Founded in 1964, the American Society of Clinical Oncology, Inc. (ASCO®) is committed to the principle that knowledge conquers cancer. Together with the Association for Clinical Oncology, ASCO® represents nearly 45,000 oncology professionals who care for people living with cancer. Through research, education, and promotion of the highest-quality and equitable patient care, ASCO works to conquer cancer and create a world where cancer is prevented or cured, and every survivor is healthy.

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Introduction

It is one of many people’s biggest fears—sitting in the doctor’s office and hearing the word “cancer.” People diagnosed with prostate cancer often say they were stunned by their diagnosis and couldn’t hear, much less remember, what was said afterward. However, absorbing the news of a cancer diagnosis is a key part of the coping process.

In the weeks to come, you may find it helpful to have family members or friends come to your appointments with you. They will not only give you some much needed support, but they can also help listen to and remember the information your health care team gives you. Using this ASCO Answers guide may also be helpful. This booklet was designed to explain some of the medical terms doctors may use when talking about cancer and help you keep track of the specifics of your prostate cancer diagnosis and treatment plan. Throughout this guide, you will find questions to ask your doctor, nurse, or another member of your health care team, as well as plenty of space to write down their answers or other important information. There are also checkboxes you can use to identify the tests, procedures, and treatments that will make up your cancer care plan.

However you choose to keep track of this information, it is important to do so. Getting the facts about your diagnosis will help you make the best decisions based on your situation in the coming days. Additionally, being an informed, involved patient and voicing your questions and concerns will help you and your health care team form a partnership in your care. Tell your doctor and nurse how you prefer to receive information and how much you want to know about your diagnosis, treatment, and prognosis, which is the chance of recovery. Don’t be afraid to ask questions or to let your health care team know you don’t know what questions to ask.
Prostate Cancer Basics

The prostate is a walnut-sized gland located behind the penis, in front of the rectum, and below the bladder. It surrounds the urethra, the tube-like channel that carries urine and semen through the penis. The prostate’s main function is to make seminal fluid, which is the liquid in semen that protects, supports, and helps transport sperm.

Prostate cancer development and spread

Prostate cancer begins when healthy cells in the prostate gland change and grow out of control, forming a mass called a tumor. A cancerous tumor is malignant, meaning it can spread to other parts of the body. A benign tumor means the tumor will not spread.

Some prostate cancers grow very slowly and may not cause symptoms or problems for years. Other times, prostate cancer cells enter the bloodstream or lymphatic system and spread to other parts of the body through a process called metastasis. Although prostate cancer can spread anywhere in the body, one of the first places prostate cancer cells travel to is the regional lymph nodes, which are small, bean-shaped organs located near the prostate that help fight infection.

Prostate cancer may also spread farther away to other parts of the body, such as the bones, lungs, and liver. However, prostate cancer is somewhat unusual, compared with other types of cancer, because many tumors do not spread outside the prostate. Even if they do, metastatic prostate cancer can often be successfully treated, allowing people to live with good health for years after receiving this diagnosis.

QUESTIONS TO ASK THE HEALTH CARE TEAM

► Who will be part of my health care team, and what will each member do?
► Where can I find more information about prostate cancer?
► Does this hospital or cancer center have a learning resource center? If so, where is it located?
► If I have a question or problem, who should I contact?
Understanding Your Diagnosis

Doctors use many tests to find, or diagnose, cancer. They also do tests to learn if cancer has spread to another part of the body from where it started. Just as with many other types of cancer, a biopsy, which is described in more detail on page 6, is the only way to make a definitive diagnosis of prostate cancer. After that, imaging tests may be used to find out whether the cancer has spread to other parts of the body. Doctors may also do tests to learn which treatments could work best.

Not every test is right for every person. Your doctor may consider factors such as your age, medical condition, signs and symptoms, and previous test results when deciding whether a specific diagnostic test is right for you.

Preliminary tests

- **Prostate-specific antigen (PSA) blood test**

  PSA is a protein in the blood that is produced by the prostate gland. Although there is no such thing as a "normal PSA" at any given age, it is usually found at higher-than-normal levels in people with various prostate conditions, including prostate cancer, an enlarged prostate (a condition called benign prostatic hyperplasia or BPH), or inflammation or infection of the prostate.

  Doctors often look at features of the PSA level, such as absolute level, change over time, and level in relation to prostate size, to decide if a biopsy is needed. In addition, one version of the PSA test allows the doctor to measure a specific component, called “free” PSA, which can sometimes help determine whether an elevated PSA level is caused by a malignant condition like prostate cancer. However, some prostate cancers do not cause an increased PSA level, so a normal PSA test result does not always mean there is no prostate cancer.

  There is controversy about using the PSA test to look for prostate cancer in people who have no symptoms of the disease. On the one hand, the PSA test is useful for detecting early-stage prostate cancer, which helps them get the treatment they need before the cancer spreads. On the other hand, PSA screening finds conditions that are not cancer as well as slow-growing prostate cancers that would never threaten someone’s life or cause any signs or symptoms in their lifetime. Because of this, screening for prostate cancer may cause some people to have surgery and other treatments that may not be necessary and can cause significant side effects. For this reason, patients and their doctors may consider monitoring the tumor rather than starting treatment immediately.
ASCO recommends that people with no symptoms of prostate cancer do not receive PSA screening if they are expected to live less than 10 years. For people expected to live longer than 10 years, ASCO recommends that they talk with their doctors to find out if the test is appropriate for them.

Other organizations have different recommendations for screening:

- The U.S. Preventive Services Task Force recently recommended that people between 55 and 69 should discuss the pros and cons of screening with their doctor. People who are 70 and older should not have routine PSA screenings for prostate cancer.
- Both the American Urological Association and the American Cancer Society recommend that patients be told the risks and benefits of testing before PSA screening occurs and then make an informed decision in consultation with their doctor.
- The National Comprehensive Cancer Network (NCCN) considers a patient’s age, PSA value, DRE results, and other factors in their recommendations.

**Digital rectal examination (DRE)**

During this test, the doctor inserts a gloved, lubricated finger into the rectum and feels the surface of the prostate for any irregularities. It is not a very precise test; therefore, DRE does not usually find early prostate cancer.

**Biomarker tests**

A biomarker is a substance that is found in the blood, urine, or body tissues of a person with cancer. It is made by the tumor or by the body in response to the cancer. A biomarker may also be called a tumor marker. Biomarker tests are used to help predict the chance that someone will develop prostate cancer.

### Making a cancer diagnosis

If PSA or DRE test results are abnormal, then the following tests can help the doctor figure out whether the cause may be cancer.

**Transrectal ultrasound (TRUS)**

A doctor inserts a probe into the rectum that creates a picture of the prostate using sound waves that bounce off the prostate. This procedure is usually done at the same time as a biopsy.

**Biopsy**

A biopsy is the removal of a small amount of tissue for examination under a microscope. To get a tissue sample, a surgeon most often uses TRUS and a biopsy tool to take very small slivers of prostate tissue. Biopsy specimens will be taken from several areas of the
prostate. This is done to make sure that a good sample is taken for examination. Most people will have 12 to 14 pieces of tissue removed, and the procedure can take 20 to 30 minutes to complete.

This procedure is usually done at the hospital or doctor’s office without needing to stay overnight. The patient is given local anesthesia beforehand to numb the area and usually receives antibiotics before the procedure to prevent infection. The ultrasound tool is inserted into the rectum and then the biopsy needle is passed through the rectum and into the prostate gland to collect tissue samples. This is called a transrectal prostate biopsy.

There is a risk of infection associated with a transrectal prostate biopsy, which is why some doctors choose to use a transperineal prostate biopsy instead. This type of biopsy is also guided by TRUS, but the biopsy needle goes through the skin of the perineum and into the prostate gland. The perineum is the space between the scrotum and the anus. By passing the needle through the skin instead of the rectum, this procedure lowers the risk of infection.

A pathologist then analyzes the sample(s) under a microscope. A pathologist is a doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

Ask to review the results of the pathology report with your health care team.

More than 95% of prostate cancers are a type called adenocarcinoma. A rare type of prostate cancer known as neuroendocrine prostate cancer or small cell anaplastic cancer tends to spread earlier but usually does not make PSA.

Magnetic resonance imaging (MRI) fusion biopsy

An MRI fusion biopsy combines an MRI scan (see page 8) with TRUS. A prostate MRI scan has become a routine procedure. The patient first receives an MRI scan to identify suspicious areas of the prostate that require further evaluation. The patient then has an ultrasound of the prostate. Computer software combines these images to produce a 3D image that helps target the exact area where to perform the biopsy. Although it may not eliminate the need for repeat biopsies, an MRI fusion biopsy can better identify areas that are more likely to be cancerous than other methods. An MRI fusion biopsy should only be performed by someone with expertise in the procedure.
Determining whether the cancer has spread

To find out if cancer has spread outside the prostate to other parts of the body, doctors may perform the imaging tests listed below. Because most types of prostate cancer do not spread very quickly, if they spread at all, many of these tests are not used when the PSA level is only slightly high.

- Whole-body bone scan
  A bone scan uses a radioactive tracer to look at the inside of the bones. The tracer is injected into a person's vein. It collects in areas of the bone and is detected by a special camera. Healthy bone appears lighter to the camera, and areas of injury, such as those caused by cancer, stand out on the image.

- Computed tomography (CT or CAT) scan
  A CT scan creates a picture of the inside of the body with an x-ray machine. A computer combines these images into a detailed, cross-sectional view that shows any abnormalities or tumors. Sometimes, a special dye called a contrast medium is given before the scan to provide better detail on the image.

