

Early-stage Prostate Cancer Patient Guide



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Urology Care Foundation Prostate Health Committee

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Ken's Story



Ken* was diagnosed with prostate cancer just three days before Christmas. He had no symptoms, but at a routine health exam, his doctor found his PSA level was 20, quite high. "At that point we learned I would need treatments." Ken found a surgeon skilled in robotic surgery. Due to his age and his wish to remove the tumor, he chose to have a radical prostatectomy. The surgery and radiation were a success. Though Ken faced some lasting side effects from treatment, he feels grateful to have had a great health care team on his side. If Ken could offer men in a like place some help, he would tell them to be patient and to stay positive. Ken believes making a choice based on knowledge is always best.

*Name has been changed.

Introduction

Prostate cancer is the second-leading cause of cancer death for men in the U.S. Most men who discover it early can live long lives.

As men grow older, it is common to have urinary symptoms. A slower urine stream and more trips to pass urine may come with prostate growth. Urinary symptoms may also be a sign prostate cancer is growing in the prostate. Because there are no clear alerts for prostate cancer, many doctors advise tests to detect it early.

Many men with prostate cancer will not die from it. For men who are diagnosed, it is better if it is caught early. Survival

rates for men with prostate cancer have grown over the years, thanks to better testing and treatment options. Today, 99% of men with prostate cancer will live for at least five years after diagnosis. Many men who have treatment are cured. One in three men will survive after 5 years, even if the cancer has spread to other parts of the body.

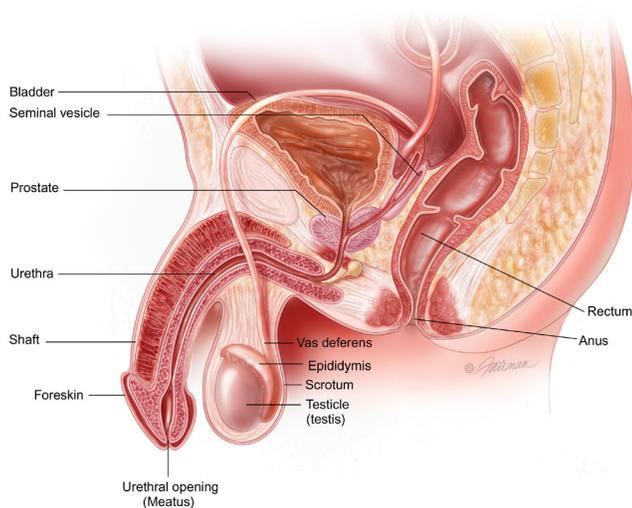
Some prostate cancers grow so slowly that treatment may not be needed at all. Others grow fast and are life threatening. Deciding what treatment to get can be complex. Get the facts and ask questions to help make the right choice for you.

What is the Prostate?

The **prostate*** and **seminal vesicles** are part of the male reproductive system. The prostate is about the size of a walnut. The seminal vesicles are two smaller pairs of glands attached to the back of the prostate. The prostate sits below the **bladder**, in front of the **rectum**. It surrounds the **urethra**, a small tube that carries **urine** from the bladder out through the **penis**.

The main job of the prostate and seminal vesicles is to make fluid for **semen**. During **ejaculation**, **sperm** moves to the urethra. At the same time, fluid from the prostate and the seminal vesicles also moves into the urethra. This mixture—semen—goes through the urethra and out of the penis as ejaculate.

Male Reproductive System



What is Prostate Cancer?

Cancer is the result of abnormal cell growth, which takes over the body's normal cell function, making it harder for the body to work the way it should. Prostate cancer develops when abnormal cells form and grow in the prostate gland. Not all abnormal growths, also called **tumors**, are cancerous (malignant). Some tumors are not cancerous (benign).

