

IT'S ALL ABOUT ME

# What is Prostate Cancer?

## Part One in a Two-Part Series

Prostate cancer is a disease in which malignant (cancer) cells form in the tissues of the prostate.

The prostate is a gland in the male reproductive system located just below the bladder (the organ that collects and empties urine) and in front of the rectum (the lower part of the intestine). It is about the size of a walnut and surrounds part of the urethra (the tube that empties urine from the bladder). The prostate gland produces fluid that makes up part of the semen.

Prostate cancer is found mainly in older men. As men age, the prostate may get bigger and block the urethra or bladder. This may cause difficulty in urination or can interfere with sexual function. The condition is called benign prostatic hyperplasia (BPH), and although it is not cancer, surgery may be needed to correct it. The symptoms of benign prostatic hyperplasia or of other problems in the prostate may be similar to symptoms for prostate cancer.

**Possible signs of prostate cancer** include a weak flow of urine or frequent urination.

These and other symptoms may be caused by prostate cancer. Other conditions may cause the same symptoms. A doctor should be consulted if any of the following problems occur:

- + Weak or interrupted flow of urine.
- + Frequent urination (especially at night).
- + Difficulty urinating.
- + Pain or burning during urination.
- + Blood in the urine or semen.
- + Nagging pain in the back, hips, or pelvis.
- + Painful ejaculation.

Tests that examine the prostate and blood are used to detect (find) and diagnose prostate cancer.

The following tests and procedures may be used:

**Digital rectal exam (DRE):** An exam of the rectum. The doctor or nurse inserts a lubricated, gloved finger into the rectum and feels the prostate through the rectal wall for lumps or abnormal areas.

**Prostate-specific antigen (PSA) test:** A test that measures the level of PSA in the blood. PSA is a substance made by the prostate that may be found in an

increased amount in the blood of men who have prostate cancer. PSA levels may also be high in men who have an infection or inflammation of the prostate or BPH (an enlarged, but noncancerous, prostate).

**Transrectal ultrasound:** A procedure in which an endoscope (a thin, lighted tube) is inserted into the rectum to check the prostate. The endoscope is used to bounce high-energy sound waves (ultrasound) off internal tissues or organs and make echoes. The echoes form a picture of body tissues called a sonogram. Transrectal ultrasound may be used during a biopsy procedure.

**Biopsy:** The removal of cells or tissues so they can be viewed under a microscope by a pathologist. The pathologist will examine the biopsy sample to check for cancer cells and determine the Gleason score. The Gleason score ranges from 2-10 and describes how likely it is that a tumor will spread. The lower the number, the less likely the tumor is to spread.

There are two types of biopsy procedures used to diagnose prostate cancer:

**Transrectal biopsy:** The removal of tissue from the prostate by inserting a thin needle through the rectum and into the prostate. This procedure is usually done using transrectal ultrasound to help guide the needle. A pathologist views the tissue under a microscope to look for cancer cells.

**Transperineal biopsy:** The removal of tissue from the prostate by inserting a thin needle through the skin between the scrotum and rectum and into the

prostate. A pathologist views the tissue under a microscope to look for cancer cells.

**Certain factors affect prognosis** (chance of recovery) and treatment options.

The prognosis (chance of recovery) and treatment options depend on the following:

- + The stage of the cancer (whether it affects part of the prostate, involves the whole prostate, or has spread to other places in the body).
- + The patient's age and health.
- + Whether the cancer has just been diagnosed or has recurred (come back).

**Prognosis also depends on the Gleason score and the level of PS.**

After prostate cancer has been diagnosed, tests are done to find out if cancer cells have spread within the prostate or to other parts of the body.

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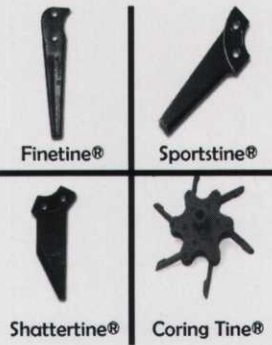

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## Prostate Cancer—

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The process used to find out if cancer has spread within the prostate or to other parts of the body is called staging. The information gathered from the staging process determines the stage of the disease. It is important to know the stage in order to plan treatment. The following tests and procedures may be used in the staging process:

**Radionuclide bone scan:** A procedure to check if there are rapidly dividing cells, such as cancer cells, in the bone. A very small amount of radioactive material is injected into a vein and travels through the bloodstream. The radioactive material collects in the bones and is detected by a scanner.

**MRI (magnetic resonance imaging):** A procedure that uses a magnet, radio waves, and a computer to make a series of detailed pictures of areas inside the body. This procedure is also called nuclear magnetic resonance imaging (NMRI).

**Pelvic lymphadenectomy:** A surgical procedure to remove the lymph nodes in

the pelvis. A pathologist views the tissue under a microscope to look for cancer cells.

**CT scan (CAT scan):** A procedure that makes a series of detailed pictures of areas inside the body, taken from different angles. The pictures are made by a computer linked to an x-ray machine. A dye may be injected into a vein or swallowed to help the organs or tissues show up more clearly. This procedure is also called computed tomography, computerized tomography, or computerized axial tomography.

**Seminal vesicle biopsy:** The removal of fluid from the seminal vesicles (glands that produce semen) using a needle. A pathologist views the fluid under a microscope to look for cancer cells. The following stages are used for prostate cancer:

**Stage I:** Cancer is found in the prostate only. It cannot be felt during a digital rectal exam and is not visible by imaging. It is usually found accidentally during surgery for other reasons, such as benign prostatic hyperplasia. Stage I prostate cancer may also be called stage A1 prostate cancer.

**Stage II:** Cancer is more advanced than in stage I, but has not spread outside the prostate. Stage II prostate cancer may also be called stage A2, stage B1, or stage B2 prostate cancer.

**Stage III:** Cancer has spread beyond the outer layer of the prostate to nearby tissues. Cancer may be found in the seminal vesicles. Stage III prostate cancer may also be called stage C prostate cancer.

**Stage IV:** Cancer has metastasized (spread) to lymph nodes near or far from the prostate or to other parts of the body, such as the bladder, rectum, bones, liver, or lungs. Metastatic prostate cancer often spreads to the bones. Stage IV prostate cancer may also be called stage D1 or stage D2 prostate cancer.

**Recurrent Prostate Cancer:** Recurrent prostate cancer is cancer that has recurred (come back) after it has been treated. The cancer may come back in the prostate or in other parts of the body.

*(Editor's Note: This information is provided by the American Cancer Institute. Part Two will appear in the July 2005 issue of Hole Notes.)*



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