

Patient information from the BMJ Group

Varicocele

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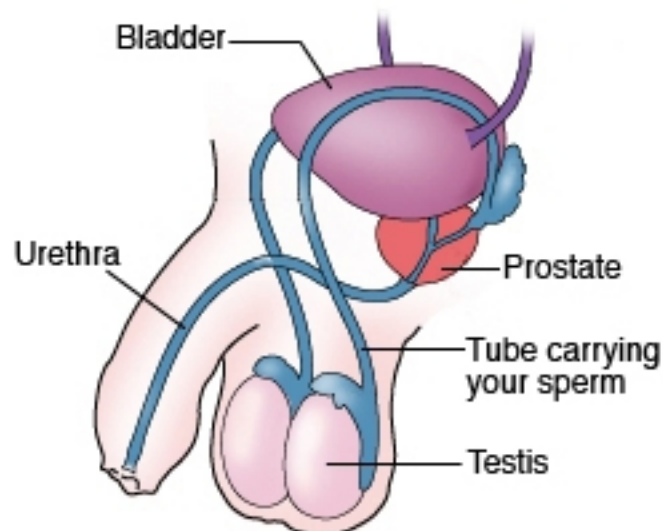
Varicocele

A varicocele is a soft lump in your testicles caused by swollen veins. It's usually harmless. But some doctors think that a varicocele could make it harder for you to have children. There are several treatments that can close off the swollen veins.

We've brought together the best research about varicocele 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 a varicocele?

A varicocele is a soft lump in your testicles caused by swelling of some of the veins. It probably won't give you any problems, but you might not like the way it looks. Some men find it makes their testicles ache. A varicocele might make it more difficult for you to have children.



A varicocele happens when some of the veins around the tube from your testicles get swollen with blood

Sperm is carried to your penis through a tube from your testicles.

The tube is surrounded by lots of small veins.

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A varicocele happens when some of these veins get swollen with blood. ^[1]

Your veins have valves in them to keep blood flowing through in the right direction. If these valves stop working properly, blood can flow backwards and pool in your veins. You've probably heard of this happening to people's legs, when it's called [varicose veins](#). ^[2] A varicocele happens in a similar way, but it affects the veins in your testicles.

Varicose veins in the legs usually happen when you're older. But you can get a varicocele while you're a young man or teenager. ^[3]

It's much more common to get a varicocele in your left testicle. However, it can happen on the right side or in both testicles at the same time. ^[1]

What are the symptoms of varicoceles?

If you've got a varicocele, it means that some of the veins in your testicle have swollen up and formed a soft lump at the top of your scrotum (the pouch of skin that contains your testicles).

The swelling is almost always in your left testicle. But you can get it on the right side or in both testicles at the same time. ^[1] Sometimes a varicocele is big enough for you to see the swelling, although it might disappear when you lie down. And sometimes varicoceles can't be seen at all.

You may find a varicocele if you feel your testicles. You should always see a doctor if you find a lump or swelling. It's probably just a varicocele, but there's a chance it could be cancer. However, this is rare. A varicocele isn't cancer, and it doesn't usually give any serious problems.

Because a varicocele is caused by swollen **veins**, it can feel like a bunch of swollen tubes. Some men describe it as feeling like 'a bag of worms'. You can have a varicocele that's quite small, so you might not be able to feel it at all. Or you may only find out that you have a varicocele if you're having trouble starting a family, and your doctor examines you.

Some doctors think that a varicocele can make it harder to have children. ^[4] There hasn't been enough research to be certain. But we do know that men who have problems with their sperm (such as abnormally shaped sperm) are more likely to have a varicocele. ^[5]

If you've got a varicocele, you may get pain or an ache in your testicles. ^[6] This may be worse on days when you've been standing for a long time or exercising a lot. Some men don't like how the swelling looks. But varicoceles aren't dangerous. Apart from the effect they might have on having children, they don't cause serious problems.

How common are varicoceles?

Varicoceles are fairly common.

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About 1 in 7 men and teenage boys get varicoceles. ^[1]

They seem to be even more common in men who have sperm problems. One study found that about 1 in 4 men with sperm problems (such as abnormally shaped sperm) had a varicocele. ^[7]

What treatments work for varicoceles?

A varicocele is a soft lump in your testicles caused by swollen veins. It's usually harmless. But some doctors think that having a varicocele could make it harder for you to father children. There are several treatments that can get rid of a varicocele. But we're not certain whether they'll make it easier for you to father children, and we don't know if they can help with any pain you have.

