

Who might need a procedure to treat chronic vein disease?

[Chronic vein disease](#) is disease of the veins (vessels that carry blood back to the heart) that usually affects the legs. The disease usually gets worse over time and can cause swelling, pain, and ulcers (sores) on the legs that make walking and performing everyday tasks difficult.

For women with mild chronic vein disease, basic treatment with lifestyle changes and [compression stockings](#) may be enough to control your symptoms. However, if you have severe varicose veins, disease in the deep veins of the legs, or non-healing sores, you may need a procedure to relieve your symptoms and prevent serious complications such as blood clots ([deep vein thrombosis](#)).

What procedures are used to treat chronic vein disease?

A wide variety of surgical and *endovascular* ("inside the blood vessels") procedures are available to improve blood flow in the leg veins, relieving the [symptoms of chronic vein disease](#) and potentially preventing blood clots.

Most procedures involve injections or surgery to seal off and close the diseased vein, or remove it altogether. This prevents blood from flowing backwards and pooling in the legs. Over time, your body will turn the closed vein into scar tissue, and nearby veins will take over the blood flow. In rare cases, you may have a procedure to open a blocked vein that is preventing blood from flowing back to the heart, or to repair damaged valves in the veins.

The treatment that is best for you depends on your general health, how severe your vein disease is, and which veins are affected. A vascular surgeon can help you decide what kind of procedure is right for you.

The most common procedures used to treat chronic vein disease are listed below. Click on any procedure to learn more:

- [Vein injection \(*sclerotherapy* \)](#)
- [Ligation and Stripping](#)
- [Endovascular Vein Ablation](#)
- [Other Procedures](#) : Vein Stenting, Bypass Surgery, and Valve Reconstruction

See also: [Chronic Vein Disease Treatment Overview](#)

What is vein injection?

Vein injection (*sclerotherapy*) is the most common treatment for small or medium-sized varicose veins — twisted and bulging leg veins that usually appear on the back of the calf or the inside of the legs. It can also be used to treat spider veins (smaller blocked veins that are closer to the skin). This procedure uses an injected medication to seal off and close the diseased vein.

How is it done?

Vein injection can be performed in a doctor's office without anesthesia. Sometimes an [ultrasound test](#) will be used to make sure the injections are given in the right place. The doctor will use a needle to inject a liquid or foam into the varicose vein, causing the vein walls to seal together and stick shut. Over time, your body will turn the closed vein into scar tissue, and nearby veins will take over the blood flow. The procedure usually takes less than 30 minutes, and involves only mild pain or discomfort as the vein is injected. Side effects are usually mild and may include itching, bruising, or redness around the injection site.

Varicose veins will usually fade and disappear over 3 to 6 months, while spider veins are usually gone within 6 weeks. You may need several sessions of injections to close the vein completely.

What happens after the procedure?

After the procedure, you will be encouraged to walk regularly but you should avoid hot baths and intense physical activity for a few days. You should not take any non-steroidal anti-inflammatory drugs (NSAIDs) such as aspirin, ibuprofen (Advil, Motrin), or naproxen (Aleve) for a few days after the procedure. You will also need to wear [compression stockings](#) for at least 2 weeks. Your doctor may give you other special instructions.

How effective is it?

Vein injections relieve the pain and swelling caused by varicose veins and help leg wounds heal. One study found that vein injections successfully closed off the vein 75% of the time.¹ The procedure has fewer risks and faster recovery than [surgery](#) to remove the leg veins, but it is slightly less effective at preventing long-term problems and is rarely used to treat large varicose veins.

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What is vein ligation and stripping?

Ligation and stripping (also called *phlebectomy*) is a surgical procedure used to treat medium or large varicose veins and help heal and prevent leg ulcers caused by vein disease. During the procedure, small incisions are made in the leg and the diseased vein is tied off (*ligated*) and removed (*stripped*).

Surgical ligation and stripping was once the standard treatment for varicose veins, but it is increasingly being replaced by [endovascular vein ablation](#) , which destroys the vein from the

inside and has a shorter recovery time.

How is it done?

This procedure is done in an operating room at the hospital. You will be given local anesthesia (so you will not feel anything in your legs) or general anesthesia (you will be unconscious). If you are having local anesthesia, you will receive a mild sedative to help you relax.

The surgeon will make small incisions in your leg near the ends of the section of vein that is to be removed. The vein will be cut and sewn closed, and a flexible instrument will be inserted into one incision and used to pull out the diseased vein. Other nearby veins will take over blood flow for the removed vein. To treat smaller varicose veins, the surgeon may make a series of tiny incisions instead of two larger ones, and use a hook to pull the vein out in sections.

What happens after the procedure?

Most women can go home the same day as the procedure, but if you are having surgery to treat a large vein in your upper leg you may need to stay overnight for observation. You should be able to return to work in a few days and to normal activities within a few weeks.

