

Introduction

The prostate is a reproductive gland found in men that makes fluid that carries sperm. It is found below the bladder and is about the size and shape of a walnut. Urine and semen pass through the prostate and the urethra, or urinary tube, to exit the body through the penis.

Prostate cancer is second only to skin cancer as the most common cancer in men, and is the second leading cause of cancer deaths in men after lung cancer. The American Cancer Society estimates that in 2018,

164,690 men will be found to have prostate cancer and approximately 29,430 men will die of prostate cancer. However, far more men who have prostate cancer will die of other problems than from the cancer. That is to say, they die with it, but not from it.

Risk Factors for Prostate Cancer

- Increasing age (rarely found before age 40 years).
- African-American descent.
- Family history of prostate, breast, ovarian, and pancreatic cancers. Men with Lynch Syndrome, which can lead to an inherited form of colon cancer, may be at higher risk of prostate cancer also.
- Obesity.
- Smoking and exposure to Agent Orange in Vietnam may increase a man's risk.

What Are the Warning Signs of Prostate Cancer?

- Prostate cancer often does not have early warning signs. Some troubles related to prostate cancer are also typical of non-cancerous growth, including urinating often or suddenly, weak stream, or painful urination.
- If prostate cancer spreads, the bones are the most common place for it to spread, or metastasize. It may cause pain in that area. There may also be weight loss and fatigue, blood in the urine, leg weakness, or trouble controlling bowel movements and urine.
- Other areas of spread, such as the rectum or bladder, are nearby the prostate. Prostate cancer can also spread through the lymph nodes to the lungs, liver,

and brain in some cases, and cause pain in those areas.

How Is Prostate Cancer Detected?

- Prostate-specific antigen (PSA) blood testing and digital rectal examination (DRE) are methods generally used to look for prostate cancer.
- DRE is done by the health care provider by placing a gloved, lubricated finger into the rectum to feel the prostate for shape and size.
- PSA is a protein produced by all prostate cells, both normal and cancerous, though blood level may be higher with prostate cancer. Neither PSA nor DRE tests will find all prostate cancers.
- Some specialists may look at the rate at which PSA rises or will review other forms of PSA, such as free PSA and intact PSA. These other tests may help predict the risk of finding prostate cancer on a biopsy if the PSA level is high.
- Newer genetic tests hope to better identify a man's risk of cancer.

The benefits and risks of prostate cancer screening have been debated recently. Today, most experts recognize the need for men to talk with their providers about cancer screening, and make a decision together about PSA and DRE testing. Most recommend that men aged 50 or 55 to 69 years have PSA and DRE tests every year to every two years. Screening may begin earlier for men at higher risk, including African-American men or those with a strong family history of prostate cancer. Depending on risk factors, some very healthy men may continue to be tested into their 70s.

Diagnosis of Prostate Cancer

- Prostate cancer is found by biopsy of the prostate. Tissue is removed through a needle guided by an ultrasound probe placed into the rectum.
- Newer methods may also use Magnetic Resonant Imaging (MRI) to find areas that look suspicious to improve accuracy of the biopsy.

Staging and Grading Prostate Cancer

- The **stage** of the cancer identifies if the cancer is localized (confined to the prostate), locally advanced (spread outside of the prostate in the area nearby the prostate), or metastatic (spread outside of the prostate to other areas of the body).
- The **grade** of the cancer describes how aggressive the cancer tissue appears in the prostate. There are two main ways to grade prostate cancer: 1) the Gleason score and 2) the Grade group.
- The Gleason score reflects the two main patterns of prostate cancer found on the biopsy. These two numbers are added together to give a single score that ranges from 6 to 10. More aggressive cancer cells have higher Gleason scores.
- The Grade group is a newer way to describe the aggressiveness of the cancer, and is based on the Gleason score. It describes the aggressiveness on a scale from 1 to 5. A Grade group of 5 is highly aggressive. The specialist may use either of these terms to describe the cancer. The amount of cancer in each core of the biopsy sample also helps the specialist make recommendations for each patient.

Some genetic tests are also being studied to identify the risk of a man's prostate cancer in ways other than his cancer's Gleason score or Grade group.

- **Genetic testing** of the cancer cells themselves may help guide the best treatment option for each patient. The right treatment of prostate cancer depends on the stage and grade of the cancer, the age and health of the patient, and each patient's preferences.
- Sometimes more than one kind of treatment is needed.
- Each treatment option has effects that can change the patient's quality of life. Because the prostate is found in the middle of the urinary tract, treating cancer may affect a man's urination. Because the prostate is part of the reproductive system, treatment may also change a man's sexual activity.