Key messages about treatments for varicoceles

- You can have an operation to tie off the swollen veins in your testicle.
- Another treatment involves blocking the veins with metal coils or small balloons.
- Doctors can also use injections to seal off the swollen veins.
- Some men with a varicocele have trouble fathering children. Having surgery to tie off or block the veins may increase a man's chance of having children, but we need more research to explore this.
- If your varicocele isn't causing any problems, it might be best to wait and see what happens without treatment.

If you find a lump in your testicles, or if you've got pain or an ache in your testicles, you should see a doctor. Cancer of the testicles is rare, but it's best to get any symptoms checked. A varicocele isn't cancer.

Guidelines for treating a varicocele

Guidelines for doctors say it's not usually worth having an operation to get rid of a varicocele. ^[11] Doctors don't recommend an operation even for pain in your testicles. That's because most research shows that an operation doesn't give men much benefit, and there hasn't been enough good research to show that it can cure pain in your testicles. But you can talk to your doctor if you think you'd like to have the operation.

If you're having problems fathering children, your doctor will probably refer you to an infertility specialist or another specialist called a urologist. If you've got a varicocele, they'll be able to tell you about the pros and cons of having an operation. The final decision will be yours.

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We've looked closely at the research into these treatments. There hasn't been much good-quality research to show if any of them can get rid of pain or help you father children. We think all the treatments need further study to find out whether they will help you.

Treatment Group 1

Treatments for varicoceles

Treatments that need further study

- [Surgical ligation to tie off the veins](#)
- [Blocking the veins](#)
- [Injections](#)
- [Not having treatment](#)

Other treatments

- [Other treatments](#)

What will happen to me?

We can't say for certain what will happen if you don't have treatment for your varicocele. Varicoceles might make it more difficult to have children. Apart from this, they don't cause serious problems.



Varicoceles might make it more difficult for some men to have children.

The main reason for getting rid of a varicocele is if you're having problems fathering children. Varicoceles are more common among men with some types of fertility problem. ^[8] But we're not certain exactly what the link is between a varicocele and trouble having children. ^[1] Some men with a varicocele have children without any treatment.

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To read about other problems that might make it more difficult to have children, see our information on [fertility problems](#) .

Your doctor will probably be able to diagnose a varicocele by examining your testicles. So you may not need any other tests. But after examining you, if your doctor's not certain you've got a varicocele, you might need to have an [ultrasound](#) scan.

If you're having problems fathering children, your doctor may also ask you about:

- Your health
- If you've fathered children before and how long you've been trying for
- How often you and your partner have sex. ^[9]

You'll also be asked to provide a sample of your semen. ^[9] This lets the doctor see if you have problems with your sperm. For example, your sperm may be an abnormal shape. If the test shows problems with your sperm, you'll probably have another test to double check. Having lower-quality sperm can make it more difficult to make your partner pregnant.

If you're currently trying for a baby, your doctor may also want to examine your partner. ^[9]

There hasn't been much good research to tell us what happens if you don't have a varicocele treated. Some men find that the testicle on the side on which they have a varicocele shrinks. ^[10] Some men get pain or discomfort in their testicles. Others don't get any symptoms at all.

Treatments:

Surgical ligation to tie off the veins

In this section

An operation to tie off swollen [veins](#) can get rid of a varicocele. This may help you to father a child, but we need more research to know for certain.

The operation is done in hospital. You'll probably be able to go home the same day. There are several ways of doing the operation.

- Usually you'll have a [general anaesthetic](#) so that you're asleep during the operation. But sometimes the operation is done with just a [local anaesthetic](#) to numb your groin, so you'll be awake throughout the operation.
- The operation can be done as **keyhole surgery**, through several small cuts in your lower abdomen. The cuts will be about one centimetre long (half an inch). An

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instrument (a bit like a telescope) will be put through one of the cuts to let your surgeon see inside your abdomen. Surgical tools go through the other cuts. The surgeon can then tie off or cut the swollen veins in your testicle.

- The operation can also be done as **open surgery**. But even then the cut will be small. It will probably be about two and a half centimetres (one inch) long. The veins in your testicle will be lifted out through the cut. Then the swollen veins will be tied off or cut. The surgeon may use a microscope to make certain that they are tying off the right veins.

Either way, the cut or cuts will be in your groin area or lower abdomen. They won't be lower down on your scrotum (the pouch of skin that contains your testicles).

After your operation, other veins in your testicle will take over from those that have been tied off. So the blood flow in your testicle should be normal afterwards.

