

Patient information from the BMJ Group

Prostate, enlarged

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As you get older, your prostate can get bigger. This can cause problems, such as having to get up at night to urinate. But an enlarged prostate isn't usually a serious health problem, and there are treatments to help your symptoms.

We've brought together the best research about this condition and weighed up the evidence about how to treat it. You can use our information to talk to your doctor and decide which treatments are best for you.

What is an enlarged prostate?

As you get older, your prostate can get bigger. When this happens, doctors call it benign prostatic hyperplasia, or BPH. This condition is not cancer, and it isn't usually a serious health problem. But it can cause irritating symptoms, such as having to get up at night to urinate.

If you can cope with the symptoms of an enlarged prostate, you may not need any treatment. But, even if your symptoms are mild, it's important to get them checked by your doctor to make sure that you don't have a more serious condition. And if you do need help for BPH, your doctor can provide treatments to help your symptoms.

Most men find it difficult to talk to their doctors about prostate problems. But don't be embarrassed. Your doctor will have helped many men with your symptoms.

Key points for men with an enlarged prostate

- Having an enlarged prostate is common, especially among older men. Symptoms include getting up at night to pass urine, having a weak urine stream, and having to strain to pass urine.
- BPH isn't serious, but the symptoms can be similar to those of more serious conditions. So it's important to see your doctor.
- BPH is often slow to develop, and it doesn't always get worse. Your doctor may try different treatments to work out which one is best for you.

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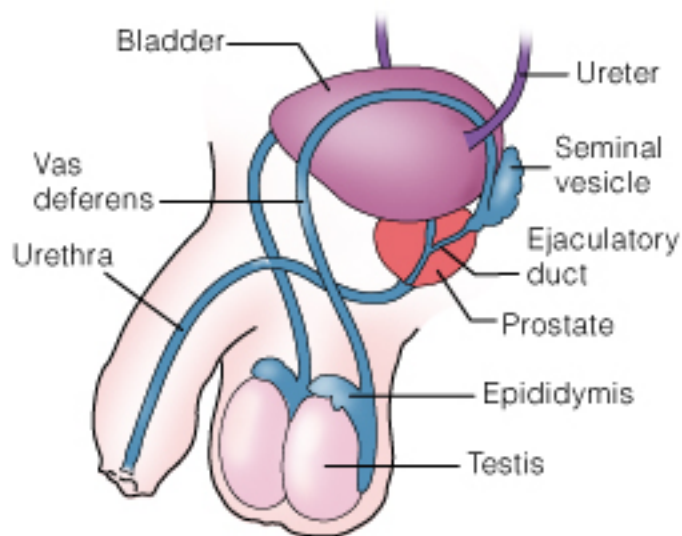
- A wait-and-see approach (called **watchful waiting** or **active monitoring**) is becoming more widely used. Traditional surgery for BPH is becoming less common. This operation is called [transurethral resection of the prostate](#) , or TURP.
- Drugs, herbal treatments, and surgery may help your symptoms.
- If you do opt for surgery, there are new ways of doing it. For many of these new procedures, you don't need a **general anaesthetic** to make you sleep during the operation.

To understand BPH and its treatments, it's helpful to know where the prostate is and how it works. The symptoms of the disease will also make more sense if you know how your prostate is linked to other parts of your body.

What is the prostate and what does it do?

Only men have a prostate. Doctors call it the prostate **gland** . (Glands make substances that are used somewhere else in the body.) The prostate is a small, solid gland about the size of a walnut. It helps to make the milky fluid that comes out of your penis when you ejaculate. The fluid from your prostate helps keep your sperm healthy and helps them swim.

Where is the prostate?



The prostate (in red) lies beneath your bladder.

- Your prostate is at the base of your bladder, the sac (made of muscle) that holds your urine. You can think of the prostate as a walnut resting against a bag of water.
- The front of your prostate is wrapped around your urethra, the tube that runs from your bladder and through your penis. The urethra carries urine and semen out of your body (semen is the name for your sperm and the fluid they are carried in). Any

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change in the size or shape of your prostate can narrow this tube, making it difficult for you to urinate.

- The back of your prostate presses against your back passage (rectum). This is why your doctor examines your rectum if there's a problem with your prostate. He or she can feel the gland through the wall of your rectum.
- The two bundles of nerves that control your erections run on either side of your prostate. Because these nerves are so close to your prostate, they can be damaged by surgery on the gland.
- Your prostate is also linked to your testicles. These are the two organs that make sperm and the male hormone testosterone. They lie in a pouch of skin on either side of your penis. Your sperm are carried by tubes that run from your testicles and through your prostate into your urethra. Your prostate adds its fluid to the sperm when they reach your urethra. ^[1]

If you want to find out more about how your prostate works, see [More about what the prostate does](#) .

What happens when a prostate gets bigger?

It's normal for the prostate to grow as boys reach puberty (the time when their sex organs mature). At this time, their bodies start to produce more male sex hormones (called **androgens**). The main one is called testosterone.

It makes your prostate grow at puberty, and it also helps your prostate make fluid to carry your sperm.

Your prostate reaches its adult size by around the time you're 20. Then, at around age 50, it starts growing again in some men. ^[2] Doctors aren't sure why this is, but it's probably linked to hormone changes. One theory is that, as you get older, the cells in your prostate get more sensitive to the androgens in your blood and this makes the cells grow. ^[3]

The condition of your prostate starting to grow again as you get older is called benign prostatic hyperplasia, or BPH. 'Benign' means that the condition isn't cancer. 'Hyperplasia' means normal cells are multiplying more quickly than usual. Even though this condition is not cancer, it may lead to annoying symptoms. For more, see [What are the symptoms of an enlarged prostate?](#)

A large prostate is about the size of an apple, and a very large one could be as big as a grapefruit.

What causes the symptoms of BPH?

Doctors used to think that the symptoms of an enlarged prostate were caused simply by it pressing on the urethra and restricting the flow of urine from the body.

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But some men with a large prostate have no problems urinating, and some men with a small prostate do.

Doctors now know that some symptoms can be caused by changes in your bladder that are triggered by changes in your prostate.^[3] For example, the wall of your bladder may become thick and irritable. This can make your bladder contract (get smaller) when it contains only small amounts of urine. (Normally your bladder contracts when it is full of urine.) This makes you feel like you need to urinate more often.

Eventually your bladder may become so weak that it can't empty itself. If urine remains in your bladder, it can get infected. A bladder infection is called cystitis.^[4] To read more, see [Complications of an enlarged prostate](#).

The good news is that lots of treatments are available for BPH. By getting treatment as soon as possible, you may prevent future problems with your bladder. Remember that doctors see men with these symptoms every day, so you shouldn't feel awkward about your condition.

Enlarged prostate: why me?

There are some things that make it more likely that you will get an enlarged prostate. These things are called risk factors.

- Your age: Your chances of getting an enlarged prostate increase as you get older.^[4]
- Your family history: Enlarged prostates seem to run in some families. If your father or brother has had BPH, then you are at greater risk of getting it.
- Your race: Black men seem to have enlarged prostates that need surgery more often than white men do. And Asian men seem to be less likely than white men to need surgery. These trends need more study, and may be due to things such as diet.^{[12] [13] [14]}

What are the symptoms of an enlarged prostate?

As you get older, your prostate can get bigger and cause troublesome symptoms.

The first thing you may notice is that you have to urinate more often during the day or at night. Unfortunately, many men ignore these symptoms. They think these problems are just a normal part of getting older. But this isn't true.

BPH can start to get you down. You may feel tired because you never sleep through the night. Or you may feel anxious during the day if you're not close to a bathroom. This anxiety can disrupt your usual routine. For example, you may stop playing sports or stop going to the cinema or public events.^[15] You may also be concerned that you could have a serious illness.

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It's important to get these symptoms checked out. Some BPH symptoms are similar to those of more serious conditions, such as prostate cancer. Also, your doctor may be able to give you some simple advice that can help your symptoms without any treatment. (See [What can I do to help relieve my symptoms?](#))

Here's what you may feel if you have an enlarged prostate:

What you experience	What your doctor calls it
Having to wait before you start urinating	Hesitancy
Stopping and starting when urinating	Intermittent stream
Having to push or strain to urinate	Straining
Having a weak flow or weak stream of urine	Weak stream
Feeling like your bladder's never quite empty	Residual voiding
Having to urinate more often than before	Frequency
Finding it difficult to put off urinating	Urgency
Having to get up at night to urinate	Nocturia
Dribbling at the end of passing urine	Terminal dribbling
Being desperate to urinate	Urge incontinence

Over time, your symptoms may become worse, especially if your urethra (the tube that empties your bladder) gets blocked. What usually happens is that your bladder doesn't empty completely, so urine is left in your bladder. This may lead to more severe symptoms. See [Complications of an enlarged prostate](#) for more information.

If you are diagnosed with BPH, your doctor may give you a questionnaire that asks about your symptoms. Doctors use this questionnaire to measure how severe your symptoms are when you are first diagnosed. They can then compare your 'symptom score' before and after treatment to see whether a treatment is working. For more about this questionnaire, see [How your doctor may measure your symptoms](#) .

How do doctors diagnose an enlarged prostate?

If you have symptoms such as needing to urinate more often during the day and night, and find it difficult to put off urinating, you should see your doctor. Your doctor will probably want to do some tests to check your prostate.

There is no one test that tells your doctor, "This patient has an enlarged prostate". Symptoms of BPH can look like symptoms of other conditions. For example, needing to urinate often is a sign of [diabetes](#) . Your doctor may carry out some tests to find out for certain what's causing your symptoms. ^[3] For more, see [Tests to check your prostate health](#) .

You may be worried that an enlarged prostate means you have prostate cancer because the symptoms for both conditions are similar. But BPH is not cancer. And having BPH doesn't increase your chances of getting prostate cancer. ^[19]

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If you have symptoms of an enlarged prostate, your doctor will probably carry out tests to make sure that you don't have prostate cancer. The two most common tests are a **digital rectal examination** and a blood test for prostate-specific antigen (PSA). In a digital rectal examination a doctor puts a gloved and lubricated finger into your back passage ([rectum](#)) to check whether your prostate is enlarged, has lumps on it, or feels strange in some other way. A PSA test measures how much PSA is in your blood. If your PSA level is raised, this can be a sign of prostate cancer.

Unfortunately, these tests can't tell you for sure whether you have prostate cancer. They can only tell you the chance that you have it or don't have it. If your doctor thinks there's a high chance that you have prostate cancer, you may need to have a **biopsy**. This is when your doctor removes small pieces of tissue from your prostate. This tissue is then looked at under a microscope to check for cancer cells. See our section on [prostate cancer](#) if you'd like more information about this disease.

How common are enlarged prostates?

As you get older, your prostate can get bigger and cause troublesome symptoms. Doctors call this condition benign prostatic hyperplasia, or BPH for short. It affects mainly older men. In fact, most men in their 80s and 90s have some symptoms of an enlarged prostate.