- Benign growths, such as **benign prostatic hyperplasia (BPH)**, are not life threatening. They do not spread to nearby **tissue** or other parts of the body. These growths can be removed and may grow back slowly (but often do not grow back).
- Cancerous growths, such as prostate cancer, can spread (metastasize) to nearby organs and tissues such as the bladder or rectum, or to other parts of the body. If the abnormal growth is removed, it can still grow back. Prostate cancer can be life threatening if it spreads far beyond the prostate (**metastatic** disease).

What is Early-stage Prostate Cancer?

Prostate cancer stays "localized" when cancer cells are found only in the prostate or even a little bit beyond it (extra-prostatic extension), but do not move to other parts of the body. If the cancer moves to other parts of the body, it is called "advanced" prostate cancer.

Prostate cancer is often grouped into four stages.

- **Early-stage | Stages I & II:** The tumor has not spread beyond the prostate. This is often called "early-stage" or "localized" prostate cancer.
- **Locally Advanced | Stage III:** Cancer has spread outside the prostate, but only to nearby tissues. This is often called "locally advanced prostate cancer."
- **Advanced | Stage IV:** Cancer has spread outside the prostate to other parts such as the **lymph nodes**, bones, liver or lungs. This stage is often called "advanced prostate cancer."

What Causes Prostate Cancer?

The cause of prostate cancer is unknown, but researchers know many things can increase a man's risk for the disease.

- **Age:** As men age, their risk of getting prostate cancer goes up. Harm to the DNA (or genetic material) of prostate cells is more likely for men over the age of 55.
- **Ethnicity:** African American men have a higher rate of the disease. One in six African American men will be diagnosed with prostate cancer. Prostate cancer occurs less often in Asian American and Hispanic/Latino men than in non-Hispanic white men.

* All words that appear in blue italics are explained in the glossary.

- **Family History:** Men who have a grandfather, father or brother with prostate cancer face a higher risk of getting the disease. Having family members with breast and ovarian cancer also raises a man's risk for prostate cancer.
- **Weight:** Studies link being overweight in your 50s and later to a greater risk of advanced prostate cancer. Doctors advise keeping to a healthy weight to reduce risk.

What are the Signs of Prostate Cancer?

In its early stages, prostate cancer may have no symptoms. When symptoms do occur, they can be urinary symptoms like those of an enlarged prostate or Benign Prostatic Hyperplasia (BPH).

Talk with your doctor if you have any of these symptoms:

- Dull pain in the lower pelvic zone
- Frequent need to pass urine
- Trouble passing urine, pain, burning or weak urine flow
- Blood in the urine (hematuria)
- Painful ejaculation
- Pain in the lower back, hips or upper thighs
- Loss of hunger
- Loss of weight
- Bone pain

GET DIAGNOSED

The American Urological Association (AUA) recommends talking with your doctor about the benefits and harms of screening (testing) for prostate cancer. If you fall into any of the groups below, you should think about talking to your doctor to see if screening is right for you:

- Between 45–69 years old
- African American
- Have a family history of prostate cancer
- Have symptoms

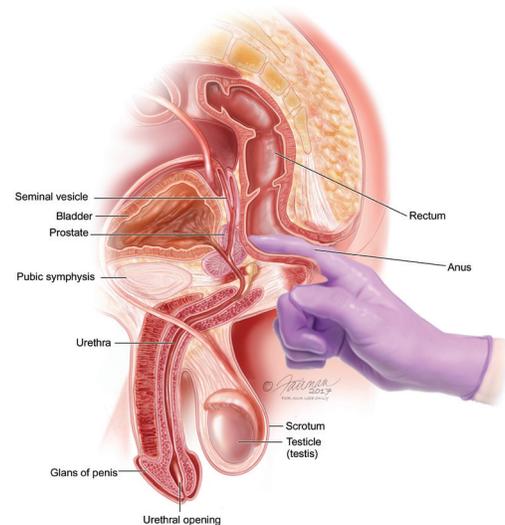
Blood Tests

The PSA blood test measures a protein in your blood called the **prostate-specific antigen (PSA)**. Only the prostate and prostate cancers make PSA. Results for this test are usually shared as nanograms of PSA per milliliter (ng/mL) of blood. The PSA test is used to look for changes to the way your prostate produces PSA. It is used to stage cancer, plan treatment and track how well treatment is going. A rapid rise in PSA may be a sign something is wrong. In addition, your doctor may want to test the level of testosterone in your blood.

