

Screening for prostate cancer

The evidence

Effectiveness Matters

Information for men considering or asking for PSA tests

- Some people worry about prostate cancer because it is one of the commonest cancers men suffer from.
- Screening tests are sometimes used to try and find prostate cancer early.
- Screening tests for breast cancer have been shown to save lives. However, it is far less certain that screening for prostate cancer will have the same benefits.
- Often, prostate cancer doesn't cause men any problems. Many men with prostate cancer do not know they have it and eventually die of something else.
- Doctors can use a simple blood test called the PSA test to help find prostate cancer. However this test is not very accurate.
- If you have a PSA test and are found to have prostate cancer, nobody can tell for certain whether treatment will mean you live longer.
- It is not clear whether men are better off having the PSA test.
- If you are thinking of having a PSA test, it is important that you know about the possible consequences.

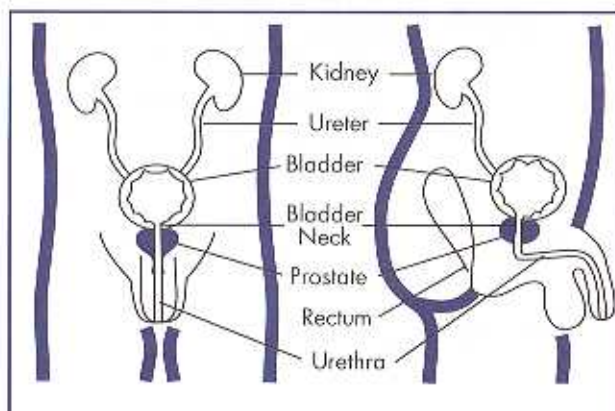
Screening for prostate cancer - the issues.

This leaflet is for men who are thinking about having a screening test for prostate cancer called the PSA test. It is based on up-to-date research evidence and aims to give you the best information available about the possible advantages and disadvantages of the test. The information will help you and your doctor make the decision which is best for you.

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What is prostate cancer?

The prostate is a small gland that sits just below the bladder and surrounds the urethra (the tube that carries urine from the bladder into the penis).



As men get older, the prostate can get bigger and may cause problems with passing urine. In most cases, the prostate getting larger is not caused by cancer. Men who have prostate cancer might or might not have symptoms.

You should see your doctor if you have any worries or symptoms such as:

- difficulty passing urine;
- getting up regularly at night to pass urine; or
- blood in your urine.

Prostate cancer mostly affects men over 65. It is normally a slow-growing cancer. Most men over 65 with the disease will die of something else, usually without even knowing they have prostate cancer. Only a few of the men who have prostate cancer have a cancer which may kill them. However, prostate cancer is the third commonest cause of cancer death among men in the UK, after lung cancer and large-bowel cancer.

Is screening for prostate cancer useful?

One way which may reduce the number of deaths from some cancers is to find the disease at an early stage before any symptoms have appeared. (This is sometimes called screening.) Treatment may be more likely to be successful if it is started early.

How useful screening is depends on several things, including:

- the accuracy of the test;
- how good the test is at finding out who does and who doesn't have the disease; and
- whether effective treatments are available.

Good-quality research has shown that screening for breast cancer, for example, is an effective way of saving lives. However, little good-quality research has been carried out on prostate cancer screening. There are strong reasons to think that screening for prostate cancer will not have the same benefits as screening for breast cancer.

This leaflet explains what we know and what we don't know about a screening test for prostate cancer and about how effective current treatments are.

The PSA test

One screening test for prostate cancer involves a blood test for a substance called prostate specific antigen (PSA). Like most screening tests, it only gives an idea of whether the disease is present. If your PSA test result is high, you will normally need further investigations to reach a definite diagnosis.

PSA is made by the prostate gland. Men with prostate cancer often have higher levels of PSA in their blood than normal. However:

- some men who have prostate cancer do not have higher levels of PSA;
- some men who do not have prostate cancer do have higher levels of PSA; and
- two thirds of men who have higher levels of PSA do not have prostate cancer.

This means that the PSA test is not totally accurate in seeing whether there is cancer. PSA levels in the blood can be raised by several other conditions that affect the prostate gland. At the moment, the PSA test cannot tell the difference between men who have slow-growing prostate cancer and those who have the more aggressive disease.

If you have a PSA test, you will have to make several decisions. You need to think about what might happen when you get the test results.

What if the test result is normal?

If the test is normal, you probably do not have prostate cancer. Some men feel reassured by a normal result. However, the PSA test is not totally accurate. Up to 1% of men under the age of 50 will go on to develop 'invasive prostate cancer' (prostate cancer that spreads) in the next ten years. Among older age groups, slightly more men will go on to develop the disease.

What if the test result is high?