It is rare for men to have an enlarged prostate if they're under 40 years of age. But in most men the prostate grows as they get older.

Here are some more facts and figures about BPH:

- BPH affects more than half of all men over 50. ^[7]
- About one third of all men over 50 will develop urinary problems.
- All older men are at risk of BPH, and your chances of getting symptoms increase as you get older. But your symptoms will not always get worse as you age. ^[3] See [What will happen to me?](#) for more information.
- By age 55, about 1 in 4 men will have noticed their stream of urine isn't as strong as it used to be. This goes up to 1 in 2 men by age 75.

What treatments work for an enlarged prostate?

As you get older, your prostate can get bigger and cause symptoms that may bother you. Doctors call this condition benign prostatic hyperplasia, or BPH for short.

If you're coping well with your symptoms, your doctor may suggest that you wait to see if your symptoms get worse before you start treatment. This is called **watchful waiting** or **active monitoring**. You and your doctor wait to see what happens. To find out more about how you can expect to be treated, see [NICE guidance on treating an enlarged prostate](#) .

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For men who want to do something about their symptoms, there are a number of treatments available, including drugs, herbal treatments, and surgery.

Key points about treating an enlarged prostate

- BPH is normally a harmless condition, and you don't need to decide about treatment straight away.
- There are three main types of treatment for BPH: watchful waiting (close monitoring of your symptoms to see if you need treatment later), drugs, and surgery.
- Alpha-blockers are the fastest-acting drugs for BPH. But they can cause dry climaxes (this is when you release little or no fluid from your penis when you have an orgasm).
- Finasteride is the only drug that reduces your risk of suddenly not being able to urinate. This is called acute urinary retention and needs emergency treatment. But this drug can cause problems with your sex life. Finasteride works best in men with more enlarged prostates.
- An operation called a transurethral resection of the prostate (TURP) is good at getting rid of symptoms. But you may have dry climaxes after the operation.
- Newer types of surgery may be safer than TURP. These include operations using heat from an electric current, microwaves, laser beams, or heated needles to remove part of your prostate. But we don't know yet whether the effects of newer types of surgery last as long as the effects of TURP because the research hasn't been done.
- Some herbal treatments seem helpful, with little or no side effects. But we don't know how long these benefits last.

NICE guidance on treating an enlarged prostate

The National Institute for Health and Care Excellence (NICE) has published guidelines on treating men who have problems with urinating, including men with an enlarged prostate. ^[20] NICE is the organisation that gives advice about which treatments should be used by the NHS.

NICE recommends a different approach depending on how much your symptoms are bothering you. Some men may be able to cope using self-help methods. Others may need drug treatment. Surgery is also an option if other treatments haven't helped.

Self help

Your doctor can give you advice that will make an enlarged prostate easier to live with.

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- Your doctor can explain a technique called urethral milking. This involves massaging the skin behind your scrotum to get rid of the last drops of urine when you go to the toilet.
- Bladder training can help you go longer between feeling the urge to urinate and having to go. You train your bladder by scheduling particular times to go to the toilet. Some doctors also recommend exercises to strengthen the muscles that control your flow of urine.
- Your doctor may give you advice about limiting your fluid intake and changing your lifestyle. For example, if you need to get up at night to urinate, your doctor might suggest drinking less in the evenings. Cutting down on alcohol and caffeine can also help.
- If you're having problems with incontinence, your doctor might suggest trying pads or devices that collect your urine in a small bag. Most men don't need to rely on these for very long. They can be useful for a while, as you and your doctor plan how to manage your condition in the longer term.

Medicines

If self-help treatments don't help enough or they're not suitable, medicines can help with the symptoms of an enlarged prostate.

- [Alpha-blockers](#) relax the muscles in your bladder and prostate, making it easier to urinate.
- [5-alpha-reductase inhibitors](#) help to shrink an enlarged prostate.
- If one drug doesn't help, taking an alpha-blocker with a 5-alpha-reductase inhibitor may work.
- If you're waking up at night needing to urinate, a drug called desmopressin can help. It slows down urine production so you produce less urine at night. Another option is taking a diuretic drug during the day. Diuretics speed up urine production, so taking one during the day means you're less likely to end up with a full bladder at night.

If you're taking any of these drugs, you should have regular check-ups with your doctor. This is to check on how well your medicine is working, and whether you're getting any side effects.

Surgery

Most men with an enlarged prostate don't need surgery, but it's an option if other treatments don't help you. The most common operation is called [transurethral resection of the prostate \(TURP\)](#), and there are also newer types of surgery, such as [transurethral incision of the prostate \(TUIP\)](#) and [transurethral vaporisation of the prostate \(TUVP\)](#).

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Before you decide to have surgery, your doctor should tell you about the alternatives, and explain the benefits and side effect of the operation. Prostate surgery can cause long-term problems such as erection problems or incontinence.

Which treatments work best? We've looked at the best research and given a rating for each treatment according to how well it works.

For help in deciding which treatment is best for you, see How to use research to support your treatment decisions.

Treatment Group 1

Treatments for an enlarged prostate

Treatments that work

- [Alpha-blockers](#) : These drugs are often used to lower high blood pressure, but some also work for BPH. The names of these alpha-blockers include doxazosin (Cardura), tamsulosin (Flomax), and terazosin (Hytrin). [More...](#)
- [5-alpha-reductase inhibitors](#) : These drugs stop the prostate growing by blocking the effects of hormones. There are two drugs in this group, called dutasteride (Avodart) and finasteride (Proscar). [More...](#)
- [Transurethral resection of the prostate \(TURP\)](#) : This is the most common surgery for an enlarged prostate. It involves cutting away prostate tissue. [More...](#)

Treatments that are likely to work

- [Beta-sitosterol plant extracts](#) : This type of herbal product is sold over the counter under several different brand names, including Moducare and Natur-Leaf. [More...](#)
- [Transurethral holmium laser enucleation of the prostate \(HoLEP\)](#) : This type of surgery uses laser energy to remove part of the prostate gland. [More...](#)
- [Transurethral microwave thermotherapy \(TUMT\)](#) : This type of surgery uses microwave energy to heat the prostate gland and make it smaller. [More...](#)
- [Transurethral vaporisation of the prostate \(TUVP\)](#) : This type of surgery uses a high-energy electric current to heat the prostate gland and make it smaller. [More...](#)

Treatments that need further study

- [Transurethral needle ablation \(TUNA\)](#) : This surgery uses heated needles to destroy tissue and make the prostate smaller. [More...](#)
- [Rye grass pollen extracts](#) : Cernilton is the most commonly used form of this herbal product. It is sold over the counter. [More...](#)

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- [Pygeum africanum](#) : This extract from the bark of the African prune tree is sold in health food shops, over the counter. [More...](#)

Treatments that are unlikely to work

- [Saw palmetto plant extracts](#) : Saw palmetto is the most popular herbal product for treating an enlarged prostate, and there are many different brands available. You can buy them over the counter. [More...](#)

Other treatments

We haven't looked at the research on these treatments in as much detail as we've looked at the research on most of the treatments we cover. (To read more, see Our Method.) But we've included some information because you may have heard of them or be interested in them.

- [Transurethral incision of the prostate \(TUIP\)](#) : This involves making one or two small cuts in your prostate to reduce the pressure on the opening of your bladder and make it easier for you to urinate. [More...](#)
- [Open prostatectomy](#) : This operation involves removing most of your prostate through a cut in your lower belly. [More...](#)

What will happen to me?

As you get older, your prostate can get bigger and cause problems. Doctors call this condition benign prostatic hyperplasia (BPH). It can cause symptoms such as having to urinate often during the day and at night or having a weak stream of urine. No one can tell you for sure whether your symptoms will worsen over time. And no one but you can judge how much these symptoms affect your life.

Benign prostatic hyperplasia is usually harmless. The word 'benign' means the growth of your prostate isn't due to cancer. It doesn't usually get worse quickly, so you don't have to rush into having treatment. Also, having BPH does not increase your risk of getting prostate cancer.

Many men find that their BPH symptoms gradually get worse as they get older.^[18] But this is not always the case. Some men find that their symptoms change slowly, and others find that they don't change at all.^[5] Some men even find that their symptoms get better on their own.

It's unlikely that you'll become seriously ill as a result of your enlarged prostate. Only about 1 in 10 men get serious symptoms.

But it makes sense to see a doctor quite quickly. To read more, see [Complications of an enlarged prostate](#) . Also, getting treatment early could stop your enlarged prostate damaging your bladder.^[16]

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How your condition develops often depends on how severe your symptoms are to start with. In one study of men who didn't have any treatment, those with mild symptoms usually didn't get severe symptoms or need surgery during the next four years. Out of those with worse symptoms, after four years: ^[8]

- Half still had the same level of symptoms
- 1 in 4 had surgery
- 1 in 8 developed severe symptoms
- 1 in 8 improved and had only mild symptoms.

Surgery used to be the only treatment for BPH. Nowadays, there are a number of drugs, herbal treatments, and smaller operations that can help your symptoms. Doctors often advise men to wait and see what happens before they start treatment. To read more, see [What treatments work for an enlarged prostate?](#)

Questions to ask your doctor

If you've been diagnosed with an enlarged prostate, you may want to ask your doctor some questions to find out more about this condition and how to deal with it.

Here are some suggestions:

- How do you know I have an enlarged prostate and not a more serious condition?
- Is there anything I can do to improve my symptoms? (To read more, see [What can I do to help my symptoms?](#))
- Do you think I should start treatment or wait and see what happens (this is called watchful waiting or active monitoring)? Why?
- Will my symptoms get worse if I don't get treatment?
- Am I likely to get other problems? (To read more, see [Complications of an enlarged prostate](#) .)
- Will I need surgery?
- What are the side effects of surgery?
- Can I take tablets to help my symptoms?
- Are there other treatments I can try? What about herbal treatments?
- What side effects do these treatments have?

- Will I need to have regular check-ups?
-

Treatments:

Alpha-blockers

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[How good is the research on alpha-blockers?](#)

This information is for men who have an enlarged prostate. It tells you about alpha-blockers, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Do they work?

Yes. Taking an alpha-blocker can help if you have moderate or severe symptoms of an enlarged prostate (a condition known as benign prostatic hyperplasia, or BPH for short). But alpha-blockers do not stop the long-term problems that BPH can cause, such as suddenly being unable to pass urine. (See [Complications of an enlarged prostate](#) for more information.)

If this drug is going to help you, your symptoms should get better within two to three weeks.

What are they?

Alpha-blockers are normally used to treat **high blood pressure**. Like BPH, high blood pressure is a common problem that many people don't even know they have. And like BPH, it gets worse with age. Doctors think that about a third of men being treated for BPH also have high blood pressure.^[28] So an alpha-blocker can treat both problems at the same time. But alpha-blockers can help your symptoms of BPH even if you don't have high blood pressure.

