

# Prostate cancer treatment

## How is the type of prostate cancer 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 decision will depend on a number of factors including:

- Gleason score - high grade (Gleason 8-10), intermediate (Gleason 7), or low grade (Gleason 6); or Grade Groups 5 to 1
- 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)
- age and general health
- treatment option
- side-effects of treatment
- personal preference.

## How is localised prostate cancer treated?

If the cancer is localised in the prostate gland, the options available include monitoring the cancer (watchful waiting or active surveillance), surgery to remove the prostate (radical prostatectomy), or radiation therapy (external beam radiotherapy or brachytherapy) with or without hormone therapy.

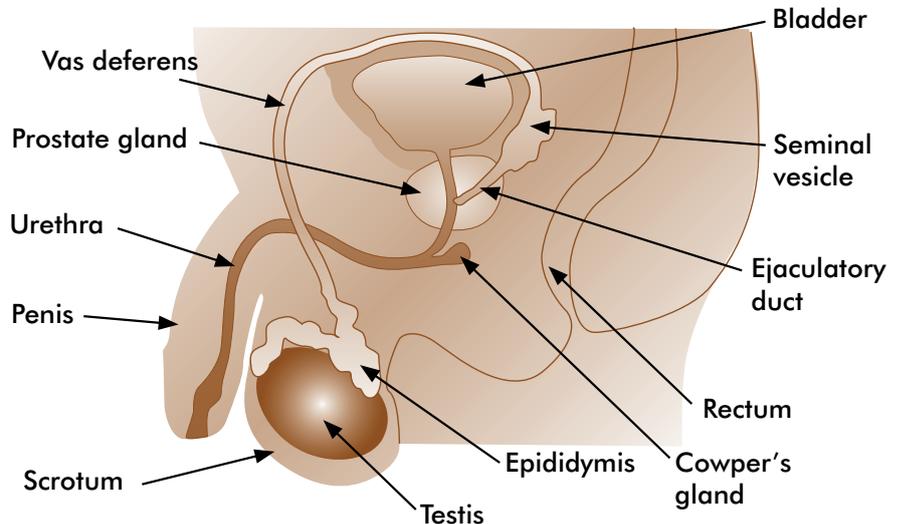
Surgery and radiation therapy both work well in treating localised prostate cancer but they have different side-effects.

### What is watchful waiting?

Some men decide to have no treatment for localised prostate cancer because of the unwanted side-effects of surgery and radiotherapy. These men prefer to take a 'watchful waiting' approach to see if their prostate cancer changes. This approach is often used for men who are 75 years or older or men who have other health problems. The PSA test can be used to monitor the cancer.

### What is active surveillance?

Active surveillance is more involved than watchful waiting and is often preferred. It may be chosen when PSA level, MRI, digital rectal examination



(DRE) and biopsy findings show the man has low-risk slow-growing prostate cancer. In these cases, there is a low chance of the cancer getting worse in the short to medium term.

Having regular PSA tests and repeat MRIs and/or biopsies check if the cancer gets worse. Low-risk cancers only progress to a more advanced cancer in a small number of men, who then need to consider treatment. However, most of the time there are no signs of more aggressive disease, and active surveillance continues indefinitely.

### What is a radical prostatectomy (surgery)?

A radical prostatectomy is an operation to remove the prostate gland and the tissues surrounding it. This includes the seminal vesicles and part of the urethra (the tube that carries urine) that sits within the prostate gland. The rest of the urethra, from below the prostate, is then joined to the bladder. Radical prostatectomy can be an open operation or a laparoscopy ('keyhole') surgery (often with the assistance of a robotic device).

There are some risks linked to surgery including:

- urinary incontinence: leakage of urine may still be a problem in about 5-10% of men one year after a radical prostatectomy
- erectile dysfunction: 75-85% of men

can have problems with getting and keeping an erection after surgery. However, preventing damage to the nerves that allow erections can lower the chance of this happening. There are also effective treatments for erectile problems.

### What is radiation therapy?

Radiation therapy can be applied to the outside of the body (external beam radiation therapy) or by an internal implant (brachytherapy). Radiation therapy and surgery for prostate cancer have similar success rates.

Patients with high-risk prostate cancer undergoing radiotherapy also have hormone therapy called androgen deprivation therapy (ADT) before the radiotherapy starts, to improve its results. However, ADT has its own side-effects.

In external beam radiation therapy small doses of radiation are given over several weeks resulting in a high total dose to the prostate by the end of the treatment.

