructions in an advance directive when you're too ill to make decisions about your care.

Tell your care team and family about your advance directive and its contents. Give a copy of your advance directive to all your doctors. Make sure you give a copy to anyone you've authorized to make decisions on your behalf (health care proxy).

If your family or loved ones disagree with your plan, speak to your care team. Sometimes they or other specialists can help you and your family navigate these difficult conversations.

You can change your advance care plan at any time. Frequent conversations with your care team can help.



Things to think about when making treatment decisions

Be sure to weigh all your options. There are no "correct" answers.

The right decision is the one that's best for you. Consider:

Your personal preferences	vs.	Your health care providers' recommendations
Having definitive treatment	vs.	Keeping other treatment options open
Length of life	vs.	Quality of life
Traveling for treatment	vs.	Staying close to home and family
Having more treatment	vs.	Having more side effects
Having standard treatment now, which is covered by your health plan	vs.	Waiting for specialized treatment, which requires your health plan's approval

End-of-life considerations

End-of-life care provides medical, psychological, and spiritual support for people who are close to the end of life as well as the people who love them. The goal is comfort, not a cure. It may also be called comfort care or hospice.

Note that hospice is a special kind of end-of-life care. Hospice refers specifically to an insurance benefit for people whose life

expectancy is 6 months or less. Hospice supports those at the end of life by bringing in additional care providers and resources such as home care.

The goal of end-of-life care is to give people the best life possible with the time they have left. Care can be provided in your home, a hospice facility, or even in the hospital. A major goal is to keep you pain-free and make sure that you can leave this world comfortably and with dignity.

Hospice doctors, nurses, social workers, and chaplains are experts in helping patients work through the spiritual and emotional challenges of coping with the end of life.

Providing support for family members is a key part of hospice care. Most programs offer counseling and support groups for family members, including support after the patient has died. This is referred to as bereavement. It can be very comforting to know that your loved ones will have that kind of support after you're gone.

Key points

- Supportive care is for relieving symptoms and side effects, and for other health issues related to cancer.
- Supportive care is given at any stage of disease, not just at the end of life.
- Supportive care is treatment that involves the whole person, not just their cancer.
- Many people with prostate cancer experience anxiety and depression. Help is available.
- A support group provides the opportunity to talk with others who've been through similar experiences.
- For help with financial support and transportation options, talk with your care team's social worker, patient navigator, and hospital financial services staff.
- Advance care planning is done to ensure that your end-of-life wishes are understood and respected.

Questions to ask

- Who can I talk to about help with housing, food, and other basic needs?
- What assistance is available for transportation, childcare, and home care?
- Who can tell me what my options for health insurance are and assist me with applying for insurance coverage?
- How much will I have to pay for my treatment? What help is available to pay for medicines and other treatment?
- How can I connect with others and build a support system?

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Other resources

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Want to learn more? Here's how you can get additional help.

What else to know

This book can help you improve your cancer care. It plainly explains expert recommendations and suggests questions to ask your care team. But it's not the only resource that you have.

You're welcome to receive as much information and help as you need. Many people are interested in learning more about:

- Help with choosing the right treatment
- Risks of urinary incontinence and sexual side effects
- Getting a second opinion on your test results or treatment plan
- Dealing with fears, anxiety, or hopelessness
- Talking with others who have prostate cancer

What else to do

Your health care center can help you with next steps. They often have on-site resources to help meet your needs and find answers to your questions. Health care centers can also inform you of resources in your community.

In addition to help from your providers, the resources listed in the next section provide support for many people like yourself. Look through the list and visit the provided websites to learn more about these organizations.

Where to get help

AnCan Foundation

ancan.org

Cancare, Inc.

Cancare.org

CancerCare

cancercare.org

Cancer Hope Network

cancerhopenetwork.org

Cancer Survivor Care

cancersurvivorcare.org

FORCE: Facing Our Risk of Cancer

Empowered

facingourrisk.org

Imerman Angels

imermanangels.org

Malecare

malecare.org

My Faulty Gene

myfaultygene.org

National Alliance of State Prostate Cancer Coalitions (NASPCC)

naspcc.org

National Coalition for Cancer Survivorship

canceradvocacy.org

National Prostate Cancer Awareness Foundation, Inc. (PCaAware)

pcaaware.org

Prostate Conditions Education Council (PCEC)

prostateconditions.org

Prostate Health Education Network (PHEN)

prostatehealthed.org

Triage Cancer

triagecancer.org

ZERO Prostate Cancer

zerocancer.org

Questions to ask

- Are you suggesting options other than what NCCN recommends? If yes, why?
- Will I need PSA tests, digital rectal exams, and biopsies for the rest of my life?
- What will happen if I do nothing?
- If I have an inherited risk for prostate cancer, does that mean my children are going to have cancer, too?
- How do I get a second opinion?