There are many different types of alpha-blockers. Here's a list of some of the ones used to treat BPH. We've listed each drug's generic name (followed by its brand name):

- Alfuzosin (Xatral)
- Doxazosin (Cardura)
- Tamsulosin (Flomax)
- Terazosin (Hytrin).

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Most of these drugs are only available on prescription from your doctor. However, you can buy tamsulosin from a pharmacy. The brand name is Flomax Relief. You'll have to answer questions from the pharmacist to check that the drug is right for you, and you'll still need to see a GP if you want to take this treatment for more than a few weeks.

You can also get a drug called Combodart, which is a capsule that contains tamsulosin and a drug called dutasteride (a [5-alpha-reductase inhibitor](#)).

Tamsulosin was the first alpha-blocker made specifically to treat BPH. It's called a 'selective' alpha-blocker because it's designed to affect your prostate more than your blood pressure. Because of this, it has fewer side effects than the older alpha-blockers do. Alfuzosin is another drug that works this way.

Your doctor will want to give you the lowest dose that relieves your symptoms. This way, you'll have as few side effects as possible.^[29] To make sure you're getting the right dose, your doctor may need to see you quite often when you first start taking this drug.

How can they help?

Alpha-blockers can improve your symptoms.^{[28] [29] [30] [31] [32] [33] [34] [35] [36] [37] [38] [39] [40] [41] [42]} This may mean:

- You need to urinate less often
- You don't have to wait so long before your urine starts to flow
- Your flow of urine is stronger.

If you have high blood pressure as well as BPH, taking one dose of an alpha-blocker (but not tamsulosin or alfuzosin) can help both conditions at the same time.^[28]

Some men say their sex life gets better when they take tamsulosin. This may be because they feel less worried about their symptoms, so they can enjoy their sex life more.^[43] But the evidence is unclear since some studies have found that men who take tamsulosin get a **dry climax**.^[44] This is when little or no fluid comes out of your penis when you have an orgasm.

There's not enough research to say whether one alpha-blocker works better than the others. Overall, studies suggest that the alpha-blockers seem to help about as much as one another.^{[31] [45] [46] [47] [48] [49] [50] [51]}

We don't know for certain how alpha-blockers compare with drugs called [5-alpha-reductase inhibitors](#). Two studies found that the alpha-blocker tamsulosin improved symptoms more than a 5-alpha-reductase inhibitor called finasteride after four weeks and 12 weeks of treatment, but not after 24 weeks.^{[52] [53]} Other research found

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that a 5-alpha-reductase inhibitor called dutasteride worked better than tamsulosin after 24 months. ^[54] ^[55]

Some doctors advise their patients to take an alpha-blocker with finasteride. Two studies have shown that taking both these drugs together is no better than taking an alpha-blocker on its own. ^[47] ^[56] But a newer study shows that taking the two drugs together may be better than taking just one of them. ^[35] Taking both finasteride and the alpha-blocker doxazosin reduced the risk of symptoms getting worse by two-thirds. ^[35] On their own these drugs reduced the risk of symptoms getting worse by about a third.

Alpha-blockers may not work as well as a type of operation that uses heat to make the prostate smaller. ^[57] This operation is called [transurethral microwave thermotherapy \(TUMT\)](#) .

Alpha-blockers don't prevent the long-term problems that BPH can cause, such as acute urinary retention and kidney failure. To read more, see [Complications of an enlarged prostate](#) .

How do they work?

Alpha-blockers make the muscles in your prostate and bladder relax. This makes it easier for you to urinate. ^[35]

Can they be harmful?

You may get: ^[45]

- Dizziness
- Headaches
- Tiredness
- Drowsiness or weakness
- A stuffy nose
- Light-headedness (sometimes fainting), especially when you get up from a sitting or lying position.

Many of these side effects happen because alpha-blockers lower your blood pressure . But these side effects are usually mild, and most men who take alpha-blockers (7 in 10) don't have any problems. ^[35] To reduce your chances of getting dizzy and fainting, doctors usually advise taking a small dose of the medicine at first, and to take it at night time.

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If you take tamsulosin or alfuzosin, your chances of getting these side effects are even lower because these drugs are less likely to affect your blood pressure.

Dry climaxes

A common problem with tamsulosin is that it can cause dry climax during sex (doctors call this **retrograde ejaculation**).^[31] ^[43] This is when little or no fluid (semen) comes out of your penis when you have an orgasm. But it doesn't mean you won't enjoy sex. It may just feel different. And some men who take tamsulosin say that their sex life actually gets better.^[43]

If you're having cataract surgery

If you have an eye condition called cataracts, taking tamsulosin can make an operation to treat the cataract more difficult. Tamsulosin causes your iris (the coloured part at the front of your eye) to become floppy. This makes it harder for the surgeon to reach the other parts of your eye. Other alpha-blockers may also cause the same problem.

Cataracts are a condition that turns your vision blurry or cloudy. To read more, see [Cataracts](#) .

You shouldn't start taking alpha-blockers if you're due to have an operation for cataracts.^[58]

If you're already taking an alpha blocker, not taking it for a few weeks before surgery may reduce the problem, but we don't know for certain. Ask your doctor about this. You should also make sure you tell whoever will be doing your cataract operation that you've been taking an alpha-blocker.

How good is the research on alpha-blockers?

There are lots of good studies that show that alpha-blockers can help the symptoms of an enlarged prostate.^[30] ^[28] ^[29] ^[31] ^[32] ^[33] ^[34] ^[35] ^[36] ^[37] ^[59] ^[39] ^[40] ^[41] ^[42] These studies include large **systematic reviews** and **meta-analyses** . These are generally reliable and good-quality studies.

5-alpha-reductase inhibitors

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[How good is the research on 5-alpha-reductase inhibitors?](#)

This information is for men who have an enlarged prostate. It tells you about 5-alpha-reductase inhibitors, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Do they work?

Yes. Drugs called 5-alpha-reductase inhibitors should help your symptoms, especially if your prostate is very large. They may shrink your prostate or stop it getting any bigger. But they can take a long time to work. You may not notice an improvement for four months to six months. However, once the drug starts working, it can work for several years, as long as you keep taking it.

5-alpha-reductase inhibitors reduce your chances of suddenly being unable to urinate. They are the only treatment for an enlarged prostate that can do this. Suddenly being unable to urinate is called **acute urinary retention** and needs emergency treatment.

What are they?

5-alpha-reductase inhibitors are also called **anti-androgen therapy** or **hormone therapy**.

As the name 5-alpha-reductase inhibitor suggests, these drugs work by blocking the effects of 5-alpha-reductase. 5-alpha-reductase is a kind of protein called an **enzyme**. Your prostate needs this enzyme to grow.

There are two drugs of this type used to treat an enlarged prostate. They are (with brand names):

- dutasteride (Avodart)
- finasteride (Proscar).

You can also get a drug called Combodart, which is a capsule that contains dutasteride and a drug called tamsulosin (an [alpha-blocker](#)).

How can they help?

Taking one of these drugs can shrink your prostate gland, which should make it easier for you to urinate. ^[60] ^[61] ^[35] You may find:

- You have a stronger flow of urine
- You have to strain or push less to urinate
- You don't have to wait so long before your urine starts to flow
- You don't have to rush to the toilet so much
- You no longer have the sensation that your bladder isn't quite empty after you urinate.

After three to six months of taking finasteride, your prostate can get about a third smaller. After this, your prostate won't shrink any more, but it won't grow again for at least four years if you keep taking the drugs. ^[44]

Prostate, enlarged

Taking finasteride for four years can halve your chances of suddenly being unable to pass urine (acute urinary retention) and needing prostate surgery.^[60] Acute urinary retention is a serious condition that needs fast treatment. To read more, see [Complications of an enlarged prostate](#) .

We don't know if finasteride works better than dutasteride. There are no studies comparing the two drugs.

We also don't know for certain how 5-alpha-reductase inhibitors compare with drugs called [alpha-blockers](#) . Two studies found that an alpha-blocker called tamsulosin improved symptoms more than finasteride after four weeks and 12 weeks of treatment, but not after 24 weeks.^[52] ^[53] Other research found that dutasteride worked better than tamsulosin after 24 months.^[54] ^[55]

Some doctors advise their patients to take finasteride with alpha-blockers. A review of 23 studies of 21,000 men with an enlarged prostate found that taking finasteride and an alpha-blocker called doxazosin together may be better than taking finasteride on its own.^[62] Taking both finasteride and doxazosin reduced the risk of symptoms getting worse by two-thirds.^[35] On their own these drugs reduced the risk of symptoms getting worse by about a third.

Some research suggests that 5-alpha-reductase inhibitors may also help protect against prostate cancer. But we need more research on this to be sure.^[63]

How do they work?

These drugs work by blocking an enzyme called 5-alpha-reductase. They stop this enzyme changing the male sex hormone **testosterone** into its active form (called **dihydrotestosterone** or **DHT**). It's this active form of testosterone that your prostate needs to grow. Without active testosterone, your prostate will stop growing and may even shrink.

These drugs work best in men who have very large prostates, troublesome symptoms, and high levels of a substance called **prostate-specific antigen** (PSA) in their blood.

^[64] To learn about PSA, see [Tests to check your prostate health](#) .

Can they be harmful?

Because these drugs affect your sex hormones, sexual problems are the most common side effects. Most of these side effects are caused by the drop in DHT (the active form of testosterone).

You may find that you get:^[60]

- Problems getting or keeping an erection. Doctors call this **erectile dysfunction**. About 5 in every 100 men taking finasteride get this problem^[65]

Prostate, enlarged

- A loss of sex drive. Doctors call this **loss of libido**. About 3 in 100 men taking finasteride have less urge to have sex ^[10]
- Problems ejaculating. You may produce less fluid (semen) when you have an orgasm or no fluid at all. Doctors call this **ejaculatory dysfunction** or **retrograde ejaculation**. It's more commonly known as dry climax. About 2 in 1,000 men taking finasteride get this problem. ^[10]

You may feel that getting sexual problems would be worse than putting up with the symptoms of an enlarged prostate. Or you may be willing to try the drug and see what happens.

About 1 in 10 men find that sexual problems caused by finasteride get better as they carry on taking the treatment. ^[65] But even if you stop taking finasteride, sexual problems may continue. This happens in half the men who stop taking finasteride. ^[65]

Some men who take finasteride get bigger breasts or sore breasts. There have also been around 50 cases around the world of men developing breast cancer while taking finasteride. ^[66] We don't know whether finasteride actually caused the cancer, and studies looking at finasteride haven't shown an increased risk of breast cancer. However, you should see your doctor straight away if you notice any changes in your chest, such as lumps, pain, or discharge from your nipples.

Finasteride and dutasteride can cause birth defects in babies. If you take one of these drugs, it will be present in your semen (the fluid that comes out of your penis when you have an orgasm). So, if your partner could become pregnant, you should use contraception.

