

PSA Testing for Prostate Cancer

An information sheet for men considering a PSA test

What is the aim of this leaflet?

Prostate cancer is a serious condition. The PSA test, which can give an early indication that prostate cancer may be present, is now available to men who wish to be tested. However, experts disagree on the usefulness of the PSA test. It is not yet known whether or not PSA testing will save lives from prostate cancer. No major medical organizations, including the American Cancer Society, American Urological Association, National Cancer Institute, and the American Academy of Family Physicians (AAFP) support routine testing for prostate cancer at this time. Studies completed so far do not provide enough evidence to know whether the benefits of testing for early prostate cancer outweigh the disadvantages.

The aim of this information sheet is to give you balanced information about the PSA test, which we hope will help you decide whether or not having the test is the right thing for you.

What do we know about Prostate Cancer?

The American Cancer Society estimates that during 2007 about 218,890 men will be diagnosed with prostate cancer in the USA, and that 27,050 will die from the disease. About 1 man in 6 will be diagnosed with prostate cancer during his lifetime, but only 1 man in 34 will die of it. The risk is greater in those with a family history and is also known to be greater in African American men.

The prostate gland lies below the bladder. Prostate cancers range from very fast growing cancers to slow growing cancers. Slow growing cancers are common and may not cause any symptoms or shorten life.

- Prostate cancer is the second most common cause of cancer deaths in men
- Prostate cancer is rare in men under the age of 50 years

What is a PSA test?

The PSA test is a blood test that measures the level of PSA in your blood. PSA (Prostate Specific Antigen) is a substance made by the prostate gland, which naturally leaks out into the blood stream. A raised PSA can be an early indication of prostate cancer. However, other conditions which are not cancer (e.g. enlargement of the prostate, prostatitis, urinary infection) can also cause a rise in PSA.

Approximately 1 out of 4 men with a raised PSA level will not have prostate cancer. The higher the level of PSA the more likely it is to be cancer.

- If the level of PSA in the blood is raised, this may indicate that prostate cancer is present.
- However, many men with a raised PSA will **not** have prostate cancer
- The PSA test can also miss prostate cancer

What happens after the PSA test?

A raised level and a rapid increase of the PSA as compared with a previous PSA are indicators for further tests. A low 'Free PSA%' suggests the presence of cancer and the PCa3 test can detect cancer in the urine.

- PSA level is not raised
 - No further action.
- PSA slightly raised • Probably not cancer, but you might need further tests.
- PSA definitely raised • Your GP will refer you to see a urologist for further tests

A 'normal' PSA (<4.0) does not exclude prostate cancer: one of seven men with a normal PSA has prostate cancer!

If the PSA level is raised, what further tests would be carried out?

If your PSA is definitely raised, explanations other than prostate cancer must be ruled out to avoid unnecessary prostate biopsies. Enlargement of the prostate (BPH) or an infected prostate can cause a raise of the PSA. Antibiotics may remove the infection and drugs may reduce the size of the prostate. Free PSA% and PCa3 tests can yield information about the possible presence of cancer.

Biopsies involve taking samples from the prostate through the rectum. Most men find this an uncomfortable experience, and some describe it as painful. Sometimes complications or infection may occur. However, biopsies can miss some cancers and worry about prostate cancer may remain even after a clear result.

- A prostate biopsy is required to determine if cancer is present
- About 1 out of 4 of men who have a biopsy will not have prostate cancer

If early prostate cancer is detected, what treatments are used?

There are four main options for treating early prostate cancer:

Radiation Therapy. This involves beaming radiation in the prostate from outside the body (external beam radiation therapy or 'EBRT') or inserting radioactive seeds in the prostate (brachytherapy or 'seeds').

Surgery. The doctor removes the entire prostate, either through a long incision in the abdomen ('open surgery') or several small incisions in which laparoscopes are inserted. The laparoscopes are directed by hand or by a robot: robotic surgery.

Hormonal Therapy. The doctor may prescribe drugs (LHRH medicines such as Lupron or Zoladex), perhaps combined with anti-androgens such as Casodex, or even Casodex alone, to block the androgens (testosterone) that make the cancer grow. This type of therapy can be given intermittently.

Watchful Waiting or Active Surveillance. This involves regular check-ups to monitor the cancer whether it is growing. The advantage is that for many men it avoids the side effects of radiation therapy, surgery or hormonal therapy. If there are signs that the cancer is developing, treatment would be offered. Some men find the uncertainty difficult to cope with.

Patients should recognize that diagnosis of prostate cancer with a PSA < 10 and a Gleason score 6 does not require rapid decision making. Men can take months to gather additional PSA measurements and information about the various treatment methods, in particular the side effects.

So should I have the PSA test?

Benefits of PSA testing

- It may provide reassurance if the test result is normal
- It may find cancer before symptoms develop
- It may detect cancer at an early stage when treatments could be beneficial
- If treatment is successful, the consequences of more advanced cancer is avoided

Downside of PSA testing

- It can miss cancer, and provide false reassurance
- It may lead to unnecessary anxiety and medical tests when no cancer is present
- It might detect slow-growing cancer that may never cause any symptoms or shortened life span
- The main treatments of prostate cancer have significant side-effects, and there is no certainty that the treatment will be successful

This is the adaptation of a British information sheet¹ by PCNG, the Prostate Networking Group of Greater Cincinnati. The merit of the British sheet was discussed in an article summarized in the January 2007 Newsletter of the PCNG².

If you have questions or wish to receive more information about PSA testing and prostate cancer, you can discuss it with your doctor or look at the PCNG100+LINKs page³ that links to many Internet sources of information about prostate cancer. Comments to kees.dejong@uc.edu

¹ <http://www.cancerscreening.nhs.uk/prostate/prostate-patient-info-sheet.pdf>

² http://pcngcincinnati.org/2007/2007_01.pdf

³ <http://pcngcincinnati.org/links>