- Positron emission tomography (PET) or PET-CT scan
  A PET scan is usually combined with a CT scan, called a PET-CT scan. However, you may hear your doctor refer to this procedure just as a PET scan. A PET scan is a way to create pictures of organs and tissues inside the body. A small amount of a radioactive substance is injected into the patient's body. This substance is taken up by cells that use the most energy. Because cancer tends to use energy actively, it absorbs more of the radioactive substance. A scanner then detects this substance to produce images of the inside of the body.

  For many types of cancer, a PET-CT scan uses fluorodeoxyglucose (FDG) as the substance that is imaged; however, FDG is not a useful substance for imaging in prostate cancer and should not be used. Researchers are actively investigating using different substances with PET scans to find prostate cancer. For example, sodium fluoride is absorbed by bones, and its use in a PET scan may improve the chances of finding prostate cancer that has spread to the bone. Other substances being studied include choline acetate, fluciclovine, and prostate specific membrane antigen (a substance that binds with a protein on the surface of the prostate cancer, known as PSMA).

- MRI scan
  An MRI uses magnetic fields, not x-rays, to produce detailed images of the body. A special dye called a contrast medium is given before the scan to create a clearer picture. This dye can be injected into a person's vein or given as a liquid to swallow.
Stages

People with prostate cancer are often given a stage along with their diagnosis. The stage is a way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body. Doctors use diagnostic tests to find out the cancer’s stage, so staging may not be complete until all of the tests are finished. Knowing the stage helps your doctor decide which treatment plan will be best and may help predict your prognosis. The stages of prostate cancer are:

Stage I. Cancer in this early stage is usually slow growing. The tumor cannot be felt during a DRE or seen on imaging tests. A stage I cancer is usually made up of cells that look similar to healthy cells and involves less than one-half of one side of the prostate gland. PSA levels are low.

Stage IIA, IIB, and IIC. Stage II describes a tumor that is too small to be felt or seen on imaging tests. Or, it describes a slightly larger tumor that can be felt during a DRE. The cancer has not spread outside the prostate gland, but the cells usually look less like healthy cells and may have a higher risk of growing and spreading. The cancer has not spread to any lymph nodes or to distant organs. PSA levels are medium or low.

Stage IIIA, IIIB, and IIIC. The cancer has spread beyond the outer layer of the prostate into nearby tissues. It may also have spread to the seminal vesicles, the glands that help make semen, or the bladder or rectum. The cells look very different from healthy cells, and PSA levels are high.

Stage IVA and IVB. This stage describes any tumor that has spread to other parts of the body, such as the bladder, rectum, bone, liver, lungs, or lymph nodes. It is also called metastatic prostate cancer.

Recurrent. Recurrent prostate cancer is cancer that has come back after treatment. It may return in the prostate area or in another part of the body.

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Gleason score for grading prostate cancer

Prostate cancer is given a grade called a Gleason score. This score is based on how much the cancer looks like healthy tissue when viewed under a microscope. Less aggressive tumors generally look more like healthy tissue. Tumors that are more aggressive are likely to grow and spread to other parts of the body. They look less like healthy tissue.

The Gleason scoring system is the most common prostate cancer grading system used. The pathologist looks at how the cancer cells are arranged in the prostate and assigns a score on a scale of 3 to 5 from 2 different locations. Cancer cells that look similar to healthy cells receive a low score. Cancer cells that look less like healthy cells or look more aggressive receive a higher score. To assign the numbers, the pathologist determines the main pattern of cell growth, which is the area where the cancer is most obvious and looks for another area of growth. The doctor then gives each area a score from 3 to 5. The scores are added together to come up with an overall score between 6 and 10.

Gleason scores of 5 or lower are not used. The lowest Gleason score is 6, which is a low-grade cancer. A Gleason score of 7 is a medium-grade cancer, and a score of 8, 9, or 10 is a high-grade cancer. A lower-grade cancer grows more slowly and is less likely to spread than a high-grade cancer.
Doctors look at the Gleason score in addition to stage to help plan treatment. For example, active surveillance (see page 13) may be an option for a patient with a small tumor, low PSA level, and a Gleason score of 6. People with a higher Gleason score may need treatment that is more intensive, even if the cancer is not large or has not spread.

- **Gleason X**: The Gleason score cannot be determined.
- **Gleason 6 or lower**: The cells are well differentiated, meaning they look similar to healthy cells.
- **Gleason 7**: The cells are moderately differentiated, meaning they look somewhat similar to healthy cells.
- **Gleason 8, 9, or 10**: The cells are poorly differentiated or undifferentiated, meaning they look very different from healthy cells.

### Prostate cancer risk groups

In addition to stage and Gleason score, doctors use other prognostic factors to help plan the best treatment and predict how successful treatment will be. Examples of these include the National Comprehensive Cancer Network (NCCN) risk group categories and the Cancer of the Prostate Risk Assessment (CAPRA) risk score from the University of California, San Francisco.

### QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT YOUR DIAGNOSIS

- What type and stage of prostate cancer do I have? What does this mean?
- Is my tumor considered “low-risk,” “intermediate-risk,” or “high-risk”? What does this mean?
- What other diagnostic tests or procedures may be necessary?
- How can I prepare myself for each test or procedure?
- Where do I need to go to have these tests?
- When will I get the results? How will I get the results (over the phone, at the next appointment, etc.)?
- Who will explain the results to me?
- Should I see another doctor for a second opinion? Can you give me names of doctors to see?
- If I get a second opinion, will I have to repeat any tests or procedures?
- What is my prognosis?
Prostate Cancer Treatment

In cancer care, different types of doctors often work together to create an overall treatment plan that combines different types of treatment. This is called a multidisciplinary team. The treatment options and recommendations your doctor gives you will depend on several factors, including the type and stage of cancer, possible side effects, and your preferences and overall health. Your care plan should also include treatment for symptoms and side effects, an important part of cancer care. When making treatment decisions, you are also encouraged to consider participating in a clinical trial. A clinical trial is a research study that tests whether a new approach to treatment is safe, effective, and possibly better than the standard treatment.

Because most prostate cancers are found in the early stages when they are growing slowly, you usually do not have to rush to make treatment decisions. Before treatment begins, it is important to discuss the goals and possible side effects of treatment with your doctor, including the likelihood that the treatment will work and the chances of experiencing urinary, bowel, sexual, and hormone-related problems.

To start a conversation with your doctor, you may want to ask questions like these:

- How much experience do you have treating prostate cancer?
- What are my treatment options?
- Will I need more than 1 type of treatment?
- What treatment plan do you recommend for me? Why?
- What is the goal of the treatment(s) you are recommending? Is it to eliminate the cancer? To relieve my symptoms? Or both?
- What is the expected timeline for my treatment plan?
- When do I need to make a decision about starting treatment?
Active surveillance and watchful waiting

If prostate cancer is in an early stage, is growing slowly, and treating the cancer would cause more problems than the disease itself, a doctor may recommend active surveillance or watchful waiting.

Active surveillance

Prostate cancer treatments can cause side effects, such as erectile dysfunction, which is the inability to get and maintain an erection, and incontinence, which is the inability to control urine flow or bowel function. These treatments for prostate cancer may seriously affect a person’s quality of life. In addition, many prostate cancers grow slowly and cause no symptoms or problems. For this reason, many people may consider delaying cancer treatment rather than starting treatment immediately. This is called active surveillance. During active surveillance, the cancer is closely monitored for signs that it is worsening. If the cancer is found to be worsening, treatment will begin.

Active surveillance is usually preferred for people with low-risk, low-grade prostate cancer that can be treated locally if it shows signs of getting worse. ASCO endorses recommendations from CancerCare Ontario concerning active surveillance, which recommend active surveillance for most patients with a Gleason score of 6 or below, with cancer that has not spread beyond the prostate. Sometimes, active surveillance may be an option for patients with a Gleason score of 7. There is also growing use of genomic testing to help determine whether active surveillance is the best choice for a person with prostate cancer.

ASCO encourages the following testing schedule for active surveillance:

- A PSA test every 3 to 6 months
- A DRE at least once every year
- Another prostate biopsy within 6 to 12 months, then a biopsy at least every 2 to 5 years

A patient should receive treatment if the results of the tests done during active surveillance show signs of the cancer becoming more aggressive or spreading, causing pain, or blocking the urinary tract.

Watchful waiting

Watchful waiting may be an option for much older patients and those with other serious or life-threatening illnesses who are expected to live less than 5 years. With watchful waiting, routine PSA tests, DRE, and biopsies are not usually performed. If someone develops symptoms from the prostate cancer, such as pain or blockage of the urinary tract, then treatment may be recommended to relieve those symptoms. This may include hormonal therapy (see page 19). People who start on active surveillance may switch to watchful waiting at some point to avoid repeated tests and biopsies.
Doctors must be cautious in judging the disease. This means that doctors must collect as much information as possible to determine whether active surveillance or watchful waiting is appropriate for each patient. In addition, many doctors recommend a repeat biopsy shortly after diagnosis to confirm that the cancer is in an early stage and growing slowly before considering active surveillance for an otherwise healthy person. It is important to discuss these issues with your doctor to make the best decisions about treatment.

**QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT ACTIVE SURVEILLANCE OR WATCHFUL WAITING**

- Why are you recommending this treatment option for me?
- What type of follow-up tests will I need, and how often will I need them?
- What signs and symptoms should I report right away?
- Will I ever need to have active treatment? If so, when would this treatment begin?

