Treatment of varicose veins with sclerotherapy

Next generation sclerotherapy



VARIXIO

Varicose veins are deformed veins that do not work properly because their valves, which would normally help return blood to the heart, are damaged.

The most common areas affected are veins in the legs, although it is possible to get varicose veins in the oesophagus, pelvic organs, or the end of the digestive tract (haemorrhoids).



How are they treated?

There are several different treatments for varicose veins.

Sclerotherapy:

This treats the varicose veins gradually. Several treatment sessions, in which the affected veins are injected, take place in clinic and generally without anaesthesia. Sclerotherapy can be used on its own or in combination with other treatments. This is the most commonly used treatment thanks to its versatility and effectiveness.

Endovascular techniques:

(Laser, radiofrequency, or mechanochemical method). These minimally-invasive procedures are done in the operating room and use different sources of energy to destroy the main trunks of the veins.

CHIVA strategy or haemodynamic surgery:

The veins are marked using Doppler ultrasound, then tied off directly to control the origin of the backwards flow and remove visible varicose veins, leaving the great or small saphenous vein intact.

Conventional surgery:

This treatment is based on removal or stripping of the abnormal veins in the operating room and is done under local or general anaesthesia.





What is sclerotherapy?

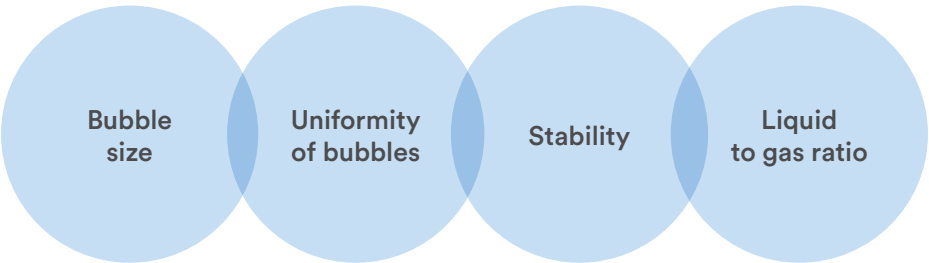
Sclerotherapy involves the injection of a medication into the affected veins, which irritates the inner vein wall, making it collapse, form a scar, and progressively disappear. It is the least aggressive and most versatile treatment.

Sclerotherapy is a technique that can be used in practically any type of varicose vein, from small varicose veins or subcutaneous capillary veins, up to large varicose veins. This treatment can also be used for venous malformations.

Foam sclerotherapy

To maximise the contact between the sclerosing medication and the inner vein wall, the doctor will usually apply it in the form of a foam. This improves its effect on the surface of the vein.

To get the best results from treatment and minimise the number of sessions required, ideally, the foam should have certain physical and chemical characteristics in terms of:



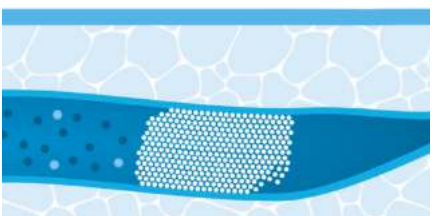
With the right properties, the foam occupies the inside of the vein, displaces the blood, and maximises its contact with the inner vein wall. Also, in ultrasound-guided treatments, a dense, compact foam makes it easier for the doctor to see, helping to ensure a precise, well-controlled procedure.



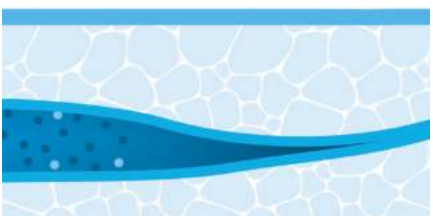
The foam is injected directly into the vein or using ultrasound as a guide.



The bubbles carry the sclerosing medication that comes into contact with the wall of the vein.



The foam causes inflammation and thrombosis of the vein.



The blocked vein gradually disappears through fibrosis and reabsorption.

The best foam, always.

VARIXIO is the first device that provides a simple, automatic way for doctors to create a high-quality, standardised, stable foam every time, for the treatment of any type of varicose vein.



