

Enlarged prostate

A guide to diagnosis and treatment



**PROSTATE
CANCER UK**

About this booklet

This booklet is for men who want to know more about a non-cancerous enlargement of the prostate gland, called benign prostatic enlargement (BPE). You may also hear this condition called benign prostatic hyperplasia (BPH). We describe the causes, symptoms, diagnosis and treatment of an enlarged prostate.

Your partner or family might also find this booklet useful to help them understand the condition.

Each GP practice or hospital may do things slightly differently, so use this booklet as a general guide to what to expect and ask your GP for more information.

The following symbols appear throughout the booklet to guide you to sources of further information:



Prostate Cancer UK Specialist Nurse helpline



Prostate Cancer UK publications

If you would like to know more about anything you read in this booklet, you can call our Specialist Nurses on our confidential helpline.

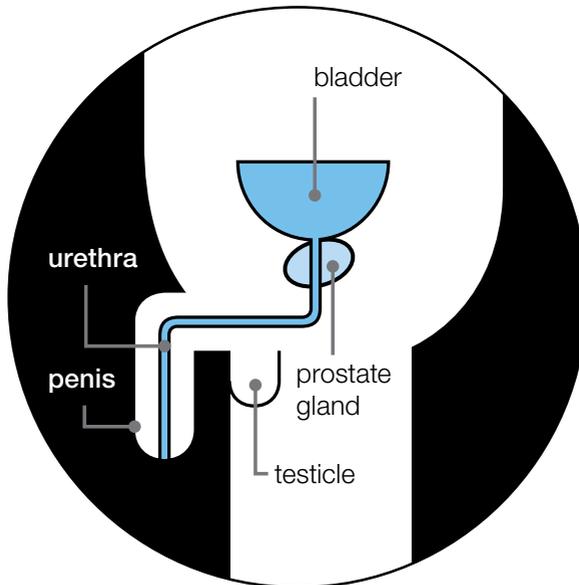
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What is the prostate gland?

Only men have a prostate gland. The prostate is usually the shape and size of a walnut. It lies underneath the bladder and surrounds the tube which men pass urine and semen through (urethra). The prostate gland's main job is to make some of the fluid that carries sperm, called semen.



What is benign prostatic enlargement (BPE)?

Benign prostatic enlargement (BPE) is the medical term used to describe an enlarged prostate. It means a non-cancerous enlargement of the prostate gland.

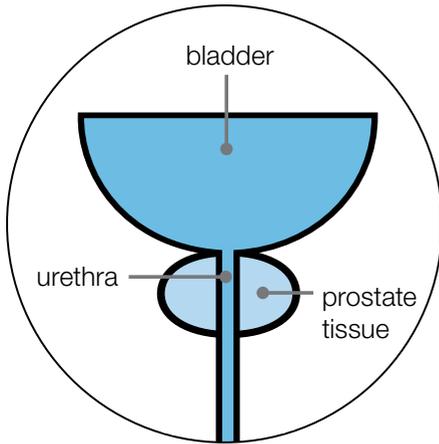
- Benign – non-cancerous.
- Prostatic – to do with the prostate gland.
- Enlargement – an increase in the size of the prostate gland.

You might also hear it called benign prostatic hyperplasia (BPH). Hyperplasia means an increase in the number of cells. It's this increase in cells that causes the prostate to grow (see diagram below). BPH and BPE are the same condition.

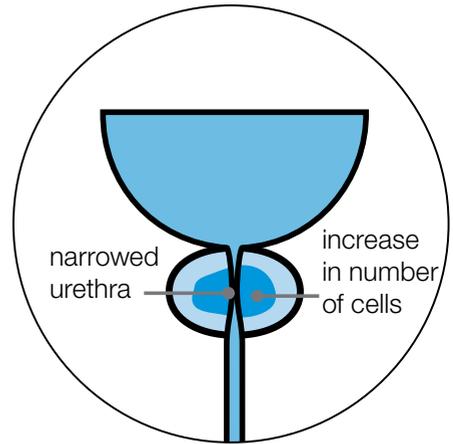
In this booklet, we use the term enlarged prostate to describe BPE and BPH.

An enlarged prostate is common in men after the age of about 50. In some cases, it causes the urethra to narrow which can slow down or stop the flow of urine. About 4 out of every 10 men over the age of 50 (40 per cent) and 3 out of 4 men in their 70s (75 per cent) have urinary symptoms that are caused by an enlarged prostate.

A normal prostate gland



An enlarged prostate gland



Having an enlarged prostate is **not** the same as having cancer.

Enlarged prostate: an overview

This section explains the causes, symptoms and possible complications of an enlarged prostate. We also describe how an enlarged prostate might affect your life.

What causes an enlarged prostate?

We don't yet fully understand what causes the prostate gland to grow. However, there are two risk factors that we do know about.

Age

Your risk of developing an enlarged prostate increases as you get older. Many men over the age of 50 will have an enlarged prostate gland but not all will get symptoms.

Hormone levels

The balance of hormones in your body changes as you get older and this may cause your prostate gland to grow.

Other factors

Some studies have shown that obese men and men who have diabetes may be more at risk of developing an enlarged prostate. You may be able to reduce your risk by doing more exercise. However, we still need more studies into the causes of enlarged prostate to know for certain if, and how, we can prevent it.

There is also some research that suggests you may be more at risk of developing an enlarged prostate if your father or brother have the condition. Again, further studies are needed to confirm this.

What are the symptoms?

An enlarged prostate is the most common cause of urinary symptoms in men as they get older. It can cause your urethra to narrow, causing symptoms such as:

- a weak urine flow
- needing to urinate more often, especially at night
- a feeling that your bladder has not emptied properly
- difficulty starting to urinate
- dribbling urine
- needing to rush to the toilet – you may occasionally leak urine before you get there
- blood in your urine.

You may have only a few of these symptoms, or you may not have any symptoms at all. Without treatment, some men find that the symptoms of an enlarged prostate slowly get worse.

These symptoms can be caused by other medical problems, lifestyle factors or certain medicines. They may be nothing to do with the prostate. If you have any of the symptoms above, you should visit your GP to find out what is causing them.

Am I more likely to get prostate cancer if I have an enlarged prostate?

No, having an enlarged prostate **does not** put you at greater risk of getting prostate cancer. The two conditions begin in different parts of the prostate gland. But it is possible to have both an enlarged prostate and prostate cancer at the same time. In most cases, early prostate cancer does not cause any urinary symptoms. Visit your GP if you are concerned about prostate cancer. You can also call our Specialist Nurses on our confidential helpline.



How might an enlarged prostate affect my life?