## Local treatments

Local treatments are aimed at eliminating cancer from a specific, limited area of the body. For early-stage prostate cancer, local treatments may get rid of the cancer completely. If the cancer has spread outside the prostate gland, other types of treatment called systemic treatments may be needed to destroy cancer cells located in other parts of the body.

### Surgery

Surgery is the removal of the tumor during an operation. It is used to try to eliminate the cancer before it spreads outside the prostate. To make sure the entire tumor is removed, the urologist or urologic oncologist will also remove a small area of healthy tissue around the tumor, known as a margin. Urologists and urologic oncologists are doctors who specialize in the function and problems of the urinary tract.

The type of surgery your doctor recommends will depend on the stage of the disease, your general health, and other factors. Surgical options include:

- **Radical (open) prostatectomy**

A radical prostatectomy is the surgical removal of the entire prostate and the seminal vesicles. Lymph nodes in the pelvic area may also be removed. This operation has the risk of causing sexual problems. Nerve-sparing surgery, when possible, increases the chance that a patient can maintain their sexual function after surgery by avoiding surgical damage to the nerves that allow erections and orgasm to occur. Orgasm can occur even if some
nerves are cut because these are 2 separate processes. Urinary incontinence, which is an inability to control urine flow, is also a possible side effect of a radical prostatectomy.

- **Robotic or laparoscopic prostatectomy**

This type of surgery is generally much less invasive than a radical prostatectomy and may shorten recovery time. A camera and instruments are inserted through small, keyhole incisions in the patient’s abdomen. The surgeon then directs the robotic instruments to remove the prostate gland and surrounding tissue. In general, robotic prostatectomy causes less bleeding and less pain, but the sexual and urinary side effects can be similar to those of a radical prostatectomy. Talk with your doctor about whether your treatment center offers this procedure and how it compares with the results of a conventional radical prostatectomy.

**QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT SURGERY**

- Which type of surgery do you recommend? Why?
- What is the goal of this surgery?
- Will lymph nodes or any other tissue need to be removed?
- Where will the scar be, and what will it look like?
- Will I need to be admitted to a hospital for this operation? If so, how long will I need to stay in the hospital?
- What kind of pain should I expect after surgery? What can be done to manage this pain?
- Will I have difficulty controlling my bladder function after this surgery? If so, how will this side effect be managed?
- Could this surgery affect my sexual function? If so, how and for how long?
Radiation therapy

Radiation therapy uses high-energy rays to destroy cancer cells. It can be given as an initial treatment for early-stage prostate cancer, or it can be used after surgery to destroy cancer cells that could not be removed. A doctor who specializes in giving radiation therapy to treat cancer is called a radiation oncologist.

There are different types of radiation therapy that may be recommended as part of your treatment plan:

- **External-beam radiation therapy**

  External-beam radiation therapy focuses a beam of x-rays on the area with the cancer. One method of external-beam radiation therapy used to treat prostate cancer is called hypofractionated radiation therapy. This is when a person receives a higher daily dose of radiation therapy given over a shorter period, instead of lower doses given over a longer period. Extreme hypofraction radiation therapy is when the entire treatment is delivered in 5 or fewer treatments. This is also called stereotactic body radiation therapy (SBRT) or stereotactic ablative radiation therapy (SABR).

  According to recommendations from ASCO, the American Society for Radiation Oncology, and the American Urological Association, hypofractionated radiation therapy may be an option for the following people with early-stage prostate cancer that has not spread to other parts of the body:

  - People with low-risk prostate cancer who need or prefer treatment instead of active surveillance.
  - People with intermediate-risk or high-risk prostate cancer receiving external-beam radiation therapy to the prostate but not to the pelvic lymph nodes.

  People who receive hypofractionated radiation therapy may have a slightly higher risk of some short-term side effects after treatment compared with those who receive regular external-beam radiation therapy. This may include gastrointestinal side effects. Based on current research, people who receive hypofractionated radiation therapy are not at a higher risk of side effects in the long term. Talk with your health care team if you have questions about your risk for side effects.
Brachytherapy

Brachytherapy, or internal radiation therapy, is the insertion of radioactive sources directly into the prostate. These sources, called seeds, give off radiation just around the area where they are inserted and may be left for a short time (high-dose rate) or for a longer time (low-dose rate). Low-dose-rate seeds are left in the prostate permanently and work for up to 1 year after they are inserted. How long they work depends on the source of radiation. High-dose-rate brachytherapy is usually left in the body for less than 30 minutes, but it may need to be given more than once.

Brachytherapy may be used with other treatments, such as external-beam radiation therapy and/or hormonal therapy. ASCO recommends the following brachytherapy options:

- People with low-risk prostate cancer who need or choose an active treatment may consider low-dose-rate brachytherapy.
- People with intermediate-risk prostate cancer who choose external-beam radiation therapy (with or without hormonal therapy) should be offered either a low-dose-rate or high-dose-rate brachytherapy boost. A boost is a lower dose of radiation given for a shorter period of time.
- People with high-risk prostate cancer who are receiving external-beam radiation therapy and hormonal therapy should be offered a low-dose-rate or high-dose-rate brachytherapy boost.

Intensity-modulated radiation therapy (IMRT)

IMRT is a type of external-beam radiation therapy that uses CT scans to form a 3D picture of the prostate before treatment. A computer uses this information about the size, shape, and location of the prostate cancer to figure out how much radiation is needed to destroy it. With IMRT, high doses of radiation can be directed at the prostate without increasing the risk of damaging nearby organs.

Proton therapy

Proton therapy, also called proton beam therapy, is a type of external-beam radiation therapy that uses protons rather than x-rays. At high energy, protons can destroy cancer cells. Current research has not shown that proton therapy provides any more benefit to people with prostate cancer than traditional radiation therapy. It is also more expensive.

Radiation therapy may cause immediate side effects such as diarrhea or other problems with bowel function; increased urinary urge or frequency; fatigue; erectile dysfunction; and rectal discomfort, burning, or pain. Most of these side effects tend to go away after treatment, but erectile dysfunction is usually permanent. Many side effects of radiation therapy may not occur until months or years after treatment has ended.
QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT RADIATION THERAPY

- Which type of radiation therapy do you recommend? Why?
- How often will my radiation treatments occur, and how long will I receive treatment?
- How much time will each treatment take?
- What will I experience when I receive radiation therapy? Will it hurt or cause me discomfort?
- How will this treatment affect my daily life? Will I be able to work, exercise, and perform my usual activities?
- What are the possible short- and long-term side effects of this treatment? How can these side effects be prevented and/or managed?

Focal therapy

Focal therapies are less-invasive treatments that destroy small prostate tumors without treating the rest of the prostate gland. These treatments use heat, cold, and other methods to treat cancer, primarily for people with low-risk or intermediate-risk prostate cancer. They are being studied and most have not been endorsed as standard treatment options. Focal therapies are usually done as part of clinical trials.

Cryosurgery

Cryosurgery, also called cryotherapy or cryoablation, is the freezing of cancer cells with a metal probe inserted through a small incision in the area between the rectum and the scrotum, the skin sac that contains the testicles. Cryosurgery is not an established therapy or standard of care for people newly diagnosed with prostate cancer. It has not been compared with radical prostatectomy or radiation therapy, so doctors do not know if it can provide similar benefits. Its effects on urinary and sexual function are also not well known.

High-intensity focused ultrasound (HIFU)

HIFU is a heat-based type of focal therapy. During HIFU treatment, an ultrasound probe is inserted into the rectum and then sound waves are directed at cancerous parts of the prostate gland. This treatment is designed to destroy cancer cells while limiting damage to the rest of the prostate gland. The U.S. Food and Drug Administration (FDA) approved HIFU for the treatment of prostate tissue in 2015. HIFU may be an attractive option for some patients, but knowing who may benefit most from this treatment is still unknown. Similarly, HIFU should only be performed by a specialist with extensive expertise. You will need to carefully discuss with your doctor if HIFU is the best treatment for you.
Systemic treatments

Doctors use systemic treatments such as hormone therapy, targeted therapy, chemotherapy, and immunotherapy to reach cancer cells throughout the body. For people with later-stage prostate cancer or those considered to have a high risk of recurrence, systemic treatments may be used to shrink the cancer before surgery or radiation therapy, which is known as neoadjuvant therapy. Systemic treatment can also be used after local treatment to eliminate any remaining cancer cells and reduce the chance the cancer will return. This is called adjuvant therapy.

Hormonal therapy

Hormonal therapy, also called androgen-deprivation therapy or ADT, is used to reduce the levels of sex hormones called androgens in the body or keep them from reaching prostate cancer cells. Androgens, which are made mainly in the testicles, drive prostate cancer growth and spread.

The most common androgen is testosterone. Testosterone levels in the body can be lowered either by surgically removing the testicles, known as surgical castration, or by taking drugs that turn off the function of the testicles, called medical castration.

Hormonal therapy is used to treat prostate cancer in different situations, including locally advanced, recurrent, and metastatic prostate cancer. Hormonal therapy is also considered as an adjuvant therapy if prostate cancer has been found in the lymph nodes after a radical prostatectomy.

Research has shown that hormonal therapy can help lengthen lives when used with radiation therapy for a high-risk prostate cancer that is more likely to recur. For some patients, hormonal therapy will be used first to shrink a tumor before radiation therapy or surgery. For other people with prostate cancer that has spread locally, hormonal therapy is given before, during, and after radiation therapy for up to 3 years.