If your partner is pregnant and you start taking these drugs, you must always use a condom. Women who could get pregnant or who are pregnant should not handle the finasteride or dutasteride tablets as the drug can be absorbed through the skin. ^[67] Women who are breastfeeding shouldn't come into contact with them either.

There are also worries that 5-alpha-reductase inhibitors may make it hard for doctors to detect prostate cancer in its early stages. This is because these drugs lower the amount of prostate-specific antigen (PSA) in your blood. High levels of PSA can be a sign of early prostate cancer. For more information, see [Tests to check your prostate health](#) .

However, researchers have not yet found evidence that cancer is being missed because of finasteride or dutasteride. ^[44] Nevertheless, it is important to make sure that your doctor knows you are taking them.

Some research suggests that 5-alpha-reductase inhibitors may reduce the overall risk of prostate cancer, but slightly increase the risk of a more serious form of cancer (high-grade prostate cancer). ^[68] If you have any questions or concerns about your treatment, be sure to raise these with your doctor.

How good is the research on 5-alpha-reductase inhibitors?

There's lots of research to show that 5-alpha-reductase inhibitors can improve the symptoms of an enlarged prostate and reduce your need for surgery. ^[60] ^[61] ^[35]

Most of the evidence is on finasteride as this drug has been around for longer than dutasteride.

Transurethral microwave thermotherapy (TUMT)

In this section

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[How good is the research on transurethral microwave thermotherapy \(TUMT\)?](#)

This information is for men who have an enlarged prostate. It tells you about transurethral microwave thermotherapy (TUMT), a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Does it work?

Yes. Transurethral microwave thermotherapy (TUMT) is a safe treatment that helps the symptoms of an enlarged prostate. But it works less well for men who have a very enlarged prostate. It also doesn't seem to help symptoms as much as the standard operation for an enlarged prostate ([transurethral resection of the prostate](#) , or TURP).

What is it?

Transurethral microwave thermotherapy (TUMT) is an operation that destroys prostate tissue. A doctor puts a tube called a catheter into the opening in your penis and up the channel that carries urine from your bladder to the outside (your urethra). This catheter contains an antenna that emits waves of energy called **microwaves**. These waves of energy make heat that destroys prostate tissue without damaging your urethra.

During the operation, you may feel slightly uncomfortable and as though you need to urinate. You won't need a **general anaesthetic** to make you sleep, but you may be offered a tranquilliser to help you feel more relaxed and comfortable. ^[69]

TUMT can be done as an outpatient treatment. It takes between one hour and two hours, and you'll be able to go home afterwards.

The device used to perform this procedure is called a **Prostatron**.

How can it help?

Men who've had this treatment say their symptoms got better and urinating became easier. ^[57] ^[70]

Prostate, enlarged

But TUMT does not work as well as [transurethral resection of the prostate](#) (TURP), the most common operation for an enlarged prostate.^[57] ^[70] People who have TURP are likely to have more, and more long-lasting, improvement in their symptoms. But they are also more likely to get unwanted side effects.

TUMT may work better than treatment with a drug called an [alpha-blocker](#).^[57]

How does it work?

The microwave energy makes heat that destroys the prostate tissue blocking the flow of your urine.

Some studies show that your urine flow will still be blocked immediately after treatment.^[57] This is because TUMT doesn't work straight away. You may need to have a catheter to drain your urine for a while after the operation.

Can it be harmful?

Problems after this treatment include:^[57]

- Not being able to urinate and having to use a catheter for a week or more: This is called urinary retention.
- Pain when urinating: This usually goes away on its own.
- Sexual problems: Some men who have TUMT have problems when they ejaculate or have blood in their semen.

You might also have blood in your urine. But this is less likely to happen than if you have another operation called TURP.

TUMT may also be less likely to cause dry climaxes (where little or no fluid comes out of your penis when you have an orgasm), compared with TURP.^[57]

But men who have TUMT are more likely to need further treatment than those who have TURP.^[57]

Because this treatment is relatively new, no studies have followed people for a long period of time after their surgery.

How good is the research on transurethral microwave thermotherapy (TUMT)?

There's evidence from good-quality studies that transurethral microwave thermotherapy (TUMT) reduces the symptoms of an enlarged prostate better than a dummy treatment (a [placebo](#)).^[57] ^[70]

Prostate, enlarged

We don't know what happens to men in the long term, because the studies haven't gone on for long enough.

Transurethral resection of the prostate (TURP)

In this section

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[Can it be harmful?](#)

[How good is the research on transurethral resection of the prostate \(TURP\)?](#)

This information is for men who have an enlarged prostate. It tells you about transurethral resection of the prostate (TURP), a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Does it work?

Yes. About 9 in 10 men who have this surgery say their symptoms improve. This procedure works best for men who have the worst symptoms.

The operation often causes problems with how men ejaculate when they have an orgasm, although some men say it improves certain aspects of their sex life. For example, if you have erection problems before the operation, the surgery may help with these problems.

What is it?

Transurethral resection of the prostate (TURP) is an operation that treats the urinary problems caused by an enlarged prostate. Many symptoms of benign prostatic hyperplasia (BPH) are caused by the enlarged prostate pressing against your bladder and the tube that carries urine from your bladder and out of your penis (your urethra). TURP involves cutting away part of your prostate. This stops it pressing on your urethra.

A surgeon will put a thin tube into the opening of your penis and up your urethra to your prostate. The tube has a light and a tiny camera on the end. It also has a tiny loop attached to it. The loop is heated with an electric current and used to cut away the part of your prostate that's blocking your urine. The pieces of prostate are flushed down the tube with water. A thin, flexible tube called a catheter is put into your urethra to drain your urine (and any bits of prostate that haven't come out yet) into a jar or bag by your bed.

TURP has been used for more than 50 years. It was once the most common treatment for an enlarged prostate, but it is now used less often. Doctors will usually try you on drugs before recommending surgery. See [alpha-blockers](#) and [5-alpha-reductase inhibitors](#) for information about these drugs.

To find out more about what happens during the operation, see [TURP: the operation](#).

Prostate, enlarged

How can it help?

TURP removes the blockage caused by your enlarged prostate, so you can urinate more quickly and easily.^{[21] [24]} After the operation, you will probably notice that you have a stronger stream of urine and you should not have to strain or push to get your urine flowing.

Symptoms improve for 9 in 10 men who have this surgery. This compares with 4 in 10 men who wait to see what happens rather than having any treatment (this is called watchful waiting or active monitoring).^[24]

This operation will also make your symptoms less likely to interfere with your life. So you may not need to rush to the toilet or get up in the night as often as you did before. You are also less likely to find your symptoms have got worse or to suddenly be unable to pass urine. Your bladder is more likely to fully empty.

How does it work?

TURP removes part of your prostate gland. If you have BPH, your enlarged prostate presses against your bladder and urethra. This causes problems when you urinate. By removing some of your prostate, TURP stops it pressing against your bladder and urethra and eases your symptoms.

Can it be harmful?

You may get side effects immediately after surgery. For example, you may have heavy bleeding into your urine, but this should pass after a few days. But between 2 in 100 and 4 in 100 men will need a transfusion and 2 in 100 will need to have another operation to stop the bleeding.^{[21] [22] [7]} Some studies have found that the problem happens around twice as often as this.^[23]

You may be more likely to bleed with TURP than with newer operations, such as those using lasers, a high-energy electric current, or a tool called a resectoscope.^[71]

There's also a small chance that you'll get a urine infection.^{[21] [24]}

All operations carry risks, and your surgeon must tell you about these beforehand. One of the things that your surgeon will tell you is that there is a small chance that you could die from the surgery. This risk partly depends on how fit and old you are. One study found that fewer than 1 in 200 men between 65 and 69 who had the operation died within 30 days of surgery. But for men between 80 and 84 who had the operation, 2 in 100 died within 30 days. This risk has been falling.^[72]

Researchers have also looked at the chance of getting other problems after the operation, such as the following:

- [Dry climax](#) : No semen, or very little, comes out of your penis during orgasm

Prostate, enlarged

- [Other sexual problems](#) : These can include erection problems and changes in your sex drive
- [Loss of control over your urine flow \(incontinence\)](#)
- [TURP syndrome](#) : For several hours after surgery, you may feel slightly confused or queasy, vomit, or have raised blood pressure or problems with your sight
- [Need for another operation](#) : Your urethra may become narrowed again.

How good is the research on transurethral resection of the prostate (TURP)?

There are good-quality studies that show that TURP works and can help improve the symptoms of an enlarged prostate. ^[21] ^[24]

Beta-sitosterol plant extracts

In this section

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[How good is the research on beta-sitosterol plant extracts?](#)

This information is for men who have an enlarged prostate. It tells you about beta-sitosterol plant extracts, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Do they work?

Beta-sitosterol plant extracts may help your symptoms get better. And they don't have many side effects. But the improvements may be small and we don't know if beta-sitosterol keeps on working when it's used for a long time.

What are they?

Extracts of plants and herbs have been used to treat illnesses since ancient times. There are about 30 herbs available for the treatment of an enlarged prostate, including some that contain beta-sitosterol.

Beta-sitosterol extracts come from the South African star grass (its Latin name is *Hypoxis rooperi*), and from species of pine (*Pinus*) and spruce (*Picea*).

Beta-sitosterol is sold under brand names such as Moducare and Natur-Leaf.

Beta-sitosterol products may contain beta-sitosterol alone or in combination with other herbs.

Prostate, enlarged

If you think you may have an enlarged prostate, make sure you see your doctor before you start using beta-sitosterol. Your doctor will check your symptoms to make sure they aren't being caused by a more serious condition such as prostate cancer.

Even if you've already been diagnosed with an enlarged prostate, it's still a good idea to talk to your doctor before you start using an herbal treatment.

How can they help?

Men with an enlarged prostate who have taken beta-sitosterol plant extracts say their symptoms have improved.^[73] But we can't say how exactly, because none of the studies we found described in what way men's symptoms improved.

How do they work?

It's not clear how beta-sitosterol extracts work. It may be that they help to reduce the swelling in your prostate and the irritation that this causes. But scientists don't know for sure.

Can they be harmful?

Beta-sitosterol extracts may have mild side effects. You may get an upset stomach or you may have problems getting an erection. But the number of men who get these side effects is small. Only about 3 in every 200 men who take beta-sitosterol get an upset stomach and only 1 in every 200 have problems with their erections.^[73]

How good is the research on beta-sitosterol plant extracts?

There is some evidence that beta-sitosterol extracts work, at least in the short term. The studies that have looked at this have lasted for 26 weeks.^[73] But we need more studies before we can say whether the benefits of beta-sitosterol last longer than 26 weeks and whether this treatment works better than other treatments. We also need to know if beta-sitosterol can help prevent men with an enlarged prostate from having complications. (To read more, see [Complications of an enlarged prostate](#) .)

