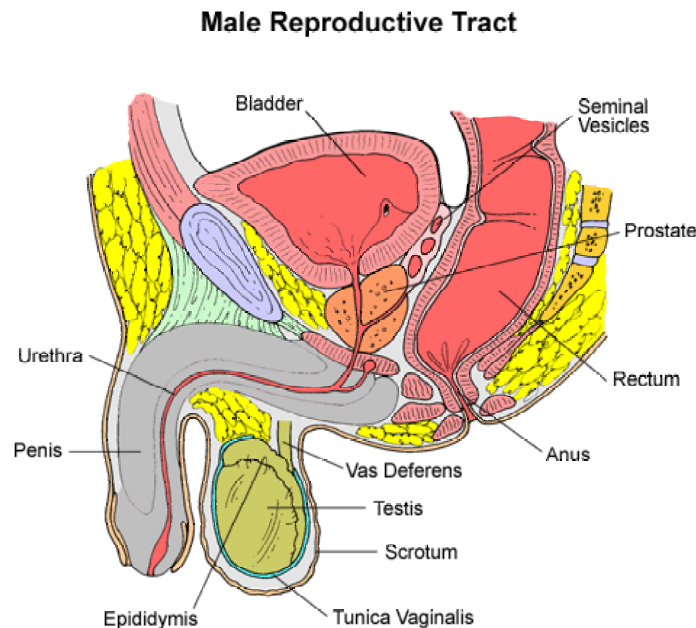


Prostate and Prostate Cancer

Where is the prostate gland located?



Prostate is a walnut shaped gland present only in men; it is located just below the opening of the bladder and encircles the water tube (urethra) that carries urine and semen.

What does the prostate gland do?

The prostate's job is to make some of the fluid that helps carry sperm when men have sex. You're unlikely to be aware of your prostate until it causes trouble. The most common problem is prostate enlargement (called Benign Prostatic Hypertrophy, or BPH), which can make it difficult for you to pass urine. B: BPH is noncancerous and is not the same as prostate cancer.

What do we know about prostate cancer?

What is Prostate Cancer?

Prostate Cancer is a condition of the prostate in which there is abnormal growth of prostate cells. The growth is uncontrolled (compared to growth of *normal* prostate tissue) and the cancer cells have a tendency to spread (known as "metastasis") outside the confines of the tissue to involve other parts of the body.

What causes prostate cancer?

The causes of prostate cancer are unknown.

There are some factors, which may be associated with an increase in the likelihood of developing the disease:

- Having relatives who have or have had cancer of the prostate. One close relative (father, brother, uncle) increases the risk twofold and two close relatives, fourfold.
- Certain ethnic groups have a higher incidence of prostate cancer than others. Research in north America has shown that African-Caribbean and African-American men are most likely to have this type of cancer. Asian men have the lowest incidence, but the risk rises somewhat if they emigrate to the West.
- Eating a diet high in animal fat and protein.

There are no known primary prevention measures which men can take to minimise the risk of developing prostate cancer.

What are the symptoms of prostate cancer?

Men with early prostate cancer are unlikely to have any symptoms as these only occur when the cancer is large enough to put pressure on the urethra or disturb bladder function. Many older men have enlargement of the prostate due to non-cancerous *benign prostatic hypertrophy*.

The symptoms of benign prostatic hypertrophy and prostate cancer are similar and may include the following:

- Difficulty in passing urine
- Passing urine more frequently than usual, especially at night
- Rarely, blood in the urine

The majority of men with these symptoms do not have prostate cancer.

Because cancer of the prostate is often a slow growing cancer and symptoms may not occur for many years even significant cancers may cause no urinary symptoms and the first symptoms may be pain in the back, hips or pelvis caused by the cancer spreading to the bones.

Sometimes prostate cancer is only detected following a prostate operation - the tissue removed at operation is always sent for pathological examination. Studies have shown that 10% of men undergoing a prostate operation (known as a trans-urethral resection of the prostate, or TURP) for urinary symptoms

will subsequently be shown to have a small area of cancer within the tissue removed

Diagnosis and early detection: three main tests

There are three recognized methods of testing for prostate cancer;

1. Measurement of serum prostate specific antigen (PSA)
2. Digital rectal examination (DRE)
3. Transrectal ultrasound (TRUS)

1. [PSA testing](#)

Prostate **Specific Antigen (PSA)** is an enzyme produced by the prostate gland, which helps in liquefying the semen after ejaculation.