Options for hormonal therapy include:

- **LHRH agonists**

  LHRH stands for luteinizing hormone-releasing hormone. Medications known as LHRH agonists prevent the testicles from receiving messages sent by the brain to make testosterone. By blocking these signals, LHRH agonists reduce the testosterone level just as well as removing the testicles. However, unlike surgical castration, the effects of LHRH agonists are reversible, so testosterone production usually begins again once a patient stops taking the medication.
LHRH agonists are injected or placed as small implants under the skin. Depending on the drug used, they may be given once a month or just once a year. When LHRH agonists are first given, testosterone levels briefly increase before falling to very low levels. This effect, known as a “flare,” happens because of a temporary surge in testosterone production by the testicles in response to the way LHRH agonists work in the body. This flare may increase the activity of prostate cancer cells and cause symptoms and side effects, such as bone pain when cancer has spread to the bones.

**LHRH antagonist**

This class of drugs, also called a gonadotropin-releasing hormone (GnRH) antagonist, stops the testicles from producing testosterone like LHRH agonists, but they reduce testosterone levels more quickly and do not cause a flare. The FDA has approved degarelix (Firmagon), given by monthly injection, to treat advanced prostate cancer. One side effect of this drug is that it may cause a severe allergic reaction.

**Androgen receptor inhibitors**

While LHRH agonists and antagonists lower testosterone levels in the blood, androgen receptor inhibitors block testosterone from binding to so-called “androgen receptors,” which are chemical structures in cancer cells that allow testosterone and other hormones to enter the cells. In effect, androgen receptor inhibitors stop testosterone from working. Older androgen receptor inhibitors include bicalutamide (Casodex), flutamide (available as a generic drug), and nilutamide (Nilandron) and are taken as pills. Newer inhibitors include apalutamide (Erleada), darolutamide (Nubeqa), and enzalutamide (Xtandi).

These medications are also sometimes called anti-androgens. They are usually given to people who have “castration-sensitive” prostate cancer, which means that the prostate cancer still responds to treatments that lower testosterone levels. Androgen receptor inhibitors are not usually used by themselves to treat prostate cancer.

- **Apalutamide.** Apalutamide is approved by the FDA for the treatment of non-metastatic castration-resistant prostate cancer and for metastatic castration-sensitive prostate cancer in combination with hormonal therapy.
- **Darolutamide.** Darolutamide is approved for the treatment of non-metastatic castration-resistant prostate cancer.
- **Enzalutamide.** Enzalutamide is a nonsteroidal androgen receptor inhibitor that is approved to treat metastatic and non-metastatic castration-resistant prostate cancer as well as metastatic castration-sensitive prostate cancer.
Androgen synthesis inhibitors

Although the testicles produce most of the body's testosterone, other cells in the body can still make small amounts of the hormone that may drive cancer growth. These include the adrenal glands and some prostate cancer cells. Androgen synthesis inhibitors target an enzyme called CYP17 and stop cells from making testosterone.

- Abiraterone acetate (Zytiga). Abiraterone acetate is taken in the form of a pill. Patients take 4 pills per day along with prednisone (multiple brand names) or prednisolone (multiple brand names) twice a day to help prevent some of the side effects of abiraterone. Abiraterone acetate may cause serious side effects, such as high blood pressure, low blood potassium levels, fatigue, and fluid retention. Common side effects include weakness, joint swelling or pain, swelling in the legs or feet, hot flushes, diarrhea, vomiting, shortness of breath, and anemia.

- Ketoconazole (Nizoral). Ketoconazole is an androgen synthesis inhibitor that is no longer widely used because of multiple drug interactions. However, ketoconazole may be an option for some patients. Talk with your doctor about possible side effects of this medication.

Combined androgen blockade

Sometimes anti-androgens are combined with bilateral orchiectomy, which is surgery to remove the testicles, or LHRH agonist treatment to maximize the blockade of hormones. This is because even after the testicles are no longer producing hormones, the adrenal glands still make small amounts of androgens, commonly called a “flare.” Some doctors may recommend combined androgen blockade to prevent this flare.

Intermittent hormonal therapy

Traditionally, hormonal therapy was given for the patient’s lifetime or until it stopped controlling the cancer, and then other treatment options were considered. During the past 2 decades, researchers have studied the use of intermittent hormonal therapy, which is hormonal therapy that is given for specific times (most commonly 6 months) and then stopped temporarily to allow for testosterone levels to recover. For these patients, hormonal therapy is restarted when the PSA begins to rise again. When to restart therapy (that is, at which PSA levels) remains controversial. Using hormonal therapy in this way may lower the side effects related to the lack of testosterone and improve a patient’s quality of life. This approach most benefits those who have no evidence of metastases. Intermittent hormonal therapy has not been shown to be as effective as or better than lifelong hormonal therapy in patients with metastatic disease.
In general, people treated with hormonal therapy may experience erectile dysfunction, loss of sexual desire, hot flashes with sweating, gynecomastia (growth of breast tissue), depression, cognitive dysfunction and memory loss, weight gain, loss of muscle mass, and osteopenia or osteoporosis, which is thinning of bones.

Although testosterone levels may recover after stopping hormonal therapy, some people who have had medical castration with LHRH agonists for many years may continue to have hormonal effects, even if they are no longer taking this type of drug.

Another serious side effect of hormonal therapy is the risk of developing metabolic syndrome. Metabolic syndrome is a set of conditions, such as obesity, high levels of blood cholesterol, and high blood pressure, that increases a person’s risk of heart disease, stroke, and diabetes. Currently, it is not certain how often this happens or exactly why it happens, but it is clear that the risk is increased.

The risks and benefits of castration should be carefully discussed with your doctor. For people with metastatic prostate cancer, especially if it is advanced and causing symptoms, most doctors believe that the benefits of castration far outweigh the risks of side effects.

QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT HORMONAL THERAPY

- What type of hormonal therapy do you recommend? Why?
- How long will I need to continue this treatment?
- What are the possible short- and long-term side effects of this treatment option?
- Could this treatment affect my sexual health? If so, how and for how long?

Targeted therapy

Targeted therapy is a treatment that targets the cancer’s specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer cells and limits damage to healthy cells.

Not all tumors have the same targets. To find the most effective treatment, your doctor may run tests to identify the genes, proteins, and other factors in your tumor. This helps doctors better match each patient with the most effective treatment whenever possible. In addition, research studies continue to find out more about specific molecular targets and new treatments directed at them.
Targeted therapy for prostate cancer includes:

- **Olaparib (Lynparza).** Olaparib is a type of targeted therapy called a PARP inhibitor. It is approved for patients with metastatic castration-resistant prostate cancer whose disease has continued to grow and spread during treatment with abiraterone and/or enzalutamide and who have DNA-repair gene defects, which may be inherited or in the tumor. DNA-repair gene defects make it harder for cancer cells to repair damaged DNA. Certain genes, such as BRCA1, BRCA2, and several others, are linked with DNA-repair gene defects, and the presence of any of these can allow treatment with olaparib. The FDA has also approved 2 specific tests to select patients for treatment with olaparib.

- **Rucaparib (Rubraca).** Rucaparib is another PARP inhibitor approved to treat metastatic castration-resistant prostate cancer in patients whose disease has not been stopped by treatment with abiraterone and/or enzalutamide and chemotherapy, and who have a BRCA1 or BRCA2 mutation that is either inherited or in the tumor.

One or more tests must be given to determine whether a patient may receive olaparib or rucaparib:

- Testing for germline mutation after discussion with a genetic counselor
- Genomic sequencing of tumor tissue
- Genomic sequencing of the tumor DNA circulating in the bloodstream

Genomic sequencing may be performed on tissue that was previously collected or on tissue from a new biopsy. Germline mutation testing alone identifies about half of the patients eligible for this treatment. People with metastatic prostate cancer who are considering targeted therapy need to talk with their doctors about all 3 tests mentioned above.

Talk with your doctor about possible side effects for a specific medication and how they can be managed.

**QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT TARGETED THERAPY**

- How does it work?
- How often is this treatment given?
- What will I experience when I receive the treatment? Will it hurt or cause me discomfort?
- How long will I need to continue this treatment?
- What short- and long-term side effects may I experience?
- Are there other treatment options I should consider?
Chemotherapy

Chemotherapy is the use of drugs to destroy cancer cells, usually by keeping the cancer cells from growing, dividing, and making more cells. Chemotherapy is usually given by a medical oncologist, a doctor who specializes in treating cancer with medication. Systemic chemotherapy gets into the bloodstream to reach cancer cells throughout the body. Chemotherapy for prostate cancer is given through an intravenous (IV) tube placed into a vein using a needle. A chemotherapy regimen usually consists of a specific number of cycles given over a set period of time.

Chemotherapy with docetaxel (Taxotere) is approved to treat newly diagnosed metastatic castration-sensitive prostate cancer as well as metastatic castration-resistant prostate cancer. Two other chemotherapy drugs, cabazitaxel (Jevtana) and mitoxantrone (Novantrone), are only approved for metastatic castration-resistant prostate cancer.

The side effects of chemotherapy depend on the individual, the type of chemotherapy received, the dose used, and the length of treatment. They may include fatigue, sores in the mouth and throat, diarrhea, nausea and vomiting, constipation, blood disorders, nervous system effects, changes in thinking and memory, sexual and reproductive problems, appetite loss, pain, and hair loss. The side effects of chemotherapy usually go away once treatment has finished. However, some side effects may continue, come back, or develop later.