Transurethral needle ablation (TUNA)

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[How good is the research on transurethral needle ablation \(TUNA\)?](#)

This information is for men who have an enlarged prostate. It tells you about transurethral needle ablation (TUNA), a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Prostate, enlarged

Does it work?

Having transurethral needle ablation (TUNA) may help the symptoms of an enlarged prostate. But we don't know for certain how well it works. There aren't many good studies on this type of prostate surgery.

You're likely to have fewer side effects after TUNA than after a [transurethral resection of the prostate](#) (TURP), and you'll also recover more quickly. But the benefits of TUNA may eventually wear off and you may need further treatment.

What is it?

Transurethral needle ablation (TUNA) can be done as an outpatient treatment. You don't need a **general anaesthetic** to make you sleep.

Your doctor puts a tube called a **cystoscope** into the opening in your penis and up the tube that carries urine from your **bladder** to the outside (your urethra). Once the cystoscope reaches your prostate, your doctor will put small needles from the scope into your gland. A current will pass through these needles to heat your prostate and destroy the tissue. The needles and the cystoscope will then be removed.

The operation takes between half an hour and an hour. You'll be able to go home the same day. TUNA can be uncomfortable, as you'll have the cystoscope in your urethra during the treatment. You may be offered a tranquilliser to help you stay relaxed during the operation.

How can it help?

There's not much good-quality research on TUNA yet, but it seems to help men with their symptoms. It's not yet clear how it compares with a [transurethral resection of the prostate](#) (TURP). Some research shows that men who have TURP may have a stronger flow of urine after three to six months. Also, the improvements with TUNA may be less likely to last, as more men need another operation after TUNA than after TURP. ^[70]

But if you want to avoid sexual problems, this might be the treatment for you. You're less likely to get problems with your erections or have dry climaxes (when little or no fluid comes out of your penis when you have an orgasm) after TUNA than after TURP. You're also less likely to have trouble controlling your flow of urine (this is called incontinence). ^[70]

How does it work?

No one really knows why TUNA makes the symptoms of an enlarged prostate better. It may be that the operation lessens the pressure on your urethra, making it easier for you to urinate.

Can it be harmful?

TUNA has fewer side effects than TURP does. The most common problem after TUNA is bleeding heavily into your urine, but this is still less likely with TUNA than with TURP. ^[70]

You're also less likely to get erection problems and **dry climaxes** (where you produce less semen when you have an orgasm, or none at all) with TUNA than with TURP. In one study, no men got this side effect after TUNA, compared with more than a third of men after TURP. ^[74]

How good is the research on transurethral needle ablation (TUNA)?

There hasn't been much research into whether TUNA helps the symptoms of an enlarged prostate.

We found one review of four good-quality studies that compared men who had either TUNA or [transurethral resection of the prostate](#) (TURP). TURP is the most common operation for an enlarged prostate. ^[70]

We really need more and longer-lasting studies to say how TUNA compares with other types of surgery.

Rye grass pollen extracts

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[How good is the research on rye grass pollen extracts?](#)

This information is for men who have an enlarged prostate. It tells you about rye grass pollen extracts, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Do they work?

If you take rye grass pollen extracts, your symptoms may improve slightly. But we can't say how long this improvement will last. There isn't enough research to tell us.

What are they?

Some of the 30 or so herbal products sold for treating an enlarged prostate contain rye grass pollen (*Secale cereale*). The most commonly used rye grass pollen product is called Cernilton. It's sold as a nutritional supplement. ^[75]

How can they help?

Rye grass pollen extracts may help your symptoms, especially if you need to keep getting up in the night to urinate.

In studies, 7 in 10 men taking rye grass pollen said their symptoms improved. This compared with 3 in 10 men taking a dummy treatment (a placebo). Also, 6 in 10 men said they had to get up at night less often after taking rye grass pollen, compared with 3 in 10 men who took a placebo. ^[75]

How do they work?

It's not clear exactly how rye grass pollen extracts work in the body. They may relax the muscles around your bladder and the tube that carries your urine out through your penis (your urethra) so that you can urinate more easily. ^[75] Like a drug called finasteride (a 5-alpha-reductase inhibitor), rye grass pollen also may stop hormones from helping your prostate to grow.

Can they be harmful?

Rye grass pollen extracts seem to be safe. Only one case of a man feeling sick was reported in the four studies we found.

If you think you may have an enlarged prostate, make sure you see your doctor before you start using rye grass pollen. Your doctor will check your symptoms to make sure they aren't being caused by a more serious condition, such as prostate cancer.

Even if you've already been diagnosed with an enlarged prostate, it's still a good idea to talk to your doctor before you start using a herbal treatment.

How good is the research on rye grass pollen extracts?

There hasn't been much research on rye grass pollen extracts. We found one review that looked at two studies involving 163 men. This review suggested that rye grass pollen can improve the symptoms of an enlarged prostate. But the studies were short (the longest was 24 weeks) and not very high quality. ^[75]

Pygeum africanum

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[How good is the research on Pygeum africanum?](#)

This information is for men who have an enlarged prostate. It tells you about *Pygeum africanum*, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Prostate, enlarged

Does it work?

We don't know if *Pygeum africanum* can help the symptoms of an enlarged prostate. It has been used in Europe for more than 30 years. But we need more good research to say whether it helps or not.

What is it?

Pygeum africanum is an extract from the bark of the African prune tree. You usually take it as a tablet. It's often sold with other herbs that are thought to help the prostate, such as [saw palmetto](#) .

It's usually sold in doses of 50 to 100 milligrams taken twice a day. You can also take it as a liquid.

How can it help?

It's not clear if *Pygeum africanum* can help prostate symptoms. The research isn't very good.

Taking *Pygeum africanum* may: ^[76]

- Make your urine stream stronger
- Help you empty your bladder better so urine doesn't get left behind after you've urinated
- Reduce the number of times you have to get up at night to urinate.

But there's no research to tell us if it is any better than the drugs that are usually prescribed for an enlarged prostate.

There's also no research on whether it can reduce your risk of suddenly being unable to urinate (acute urinary retention) or needing an operation to remove your prostate.

How does it work?

The bark may reduce the inflammation that can happen when your prostate is enlarged. This may make your urine stream stronger. It also seems to reduce the amount of urine left in the bladder after you've urinated. This means it may help the bladder empty better.

Can it be harmful?

You should always talk to your doctor before taking *Pygeum africanum*.

Keep it away from pregnant women and children, as it may be harmful for them.

The most common side effects are feeling sick and stomach pain.

Prostate, enlarged

In the studies we looked at, only 7 out of about 200 men taking this supplement stopped taking it because of side effects.

How good is the research on *Pygeum africanum*?

There's some evidence from a [review](#) of 18 studies that the herb *Pygeum africanum* can improve the symptoms of an enlarged prostate. It can also make your flow of urine stronger. ^[76] But the studies only followed men for 16 weeks, and different kinds of preparations were used in the studies. This makes it hard to give clear findings from the studies. We need longer studies to know whether this treatment keeps on working and whether there are any side effects.

Saw palmetto plant extracts

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[How good is the research on saw palmetto plant extracts?](#)

This information is for men who have an enlarged prostate. It tells you about saw palmetto plant extracts, a treatment used for an enlarged prostate. It is based on the best and most up-to-date research.

Do they work?

Probably not. In big, good-quality studies, men taking saw palmetto were no more likely to see an improvement in their symptoms than men taking a dummy ([placebo](#)) drug. ^[62]
^[77]

Saw palmetto is one of several herbal products that are used for the prostate.

What are they?

Saw palmetto extracts come from the American dwarf palm tree (its Latin name is *Serenoa repens*). This plant has been used for hundreds of years by Native Americans, both as a food and to treat sexual and prostate problems.

There's been a lot of interest in this plant. Saw palmetto is one of the most popular herbal product for treating an enlarged prostate. You can buy it from health food shops and pharmacies without a prescription.

There are many different products that contain extracts from the saw palmetto plant. It's best to choose one that contains a pure extract of saw palmetto.

Some saw palmetto products also contain zinc and other ingredients that are marketed as being good for your prostate health. However, the effects of these ingredients on the prostate have never been studied.

Prostate, enlarged

If you decide to try saw palmetto, make sure you buy from a reputable source. Also, saw palmetto is not cheap, so beware of products that market themselves as low-cost versions. These products may not contain the berry extract that provides the active ingredients.

If you think you may have an enlarged prostate, you should see your doctor before you start using saw palmetto. Your doctor will check your symptoms to make sure they aren't being caused by a more serious condition, such as [prostate cancer](#) .

Even if you've already been diagnosed with an enlarged prostate, it's still a good idea to talk to your doctor before you start using a herbal treatment.

How can they help?

Early studies into this herb suggested men taking saw palmetto had an improvement in urinary symptoms. ^[76] But now there have been many more studies, including thousands more men. When researchers combined the results from all these studies, they found that men taking saw palmetto did no better than men taking a dummy (placebo) drug. ^[77]

Overall, men taking saw palmetto were slightly less likely to need to get up at night to urinate. But when the researchers looked at just the biggest, best-quality studies, this difference disappeared.

How do they work?

Like medicines called [alpha-blockers](#) , saw palmetto may relax the muscles around your bladder and reduce your blood pressure . And like a medicine called finasteride (a [5-alpha-reductase inhibitor](#)), it may stop hormones from making your prostate grow. Saw palmetto may also stop the irritation and swelling that could be enlarging your prostate.

But more recent studies suggest it doesn't really work. ^[77]

Can they be harmful?

Saw palmetto extracts seem to be safe and to have only mild side effects, such as dizziness, queasiness, and headaches.

You may get difficulty having an erection, but this problem is much less likely with saw palmetto than with the [alpha-blocker](#) tamsulosin or the [5-alpha-reductase inhibitor](#) finasteride. ^[78]

You should talk to your doctor before taking saw palmetto.

How good is the research on saw palmetto plant extracts?

There have been lots of good studies that have looked at whether saw palmetto helps the symptoms of an enlarged prostate. A large review of the research looked at 32 high-quality studies of more than 5,000 men with enlarged prostates who took either saw

palmetto or a dummy treatment (a placebo). These studies all found that saw palmetto doesn't help much. ^[77]

Transurethral holmium laser enucleation of the prostate (HoLEP)

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[How good is the research on transurethral holmium laser enucleation of the prostate \(HoLEP\)?](#)

This information is for men who have an enlarged prostate. It tells you about transurethral holmium laser enucleation of the prostate (HoLEP), a type of surgery used for an enlarged prostate. It is based on the best and most up-to-date research.

Does it work?

Your symptoms are likely to improve if you have transurethral holmium laser enucleation of the prostate (HoLEP). HoLEP may work as well as the standard operation for an enlarged prostate, called a [transurethral resection of the prostate \(TURP\)](#).

What is it?

Transurethral holmium laser enucleation of the prostate (HoLEP) is a type of surgery that uses a laser, which produces intense heat in a small area.

