PROCEDURE

Varicose vein - noninvasive treatment

Noninvasive varicose vein treatment uses external compression and practical measures to reduce leg discomfort and swelling without needles or incisions.

PURPOSE
Reduce aching, swelling, and pressure caused by varicose veins

PROCEDURE TYPE
Therapeutic; bedside compression without needles or incisions

WHERE IT IS DONE
Outpatient clinic, then continued at home

ANAESTHESIA
None

HOW LONG IT TAKES
15 to 30 minutes for assessment and fitting

PREPARATION
Skin check and leg measurements; follow facility instructions

RECOVERY
Same day; no routine driving restriction

MAIN RISKS
Skin irritation, pressure injury, worsened arterial circulation

RESULTS
Symptom response becomes clear over days to weeks

Overview

Noninvasive treatment for varicose veins means treatment that does not enter or close the vein. It usually involves fitted compression stockings, along with movement, leg elevation, and skin care.

Compression stockings apply controlled pressure to the leg. This helps blood move upward toward the heart and may reduce swelling, aching, heaviness, or itching. The stockings do not usually make existing varicose veins disappear.

This treatment is different from minimally invasive procedures such as endovenous ablation or sclerotherapy. Those treatments use a catheter, heat, medical adhesive, or an injected chemical to close a vein.

A clinician may examine your circulation before recommending compression. You may also have a duplex ultrasound, which uses sound waves to show blood flow and identify valves that are not working normally.

Why the procedure is performed

Noninvasive treatment may be offered to control symptoms or support your daily activities without an invasive procedure. It can be useful when symptoms are mild, during pregnancy, while you consider other options, or when a vein-closing treatment is not suitable.

It may help with:

Compression is mainly a symptom-management treatment. It does not repair damaged vein valves, and symptoms may return when the stocking is removed.

- Aching, heaviness, or tiredness in the legs
- Swelling around the ankles or lower legs
- Itching or discomfort over varicose veins
- Symptoms made worse by prolonged standing
- Skin protection when swelling is present

Who should and should not have it

You may be offered noninvasive treatment if varicose veins are uncomfortable, if swelling is present, or if you prefer to avoid an invasive procedure. It may also be considered when another health condition makes intervention less appropriate.

Compression stockings are not the best long-term option for everyone. If treatment to close the faulty vein is suitable, compression alone may provide less lasting improvement.

Compression may need to be avoided, delayed, or specially supervised if you have:

New one-sided swelling or pain may require assessment for a blood clot before treatment begins. Compression is sometimes used for blood clots, but only under appropriate clinical direction.

Tell the healthcare team if you have diabetes, nerve damage, previous blood clots, leg ulcers, heart disease, or problems with circulation.

- Poor arterial circulation to the feet or legs

- A cold, pale, blue, or severely painful foot
- Uncontrolled heart failure with significant fluid build-up
- Cellulitis or another active skin infection
- Open wounds that require specialist dressings
- Reduced sensation that could prevent you noticing pressure injury
- A leg shape that makes safe fitting difficult

How to prepare

Your treating facility's own instructions take priority over general information in this article.

You will not usually need to fast or stop regular medicines. Do not stop a blood thinner like warfarin or apixaban unless the clinician who manages it has specifically told you to do so.

Wear clothing that allows your lower leg to be examined. Your ankle, calf, and leg length may be measured so that the stocking fits correctly. Measurements are often most accurate before swelling builds up during the day.

Tell the team about rashes, broken skin, drainage, numbness, or recent changes in leg colour or temperature. If poor arterial circulation is a concern, they may check pulses or compare blood pressure at your ankle and arm.

Avoid applying a greasy cream immediately before fitting because it can make the stocking difficult to handle. Continue prescribed skin care at the times recommended by your team.

What happens during the procedure

A clinician reviews your symptoms, health history, skin, swelling, and circulation. They may check how well you can reach your feet and whether you can safely put on and remove a stocking.

Your leg is measured, and a stocking with the appropriate size, length, and compression level is selected. Compression strength should be chosen for you rather than guessed from a shop label.

The clinician may place the stocking on your leg and check for folds, rolling, or areas of excessive pressure. They will show you how to spread the material evenly without pulling only at the top.

You may be advised to put the stocking on in the morning, before swelling increases, and

remove it at a specified time. The schedule is based on your circulation, skin condition, and reason for treatment. Some people need an application aid or help from another person.