Men with prostate cancer tend to have levels of PSA in their blood that are higher than normal. However it is important to realize that although PSA is prostate specific (produced by prostate cells only) **it is not prostate cancer specific**. Conditions such as benign enlargement of the prostate and urinary tract infections will also result in an elevation of the levels of PSA.

- Some men who have prostate cancer, do not have raised levels of PSA;
- Two thirds of men who have raised levels of PSA, depending on the cut off level used, do not have prostate cancer.

These uncertainties mean that at the present routine PSA testing to screen for prostate cancer is not recommended

Should I have a PSA test, and what will it mean?

Unless you have symptoms of difficulty passing urine, an abnormal-feeling prostate gland, or a strong family history of prostate cancer it is unlikely that your doctor will recommend that you have a PSA test before the age of 50. This is partly because of the uncertainties mentioned in the section above.

A normal PSA test is not an absolute proof that you do not have prostate cancer. If your prostate gland feels abnormal on rectal examination your doctor may still advise a prostatic biopsy. On the other hand a raised PSA result does not mean that you definitely have a prostate cancer.

If you agree to have a PSA test you should be ready to undergo a prostate biopsy, if your results demand that course of action.

If you require further details click on [PSA FURTHER INFORMATION](#)
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Digital rectal examination (DRE)

Early stage prostate cancer is seldom detectable by digital examination of the rectum, and it is a raised serum PSA that triggers investigation.

Overall DRE alone is less than 50% accurate in detecting prostate cancer. DRE is most valuable for detecting more advanced cancers, assessing the extent of a known cancer and for diagnosing non-malignant disorders of the prostate.

The combination of a palpable abnormality of the prostate with a raised PSA increases the likelihood of cancer.

[My PSA levels are raised and I need a biopsy, so what happens now?](#)

This examination is carried out in a special clinic which is currently held in ward 14 BRI. Even patients seen at the Yorkshire Clinic come to BRI as we have the latest high quality equipment in this clinic. You will be admitted to the York Suite if you have been seen at the Yorkshire Clinic in the first instance.

This is performed as an outpatient procedure. It does not require an anaesthetic and you will be able to go home shortly after the procedure is completed.

You will be asked to lie on the examination couch while the doctor re-examines your prostate to assess it. The doctor will then scan the prostate by inserting a small ultrasound probe into the rectum. An ultrasound probe in the rectum enables the specialist to 'see' the prostate in such a way that needle biopsies may be taken with greater accuracy from different parts of the prostate. The diagnosis of prostate cancer is made by the histological examination of prostate tissue, and the standard investigation for a man with a raised serum PSA is the taking of several needle biopsies under transrectal ultrasound (TRUS) control.

If you are taking Aspirin, Clopidrogel or Warfarin you should have been advised about stopping the drugs. Please speak to Mr. Puri or the specialist nurse for advice,

Patients report that TRUS biopsies are moderately uncomfortable. As there is a risk of infection, antibiotics are prescribed to cover the procedure.

- However 3 in 100 will require a second course of antibiotics,
- 1 in 100 will have to be admitted to hospital for intravenous antibiotics.
- The risk of death from TRUS biopsy is less than 1 in 10,000.
- 30% may have some bleeding in the urine or following sexual intercourse for up to three weeks.

At present 60-70% of men undergoing TRUS biopsy for a raised PSA are not found to have cancer. This proportion differs according to the 'threshold' level of PSA that is considered to be abnormal.

My biopsy was negative, what happens now?

This question is very difficult to answer accurately, **but the important thing to note is that a negative biopsy result cannot exclude completely the possibility of cancer within the prostate.** If the amount of cancer is very small it is difficult to hit it with the biopsy needle.

Our current practice is to keep you under review by regular visits to the outpatient department and to repeat the PSA at intervals. If the PSA continues to climb steadily upwards this would be further evidence of possible cancer and it might be necessary to repeat the biopsies. This would not be done within three months because the act of taking a biopsy from the prostate artificially raises the PSA level and this would confuse the issue.

If the PSA levels remain stable it may be possible for your GP to repeat the test at regular interval.

We hope this leaflet provides useful information that will help you understand the reasons for the various tests. If you have any questions, jot them down here and ask the nursing or medical staff for answers.

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