Your doctor or nurse will give you instructions about how to care for your incisions and any medications or activity restrictions after the surgery. You will be encouraged to walk soon after the procedure to keep blood pumping through your legs, and will need to wear [compression stockings](#) after the procedure to prevent blood clots and improve blood circulation.

As with all surgical procedures, ligation and stripping involves some risks, including infection of the incision site, excess bleeding, and anesthesia complications.

How effective is it?

Surgical ligation and stripping is about 90% effective at removing varicose veins and preventing them from coming back.³ Although it carries a higher risk of complications and scarring than [ve in injection](#)

, surgical treatment usually has better long-term results.

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In women with ulcers caused by chronic vein disease, surgery reduces the risk of developing a new ulcer by nearly 3 times compared with compression alone.

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What is endovascular vein ablation?

Endovascular vein ablation is a newer alternative to [surgical ligation and stripping](#) to treat medium or large varicose veins and improve blood flow in women with chronic vein disease. The procedure uses a long, thin tube called a catheter to deliver laser or heat energy to the walls of the diseased vein, causing it to close off and seal shut.

How is it done?

Endovascular vein ablation is performed by a vascular surgeon in a specialized operating room in the hospital called a catheterization lab. It is usually performed under local anesthesia, so you will be awake during the procedure but you will receive a mild sedative to help you relax.

After numbing the area, the doctor will make a small incision near your groin and insert a long, thin tube called a catheter into the diseased vein. Once in place, a laser or heated electrode will be used to damage the vein walls, causing the vein to close off and seal shut. Your body turns the closed vein into scar tissue and nearby veins will take over blood flow for the closed vein. This prevents blood from flowing backwards and pooling in the legs, and can relieve pain, swelling, and sores associated with varicose veins.

What happens after the procedure?

Because the vein is not removed and only a small incision is needed to insert the catheter, recovery after endovascular vein ablation is faster than after surgery. You will usually be able to go home the same day and return to work the next day, with complete recovery taking less than a week.

Your doctor or nurse will give you instructions on any medication or activity restrictions and tell you how to take care of the site where the catheter was inserted. You will be asked to wear [compression stockings](#) for a few weeks after the procedure to prevent blood clots and help blood circulation in the veins. Side effects usually include a few days of mild discomfort where the catheter was inserted and bruising in the groin and leg for a few weeks.

How effective is it?

Endovascular vein ablation is as effective as surgery to treat varicose veins, relieving symptoms and preventing varicose veins from coming back in 90% of patients.⁵ Serious complications, such as bleeding, infection, or blood clots occur in less than 2% of patients.

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Other Procedures

For most women, lifestyle changes, [compression stockings](#), and procedures to close off or remove diseased veins are enough to relieve the [symptoms of chronic vein disease](#) and prevent serious complications such as blood clots.

However, a few women with severe chronic venous insufficiency (vein disease that prevents blood from flowing back to the heart) may need more complex procedures to attempt to prevent blood from pooling in the legs. These procedures are rarely done, and will only be used after treatments have failed or because they cannot be performed.

Vein Stenting

Vein stenting is a procedure to treat chronic vein disease in women who have narrowed veins in the pelvis that are preventing blood from leaving the legs. Opening the blocked vein can restore normal blood flow and improve symptoms of chronic vein disease such as swelling, pain, and ulcers on the legs. Vein stenting may also be used to treat women with repeated blockages of the leg veins.⁷

Vein stenting is similar to [angioplasty and stenting to treat PAD](#), except that it is performed in the veins instead of the arteries. During the procedure, a long, thin tube called a catheter is inserted into the vein and an inflatable balloon is used to open the vein. To prevent the vein from closing again, a tiny wire mesh tube called a stent is expanded and left in place.

Vein Bypass Surgery

Vein bypass surgery is a surgical alternative to vein stenting for women with severe chronic vein disease that is preventing blood from flowing back to the heart. Instead of propping open the vein that is preventing blood from leaving the legs, a vein from elsewhere in the body (or a synthetic vein graft) is sewn in place to re-route blood around the blocked vein.

Valve Reconstruction

Vein valve reconstruction is a procedure to treat women with chronic vein disease caused by misshapen or damaged vein valves. Normal vein valves open to allow blood to flow up the legs, then close to stop the blood from flowing backwards. If the vein valves are not working properly, blood can pool in the leg, causing swelling, pain, and an increased risk of blood clots.

Vein valve reconstruction can be performed with surgery, or through a long, thin tube called a catheter. To fix the broken valves, the surgeon will make a small incision to access the vein and fold or tuck the vein valves to create a smaller but stronger valve. A fabric sleeve may be placed around the outside of the vein to press the walls of the vein together, allowing the valves to close completely. In some cases, a section of vein with working valves from elsewhere in the

body may be transplanted to replace the vein with the broken valve, a procedure called valve transposition.

See also:

[Chronic Vein Disease Treatment Overview](#)
[Living with Chronic Vein Disease](#)

References

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