Your doctor may also use a **digital rectal exam (DRE)** test for a better sense of your prostate health.

Digital Rectal Exam

The digital rectal exam (DRE) is an optional physical exam used to help your doctor feel for changes in your prostate.



This test may also be used to screen for and stage cancer, or track how well treatment is going. During this test, the doctor feels for an abnormal shape, consistency, nodularity or thickness to the gland. For this exam, the doctor puts a lubricated gloved finger into the rectum. The DRE is safe and easy, but cannot spot early cancer by itself.

Biopsy

If **screening tests** show an issue with the prostate, a prostate **biopsy** may be performed. This helps make an accurate diagnosis. A biopsy is a tissue sample taken from your prostate or other organs to look for cancer cells. There are many approaches to prostate biopsies. These can be done through a probe placed in the rectum, through the skin of the perineum (between the scrotum and rectum) and may use a specialized imaging device, such as an **MRI Scan**. The biopsy removes small pieces of tissue for review under a microscope. The biopsy takes 10 to 20 minutes. A **pathologist** (a doctor who classifies disease) looks for cancer cells within the samples. If cancer is seen, the pathologist will "grade" the tumor.

Staging and Grading

Prostate cancer is grouped into four stages. The stages are defined by how much and how quickly the cancer cells are growing. The stages are defined by the **Gleason Score** and the **T (tumor), N (node), M (metastasis) Score**.

Gleason Score

If a biopsy finds cancer, the pathologist gives it a grade. The most common grading system is called the Gleason grading system. The Gleason score is a measure of how quickly the cancer cells can grow and affect other tissue. Biopsy samples are taken from the prostate and given a Gleason grade by a pathologist. Lower grades are given to samples with small, closely packed cells. Higher grades are given to samples with more spread out cells. The Gleason score is set by adding together the two most common grades found in a biopsy sample.

The Gleason Score will help your doctor understand if the cancer is a low-, intermediate- or high-risk disease. The risk assessment is the risk of **recurrence** after treatment. Generally, Gleason scores of 6 are treated as low-risk cancers. Gleason scores of around 7 are treated as intermediate/mid-level cancers. Gleason scores of 8 and above are treated as high-risk cancers. Some of these high-risk tumors may have already spread by the time they are found.

Staging

The Tumor, Nodes and Metastasis (TNM) is the system used for tumor staging. The TNM score is a measure of how far the prostate cancer has spread in the body. The T (tumor) score rates the size and extent of the original tumor. The N (nodes) score rates whether the cancer has spread into nearby lymph nodes. The M (metastasis) score rates whether the cancer has spread to distant sites.

Tumors found only in the prostate are more successfully treated than those that have metastasized (spread) outside the prostate. Tumors that have metastasized are incurable and require drug-based therapies to treat the whole body.

GET TREATED

Early-stage prostate cancer is a cancer that has grown in the prostate, but not escaped beyond it to other parts of the body, like lymph nodes or bones. Men with early-stage prostate cancer have a very good chance of survival. There are several options for treatment.

Your treatment plan will consider:

- The stage and grade of the cancer (Gleason score and TNM stage)
- Your risk category (whether the cancer is low-, intermediate- or high-risk)
- Your age and health
- Your preferences about side effects and long-term effects of treatment
- Your treatment goals
- Results from other diagnostic tests

When you get your prostate cancer diagnosis, think over your range of treatment choices. Learn the odds of survival that different treatments offer and learn about the side effects of each treatment. Keep in mind how side effects of treatment will change your life now and in the future. If you can, get a second or third opinion from different prostate cancer experts. Talking with a **urologist** and a radiation **oncologist** can help you make informed choices.