**Let us know what
you think!**

Please take a moment to
complete an online survey about
the NCCN Guidelines for Patients.
NCCN.org/patients/response



Words to know

advanced-stage prostate cancer

Prostate cancer that has spread beyond the prostate to other areas in the body. This includes regional and metastatic prostate cancer.

androgen deprivation therapy (ADT)

Hormone therapy that stops the body from making testosterone or blocks cancer cells from using testosterone. ADT can be given through drugs or surgery.

anti-androgen

A drug that stops the action of the hormone testosterone.

biopsy

A procedure that removes fluid or tissue samples to be tested for disease.

castration

Surgery that removes the testicles, or drugs that suppress the function of the testicles, to minimize testosterone levels.

computed tomography (CT)

An imaging test that uses x-rays from many angles to make cross-sectional images of the inside of the body.

digital rectal exam

An exam of the prostate by feeling it through the wall of the rectum.

early-stage prostate cancer

Prostate cancer that usually grows slowly and stays within the prostate.

enlarged prostate

An overgrowth of tissue in the prostate that isn't caused by cancer. Also called benign prostatic hyperplasia (BPH).

erectile dysfunction

A lack of blood flow to the penis that limits getting or staying erect.

external beam radiation therapy (EBRT)

A treatment in which a machine outside the body aims radiation precisely at cancer inside the body.

germline mutation

A genetic change that is passed from a parent to their biological child(ren). Also called a hereditary mutation.

hormone therapy

A cancer treatment that stops the making or action of hormones. Also called androgen deprivation therapy.

life expectancy

The number of years a person is likely to live based on statistics of other people in similar circumstances.

luteinizing hormone-releasing hormone (LHRH) agonist

A drug that acts in the brain to stop the testicles from making testosterone.

luteinizing hormone-releasing hormone (LHRH) antagonist

A drug that acts in the brain to stop the testicles from making testosterone.

lymphatic system

A network of organs and vessels that fights infections and transports a fluid called lymph.

lymph nodes

Small clusters found throughout the body that filter lymph fluid to remove germs.

magnetic resonance imaging (MRI)

A test that uses radio waves and powerful magnets to make pictures of the insides of the body.

metastasis

The spread of cancer from the site where it started to a new site in the body.

metastatic prostate cancer

Cancer that spreads beyond the prostate to other parts of the body.

observation

A period of watching for cancer occurrence or growth while not receiving treatment.

orchectomy

An operation to reduce testosterone in the body by removing one or both testicles.

palliative care

Health care for the symptoms of cancer and the side effects of cancer treatment. Also called supportive care.

pathologist

A doctor who specializes in testing cells and tissue to find disease.

pelvic lymph node dissection (PLND)

An operation that removes lymph nodes in the pelvis.

perineum

The body region between the scrotum and anus.

positron emission tomography (PET)

An imaging test that uses radioactive material to see the shape and function of body parts.

prostate-specific antigen (PSA)

A protein made by the prostate that helps semen transport sperm. PSA is measured in nanograms per milliliter of blood (ng/mL).

prostate-specific membrane antigen (PSMA)

A protein found on the surface of prostate cancer cells. PSMA is a biomarker of prostate cancer cells.

PSA persistence

When PSA level is still detectable after prostate cancer treatment.

PSA recurrence

When PSA level drops after prostate cancer treatment but then rises again.

radiation therapy

Treatment that uses high-energy rays (radiation) to kill cancer cells and stop new cancer cells from being made.

radical prostatectomy

An operation that removes the entire prostate as well as surrounding tissue, seminal vesicles, and sometimes nearby lymph nodes.

recurrence

The return of cancer after a disease-free period.

regional prostate cancer

Cancer that has grown from the prostate to neighboring areas, but no farther.

risk factor

Something that increases the chance of getting a disease.

seminal vesicles

Glands that make and store part of the fluid that becomes semen.

somatic mutation

A non-hereditary change in your DNA that occurred after conception. Also called an acquired mutation.

staging

The process of rating the extent of cancer in the body.

supportive care

Health care for the symptoms of cancer and the side effects of cancer treatment. Also called palliative care.

surgical margin

The normal-looking tissue around a tumor that is removed during an operation.

testosterone

A hormone that helps male sexual organs to work.

transrectal ultrasound (TRUS)

A type of imaging that uses ultrasound to view the prostate gland, often to help guide a prostate biopsy.

ultrasound

A type of imaging that uses sound waves to take pictures of the inside of the body.

urethra

A tube that carries urine from the bladder to outside the body through the penis. It also expels semen.

urinary incontinence

A condition in which the release of urine can't be controlled.



We want your feedback!

Our goal is to provide helpful and easy-to-understand information on cancer.

Take our survey to let us know what we got right and what we could do better.

