



# PATHOLOGY TESTS EXPLAINED

Information about pathology tests to help everyone take control of their health and make the right decisions about their care.

## WHAT YOU SHOULD KNOW ABOUT YOUR **PROSTATE CANCER BLOOD TEST**

The PSA is the most common test used to look for prostate cancer. It measures the levels of prostate specific antigen (PSA) in your blood.

- The PSA test does not specifically test for cancer
- It can only show changes happening in the prostate
- By itself it isn't enough to definitively confirm or rule out prostate cancer

### What can cause raised PSA levels?

PSA is a protein made by prostate cells. Its job is to liquefy semen. Small amounts leak into the bloodstream where it can be measured.

In most prostate cancer, more PSA gets into the blood than normal. However, many other things can also cause PSA levels to rise.

Two-thirds of people who see their doctor with high PSA levels have non-cancerous conditions.

**BPH (benign prostatic hyperplasia)** This is a non-cancerous swelling of the prostate that mostly occurs in older men. Because the prostate gland tends to get bigger with age, it can squeeze the urethra and cause problems in passing urine.

**Prostatitis** This is inflammation of the prostate usually caused by an infection, most often when bacteria spill into the prostate from the urinary tract. It can be acute (comes on suddenly for a short time) or chronic (on-going). With this, there are often other symptoms such as discomfort and tenderness.

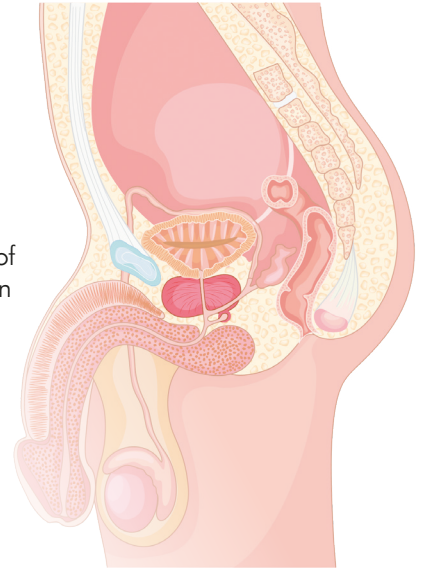
Many things can cause temporary rises in PSA levels. This includes anything that disturbs the prostate such as riding a bike or motorbike, vigorous exercise, having a rectal examination, an orgasm within the past 24 hours, or prostate surgery. Some medications are known to raise levels.

Your prostate sits between your bladder and penis.

The tube that allows urine to flow out from your bladder through your penis (the urethra) runs through the centre of the prostate.

The prostate produces most of the fluid that makes up semen and contains the sperm. It helps to keep sperm healthy and fertile.

The muscles in your prostate help push semen through when you ejaculate.



### Should you be tested?

The case for PSA testing for prostate cancer is not clear cut.

The harms of PSA testing may outweigh the benefits, particularly for men aged 70 and older.

Using the PSA test to screen healthy men with no family history of prostate cancer is controversial and not recommended.

Men with an average risk and with no family history of prostate cancer who decide to undergo regular testing should be offered PSA testing every two years from age 50 to 69.

Men who have a father or brother who has been diagnosed with prostate cancer have two and a half to three times the average risk of prostate cancer.



### What can your results tell you?

- PSA exists in two forms – free and complexed (bound to other blood proteins)
- The most common test is the total PSA which measures the sum of both
- Free PSA is sometimes ordered when total PSA levels are only a little bit raised. This is to try to differentiate between prostate cancer and non-cancerous conditions
- The 'normal' levels for total PSA rise with age but total PSA levels greater than 10.0  $\mu\text{g/L}$  can indicate prostate cancer
- Levels below 10.0  $\mu\text{g/L}$  but above the usual level found in elderly men can indicate BPH
- A sudden increase in total PSA levels suggest prostatitis
- Some cancer cells do not produce much PSA so it is possible to have a normal result yet have cancer
- PSA levels can vary, so your doctor may decide to repeat the test to compare your results over time



## Terms you may come across

*PSA Density* refers to the relationship of the PSA level to the size of the prostate measured by ultrasound examination.

*PSA Velocity* refers to how quickly PSA levels change over time.

*PSA Doubling Time* is the time it takes for the PSA level to double. This may be useful in following treatment and determining the type of treatment.



## What are reference intervals (reference ranges)?

Some of your results are shown in your report as a comparison against a set of numbers called reference intervals or reference ranges. This is the range of test results considered 'normal' for the general population.

If a result in your report is outside this range it can be flagged as high (H) or low (L). This does not necessarily mean that anything is wrong and depends on your personal situation. Your results need to be interpreted by your doctor.

## What happens next?

If you have a high PSA but no symptoms or signs, your doctor may suggest another test after about one to three months.

If you have higher than normal PSA levels, your doctor may arrange for you to have a biopsy. This is a surgical procedure that takes small pieces of tissue from different parts of the prostate. The samples are sent to the lab where they are processed and looked at under a microscope. A pathologist – a medical doctor trained in anatomical pathology – investigates the prostate cells for cancer and sends a report to your doctor. They provide information on the type of cancer and whether or not it is aggressive.

If cancer is detected, you may need to have imaging tests such as MRI, CT or bone scans to see if the disease is contained to the prostate or if it has spread, and to help with management and treatment decisions.

The Australian guidelines say that men should be offered the opportunity to consider and discuss the benefits and harms of PSA testing with a doctor before making the decision whether or not to be tested.

Make your own decision about whether to be tested for prostate disease after a discussion with your doctor. Ensure you get enough information on which to make your decision.



## Having a medical test

The choice of tests your doctor makes will be based on your medical history and symptoms. Make sure you tell them everything you think might help.

You play a central role in making sure your test results are accurate. Do everything you can to make sure the information you provide is correct and follow instructions closely.

Talk to your doctor about any medication you are taking. Find out if you need to fast or stop any particular foods or supplements. These may affect your results.



## 5 questions to ask your doctor

Why does this test need to be done?

Do I need to prepare (such as fast or avoid medications) for the sample collection?

Will an abnormal result mean I need further tests?

How could it change the course of my care?

What will happen next, after the test?

For more detailed information on these and many other tests go to [pathologytestsexplained.org.au](http://pathologytestsexplained.org.au)



Please use this QR code to access more information



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[www.pathologytestsexplained.org.au](http://www.pathologytestsexplained.org.au)

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You'll find a direct link to the Pathology Tests Explained website embedded in the pathology results pages of your record.

Click on the link to find information about what your tests are investigating or measuring and what your results can tell your doctor.