Having an enlarged prostate affects men in different ways. Some men are able to cope with their symptoms well and do not need treatment. Other men find that they need to stay near a toilet, which can make it difficult to work, drive, be outdoors and attend social events. If you are getting up a lot during the night to go to the toilet, you may find you feel more tired during the day.

For a few men, the symptoms of an enlarged prostate improve over time without treatment. But for most, the symptoms will stay the same or get worse. A small number of men develop problems with urine retention (see below). This is more likely if you are aged over 70, have a large prostate, have a raised prostate specific antigen (PSA) level or have severe urinary symptoms.

If you are diagnosed with an enlarged prostate, the doctor will look at your test results to see if you are at risk of these complications.

Possible complications of an enlarged prostate

Acute urine retention

This is when you are suddenly unable to pass urine. It is painful and needs treating straight away, usually at a hospital. The doctor or nurse will pass a thin, flexible tube (catheter) through your penis into the bladder, to drain the urine. Before the catheter is removed, you may be offered a drug called an alpha-blocker (see page 23). This can help lower your chance of getting acute urine retention again.

Chronic urine retention

This develops more slowly than acute retention. The first signs might include leaking urine at night, wetting the bed, or the feeling that your lower belly is swollen. You may feel that you are not emptying your bladder fully.

Chronic retention is usually painless, but it does mean that you are not passing all of the urine in your bladder. This causes your bladder to stretch slowly, which can weaken the bladder muscle. The urine left in your bladder may cause an infection or bladder stones which can cause pain and bleeding. Without treatment, the build-up of urine over time can damage your kidneys.

If you develop chronic urine retention, you may need a catheter to drain your bladder. This will either be a temporary catheter, which you insert through your penis and into your bladder several times a day, or a catheter that stays in your bladder for a longer period of time. Some men are offered surgery to treat chronic urine retention.

Summary

- An enlarged prostate is common for men over the age of about 50.
- We don't fully understand what causes an enlarged prostate, but we know that your risk increases as you get older.
- Having an enlarged prostate does not put you at greater risk of getting prostate cancer.
- An enlarged prostate may cause urinary symptoms, such as a weak flow and needing to pass urine more often. The effect of symptoms on daily life varies from man to man.
- A small number of men with an enlarged prostate develop complications called acute or chronic urine retention.

Diagnosing an enlarged prostate

This section describes the tests you might have at the GP surgery or at hospital to find out if you have an enlarged prostate.

How is an enlarged prostate diagnosed?

You might have several different tests to find out if you have an enlarged prostate. Your GP may do some of these tests, but you might also need to visit a doctor who specialises in urinary problems (a urologist) or a specialist nurse at the hospital. Ask your GP for more details about which tests you will have, where you will have them, and what they will involve. You can also call our Specialist Nurses on our confidential helpline.



You may not have all of the following tests. But if you are diagnosed with an enlarged prostate, you may have some of these tests again after treatment, to find out how well your treatment is working.

What tests might I have at the GP surgery?

Symptom check

Your GP will ask you about your symptoms, how long you have had them, whether they are getting worse over time, and how they are affecting your life.

To help you explain your symptoms, you might like to think about how often you have experienced each of the following symptoms over the last month. There is space on the next page for you to write notes by each symptom.

- A feeling of not having emptied your bladder after you have finished urinating

- Needing to go again within two hours of urinating

- Stopping and starting while urinating

- Finding it difficult to wait before passing urine

- Having a weak stream of urine, compared to when you were younger

- Needing to push or strain to start urinating

- Getting up during the night to pass urine

Your GP will check whether your symptoms could be caused by another health problem, such as diabetes, or by any medicines you are taking, such as anti-depressants or herbal medicines. They will also check whether your symptoms could be caused by your lifestyle – for example, if you often drink a large amount of fluid or if you drink a lot of alcohol or drinks containing caffeine (such as tea, coffee or cola).

Diary

Your GP may ask you to keep a diary for a few days to measure how much fluid you are drinking, what type of drinks you are having, how much urine you pass, and how often. The diary may highlight what could be causing your symptoms and may help your doctor find the best treatment for you.

Urine test

Your GP may ask you for a urine sample to check for blood or for any infection that could be causing your symptoms. You may need to give more than one sample. If you have an infection your GP will give you a course of antibiotics.

Blood tests

You will be offered a blood test to check that your kidneys are working properly. You may also be offered a prostate specific antigen (PSA) blood test. PSA is a protein produced by cells in the prostate gland. An enlarged prostate can cause the PSA level in your blood to rise. Age, infection and prostate cancer may also affect your PSA level. You can find out more about the PSA test by



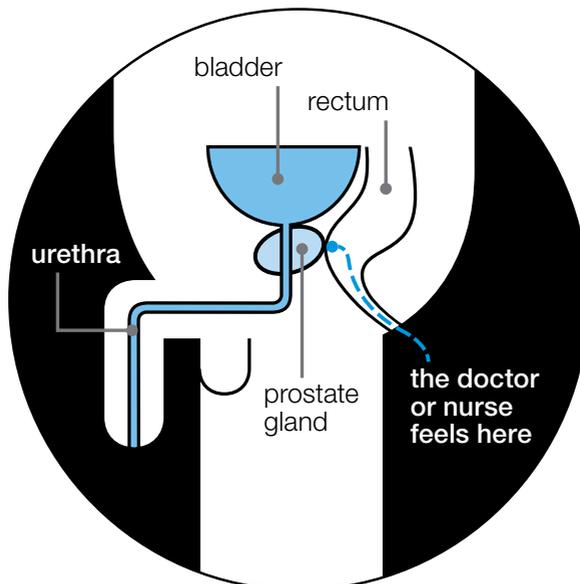
reading our booklet, **Understanding the PSA test: A guide for men concerned about prostate cancer.**

Physical examination

Your GP will perform a physical examination. They may examine your stomach area (abdomen) and penis. They may also feel your prostate gland through the wall of the back passage (rectum). This is called a digital rectal examination (DRE).

If you have a DRE, the doctor will ask you to lie on your side on an examination table, with your knees brought up towards your chest. If you find it easier, you can stand and lean over the back of a chair or across the examination table instead. The doctor will slide their finger into your back passage. They will wear gloves and put some gel onto their finger to make it more comfortable. They will feel your prostate for any hard or irregular areas and to see whether the prostate is larger than expected for your age. Some men find this uncomfortable or embarrassing, but it should not be painful.

The digital rectal examination (DRE)



What tests might I have at the hospital?

