

Vascular Radiology Service

Varicose Veins: Sclerotherapy & Embolisation

Information for patients



Leeds
Radiology

You have been referred to Interventional Radiology (IR) for treatment of your varicose veins using a procedure called sclerotherapy and embolisation. This leaflet will explain what this operation involves, the intended outcomes and the possible risks.

What is sclerotherapy and embolisation of varicose veins?

Veins are blood vessels that drain blood from the legs and return it back to the heart. Normal leg veins have a system of valves which ensure blood travels up to the heart and not back down the legs. The legs have two systems of veins: the deep veins which run in the muscles and are important for providing the drainage of blood away from the legs, and the superficial veins which run just under the skin and drain blood from the superficial structures of the legs into the deep veins.

When the valves within the veins stop functioning correctly, most commonly in the superficial veins, blood travels in the wrong direction back down the legs and causes an increase in pressure within the veins. This results in distension of the superficial veins which manifest as varicose veins.

Sclerotherapy is a procedure where a drug is injected into the veins. The drug commonly used is called sodium tetradecyl sulphate (STS). It works by damaging the lining of the veins, causing blood to clot within them. Over time, the body reabsorbs the clots and the veins become scarred and shrink down. STS is often injected as a foam by mixing it with air.

The foam expands in the vein and provides greater coverage than the same volume of liquid STS. Using foam enables a larger area of varicose veins to be treated with smaller doses of STS.

Embolisation involves the placement of metal springs (coils) or plugs inside the veins to block them and stop blood flowing in the wrong direction.

Pre-operative preparation

To promote patient safety during your operation, the following patient preparation are required:

- You can eat and drink as normal
- To lessen your risk of getting an infection, you will be prescribed a course of antiseptic wash and nasal cream.
- Most blood thinning medications need to be omitted, please discuss with us if you are taking any.
- If you have bleeding disorders or your blood clotting function is below threshold, you may require a blood transfusion; please inform us if you have concerns.

How is sclerotherapy and embolisation performed?

Consent

This operation usually takes about 1-2 hours, though every patient is different, and operations may take longer. The operating interventional radiologist will explain this to you in more detail, along with the risks and intended benefits before you provide your permission to go through the operation via a signed consent form.

Anaesthetic

The procedure is normally performed under a local anaesthetic. The skin will be numbed and a small tube placed into a vein under ultrasound guidance. This will be in a vein in the neck (internal jugular vein) or in the groin (femoral vein). You may feel a sharp scratch as the anaesthetic goes in but it will feel numb afterwards.

Operation

This operation is performed by accessing a blood vessel from your neck or groin. This area is cleaned with an antiseptic and numbed with a local anaesthetic. A long fine tube (catheter) will then be passed along the veins in the body into the leg to be treated. The source of the varicose veins, i.e. the site where the valves are not working normally, will be localised by injecting an X-ray dye (contrast) into the veins in the leg and taking X-ray pictures.

Once the source of the varicose veins is identified, the catheter will be passed through into the varicose veins themselves and STS foam injected. The purpose of the STS foam is to fill the varicose veins and form blood clots within them.

The feeding vein, in which the valves are not working, will then be embolised with coils or plugs to prevent further reflux of blood. At the end of the procedure, the tubes will be removed and pressure applied to the access site vein for 5-10 minutes to prevent it from bleeding.

Staff Involved

Interventional Radiology (IR) procedures are performed by a multidisciplinary team. The team includes the following key Staff:

Interventional Radiologist (Consultant/Fellow): A doctor specially trained in minimally invasive, image-guided techniques who performs the procedure.

Radiology Nurses: Highly trained nurses who care for the patient before, during, and after the procedure. They assist with sedation, monitor vital signs (heart rate, breathing, oxygen levels), and may “scrub in” to assist the radiologist directly.

Radiographers: Experts in imaging equipment who operate the machines to provide real-time guidance for the doctor.

Clinical Support Workers: Assist with the setup of the room, patient positioning, and maintenance of sterile conditions.

What are the risks?

Sclerotherapy and embolisation have some common side-effects and a few, less common complications.

- You should expect pain and swelling around the treated varicose veins, which usually settle over a 4-6 week period, occasionally longer.
- The treated varicose veins will become tender to compression due to inflammation caused by the blood clots within them. The clots will also make them feel ‘lumpy’ and will gradually settle over 4-6 weeks. Some people also get bruising of the skin around the treated varicose veins, but this will usually resolve, given time.

