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## Prostate Gland Enlargement

The prostate gland commonly becomes larger in older men. This prostate gland enlargement is also called benign prostatic hypertrophy (or hyperplasia). It can cause problems with passing urine. Symptoms are often mild. Without treatment, symptoms do not always become worse and may even improve over time. If symptoms become troublesome or distressing they can be improved by medicines or surgery.

### Symptoms

The symptoms of prostate enlargement are called lower urinary tract symptoms (LUTS). [See the separate leaflet called Lower Urinary Tract Symptoms in Men for more details.](#) LUTS can also be caused by other conditions.

As the prostate enlarges it may cause narrowing of the urethra. This may partially obstruct the flow of urine. This can lead to obstructive symptoms such as:

- **Poor stream.** The flow of urine is weaker and it takes longer to empty your bladder.
- **Hesitancy.** You may have to wait at the toilet for a while before urine starts to flow.
- **Dribbling.** Towards the end of passing urine, the flow becomes a slow dribble.
- **Poor emptying.** You may have a feeling of not quite emptying your bladder.

The enlarged prostate may also make the bladder irritable, which may cause:

- **Frequency.** You may pass urine more often than normal. This can be most irritating if it happens at night. Getting up several times a night to pass urine is a common symptom and is called nocturia.
- **Urgency.** This means you have to get to the toilet quickly when you need to go.

Usually the symptoms are mild to begin with - perhaps a slightly reduced urine flow, or having to wait a few seconds to start passing urine. Over months or years the symptoms may become more troublesome and severe. Complications develop in some cases.

An enlarged prostate does not always cause symptoms. Only a quarter to a half of men with an enlarged prostate will have symptoms. Also, the severity of the symptoms is not always related to the size of the prostate. It depends on how much the prostate obstructs the urethra.

Not all urinary symptoms in men are due to an enlarged prostate. In particular, if you pass blood, become incontinent, or have pain, it may be due to bladder, kidney or other prostate conditions. You should see a doctor if these symptoms occur.

### What are the causes of benign prostatic hyperplasia?

The exact cause is not known. Enlargement of the prostate gland is a normal process that develops as men get older. Therefore it becomes more common with increasing age. It is thought that changes in the male sex hormones that occur with ageing may be at least part of the cause.

Prostate gland enlargement can be caused by other conditions such as prostate cancer, acute prostatitis and chronic prostatitis. See the separate leaflets called [Prostate Cancer](#), [Acute Prostatitis](#) and [Chronic Prostatitis](#).

### What are the possible complications?

Urinary symptoms do not worsen in everyone. Serious complications are unlikely to occur in most men with an enlarged prostate. Complications that sometimes occur include:

- In some cases, a total blockage of urine occurs so you will no longer be able to pass urine. This is called urinary retention. It can be very uncomfortable and you will need to have a small tube (catheter) inserted to drain the bladder. It occurs in less than 1 in 100 men with an enlarged prostate each year. [See the separate leaflet called Urinary Retention.](#)
- In some cases, only some of the urine in the bladder is emptied when you pass urine. Some urine remains in the bladder at all times. This ongoing condition is called chronic retention. This may cause repeated (recurring) urine infections, or incontinence (as urine dribbles around the blockage rather than large amounts being passed each time you go to the toilet).

**Note:** the risk of prostate cancer is **not** increased. Men with a benign prostate enlargement are no more or less likely to develop prostate cancer than those without benign prostate enlargement.

## Do I need any tests?

Benign prostatic enlargement is usually diagnosed based on the typical symptoms as described earlier. Tests are not needed to confirm the diagnosis but to make sure no complications have developed. Tests are also useful in ruling out other causes of your symptoms and sometimes give the doctor an idea of the size of your prostate. The following tests may be done:

- A doctor may examine your prostate to see how big it is. This is done by inserting a gloved finger into your back passage (through the anus into the rectum) to feel the back of the prostate gland. The size of your bladder may be assessed by examining your tummy (abdomen).
- **Urine and blood tests** may be done to check the **function of your kidneys**, to exclude a urine infection and to check there is no blood in the urine.
- A referral to a bladder specialist (urologist) may be advised if your symptoms are troublesome or if complications develop. Tests may be done in these more severe cases, particularly if surgery is being considered as a treatment. For example:
  - **A look inside the bladder with a special telescope (cystoscopy)**.
  - A urine flow test to assess how bad the obstruction has become.
  - An **ultrasound scan** to see whether much urine remains in the bladder after you pass urine (void).
- Voiding diary. You may be asked to complete a diary over a week or so. This will have information about the number of times during the day and night you void, the amount passed and also the number and types of drinks you have had.
- A prostate specific antigen (PSA) blood test may be offered, although this test is not done routinely. This can be used as a marker for the size of the prostate. Larger prostates make more PSA. [See the separate leaflet called Prostate Specific Antigen Test \(PSA\)](#).

**Note:** a high PSA level is also found in people with prostate cancer. It has to be stressed that most men with prostate symptoms do **not** have prostate cancer.

## Is treatment always necessary?

No. In most cases, an enlarged prostate does not do any damage or cause complications. Whether treatment is needed usually depends on how much bother the symptoms cause. For example, you may be glad for some treatment if you are woken six times a night, every night, with an urgent need to go to the toilet. On the other hand, slight hesitancy when you go to the toilet and getting up once a night to pass urine may cause little problem and not need treatment.

## What are the treatment options for prostate enlargement?

### Enlarged Prostate Management Options

Each treatment option for an enlarged prostate has various benefits, risks and consequences. In collaboration with [health.org.uk](http://health.org.uk), we've put together a summary decision aid that encourages patients and doctors to discuss and assess what's available.

