

Table 2. Treatments available in specialist units

Treatment	How it works
TRansLuminal Occlusion of Perforators (TRLOP)	Treatment is injected into faulty perforator veins (which connect small veins with deep veins) through a small needle hole and progress is monitored using ultrasound imaging. This is performed under local anaesthetic.
Endovenous microwave ablation	Microwave energy is passed through the faulty vein, causing it to close. Can be used to varicose veins as well as faulty perforators using the TRLOP technique. Is very effective when followed by foam sclerotherapy. This is performed under local anaesthetic.
Echotherapy, also known as Sonovein®	A robotic arm positioned on the skin directs a high-intensity focused ultrasound beam into the faulty vein. The beam heats, shrinks and closes the vein. Progress is monitored using ultrasound imaging. Some local anaesthetic may be needed.

Ligation and stripping is an older surgical technique that requires a general anaesthetic. A cut of about 5cm is made in the groin and a smaller cut is made below the knee to tie off the vein. This technique should only be used if newer techniques are not available or suitable, as there is a higher risk of side effects (eg scarring or infection), increased pain and bruising, and the varicose veins may return (NICE, 2013). Recovery and return to work may take up to 3 weeks.



Endovenous microwave ablation machine and catheter

Reference

NICE (2013) Clinical guideline 168: Varicose veins: diagnosis and management. www.nice.org.uk/guidance/cg168

If you have any concerns please contact

- Hospital
- Outpatients
- Clinical nurse specialist
- GP Surgery

What Should I Expect From Venous Surgery?

To find out whether you have a Leg Club near you, or for any further information about Leg Clubs or the Leg Club model, contact lynn.bullock@legclubfoundation.com www.legclub.org



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Who needs venous surgery?

Varicose veins are swollen and enlarged veins that most commonly occur on the legs. They are usually due to valve failure in the main superficial veins in the legs. If left untreated, varicose veins can cause swollen ankles, skin damage such as eczema, and venous leg ulcers.

Most venous leg ulcers are due to 'hidden varicose veins'. A majority of leg ulcers can be cured, and the risk of recurrence reduced in individuals who can walk if the underlying hidden varicose veins are adequately treated.

If you have, or have had, a leg ulcer or have varicose veins that are causing problems, you may benefit from venous surgery.

Assessment

Your consultant venous surgeon (phlebologist) and clinical specialist team will examine the veins in your legs. With an appropriate referral from your GP or specialist nurse an venous duplex ultrasound scan should be performed. This will find the veins causing the problem and indicate whether treating them is likely to cure the ulcer. The venous surgeon/clinical team will recommend the most suitable type of surgery based on the diagnosis and where the leaky valves are. If varicose veins are visible, they will be treated at the same time as hidden veins.



Types of surgery

Various procedures can be used to treat your varicose veins.

Modern venous surgery techniques, see Table 1, block or 'ablate' – rather than remove – faulty veins and, if successful, stop them from coming back. National guidelines (NICE, 2013) recommend using endovenous laser or radiofrequency ablation of various veins. If these treatments are not suitable, ultrasound-guided foam sclerotherapy is recommended (NICE, 2013). The best treatment seems to be a combination of endovenous laser treatment and foam sclerotherapy. Newer techniques are usually carried out under a local anaesthetic. There may be some discomfort when the local anaesthetic is first injected and there can be aching or tenderness as the veins are reabsorbed. The incisions made are so small that no stitches are needed. You can walk immediately afterwards and return to work the day after treatment.



Endovenous surgery for varicose veins under local anaesthetic



Table 1. Venous surgery treatments

Treatment	How it works
Endovenous laser/thermal ablation (EVLA or EVLT)	This is the most common treatment. A catheter is passed up the vein from the knee to the groin. Occasionally it is inserted at the ankle, but this has a higher risk of nerve damage. A laser beam heats the vein wall, contracting and killing the wall, causing it to close. This is carried out under local or general anaesthetic.
Endovenous radiofrequency ablation (RFA)	A radiofrequency catheter is passed up the vein from knee to groin, occasionally from the ankle to groin. Electrical energy is passed through the faulty vein wall, heating it and causing it to close.
Ultrasound-guided foam sclerotherapy	A chemical is mixed with air or another gas to produce a foam that is injected into the vein. Ultrasound imaging is used to guide the injection into the correct vein. The foam pushes the blood out of the vein and treats the vein wall. The foam disappears after 2 minutes but causes scarring that blocks the vein. Treatment is usually carried out without any need for local anaesthetic.

Mechanochemical ablation, also known as ClariVein™

A catheter with a rotating tip is passed up the vein and a drug called a sclerosant is injected through it. The rotating tip damages the vein wall, allowing the sclerosant to be more effective in closing the vein. This is a modern alternative to EVLA/ EVLT and RFA that does not use heat and therefore requires less anaesthetic. However, only some patients and veins are suitable.

Medical glue occlusion

Medical glue (cyanoacrylate) is injected into the faulty vein to close it. It does not use heat and so requires less anaesthetic than EVLA/ EVLT and RFA. Some patients can have temporary inflammation and, rarely, can react badly to the glue.

Several new generation treatments are only available in specialist vein units, see Table 2. Little or no anaesthetic is required for these treatments and the recovery period is very short.



February '18, 6 years of compression June '18, After EVLA and foam sclerotherapy August '18, no compression