

National Cancer Institute

What You Need
To Know About™

Prostate Cancer

U.S. DEPARTMENT OF
HEALTH AND HUMAN SERVICES
National Institutes of Health

National Cancer Institute Services

This booklet is only one of many free publications for people with cancer.

You may want more information for yourself, your family, and your friends.

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Chat online

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1-800-4-CANCER (1-800-422-6237)

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About This Booklet

This National Cancer Institute (NCI) booklet is for you—a man who has just been diagnosed with **prostate cancer**. In 2012, about 242,000 American men will be diagnosed with prostate cancer.

Words that may be new to you are shown in **bold**. See the **Words to Know** section on page 32 to learn what a new word means and how to pronounce it.

This booklet tells about medical care for men with prostate cancer. Learning about medical care for prostate cancer can help you take an active part in making choices about your care.

You can read this booklet from front to back. Or, you can read only the sections you need right now.

This booklet has lists of questions that you may want to ask your doctor. Many people find it helpful to take a list of questions to a doctor visit. To help remember what your doctor says, you can take notes. You may also want to have a family member or friend go with you when you talk with the doctor—to take notes, ask questions, or just listen.

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The Prostate

The prostate is part of a man's **reproductive system**. It's located in front of the **rectum** and under the bladder. (See picture on page 2.) The prostate surrounds the **urethra**, the tube through which urine flows.

A healthy prostate is about the size of a walnut. If the prostate grows too large, it squeezes the urethra. This may slow or stop the normal flow of urine.

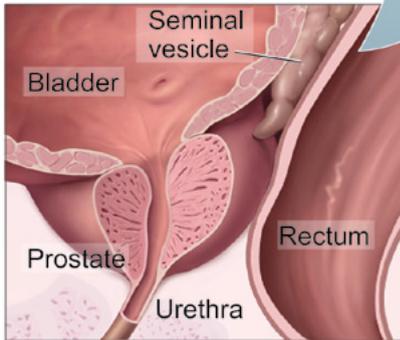
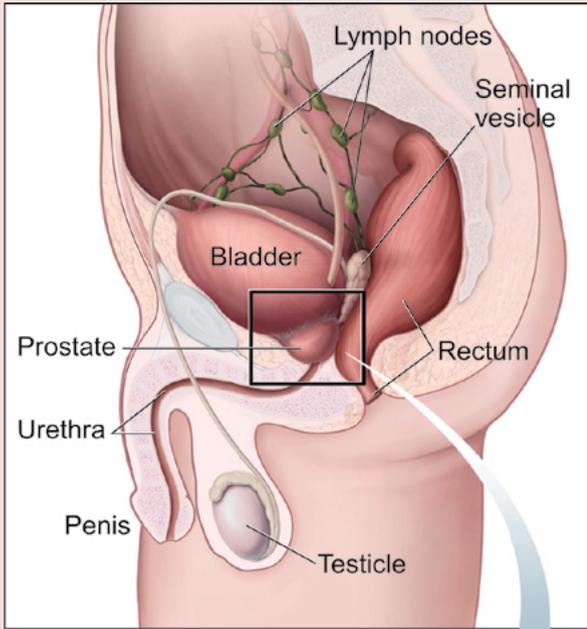
The prostate is a **gland**. It makes part of the **seminal fluid**. During orgasm, the seminal fluid helps carry **sperm** out of the man's body as part of **semen**.

Cancer Cells

Cancer begins in **cells**, the building blocks that make up all tissues and organs of the body, including the prostate.

Normal cells in the prostate and other parts of the body grow and divide to form new cells as they are needed. When normal cells grow old or get damaged, they die, and new cells take their place.

Sometimes, this process goes wrong. New cells form when the body doesn't need them, and old or damaged cells don't die as they should. The buildup of extra cells often forms a mass of tissue called a growth or **tumor**.



The first picture shows the prostate and nearby organs. The second picture shows how the prostate surrounds the urethra.

