
CANCER FACTS

National Cancer Institute • National Institutes of Health
Department of Health and Human Services

Early Prostate Cancer: Questions and Answers

Key Points

- The prostate is a gland in the male reproductive system (see Question 1).
- The most common risk factor for prostate cancer is age (see Question 3).
- Prostate cancer often does not cause symptoms for many years. By the time symptoms occur, the disease may have spread beyond the prostate (see Question 4).
- The symptoms of prostate cancer can also be caused by noncancerous conditions (see Questions 4 and 5).
- Two tests can be used to detect prostate cancer in the absence of any symptoms: a digital rectal exam and a blood test to detect a substance made by the prostate called prostate specific antigen (PSA) (see Questions 6 and 7).
- The diagnosis of prostate cancer can be confirmed only by a biopsy (see Question 8).
- Prostate cancer is described by both grade and stage (see Question 8).
- Three treatment options are generally accepted for men with localized prostate cancer: radical prostatectomy, radiation therapy, and surveillance (also called watchful waiting) (see Questions 9, 10, and 11).

1. What is the prostate?

The prostate is a gland in the male reproductive system. The prostate makes and stores a component of semen and is located near the bladder and the rectum. The prostate surrounds part of the urethra, the tube that empties urine from the bladder. A healthy prostate is about the size of a walnut. If the prostate grows too large, the flow of urine can be slowed or stopped.



2. What is prostate cancer?

Except for skin cancer, cancer of the prostate is the most common malignancy in American men. It is estimated that nearly 221,000 men in the United States will be diagnosed with prostate cancer in 2003. In most men with prostate cancer, the disease grows very slowly. The majority of men with low-grade, early prostate cancer (confined to the gland) live a long time after their diagnosis. Even without treatment, many of these men will not die of the prostate cancer, but rather will live with it until they eventually die of some other, unrelated cause. Nevertheless, nearly 29,000 men will die of prostate cancer in 2003.

3. Who is at risk for prostate cancer?

All men are at risk. The most common risk factor is age. More than 70 percent of men diagnosed with prostate cancer each year are over the age of 65. African American men have a higher risk of prostate cancer than white men. Dramatic differences in the incidence of prostate cancer are also seen in different countries, and there is some evidence that a diet higher in fat, especially animal fat, may account for some of these differences. Genetic factors also appear to play a role, particularly for families in whom the diagnosis is made in men under 60 years of age. The risk of prostate cancer rises with the number of close relatives who have the disease.

4. What are the symptoms of prostate cancer?

Prostate cancer often does not cause symptoms for many years. By the time symptoms occur, the disease may have spread beyond the prostate. When symptoms do occur, they may include:

- Frequent urination, especially at night
- Inability to urinate
- Trouble starting or holding back urination
- A weak or interrupted flow of urine
- Painful or burning urination
- Blood in the urine or semen
- Painful ejaculation
- Frequent pain in the lower back, hips, or upper thighs

These can be symptoms of cancer, but more often they are symptoms of noncancerous conditions. It is important to check with a doctor.

5. What other prostate conditions can cause symptoms like these?

As men get older, their prostate may grow bigger and block the flow of urine or interfere with sexual function. This common condition, called benign prostatic hyperplasia (BPH), is not cancer, but can cause many of the same symptoms as prostate cancer. Although BPH may not be a threat to life, it may require treatment with medicine or surgery to relieve symptoms. An infection or inflammation of the prostate, called prostatitis, may also cause many of the same symptoms as prostate cancer. Again, it is important to check with a doctor.

6. Can prostate cancer be found before a man has symptoms?

Yes. Two tests can be used to detect prostate cancer in the absence of any symptoms. One is the digital rectal exam (DRE), in which a doctor feels the prostate through the rectum to find hard or lumpy areas. The other is a blood test used to detect a substance made by the prostate called prostate specific antigen (PSA). Together, these tests can detect many “silent” prostate cancers, those that have not caused symptoms.

At present, however, it is not known whether routine screening saves lives. The benefits of screening and local therapy (surgery or radiation) remain unclear for many patients. Because of this uncertainty, the National Cancer Institute is currently supporting research to learn more about screening men for prostate cancer. Currently, researchers are conducting a large study to determine whether screening men using a blood test for PSA and a DRE can help reduce the death rate from this disease. They are also assessing the risks of screening. Full results from this study, the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial or PLCO, are expected by 2015.

