

## **Information about VARICOSE VEINS & their treatment**

***These are general guidelines for your information and need not apply to specific cases***

### **What are Varicose Veins?**

Veins are the blood vessels that carry blood back to the heart. Varicose veins are abnormally swollen (dilated) veins that are visible just below the surface of the skin. Smaller veins in the skin itself are sometimes called "thread veins" or "spider veins". Although these may be unsightly they are not the same as varicose veins.

### **What causes Varicose Veins?**

Blood usually flows through the veins up the leg and back to the heart. This flow against gravity is helped by one-way valves in the veins, which stop the blood flowing the wrong way. If the valves do not work properly, the pressure in the veins of the legs rises, and blood from the deep veins is forced into the veins under the skin, causing them to dilate and appear knotted or lumpy.

Varicose veins often run in the family and as you get older they are more likely to occur. They may also be caused by pregnancy or weight gain that increases pressure on the leg veins.

### **What trouble do they cause?**

Varicose veins are very common and often give no symptoms at all, although they may look unsightly. However, aching in the leg is common, especially after a day of standing, and ankle swelling may occur. Occasionally, severe varicose veins can damage the skin of the leg above the ankle causing itchiness and discolouration (eczema). Without treatment an ulcer may eventually occur. Sometimes a varicose vein may become red and tender. This inflammation is called "phlebitis".

### **What tests are required?**

In most cases a simple examination in the clinic, and a painless test with an ultrasound machine are all that is needed to enable your specialist to decide what treatments are possible. Occasionally an x-ray will be needed before advice about treatment can be given.

### **Do I need treatment?**

Treatment for varicose veins is seldom essential since serious complications rarely occur. The choice is yours and many patients have varicose veins for the whole of their adult life and never suffer any problems with them.

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## **What treatments are available?**

### **Support Stockings.**

These are not recommended for the long term treatment of varicose veins but may be all that is required if aching and swelling are the main problems. Properly fitted medium-strength compression stockings up to the knee usually work best.

### **Endothermal ablation**

Endothermal treatments for varicose veins are now the treatment recommended for suitable varicose veins by the National Institute for Health and Clinical Excellence. Endothermal ablation is carried out using either radiofrequency energy (RFA and VNUS™) or laser energy (EVLA/EVLT) delivered through a probe attached to a generator to obliterate (close) the faulty vein after being positioned under ultrasound-guidance, redirecting blood through nearby healthy veins. The size and shape of the varicose veins will determine if we are able to treat you using this technique.

Endothermal ablation is usually performed under a local anaesthetic, and only requires a small wound to be made at around the level of the knee. After treatment the leg is bandaged and placed in a stocking for 5-7 days. You will be able to go home on the day of treatment and should be able to resume normal activity straight away.

Most varicose veins are suitable for day case treatment using endothermal ablation. Occasionally the vein may not be obliterated by the heater probe (this occurs in about 3% of patients). If the procedure is not effective then it can be tried again, or the veins can be treated by another technique. There may be a few visible varicose veins left after treatment, but these do not cause symptoms and become less visible with time.

Sometimes you can have slight bruising or tenderness and some temporary numbness in the leg. and some patients experience significant discomfort that comes on about 5 days after the treatment, and lasts for a few days, this is much more common with laser treatment (EVLA). As with any surgical procedure there is a small risk deep vein thrombosis (DVT).

As with any varicose vein treatments, new veins can appear over time but the results of keyhole treatments appear to be as good as or better than surgery.

### **Mechanico-chemical ablation (ClariVein™)**

ClariVein is an alternative minimally invasive treatment for varicose veins approved by N.I.C.E. It does not use heat to destroy the vein, instead ClariVein uses a chemical injected through a hollow rotating wire which produces inflammation leading to the vein shrinking. Because no heat is involved it doesn't require the injection of local anaesthetic along the length of the vein being treated, and there is no risk of heat injuring the nerves in the lower calf. ClariVein treatment is particularly suitable for certain configurations of varicose veins, although a stocking is still required for several days after treatment and bruising can still occur.

ClariVein is still a relatively new treatment although it appears to perform similarly to the other keyhole treatments currently available, and is between 90-95% effective at closing the treated vein.