A small laser will be put into the opening in your penis and up the tube that carries your urine from your bladder and out of your body (your urethra). When the laser reaches your prostate, it's used to cut away some of the prostate tissue.

HoLEP requires expensive equipment and extra training for doctors. So it may not be as widely available as other types of surgery for an enlarged prostate.

How can it help?

HoLEP can help your symptoms and make it easier for you to urinate. ^[70]

Research suggests it may help symptoms as much as the traditional surgery for an enlarged prostate ([transurethral resection of the prostate](#), TURP). It may also improve the flow of urine slightly better than TURP. HoLEP also seems to improve symptoms as much as another operation called [transurethral vapourisation of the prostate \(TUVAP\)](#). ^[70]

How does it work?

The laser makes heat that destroys part of your prostate. This should stop it pressing against your bladder and urethra and causing problems when you urinate.

Can it be harmful?

Some men have problems after HoLEP, including difficulty urinating, erection problems, and dry climax (little or no fluid comes out of their penis when they have an orgasm). These problems may also happen with TURP and other types of surgery for an enlarged prostate. However, HoLEP is less likely than TURP to cause heavy bleeding requiring a [blood transfusion](#). Men having HoLEP may also need to stay in hospital for a shorter time than those having TURP. ^[70]

How good is the research on transurethral holmium laser enucleation of the prostate (HoLEP)?

There is fairly good research on transurethral holmium laser enucleation of the prostate (HoLEP). ^[79]

We found a [review](#) of the research that looked at six studies. It found that HoLEP improved symptoms of an enlarged prostate.

Transurethral vaporisation of the prostate (TUVP)

In this section

[Does it work?](#)

[What is it?](#)

[How can it help?](#)

[How does it work?](#)

[Can it be harmful?](#)

[How good is the research on transurethral vaporisation of the prostate \(TUVP\)?](#)

This information is for men who have an enlarged prostate. It tells you about transurethral vaporisation of the prostate (TUVP), a type of surgery used for an enlarged prostate. It is based on the best and most up-to-date research.

Does it work?

Your symptoms are likely to improve if you have transurethral vaporisation of the prostate (TUVP). TUVP may work as well as the standard operation for an enlarged prostate, called a [transurethral resection of the prostate \(TURP\)](#).

What is it?

This operation uses a high-energy electric current to destroy prostate tissue.

An instrument is put into the opening in your penis and up your [urethra](#) to your prostate. This instrument is moved over the surface of your prostate. It uses an electrode (a device that carries an electric current) to heat the tissue and burn it away. This current also seals the blood vessels and stops bleeding.

How can it help?

TUVP can help your symptoms and make it easier for you to urinate. ^[79]

Prostate, enlarged

Research suggests it may help symptoms as much as the traditional surgery for an enlarged prostate ([transurethral resection of the prostate](#) , TURP), and these benefits may last for at least five years. It also seems to improve the flow of urine as well as TURP. ^[70]

TUVP may also improve symptoms as much as another operation called [transurethral holmium laser enucleation of the prostate \(HoLEP\)](#) . ^[70]

How does it work?

The electric current makes heat that destroys part of your prostate. This should stop it pressing against your bladder and urethra and causing problems when you urinate.

Can it be harmful?

Some men have problems after TUVP, including difficulty urinating, erection problems, and dry climax (little or no fluid comes out of their penis when they have an orgasm). These problems may also happen with TURP and other types of surgery for an enlarged prostate. However, TUVP is less likely than TURP to cause heavy bleeding requiring a blood transfusion . ^[70]

How good is the research on transurethral vaporisation of the prostate (TUVP)?

There is fairly good research on transurethral vaporisation of the prostate (TUVP). ^[70]

We found a [review](#) of the research that looked at several studies. It found that TUVP improved symptoms of enlarged prostate and helped urine flow.

Transurethral incision of the prostate (TUIP)

In this section

This information is for men who have an enlarged prostate. It tells you about transurethral incision of the prostate (TUIP), a type of surgery used for an enlarged prostate.

We haven't looked at the research on transurethral incision of the prostate (TUIP) in as much detail as we've looked at the research on most of the treatments we cover. (To read more, see Our Method.) But we've included some information because you may have heard of it or be interested in it.

Transurethral incision of the prostate (TUIP) is a newer operation to help the symptoms of an enlarged prostate. It involves an instrument called a resectoscope being put into your penis and up your urethra. The resectoscope makes one or two small cuts in your prostate at the area where it meets your bladder. These cuts reduce the pressure on the opening of your bladder and make it easier for you to urinate.

TUIP is usually used to treat less enlarged prostates.

Prostate, enlarged

TUIP may help your symptoms and make it easier for you to urinate. But we don't know how long the benefits last and how it compares with the standard surgery for an enlarged prostate, an operation called a [transurethral resection of the prostate \(TURP\)](#). ^[80] ^[70]

However, we do know that TUIP is a less serious operation than TURP, which involves removing part of the prostate. This may mean it's less likely to cause problems, such as heavy bleeding requiring a [blood transfusion](#). You may also be less likely to have dry climax, where little or no fluid comes out of your penis when you have an orgasm. ^[80]

Open prostatectomy

In this section

This information is for men who have an enlarged prostate. It tells you about open prostatectomy, a type of surgery used for an enlarged prostate.

We haven't looked at the research on open prostatectomy in as much detail as we've looked at the research on most of the treatments we cover. (To read more, see Our Method.) But we've included some information because you may have heard of it or be interested in it.

An open prostatectomy is an operation that removes most of your prostate through a cut in your lower belly, leaving behind the prostate's covering (its capsule). It is a more serious operation than other types of surgery for an enlarged prostate, which are done by putting instruments into your penis and up your [urethra](#), rather than making cuts in your body.

Open prostatectomy may provide long-term relief to your prostate symptoms. But it is usually offered only to men who have very large prostates (weighing 60 grams or larger). ^[20]

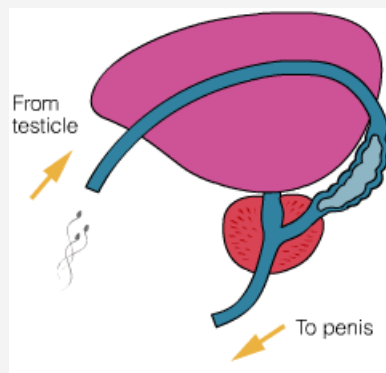
All major surgeries have risks, including heavy bleeding, breathing problems, and infection. After an open prostatectomy, some men also have other problems, such as difficulty controlling their flow of urine (incontinence), erection problems, and dry climax, where little or no fluid comes out of their penis when they have an orgasm.

Further informations:

More about what the prostate does

Your prostate is part of your reproductive system (the parts of your body that enable you to have sex). The fluid from your prostate helps keep your sperm healthy and allows them to swim freely.

Prostate, enlarged



Sperm travel from each testicle and through the prostate, where they pick up fluid before exiting through the penis.

To help your sperm swim, your prostate has to make and release its fluid at the right time during sexual activity. When you become excited during sex, sperm travel from your testicles through a series of tubes to the part of your urethra that your prostate is wrapped around. On the way, your sperm collect some jelly-like liquid from your seminal vesicles and then travel through your prostate in your ejaculatory duct .

As the sperm arrive in your urethra, nerves in your prostate trigger the muscle here to tighten (contract). As the muscle tightens, it squeezes the tubes in your prostate, so that they pump out fluid into your urethra where it mixes with the sperm to become semen. This flows out of your body through your penis when you ejaculate.

Your prostate fluid contains nutrients, such as sugar and calcium, which help keep your sperm healthy. It also makes a substance that doctors call **prostate-specific antigen**, or PSA. PSA helps your semen stay liquid, so your sperm can swim freely.

When something goes wrong with your prostate, large amounts of PSA enter your bloodstream. An enlarged prostate can cause high levels of PSA, and so can prostate cancer. If there is cancer in your prostate, this can make PSA leak into your bloodstream. A blood test to check how much PSA is in your blood can show your chances of having prostate cancer. ^[5] You may have heard of this test, or had it already. To read more about it, see [Tests to check your prostate health](#) .

Tests to check your prostate health

The symptoms of an enlarged prostate can look like the symptoms of more serious conditions, such as [prostate cancer](#) . Your doctor may do some, or all, of these tests to find out for certain what's causing your symptoms. But for some of them you will need to see a specialist in hospital.

Medical history

Your doctor may ask you general questions about your health and past illnesses, operations, or treatments you've had (doctors call this your 'medical history'). Your doctor

Prostate, enlarged

may then ask you about any problems you're having urinating, such as a weak stream of urine or having to get up at night to go to the toilet.

Your doctor will also ask you about any drugs you are taking, both prescriptions and over-the-counter drugs. This is because some drugs (such as [antidepressants](#)) can affect the way your bladder works. Next, your doctor will probably do a physical examination of your prostate. This is called a digital rectal examination (DRE).

Digital rectal examination (DRE)

Because your prostate is inside your body, your doctor can't see it. But he or she can feel it by putting a gloved and lubricated finger into your back passage (rectum). Your doctor can feel if your prostate is enlarged, has lumps on it, or feels strange in some other way. Your doctor should be able to feel lumps that are bigger than half an inch (around 1.5 centimetres). However, smaller lumps are easy to miss.

This exam can be a little bit uncomfortable, and some men find it embarrassing. But it's not usually painful and only takes a few minutes. Your doctor may also feel the lower part of your stomach to see if he or she can feel your bladder. If your doctor can feel your bladder, it may not be emptying properly.

Prostate-specific antigen (PSA) blood test

This test measures the amount of a substance called prostate-specific antigen, or PSA, in your blood. Your test results will show your level of PSA in a measurement of nanograms (ng) per millilitre (mL) of blood.

Your prostate makes PSA to keep your semen in a liquid state. (Semen is the name given to your sperm and the fluid they are carried in.) When cancer is present, more PSA may seep from your prostate into your blood. But you can also have a high level of PSA if you have an enlarged prostate.

There are a lot of unanswered questions about PSA testing. When it's used with a digital rectal examination, it can help detect prostate cancer. But it cannot tell you for certain if you have cancer. It can only tell you what your chances of having it are.

For example, most men have a PSA level under 4 nanograms per millilitre of blood. If your level is above 4, but less than 10, your chances of having prostate cancer are about 1 in 4. The higher your PSA level is, the greater your chances of having prostate cancer. If your level goes above 10, your chances of having prostate cancer are more than 1 in 2.

But there are many problems with the test. For example, PSA levels go up naturally as you get older, even if your prostate is normal. And other things, such as sexual activity, can also push it up. So the results of PSA tests are not always clear. If your PSA level is raised, your doctor may advise you to have other tests to find out what has made it go up.

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Another problem is that doctors don't always know what to do if they find a high PSA level. We don't know if finding and treating prostate cancer early will improve your chances of surviving it.^[6] The research isn't clear. Also, some tumours that are found by a PSA test are not a problem. They do not cause any symptoms or health problems if they're left just where they are and are never treated.