Learn about the skill and reputation of doctors available to treat you. An experienced doctor with a good reputation will likely do the best job for you, especially if the treatment you choose might have side effects like urinary **incontinence**, **erectile dysfunction (ED)** or bowel problems. Find out what program your doctor offers to help with the side effects after treatment. Ask other survivors about their experiences.

If you decide on a treatment, use the time before treatment to get or stay healthy. With the guidance of your doctor, eat a well-balanced diet, strive for a healthy weight, exercise and avoid smoking and too much alcohol. This may help you combat prostate cancer.

Here are the treatments that you may want to discuss with your doctor if you are diagnosed with early-stage, localized prostate cancer.

Active Surveillance

Active Surveillance is best if you have a small and slow-growing cancer. Your doctor will check your prostate cancer by asking you to have tests every few months. Tests that usually help are a blood test to check your PSA,

a biopsy and possibly an MRI. Men on active surveillance are generally able to avoid urinary, sexual and bowel side effects. You may want to think of active surveillance as a treatment that helps you keep the quality of your life for as long as possible.

Some men never need to have any other treatment. If the PSA rises and a biopsy shows that the cancer is growing, it is time to talk about taking more action to get rid of the cancer, such as with surgery or **radiation** therapy. That kind of treatment is called 'definitive therapy'.

Watchful Waiting

Watchful waiting is a way to track the cancer without treating it. It does not involve routine PSA tests, biopsies or other active surveillance tools. The risk of watchful waiting is that the cancer could grow and spread between follow-up visits. Watchful waiting is sometimes the approach taken with men with early-stage prostate cancer who are older and likely to die of other causes. It is also for men who have other health issues that would make it difficult for them to undergo surgery or radiation.

The two main treatments for early-stage prostate cancer are surgery and radiation therapy. The goal of these treatments is to get rid of the cancer for good. They have about the same success in treating the cancer. You can talk with your doctor about which treatment is best for you.

Surgery

A **radical prostatectomy** is the surgical removal of the prostate, seminal vesicles and nearby tissue. Often the lymph nodes in the **pelvis** that drain from the prostate are also removed. This procedure calls for **anesthesia** and a short hospital stay.

There are four types of radical prostatectomy surgery:

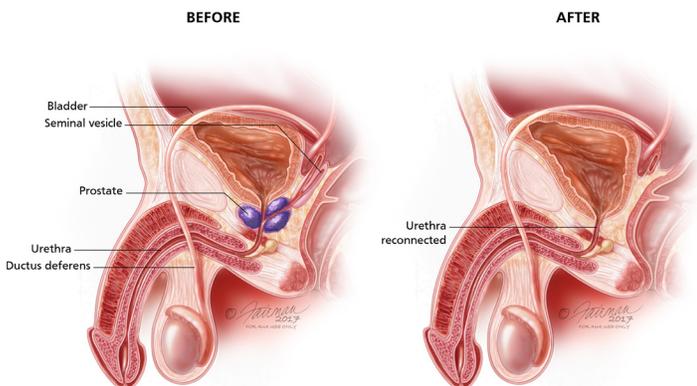
- **Robotic Assisted Laparoscopic Radical Prostatectomy (RALP).** In this surgery, five very small incisions (cuts) are made in the lower **abdomen** through which instruments and a small camera are guided to allow the surgeon access to remove the prostate. RALP surgery is one of the most common types of prostate cancer surgery today.

- **Retropubic Open Radical Prostatectomy.** Your surgeon will make a cut in your lower belly and remove the prostate through this opening.
- **Perineal Open Radical Prostatectomy.** The prostate is removed through a cut between the anus and scrotum. Because the complex pelvic veins are avoided, bleeding is rare.
- **Laparoscopic Radical Prostatectomy.** This surgery uses a video camera and small surgical tools that fit through cuts in the belly to remove the prostate. This surgery has mostly been replaced with robotic assisted laparoscopic surgery.