If your GP thinks you need more tests to check for prostate problems, they will refer you to a urologist or specialist nurse at the hospital. The urologist or specialist nurse may repeat some of the tests you had at the GP surgery. You may also have other tests including those described below.

Symptom questionnaire

The urologist or specialist nurse may ask you to fill in a questionnaire about your symptoms. This is called the International Prostate Symptom Score (IPSS) and is used to assess how severe your symptoms are. The questionnaire takes about five minutes to fill in.

Urine flow test

This involves urinating into a machine that measures the speed of your urine flow. Men with an enlarged prostate tend to have a slower speed of urine flow than men who don't. You will need a full bladder for the test. The urologist or specialist nurse will tell you how much you need to drink beforehand. They may also ask you not to go to the toilet for two to three hours before the test.

Ultrasound scan

The doctor will examine your stomach area using an ultrasound scan. This will build up a picture of your bladder that can be seen on a screen. You may have the scan after the urine flow test, described above. The scan will show how much urine is left in the bladder, so the doctor can tell whether your bladder is emptying properly. You may also have an ultrasound scan to look at your kidneys.

Further tests

Depending on the results of the tests already described, you may have further tests to find out what is causing your symptoms:

- **Bladder pressure test, also known as a urodynamics test**

This test can show how well your bladder is working. You may have it if other tests do not give a clear diagnosis, if you are considering surgery to treat an enlarged prostate, or if your symptoms have not improved after surgery.

The doctor will pass thin tubes into your bladder through your penis. They will also pass thin tubes into your back passage (rectum). The tubes measure the pressure in your bladder, stomach area and urethra while your bladder is filled with a clear liquid. The doctor will then ask you to pass urine and the pressures are measured again.

- **Flexible cystoscopy**

This can show whether there are any blockages or abnormal tissue in your urethra or bladder. You may have this test if you have a history of urine infection, if you have blood in your urine, if your symptoms are severe, or if you are experiencing pain. You may also have this test if your doctor suspects that you have a narrowing in the urethra or bladder neck (called a stricture). This is caused by prostate surgery or injury to your urethra.

The doctor or specialist nurse will pass a thin tube with a light at the end through your penis into your bladder. Local anaesthetic gel is used so that you won't feel pain, although you will still feel the tube passing through you. The tube may have an eye piece for them to look through or a camera on the end so that they can see the urethra and bladder on a screen.

- **Pad test**

You may have this test if you have problems with leaking urine. You will be asked to wear an incontinence pad for a certain length of time. The doctor or specialist nurse will then weigh the pad to work out how much urine has leaked.

Summary

- You may have several different tests to find out whether you have an enlarged prostate.
- When you visit your GP, they may ask you to describe your symptoms and to keep a diary of what you are drinking and how often you are passing urine. You may also have a physical examination, a urine test and a blood test.
- Your GP may refer you to a hospital specialist. The specialist may repeat some of the tests that your GP did, and might also carry out other tests including a urine flow test and an ultrasound scan.
- Depending on the results of your tests, you might have further tests at the hospital, including a bladder pressure test, flexible cystoscopy and a pad test.
- If you are diagnosed with an enlarged prostate, you may have some of the tests again after treatment to find out how well your treatment is working.

Treating an enlarged prostate

This section describes the three main types of treatment for an enlarged prostate and information on their possible side effects.

What are my treatment options?

If you are diagnosed with an enlarged prostate, your doctor or specialist nurse will look at your test results – together with your medical history and personal preferences – and recommend the best treatment options for you.

They will discuss these options with you to help you decide what is right for you. If one type of treatment is no longer controlling your symptoms, or if you are having problems with side effects, they might suggest another type of treatment.

There are three main types of treatment for an enlarged prostate:

- lifestyle changes
- medicines
- surgery.

Lifestyle changes

If your symptoms are not having a big impact on your life and you have no complications, the best approach may be to try changing your lifestyle and wait and see how your condition develops. The condition usually develops slowly and your symptoms may not get any worse. If you opt to try lifestyle changes, you may have regular check-ups to discuss your symptoms. These check-ups may be with your GP or with a urologist or specialist nurse at the hospital.



I was acutely aware of the embarrassment I felt when going to the loo while out with friends. I always took ages to empty my bladder and felt that everyone would notice and wonder why I had been gone so long.

A personal experience

You might be able to relieve the symptoms by making some simple changes to your lifestyle, such as:

- **Drinking less alcohol, caffeine, artificial sweeteners and fizzy drinks**

Drinks containing alcohol, caffeine (for example, tea, coffee or cola) or artificial sweeteners can irritate the bladder and make urinary symptoms worse. Fizzy drinks can also make symptoms worse.

- **Drinking less in the evening**

Try to reduce the amount you drink in the evening and avoid drinking anything for two hours before you go to bed. This might help you avoid getting up in the night. Make sure you are still drinking enough fluid earlier on in the day.

- **Emptying your bladder**

Remember to go to the toilet before long journeys, or when you know you will not be able to reach a toilet easily.

- **Double voiding**

This involves waiting a few moments after you have finished passing urine before trying to go again. It can help you to empty your bladder properly. But take care not to strain or push.

- **Checking your medicines**

Check with your doctor whether any medicines you take, such as anti-depressants or decongestants, may be making your urinary symptoms worse.

- **Eating more fruit and fibre**

This will help you avoid constipation, which can put pressure on the bladder and worsen symptoms of an enlarged prostate.

- **Bladder retraining**

There are some techniques that can help you to hold on for longer before going to the toilet. Ask your doctor or specialist nurse for more information.

- **Urethral massage**

This involves waiting a few seconds after you have finished passing urine. Then use your fingertips to press gently behind the scrotum. Move your fingers forward toward the base of the penis under the scrotum and keep pressing gently. It can help to release any urine that is left in your urethra and prevent dribbling. Ask your doctor or specialist nurse for more information.

- **Using pads or a sheath**

Absorbent pads and pants can be worn inside your underwear, or may replace your underwear altogether. These will soak up any leaks. Urinary sheaths can also help with dribbling. They look like condoms with a tube coming out of the end. The tube connects to a bag that you can strap to your leg, under your clothing. Ask your doctor or specialist nurse for more information.

Medicines

If lifestyle changes are not enough to improve your quality of life, medicines may help control your symptoms. It is important to let your doctor know about any medicines or herbal remedies you are already taking, in case they interfere with the medicines for an enlarged prostate.

The main types of medicine for an enlarged prostate are:

- alpha-blockers
- 5-alpha-reductase inhibitors.

Some men are prescribed both, as a combination treatment.