Ask your doctor which side effects you may experience, based on your treatment plan. Your health care team will work with you to manage or prevent many of these side effects.

QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT CHEMOTHERAPY

- Based on the type and stage of the prostate cancer, will chemotherapy be part of my treatment plan?
- Which type of chemotherapy do you recommend? Why?
- How long will I need to have chemotherapy?
- Will chemotherapy affect my daily life? Will I be able to work, exercise, and perform my usual activities?
- What are the potential side effects of this treatment? What can be done to prevent or manage these side effects?
## Treating advanced prostate cancer (stage IV)

If cancer spreads to another part of the body from where it started, doctors call it metastatic cancer. High-risk or locally advanced prostate cancers pose a higher chance of becoming metastatic cancer.

There is no cure for metastatic prostate cancer, but it is often treatable for quite some time. Many people outlive their prostate cancer, even those who have advanced disease. Often, the prostate cancer grows slowly, and there are now effective treatment options that extend life even further.

### Biochemical recurrence

Many patients treated with surgery or radiation therapy are cured. However, some who are not cured will develop a biochemical recurrence (BCR), or “rising PSA syndrome.” The primary signs of BCR are rising PSA levels and no metastases in scans. The exact definition of BCR depends on the initial treatment a patient has received:

- Radiation therapy may be a treatment option for certain patients with BCR after surgery; this treatment option is called “salvage radiation therapy.” People who receive radiation therapy to treat BCR should receive systemic treatment as well.
- Treating BCR after radiation therapy is more difficult. Treatment options can include surgery, called “salvage radical prostatectomy,” or cryosurgery, called “salvage cryotherapy.”
- BCR is considered advanced cancer, so treatment with hormonal therapy may be recommended, especially if other local treatments are not options. For BCR, there is still no exact recommendation for which type of hormonal therapy to use, when to start it, and for how long to give it.

### Metastatic castration-sensitive prostate cancer

Prostate cancer that has spread to other parts of the body and still responds to hormonal therapy is called metastatic castration-sensitive prostate cancer. ASCO recommends hormonal therapy plus 1 of the 4 following options:

- Docetaxel
- Abiraterone acetate plus prednisone
- Apalutamide
- Enzalutamide

### Non-metastatic castration-resistant prostate cancer

Prostate cancer that is no longer stopped by low testosterone levels is called castration resistant. If the cancer has not spread to other parts of the body, it is called non-metastatic castration-resistant prostate cancer.
ASCO recommends that people who develop castration-resistant prostate cancer should continue treatment that lowers testosterone levels. This may include a permanent treatment, such as surgery to remove the testicles (orchiectomy), or it may include continuing treatment with medicines that lower hormone levels. Research studies have shown that anti-androgen medications like apalutamide, darolutamide, and enzalutamide delay metastasis and lengthen lives in people with non-metastatic castration-resistant prostate cancer whose PSA levels are rapidly rising.

PSA testing and/or imaging tests may be done periodically to check whether the cancer has worsened or spread. For people with a low risk of developing metastatic disease, ASCO recommends PSA testing every 4 to 6 months. For those with a high risk of metastatic disease, ASCO recommends PSA testing every 3 months.

**Metastatic castration-resistant prostate cancer**

If castration-resistant prostate cancer has spread to other parts of the body, it is called “metastatic.” This type of prostate cancer can be difficult to treat. Treatment options include androgen receptor inhibitors, targeted therapy, and chemotherapy. Radium-223 (Xofigo) is a radioactive substance that can be used to treat castration-resistant prostate cancer that has spread to the bone (see page 30). Treatment with an immunotherapy called sipuleucel-T (Provenge) may be an option. Also called biologic therapy, immunotherapy is designed to boost the body’s natural defenses to fight the cancer. It uses materials made either by the body or in a laboratory to improve, target, or restore immune system function.

Treatment in a clinical trial may also be an option.

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For more information about treatment options for prostate cancer, visit www.cancer.net/prostate.

**QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT IMMUNOTHERAPY**

- How does it work?
- How often is the immunotherapy given?
- What will I experience when I receive the immunotherapy? Will it hurt or cause me discomfort?
- How long will I need to continue this treatment?
- What short- and long-term side effects may I experience?
- How does this approach compare to other treatment options I have?
Clinical trials

Doctors and scientists are always looking for better ways to treat people with prostate cancer. To make scientific advances, doctors create research studies involving volunteers, called clinical trials.

Many clinical trials focus on new treatments. Researchers want to learn if a new treatment is safe, effective, and possibly better than treatment doctors use now. These studies evaluate new drugs, different combinations of treatments, new approaches to radiation therapy or surgery, and new methods of treatment. There are also clinical trials that study new ways to ease symptoms and side effects during treatment and manage late effects that may occur after treatment. Clinical trials are often designed to be an option at any point in a patient’s care, starting from the time of diagnosis.

People who participate in clinical trials can be some of the first to get a new treatment before it is available to the public. However, there are some risks with a clinical trial, including possible side effects and the chance that the new treatment may not work. People are encouraged to talk with their health care team about the pros and cons of joining a specific study.

People decide to participate in clinical trials for many reasons. For some people with prostate cancer, a clinical trial is the best treatment option available. Because standard treatments are not perfect, people are often willing to face the added uncertainty of a clinical trial in the hope of a better result. Other people volunteer for clinical trials because they know that these studies are a way to contribute to the progress in treating prostate cancer. Even if they do not benefit directly from the clinical trial, their participation may help others with prostate cancer in the future.

Insurance coverage of clinical trials costs differs by location and by study. In some programs, some of the patient’s expenses from participating in the clinical trial are reimbursed. In others, they are not. It is important to talk with the research team and your insurance company first to learn if and how your treatment in a clinical trial will be covered.

Some people worry if they participate in a clinical trial, they may receive no treatment by being given a placebo or a "sugar pill." However, placebos are rarely used in cancer clinical trials. If a placebo is used, it is usually combined with standard treatment in most cancer clinical trials. Study participants will always be told when a placebo is used in a study.
To join a clinical trial, people must participate in a process known as informed consent. During informed consent, the research team should:

- Describe all of the treatment options, so that the person understands the standard treatment, and how the new treatment differs from the standard treatment.
- List all of the risks of the new treatment, which may or may not be different from the risks of standard treatment.
- Explain what will be required of each person in order to participate in the clinical trial, including the number of doctor visits, tests, and the schedule of treatment.

Clinical trials also have certain rules called “eligibility criteria” that help structure the research and keep patients safe. You and the research team will carefully review these criteria together.

People who participate in a clinical trial may stop participating at any time for any personal or medical reason, including if the new treatment is not working or if there are serious side effects. Clinical trials are also closely monitored by experts who watch for any problems with each study. It is important that people participating in a clinical trial talk with their doctor and researchers about who will be providing their treatment and care during the clinical trial, after the clinical trial ends, and/or if they choose to leave the clinical trial before it ends.

To learn more about clinical trials, visit www.cancer.net/clinicaltrials.

QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT CLINICAL TRIALS

- How do clinical trials help people with prostate cancer?
- What clinical trials are available for me? Where are they located, and how do I find out more about them?
- What happens during a clinical trial?
- How do the costs of participating in a clinical trial compare with the costs of standard treatment?
- Where can I learn more about clinical trials?
Managing symptoms and side effects

In addition to treatment to slow, stop, or eliminate prostate cancer, an important part of cancer care is relieving symptoms and side effects. This approach is called palliative care or supportive care.

Palliative care is any treatment that focuses on reducing a person’s symptoms, improving quality of life, and supporting patients and their families. Any person, regardless of age or type of cancer, may receive palliative care. Ideally, palliative care should start as early as needed in the cancer treatment process and continue throughout all stages of the disease. It can be given at the same time as disease-directed treatment or on its own.

Palliative treatments vary widely and often include medication, nutritional changes, relaxation techniques, emotional support, and other therapies. You may also receive palliative treatments similar to those meant to eliminate the cancer, such as chemotherapy, surgery, or radiation therapy, so it is important to understand the goals of each treatment in your treatment plan.

Before treatment begins, talk with your health care team about the possible side effects of your specific treatment plan and palliative care options. During and after treatment, be sure to tell the health care team if you are experiencing a problem, so it can be addressed as quickly as possible.

For people with prostate cancer and urinary blockage and/or bone pain and weakness, palliative care may include:

**Urinary blockage**

- **Transurethral resection of the prostate (TURP)**

  TURP is most often used to relieve symptoms of a urinary blockage, not to treat prostate cancer. In this procedure, with the patient under full anesthesia, which is medication to block the awareness of pain, a surgeon inserts a narrow tube with a cutting device called a cystoscope into the urethra and then into the prostate to remove prostate tissue.
Bone pain and weakness

- **Strontium and samarium**
These radioactive substances (beta-emitters) are given by injection and absorbed near the area of bone pain. The radiation that is released helps relieve the pain, probably by causing the tumor in the bone to shrink. Neither substance helps patients live longer, and these drugs are rarely used anymore.

- **Radiation therapy by infusion**
Radium-223 (Xofigo) is a radioactive substance used to treat castration-resistant prostate cancer that has spread to the bone. Radium-223 is an alpha-emitter radionucleotide that mimics calcium and targets areas in the bone where destruction and remodeling has occurred. This treatment delivers radiation particles directly to tumors found in the bone, limiting damage to healthy tissue, including the bone marrow, where normal blood cells are made. Radium-223 is given by intravenous injection (IV) once a month for 6 months.

