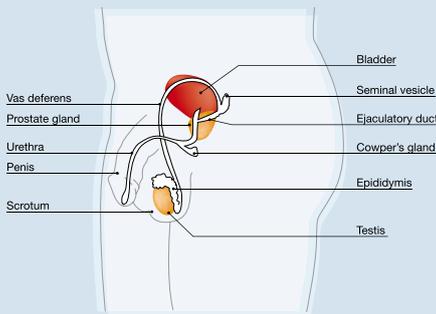




Prostate Enlargement (BPH)

What is the prostate?

The prostate is a gland about the size of a walnut and sits just underneath the bladder, surrounding the upper part of the urethra (urinary tube).



What does the prostate do?

The main role of the prostate gland is to produce fluid that supports sperm. The prostate makes about half of the fluid that is ejaculated from the penis at the time of sexual orgasm (climax).

Does the prostate gland change with age?

The prostate relies on the male sex hormone, testosterone, to grow. At puberty, when testosterone levels in boys start to increase, the prostate grows about eight times in size. It continues to grow, doubling in size between 21 and 50 years and almost doubling again between 50 and 80 years. The reasons for this ongoing increase are not fully understood.

What is prostate disease?

Prostate disease is a term used to describe any medical problem involving the prostate gland. Prostate conditions typically experienced by men include:

Benign Prostatic Hyperplasia (BPH)

- non-cancerous enlargement or growth of the prostate gland

Prostatitis - inflammation of the prostate gland, sometimes because of infection

Prostate Cancer - abnormal cell division within the prostate resulting in the growth of a tumour

Only prostate cancer and the uncommon acute form of bacterial prostatitis are considered life-threatening. However, both inflammation and enlargement of

the prostate can be painful and can have a major effect on a man's quality of life.

What is benign prostatic hyperplasia?

Benign Prostatic Hyperplasia (BPH) is the most common form of prostate disease. BPH is a non-cancerous enlargement of the prostate gland.

BPH is not normally a life threatening condition but symptoms can impact significantly on quality of life. If severe and left untreated for a prolonged period of time, it may cause problems with the function of the bladder, and less commonly, the kidneys.

How common is BPH?

Benign prostatic hyperplasia (BPH) is a widespread problem that increases with age, and affects nearly all men. It can start after the age of 40. Some men do not have any symptoms even though their prostate may have started to grow larger. BPH usually becomes more of a problem over time. Almost one in seven men aged 40 – 49 years report being diagnosed with a prostate problem, and this increases to about one in every four men aged 70 years and older.¹

What causes BPH?

The causes of BPH are not very well understood. Some research shows that there may be genetic links. The sons of men diagnosed with BPH are more likely to develop prostate disease.

Older age and the hormone testosterone are linked with BPH. However, they do not necessarily cause it. It is known that BPH only develops when testosterone is present.

What are the symptoms of BPH?

Symptoms of BPH involve noticeable changes to urination. However, a number of men with BPH may not have many, or any, symptoms of the disease.

Those men who do have symptoms usually find that there are noticeable changes to urination because BPH affects that part of the prostate around the urethra. If symptoms develop, they are usually described as obstructive or irritative.

How is it diagnosed?

If there are problems with urination, a description of symptoms, a physical examination by the doctor, blood tests and sometimes biopsies and ultrasound examinations are used to determine the type of prostate disease. When there is a problem with urination, BPH is more likely to be the cause than prostate cancer. Urination problems are not a usual symptom of early prostate cancer.

Some of the tests that can be done include:

- Digital rectal examination, in which the doctor places a finger inside the rectum or back passage to check for changes to the surface of the prostate.

Irritative Symptoms

- **Hesitancy**, a longer than usual wait for the stream of urine to begin
- **A weak and poorly directed stream of urine**
- **Straining to urinate**
- **Dribbling after urination has finished or an irregular stream**
- **Urinary retention**, not all the urine is passed from the bladder causing a need to urinate more often
- **Overflow or paradoxical incontinence**, urine overflows from a full bladder uncontrollably even though normal urination cannot be started

Obstructive Symptoms

- **Urgency**, an urgent feeling of needing to urinate
- **Frequency**, a short time between needing to urinate
- **Nocturia**, a need to pass urine more than twice at night

- A PSA blood test measures blood levels of prostate specific antigens, which is a protein made mainly in the prostate gland. Levels of PSA can be raised in cases of BPH.
- Transrectal ultrasound (TRUS) guided biopsies are used to exclude a diagnosis of prostate cancer and are only performed if cancer is strongly suspected.