An unusually high level of PSA in your blood does not necessarily mean you have prostate cancer. Of every three healthy men who have a high PSA level, only one will have prostate cancer.

If the PSA test result is high, you will probably be offered further investigations to find out whether or not you definitely do have prostate cancer. These tests might include another PSA test, ultrasound scans and needle biopsy.

Ultrasound scans involve the doctor putting a probe into your rectum (back passage) to find areas of cancer. This might feel embarrassing and uncomfortable or painful, but very rarely causes serious problems.

The doctor might also use ultrasound to help take a needle biopsy. A needle biopsy normally involves the doctor putting a needle up your rectum and into your prostate gland to take small samples of tissue. The samples are then examined under a microscope to see if they contain any cancer cells. If they do, a doctor can estimate the grade and type of cancer by looking at the cells. He or she can then estimate how likely the cancer is to grow quickly. However, he or she cannot give any firm guarantees about the likely outcome.

The needle biopsy may be embarrassing and painful, and it has some risks. On average, of every 100 men who have a needle biopsy, between one and five will develop a complication. The main complications are infection and, more rarely, bleeding which lasts a long time.

If the ultrasound or biopsy tests confirm you have prostate cancer, you and your doctor then face decisions about what to do about it.

Treatment options for prostate cancer

There are three options for people with prostate cancer that has not spread to other parts of the body:

- an operation to remove the prostate;
- radiation therapy; or
- watchful waiting.

There is no clear research evidence to tell us whether any of these treatment options do more good than harm. The studies which have been done do not suggest that any one option is better than the others.

Surgery (an operation to remove the prostate)

A surgeon will carry out an operation called a 'radical prostatectomy' to remove the prostate gland and the cancer cells it contains.

However, there is no clear research evidence to tell us whether men with prostate cancer who have their prostate removed live longer than those who do not.

For every 1,000 men with prostate cancer treated with surgery:

- between three and 20 will die because of the treatment;
- between 200 and 850 will experience impotence (when you can't get an erection); and
- between 10 and 270 will develop urinary incontinence.

It is difficult to predict who may benefit from surgery and who is likely to experience complications.

Radiation therapy

A beam of X-rays can be directed to the prostate gland to destroy cancer cells.

Again, there is no clear research evidence to suggest that this treatment makes men with prostate cancer live longer.

For every 1,000 men with prostate cancer treated with radiation therapy:

- between two and five will die as a result of the treatment;
- between 400 and 670 will experience impotence (when you can't get an erection); and
- between 10 and 30 will develop urinary incontinence.

Watchful waiting

Watchful waiting involves keeping the cancer under review. A series of PSA tests may be taken to see whether your PSA levels are rising. The cancer is only actively treated if it grows quickly or causes problems.

Watchful waiting has no immediate risks, but of course the cancer may grow and cause problems during the waiting period.



What we know and what we don't know: things to think about before you decide to have a PSA test

Although prostate cancer can be a killer, many men who have prostate cancer are never bothered by it and do not die from it.

The PSA test can help to find prostate cancer, but is not totally accurate.

We don't know how much anxiety and worry having the test will cause people, whether or not the test result is high.

The investigations which are used to confirm whether men with a high PSA level have cancer can be uncomfortable and have some small risks.

Current treatments for prostate cancer may or may not mean people will live longer. We don't know for certain because the necessary research hasn't yet been done. The treatments may cause incontinence and impotence, which can seriously reduce the quality of your life.

Nobody knows whether you are better off having the PSA test done or not.

Some men who have found out that they have prostate cancer after having the PSA test have decided to have surgery or radiotherapy. Some of these men are glad to know that the cancer has been removed even if they have experienced side effects.

Some men who have found out that they have prostate cancer after having the PSA test have decided that they do not want to risk the side effects of surgery or radiotherapy. Some of these men wish they had not had the PSA test

If you are thinking of having a PSA test, you might want to talk about this leaflet with your family and friends, and with a health care professional.

After reading this leaflet there may be some things you're still not sure about. You can use this space to write down any questions you have and any things you would like to discuss with your doctor.

If you want more information or another copy of this leaflet, your local branch of the National Health Information Service should be able to help. You can contact them on freephone 0800 66 55 44.



This leaflet has been written by the NHS Centre for Reviews and Dissemination at the University of York. The centre was set up to find and review the results of good-quality health research and to pass the findings on to important decision makers in the NHS and to people who use health care services.

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authors and not necessarily those of the NHS Executive or the Health Departments of Scotland, Wales or Northern Ireland.

We have taken a lot of care to make sure that the information in this leaflet is as accurate as possible. We have used the best research evidence available. The University of York cannot accept any responsibility for any damage resulting from you relying on the information in this leaflet.

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