You'll be able to move around soon after your operation. Most men go home the same day. But you won't be able to do anything strenuous, such as heavy lifting, for four to six weeks. If you're uncomfortable, it might help to wear something to support your testicles. You can buy athletic supports from sport shops.

This operation may help if you are having difficulty fathering a child. A summary of 10 studies (a [systematic review](#)) looked at treating varicoceles with surgery to tie off the veins or an operation to [block the veins](#) (called embolisation). When the results of the studies were combined, the partners of men who had one of these treatments were more likely to get pregnant than the partners of men who had no treatment.^[1] The researchers estimated that for every 17 men treated, there would be one extra pregnancy. However, the research on this isn't very good-quality. We need more studies to confirm these findings.

Some studies compared different ways of doing the operation.^{[12] [13] [14] [15]} All the surgical techniques seemed to work about the same. In between 3 in 10 and 4 in 10 men, their partner was pregnant within one and a half or two years.^{[12] [13]} It didn't matter which operation they had. But we've no way of knowing if these men could have made their partner pregnant without surgery.

We didn't find any research that looked at whether the operation could help with pain or discomfort from a varicocele.

Tying off the swollen veins in your testicle is quite a safe operation, but all operations have risks. Some people are allergic to anaesthetic. You should always tell your doctor before an operation about any allergies you have. If your surgeon accidentally damages the artery that takes blood to your testicle, it could cause your testicle to shrink.^[16] And it's possible for a varicocele to come back after surgery.

One study we found looked at 119 men who had an operation to tie off the swollen veins. One of these men got an infection where the cut was made.^[13] Another study found that

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about 5 in 100 men had a problem after their operation, such as bruising or swelling in their testicle. ^[12]

Blocking the veins

In this section

An operation to block the swollen veins can get rid of a varicocele. This treatment is sometimes called **embolisation**. It may help you to father a child, but we need more research to know for certain.

The operation is done in hospital. You'll probably be able to go home the same day. ^[17]

Before the operation you may be asked to:

- Not eat anything for a few hours
- Shave part of your groin.

You'll probably be asked to lie on your back for the operation. Then you'll be given a local anaesthetic to numb your groin, so you'll be awake during the operation. If you're uncomfortable at any time, talk to the surgeon or nurse. They'll be able to give you painkillers.

Blocking is a smaller operation than tying off the swollen veins in your testicle. No cuts are made on your body. Instead, your surgeon will first put a needle into the large vein in your groin. Then they will pass a fine tube through this needle. The tube is passed along to the swollen veins in your testicle. The surgeon can check the position of the tube inside your groin with an X-ray machine. ^[17] Once the tube is in the right place, the surgeon can block the vein by: ^[1]

- Putting in a metal coil, a bit like a spring, to shut off the vein
- Putting in a tiny balloon to block the vein.

After the surgeon has blocked the swollen veins, they will inject a coloured dye that shows up on an X-ray. This is to check that the veins are completely blocked.

This operation may help if you are having difficulty fathering a child. A summary of 10 studies (a systematic review) looked at treating varicoceles with an operation to block the veins or surgery to tie off the veins. When the results of the studies were combined, the partners of men who had one of these treatments were more likely to get pregnant than the partners of men who had no treatment. ^[1] The researchers estimated that for every 17 men treated, there would be one extra pregnancy. However, the research on this isn't very good-quality. We need more studies to confirm these findings.

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We found three studies that looked separately at an operation to block the swollen veins. ^[12] ^[13] ^[18] Between about 2 in 10 and 3 in 10 men who had this operation made their partner pregnant within one to two years. But the studies did not compare these men with those who didn't have treatment. So we don't know how much the operation helped.

We didn't find any research that looked at whether blocking the veins could help with pain or discomfort from a varicocele.

Blocking the veins in your testicle is quite a safe operation, but it sometimes causes problems. Some men may be allergic to the coloured dye that's used to make the veins show up on an X-ray. ^[12] And some men may be allergic to the anaesthetic. You should always tell your doctor before an operation about any allergies you have. You may get a bad bruise (a haematoma) at the spot where the needle was put in. ^[17] This might need more treatment.

In one study, about 6 in 100 men had a problem after their operation. ^[12] The most common problem was pain in their abdomen.

Injections

In this section

An injection that seals off the swollen veins in your testicle can get rid of a varicocele. This treatment is sometimes called **sclerotherapy**. But we don't know if this can help you to have children.

You'll be given the injection in hospital. You'll probably go home the same day.

Before the operation you may be asked to:

- Not eat anything for a few hours
- Shave part of your groin.