What are the treatment options?

When deciding between treatment options, other factors such as degree of bother of Lower Urinary Tract Symptoms (LUTS) and lifestyle factors will be discussed.

Treatment options include:

- No treatment;
- Drug treatment;
- Natural therapies;
- Surgery.

No Treatment

No treatment may be the best option in some cases of BPH where the symptoms are mild. If a doctor has advised a no treatment option, regular examinations will be performed to check the continued growth of the prostate.

Drug Treatment

There are two types of medication available in Australia to treat severe BPH symptoms, alpha-blockers and 5-alpha reductase inhibitors.

Alpha Blockers relax the muscles in the prostate gland, the bladder neck and urethra, which can reduce and sometimes even abolish some of the symptoms as a result of BPH. If these drugs work, symptoms linked with BPH usually improve within one to two weeks.

Risks associated with this type of treatment include:

- Dizziness, tiredness, headaches, nasal congestion or decreased blood pressure
- Retrograde ejaculation, where semen flows backwards into the bladder during orgasm

These side effects are usually reversible when the medication is stopped.

5-Alpha Reductase Inhibitors block the effect of the male sex hormone, testosterone, on the prostate, which leads to the prostate becoming smaller. It may take many months for symptoms associated with BPH to improve while taking this type of medication.

Approximately three per cent of patients experience temporary reduced sex drive and erections as a side effect of this treatment.

Natural therapies

There are many natural products marketed as treatments for prostate disease. These products generally come from plants like soy or clover that are high in isoflavones, which are substances that are chemically similar to the female hormone oestrogen.

Saw palmetto (also called *Serenoa repens*), which is taken from the berries of the saw palm tree, is commonly taken for BPH. All studies show that it is safe to use, however the long-term benefits, safety and ability to prevent BPH are not known.

Surgery

Surgery is an option for men whose BPH symptoms are severe and have a major effect on their quality of life.

Surgery for BPH involves cutting through and removing part of the prostate gland around the urethra.

Transurethral Resection of the Prostate (TURP) involves removal of the prostate in small pieces through the penis. A small camera mounted to the telescope within a resectoscope is guided through the urethra in the penis, to avoid cuts and wounds on the outside of the body.

Retropubic or open prostatectomy is not commonly performed for the treatment of BPH nowadays. It involves the removal of that part of the prostate gland around the urethra from underneath the bladder through a cut in the abdomen.

What are the risks linked with surgery?

There are risks linked with surgery, including:

- Heavy bleeding, wound infection and development of blood clots;
- Erectile dysfunction;
- Urinary incontinence;
- Retrograde ejaculation;
- Bladder neck contractions; which is scarring around the opening of the bladder causing urine to dribble;
- Urethral strictures, which is scarring in the urethra that can lead to further blockages to urine flow;
- Urinary tract infections.

What other treatments are available?

While TURP and open prostatectomy are the most common surgical treatments, some new approaches can involve shorter stays in hospital and recovery can be quicker. These newer options include:

- Laser therapy
- Microwave therapy (TUMT)
- Needle ablation (TUNA)
- High Intensity Focussed Ultrasound (HIFU)
- Electrovaporisation (TVP)

These treatments generally seek to destroy, vaporise or dissolve, rather than cut the enlarged part of the gland.

Can BPH be prevented?

As there are no known causes of BPH, there are no known measures to prevent it. Some research indicates that a healthy diet, high in soy or other phytoestrogens, may reduce the likelihood of BPH onset. However this evidence is not conclusive.

Can men with BPH still develop prostate cancer?

Men with benign prostate disease can still develop prostate cancer. Doctors may perform regular prostate checks to monitor any changes.

¹ Holden CA, McLachlan RI, Pitts M, Cumming R, Wittert G, Agius P, Handelsman DJ and de Kretser DM. Men in Australia Telephone Survey (MATES): A national survey of the reproductive health and concerns of middle-aged and older Australian men. *Lancet* 2005; 366:218-24

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