What is a PSA test?

A PSA test measures the level of prostate specific antigen (PSA) in the blood. It can help to diagnose prostate disease.

Prostate specific antigen is a protein made in the prostate gland. Low levels of PSA are normally present in the blood but as a man gets older, the prostate often grows and the level of PSA gets higher.

PSA is not a test specifically for cancer. A raised PSA level in the blood just means something is happening in the prostate which, in most instances, is not due to cancer.

The causes of raised PSA levels include the benign (non-cancerous) growth of the prostate that happens with ageing (benign prostatic enlargement); inflammation or infection of the prostate (prostatitis); and, least commonly, prostate cancer.

Is a PSA test worth having if I have no symptoms?

Although there are still questions about the value of PSA as a test for prostate cancer, it is the standard first line test to screen for prostate cancer.

One of the problems with using the PSA test to detect prostate cancer is that there are high numbers of false positive and sometimes false negative results.

A false positive result is when PSA levels are raised but there is no prostate cancer found on biopsy. A false negative result is when PSA levels are low or within the normal range, but prostate cancer is actually present.

In the early stages, prostate cancers usually do not show any symptoms. Cancer can grow in the prostate and not affect urine flow until it is at a late stage. A PSA test can be a sign of prostate problems before symptoms have started.

Why is biopsy necessary to diagnose prostate cancer?

The only way to confirm whether prostate cancer is present is by prostate biopsy. The biopsy, to remove small tissue samples from the prostate, is usually done by a urologist. The samples are sent to a pathologist to be looked at under a microscope to see if cancer is present, and if so, whether it looks aggressive or not.

A transrectal or transperineal ultrasound-guided biopsy of the prostate gland uses ultrasound, with a probe placed in the rectum (back passage), to outline the prostate and guide the doctor in where to place the biopsy needles for collecting the tissue samples.

Transrectal or transperineal biopsies can be unpleasant and at least half of men have minor symptoms for a day or two afterwards. With a transrectal biopsy, there is also a small risk of serious infection (septicaemia) even when ‘covering’ antibiotics are used. The risk of infection with transperineal biopsy is close to zero; however, this method of biopsy usually needs a general anaesthetic.

How do I make a decision about having a test for prostate cancer?

Having a PSA test may lead to further decisions after the test results are back, especially if the blood PSA level is raised. So there are several things to think about before having a PSA test for prostate cancer:

• your age (men aged 50 to 70 are generally regarded as the most appropriate age group)
• your level of concern about having prostate cancer
• your risk of having prostate cancer (for example, is there a family history of the disease?)
• the risk and benefits of finding the prostate cancer early.
The benefit of a PSA test is that it may find prostate cancer when it is small and able to be cured. This is important as prostate cancer is still the second highest cause of cancer death in Australian men.

The risks of PSA testing include having unnecessary treatment if a cancer is found that may not have caused problems if left untreated, given the possible harmful side-effects of surgery or radiotherapy. However, the option of active surveillance, whereby a low risk cancer is watched closely instead of being treated, helps to lower these risks.

The side-effects of treatments include erectile problems (difficulty having erections) and urinary incontinence (inability to hold urine, urine leakage, having to wear urine pads).

Most prostate cancers tend to progress slowly and men may die of other age-related illnesses first rather than their prostate cancer. Therefore a man’s age and his personal choices must be thought about before deciding to have a PSA test or deciding what to do if raised PSA levels are found.

For example, an increased PSA level due to a prostate cancer in a man aged 75 to 80 may not be as big a concern if he also has other major health problems. On the other hand, in an otherwise healthy man aged 50 to 55, prostate cancer is more likely to affect his life (due to the cancer itself or the side-effects of treatment) and further investigation following a raised PSA level should be thought about.

The risk of death from prostate cancer depends on the man’s life expectancy and the aggressiveness of the cancer. As a general rule, a man with a life expectancy of 10 years or more (or a family history of prostate cancer), with raised blood PSA levels, should think about more testing to see if he has prostate cancer.

**Will a PSA test tell me if I have prostate cancer?**

A single PSA test is not a reliable indication of prostate cancer. It is important to remember that most men with raised PSA do not have prostate cancer found at biopsy. Other prostate conditions, such as benign prostate enlargement or prostatitis can also cause raised PSA levels.

A prostate biopsy is needed to see if prostate cancer is present, and if so, to give an idea of how aggressive the cancer is.

Regular tests, every two to four years, are needed to check if the level of PSA changes with time.

If your PSA level doubles in 12 months it may be due to the presence of a fast growing cancer or infection in the prostate (prostatitis).

So, if your PSA level is increasing very quickly, you should see a specialist urologist for further tests.

**What are the benefits and risks of testing for prostate cancer?**

An important benefit of testing for prostate cancer is that early detection gives a better chance for treatments to work well and the prostate cancer can be cured.

Risks of testing for prostate cancer include:

- a raised PSA level does not always indicate prostate cancer and biopsies will be needed to check if cancer is present
- biopsies and treatments for prostate cancer have harmful side-effects that may affect quality of life.

**What other tests can check for prostate cancer?**

PSA is the first line test to check for a man’s risk of prostate cancer. If it is abnormally high, it is repeated to check if it stays high. A repeat PSA is often combined with another blood test, called a Free to Total PSA Ratio. This test can sometimes help to decide if the high PSA is due to prostate cancer or just benign (non-cancerous) disease of the prostate. A further blood test called the PHI (Prostate Health Index) is also available in Australia and can be used in the same way.

If the PSA and other blood test results are suspicious of prostate cancer, your urologist may suggest having an MRI scan of the prostate. An MRI scan can help the doctor decide if there is cancer in the prostate, and if so, to direct biopsies to the suspicious areas within the prostate.

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**Who should decide whether I have a PSA test?**

The decision to be tested for prostate cancer is entirely a personal one, done in consultation with your doctor to help you make the best informed choice for your situation.

Andrology Australia recommends readers speak to a local doctor about PSA testing and any other health concerns.