After surgery, your surgeon will review your final pathology report with you. The pathology report will tell you your final Gleason Score based on all the cancer that was in your prostate.

As with all surgery, there is risk for bleeding, infection and pain in the short term. The main side effects from this surgery are erectile dysfunction (ED) and urinary incontinence (loss of urine control). Most men recover the control of their bladder within several months.

For some men, erections can recover, but sometimes not all the way. Your surgeon can help you manage these side effects or give you a referral to other specialists who can help.



Radiation Therapy

Radiation therapy uses high-energy rays to kill the cancer cells.

External beam radiation therapy (EBRT) sends a targeted photon beam (**x-ray**) of radiation from outside the body to the prostate.

A small amount of radiation is delivered in daily doses to the prostate for a number of weeks. Your health care team will limit radiation going to healthy organs like the bladder and rectum. Newer EBRT technology makes three-dimensional images with conformal radiotherapy (3DCRT), Proton Beam Therapy (PBT) or Stereotactic Body Radiation Therapy (SBRT).



External Beam Radiation Therapy (EBRT) machine

Prostate Brachytherapy (Internal Radiation Therapy)

is radiation treatment targeting the prostate from inside the body. Radioactive material is placed in the prostate using needles or a tube. There are two types of brachytherapy:

- low dose rate (LDR) brachytherapy, and
- high dose rate (HDR) brachytherapy.

Anesthesia and a short stay in the hospital are needed for both.

Common side effects after radiation are urinary incontinence, bowel problems and ED. Urinary and bowel problems get better for most men. Erections gradually soften over a period of two or more years. Your doctor will discuss these side effects with you and help you manage them. Ask your doctor about the effect of different radiation approaches on your erectile function. Some treatments are less likely to cause ED.

Sometimes radiation therapy is combined with **hormone therapy** to shrink the prostate before starting treatment. Or hormone therapy may be combined with external beam therapy to make the radiation more effective. Hormone therapy is called Androgen Deprivation Therapy (ADT).

ADT fights prostate cancer by removing testosterone from the body. The loss of testosterone helps fight cancer but may include major side effects such as loss of libido, ED, hot flashes, changes in body fat and emotions. There could be other body changes as well. It is best to talk to your doctor about this.

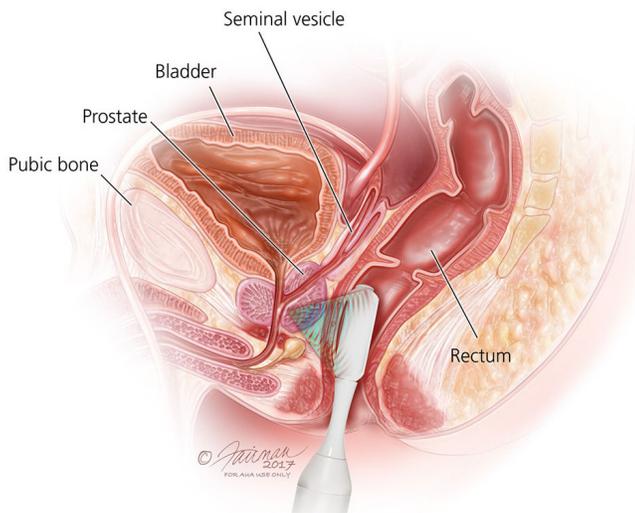
Whole Gland or Focal Prostate Ablation

Cryotherapy or cryoablation for prostate cancer is the controlled freezing of the prostate gland. The freezing kills cancer cells. Special needles called "cryoprobes", guided by **ultrasound**, are placed in the prostate to direct the freezing process. Cryotherapy is done under general or spinal anesthesia. After cryotherapy, a patient is checked with routine PSA tests and biopsy. Possible side effects include ED, incontinence and other urinary or bowel problems. Your doctor will discuss with you how to manage them.