- The treated varicose veins can rarely become infected and require treatment with antibiotics.
- In a minority of patients, the sclerosant used can cause a brown discolouration of the skin where the treated varicose veins were. This is generally temporary and fades with time; however, the discolouration may not completely resolve and can result in residual permanent staining of the skin.
- Sometimes the sclerosant is injected directly into the varicose veins through a fine needle placed through the skin. This has a very small risk of causing ulceration of the skin that will generally heal with conservative management, but it could leave a scar on the skin.
- There is also a small risk of localised nerve damage due to compression of adjacent nerves from the swelling which occurs. This will normally resolve with time but, occasionally, may leave an area of altered sensation in the skin that does not fully resolve.
- Treatment of varicose veins has a risk of causing deep vein thrombosis (DVT). This will result in generalised swelling of the leg that would need treatment with anticoagulation (blood thinning drugs) for a minimum of three months. The anticoagulation reduces the risk of pulmonary embolus (clot breaking away and going to the lungs).
- The coils that are used are slightly bigger in diameter than the veins they are placed in. This is so that they grip the sides of the vein wall and remain in place. Very rarely, the coils can migrate around the time they are inserted. If they migrate, they could lodge in blood vessels in the lung. A coil in the lung may require removal, this can usually be done by

inserting a fine tube from the groin and using a lasso to grab the coil and retrieve it. If the coil is small and lands in the periphery of the lung, it may be better to leave it in place.

- Sometimes coils that are placed just under the skin can cause on-going tenderness. If this is the case, minor surgery can sometimes be performed to remove them.
- Varicose veins can recur in the future, even after initial successful treatment. Depending on their source, further treatment may be possible.
- Allergic reaction to contrast dye (mild symptoms like nausea, itchiness and rashes occur in 1%; moderate to severe symptoms such as severe vomiting, difficulty breathing occur in one in 3,000; risk of death is rare, estimated at 1:170,000)
- X-rays will be used to make images of your body and guide your doctor during the procedure. X-rays are a type of radiation. We are all exposed to low levels of natural radiation as part of our everyday lives and medical x-rays give an extra dose of radiation. Radiation can increase your chances of developing cancer many years or decades after the exposure. The chances of this happening to you as a result of this procedure are considered to be minimal.
- It is important to remember that your doctor thinks that the benefits of this procedure outweigh any risks from the radiation. We will make sure that the amount of radiation used in your procedure is as low as possible.

What to expect from this operation?

Admission

This operation is usually done as a 'day case', which means you will be admitted on the day you are having procedure; you will also be discharged on the same day after you have safely recovered following the operation.

- Specific and up-to-date blood tests may be required to make sure it's safe to carry out the operation.
- A cannula may be inserted in your arm, should you need a fluid drip and/or strong pain medications.

Recovery and aftercare

After the operation, you will be transferred to our recovery area, where you will be closely monitored:

- Your vital signs and the punctured site will be monitored closely.
- You will be placed on bed rest for a few hours to allow you to recover from the operation and reduce your bleeding risk from the punctured wound.
- You will be asked to wear a compression stocking in the treated leg. If you have one, please bring this with you.

Care at home

All being well, you will normally be discharged on the same day. Please refer to our recommendations below to recuperate at home:

- **Compression stocking:** wear the compression stocking in the treated leg continuously for two weeks, taking it off only when you go to bed at night and when you are taking a bath or shower. If you find the stocking helpful, you can continue to wear it after the initial two week period.
- **Exercise:** you can resume normal day-to-day activities after the procedure, but you should avoid prolonged vigorous exercise or lifting heavy weights for two weeks, or until the exercise limiting side-effects from the treatment have settled.
- **Work:** we advise a period of about five days off-work to rest after this operation; a sick note may be requested from your GP, if required.
- **Driving/travel:** you should avoid driving for at least 72 hours following the procedure, and longer if you have significant discomfort in your leg beyond that. You should not fly for at least four weeks following treatment.
- **Medicines:** use your usual medications for pain and mild fever; if you were asked to stop taking blood thinners, we will include instructions when to resume these on your discharge letter.
- **Follow-up:** You will be contacted one week and eight weeks after the procedure by the Interventional Radiology Clinical Nurse Specialist who will check you are recovering as expected. You will also have a further out-patient consultation at approximately three months to see how much benefit you have had from the treatment and determine if any further treatment is required.

Contact information

We hope some of your questions have been answered by this leaflet. If there are any questions you would like to ask before you come for your operation, please get in touch.

Via telephone:

Interventional Radiology LGI: **0113 392 3311**

(Monday - Friday from 9am until 5pm, except Bank Holidays)

Your GP or NHS direct on **111** (routine) | **999** (emergency)

Or via email:

leedsth-tr.vascularmalformations@nhs.net

How to get to our department

We are Radiology Theatres and we're located in LGI Jubilee Wing, B Floor.

Follow this link to see how to get to us:



www.accessable.co.uk/leeds-teaching-hospitals-nhs-trust/leeds-general-infirmary/access-guides/jubilee-wing



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Produced by: Medical Illustration Services • MID code: M20251120_011/BW

LN006132
Publication date
09/2026
Review date
09/2029