7. How reliable are the screening tests for prostate cancer?

Neither of the screening tests for prostate cancer is perfect. Most men with mildly elevated PSA levels do not have prostate cancer, and many men with prostate cancer have normal levels of PSA. Also, the DRE can miss many prostate cancers. The DRE and PSA test together are better than either test alone in detecting prostate cancer.

8. How is prostate cancer diagnosed?

The diagnosis of prostate cancer can be confirmed only by a biopsy. During a biopsy, a urologist (a doctor who specializes in diseases of urinary and sex organs in men, and urinary organs in women) removes tissue samples, usually with a needle. This is generally done in the doctor’s office with local anesthesia. Then a pathologist (a doctor who identifies diseases by studying tissues under a microscope) checks for cancer cells.

Prostate cancer is described by both grade and stage.

- Grade describes how closely the tumor resembles normal prostate tissue. Based on the microscopic appearance of tumor tissue, pathologists may describe it as low-, medium-, or high-grade cancer. One way of grading prostate cancer, called the Gleason system, uses scores of 2 to 10. Another system uses G1 through G4. In both systems, the higher the score, the higher the grade of the tumor. High-grade tumors generally grow more quickly and are more likely to spread than low-grade tumors.
- Stage refers to the extent of the cancer. Early prostate cancer, stages I and II, is localized. It has not spread outside the gland. Stage III prostate cancer, often called locally advanced disease, extends outside the gland to the seminal vesicles. Stage IV means the cancer has spread to lymph nodes and/or to other tissues or organs.

9. How is localized prostate cancer treated?

Three treatment options are generally accepted for men with localized prostate cancer: radical prostatectomy, radiation therapy, and surveillance (also called watchful waiting).

- Radical prostatectomy is a surgical procedure to remove the entire prostate gland and nearby tissues. Sometimes lymph nodes in the pelvic area (the lower part of the abdomen, located between the hip bones) are also removed. Radical prostatectomy may be performed using a technique called nerve-sparing surgery that may prevent damage to the nerves needed for an erection.
- Radiation therapy involves the delivery of radiation energy to the prostate. The energy is usually delivered in an outpatient setting using an external beam of radiation. The energy can also be delivered by implanting radioactive seeds in the prostate using a needle.
- Surveillance, taking a wait-and-see approach, may be recommended for patients with early-stage prostate cancer, particularly those who are older or have other serious medical conditions. These patients have regular examinations. If there is evidence of cancer growth, active treatment may be recommended.

10. How does a patient decide what is the best treatment option for localized prostate cancer?

Choosing a treatment option involves the patient, his family, and one or more doctors. They will need to consider the grade and stage of the cancer, the man's age and health, and his values and feelings about the potential benefits and harms of each treatment option. Often it is useful to seek a second opinion, and patients may hear different

opinions and recommendations. Because there are several reasonable options for most patients, the decision can be difficult. Patients should try to get as much information as possible and allow themselves enough time to make a decision. There is rarely a need to make a decision without taking time to discuss and understand the pros and cons of the various approaches.

11. **Where can a person find more information about prostate cancer and its treatment?**

The NCI has several other resources that readers may find helpful, including the following:

- The *Prostate Cancer Home Page* provides links to NCI resources about prevention, screening, treatment, clinical trials, and supportive care for this type of cancer. This page can be found on the NCI's Cancer.gov Web site at <http://cancer.gov/prostate/> on the Internet.
- *Prostate Cancer (PDQ®): Treatment* includes information about prostate cancer treatment, including surgery, chemotherapy, radiation therapy, and hormone therapy. This summary of information from PDQ, the NCI's comprehensive cancer information database, is available at <http://cancer.gov/cancerinfo/pdq/treatment/prostate/patient/> on the Internet.
- *Know Your Options: Understanding Treatment Choices for Prostate Cancer* is designed to help a man and his family understand what a diagnosis of prostate cancer means and what treatment choices are available. This resource can be found at <http://cancer.gov/CancerInformation/understanding-prostate-cancer-treatment> on the Internet.

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Sources of National Cancer Institute Information

Cancer Information Service (toll-free)

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

TTY (for deaf and hard of hearing callers): 1-800-332-8615

NCI Online

Internet

Use <http://cancer.gov> to reach the NCI's Web site.

LiveHelp

Cancer Information Specialists offer online assistance through the *LiveHelp* link on the NCI's Web site.

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