Focal therapy is a treatment under study for men with small, early-stage prostate tumors. Small tumors inside the prostate are targeted and destroyed without having to remove or radiate the whole prostate. This targeted approach leads to less intense side effects.

The types of **high-intensity focused ultrasound (HIFU)** and focal therapy are:

- **High-intensity focused ultrasound (HIFU)** uses the energy of sound waves to target and superheat the tumor to kill cells (with the help of MRI scans). It may be used for the whole gland.
- **Focal cryoablation** uses a needle-thin probe to circle the tumor with a special mixture that kills the tumor by freezing it.
- **Irreversible electroporation** uses a "NanoKnife" to pass an electrical current through the tumor. The electricity makes very tiny holes (called pores) in the tumor's cells, leading to cell death



Once you have finished treatment, you may have to manage side effects. You will also make a long-term plan with your doctor for future tests. These tests check to make sure you stay cancer-free.

Erectile Dysfunction

Men may have sexual health problems following their cancer diagnosis or treatments. Erectile dysfunction (ED) is when a man finds it hard to get or keep an erection strong enough for sex. ED happens when there is not enough blood flow to the penis, or when nerves to the penis are harmed.

Cancer in the prostate, colon, rectum and bladder are the most common cancers that can affect a man's sexual health. Treatments for cancer, along with emotional stress, can lead to ED.

The chance of ED after prostate cancer treatment depends on many things, such as:

- Age
- Overall health
- Medications you take
- Sexual function before treatment
- Cancer stage
- Damage to your nerves or blood vessels from surgery or radiation

There are treatments that may help ED. They include pills, vacuum pumps, urethral suppositories, penile injections and implants. Treatment can be individualized. Some treatments may work better for you than others. They have their own set of side effects. A doctor can talk with you about the pros and cons of each method. They can help you decide which single treatment or combination of treatments is right for you.

There may be a change in orgasm for men treated with surgery as they no longer ejaculate or ejaculate a small volume of urine because the prostate, which makes semen, has been removed. However, it is still possible to have an orgasm.

Incontinence

After prostate cancer surgery or radiation, you may experience a loss of urine control. Incontinence is the inability to control the release of urine and can sometimes happen with prostate cancer treatment. There are different types of incontinence:

- **Stress Incontinence (SUI)**, when urine leaks with coughing, laughing, sneezing or exercising or with any additional pressure on the pelvic floor muscles. This is the most common type.
- **Urge Incontinence**, or the sudden urge to pass urine, even when the bladder is not full because the bladder is overly sensitive. This might be called overactive bladder (OAB).
- **Mixed Incontinence**, a combination of stress and urge incontinence with symptoms from both types.

Short-term incontinence after surgery is common. If you have SUI, you may only need to wear a pad for a few weeks to months. Incontinence often does not last long and urinary control will return. For a few men, it can last as long as six to twelve months. Because incontinence may affect your physical and emotional recovery, it is of great value to understand how to manage this problem. There are treatment choices to help incontinence.

- **Kegel exercises** may strengthen your bladder control muscles.
- **Lifestyle changes** may improve your urinary functions. Try eating healthier foods, limiting smoking, losing weight and making timed visits to the bathroom.
- **Medication** may help improve bladder control by affecting the nerves and muscles around the bladder.
- **Neuromuscular electrical stimulation** uses a device to help strengthen bladder muscles.
- **Surgery** to control urination may include injecting collagen to tighten the bladder sphincter, implanting a urethral sling to tighten the bladder neck, or an artificial sphincter device.
- **Products**, such as pads, may help you stay dry but do not treat incontinence.
- **Avoid** bladder irritants that include caffeine, alcohol and artificial sweeteners. Long-term incontinence lasting more than a year is rare. It happens in less than 5–10 percent of all surgical cases. If it does happen, talk to your doctor about your choices for care.

Lifestyle Changes

Diet

A healthy diet may increase your energy levels and enhance your immune system. It is of great value to think about the foods you eat and to try to maintain a healthy weight. Healthy eating habits can improve your health and risks.