Treatment Options for Prostate Cancer

- **Active surveillance and watchful waiting** are options for men who wish to avoid other treatment, based on their health, their age, or to delay side effects of treatment. With active surveillance, men are watched closely with DREs and PSAs for signs of spread of cancer. A second biopsy may be done in 1 to 2 years to be satisfied it is safe to continue to hold treatment. Watchful waiting is a less intensive way to watch for spread of cancer, and relies on a man's symptoms to decide if treatment is needed. It is usually reserved for older men or those in poorer health.

- **Surgery** is the most common treatment used to cure prostate cancer that has not spread.
 - With **radical prostatectomy**, the whole prostate is removed, either with a traditional incision or by laparoscopic or robotic-assisted surgery. The decision on the type of surgery is based on the patient's health and body type and the urologist's judgment.
 - **Cryotherapy** uses probes inserted into the prostate that deliver argon gas to freeze and kill the cancer cells. It is usually used for smaller cancers, or if cancer returns after earlier radiation treatment.
- **Radiation** comes in several forms:
 - **Brachytherapy** is one form of radiation treatment where radioactive pellets are placed into the prostate. It is a one-time, less-invasive procedure to cure prostate cancer that has not spread.
 - **External beam radiation therapy (EBRT)** uses radioactive beams to kill the prostate cancer. EBRT may be used as a treatment for prostate cancer that has not spread. It may also be used when the cancer has spread to help the pain caused by cancer that has spread to bones. **Stereotactic body radiation therapy (SBRT)** is a newer option that may involve a higher dose of radiation with fewer treatments.
 - **Proton beam therapy** uses focused proton beams in hopes of reducing damage to nearby body parts.
- **Hormone therapy**, also called **androgen deprivation therapy (ADT)**, stops the body from making testosterone, which slows the growth of the cancer. ADT is usually given after the cancer has already spread to slow its growth. It may also be used with radiation treatment.
 - Chemotherapy and Immunotherapy are used when the cancer has not been controlled by the other treatments described above. They do not cure the cancer but help to reduce pain and extend life.

Reducing Your Risk of Prostate Cancer

Many studies have tried to find ways a man can reduce his risk of cancer. There is currently no known way to prevent prostate cancer, but a man may be able to reduce his risk by maintaining a healthy weight through diet and regular exercise.

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References

- American Cancer Society. (2019). Key statistics for prostate cancer. Retrieved on July 26, 2019 from <https://www.cancer.org/cancer/prostate-cancer/about/key-statistics.html>
- American Cancer Society. (2019). Prostate cancer risk factors. Retrieved on July 26, 2019 from <https://www.cancer.org/cancer/prostate-cancer/about/key-statistics.html>
- American Cancer Society. (2019). Radiation therapy for prostate cancer. Retrieved on July 26, 2019 from <https://www.cancer.org/cancer/prostate-cancer/treating/radiation-therapy.html>
- American Urological Association. (2018). Early detection of prostate cancer. Retrieved on July 26, 2019 from <https://www.auanet.org/guidelines/prostate-cancer-early-detection-guideline>
- American Society of Clinical Oncology. (2019). Prostate cancer stages and grades. Retrieved on July 26, 2019 from <https://www.cancer.net/cancer-types/prostate-cancer/stages-and-grades>
- King, C.R., Freeman, D., Kaplen, I., Fuller, D., Bolzicco, G., Colline, S. et al. (2013). Stereotactic body radiotherapy for localized prostate cancer: Pooled analysis from a multi-institutional consortium of prospective phase II trials. *Radiotherapy and Oncology: 109*(2): 217-22. Retrieved on July 26, 2019 from <https://www.sciencedirect.com/science/article/pii/S0167814013004301>
- Memorial Sloane Kettering Cancer Center. (2019). Radiation therapy for prostate cancer. Retrieved on July 26, 2019 from <https://www.mskcc.org/cancer-care/types/prostate/treatment/radiation-therapy>
- Stallard, J. (2015). Proton therapy: A better way to destroy tumors. Retrieved on July 26, 2019 from <https://www.mskcc.org/blog/proton-therapy-better-way-destroy-tumors>
- Zoltick, B., Keefe, S., & Schimke, L. (2017). Prostate cancer, Ch. 27. In D.K. Newman, J.F. Wyman, & V.W. Welch (Eds.), *Core Curriculum for Urologic Nursing* (1st ed.). Pitman, NJ: Society of Urologic Nurses & Associates.

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