



## Prostate

The prostate is part of a man's *reproductive system*. It is located in front of the *rectum* and under the *bladder*. It surrounds the *urethra*, the tube through which urine flows. A healthy prostate is about the size of a walnut.

The prostate makes part of *seminal fluid*. During *ejaculation*, seminal fluid helps carry *sperm* out of the man's body as part of *semen*.

Male *hormones (androgens)* make the prostate grow. The *testicles* are the main source of male hormones, including *testosterone*. The *adrenal gland* also makes testosterone, but in small amounts.

If the prostate grows too large, it squeezes the urethra. This may slow or stop the flow of urine from the bladder to the penis.

## Understanding Cancer

Cancer begins in cells, the building blocks that make up tissues. Tissues make up the organs of the body.

Normally, cells grow and divide to form new cells as the body needs them. When cells grow old, they die, and new cells take their place.

Sometimes, this orderly process goes wrong. New cells form when the body does not need them, and old cells do not die when they should. These extra cells can form a mass of tissue called a growth or tumor.

Tumors can be benign or malignant:

Benign tumors are not cancer:

Benign tumors are rarely life-threatening.

Generally, benign tumors can be removed. They usually do not grow back.

Cells from benign tumors do not invade the tissues around them.

Cells from benign tumors do not spread to other parts of the body.

### **Malignant tumors are cancer:**

Malignant tumors are generally more serious than benign tumors. They may be life-threatening.

Malignant tumors often can be removed. But sometimes they grow back.

Cells from malignant tumors can invade and damage nearby tissues and organs.

Cells from malignant tumors can spread (*metastasize*) to other parts of the body. Cancer cells spread by breaking away from the original (*primary*) tumor and entering the bloodstream or *lymphatic system*. The cells invade other organs and form new tumors that damage these organs. The spread of cancer is called *metastasis*.

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

When 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 tumor. For example, if prostate cancer spreads to 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 is treated as prostate cancer, not bone cancer. Doctors call the new tumor "distant" or metastatic disease.

## Risk Factors

No one knows the exact causes of prostate cancer. Doctors often cannot explain why one man develops prostate cancer and another does not. However, we do know that prostate cancer is not contagious. You cannot "catch" it from another person.

Research has shown that men with certain *risk factors* are more likely than others to develop prostate cancer. A risk factor is something that may increase the chance of developing a disease.

Studies have found the following risk factors for prostate cancer:

**Age:** Age is the main risk factor for prostate cancer. This disease is rare in men younger than 45. The chance of getting it goes up sharply as a man gets older. In the United States, most men with prostate cancer are older than 65.

**Family history:** A man's risk is higher if his father or brother had prostate cancer.

**Race:** Prostate cancer is more common in African American men than in white men, including Hispanic white men. It is less common in Asian and American Indian men.

**Certain prostate changes:** Men with cells called high-grade *prostatic intraepithelial neoplasia* (PIN) may be at increased risk for prostate cancer. These prostate cells look abnormal under a microscope.

**Diet:** Some studies suggest that men who eat a diet high in animal fat or meat may be at increased risk for prostate cancer. Men who eat a diet rich in fruits and vegetables may have a lower risk. (More about diet studies is in "The Promise of Cancer Research".)

Many of these risk factors can be avoided. Others, such as family history, cannot be avoided. You can help protect yourself by staying away from known risk factors whenever possible.

Scientists have also studied whether BPH, obesity, smoking, a *virus* passed through sex, or lack of exercise might increase the risk for prostate cancer. At this time, these are not clear risk factors. Also, most studies have not found an increased risk of prostate cancer for men who have had a *vasectomy*. A vasectomy is *surgery* to cut or tie off the tubes that carry sperm out of the testicles.

Most men who have known risk factors do not get prostate cancer. On the other hand, men who do get the disease often have no known risk factors, except for growing older.

If you think you may be at risk, you should talk with your doctor. Your doctor may be able to suggest ways to reduce your risk and can plan a schedule for checkups.

## Screening

Your doctor can check you for prostate cancer before you have any symptoms. Screening can help doctors find and treat cancer early. But studies so far have not shown that screening tests reduce the number of deaths from prostate cancer. You may want to talk with your doctor about the possible benefits and harms of being screened. The decision to be screened, like many other medical decisions, is a personal one. You should decide after learning the pros and cons of screening.

Your doctor can explain more about these tests:

**Digital rectal exam:** The doctor inserts a lubricated, gloved finger into the rectum and feels the prostate through the rectal wall. The prostate is checked for hard or lumpy areas.

**Blood test for prostate-specific antigen (PSA):** A lab checks the level of PSA in a man's blood sample. A high PSA level is commonly caused by BPH or prostatitis (inflammation of the prostate). Prostate cancer may also cause a high PSA level.

The digital rectal exam and PSA test can detect a problem in the prostate. They cannot show whether the problem is cancer or a less serious condition. Your doctor will use the results of these tests to help decide whether to check further for signs of cancer.