Growths in the prostate can be **benign** (not cancer) or **malignant** (cancer):

■ **Benign growths** (such as **benign prostatic hypertrophy**):

- Are rarely a threat to life
- Don't invade the tissues around them
- Don't spread to other parts of the body
- Can be removed and usually don't grow back

■ **Malignant growths** (prostate cancer):

- May sometimes be a threat to life
- Can invade nearby organs and tissues (such as the bladder or rectum)
- Can spread to other parts of the body
- Often can be removed but sometimes grow back

Prostate cancer cells can spread by breaking away from a prostate tumor. They can travel through **blood vessels** or **lymph vessels** to reach other parts of the body. After spreading, cancer cells may attach to other tissues and grow to form new tumors that may damage those tissues.

When prostate cancer spreads from its original place to another part of the body, the new tumor has the same kind of abnormal cells and the same name as the primary (original) tumor. For example, if prostate cancer spreads to the bones, the cancer cells in the bones are actually prostate cancer cells. The disease is **metastatic** prostate cancer, not bone cancer. For that reason, it's treated as prostate cancer, not bone cancer.

Tests

After you learn that you have prostate cancer, you may need other tests to help with making decisions about treatment.

Tumor Grade Test with Prostate Tissue

The prostate tissue that was removed during your **biopsy** procedure can be used in lab tests. The **pathologist** studies prostate tissue samples under a microscope to determine the grade of the tumor. The grade tells how different the tumor tissue is from normal prostate tissue.

Tumors with higher grades tend to grow faster than those with lower grades. They are also more likely to spread. Doctors use tumor grade along with your age and other factors to suggest treatment options.

The most commonly used system for grading prostate cancer is the Gleason score. Gleason scores range from 2 to 10.

To come up with the Gleason score, the pathologist looks at the patterns of cells in the prostate tissue samples. The most common pattern of cells is given a grade of 1 (most like normal prostate tissue) to 5 (most abnormal). If there is a second most common pattern, the pathologist gives it a grade of 1 to 5 and then adds the grades for the two most common patterns together to make the Gleason score ($3 + 4 = 7$). If only one pattern is seen, the pathologist counts it twice ($5 + 5 = 10$).

A high Gleason score (such as 10) means a high-grade prostate tumor. High-grade tumors are more likely than low-grade tumors to grow quickly and spread.

For more about tumor grade, see the NCI fact sheet *Tumor Grade*.

Staging Tests

Staging tests can show the stage (extent) of prostate cancer, such as whether cancer cells have spread to other parts of the body.

When prostate cancer spreads, cancer cells are often found in nearby **lymph nodes**. If cancer has reached these lymph nodes, it may have also spread to other lymph nodes, the bones, or other organs.

Your doctor needs to learn the stage of the prostate cancer to help you make the best decision about treatment.

Staging tests may include...

- **Physical exam (digital rectal exam):** If the tumor in the prostate is large enough to be felt, your doctor may be able to examine it. With a gloved and lubricated finger, your doctor feels the prostate and surrounding tissues from the rectum. Hard or lumpy areas may suggest the presence of one or more tumors. Your doctor may also be able to tell whether it's likely that the tumor has grown outside the prostate.
- **Bone scan:** A small amount of a **radioactive** substance will be injected into a blood vessel. The radioactive substance travels through your bloodstream and collects in the bones. A machine called a scanner makes pictures of your bones. Because higher amounts of the radioactive substance collect in areas where there is cancer, the pictures can show cancer that has spread to the bones.

- **CT scan:** An **x-ray** machine linked to a computer takes a series of detailed pictures of your lower abdomen or other parts of your body. You may receive **contrast material** by injection into a blood vessel in your arm or hand, or by enema. The contrast material makes it easier to see abnormal areas. The pictures from a **CT scan** can show cancer that has spread to the lymph nodes or other areas.
- **MRI:** A strong magnet linked to a computer is used to make detailed pictures of your lower abdomen. An **MRI** can show whether cancer has spread to lymph nodes or other areas. Sometimes contrast material is used to make abnormal areas show up more clearly on the picture.

Questions you may want to ask your doctor about tests

- May I have a copy of the report from the pathologist?
- What is the grade of the tumor?
- Has the cancer spread from the prostate? If so, to where?

Stages

Doctors describe the stages of prostate cancer using the Roman numerals I, II, III, and IV. A cancer that is Stage I is **early-stage cancer**, and a cancer that is Stage IV is **advanced cancer** that has spread to other parts of the body.