If you are taking medicine for an enlarged prostate, you will have regular check-ups to discuss your symptoms, the effect of the medicine on your day-to-day life and any side effects. These check-ups may be with your GP or with a urologist or specialist nurse at the hospital.

Alpha-blockers

These medicines relax the muscles in the prostate and around the neck of the bladder, making it easier to pass urine. They do not cure an enlarged prostate but they can help to relieve symptoms.

Around two thirds (66 per cent) of men taking alpha-blockers find that their symptoms improve. Symptoms may start to improve within hours or days but you may need to take alpha-blockers for a few weeks before they have their full effect. For most men, alpha-blockers continue to work for several years.

Alpha-blockers are usually the first type of medicine you will be offered, unless your prostate is very large. If your symptoms have not improved after about four to six weeks, alpha-blockers are unlikely to help you and your doctor may recommend another treatment.

There are several alpha-blocker medicines available. The most common ones are called:

- tamsulosin (brand names Flomaxtra[®], Diffundox[®], Flomax Relief[®], Pinexel[®], Stronazon[®])
- alfuzosin (brand names Xatral[®], Besavar[®])
- doxazosin (brand names Cardura[®], Doxadura[®])
- terazosin (brand name Hytrin[®]).

All of the alpha-blocker medicines work in the same way and are equally effective at controlling symptoms of an enlarged prostate. You will usually take them as tablets, once a day, by mouth.

Like any medicine, alpha-blockers can cause side effects. These affect each man differently, and you may not get all of the side effects. Read the information leaflet that comes with your medicine for more information, or speak to your doctor, specialist nurse or pharmacist.

Possible side effects are listed below.

- You may feel dizzy, sick (nausea) and have a headache when you stand up. Usually this only occurs after the first dose or first few doses.
- Some men feel tired.
- Your nose may feel blocked.
- Around 3 out of 100 men (3 per cent) have difficulty getting or keeping an erection (erectile dysfunction).
- Around 2 out of 100 men (2 per cent) have dry ejaculation, where you pass little or no semen when you orgasm.

All these side effects should stop if you stop taking the medicine.

5-alpha-reductase inhibitors (5ARIs)

These medicines reduce the size of the prostate gland, taking pressure off the urethra and making it easier to pass urine. They can shrink the prostate gland by up to a quarter (15 to 25 per cent) after 6 to 12 months of treatment. They may shrink the prostate even more if taken for a longer period.

They usually take three to six months to work fully, but they are effective at improving symptoms in the long-term. Studies show that men can continue to see improvement in their symptoms up to four years after starting treatment. They also reduce the long-term risk of acute urine retention (see page 10) and the need for surgery.

5-alpha-reductase inhibitors work better in men with larger prostate glands. They are usually the first type of medicine you will be offered if your prostate is very large.

There are two 5-alpha-reductase inhibitor medicines available:

- finasteride (brand names Proscar®, Propecia®), taken as a tablet once a day
- dutasteride (brand name: Avodart®), taken as a capsule once a day.

If you take 5-alpha-reductase inhibitors, you might experience side effects. These effects are mainly linked to sexual function and they are most common during the first year of treatment. Possible side effects include:

- **Problems getting and keeping an erection (erectile dysfunction)**

This affects 4 or 5 out of 100 men (4 or 5 per cent).

- **Less desire for sex (reduced libido)**

This affects 2 or 3 out of 100 men (2 or 3 per cent).

- **Changes in your ejaculation**

You may find you ejaculate little or no semen during orgasm (dry orgasm). Sometimes semen can pass into the bladder rather than out through the penis (retrograde ejaculation). This may feel different to the orgasms you are used to. Around 1 out of 100 men (1 per cent) experience unusual ejaculation.

- **Breast swelling or tenderness**

Swelling and tenderness in the breast area can affect around 2 out of 100 men (2 per cent).

Your doctor, specialist nurse or pharmacist can give you more information about side effects of the 5-alpha-reductase inhibitor you are taking. You can also read the information leaflet that comes with your medicine. The side effects should stop if you stop taking the medication.

If your partner or anyone you know is pregnant, they should avoid handling broken tablets or capsules. You should use a condom during sex if there is a chance your partner could become pregnant or is pregnant. Ask your doctor or nurse for more information.

Your PSA level

5-alpha-reductase inhibitors reduce the amount of PSA in your blood by about half and so they can mask any abnormal PSA levels. If you have a PSA test, always tell your doctor or nurse if you are taking a 5-alpha-reductase inhibitor. They will need to double your PSA test result to get a more accurate idea of what your PSA level would normally be. Your doctor should investigate any rise in your PSA level.

Combination treatment

For some men, taking an alpha-blocker and a 5-alpha-reductase inhibitor at the same time works better at relieving symptoms and reducing the risk of complications than taking either medicine on its own. Taking both medicines at the same time is known as combination treatment. You may have combination treatment as two tablets or as one.

You may be offered combination treatment if your symptoms affect your day-to-day life and you have a very large prostate gland or a PSA level of more than 1.4 ng/ml. A disadvantage of combination treatment is that you may get side effects from both medicines. Some side effects such as decreased libido, unusual ejaculation, and erection problems are more common in men on combination treatment than in men taking either medicine on its own. Because alpha-blockers work best over a shorter period of time, men on combination treatment may be able to stop taking the alpha-blocker after around nine months, without it affecting the success of treatment.

Other medicines

Your doctor may suggest other medicines to help control your symptoms including:

- **Anticholinergics**, such as oxybutynin, tolterodine tartrate (brand name Detrusitol XL[®]) and solifenacin succinate (brand name Vesicare[®]). They can help improve symptoms such as needing to rush to the toilet, going so frequently and leaking urine before you get there. Your doctor may recommend you take an anticholinergic and an alpha-blocker at the same time, if treatment with an alpha-blocker alone is not controlling your symptoms. You might also take an anticholinergic on its own. Anticholinergics can have similar side effects to alpha-blockers. In addition, they can cause other side effects such as dry eyes, a dry mouth and constipation.
- **Desmopressin**. If you need to pass urine a lot during the night, your doctor may recommend that you take a desmopressin tablet before you go to bed. This reduces the amount of urine produced by the kidneys for six to eight hours. You will have regular blood tests to monitor your kidney function. Desmopressin is not usually an option if you are over 65.
- **Loop diuretic**. This causes you to pass a large amount of urine before you go to bed, which makes it less likely that you will need to get up during the night. You take it as a capsule, in the late afternoon.

Complementary therapies

Some men find that herbal remedies, such as saw palmetto and red stinkwood (African plum), help to control their symptoms. There are studies that show that some herbal remedies may improve symptoms of an enlarged prostate. However, we don't know whether herbal remedies affect other medicines you may be taking. We need more research before herbal remedies can be recommended as a treatment for an enlarged prostate.