Radium-233 has small effects on PSA, so people should not expect to see big decreases in PSA levels during treatment. Some people should not receive this, especially those who need fast treatment of symptoms and those with prostate cancer that has spread to the liver and/or lungs. Discuss with your doctor whether this medication is best for your situation.

- **Bone-modifying drugs**
Bone health is an important issue in the lives of people with prostate cancer. Osteopenia and osteoporosis are bone conditions that can be caused or worsened by hormonal therapy. Patients who have a high risk for a fracture should receive treatment to lower the risk. Bone-modifying drugs that can be used in this situation include denosumab (Prolia), zoledronic acid (Reclast), alendronate (Fosamax), risedronate (Actonel), ibandronate (Boniva), and pamidronate (Aredia). These medications can have side effects, so talk with your doctor about when to take the medication and which would be best based on your situation.

Bone-modifying drugs have not been shown to prevent the spread of prostate cancer to the bone in patients who do not currently have evidence of bone metastases.

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For more information about care for symptoms and side effects, visit www.cancer.net/palliativecare.
QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT PALLIATIVE CARE
► What can be done to manage any symptoms and side effects I may experience?
► Can you recommend someone who specializes in palliative care?
► Where can I receive palliative care services?
► What other support services are available to me? To my family?

QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT YOUR TREATMENT PLAN
► Who will be leading my overall treatment and follow-up care?
► What is the goal of my treatment plan?
► What is my prognosis?
► What support services are available to me? For my family?
► If I’m worried about managing the costs of cancer care, who can help me?

Notes
Coping With Side Effects

Fearing the side effects of prostate cancer treatment is common, but it may help to know that preventing and controlling side effects is a major focus of your health care team. Before starting treatment, talk with your doctor or nurse about which side effects are most likely to happen. Then, once treatment begins, let your health care team know what side effects you are experiencing. You may feel embarrassed talking about some of these issues, but discussing them will allow the health care team to manage any side effects that develop.

The specific side effects you may experience during and after treatment for prostate cancer depend on a number of factors, including the cancer’s location, your individual treatment plan, and your overall health. Some of the potential physical, emotional, and social effects experienced by people receiving treatment for prostate cancer are described in this section.

Physical effects

Urinary incontinence. An inability to control urine flow is a frequent side effect of surgery to remove the prostate and radiation therapy to the pelvic area. This side effect may be temporary or permanent. The most common type of incontinence that occurs after treatment for prostate cancer, stress incontinence, causes urine to leak when patients cough, laugh, sneeze, or exercise. Talk with your doctor about medications and surgical procedures that may help manage this condition.

Bowel problems. Some people with prostate cancer who receive radiation therapy may have bowel problems during and after treatment. Possible bowel problems include diarrhea, gas, loss of control of bowel movements, and visible or invisible bleeding with bowel movements. These issues are more commonly caused by external-beam radiation therapy than by brachytherapy. Many people are able to manage bowel problems by taking over-the-counter medications, and most of these problems go away over time.
Sexual issues. Prostate cancer treatment can affect sexual health. Some sexual side effects may be temporary and go away within a year after treatment, but some can be long lasting. Side effects that change sexual health can affect a person mentally, emotionally, and physically. Talk with your health care team about how your treatment could affect your sexual health. If you have a sexual partner, it can help to have an honest conversation with them about what worries you and what you expect may happen.

- **Loss of sexual desire.** Treatments that reduce testosterone can lower your sexual desire. This will make you less interested in physical intimacy and having sex. It can also cause erectile dysfunction. There are no medical treatments to increase sexual desire, but treatments that lower testosterone may be temporarily stopped to let testosterone levels rise again. Fortunately, sexual desire is also influenced by other factors, such as relationship satisfaction, self-esteem, and psychological health. Because desire can be significantly dampened by loss of testosterone, it is important to learn how to optimize these other elements.

- **Erectile dysfunction.** Erectile dysfunction or ED is when you cannot have or keep an erection. There are medications to help treat this condition, as well as medical devices like suppositories and a penile pump or implant.

- **Less semen and dry orgasm.** Treatment may cause your orgasms to have less semen or no semen at all, called a dry orgasm. Having less or no semen does not affect a person’s feelings of pleasure during orgasm. However, it does affect the chances of fathering a child.

- **A smaller penis.** Some patients may find that their penis shrinks by up to an inch after treatment, particularly after prostatectomy. Some research has found that this side effect is temporary, and the penis regains its size after a year. If this happens to you, speak with your health care team about penile rehabilitation, which can help with the recovery of the health of your penis.

There are many ways you can manage or cope with the sexual side effects of prostate cancer. The first step is to speak with your health care team about your sexual health, even if it makes you feel uncomfortable. Sexual recovery is an important part of quality of life, and your health care team can direct you to sources of help.

It will also be important to think about sexual arousal and intimacy in different ways. It may take longer to become aroused, you may feel distracted or anxious about cancer, and you may be uncomfortable talking with your partner about changes in your body image or erectile function. Often, it is helpful to focus on other forms of intimacy and sensual touch, such as kissing and cuddling, in order to enhance connection and jumpstart a sense of closeness and satisfaction. Most importantly, make time to communicate with your partner and seek help if you need it.

**Infertility.** Surgery, radiation therapy, and cancer medications such as chemotherapy may cause temporary or permanent infertility (inability to father a child). If this is a concern for you, talk with your doctor before treatment begins about possible fertility-related side effects.
Hormonal changes. Hormonal therapy lowers levels of testosterone and other sex hormones. As a result, many patients who receive hormonal therapy not only experience side effects like erectile dysfunction and a decreased desire to have sex, but they may also have hot flashes with severe sweating, growth of breast tissue, depression, weight gain, osteopenia or osteoporosis, and an abnormally low level of red blood cells. The risk of high blood pressure, diabetes, and heart attacks is also higher for those who receive hormonal therapy. Your doctor can help prevent or treat most of these side effects.

Fatigue. Cancer and its treatment often cause a persistent sense of tiredness or exhaustion. Most people receiving cancer treatment experience some type of fatigue, which can make even a small effort, such as walking across a room, seem like too much. Fatigue can seriously affect all aspects of a person’s life, from relationships with friends and family to the ability to perform at work. It is important to tell your doctor if you are experiencing fatigue because there are things your health care team can do to help.

Pain. Pain can be caused by the tumor, be a side effect of cancer treatment, or result from factors not related to the cancer. Untreated pain can make other aspects of cancer seem worse, such as fatigue, weakness, nausea, sleep disturbances, depression, anxiety, and mental confusion. However, it is important to know that up to 95% of cancer pain can be treated successfully using medication or other strategies. Your doctor or a pain specialist can help you find an effective pain-relief strategy.

For more information about managing side effects, visit www.cancer.net/sideeffects. To learn more about cancer-related pain, visit www.cancer.net/pain.

Emotional and social effects
In addition to physical side effects, you may experience emotional and social effects and sexual health concerns. For many people, a diagnosis of prostate cancer is stressful and can trigger difficult emotions.

Research has shown that sharing fears and anxieties with family, friends, counselors, clergy, or support groups helps strengthen patients emotionally and perhaps even physically. If you don’t find it easy to open up to others, you may want to express your feelings in other ways, such as:

- Writing in a journal or starting a blog
- Doing artistic projects, such as painting
- Praying or meditating
- Reading
- Slowing down and reflecting
However, even with outlets to express their feelings, sometimes people with prostate cancer and those closest to them continue to experience emotional and social challenges. If you are feeling anxious, depressed, or stressed about your diagnosis and treatment, talk with a member of your health care team, such as an oncology nurse. Oncology nurses not only have a wealth of experience and knowledge about cancer, cancer treatment, and side effects, but they can also provide you with emotional and social support, as well as help you develop effective coping strategies.

Another good resource is an oncology social worker. An oncology social worker can help you navigate the health care system; find support to manage the day-to-day challenges of living with cancer; and provide counseling, education, information services, discharge and home care planning services, and referrals to community resources for you and your family and friends. Oncology social workers practice in many settings, including cancer centers, hospitals, doctors’ offices, cancer-related agencies, hospices, and private practices. If there is not an oncology social worker at the place where you receive treatment, call the nearest cancer center or university/teaching hospital to ask if there is one on staff.

### Relationships and prostate cancer

After a prostate cancer diagnosis, both people in a relationship may experience sadness, anxiety, anger, or even hopelessness. There may also be shifts in the way couples take care of household chores or other activities. For some couples, facing the challenges of cancer together strengthens their relationship and commitment. For others, the stress of cancer may create additional problems.

Besides changes in roles and responsibilities, prostate cancer often has the biggest effect on a couple’s sex life and intimacy. Depression, fatigue, nausea, erectile dysfunction, and other physical or emotional problems may lower sex drive or make intercourse difficult. Both partners may feel anxious about this issue, but they may be reluctant to talk about it. Every couple has varying levels of comfort in discussing sex and intimacy. If this discussion is especially awkward or uncomfortable for you, consider getting help from a counselor, therapist, doctor, or social worker. Start by raising the topic with your doctor. One way to begin is by saying: “I am worried about the sexual side effects related to my cancer treatment. Who can I talk with?” They may have some suggestions for managing side effects. Your doctor can also give you referrals to
other health care professionals who can help facilitate these discussions and suggest ways to maintain intimacy.