You'll probably be asked to lie on your back for the operation. Then you'll be given a local anaesthetic to numb your groin, so you'll be awake during the operation. If you're uncomfortable at any time, talk to the doctor or nurse. They'll be able to give you painkillers.

Having an injection is a smaller operation than [tying off the swollen veins](#). But it's similar to the operation to [block the veins](#). So no cuts are made on your body. Instead, your doctor will first put a needle into the large vein in your groin. Then they will pass a fine tube through this needle. The tube is passed along to the swollen veins in your testicle. The doctor can check the position of the tube with an X-ray machine. ^[17]

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Once the tube is in the right place, the doctor blocks the vein by injecting a chemical. (Alcohol is sometimes used for this.) The chemical damages the veins and makes them collapse inwards. A scar forms inside the vein and blocks it off.

After your operation, other veins in your testicle will take over from those that have been blocked. So the blood flow in your testicle should be normal afterwards.

We found only one small study that looked at injections to seal off swollen veins. ^[19]

- The partners of about 16 in 100 men who had the injections became pregnant within 12 months.
- The partners of about 18 in 100 men who had no treatment became pregnant within 12 months.

But the researchers lost touch with about half of the men in the study and couldn't collect all their results. So we can't read too much into this study.

We didn't find any research that looked at whether injections can help the pain or discomfort caused by a varicocele.

The research we found didn't mention if there were any side effects of having an injection to block off swollen veins.

Not having treatment

In this section

If you're not troubled by your varicocele, you may not need to have treatment.

If you're having difficulty fathering a child, some research suggests that having an operation to either [tie off](#) or [block the veins](#) in your varicocele may help. However, the research on this isn't very good. ^[1] So you may decide to wait and see what happens. You can always decide to have treatment later on.

Of course, there might be reasons why you and your partner don't want to risk any delay in having children. So you might decide to have treatment.

We didn't find any research that looked at whether treatment could help with pain or discomfort from a varicocele.

Other treatments

In this section

We haven't looked at the research on these treatments in the same detail we have for the other treatments on our site. To read more, see [Our method](#). But we've included them here because some men with a varicocele find these treatments useful.

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Some men who get pain from their varicocele find taking painkillers helps. You could try taking an over-the-counter painkiller, such as paracetamol or ibuprofen.

Some men also find that wearing supportive underwear can help. Instead of baggy boxer shorts, you may be more comfortable wearing tighter underwear that supports your testicles. Or you can buy specially made supports designed for people doing sports. You can find these in sports shops.

If you're trying to have a baby, check with your doctor or **urologist** before you start wearing tighter underwear.

Further informations:

Glossary:

veins

Veins are blood vessels that carry blood back to your heart after your blood has delivered oxygen and food to the tissues.

ultrasound

Ultrasound is a tool doctors use to create images of the inside of your body. An ultrasound machine sends out high-frequency sound waves, which are directed at an area of your body. The waves reflect off parts of your body to create a picture. Ultrasound is often used to see a developing baby inside a woman's womb.

urologist

A urologist is a doctor who specialises in diseases that affect the urinary tract (the organs that produce and remove urine) in men and women, and diseases that affect the male sex organs.

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.

local anaesthetic

A local anaesthetic is a painkiller that's used to numb one part of your body. You usually get local anaesthetics as injections.

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.

allergy

If you have an allergy to something (such as pollen or a medicine), your body always overreacts to it. The reaction happens because your immune system (your body's system for fighting infection) is too sensitive to it.

anaesthetic

An anaesthetic is a chemical that blocks the ability to feel sensations like pain or heat. A local anaesthetic blocks the feeling in a specific area of the body. For example, your dentist uses a local anaesthetic like lignocaine in your gums so that you don't feel the pain of having a cavity filled. A general anaesthetic makes you completely unconscious and is usually used only in a carefully controlled environment like an operating room.

X-ray

X-rays are pictures taken of the inside of your body. They are made by passing small amounts of radiation through your body and then onto film.

allergic reaction

You have an allergic reaction when your immune system overreacts to a substance that is normally harmless. You can be allergic to particles in the air you are breathing, like pollen (which causes hay fever) or to chemicals on your skin, like detergents (which can cause a rash). People can also have an allergic reaction to drugs, like penicillin.

haematoma

A haematoma is a collection of blood in any part of your body. The blood has usually clotted or dried.

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This information is aimed at a UK patient audience. This information however does not replace medical advice. If you have a medical problem please see your doctor. Please see our full [Conditions of Use](#) for this content. For more information about this condition and sources of the information contained in this leaflet please visit the Best Health website, <http://besthealth.bmj.com> . These leaflets are reviewed annually.