Not all herbal remedies in the UK are licensed, and the quality varies a lot. Be particularly careful about buying herbal remedies over the internet. Many are manufactured outside the UK and may not be regulated. Many companies make claims that are not based on proper research, and there may be no real evidence that they work. Some may even contain harmful substances. Remember that a product is not necessarily safe simply because it is called 'natural'.

Just as with conventional medicines, herbal remedies can interfere with your enlarged prostate treatment. Some may artificially reduce your PSA levels, making PSA tests unreliable.

There is no evidence at the moment to suggest that acupuncture or homeopathy can help control symptoms of an enlarged prostate.

If you notice changes in your urinary habits, visit your GP in the first instance. It is very important that you tell your doctor if you are taking any kind of herbal or complementary medicine.

Reporting unusual side effects: The Yellow Card Scheme

If you think you are experiencing a side effect from a medicine or herbal remedy that is not mentioned in the information leaflet that comes with it, then you can report it using the Yellow Card Scheme. This is run by the Medicines and Healthcare products Regulatory Agency (MHRA). The MHRA will investigate and if they find a problem with a medication then they will take action to protect the public.

There are three ways you can report a side effect:

- use the online Yellow Card form at www.yellowcard.gov.uk
- ask at your pharmacy or GP surgery for a Yellow Card form
- call the Yellow Card freephone on 0808 100 3352.

Surgery

If lifestyle changes or medicines do not control your symptoms, or your symptoms are severe, your doctor may recommend surgery.

There are several different types of surgery available for treating an enlarged prostate. These include:

- transurethral resection of the prostate (TURP)
- holmium laser enucleation of the prostate (HoLEP)
- transurethral vaporisation of the prostate (TUVP)
- bladder neck incision, also known as transurethral incision of the prostate (TUIP)
- open prostatectomy.

There are some other less common procedures that are usually only available as part of a clinical trial or through private healthcare. They include:

- photoselective vaporisation of the prostate
- minimally invasive surgery, such as transurethral needle ablation or transurethral microwave therapy
- transurethral vaporisation resection of the prostate.

The types of surgery available will vary from hospital to hospital depending on the training and experience of the doctors. The types of surgery available to you may also depend on the size of your prostate and any other health problems you have. Your doctor or nurse will discuss the advantages and disadvantages of each type of surgery they offer, to help you decide what is right for you.

The different types of surgery are described below. Your doctor or nurse can give you more information about each type. You can also call our Specialist Nurses on our confidential helpline.



The table on pages 38 and 39 give a comparison of the main types of surgery in terms of recovery time, the potential need for another operation and the risk of side effects.

Although many men find surgery effective, some men will not see a significant improvement in their symptoms after surgery.

Transurethral resection of the prostate (TURP)

This is an operation to remove the parts of the prostate gland that have overgrown and are pressing on the tube that you pass urine through (urethra). It is the most common type of surgery for treating an enlarged prostate.

You will either be asleep during the operation (general anaesthetic) or you will be awake but unable to feel anything in the area being operated on (spinal anaesthetic). The surgeon passes a thin tube into the urethra through your penis. The tube has a small camera on the end so that the surgeon can get a good view of the prostate. They then pass an electrically-heated wire loop through the tube and use it to remove small pieces of prostate tissue. During the operation, fluid is passed into your bladder to clear away the small pieces of prostate tissue that have been removed. These pieces are sent to the laboratory to be checked for any abnormal cells.

You will have a catheter to drain urine from your bladder for two to three days after surgery. Before you go home, your nurse will remove your catheter and check that you are passing urine easily. You can read more about what the surgery involves in our fact sheet, **Transurethral resection of the prostate (TURP)**.



Advantages

- The operation is widely available across the UK.
- It improves the flow of urine and quality of life.
- It has a long-lasting effect.
- The prostate tissue that is removed can be checked for signs of cancer, although having an enlarged prostate does not put you at greater risk of getting prostate cancer.
- TURP can be used to treat and remove bladder stones, if present.

Disadvantages

- Symptoms may take several weeks to improve.
- A small number of men find that they cannot pass urine at all in the hours after their catheter has been removed. If this happens, you will need a new catheter put in for a few days.



**The only down side is the
dry orgasm. That has taken
some getting used to.**

A personal experience

TUR syndrome

Very occasionally, the fluid that is used to flush your bladder can enter your bloodstream in significant levels and cause breathing problems, sickness and confusion. This is a temporary condition known as TUR syndrome. If you have any of these symptoms after surgery, tell your doctor or nurse straight away. TUR syndrome is rare. It affects around 1 out of 100 men (1 per cent) who have a TURP. Surgeons are trained to reduce the risk of TUR syndrome – for example, by making sure your operation does not take longer than an hour.

Some recent studies suggest that a new way of performing TURP, called a bipolar TURP, may lower your risk of developing TUR syndrome. Bipolar TURP is only available in some hospitals. Check with your doctor or nurse which kind of procedure is available to you.

See pages 36 to 39 for the possible side effects of TURP.

Holmium laser enucleation of the prostate (HoLEP)

This is similar to TURP but uses a high-powered laser to remove the parts of the prostate gland blocking the urethra. The pieces of prostate tissue that are removed pass into the bladder and are removed with a different instrument. These pieces are sent to the laboratory to be checked for any abnormal cells.

HoLEP requires specialist equipment and should only be carried out by a surgeon who has undergone specialised training. This is why HoLEP is usually only available at specialist centres. You will either be asleep during the operation (general anaesthetic) or you will be awake but unable to feel anything in the area being

operated on (spinal anaesthetic). After surgery, you will have a catheter to drain urine from your bladder for 12 to 24 hours. Before you go home, your nurse will remove your catheter and check that you are passing urine easily.

Studies have shown that HoLEP is as effective as TURP at improving symptoms.

Advantages

- It may be more suitable than TURP for men who are taking medicine to prevent their blood clotting (anti-coagulants).
- The holmium laser can also be used to treat bladder stones, if present.
- It is suitable for men with very large prostates.
- The prostate tissue that is removed can be checked for signs of cancer.

Disadvantages

- It is a newer treatment than TURP so we do not have as much information about its long-term effectiveness and possible side effects.
- The operation is not currently as widely available as TURP.
- A small number of men find that they cannot pass urine at all after their catheter has been removed. If this happens, you will need a new catheter put in for a few days.

See pages 36 to 39 for the possible side effects of HoLEP.