The stage of prostate cancer depends mainly on...

- **Whether the tumor has invaded nearby tissue, such as the bladder or rectum**
- **Whether prostate cancer cells have spread to lymph nodes or other parts of the body, such as the bones**
- **Grade (Gleason score) of the prostate tumor**
- **PSA level**

On NCI's website at <http://www.cancer.gov/cancertopics/types/prostate>, you can find pictures and more information about the stages of prostate cancer.

Stage I

The cancer is only in the prostate. It might be too small to feel during a digital rectal exam. If the Gleason score and **PSA** level are known, the Gleason score is 6 or less, and the PSA level is under 10.

Stage II

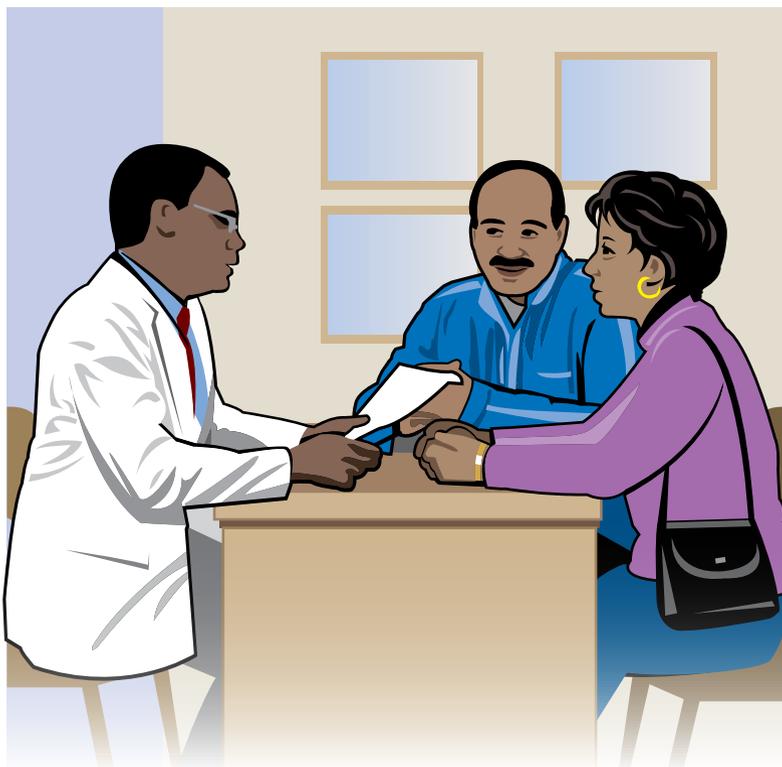
The tumor is more advanced or a higher grade than Stage I, but the tumor doesn't extend beyond the prostate.

Stage III

The tumor extends beyond the prostate. The tumor may have invaded a **seminal vesicle**, but cancer cells haven't spread to lymph nodes. See page 2 for a picture of a seminal vesicle.

Stage IV

The tumor may have invaded the bladder, rectum, or nearby structures (beyond the seminal vesicles). It may have spread to lymph nodes, bones, or other parts of the body.



You and your doctor will develop a treatment plan.

Treatment

Men with prostate cancer have many treatment options. Treatment options include...

- **Active surveillance**
- **Surgery**
- **Radiation therapy**
- **Hormone therapy**
- **Chemotherapy**
- **Immunotherapy**

You may receive more than one type of treatment.

The treatment that's best for one man may not be best for another. The treatment that's right for you depends mainly on...

- **Your age**
- **Gleason score (grade) of the tumor**
- **Stage of prostate cancer**
- **Your symptoms**
- **Your general health**

At any stage of disease, care is available to control pain and other symptoms, to relieve the **side effects** of treatment, and to ease emotional concerns. You can get information about coping on NCI's website at <http://www.cancer.gov/cancertopics/coping>.

Also, you can get information about coping from NCI's Cancer Information Service at **1-800-4-CANCER (1-800-422-6237)**. Or, chat using NCI's instant messaging service, **LiveHelp (<https://livehelp.cancer.gov>)**.

