

## CANCER

## TESTS AND EXAMS IN THE DIAGNOSIS OF PROSTATE CANCER

**THE** number of prostate cancer deaths has decreased in the past five years. This reduction has been attributed by some to the widespread use of PSA-based screening. However, the benefit of screening on survival is unclear.

The paradox of the case is that although one in six men will eventually be diagnosed with the disease, and the disease remains the second leading cause of cancer deaths in men, only one man in 30 with prostate cancer will die of this disease.

Prostate cancer may cause no symptoms in its early stages. However, more advanced cases of prostate cancer may show the following symptoms: trouble urinating; decreased force in the stream of urine; blood in semen; discomfort in the pelvic area; bone pain and erectile dysfunction.

A number of tests can also be carried out to confirm the presence of prostate cancer after an abnormal PSA screening result. All men over the age of 50 should be screened annually for prostate cancer. Men with a family history of prostate cancer have been shown to have higher rates of prostate cancer and need to start their screening at age 40 (or even earlier if family members have developed prostate cancer at a younger age).

#### Digital rectal exam

Appropriate screening involves both a yearly digital rectal exam and prostate specific antigen (PSA) blood test. During the digital rectal exam (DRE), the physician inserts a lubricated, gloved finger (digit) into the rectum. Because of the prostate's location just in front of the rectum, the physician is able to feel the edge of the prostate where the majority of cancers begin. Abnormalities such as bumps or hardness of the prostate can be detected in this way. This test is usually completed in five to 10 seconds and most men have little discomfort during it.

**The prostate specific antigen (PSA) blood test.** A small sample of blood is



collected and sent to a lab for analysis. PSA is a protein that is only produced by the prostate cells. As the prostate enlarges, whether due to cancer or another cause, the amount of PSA produced increases. High levels of PSA or rapid increases in the PSA level can alert the physician to a possible underlying cancer.

#### Prostatic biopsy.

If an abnormality is found on the DRE or the PSA test, the physician will typically order a biopsy of the

prostate. A biopsy involves taking a very small sample of tissue from the prostate. This is done using a thin needle that is placed into the prostate. A tiny amount of tissue is trapped in the needle and the needle removed. This is repeated in a number of locations throughout the prostate so as to minimise the chance of missing an area where cancer may be present.

This procedure is usually done by an urologist or other surgeon in the consulting room under local anesthesia

to minimize pain. The tissue samples are then sent to a pathologist for the final diagnosis. If prostate cancer is confirmed, the pathologist will also examine the cancer cells to determine their type. This is called the cancer "grade". A high grade means that the cells are very abnormal and that the cancer is more likely to spread.

#### Tests to determine the extent of the cancer

Testing does not stop after the pathologist has

determined whether or not cancer is present. In order to treat the cancer effectively, the urologist must determine how far the cancer has spread, so a number of tests need to be carried out. The physician will then determine which tests are the best choices for your particular situation. They all work to detect cancer that has spread outside of the prostate:

- **Ultrasound** – A thin ultrasound probe is inserted into the rectum. The ultrasound can show if nearby

organs and tissues have been invaded by cancer.

- **Bone scan** – Prostate cancer often spreads to bones if not detected early. For this reason, this test can be done to provide a detailed picture of the body's bones. Location of the cancer in the bones can then be detected by the physician.
- **CT scan or MRI** – These two tests can be used to provide a detailed look at the organs and tissues in the abdomen and pelvis. Only large, bulky areas of cancer outside of the prostate can be seen with these, so they need to be combined with other tests to be most useful.
- **Lymph node biopsy** – Lymph nodes are small structures located all over the body. Cancer often spreads to nearby lymph nodes earlier than to other tissues. By surgically removing some of the lymph nodes near the prostate and having them analysed for cancer can confirm if cancer has spread outside of the prostate.

All of these tests help to determine how far cancer has spread or at which "stage" it is. Staging helps your physician determine the best treatment options.

Article submitted by the HPA Health Group

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