Transurethral vaporisation of the prostate (TUVP)

You may also hear this called transurethral electrovaporisation of the prostate. It is similar to TURP but parts of the prostate gland are destroyed rather than cut away. An electric current is passed into a roller ball (like a computer mouse ball) and this heats up the prostate tissue blocking the urethra, causing it to burn away. You will either be asleep during the operation (general anaesthetic) or awake but unable to feel anything in the area being operated on (spinal anaesthetic). After surgery, you may have a catheter to drain urine from your bladder for 9 to 24 hours.

Around 9 out of 100 men (9 per cent) find that they cannot pass urine at all in the hours after their catheter has been removed. If this happens, you will need a new catheter put in for a few days. The chance of this happening is higher than if you have a TURP.

Studies have shown that TUVP is as effective as TURP at improving symptoms.

A disadvantage of TUVP is that the operation destroys the prostate tissue so it cannot be checked for any signs of cancer.

See pages 36 to 39 for the possible side effects of TUVP.

Bladder neck incision

You may also hear this called transurethral incision of the prostate (TUIP). If you have a small prostate but are still having urinary symptoms, your doctor or nurse may recommend bladder neck incision. It's a possible alternative to TURP, HoLEP or TUVF. It is similar to TURP but it's simpler and has a shorter recovery time.

You will either be asleep during the operation (general anaesthetic) or you will be awake but unable to feel anything in the area being operated on (spinal anaesthetic). The surgeon passes a thin tube into the urethra through your penis. Then they pass an instrument through the tube and use this instrument to make a few small cuts (usually one or two) in the neck of the bladder and in the prostate gland. This widens the bladder neck and allows urine to flow more easily.

Your catheter is usually removed sooner than after TURP. A small number of men find that they cannot pass urine at all in the hours after their catheter has been removed. If this happens, you will need a new catheter put in for a few days.

Research suggests that bladder neck incision is as effective at improving symptoms as TURP in men with small prostate glands. However, we not have much information about how effective it is in the long term.

A disadvantage of bladder neck incision is that prostate tissue is not removed so it is not possible to check for signs of cancer.

See pages 36 to 39 for the possible side effects of bladder neck incision.

Open prostatectomy

This is an operation to remove the prostate. It is not commonly used to treat an enlarged prostate, but you may be offered it if you have a very large prostate or if you have other medical problems such as large bladder stones.

The inner part of the prostate gland is removed through a cut in the stomach area under general anaesthetic. The length of time you spend in hospital depends on your doctor's advice and your recovery, but is usually between four and six days. You may need several months to recover fully.

A small number of men find that they cannot pass urine at all in the hours after their catheter has been removed. If this happens, you will need a new catheter put in for a few days.

An advantage of open prostatectomy is that the prostate tissue can be checked for signs of cancer once it has been removed.

Studies have shown that open prostatectomy is as effective at improving symptoms as HoLEP in men with very large prostates.

See below for the possible side effects of open prostatectomy.

Possible side effects of all types of surgery

- **Problems passing urine.** At first, you may find that you pass urine more often and sometimes urgently, but this usually improves over time. Speak to your doctor or nurse if you continue to experience this problem.



- **Leaking urine when you cough, sneeze, laugh or exercise.** This is called stress incontinence. Your doctor or nurse can give you advice on pelvic floor exercises that may help to improve your bladder control. Read our Tool Kit fact sheet **Pelvic floor muscle exercises** or call our Specialist Nurses on our confidential helpline. If exercises do not help, your doctor or nurse can discuss other treatment options with you.
- **Blood in your urine.** You may notice blood in your urine for a couple of weeks after your operation. Sometimes the urine clears and then you see a small amount of blood 5 to 10 days after your operation. This is normal.
- **Urine infection.** There is a small risk of a urine infection. Contact your GP if you develop a high temperature, if your urine is smelly or cloudy, or if you have a burning sensation when you pass urine.
- **Slow urine flow.** Scar tissue from the operation can narrow the urethra or bladder neck after a period of time, slowing down the flow of urine. A simple operation can remove the scar tissue.
- **Retrograde ejaculation.** You may notice that you pass little or no semen when you orgasm. Instead, the semen passes into your bladder when you orgasm and is passed out of the body the next time you urinate. This may feel quite different to the orgasms you are used to. It happens because the neck of the bladder sometimes becomes wider during the operation. Men who have retrograde ejaculations may not be able to father children through sex. However, it is still possible, so you should continue to use contraception.
- **Difficulty getting or keeping an erection (erectile dysfunction).** We don't know if erection problems are caused by the operation or by other factors, such as age and other health conditions. If you have good erections before the operation, you may be less likely to have problems afterwards.

Comparing surgery options

This table might help you compare some of the key differences between the types of surgery available for an enlarged prostate.

Surgery type	Recovery	Need for re-operation	Risk of side effects
TURP	You may need to stay in hospital for a few days after the operation. Around 3 out of 100 men (3 per cent) may need to have a blood transfusion. It may take between 4 and 8 weeks to fully recover from the operation	About 7 or 8 out of 100 men (7 or 8 per cent) will need another operation within 4 years	<ul style="list-style-type: none">• Problems passing urine• Leaking urine, affects around 2 out of 100 men (2 per cent)• Blood in your urine• Urine infection• Slow urine flow, affects around 4 out of 100 men (4 per cent)• Retrograde ejaculation, affects between 6 and 7 out of 10 men (65 per cent)• Difficulty getting and keeping an erection, affects up to 7 out of 100 men (7 per cent)• TUR syndrome, affects around 1 out of 100 men (1 per cent)
HoLEP	Operation takes longer than TURP but your hospital stay (1 to 2 days) is shorter. You are less likely to need a blood transfusion than after TURP	Between 5 and 6 out of 100 men (5-6 per cent) will need another operation within 4 years	<ul style="list-style-type: none">• Similar risks to TURP of retrograde ejaculation, difficulty getting and keeping erection, needing to go to the toilet urgently, a urine infection, leaking urine and slow urine flow. Lower risk of TUR syndrome• Risk of temporary pain when passing urine (dysuria), affects around 1 in 10 men (10 per cent)• Risk of blood in your urine for a short time after treatment

TUVP

Operation takes longer than TURP but your hospital stay will be shorter. You are less likely to need a blood transfusion than after TURP

Similar risk to TURP

- Similar risks to TURP of TUR syndrome, leaking urine, urine infection, retrograde ejaculation, slow urine flow and difficulty getting and keeping an erection

Bladder neck incision

Recovery time and hospital stay are shorter than after TURP and you are less likely to need a blood transfusion than after TURP