Urine and blood tests

You will be asked to urinate into a container and this sample will then be checked for infection or blood. Having an infection can cause you to need to urinate a lot, just like BPH can. Blood in the urine (called **haematuria**) can be a sign of bladder cancer, but it's also common in men with an enlarged prostate. If you have blood in your urine, you should see a urologist. A urologist is a doctor who deals with the male sex organs and the urinary tract (the tubes that carry urine from your bladder to outside your body) in men and women.

Your doctor may also test your urine or your blood to see how much **creatinine** it contains. Creatinine is a protein that's made naturally by your body. The amount of creatinine in your urine or blood shows how your kidneys are working. Your kidneys get rid of waste products from your blood and make urine. If you have symptoms of an enlarged prostate, your chances of having kidney problems are slightly raised.^[7] Although these problems are rare, your doctor will want to catch any problems early.

Prostate biopsy

This is the main test doctors use to find out for certain whether you have prostate cancer. Your doctor will use a special needle to remove tiny bits from your prostate. The needle is either gently pushed through the wall of your back passage into your prostate, or put into the skin between your scrotum (the sac that holds your testicles) and your anus (the opening with which you empty your bowels).

The needle is guided by a special device called an **ultrasound probe**. A biopsy is not usually painful, but you may feel a sharp prick, even if you are given a local anaesthetic (painkiller) to numb the area. Your doctor will give you antibiotics to prevent you getting an infection after the test.

A doctor then looks at the tissue from the biopsy under a microscope. If cancer cells are present, the more abnormal these cells look compared with healthy prostate cells, the more aggressive and likely to spread the cancer may be.

Peak or maximum urinary flow rate test

This test measures how quickly or slowly you are passing urine. All you have to do is urinate into a special device. You then get a score, called a **Qmax rating**, which tells you the fastest speed that your urine flows. A low Qmax rating suggests your urine flow is restricted and you may have an enlarged prostate.

Prostate, enlarged

Post-void residual test

This test measures the amount of urine left in your bladder after you've finished urinating. The test is very straightforward and painless. After you've passed urine, a scanner is passed over your lower abdomen where your bladder is. If the scanner shows there's urine left in your bladder, it may mean you have an enlarged prostate. You may also be at higher risk of getting an infection in your bladder.

Pressure-flow test

This test measures the force (or pressure) in your bladder when you urinate. It's used to see if there's any blockage in your bladder. A small tube is inserted into your bladder through your penis to measure the pressure. This can be uncomfortable, which is why this test is usually used only in patients who can't be diagnosed with other tests.

Ultrasound scan

Your doctor may recommend that you have an ultrasound scan of your lower body. This is similar to the scan given to pregnant women to see images of their developing baby. The ultrasound can show if your prostate gland is enlarged or abnormal, and whether any urine is left in your bladder after you've urinated. The scan is not painful or unpleasant.

Transrectal ultrasound scan (TRUS)

For this test, a special probe is put into your back passage. The probe is a solid rod about the size of a finger with an ultrasound device at the end. It creates pictures of your prostate and the surrounding area. If your doctor thinks there is a chance you have cancer, a small sample of tissue may also be taken during the scan. Your doctor will then look at this tissue under a microscope to see if it contains any cancer cells.

Complications of an enlarged prostate

If you have an enlarged prostate, you may get one or more of the following complications. You're more likely to get complications if your symptoms are bad to begin with and you've had them for a long time.

Some treatments for an enlarged prostate can reduce your chances of getting complications, but they don't prevent them altogether.

Urinary tract infections

Your **urinary tract** is the system of tubes that carry urine from your bladder out of your body. Your urinary tract can become infected when germs called bacteria travel up your urethra (the tube that carries urine out of your penis) and into your bladder. The bacteria can breed and make your urethra or the lining of your bladder swell up. Your doctor may call this **cystitis**.

Prostate, enlarged

If you have a urinary tract infection, you will probably feel like you need to urinate urgently and often. You may also have a burning feeling when you urinate and a pain in your lower abdomen where your bladder is. You could also have a mild fever and feel generally unwell. Urinary tract infections are easily treated with **antibiotics** (drugs that kill bacteria), but they can sometimes spread to your kidneys and make you more likely to get these infections in the future. This is why it's important to get checked out by your doctor.

Bladder stones

If your bladder doesn't empty properly or you keep getting urinary tract infections, you may get bladder stones. These are usually between 1.5 mm (one sixteenth of an inch) and 18 mm (three-quarters of an inch) across, although they can grow much bigger. They're made from minerals in your urine, usually calcium, that form crystals when your urine stands still.

You may not notice if you've got very small stones, but larger stones can irritate the lining of your bladder. You may get a lot of pain when you urinate, and you may have to go to the toilet more often than usual. You may also have blood in your urine or problems urinating. If you get any of these symptoms, see your doctor straight away. If bladder stones are not treated, they can damage the muscles in your bladder wall. This may make you unable to control the flow of urine from your body (this is called **incontinence**).

Kidney failure

The kidneys get rid of waste products from your blood and make urine. If your kidneys are damaged because your prostate has become so big that you can't pass urine properly, then kidney failure can occur. We're not exactly sure how many men with an enlarged prostate get kidney failure because there are no published numbers, but it's probably not very many.

In kidney failure, waste and water from your body are not filtered out very well, and they start to build up in your body and your blood. To treat kidney failure, doctors try to slow down the damage and return your body's balance of fluids to normal. If the damage continues, your blood may need to be cleaned by a machine that does the job of your kidneys. This is called **dialysis**.

Acute urinary retention (AUR)

Every year, 1 or 2 in every 100 men with an enlarged prostate suddenly become unable to urinate at all. This is called acute urinary retention.^{[8] [9] [10]} Your chance of getting this complication goes up as you get older. Nearly 1 in 10 men in their 70s who have an enlarged prostate will have an episode of acute urinary retention.^[9]

Acute urinary retention is unpleasant and painful. It's an emergency. You may be admitted to hospital. A tube called a catheter will be put into your bladder through your penis to drain off the urine.

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Afterwards, you'll probably have surgery to relieve the blockage.^[11] You may have an operation called a **transurethral resection of the prostate** (TURP for short). This is when some of your prostate tissue is cut out using a wire passed through your urethra (the tube that carries urine out of your penis). See [transurethral resection of the prostate \(TURP\)](#) for more information.

Getting treatment for your enlarged prostate can help prevent acute urinary retention. For example, men with an enlarged prostate can cut their risk of this complication by more than half if they use a drug called finasteride for a long period.^[10] For more information, see [What treatments work for an enlarged prostate?](#)

What can I do to help my symptoms?

Some men with an enlarged prostate have found that they can make their symptoms better by doing certain things. The following tips have not been tested in research studies, but they may help you control your symptoms.

- Avoid drinking large amounts of liquid at any one time.
- Avoid drinks altogether before going to bed.
- Reduce the amount of alcohol you drink (alcohol can stimulate your bladder).
- Cut back on coffee, tea, cola, or any other drinks that contain caffeine (caffeine can stimulate your bladder).
- Check any medicines you are taking. Some antidepressants (drugs used for depression) and antihistamines (drugs used for allergies) can make your problems with urinating worse. But don't stop taking any medicines you are prescribed before discussing it with your doctor.

Some studies suggest that herbal supplements may help reduce the symptoms of an enlarged prostate. These supplements include [saw palmetto plant extracts](#) , [beta-sitosterol plant extracts](#) , and [rye grass pollen extracts](#) . They are all available without a prescription. To read more, see [What treatments work for an enlarged prostate?](#)

See your doctor as soon as you notice changes in how you urinate. This may help to prevent long-term bladder damage.^[16]

How your doctor may measure your symptoms

If you have an enlarged prostate, your doctor may use a questionnaire to measure your symptoms. One of the most common questionnaires is called the International Prostate Symptom Score (IPSS) questionnaire.

This questionnaire has seven questions that ask you to rate how bad your symptoms are.^[17] Your answers are used to calculate what's called your 'symptoms score'. There is also an eighth question about how your symptoms affect your life.

To calculate your symptoms score, answer the following questions using this scale.

- 0 = not at all
- 1 = less than 1 time in 5
- 2 = less than half of the time
- 3 = about half of the time
- 4 = more than half of the time
- 5 = almost always

During the last month or so:

- How often do you feel that you haven't emptied your bladder completely after urinating?
- How often have you had to urinate again less than two hours after you last urinated?
- How often have you stopped and started several times while urinating?
- How often have you found it difficult to put off urinating?
- How often have you had a weak stream of urine?
- How often have you had to push or strain to begin urinating?
- How many times during each night did you typically have to get up to urinate? (*This question uses a slightly different scale: 0 = none, 1 = one time, 2 = two times, 3 = three times, 4 = four times, and 5 = five times or more.*)

To work out your symptom score, add together your responses to each question. Your score can range from 0 to 35. Here's what the scores mean.^[17]

Prostate, enlarged

- 0 to 7: Your symptoms are mild.
- 8 to 19: Your symptoms are moderate.
- 20 to 35: Your symptoms are severe.

There is also a final question about whether your symptoms are affecting your life:

- If you were to spend the rest of your life with your urinary condition the way it is now, how would you feel about that? (*You answer this question using a six-point scale, where 0 = delighted and 6 = terrible.*)

This last question is used to find out how you feel about your symptoms. Some men may have a high symptom score but not be bothered by their symptoms. Others may find they can't put up with even mild symptoms. This factor helps you and your doctor decide whether you need treatment.

The International Prostate Symptom Score (IPSS) is a standard questionnaire used around the world. The 'quality of life' question was added by the World Health Organization.

TURP: the operation

A transurethral resection of the prostate (TURP) usually takes between half an hour and an hour. It depends on how much of the prostate needs to be removed.

You'll be given either a drug that makes you sleep (a general anaesthetic) or an injection into your spine (an epidural). If you have an epidural, the lower part of your body will be numb. You won't be able to see the operation, but you will be able to hear what's going on. Usually a nurse or the anaesthetist will talk to you during the operation.

A surgeon will put a thin tube into the opening of your penis and up your urethra to your prostate. (Your urethra is the tube that carries urine from your bladder to the outside.) The tube the surgeon puts in has a light and a tiny camera on the end. It also has a tiny loop attached to it.

The loop is heated with an electric current and used to cut away the part of your prostate that's blocking your urine. The pieces of prostate are flushed down the tube with water. A thin, flexible tube called a catheter is put into your urethra to drain your urine (and any bits of prostate that haven't come out yet) into a jar or bag by your bed.

The doctor may flush fluid through the catheter into your bladder to help clear any blood clots. The fluid then drains away with your urine. Men say this flushing feels as though their bladder is constantly full.

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You won't need stitches or dressings after the operation. The catheter usually stays in place for two or three days. You may feel mild discomfort, and you may notice some blood in your urine for days or weeks. Also, you won't be able to urinate properly straight after the operation because your urethra will be sore and swollen.