Recovery and what to expect afterward

Compression should feel firm, but it should not cause increasing pain. Mild awareness of pressure is common at first. Remove the stocking and seek advice if it causes persistent pain, numbness, or a major colour change in the foot.

You can eat and drink normally. There are no routine dietary restrictions.

Walking and usual light activity are generally encouraged. Regular ankle movement helps the calf muscles push blood upward. Avoid sitting or standing still for long periods when possible. Elevating the legs may help swelling, but it does not replace movement.

You can usually drive after fitting because no sedative or anaesthetic is used. Do not drive if leg pain, weakness, or restricted movement prevents you from controlling the vehicle safely.

Most people can return to work immediately. If your job involves prolonged standing, plan movement breaks when possible. Check that the stocking does not roll down or bunch behind the knee during work.

Risks and possible complications

Correctly fitted compression is generally well tolerated. Problems are more likely when a stocking is the wrong size, becomes folded, or is used despite poor arterial circulation.

Possible complications include:

Check your skin regularly, especially around the ankle, heel, shin, and top edge of the stocking. A properly fitted stocking should not act like a tight band.

- Itching, dryness, or contact dermatitis
- Pressure marks, blisters, or skin breakdown
- Numbness or tingling from nerve pressure
- Increased pain from impaired arterial blood flow
- Swelling above a rolled or overly tight stocking

Results and follow up

Some people notice less swelling or aching within days. For others, it takes several weeks of consistent use to decide whether compression is helping.

Visible veins usually remain. Compression also may not fully control skin changes, repeated inflammation, bleeding, or ulcers. These problems may lead to discussion of vein-closing treatment.

Routine follow-up may include checking symptom improvement, skin health, stocking fit, and whether you can use the garment comfortably. Stockings can stretch or wear out, so they may need replacement according to the product and your healthcare team's instructions.

If symptoms continue, duplex ultrasound may be used to plan further treatment.

Alternatives

You do not have to choose compression without discussing other options.

The best choice is influenced by ultrasound findings, your symptoms, pregnancy, circulation, other health conditions, and what matters most to you.

- Observation: Reasonable when veins are not troublesome. It avoids treatment, but symptoms or skin changes may continue.
- Movement, leg elevation, and weight management: These may reduce pressure and swelling but do not close faulty veins.
- Endovenous thermal ablation: A catheter uses heat to close the vein. It can provide more lasting treatment but involves a needle puncture, local anaesthetic, and procedure-related risks.
- Foam sclerotherapy: An injected foam closes the vein. It avoids an incision but may require repeat treatment and can cause staining, inflammation, or blood clots.
- Medical adhesive or mechanochemical ablation: These catheter treatments may avoid heat but still enter the vein and have their own risks and availability limits.
- Surgery: Veins are tied off or removed. It can treat suitable veins but generally involves more bruising and recovery than catheter treatment.

When to call your healthcare team

Contact your healthcare team routinely if the stocking repeatedly slips, rolls, causes a rash, or does not improve symptoms. Also arrange review for worsening skin discolouration, a sore that is not healing, or difficulty using the stocking.

Seek prompt medical advice if you develop new one-sided leg swelling, warmth, redness, or persistent calf pain. These symptoms need assessment and should not simply be treated with tighter compression.

Seek emergency care for sudden shortness of breath, chest pain, coughing up blood, fainting, or a foot that suddenly becomes cold, pale, blue, numb, or severely painful.

If a varicose vein bleeds, lie down, raise the leg, and press firmly over the bleeding point with a clean cloth or dressing. Seek urgent help if bleeding does not stop or is heavy.

Common questions

Will I be asleep?

No. Compression fitting does not require anaesthesia or sedation. You remain awake throughout.

Can I drive home?

Usually, yes. There is no routine driving restriction. Do not drive if discomfort or restricted leg movement affects safe control of the vehicle.

How painful is it?

The stocking should feel snug rather than painful. Increasing pain, numbness, or a cold or discoloured foot is not expected and requires prompt advice.

How long will I need to wear the stockings?

There is no single schedule for everyone. Follow the plan based on your circulation, skin, symptoms, and treatment goals. Do not sleep in them unless specifically instructed.

When will I know if it worked?

Swelling or aching may improve within days, but a fair assessment often takes several weeks. The veins themselves may remain visible.

Will compression make my varicose veins disappear?

Usually not. Compression manages symptoms and swelling while it is worn. Procedures that close or remove veins are more likely to change their appearance.

Sources

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