Higher risk than TURP

- Similar risks to TURP of TUR syndrome, leaking urine and slow urine flow. Lower risk of difficulty getting and keeping an erection
- Lower risk than TURP of retrograde ejaculation, which affects between 2 and 3 out of 10 men (20-30 per cent)
- Risk of temporary pain when passing urine (dysuria) and blood in your urine (haematuria)

Open prosta-tectomy

Operation, recovery time and hospital stay are likely to be longer than after TURP, TUVP or HoLEP. You are more likely to need a blood transfusion than after HoLEP

Similar risk to HoLEP

- Leaking urine, affects up to 10 out of 100 men (10 per cent)
- Retrograde ejaculation, affects around 8 of 10 men (80 per cent)
- Slow urine flow, affects around 3 out of 100 men (3 per cent)
- Difficulty getting or keeping an erection, affects around 3 to 5 out of 100 men (3-5 per cent)

Other less common types of surgery

There are several other less common procedures, but these are not widely available across the UK and doctors are still reviewing their benefits and risks. These treatments are usually only available as part of a clinical trial or through private healthcare.

- **Photosensitive vaporisation of the prostate** uses a high-energy laser to heat up some of the prostate tissue, causing it to vaporise. You may also hear this treatment called 'GreenLight™' laser surgery. It has a quicker recovery time and shorter hospital stay than TURP.

- **Minimally invasive surgery.**

There are several forms of less invasive surgery.

- Transurethral needle ablation uses radio-frequency energy to heat and destroy prostate tissue.
 - Transurethral microwave therapy uses microwave heat to shrink the prostate tissue.
 - High-intensity focused ultrasound uses ultrasound waves to destroy prostate tissue.
 - Transurethral ethanol ablation of the prostate. During this procedure, ethanol is injected into the prostate. This destroys some of the prostate tissue, causing the urethra to widen.
- **Transurethral vaporisation resection of the prostate.**
This is similar to TURP but prostate tissue is destroyed by an electric current as well as cut away.

As with most medical treatments, these all have a risk of side effects. Your doctor or nurse will be able to provide you with more information on side effects and whether these treatments are suitable for you.

What if I am not able to have surgery?

If surgery is not suitable for you and your symptoms are affecting your day-to-day life, your doctor or nurse may recommend a catheter to drain urine from your bladder. The catheter can be permanent or temporary.

If you have a temporary catheter, your doctor or nurse will show you how to insert it to drain urine from your bladder. The medical term for doing this is clean intermittent self-catheterisation. You might need to do this once or several times a day. Your specialist will tell you how often you need to insert the catheter.

A permanent catheter drains urine out of the body, either through the penis or through the wall of your stomach area between your pubic bone and your belly button. You will usually have your catheter changed every 12 weeks. If you have a catheter that drains urine out through the penis then this may interfere with your sex life. Your doctor or specialist nurse will be able to discuss this with you.

There is a greater risk of getting an infection with a permanent catheter than with a temporary catheter. The following tips can help prevent infection.

- Always wash your hands before and after handling your catheter.
- Wash the area where the catheter enters the body every day with a downward movement away from the entry point. Use unscented soap and water, and dry it afterwards.
- Drink plenty of fluids (about one and a half to two litres or three to four pints a day).

- Eat plenty of fibre to avoid constipation, as constipation can stop the catheter draining properly.
- Let your nurse know if your catheter is not draining properly.

Summary

- Your doctor or specialist nurse will recommend the best treatment options for you. They will discuss these options with you to help you decide what is right for you.
- If symptoms are not affecting your day-to-day life and you have no complications, you may decide to wait and see how your condition develops.
- Lifestyle changes – such as drinking fewer drinks containing alcohol, caffeine or artificial sweeteners – may help improve symptoms.
- If lifestyle changes are not enough, medicines may help control your symptoms.
- If lifestyle changes and/or medicines do not control your symptoms, or your symptoms are severe, your doctor may recommend surgery.
 - There are several different types of surgery available.
 - The types of surgery available vary from hospital to hospital.
 - Some types of surgery are usually only available as part of a clinical trial or through private healthcare.
 - All surgery carries a risk of side effects.
- If surgery is not suitable for you, your doctor or nurse may recommend a temporary or permanent catheter to drain urine from your bladder.



**Before my appointments
I find it useful to write
down any questions to
ask the doctor.**

A personal experience

Questions to ask your doctor or specialist nurse

How will an enlarged prostate affect my day-to-day life?

What can I do to help manage the symptoms myself?

What tests will I need to have?

Which treatment would be most suitable for me? And why?

What are the possible side effects of the treatments?

How long can I take to decide which type of treatment I want?

Medical terms used in this booklet

Catheter

A thin hollow tube that is used to drain urine from the bladder out of the body.

DRE

Digital rectal examination. The doctor or nurse feels the surface of the prostate gland with a gloved finger inserted into the back passage (rectum).

GP

General practitioner. A doctor who deals with a range of medical problems in people of all ages. Also called a family doctor.

PSA

A protein that is produced by the prostate gland. It is normal for all men to have a small amount of PSA in their blood. A raised PSA level can be due to a variety of reasons including age, infection, an enlarged prostate and prostate cancer.

Retrograde ejaculation

A possible side effect of some treatments for prostate problems. Passing little or no semen on orgasm. Instead, the semen passes into the bladder and is passed out of the body the next time you urinate.

Urethra

The tube that carries urine from the bladder, and semen from the reproductive system, through the penis and out of the body.

Urologist

A doctor who specialises in the urinary and reproductive systems. Urologists are also surgeons.

More information from us

Leaflets and booklets

Other leaflets and booklets about prostate cancer and other prostate problems can be ordered free of charge from Prostate Cancer UK.

To order publications

Download and order all of our publications from our website at **prostatecanceruk.org** or call us on **0800 074 8383**

Call our Specialist Nurses

If you want to talk about prostate cancer or other prostate problems, call our Specialist Nurses in confidence. You can also email the nurses using the contact form on our website. Visit prostatecanceruk.org and click on 'We can help'.



**Speak to our
Specialist Nurses**

0800 074 8383*

prostatecanceruk.org

* Calls are recorded for training purposes only. Confidentiality is maintained between callers and Prostate Cancer UK.

Other useful organisations

Bladder and Bowel Foundation

www.bladderandbowelfoundation.org

Continence nurse helpline: 0845 345 0165

Provides information and support for all types of bladder and bowel problems.

British Association of Urological Surgeons

www.baus.org.uk

Telephone: 020 7869 6950

Provides information on treatments for an enlarged prostate.

eMC Medicine Guides

www.medicines.org.uk/guides

For information on UK licensed medicines, including how to use or take your medicine, possible side effects, and interactions your medicine may have with other medicines, food or alcohol.