NCCN.org/patients/feedback

NCCN Contributors

This patient guide is based on the NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for Prostate Cancer, Version 2.2025. It was adapted, reviewed, and published with help from the following people:

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Abramson Cancer Center
at the University of Pennsylvania
Philadelphia, Pennsylvania
800.789.7366 • pennmedicine.org/cancer

Case Comprehensive Cancer Center/
University Hospitals Seidman Cancer Center and
Cleveland Clinic Taussig Cancer Institute
Cleveland, Ohio
UH Seidman Cancer Center
800.641.2422 • uhhospitals.org/services/cancer-services
CC Taussig Cancer Institute
866.223.8100 • my.clevelandclinic.org/departments/cancer
Case CCC
216.844.8797 • case.edu/cancer

City of Hope National Medical Center
Duarte, California
800.826.4673 • cityofhope.org

Dana-Farber/Brigham and Women's Cancer Center |
Mass General Cancer Center
Boston, Massachusetts
877.442.3324 • youhaveus.org
617.726.5130 • massgeneral.org/cancer-center

Duke Cancer Institute
Durham, North Carolina
888.275.3853 • dukecancerinstitute.org

Fox Chase Cancer Center
Philadelphia, Pennsylvania
888.369.2427 • foxchase.org

Fred & Pamela Buffett Cancer Center
Omaha, Nebraska
402.559.5600 • unmc.edu/cancercenter

Fred Hutchinson Cancer Center
Seattle, Washington
206.667.5000 • fredhutch.org

Huntsman Cancer Institute at the University of Utah
Salt Lake City, Utah
800.824.2073 • healthcare.utah.edu/huntsmancancerinstitute

Indiana University Melvin and Bren Simon
Comprehensive Cancer Center
Indianapolis, Indiana
888.600.4822 • www.cancer.iu.edu

Johns Hopkins Kimmel Cancer Center
Baltimore, Maryland
410.955.8964
[www.hopkinskimmelcancercenter.org](http://hopkinskimmelcancercenter.org)

Mayo Clinic Comprehensive Cancer Center
Phoenix/Scottsdale, Arizona
Jacksonville, Florida
Rochester, Minnesota
480.301.8000 • *Arizona*
904.953.0853 • *Florida*
507.538.3270 • *Minnesota*
mayoclinic.org/cancercenter

Memorial Sloan Kettering Cancer Center
New York, New York
800.525.2225 • mskcc.org

Moffitt Cancer Center
Tampa, Florida
888.663.3488 • moffitt.org

O'Neal Comprehensive Cancer Center at UAB
Birmingham, Alabama
800.822.0933 • uab.edu/onealcancercenter

Robert H. Lurie Comprehensive Cancer Center
of Northwestern University
Chicago, Illinois
866.587.4322 • cancer.northwestern.edu

Roswell Park Comprehensive Cancer Center
Buffalo, New York
877.275.7724 • roswellpark.org

Siteman Cancer Center at Barnes-Jewish Hospital
and Washington University School of Medicine
St. Louis, Missouri
800.600.3606 • siteman.wustl.edu

St. Jude Children's Research Hospital/
The University of Tennessee Health Science Center
Memphis, Tennessee
866.278.5833 • stjude.org
901.448.5500 • uthsc.edu

Stanford Cancer Institute
Stanford, California
877.668.7535 • cancer.stanford.edu

The Ohio State University Comprehensive Cancer Center -
James Cancer Hospital and Solove Research Institute
Columbus, Ohio
800.293.5066 • cancer.osu.edu

The UChicago Medicine Comprehensive Cancer Center
Chicago, Illinois
773.702.1000 • uchicagomedicine.org/cancer

The University of Texas MD Anderson Cancer Center
Houston, Texas
844.269.5922 • mdanderson.org

UC Davis Comprehensive Cancer Center
Sacramento, California
916.734.5959 • 800.770.9261
health.ucdavis.edu/cancer

UC San Diego Moores Cancer Center
La Jolla, California
858.822.6100 • cancer.ucsd.edu

UCLA Jonsson Comprehensive Cancer Center
Los Angeles, California
310.825.5268 • uclahealth.org/cancer

UCSF Helen Diller Family
Comprehensive Cancer Center
San Francisco, California
800.689.8273 • cancer.ucsf.edu

University of Colorado Cancer Center
Aurora, Colorado
720.848.0300 • coloradocancercenter.org

University of Michigan Rogel Cancer Center
Ann Arbor, Michigan
800.865.1125 • rogelcancercenter.org

University of Wisconsin Carbone Cancer Center
Madison, Wisconsin
608.265.1700 • uwhealth.org/cancer

UT Southwestern Simmons
Comprehensive Cancer Center
Dallas, Texas
214.648.3111 • utsouthwestern.edu/simmons

Vanderbilt-Ingram Cancer Center
Nashville, Tennessee
877.936.8422 • vicc.org

Yale Cancer Center/Smilow Cancer Hospital
New Haven, Connecticut
855.4.SMILOW • yalecancercenter.org



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better for everyone!**

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