Radiation damage to other tissues near the prostate can cause inflammation of the bladder and rectum, leading to urinary urgency and bleeding from either organ. Erectile dysfunction is a common problem after radiation therapy; it tends to develop gradually and becomes worse over time.

In brachytherapy permanent

radioactive 'seeds' are inserted straight into the prostate gland (low-dose brachytherapy). Another approach is to use temporary radioactive 'rods' which stay in position for only a couple of days (high-dose brachytherapy). Brachytherapy results in a high dose of radiation directly to the cancer cells.

## How is advanced prostate cancer treated?

If the prostate cancer has spread to other parts of the body (metastasised), the standard treatment is a medication that blocks the male hormone, testosterone, because testosterone helps the cancer grow. This treatment is called androgen deprivation therapy (ADT). If cancer has spread extensively, chemotherapy is often given in addition to ADT to improve survival.

## What is androgen deprivation therapy (hormone therapy)?

The growth of both normal cells and cancer cells in the prostate gland rely on male hormones (androgens), particularly testosterone. Androgen deprivation therapy (ADT) acts by either stopping testosterone production or by blocking the action of testosterone on the cells and tissues.

The most common form of ADT are medications called GnRH blockers, which are injections given under the skin or into muscle. Other hormone therapy tablets (bicalutamide, abiraterone acetate or enzalutamide) may be added to these injections over time. Removing the testes (orchidectomy) is another option which stops the production of testosterone.

ADT is not a 'cure' but it may keep the prostate cancer 'in check' for a period.

## What are the side-effects of ADT?

Most men having ADT will have a reduced libido (sex drive) and some trouble with getting or keeping erections.

Other common side-effects include hot flushes, tiredness and sweating, a gradual decrease in body hair, thinning of the bones (osteoporosis), reduced muscle strength, increased risk of heart disease, increased blood sugars and risk of getting diabetes, and cognitive changes, such as memory problems and difficulty doing more than one thing at a time or emotional changes. Liver function may be affected if taking tablet forms of ADT and some men gain weight and have some breast development and/or sore nipples.

## What is castrate-resistant disease?

Most prostate cancers will shrink or stop growing with ADT because it stops testosterone being made in the testes. However, after some time, which is different for each man, the prostate cancer will start to grow again. The cancer becomes very sensitive to any remaining testosterone made in other places in the body (adrenal glands) and the cancer cells also make small amounts of testosterone. This is called castrate-resistant prostate cancer.

Measurement of PSA levels is used to monitor the response to ADT. Usually an increase in PSA suggests the prostate cancer has or is likely to progress.

## How is castrate-resistant prostate cancer treated?

Your doctor will talk to you about the different treatment options. The aim of treatment is to lower symptoms and control the cancer. However, curing the cancer once it is castrate-resistant and/or outside of the prostate gland is not currently possible.

Different forms of chemotherapy (docetaxel or cabazitaxel), ADT and other hormone therapies (bicalutamide, abiraterone acetate or enzalutamide) can give a modest improvement in survival and quality of life.

When castrate-resistant prostate

cancer spreads to other parts of the body, the pain associated with the cancer is treated. The following treatments can help with pain and quality of life:

**External Beam Radiotherapy** is often given for pain relief to any area of the body where the cancer has spread.

**Radio-isotopes** (an injectable form of radiotherapy) may be given to destroy cancer cells which have spread to the bone and to relieve pain.

**Bisphosphonates** are medicines to help reduce bone loss and therefore lower the chance of bone fracture. An injected form may lessen the chance of secondary cancers in the bones.

**Corticosteroids:** prednisolone and other members of this family of medicines may be given together with other pain medicines.

**Weight-bearing** exercises can help to improve muscle and bone strength and improve well-being.

**Palliative and pastoral care** is important when life expectancy is limited. A Palliative Care Clinician can also help at this time to provide optimal pain relief.

**Clinical trials of new treatments** are usually available. Some men with prostate cancer may have developed or inherited a genetic change, which causes prostate cancer to progress. This can be tested for and may open up other treatment options. Participating in a trial can offer new treatments only available for research, but these treatments may not necessarily help your cancer.

For further information about prostate cancer please see Andrology Australia's fact sheets: 'Prostate cancer diagnosis' and 'Androgen deprivation therapy'.

For more information visit [www.andrologyaustralia.org](http://www.andrologyaustralia.org), call 1300 303 878, or speak to your doctor.

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Date reviewed: November 2018  
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Andrology Australia is an initiative funded by the Australian Government Department of Health School of Public Health and Preventive Medicine, Monash University  
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