National Institute for Health & Clinical Excellence (NICE)

www.nice.org.uk

Provides national guidelines on promoting good health and preventing and treating ill health, including prostate problems.

NHS Choices

www.nhs.uk

Provides information to support you in making decisions about your own health, including an A-Z of treatments and conditions, and information on NHS health services in your local area.

Patient UK

www.patient.co.uk

Contains information that GPs use with their patients, including information on prostate problems. It also provides a directory of UK health websites.

The Royal College of Anaesthetists

www.rcoa.ac.uk

Telephone: 020 7092 1500

Provides information to help prepare you for having an anaesthetic.

About Prostate Cancer UK

Prostate Cancer UK fights to help more men survive prostate cancer and deal with other prostate diseases so they can enjoy a better life. We support men by providing vital information and services. We find answers by funding research into causes and treatments and we lead change, raising the profile of all prostate diseases and improving care. We believe that men deserve better.

At Prostate Cancer UK, we take great care to provide up-to-date, unbiased and accurate facts about prostate diseases. We hope these will add to the medical advice you have had and help you to make decisions. Our services are not intended to replace advice from your doctor.

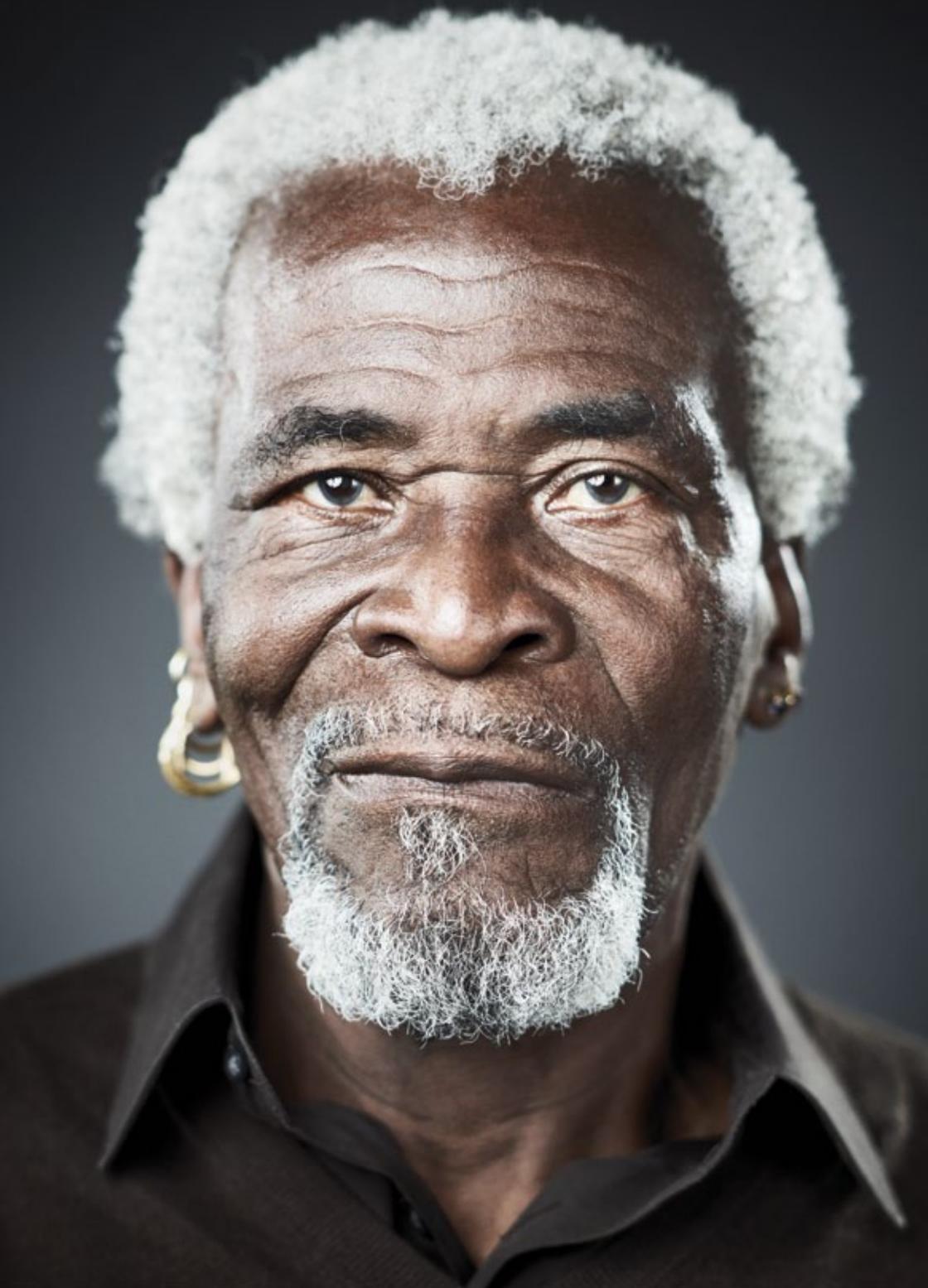
References to sources of information used in the production of this booklet are available at prostatecanceruk.org

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- Prostate Cancer Volunteers



Donate today – help others like you

Did you find this information useful? Would you like to help others in your situation access the facts they need? Every year, 40,000 men face a prostate cancer diagnosis and millions more face other prostate diseases. Thanks to our generous supporters, we offer information free to all who need it. If you would like to help us continue this service, please consider making a donation. Your gift could fund the following services:

- £10 could buy a Tool Kit – a set of fact sheets, tailored to the needs of each man with vital information on diagnosis, treatment and lifestyle.
- £25 could give a man diagnosed with a prostate problem unlimited time to talk over treatment options with one of our Specialist Nurses.

To make a donation of any amount, please call us on **0800 082 1616**, visit **prostatecanceruk.org/donations** or text **PROSTATE to 70004***. There are many other ways to support us. For more details please visit **prostatecanceruk.org/get-involved**

*You can donate up to £10 via SMS and we will receive 100% of your donation. Texts are charged at your standard rate. For full terms and conditions and more information, please visit prostatecanceruk.org/terms



The quotes with the photos are not the words of the people who appear.



**Speak to our
Specialist Nurses**
0800 074 8383*
prostatecanceruk.org



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To be reviewed January 2015

The helpline is open Mon - Fri 9am - 5pm, plus Wed 7pm - 9pm

* Calls are recorded for training purposes only.

Confidentiality is maintained between callers and Prostate Cancer UK.

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