Healthy food choices may include:

- Plenty of fruits and vegetables
- High fiber foods
- Low fat foods
- Limited amounts of simple sugars
- Limited amounts of processed foods (especially processed meats like deli foods and bacon)

Because prostate cancer treatment can affect your appetite, eating habits and weight, it is of great value to try your best to eat healthy. If you have a hard time eating well, reach out to a registered dietitian/nutritionist (RDN). There are ways to help you get the nutrition you need.

Exercise

Physical exercise may improve your physical and emotional health. It can also help you manage your weight, maintain muscle and bone strength and help manage side effects.

If approved by your doctor, you may want to exercise one to three hours per week. Cardiovascular exercise and strength/resistance training may be good choices. This can include walking or more intense exercise. Physical exercise may help you to:

- Reduce anxiety
- Improve energy
- Improve self-esteem
- Feel more hopeful
- Improve heart health
- Reach a healthy weight
- Boost muscle strength
- Maintain bone health

Pelvic floor exercise may help men being treated for prostate cancer. The pelvic floor is a group of muscles and structures in your pelvis between your legs. The pelvic floor supports the bowel, bladder and sexual organs. They help with urinary and fecal functions as well as sexual performance.

The muscles contract and relax, just like any other muscle in your body. Pelvic floor exercises can help with side effects like erectile dysfunction and urinary incontinence.

Emotional Stress

After treatment, some men feel relieved the cancer is gone. Many men may worry about cancer coming back (recurrence). If the cancer returns, you and your doctor will talk about next steps and make a plan.

Some men are upset by the side effects of treatment. Urinary and erection problems can feel like a loss of one's usual self. Those feelings are normal and will get better as you learn to manage your side effects and see improvements. Whatever you are feeling, it is worth telling your doctor. Cancer is always stressful and a trained counselor may help you manage your mental health.

If you have a partner, be sure that your partner is a part of what you are going through. Couples cope better when they approach cancer treatment and the side effects of treatment as a team. If you do not have a partner, talk to a friend you trust about what you are going through.

If you find you and your partner are not coping well, feel down or very anxious, it may help to talk to a counselor or a sex therapist to get support.

Questions to Ask Your Doctor

Most men choose to talk with their doctors before making a treatment choice. Even if you have done a lot of research on your own, talking with your doctor may help you sort out your thoughts. Here are some sample questions you might ask when you see your doctor:

- What kind of prostate cancer do I have and how aggressive is it?
- Are there other tests I should have to understand how advanced my cancer is?
- What are the treatment options for this grade/stage of this cancer?
- Which treatment do you recommend for me and why?
- How long should I try a treatment type before we know whether it works?
- What can I do to manage my symptoms?
- What can I do to manage or prevent treatment side effects?
- What is the average lifespan for people managing my grade/stage of cancer?
- Can you refer me to another expert for a second (or third) opinion?
- Can you put me in touch with a support group?
- How can I help my overall health?

Abdomen

Also known as the belly. The part of the body that holds all internal structures between the chest and the pelvis.

Active Surveillance

Watching with regular physical exams, blood tests and imaging tests on a set schedule. If symptoms begin or problems arise, treatment will be offered.

Anesthesia

General anesthesia makes you unconscious so you feel no pain. You do not remember the procedure afterwards. Local anesthesia numbs an area so you feel no pain, but you remain awake.

Benign Prostatic Hyperplasia (BPH)

Enlarged prostate not caused by cancer; symptoms include problems urinating because as the prostate grows, it places pressure on the urethra.

Biopsy

Samples of prostate tissue are removed for review under a microscope to see if they contain cancer or other abnormal cells.

Bladder

The balloon-shaped pouch of thin, flexible muscle that holds urine in the body.

Cryotherapy

Killing prostate cancer cells through freezing.

Digital Rectal Examination (DRE)

The insertion of a gloved, lubricated finger into the rectum to feel the prostate and check for anything abnormal.

