

# Prostate Cancer – Diagnosis

*fact sheet*

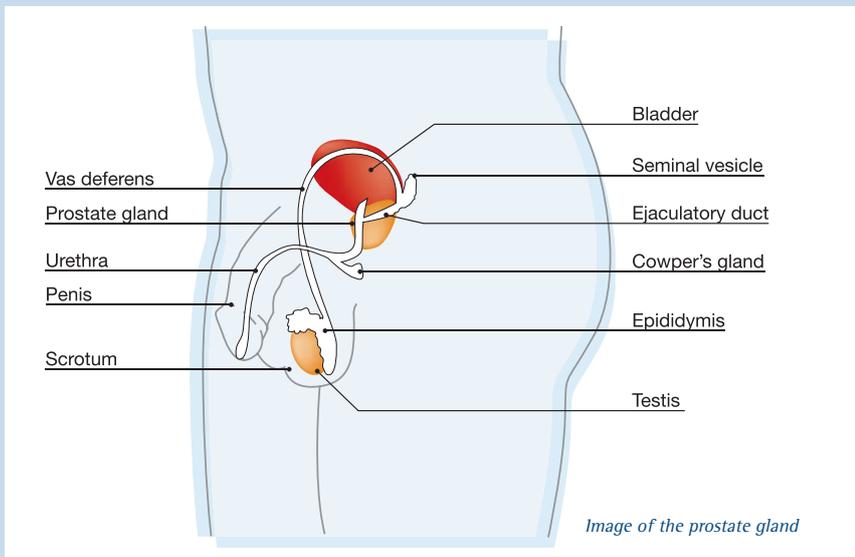
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## What is the prostate?

The prostate is a small, but important gland (organ) in the male reproductive system. Its main role is to make fluid that protects and feeds sperm. The prostate makes about one third of the fluid that is ejaculated (released) from the penis at the time of orgasm (sexual climax).

## Where is the prostate?

The prostate is about the size of a walnut and is shaped like a doughnut. The prostate sits underneath the bladder, and surrounds the top part of the urethra. Urine passes through the urethra on its way from the bladder to the penis.



## What is prostate disease?

Prostate disease is a term used to describe any medical problem that affects the prostate gland. Prostate disease includes:

**Benign Prostatic Hyperplasia (BPH)** – non-cancerous enlargement or growth of the prostate gland.

**Prostatitis** – inflammation of the prostate gland, sometimes because of infection.

Both inflammation and enlargement of the prostate can be very painful and can cause symptoms that have a major effect on a man's quality of life.

**Prostate Cancer** – a problem in which cells within the prostate grow and divide abnormally, and a tumour grows in the prostate.

Many people think that urinary symptoms are a sign of prostate cancer. However, urinary symptoms are mostly due to a blockage of urine flow from the bladder, which is usually due to BPH.

## What is prostate cancer?

In prostate cancer, cells within the prostate grow and divide abnormally so that a tumour forms. Prostate cancer is diagnosed mainly in men over the age of 50 years.

Prostate cancer cells can grow very slowly and may not cause any problems or symptoms or become life-threatening. However, less commonly, the cancer cells grow more rapidly and may spread to other parts of the body. It is not known why some cancers grow at different rates and why some tumours spread to other parts of the body.

## How common is prostate cancer?

Excluding some forms of skin cancer, prostate cancer is the most common type of cancer diagnosed in men in Australia, with more than 19,000 Australian men diagnosed each year.<sup>1</sup> It is more common in older men, particularly over the age of 50 years.

## What are the stages of prostate cancer?

Prostate cancer can be described as either 'localised' when, as far as can be determined, the cancer stays within the prostate, or 'advanced' (metastatic) when the cancer has spread to other areas in the body (e.g. lymph nodes, bone). Sometimes the cancer can spread from the prostate to reach nearby tissues and organs (such as the bladder or rectum) when it is described as 'locally advanced' prostate cancer.

