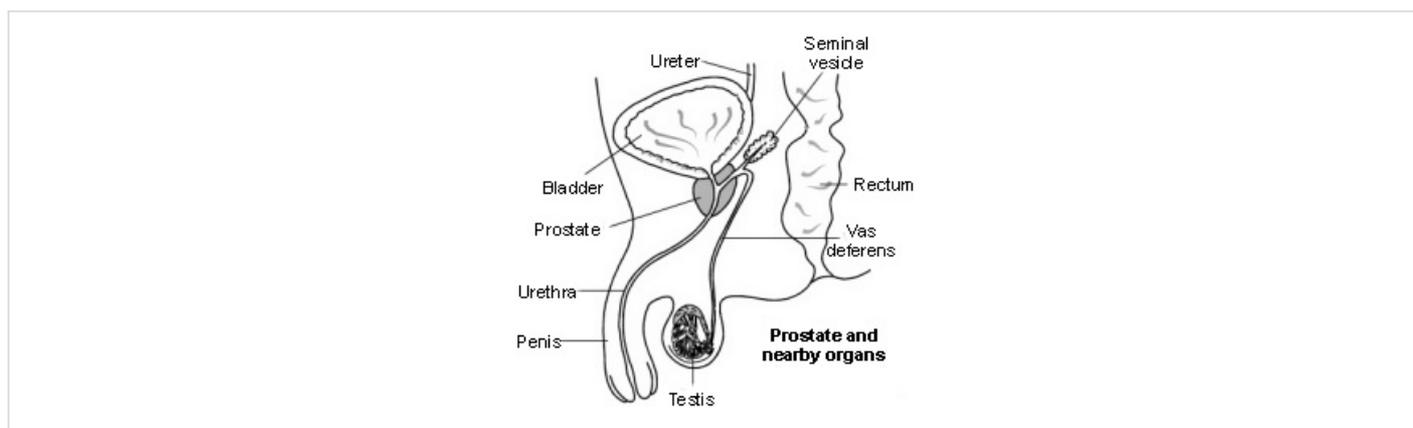View this article online at: patient.info/mens-health/prostate-and-urethra-problems/prostate-specific-antigen-test-psa

Prostate Specific Antigen Test (PSA)

The prostate specific antigen (PSA) test is a blood test to see if you might have prostate cancer and to monitor treatment for prostate cancer.

The PSA blood level is also increased in other conditions. So having an increased PSA test result does not mean that you have prostate cancer. Experts disagree on how useful the PSA test is. There is a lot of ongoing research about PSA. At the moment there is no national screening programme for prostate cancer in the UK.

What is a prostate specific antigen (PSA) test?

The PSA test is a blood test that measures the level of PSA in your blood. PSA is made by the prostate gland. The PSA level in your bloodstream is measured in nanograms per millilitre (ng/mL).

When you have a PSA test, you should not have:

- An active urine infection.
- Produced semen during sex or masturbation (ejaculated) in the previous 48 hours.

- Exercised heavily in the previous 48 hours.

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- Had a prostate biopsy in the previous six weeks.
- Had an examination of the back passage with a gloved finger (a digital rectal examination) in the previous week.

Each of these may produce an unusually high PSA result.

If you decide to have a PSA test, your doctor will give you a digital rectal examination to feel the prostate. This is to find out if the prostate is enlarged or feels abnormal in any way.

Editor's Note

March 2018 - Dr Hayley Willacy draws your attention to the newly released Public Health England advice available in the Further reading section below. The guidance helps GPs give clear and balanced information to men who do not have symptoms when they ask about prostate specific antigen testing. The PSA test is available free to any well man aged 50 and over who requests it. GPs should use their clinical judgement to manage men with symptoms and those aged under 50 who are considered to have higher risk for prostate cancer.

What is a normal result?

The normal range changes as you get older.

PSA Cut-off Values	
Age (years)	**PSA Cut-off**
40-49	2.0 nanogram/mL or higher
50-59	3.0 nanogram/mL or higher
60-69	4.0 nanogram/mL or higher
70 or older	5.0 nanogram/mL or higher
There are no age-specific reference limits for men older than 80 years of age.	

The higher the level of prostate specific antigen (PSA), the more likely it is to be a sign of cancer.

The PSA test can also miss cancer. About 15 in every 100 men who have prostate cancer will have had a normal PSA level. A one-off test is not reliable and repeating the test may provide important information.

What causes a raised prostate specific antigen (PSA) level?

A raised PSA level may mean you have prostate cancer but about two out of three men with a raised PSA level will not have prostate cancer.

Other conditions may also cause a raised PSA level, including:

- Inability to pass urine, causing an enlarged bladder (acute retention of urine).
- Enlargement of the prostate that is non-cancerous (benign).
- Older age.
- Urine infection.
- Acute prostatitis.
- Transurethral resection of the prostate (TURP) operation. TURP is an operation used to remove the prostate if you have benign enlargement of the prostate.
- If you have a tube (catheter) to help pass urine

What happens after a prostate specific antigen (PSA) test?

If your PSA level is not raised

You are unlikely to have cancer. No immediate further action is needed but you may need further tests to confirm the result.

If your PSA level is slightly raised

You probably do not have cancer. You might need further tests, including more PSA tests.

If your PSA level is definitely raised

Your GP will refer you to see a doctor who is a specialist for you to have further tests to find out if you have prostate cancer. The specialist will discuss with you the options for further investigations, which may include a sample taken (a biopsy) of your prostate gland and an MRI scan.

If prostate cancer is found, what are my options?

For information about the treatment options for prostate cancer, see separate leaflet called Prostate Cancer.

Further reading & references

- Advising well men aged 50 and over about the PSA test for prostate cancer: information for GPs; Public Health England (2018)
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