Ejaculation

The release of semen from the penis during sexual climax (orgasm).

Erectile Dysfunction

Problems getting or keeping an erection.

Gleason Score

The most common grading system for prostate cancer. Cells are given a score from three (least aggressive) to ten (most aggressive).

High-Intensity Focused Ultrasound (HIFU)

A treatment that uses sound waves to heat the prostate to very high temperatures, causing it to shrink.

Hormone Therapy

Treatments that decrease or block testosterone and other male hormones to slow the growth of prostate cancer.

Incontinence

Loss of bladder control. It may refer to urine leakage (urinary) or uncontrolled loss of stool (fecal).

Lymph Nodes

Rounded masses of tissue found throughout the body that produce cells to fight invading germs or cancer.

Metastatic

Cancer that spreads beyond its point of origin. For example, spreading from the prostate to the bladder.

MRI Scan

Radio waves and a strong magnetic field used to make highly detailed pictures of organs and tissue in the body.

Oncologist

A doctor who specializes in cancer treatment.

Pathologist

A doctor who identifies diseases by studying cells and tissues under a microscope.

Pelvis

The lower part of the abdomen, between the hip bones.

Penis

The male organ used for sex and passing urine.

Prostate

In men, a walnut-shaped gland below the bladder that surrounds the urethra and makes fluid for semen.

Prostate-Specific Antigen (PSA)

A protein made only by the prostate. High levels of PSA in the blood may be a sign of cancer or other prostate health issues.

Radiation

Two options for prostate cancer treatment include brachytherapy (small radioactive “seeds” implanted in the prostate) and external beam radiation (rays targeted at the tumor from outside the body).

Radical Prostatectomy

Surgery to remove the entire prostate and cancerous tissues; it includes two approaches: retropubic and perineal.

Rectum

The lower part of the large intestine, ending in the anal opening.

Recurrence

The return of cancer after treatment in the same location or another part of the body.

Screening Tests

Tests that check for disease. Screening may find diseases at an early stage, before there are symptoms and when they are easier to treat.

Semen

The fluid that protects and energizes the sperm, also known as seminal fluid or ejaculate fluid.

Seminal Vesicles

Two paired glands that help produce semen.

Sperm

Male reproductive cells made in the **testicles** that can fertilize a female partner’s eggs.

Testicles

Glands that are inside the scrotum, the pouch below the penis. They produce sperm and the male hormone testosterone.

Tissue

Group of cells that are similar in form and function within an organism.

TNM Score

The staging system for prostate cancer, to record the extent of the disease. TNM stands for Tumor, Nodes and Metastasis.

Tumor

An abnormal mass of tissue or growth of cells.

Ultrasound

The use of high-frequency sound waves to create real-time images to look at organs.

Urethra

A narrow tube through which urine leaves the body. In males, semen travels through this tube during ejaculation. Extends from the bladder to the tip of the penis.

Urine

A liquid, often yellow in color, made by the kidneys that contains waste and water.

Urologist

A doctor who specializes in the diagnosis and treatment of problems linked to the urinary tract and nearby pelvic structures.

Watchful Waiting

Looking for signs of prostate cancer without testing, knowing that treatment may happen in the future.

X-ray

A test that uses radiation to make pictures of the tissues, bones and organs inside the body.

About the Urology Care Foundation

The Urology Care Foundation is the world's leading urologic foundation –and the official foundation of the American Urological Association. We provide information for those actively managing their urologic health and those ready to make health changes. Our information is based on the American Urological Association resources and is reviewed by medical experts. To learn more, visit the Urology Care Foundation's website, UrologyHealth.org/UrologicConditions.

Disclaimer

This information is not a tool for self-diagnosis or a substitute for professional medical advice. It is not to be used or relied on for that purpose. Please talk to your urologist or health care provider about your health concerns. Always talk to a health care provider before you start or stop any treatments, including medications. For more information, visit UrologyHealth.org/Download or call 800-828-7866.



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