Because physical and emotional needs change frequently as couples cope with cancer, it is important for both people in the relationship to continue to share how they are feeling during and after treatment. It is also important to talk as openly and honestly as possible to avoid the frustration and anger that may result from misinterpreting your partner’s behavior. Sometimes both partners need extra reassurance that they are still loved. Talking about feelings and personal needs with honesty, sincerity, and openness greatly reduces the stress cancer can place on a relationship.

You can learn more about coping with the physical and emotional effects of prostate cancer at www.cancer.net/coping. For a list of support organizations and other resources, visit www.cancer.net/support.

QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT SIDE EFFECTS

- What are the potential short- and long-term side effects of each treatment in my treatment plan?
- Are there ways to help me prepare for treatment and decrease the chance of experiencing side effects?
- Will I have difficulty controlling my bladder or bowel function after treatment?
- Could treatment affect my sexual health? If so, how and for how long?
- Could this treatment affect my fertility?
- What can be done to manage these side effects?
- If my partner and I are having trouble communicating, what support services and other resources are available to us?
Follow-Up Care

If you had localized prostate cancer that was successfully treated, talk with your doctor about developing a survivorship care plan. This plan will include regular physical examinations and medical tests to monitor your recovery for the coming months and years. It will also involve watching for signs that the cancer has come back, in addition to managing any ongoing or late effects of treatment.

Different people have different risks, so it is important to talk with your doctor about how your risk affects your survivorship care plan. Many people who have finished treatment for prostate cancer receive their follow-up care through their primary care doctor. Your prostate cancer specialist can provide you and your primary care doctor a written treatment summary, as well as recommendations for your follow-up care.

**Recommended follow-up tests**

**Regular visits with your doctor.** Regularly scheduled appointments help increase the likelihood of finding a treatable recurrence, as can keeping an eye out for signs that the cancer has come back. The symptoms of a potential recurrence that you should discuss with your doctor include:

- Frequent urination
- Weak or interrupted urine flow
- Blood in the urine
- The urge to urinate frequently at night
- Blood in the seminal fluid
- Pain in the back, hips, thighs, shoulders, or other bones
- Unexplained weight loss
- Fatigue
- Pain or burning during urination, which is much less common

**PSA testing.** PSA testing is recommended every 6 to 12 months for the first 5 years after treatment, then every year after that. PSA testing may be recommended more often for some people if they have a higher risk of the cancer coming back or if they are able to have additional treatment intended to cure the cancer, such as radiation therapy or surgery. Discuss your PSA levels with your doctor. If your PSA level is increasing or your doctor is concerned
about your PSA level, they may recommend that you visit your prostate cancer specialist to find out whether more testing or treatment is needed.

**DRE.** Talk with your oncologist or the doctor providing your follow-up care about how often a DRE is needed.

### General health recommendations

People recovering from prostate cancer are encouraged to follow established guidelines for good health, such as reaching and maintaining a healthy weight, exercising, not smoking, eating a balanced diet, and following cancer screening recommendations. Here are general recommendations for those recovering from prostate cancer:

- Focus on eating more fruits, vegetables, and whole grains. Eat fewer high-calorie foods and beverages and less saturated fat.
- Get at least 600 IU of vitamin D each day and no more than 1,200 milligrams of calcium per day from foods.
- If you have problems that affect how well your body absorbs nutrients from foods, consider talking with a registered dietitian (RD).
- Be physically active for at least 150 minutes each week.
- Limit alcohol consumption.
- Quit smoking or using other types of tobacco.
- Follow recommendations for general cancer screening. Those who received radiation therapy for prostate cancer may have a higher risk of bladder and colorectal cancers and need more intensive screening.

Talk with your doctor or other member of your health care team to help you develop an exercise plan, eating plan, and cancer screening schedule that is best for you. In addition, if you smoke or use tobacco, talk with your health care team about resources to help you quit.

### QUESTIONS TO ASK THE HEALTH CARE TEAM ABOUT FOLLOW-UP CARE

- After treatment has ended, what follow-up care should I receive?
- What follow-up tests will I need, and how often will I need them?
- Who will be leading my follow-up care?
- How often will I need to see a doctor?
- What is the purpose of these visits?
- What is the chance that the cancer will return?
- What symptoms should I tell you about right away?
- If I move or need to switch doctors, how do I make sure I continue with my recommended follow-up care schedule?
Prostate Cancer Dictionary

**Active surveillance:** Closely monitoring prostate cancer with regular PSA and DRE tests and periodic biopsies. Active treatment only begins if the tumor shows signs of becoming more aggressive or spreading, causes pain, or blocks the urinary tract. Active surveillance is usually preferred for people with a long life expectancy who may benefit from curative local therapy if the cancer shows signs of getting worse.

**Adenocarcinoma:** The most common type of prostate cancer.

**Adjuvant therapy:** Treatment given after the main treatment to reduce the chance of cancer coming back by eliminating any remaining cancer cells. It usually refers to chemotherapy, radiation therapy, and/or hormonal therapy given after surgery.

**Androgen-deprivation therapy (ADT):** See hormonal therapy.

**Benign:** A tumor that is not cancerous. The tumor does not usually invade nearby tissue or spread to other parts of the body.

**Benign prostatic hyperplasia (BPH):** A non-cancerous condition where prostate cells grow and block the flow of urine; common in older people.

**Biomarker:** A substance found in the blood, urine, or body tissues of a person with cancer that is made by the tumor or by the body in response to the cancer; also called a tumor marker.

**Biopsy:** The removal of a small amount of tissue for examination under a microscope. Other tests can suggest prostate cancer is present, but only a biopsy can make a definite diagnosis.

**Bone-modifying drugs:** Medications used to help strengthen bones and reduce pain and fractures (bone breaks) from bone metastases.

**Brachytherapy:** Radiation treatment given using small radioactive “seeds” or pellets placed inside the body near the tumor. Also called internal radiation therapy.

**Castration:** Stopping the normal functioning of the testicles. Medical castration refers to the use of drugs to suppress the function of the testicles so they do not produce hormones.

**Castration-resistant prostate cancer:** Prostate cancer that is able to grow without sex hormones; resistant to hormonal therapy.

**Chemotherapy:** The use of drugs to destroy cancer cells.

**Clinical trial:** A research study that involves volunteers. Many clinical trials test new ways to treat cancer to find out whether they are safe, effective, and possibly better than the current standard of care, which is the best known approach.
Computed tomography (CT or CAT) scan: An imaging technique that takes pictures of the inside of the body using x-rays taken from different angles. A computer combines these pictures into a detailed, 3-dimensional image that shows any abnormalities or tumors.

Cryosurgery (cryotherapy or cryoablation): Freezing prostate cancer cells with a metal probe inserted through a small incision in the area between the rectum and the scrotum.

Cure: To fully restore health. This term is sometimes used when a cancer has not returned for at least 5 years after treatment. However, the concept of "cure" is difficult to apply to cancer because undetected cancer cells can sometimes remain in the body after treatment, causing the cancer to return later. Recurrence after 5 years is still possible.

Digital rectal examination (DRE): A test in which the doctor inserts a gloved, lubricated finger into the rectum and feels the surface of the prostate for any irregularities.

External-beam radiation therapy: Radiation therapy given from a machine located outside the body.

Focal therapies: Less-invasive treatments that destroy small prostate tumors without treating the rest of the prostate gland.

Gleason grade/score: The most commonly used prostate cancer grading system. The score is based on how much the prostate cancer cells looks like healthy tissue when viewed under a microscope.

Gynecomastia: The abnormal growth of breast tissue; a possible side effect of hormonal therapy.

High-intensity focused ultrasound (HIFU): A heat-based type of focal therapy that uses sound waves to destroy cancer cells in the prostate while limiting damage to the rest of the prostate gland.

Hormonal therapy: Treatment that removes or blocks hormones to destroy or slow the growth of cancer cells. Also called androgen-deprivation therapy.

Imaging test: A procedure that creates pictures of internal body parts, tissues, or organs to make a diagnosis, plan treatment, check whether treatment is working, or observe a disease over time.

Immunotherapy: A therapy designed to boost the body's natural defenses to fight cancer, using materials made either by the body or in a laboratory.

Intensity-modulated radiation therapy (IMRT): A type of radiation therapy that uses CT scans to form a 3D picture of the prostate before treatment so high doses of radiation can be directed only at the prostate without increasing the risk of damaging nearby organs.

Invasive cancer: Cancer that has spread outside the layer of tissue in which it started and has the potential to grow into other tissues or parts of the body. Also called infiltrating cancer.

Laboratory test: A procedure that evaluates a sample of blood, urine, or other substance from the body to make a diagnosis, plan treatment, check whether treatment is working, or monitor a disease over time.
**Late effects:** Side effects of cancer treatment that occur months or years after treatment has finished.

**Learning resource center:** A location in a hospital or cancer center where patients and families can get information about health related topics and learn about support resources. Also called a health or hospital library.

**Localized cancer:** Cancer that is confined to the area where it started and has not spread to other parts of the body. Also called noninvasive cancer or early-stage cancer.

**Lymphatic system:** A network of small vessels, ducts, and organs that carry fluid to and from the bloodstream and body tissues. Cancer can spread to other parts of the body through the lymphatic system.

**Magnetic resonance imaging (MRI):** Uses magnetic fields, not x-rays, to produce detailed images of the body and measure tumor size; when combined with TRUS to better identify areas that are more likely to be cancerous and should have a biopsy, it is called an MRI fusion biopsy.