After your operation you'll feel a bit sore and tired. Painkillers will usually help with any pain you have. If these don't work, it's important to tell the nurse, as being in pain may slow down your recovery. You may need a higher dose or a different type of painkiller.

You'll need to stay in hospital until the catheter draining your urine is removed. This is usually in about two or three days. You may notice that urine flows faster straight away. But it may take awhile before you can urinate normally again.

TURP is usually used if your symptoms are causing you a lot of trouble and drug treatments haven't helped. The surgery is also used if you have an enlarged prostate and suddenly can't urinate at all (this is called **acute urinary retention**, and it requires emergency treatment).

If you have mild or moderate symptoms, or if your symptoms don't bother you much, you may not have much to gain from this operation. Even if your symptoms are severe, you can choose to put off surgery and wait to see what happens. This is called **watchful waiting** or **active monitoring**. Your symptoms probably won't improve, but they may not get any worse either. ^[21]

The operation has risks, and it can lead to problems after surgery as well as difficulties during sex. Some men feel that the risks of TURP aren't worth the improved symptoms.

There are also lots of new types of surgery that are less risky and less serious than TURP. These include [transurethral incision of the prostate \(TUIP\)](#) and [transurethral electrovaporisation of the prostate \(TUVP\)](#). They may reduce your risk of heavy bleeding after the operation. But doctors don't know whether the benefits of these newer operations will last as long as the benefits of TURP.

To find out more about what happens during the operation, see [Transurethral resection of the prostate \(TURP\)](#) in our section on operations and tests.

Dry climax after TURP

About 7 in 10 men get what's called **retrograde ejaculation** or **dry climax** after a [transurethral resection of the prostate](#) (TURP). ^[22] ^[23] ^[24] This means that when they orgasm, no semen, or much less than they produced before the operation, comes out of their penis. (Semen is the name given to your sperm and the fluid they are carried in.)

Dry climax happens when the ring of muscle in your prostate is damaged during surgery. Because of this damage, semen passes up into your **bladder** during orgasm instead of out of your penis. This isn't harmful. The semen is flushed out the next time you urinate.

Prostate, enlarged

If you have dry climax, you'll still be able to get erections and you'll still have the feeling of ejaculation during sex. So you should be able to enjoy sex as you did before the operation. However, you'll be unlikely to father children through sexual intercourse. If you want to have children, you should tell your doctor before the operation. This way, you can consider having your sperm samples frozen and stored in a sperm bank.

Many men say they get used to dry climax. Although their orgasms may feel slightly different, they still provide pleasure. But some men find it devastating to have their sex life affected in this way. Your doctor or surgeon can tell you more about dry climax before you have the surgery, so that you can think about how it might affect you.

Other sexual problems after TURP

[Transurethral resection of the prostate](#) (TURP) has been reported to cause erection problems, but recent studies don't back this up.

In one well-conducted study (called a [randomised controlled trial](#)), men who had the surgery didn't get more erection problems than men who were treated with watchful waiting (also known as active monitoring).^{[24] [25]} (Watchful waiting is when you wait to see what happens rather than having a treatment.)

Changes in your erections and sex drive may be caused by normal ageing or how you feel about yourself after surgery.^[26] There are several treatments available to help sexual problems. You can talk to your doctor to learn about your options.

Loss of control over your urine flow after TURP

The research is mixed on whether [transurethral resection of the prostate](#) (TURP) causes incontinence. Being incontinent means not being able to control the flow of urine from your bladder .

One good-quality study (called a [randomised controlled trial](#)) of more than 550 men compared men who had TURP with men who didn't. It didn't find that incontinence was more common in men who had the surgery.^{[24] [25]}

But other studies have found that about 1 in 50 men can't hold onto their urine after TURP.^[22]

You may become incontinent if the ring of muscle (sphincter) in your bladder is damaged during the operation.

TURP syndrome

TURP syndrome occasionally affects men who have a [transurethral resection of the prostate](#) (TURP). It is most common among men whose operations last more than an hour, affecting about 2 men in 100.^[22] It can last around six hours after surgery. TURP syndrome can make you slightly confused or queasy, or make you vomit. It can also raise your blood pressure or cause problems with your sight.

These problems are triggered by your body absorbing fluid that's used to wash away the bits of prostate removed during surgery. The syndrome is easily treated with drugs called diuretics. These help the body get rid of extra water.

Need for another operation after TURP

About 1 in 100 men who have a [transurethral resection of the prostate](#) (TURP) need another one in the future.^[27] Sometimes the tube that carries urine from the bladder (the urethra) becomes narrowed and needs stretching in another operation.

Glossary:

general anaesthetic

You may have a type of medicine called a general anaesthetic when you have surgery. It is given to make you unconscious so you don't feel pain when you have surgery.

gland

A gland is any group of cells in the body that makes and releases something for use by another part of the body. For example, the thyroid gland makes a hormone called thyroxine. This acts on receptors within cells. By acting on the receptors it gives the cells a message to speed up their metabolism and work harder.

rectum

The rectum is the last 15 to 20 centimetres (six to eight inches) of the large intestine, ending with the anus (where you empty your bowels from).

hormones

Hormones are chemicals that are made in certain parts of the body. They travel through the bloodstream and have an effect on other parts of the body. For example, the female sex hormone oestrogen is made in a woman's ovaries. Oestrogen has many different effects on a woman's body. It makes the breasts grow at puberty and helps control periods. It is also needed to get pregnant.

urethra

Your urethra is the tube that carries urine from your bladder out of your body. In a man, the urethra runs through the inside of the penis. In a woman, the urethra is shorter and opens onto the top of the vagina.

bladder

Your bladder is the hollow organ at the top of your pelvis that stores urine. It is similar to a balloon, only with stronger walls. It fills up with urine until you go to the toilet.

cystitis

Cystitis is inflammation of your bladder. It can make you feel as if you want to urinate all the time. The term is often used to describe a urinary tract infection that involves your lower urinary tract (your bladder and urethra) but not your kidneys. These infections are most often caused by bacteria.

seminal vesicles

The seminal vesicles are two glands that sit on either side of the prostate. These glands make some of the fluid that comes out when men ejaculate (push out semen from their penis).

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ejaculatory duct

The ejaculatory duct is a passage that carries fluid from the seminal vesicles to the penis, where the fluid joins the sperm to make semen. The duct runs through the prostate.

ultrasound probe

Ultrasound is a technique doctors use to create images of the organs in your body. An ultrasound probe is a device that lets the ultrasound machine focus on an area of your body. The ultrasound machine can then send out high-frequency sound waves, which reflect off parts of your body to create a picture.

bacteria

Bacteria are tiny organisms. There are lots of different types. Some are harmful and can cause disease. But some bacteria live in your body without causing any harm.

diabetes

Diabetes is a condition that causes too much sugar (glucose) to circulate in the blood. It happens when the body stops making a hormone called insulin (type 1 diabetes) or when insulin stops working (type 2 diabetes).

epidural

Layers of tissue cover your brain and spinal cord. The epidural space is the space between two of these layers. Before surgery or a procedure, you may be given pain medicine in the epidural space of your spinal cord. You'll have no feeling in your body below where the medicine was injected.

blood clot

A blood clot forms when the cells in blood clump together. Sometimes this happens to stop you from bleeding if you've had an injury. But it can also happen on the inside of your blood vessels, even when you haven't had an injury. A blood clot inside a blood vessel is called a thrombus.

randomised controlled trials

Randomised controlled trials are medical studies designed to test whether a treatment works. Patients are split into groups. One group is given the treatment being tested (for example, an antidepressant drug) while another group (called the comparison or control group) is given an alternative treatment. This could be a different type of drug or a dummy treatment (a placebo). Researchers then compare the effects of the different treatments.

blood pressure

Blood pressure is the amount of force that's exerted by your blood on to your blood vessels. You can think of it like the water pressure in your home: the more pressure you have, the faster and more forcefully the water flows out of the shower. Blood pressure is measured in millimetres of mercury (written as mm Hg). When your blood pressure is taken, the measurement is given as two numbers, for example 120/80 mm Hg. The first, higher, number is called the systolic pressure, and the second, lower, number is the diastolic pressure. The systolic number is the highest pressure that occurs while your heart is pushing blood into your arteries. The diastolic number is the lowest pressure that happens when your heart is relaxing and is not pushing your blood.

diuretics

Diuretics are a type of medicine that reduce the amount of fluid in your body. The extra fluid is removed in your urine.

high blood pressure

Your blood pressure is considered to be high when it is above the accepted normal range. The usual limit for normal blood pressure is 140/90. If either the first (systolic) number is above 140 or the lower (diastolic) number is above 90, a person is considered to have high blood pressure. Doctors sometimes call high blood pressure 'hypertension'.

systematic reviews

A systematic review is a thorough look through published research on a particular topic. Only studies that have been carried out to a high standard are included. A systematic review may or may not include a meta-analysis, which is when the results from individual studies are put together.

meta-analysis

A meta-analysis puts together the results of a number of studies. A meta-analysis is used if individual studies are too small for any definite conclusions to be drawn about a treatment. Pooling together results from a number of studies may help say for sure what the effects of the treatment are.

enzymes

Enzymes are chemicals in your body. They have lots of different functions, including playing a part in helping to digest food and starting other chemical reactions that keep the body working.

testosterone

Testosterone is a sex hormone. When boys go through puberty, testosterone causes the development of male characteristics like a deep voice and a muscular body. Testosterone is also known to affect men's sex drive and mood. Although testosterone is thought of as a 'male hormone', women also make testosterone (although they make much less of it than men).

placebo

Prostate, enlarged

A placebo is a 'pretend' or dummy treatment that contains no active substances. A placebo is often given to half the people taking part in medical research trials, for comparison with the 'real' treatment. It is made to look and taste identical to the drug treatment being tested, so that people in the studies do not know if they are getting the placebo or the 'real' treatment. Researchers often talk about the 'placebo effect'. This is where patients feel better after having a placebo treatment because they expect to feel better. Tests may indicate that they actually are better. In the same way, people can also get side effects after having a placebo treatment. Drug treatments can also have a 'placebo effect'. This is why, to get a true picture of how well a drug works, it is important to compare it against a placebo treatment.

cystoscope

A cystoscope is a thin tube that carries a tiny camera. Doctors use it to see inside the urethra and bladder.

inflammation

Inflammation is when your skin or some other part of your body becomes red, swollen, hot, and sore. Inflammation happens because your body is trying to protect you from germs, from something that's in your body and could harm you (like a splinter) or from things that cause allergies (these things are called allergens). Inflammation is one of the ways in which your body heals an infection or an injury.

blood transfusion

If you've lost too much blood from your body, you may need a blood transfusion to replace it. People with diseases of their blood, like sickle cell anaemia, sometimes need blood transfusions to replace blood that doesn't work properly.

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