Doctors Who Treat Prostate Cancer

Your health care team will include specialists. There are many ways to find doctors who treat prostate cancer:

- Your doctor may be able to refer you to specialists.
- You can ask a local or state medical society, or a nearby hospital or medical school for names of specialists.
- NCI's Cancer Information Service can give you information about treatment centers near you. Call **1-800-4-CANCER (1-800-422-6237)**. Or, chat using **LiveHelp (<https://livehelp.cancer.gov>)**, NCI's instant messaging service.
- Other sources can be found in the NCI fact sheet *How To Find a Doctor or Treatment Facility If You Have Cancer*.

Your health care team may include the following specialists:

- **Urologist:** A **urologist** is a doctor who specializes in treating problems in the urinary tract or male sex organs. This type of doctor can perform surgery (an operation).
- **Urologic oncologist:** A **urologic oncologist** is a doctor who specializes in treating cancers of the male and female urinary tract and the male sex organs. This type of doctor also can perform surgery.
- **Medical oncologist:** A **medical oncologist** is a doctor who specializes in treating cancer with drugs, such as **chemotherapy, hormone therapy, or immunotherapy**.

- **Radiation oncologist:** A **radiation oncologist** is a doctor who specializes in treating cancer with **radiation therapy**.

Your health care team may also include an **oncology nurse**, a **social worker**, and a **registered dietitian**.

Your health care team can describe your treatment options, the expected results of each option, and the possible side effects. Because cancer treatments often damage healthy cells and tissues, side effects are common. These side effects depend on many factors, including the type of treatment. Side effects may not be the same for each man, and they may even change from one treatment session to the next.

Before treatment starts, ask your health care team about possible side effects and how treatment may change your normal activities. For example, you may want to discuss with your doctor the possible effects on sexual activity. The NCI booklet *Treatment Choices for Men with Early-Stage Prostate Cancer* can tell you more about treatments and their side effects.

You and your health care team can work together to develop a treatment plan that meets your medical and personal needs.

You may want to talk with your health care team about taking part in a research study (**clinical trial**) of new treatment methods. Research studies are an important option for men at any stage of prostate cancer. See the **Cancer Treatment Research** section on page 30.

Questions you may want to ask your doctor about treatment options

- What are my treatment options? Which do you recommend for me? Why?
- What are the expected benefits of each kind of treatment?
- What are the risks and possible side effects of each treatment? How can the side effects be managed?
- What can I do to prepare for treatment?
- Will I need to stay in the hospital? If so, for how long?
- What is the treatment likely to cost? Will my insurance cover it?
- How will treatment affect my normal activities? Will it affect my sex life? Will I have urinary problems? Will I have bowel problems?
- Would a research study (clinical trial) be right for me?

Second Opinion

Before starting treatment, you might want a second opinion about your diagnosis and treatment options. You may even want to talk to several different doctors about all treatment options, their side effects, and the expected results. For example, you may want to talk to a urologist, radiation oncologist, and medical oncologist.

Some men worry that the doctor will be offended if they ask for a second opinion. Usually the opposite is true. Most doctors welcome a second opinion. And many health insurance companies will pay for a second opinion if you or your doctor requests it. Some insurance companies actually require a second opinion.

If you get a second opinion, the second doctor may agree with your first doctor's diagnosis and treatment recommendation. Or, the second doctor may suggest another approach. Either way, you have more information and perhaps a greater sense of control. You can feel more confident about the decisions you make, knowing that you've looked at all of your options.

It may take some time and effort to gather your medical records and see another doctor. In most cases, it's not a problem to take several weeks to get a second opinion. The delay in starting treatment usually will not make treatment less effective. To make sure, you should discuss this delay with your doctor.

Active Surveillance

Your doctor may suggest active surveillance if you're diagnosed with early-stage prostate cancer that seems to be growing slowly. Your doctor may also offer this option if you are older or have other health problems.

Active surveillance is putting off treatment until test results show that your prostate cancer is growing or changing. If you and your doctor agree that active surveillance is a good idea, your doctor will check you regularly (such as every 3 to 6 months, at first). You'll get digital rectal exams and PSA tests. After about a year, your doctor may order another

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