## What causes prostate cancer?

The causes of prostate cancer are not known. However there are certain risk factors that have been linked with the development of prostate cancer, including:

- Family history – having a father or brother who has had prostate cancer or, in some instances, a relative with breast cancer
- Age – the older a man is, the greater his risk of prostate cancer
- Subfertility – a history of subfertility has been associated with a higher risk in some men
- Diet – a diet high in animal fat and protein is thought to increase the likelihood
- Race – men of Caucasian background are more at risk of prostate cancer than Asian men (particularly Asian men who continue with Asian rather than western diets)

## Should you be tested for prostate cancer?

Most men diagnosed with prostate cancer will die from other conditions such as heart attacks or strokes and many may never need treatment for their prostate cancers.

Furthermore, there are some problems associated with the detection process and the treatments can have significant unwanted effects for some patients.

Andrology Australia recommends that men think carefully about whether or not they want to take the first step (having a PSA blood test and digital rectal examination (DRE)) in what may be a long journey through diagnosis and treatment of prostate cancer.

See Andrology Australia website for resources:

*The Early Detection of Prostate Cancer in General Practice: Supporting Patient Choice and 'PSA Test' fact sheet;*

Another useful resource: *Whether to Test for Prostate Cancer in FingerTip Urology* at [www.bjui.org](http://www.bjui.org)

## How is prostate cancer diagnosed?

There are several tests that need to be done before a diagnosis can be made. The doctor will perform:

- **Digital rectal examination (DRE):** when the doctor places a gloved finger into the rectum (back passage) to feel for size, shape and outline of the prostate ('palpating' the prostate)
- **PSA test:** to measure levels of prostate specific antigen (PSA) in the blood

If the level of PSA or the DRE is abnormal, there is a higher chance of prostate cancer being found when a biopsy is done. Most men who have a normal feeling prostate and a slightly raised PSA level do not have cancer detected at biopsy.

## Why is biopsy necessary for diagnosis?

PSA is not a test for cancer. A raised PSA level in the blood just means there is something happening in the prostate which, in most instances, is not due to

cancer. However, if a DRE or PSA test is abnormal, cancer may be present and this can be checked only by biopsy. The biopsy to remove small tissue samples from the prostate is usually done by a urologist.

The biopsies are sent to a pathologist to be examined under a microscope to see if cancer is present.

A transrectal ultrasound (TRUS) guided biopsy of the prostate gland uses ultrasound (with a probe placed in the rectum) to outline the prostate and guide placement of the biopsy needles for collecting tissue samples. TRUS-guided biopsies are unpleasant with at least half of men having minor symptoms for a day or so afterwards.

There is also a small risk of life-threatening infection (less than one percent) even when 'covering' antibiotics are used.

## What is a Gleason score?

If cancer cells are present in the biopsy sample(s), the tumour is graded by looking through a microscope to see whether it has the appearance of an aggressive or a slowly-growing cancer. This is important for deciding how to manage the cancer. The grading used is called a Gleason score (developed from a system described by Donald Gleason) with total rating scores from 6 to 10.

Aggressive, or faster-growing cancers, which are more likely to affect a man's health and lifespan are called 'high-risk cancers', usually with a Gleason score of 8 to 10.

## How is the type of treatment decided?

Once a diagnosis of prostate cancer has been made a man and his doctor must decide what steps to take next for management and treatment. The final decision will depend on a number of factors including:

- Gleason score - high (more aggressive), intermediate (Gleason 7), or low grade
- Stage of the cancer - localised in the prostate gland or spread to other parts of the body
- Level of PSA in the blood and the rate of change of PSA over time (velocity)
- The man's age
- The man's general medical health and known health concerns
- Side-effects of treatment, since all treatments have unwanted effects
- The man's personal preference and priorities

To help with making decisions about treatment, patients are often placed into high, intermediate or low risk groups with respect to likely cancer outcomes.

By looking at a combination of factors, the chances of different cancer outcomes can be estimated using charts, tables and electronic aids.

Although these predictions have limitations, they can be helpful in deciding which treatment might be best for a particular man.

1 Australian Institute of Health and Welfare (AIHW) 2010. ACIM (Australian Cancer Incidence and Mortality) Books. AIHW: Canberra (2007 data).

🔗 For information about the available management and treatment options for prostate cancer, please see [Andrology Australia fact sheet 'Prostate Cancer – Treatment'](#).

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