



PSA Test

What is a PSA test?

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

PSA is a protein made only 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.

An elevated PSA level does not equal a diagnosis of prostate 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 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?

Despite the other more common non-cancerous causes for a raised PSA, it is still the standard first line test to screen for prostate cancer.

If the PSA level is elevated it may lead to other tests such as an MRI to further investigate.

One of the problems with using the PSA test to detect prostate cancer is that there are high numbers of results that are false positive (elevated PSA levels not due to cancer) and sometimes false negative (a “normal” PSA level despite the presence of cancer).



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. Therefore a PSA test can be a sign of prostate problems before symptoms have started.

How good is the PSA test for finding 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.

Other prostate conditions, such as benign prostate enlargement or prostatitis can also cause raised PSA levels.

About one in three men with a PSA level between 4 and 10 ng/ml will have prostate cancer, although this proportion varies with the population tested.

Studies have shown that there is still a small risk of prostate cancer even if blood PSA levels are normal for age (a false negative result). Therefore, even a normal blood PSA level does not mean that there is definitely no prostate cancer present.

When is an MRI scan ordered?

Having an MRI scan of the prostate is more accurate in detecting aggressive prostate cancer than having a random prostate biopsy. As a result, many Urologists (a doctor specialising in diseases of the urinary tract and male genital organs) will order an MRI if the PSA level is high, before doing a prostate biopsy.

If the MRI shows a suspicious area in the prostate, this area can be accurately targeted by a subsequent biopsy. If the MRI shows no sign of cancer, then the Urologist may decide not to proceed with a biopsy at all.

Why is biopsy necessary to diagnose prostate cancer?

The only way to diagnose prostate cancer is with a tissue sample taken from the prostate. The biopsy is usually done by a Urologist. The tissue samples are then sent to a pathologist to be looked at under a microscope to see if cancer is present, and if so, whether it is aggressive or not.

A transrectal or transperineal ultrasound-guided biopsy of the prostate gland uses an ultrasound probe placed in the rectum (back passage) to outline the prostate. A prior MRI showing a suspicious area can 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 blood test results are back, especially if the PSA level is raised. 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 general health
- your level of concern about having prostate cancer
- any symptoms you have
- your risk of having prostate cancer (for example, if there is 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 can be cured.

The risks of PSA testing include having unnecessary further investigations (if the PSA elevation is not due to cancer) and treatment if a cancer is found that may not have caused problems if left untreated (given the possible negative side-effects of cancer treatments).

The side effects of treatments (both to diagnose and to treat the cancer) can include erection problems and urinary incontinence (inability to hold urine, urine leakage, having to wear urine pads). However, not all prostate cancers require treatment to cure it. The option of active surveillance, whereby a low risk cancer is watched closely instead of being treated, avoids the risk of treatment side effects.

Another consideration is that, most prostate cancers tend to progress slowly and men may die of other age-related illnesses first rather than their prostate cancer.

For example, a prostate cancer in a man over the age of 75 is less likely to be a big concern, especially if he also has other major health problems, compared to an otherwise healthy man in his fifties, where prostate cancer is more likely to affect his life (due to the cancer itself or treatment side-effects) and further investigation following a raised PSA level should be considered.

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. However, in some cases a biopsy could be avoided if a prior MRI scan is normal
- biopsies and treatments for prostate cancer have harmful side-effects that may affect quality of life.

What other blood tests can check for prostate cancer?

The PSA test is the first line test to check for a man's risk of prostate cancer. If it is abnormally high, the test is repeated to check if it stays high.

A repeat PSA test 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 benign (non-cancerous) disease of the prostate.

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 their doctor about PSA testing and any other health concerns.

Visit healthymale.org.au or speak to your doctor for more info.



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