**Malignant:** Refers to a tumor that is cancerous. It may invade nearby healthy tissue or spread to other parts of the body.

**Metastasis:** The spread of cancer from the place where it began to another part of the body. This occurs when cancer cells from the primary tumor travel through the blood or the lymphatic system to the lymph nodes, brain, lungs, bones, liver, or other organs.

**Neoadjuvant therapy:** Treatment given before the main treatment. It may include chemotherapy, radiation therapy, or hormonal therapy given before surgery to shrink a tumor so it is easier to remove.

**Oncologist:** A doctor who specializes in treating cancer.

**Orchiectomy:** Surgery that removes 1 or both testicles.

**Palliative care:** Any form of treatment that concentrates on reducing a patient's symptoms or treatment-related side effects, improving quality of life, and supporting patients and their families. Also called supportive care.

**Pathologist:** A doctor who specializes in interpreting laboratory tests and evaluating cells, tissues, and organs to diagnose disease.

**Positron emission tomography (PET) scan:** Usually combined with a CT scan to create pictures of organs and tissues inside the body using a radioactive substance.

**Primary site:** The area in the body where a cancer started.

**Prognosis:** Chance of recovery; a prediction of the outcome of a disease.

**Prostate:** A walnut-sized gland located behind the base of the penis, in front of the rectum and below the bladder, which makes seminal fluid.
Prostate-specific antigen (PSA): A protein made by the prostate gland and found in the blood. PSA levels in the blood may be higher than normal in people who have prostate cancer, benign prostatic hyperplasia (BPH), or infection or inflammation of the prostate gland (prostatitis).

Psychosocial effects: Emotional and social concerns related to cancer and cancer treatment that can greatly affect a person’s well-being. These may include lack of information and support; emotional difficulties, including depression and anxiety; lack of transportation; disruptions to work, school, and family life; and difficulty with the cost of cancer care.

Quality of life: An overall sense of well-being and satisfaction with life.

Radiation therapy: The use of high-energy x-rays or other particles to destroy cancer cells. Also called radiotherapy.

Recurrence: Cancer that has returned after a period during which the cancer could not be detected. Local recurrence means that the cancer has come back in the same general area where the original cancer was located. Regional recurrence refers to cancer that has come back in the lymph nodes or other tissues near the original cancer site, usually by direct spread. Distant recurrence refers to cancer that has come back and has spread to other parts of the body, usually by traveling through the lymphatic system or bloodstream.

Regimen: A treatment plan that includes which treatments and procedures will be done, medications and their doses, the schedule of treatments, and how long the treatment will last.

Response: How the cancer reacts to the treatment; how effective the treatment is.

Risk: The likelihood of an event.

Screening: The process of checking whether a person has a disease or has an increased chance of developing a disease when the person has no symptoms.

Secondary cancer: Describes either a new primary cancer (a different type of cancer) that develops after treatment for the first type of cancer or cancer that has spread to other parts of the body from the place where it started. See metastasis.

Side effect: An undesirable result of treatment, such as fatigue, incontinence, or erectile dysfunction.

Stage: A way of describing where the cancer is located, if or where it has spread, and whether it is affecting other parts of the body.

Standard of care: Care that experts agree or research shows is the most appropriate and/or effective for a specific type or stage of cancer.

Surgery: The removal of cancerous tissue from the body during an operation.
Survivorship: This term means different things to different people. Two common definitions include having no disease after the completion of treatment and the process of living with, through, and beyond cancer.

Survivorship care plan: A personalized schedule of follow-up examinations and tests that the doctor recommends after a patient’s active treatment period. This may include regular physical examinations and/or medical tests to monitor the patient’s recovery for the coming months and years. It is often used with a treatment summary. Also called a follow-up care plan.

Targeted therapy: Treatment that targets the cancer’s specific genes, proteins, or the tissue environment that contributes to cancer growth and survival. This type of treatment blocks the growth and spread of cancer cells and limits damage to healthy cells.

Transrectal ultrasound (TRUS): A diagnostic test in which the doctor inserts a probe into the rectum that takes a picture of the prostate using sound waves that bounce off the prostate. This procedure is usually done at the same time as a biopsy.

Transurethral resection of the prostate (TURP): A surgical procedure most often used to relieve the symptoms of a urinary blockage, not to treat prostate cancer. A surgeon inserts a narrow tube with a cutting device called a cystoscope into the urethra and then into the prostate to remove prostate tissue.

Treatment summary: A written summary of the treatments that a person receives during active treatment. This is often used with a follow-up care plan to help monitor a survivor’s long-term health.

Tumor: A mass formed when healthy cells change and grow out of control. A tumor can be cancerous or benign. A cancerous tumor is malignant, meaning it can spread to other parts of the body. A benign tumor means the tumor will not spread.

Watchful waiting: Watchful waiting involves less intensive monitoring than active surveillance. It includes periodic PSA tests, DRE, and/or watching for symptoms. Watchful waiting is usually recommended for older patients or those with other serious or life-threatening illnesses.

For more definitions of common terms you may hear before, during, and after treatment, visit www.cancer.net/cancerterms.
My Health Care Team

Urologist/Urologic Oncologist: ________________
Contact Information: ________________________

Medical Oncologist: _________________________
Contact Information: ________________________

Radiation Oncologist: _______________________
Contact Information: ________________________

Primary Care Doctor: ________________________
Contact Information: ________________________

Oncology Nurse: _____________________________
Contact Information: ________________________

Oncology Social Worker: _____________________
Contact Information: ________________________

Counselor/Therapist: _________________________
Contact Information: ________________________

Nutritionist/Dietitian: _______________________
Contact Information: ________________________

Pharmacist: _________________________________
Contact Information: ________________________

Other Team Members:

Name: _________________________________
Contact Information: ______________________

Name: _________________________________
Contact Information: ______________________

Name: _________________________________
Contact Information: ______________________

Name: _________________________________
Contact Information: ______________________
My Follow-Up Care Plan

Use this page to help discuss your follow-up care with your doctor and keep track of their recommendations. Talk with a member of your health care team if you have any questions.

Need for ongoing (adjuvant) treatment for cancer:  □ Yes  □ No

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<th>Purpose</th>
<th>For how long</th>
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**SCHEDULE OF FOLLOW-UP VISITS**

<table>
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<tr>
<th>Doctor’s name</th>
<th>When/How often</th>
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**CANCER SURVEILLANCE/OTHER RECOMMENDED TESTS**

<table>
<thead>
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It is important to continue to see your primary care doctor for all general health care recommended for a person of your age, including screening tests for other cancers, when appropriate. You should also tell your doctor about:

1. Anything that could be a brand new symptom
2. Anything that continues to be a persistent symptom
3. Anything you are worried about that might be related to the cancer coming back

Signs or symptoms to tell the doctor about right away: _______________________________

Possible late and long-term effects: _______________________________

What concerns do you have as you transition into survivorship?

☐ Emotional and mental health
☐ Fatigue
☐ Fertility
☐ Financial advice or assistance

☐ Insurance
☐ Memory or concentration loss
☐ Parenting
☐ Physical functioning
☐ School/Work

☐ Sexual health
☐ Stopping smoking
☐ Weight changes
☐ Other: _________________________

______________________________
## Diagnosis Summary

### PROSTATE CANCER SCREENING TEST RESULTS

Date: _____________________

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</tr>
<tr>
<td>High</td>
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### TYPE:

- **Benign (not cancerous)**
  - **Benign prostatic hyperplasia (BPH)**—Condition where prostate cells grow and block the flow of urine
  - **Prostatitis**—Inflammation or infection of the prostate
  - **High-grade prostatic intraepithelial neoplasia (PIN)**—Abnormal, precancerous cells

- **Malignant (cancerous)**
  - **Adenocarcinoma**—The most common type of prostate cancer
  - **Other, rare type of prostate cancer:** ____________________________

### STAGE:

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<th>Stage IIIC</th>
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### GLEASON SCORE:

- Gleason 6
- Gleason 3 + 4 = 7
- Gleason 4 + 3 = 7
- Gleason 8
- Gleason 9 or 10

### RISK GROUPING (IF USED):

________________________________________________________

________________________________________________________

### MY TREATMENT PLAN

- Active surveillance
- Watchful waiting
- Surgery
- Radiation therapy
- Hormonal therapy
- Targeted therapy
- Chemotherapy
- Immunotherapy
- Clinical trial
- Palliative care

### TREATMENT GOALS

- Eliminate the cancer
- Slow cancer growth/spread
- Shrink the tumor
- Relieve symptoms
- Manage side effects
- Other: ____________________________
Looking for More Patient Information Resources?

Visit www.cancer.net/ascoanswers to see all of the available titles in the ASCO Answers series.

**ASCO Answers Guides** are comprehensive booklets, covering specific cancer types, survivorship, and caregiving. Worksheets and checklists for managing care are included.

**ASCO Answers Fact Sheets** are brief introductions to different cancer types and topics in diagnosis, treatment, and side effects. More than 70 fact sheets are available, including translations in Spanish, Portuguese, and more.

**ASCO Answers Booklets** are in-depth guides to specific topics in cancer care, including advanced cancer care planning, pain, cost of care, managing weight, palliative care, and stopping tobacco use.

**Patients and Caregivers:** For more educational materials, visit www.cancer.net/ascoanswers to find and download all of our available materials.

**Oncology Professionals:** Bulk quantities of high-quality print materials can be purchased at www.cancer.net/estore or by calling 1-888-273-3508. For free promotional materials for your practice, email contactus@cancer.net.