Average bubble size (±20)	Ratio of liquid to gas	Average half-life	Gas used
100 microns	**1:4 - 1:7**	**5 min**	**Sterile air**

Roche E., et al, *A new automated system for the preparation of sclerosing foam: A study of the physical characteristic produced and the device settings required*. Phlebology 0(0) 1-10.2020.

VARIXIO.
Next generation sclerotherapy

AUTOMATIC PREPARATION

VERSATILE

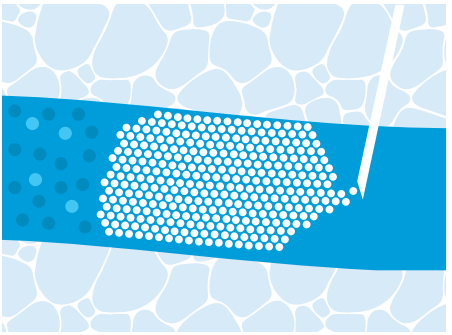
HIGH-QUALITY FOAM

STERILE

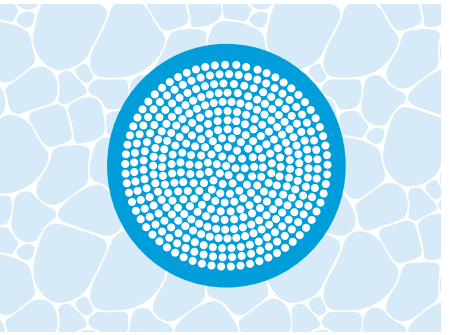
STANDARDISED

FOR ANY TYPE OF VARICOSE VEIN

VARIXIO microfoam:

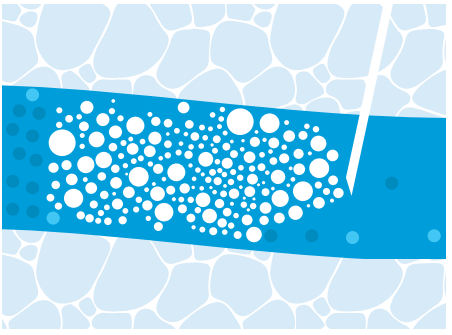


VARIXIO microfoam: uniform bubbles that displace blood through piston effect.

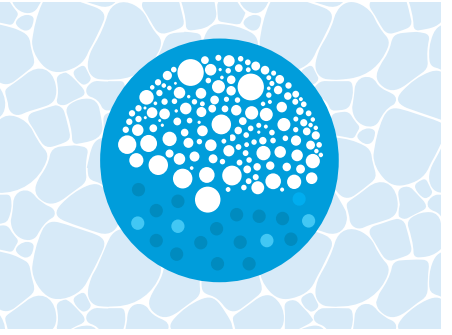


The bubbles fill the whole volume of the vein, maximising the irritant effect.

Low-quality foam:



Irregular bubbles that mix with the blood without filling the whole vein.



Bubbles concentrate in the upper part of the vein and don't come into contact with the whole vein surface.


VARIXIO
Microfoam System
Start / Stop

Key characteristics of VARIXIO microfoam:

- Displaces blood and maximises contact between the sclerosing medication and the vein walls, maximising its effect.
- It is prepared in individual, single-use capsules, ensuring the physical and chemical properties of the foam are consistent, and that it is sterile for each patient.



VARIXIO microfoam



Low-quality foam

	VARIXIO microfoam	Classic sclerosis	Percutaneous laser	Endovascular techniques	Surgery/ CHIVA
Spider veins	●	●	●		
Reticular veins	●	●		●	●
Truncal varices	●	●		●	●
Haemorrhoids	●	●			
Venous malformations	●	●			●
Pelvic varices	●	●			

● Suitable ● Suitable with limitations



Conclusions

01 Foam sclerotherapy is a safe, effective, and minimally-invasive treatment.

02 VARIXIO allows the automatic, standardised preparation of a high-quality foam (microfoam) for the treatment of all types of varicose veins.

03 Foam quality is important for the treatment to be effective.

VARIXIO

www.varixio.com

VARIXIO is for medical use only. Please carefully read VARIXIO's Instructions for Use (IFU) and those of the sclerosing agent of choice.

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