Download the Enlarged Prostate Decision Aid: <https://medical.azureedge.net/decision-aid/prostate-enlargement.pdf>

No treatment is likely to clear all symptoms totally, although symptoms can usually be greatly improved with treatment. The treatments considered usually depend on how severe and bothersome your symptoms are.

### Not treating may be an option (often called watchful waiting)

If symptoms are mild then this may be the best option. You may be happy just to see how things go if the symptoms are not too bothersome and are not affecting your life very much. The situation can be reviewed every year or so, or sooner if there is a change in symptoms. Symptoms do not always become worse. They may even improve.

### Medicines

The decision to treat with medicines usually depends on how much bother the symptoms are causing you. There are two groups of medicines that may help: alpha-blockers and 5-alpha reductase inhibitors. Medicines do not cure the problem, nor do they usually make symptoms go completely. However, symptoms often ease if you take a medicine.

**Alpha-blocker medicines.** These medicines work by relaxing the smooth muscle of the prostate and bladder neck. This can improve the flow of urine.

**5-alpha reductase inhibitor medicines.** These are alternatives to alpha-blockers. These work by blocking the conversion of the hormone testosterone to dihydrotestosterone in the prostate. They do this by blocking a chemical (an enzyme) called 5-alpha reductase.

### Surgery

Removal of part of the prostate is an option if symptoms are very bothersome or if medicines do not help. Around one in four men with an enlarged prostate will have an operation at some stage. In these operations, only the central part of the prostate is removed (creating a wide channel for urine to flow through), leaving the outer part behind. This is different to prostate cancer when, if surgery is carried out for cure, all the prostate is removed.

There are many different types of operation now available that can remove prostate tissue. Your surgeon will discuss the most suitable operation for you in more detail. Some of the more commonly done operations are listed below:

**Transurethral resection of the prostate (TURP).** This is the most common operation carried out for an enlarged prostate. Under anaesthetic, either spinal or general, a rigid cystoscope is inserted through the urethra into the bladder. A cystoscope is a narrow tube-like telescope through which small instruments pass to allow the operation to be carried out. A semicircular loop of wire has an electrical current passed through it. It is this loop that sticks out from the end of the cystoscope and cuts out small chips of prostate that are then washed out at the end of the operation. This operation nearly always gives good relief of symptoms. 80-90% of men after this operation will have retrograde ejaculation. This means that semen goes backwards into the bladder at climax producing a 'dry' orgasm. Impotence and incontinence are rare complications after a TURP.

**Transurethral incision of the prostate (TUIP).** This may be offered if you only have a slightly enlarged prostate. For this operation, the surgeon makes small cuts in the prostate where the prostate meets the bladder. This then relaxes the opening to the bladder, resulting in there being an improved flow of urine out of the bladder. There is less risk of retrograde ejaculation with this operation.

**Open prostatectomy.** This is a more traditional operation which involves cutting the skin to get to the prostate. It is now rarely done. It is only performed when the prostate is very large and when it would not be practicable to remove an adequate amount of prostate tissue through a narrow cystoscope inserted through the urethra.

**Laser prostatectomy.** This is simply the application of newer technologies to achieve the same goal as either TURP or open prostatectomy. It has the advantage of fewer side-effects, a shorter period of having a catheter in and a shorter stay in hospital (often just one night). There are two types of lasers:

- Green light which vaporises the prostate tissue to create a cavity.
- Holmium laser enucleation (HoLEP). Lasers can very effectively core out large pieces (lobes) of prostate which, in turn, are chopped into small pieces in order to be removed from the bladder. Thulium lasers can also be used.

In the hands of experienced laser surgeons, very large prostates, which in the past could only be dealt with by open surgery, can be removed by this technique.

### UroLift®

The UroLift® system creates a 'lift' of the prostatic urethra by using an implant. This moves excess prostate tissue away so that it does not narrow or block the urethra. The device is designed to relieve symptoms of urinary outflow obstruction without cutting or removing tissue. There appears to be little or no risk of [erectile dysfunction](#) (ED) or problems with ejaculation with UroLift®.

The National Institute for Health and Care Excellence (NICE) has concluded that the UroLift system is effective in relieving symptoms of benign prostatic hyperplasia.

#### Editor's Note

##### New treatment approved by NICE

Dr Sarah Jarvis, 24th June 2020.

NICE has approved the use of Rezum® - a minimally invasive procedure that involves injecting steam to destroy excess prostate tissue for non-cancerous prostate enlargement. Rezum® is different from other prostate treatments because it uses water vapour thermal energy. It does not use a laser.

There is little evidence that men develop problems with erectile dysfunction after treatment with Rezum®. However, a few men get issues with ejaculation after treatment.

## Further reading & references

- [Guidelines on the Management of Non-Neurogenic Male Lower Urinary Tract symptoms \(LUTS\), incl. Benign Prostatic Obstruction \(BPO\)](#); European Association of Urology (2018)
- [Lower urinary tract symptoms in men: assessment and management](#); NICE Guidelines (June 2015)
- [LUTS in men](#); NICE CKS, February 2015 (UK access only)
- [Van Asseldonk B, Barkin J, Elterman DS](#); Medical therapy for benign prostatic hyperplasia: a review. *Can J Urol.* 2015 Oct;22 Suppl 1:7-17.
- [UroLift for treating lower urinary tract symptoms of benign prostatic hyperplasia](#); NICE Medical Technologies Guidance, September 2015
- [Insertion of prostatic urethral lift implants to treat lower urinary tract symptoms secondary to benign prostatic hyperplasia](#); NICE Interventional Procedures Guidance, January 2014

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