## **Cyanoacrylate glue occlusion (Venaseal™)**

This treatment does not use heat to destroy the vein, instead it uses a medical grade superglue injected through a hollow catheter to stick the vein walls together, and close it down. Because no heat is involved it doesn't require the injection of local anaesthetic along the length of the vein being treated, there is no risk of heat injuring the nerves in the lower calf, and there is usually no requirement to wear a stocking after the treatment.

Venaseal is a new treatment and the longer term results of treatment are not yet known, although trials have so far shown it to be between 97 and 99% effective at closing the treated vein.

## **Ultrasound-guided Foam Sclerotherapy (injections).**

This is recommended by N.I.C.E. for patients whose veins are not suitable for other forms of keyhole treatment. A small amount of a special chemical (Sclerosant) is mixed with air to make a foam. Under ultrasound monitoring the foam is then injected into each vein and the leg is bandaged and placed in a full length stocking for a week. The foam causes inflammation in the vein which then shrivels up and eventually becomes less visible. Sometimes the inflammation can be uncomfortable for a few weeks, and occasionally the skin can blister and become scarred.

Injections are not a form of "invisible mending", and cause some skin staining in more than a third of patients. This usually resolves within 12 months but can occasionally be permanent. Other complications which occur in about 5-10% of patients include allergic reactions, temporary visual disturbance, deep vein thrombosis (DVT), headache, and in a small number of cases, patients suffered a stroke, but made a full recovery.

## **Traditional Operation.**

Operation can still be used to treat most varicose veins, although it is not usually required. It is performed under a general anaesthetic when a cut is commonly made in the groin over the top of the main varicose vein and the leaky valves are tied off and the vein in the thigh is removed (stripped), however blood can still flow up the leg along deeper, unaffected veins. The leg is then bandaged and placed in a full length stocking for a week. Most patients are able to go home the same day after their operation

Complications of conventional surgery include occasional bleeding from the wounds, infection in the groin wound, deep vein thrombosis (DVT) and some numbness or pain in various places in the leg. These usually settle within a few months; rarely a small area of permanent numbness remains. Bruising, especially along the inner thigh is common in the first week or two after the operation.

## **Local anaesthetic phlebectomies**

This procedure is occasionally all that is required to treat varicose veins, but is more commonly undertaken at the time of endothermal ablation or other keyhole treatments, in situations where the varicose veins are thought to have a high chance of remaining without additional treatment. After injecting a dilute local anaesthetic solution, the visible varicose veins, marked before the operation, are removed through a series of small cuts which are then closed with adhesive strips or stitches.

## **Do the veins come back later on?**

New varicose veins may appear after any varicose vein treatment, and you will have been warned that not every visible vein will disappear as a result of your treatment. Traditional methods to treat varicose veins are associated with a recurrence rate of 10-20%. Rates of recurrence for the newer treatments appear to be better than traditional methods.

## **Further information**

This document is intended as an overview of the treatments available and you will receive more detailed information specific to your chosen treatment before the procedure is undertaken. Please discuss any concerns or questions with your specialist prior to treatment.

We recommend the following sources as providing useful and balanced information for people considering varicose vein treatment:

### **National Institute for Health and Clinical Excellence**

Formerly known as N.I.C.E. this organisation produces a range of patient leaflets about varicose vein treatments that can be printed off from their internet site [www.nice.org.uk](http://www.nice.org.uk) You can also view further information on the various treatments in the “guidance for doctors” documents. Search for:

“Varicose veins: diagnosis and management” NICE guidelines [cg168] July 2013

“Treating varicose veins with foam injections using ultrasound guidance” Information about NICE interventional procedure guidance 440 (ipg440) February 2013

“Cyanoacrylate glue occlusion for varicose veins” NICE interventional procedure guidance (ipg526) June 2015

“Endovenous mechanochemical ablation for varicose veins” NICE interventional procedure guidance 557 (ipg557) May 2016

“Radiofrequency ablation of varicose veins” Understanding NICE guidance – information for people considering the procedure. (ipg8) Sept 2003 (all about VNUS closure)

“Endovenous laser treatment of the long saphenous vein” Understanding NICE guidance – information for people considering the procedure (ipg54) March 2004 (all about EVLA)

### **The Circulation Foundation**

This charitable foundation is associated with the Vascular Society which is the professional society of doctors involved in treating diseases of arteries and veins. They produce a range of patient leaflets on diseases of arteries and veins including varicose veins. These leaflets can be accessed at [www.circulationfoundation.org.uk/patient.html](http://www.circulationfoundation.org.uk/patient.html)