

Advice to patients about the PSA (prostate-specific antigen) blood test: frequently-asked questions

What is the PSA blood test?

If you want more information before deciding to have this test, it is important that you ask and that you fully understand what is involved. It is a blood test that measures the level of PSA in your blood.

PSA stands for **P**rostate **S**pecific **A**ntigen, which is a protein made by the prostate which naturally leaks into the bloodstream. Some men with symptoms of a prostate problem may consider having the test. The symptoms of benign prostate enlargement can be similar to the symptoms of a developing prostate cancer. Some men without any symptoms consider having the test to 'screen' for prostate cancer. However, in both of these situations, the decision to have a PSA test is controversial as there are pros and cons.

If the amount in the blood is abnormally high, it might indicate you have some disease in the prostate, which could be cancer or another condition such as inflammation. However, PSA is not a specific test for cancer and, before you have the test, it is important that you read and understand the following information.

Why have a PSA test?

Although the PSA test is often done to detect cancer in men who have problems passing urine it is also used to help in the treatment of men who are known to have prostate cancer, it can also detect early prostate cancer before it causes symptoms or any abnormality of the prostate. At this stage it might be possible to remove the cancer by an operation, or to destroy it with radiotherapy. This may cure the disease.

Although using the PSA test in this way to screen for prostate cancer is sometimes recommended, some doctors do not think it is necessarily a good thing because it may detect very small cancers that pose no risk to your health.

What do we know about PSA levels?

You need to consider the following points before you finally decide to have the test:

- A low PSA does not completely exclude prostate cancer (in men with a PSA between 1 and 3, upto 15% can be found to have cancer on biopsy)
- A high PSA does not mean there is prostate cancer, although the higher the PSA the greater the risk that there is cancer (in men with a PSA between 3 and 10, only 20% are found to have prostate cancer on biopsy)
- A high PSA can be due to simple benign enlargement of the prostate, which is very common in men over 50, it can occur during an infection in the urine, and after surgery or tests on the prostate.
- The average level of PSA tends to be higher in older men

What happens if the PSA is high?

There are no hard and fast rules, and even the experts don't always agree on the best course of action. What happens next depends on whether or not you have any symptoms, your personal risk of prostate cancer, how high the PSA level is, your age (the older you are, the higher your PSA level is likely to be whether or not you have prostate cancer) and also your general level of health.

As a rough guide, there are three main options after a PSA test:

- **PSA not raised:** Unlikely to have cancer. No further action required at present.
- **PSA slightly raised:** Probably not cancer, but might need to repeat the test or have a biopsy of the prostate.
- **PSA definitely raised:** Probably need a biopsy to find out if you have prostate cancer.

What does a prostate biopsy involve?

If your PSA is raised, your urologist will discuss with you whether further investigations should be done. A biopsy may be advised to see if cancer is present. This is done with a transrectal ultrasound scanner, a metal probe passed into the rectum (back passage) with the help of local anaesthetic. This test is a little uncomfortable. Antibiotics are given to reduce the risk of infection.

Complications can follow this test, and they will be discussed with you should the biopsy be needed. They include blood in the urine, semen or from the back passage, and the risk

of infection in the urine, the prostate or in the bloodstream. Even if the biopsy test is negative, this does not necessarily completely rule out prostate cancer. Usually, it will be necessary to have the PSA test repeated, and sometimes further biopsies are needed. It is important to realise that, if your PSA is raised, even if you do not have cancer, it can be very difficult to rule out cancer and you may need to go on having tests for some time.

If the tests show cancer, how is it treated?

If the biopsy does show cancer, you and your urologist will have to make a decision about how to treat it. This might involve an operation to remove the whole prostate gland (radical prostatectomy) or radiotherapy.

Sometimes, it might be best simply to do nothing immediately but actively monitor the disease, which usually involves using PSA tests and digital rectal examination of the prostate to see if the cancer is growing

The best way of treating early prostate cancer is not clear. Treating some cancers at an early stage should prevent more serious cancer developing in the future, but the side-effects of treatment may outweigh any benefits. It is difficult to be precise about predicting what is right for each individual person.

At present there is no definite proof that using PSA tests to diagnose early cancer does save lives. Some doctors believe that it does and some believe that it does not. We should, however, have further information about this from clinical trials within the next 2-3 years.

What if there is a family history of cancer?

You may be asking for a test because a relative has had prostate cancer. Prostate cancer can run in families, but it is only if it is a close relative (e.g. father or brother), or, especially, two or more close relatives, that the increased risk is important. This is particularly so if they have developed the disease at a young age.

Although the chance of your having prostate cancer might be higher in these circumstances, it is still fairly small (10-15%).

The higher the PSA value, the more likely cancer will be found. If your PSA is greater than 10 µg/l, the risk of finding prostate cancer is 50%

Even if you have a family history of prostate cancer, all the information given above still applies to you and must be considered. There is no real evidence that men who are relatives of patients with prostate cancer benefit from being screened.

So, in summary, what are the pros and cons of the PSA test?

Possible benefits of having the test

- It may provide reassurance if the test result is normal.
- It can help to detect prostate cancer before any symptoms develop.
- Treatment in the early stages of prostate cancer could help you live longer and avoid the complications of cancer.

Possible disadvantages

- It might detect a slow-growing cancer that may never cause any symptoms or shorten your life span. However, the diagnosis of 'cancer' may cause you significant anxiety which could affect your quality of life.
- It may lead you to have treatment for early prostate cancer which might not help you live longer. Also, the main treatments for early prostate cancer do carry some risk and can cause side-effects.
- It could miss cancer in the prostate, and falsely reassure you that all is well.
- It could lead to anxiety and a biopsy when you have no cancer.

Ultimately, the decision should be taken by yourself in conjunction with your GP who can advise further and who knows your particular circumstances.

Are there any other tests available other than PSA?

A new test called PCA3 (**p**rostate **c**ancer **g**ene **3**) is now available. PCA3 is a new gene-based test carried out on a urine sample. After a gentle massage of the prostate (performed by inserting a finger into the back passage), your doctor will ask you to pass urine, and this urine will contain cells shed by the prostate. The PCA3 test works by looking at the content of these cells to see if they have the characteristic of prostate cancer cells.

PCA3 is highly specific to prostate cancer and, therefore, in contrast to PSA, not increased by conditions such as benign enlargement or inflammation of the prostate. If you are concerned about the possibility of prostate cancer because of an elevated PSA or are feeling insecure about a previously performed (negative) biopsy, the PCA3 urine test can provide additional information that may help you and your doctor to decide whether a (new) biopsy is needed.

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