

Vein Clinics of Ireland

# **VARICOSE VEINS**

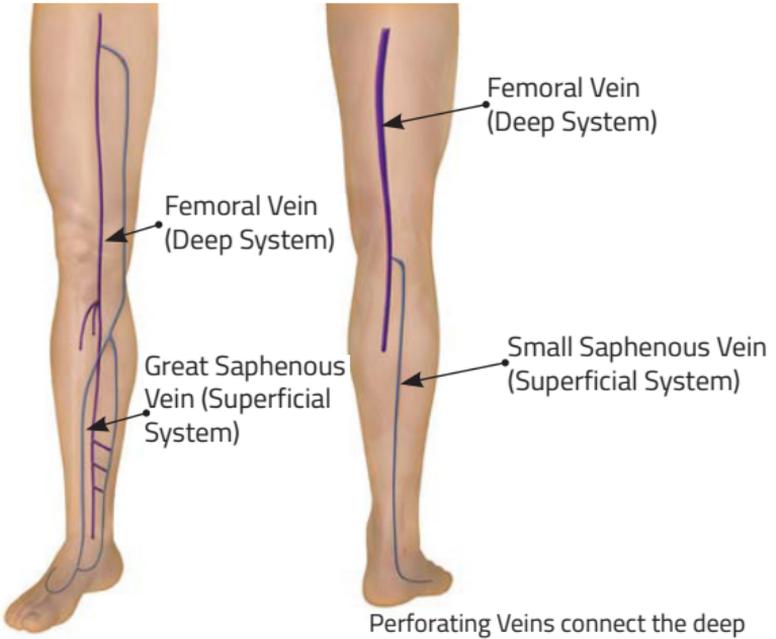
## **and their TREATMENT**

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MCh, FRCS, FRCSEd, FRCSI**

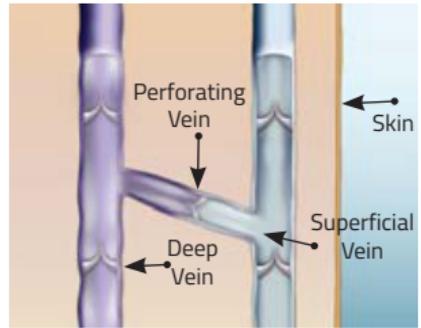
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Department of Surgery  
Beaumont Hospital  
Bon Secours Hospital  
St Joseph's Hospital  
Hermitage Medical Clinic  
Royal College of Surgeons in Ireland

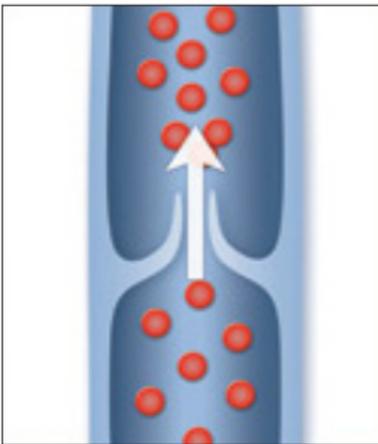
# NORMAL VENOUS ANATOMY



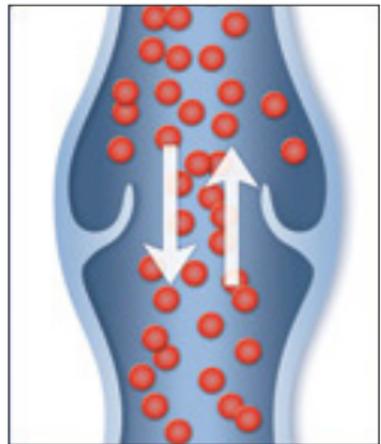
Perforating Veins connect the deep system with the superficial system



# PROBLEM SYMPTOMS



Healthy Vein Valves  
& Correct Blood Flow



Damaged Vein Valves  
& Incorrect Blood Flow

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## VARICOSE VEINS & THEIR TREATMENT

Veins are blood vessels with one-way valves that carry blood back to the heart. Sometimes these valves do not function well and the veins then become swollen and distorted. They then can become visible as knotty bulges under the skin, which we refer to as varicose veins. Small ugly varicose veins can occur in the skin and these are called spider veins or skin flares.

### SYMPTOMS

Apart from any cosmetic problem, varicose veins can cause tiredness or aching in the leg. This particularly occurs after standing for long periods. If neglected, patients can develop itching, eczematous rashes, or even skin ulcers. Thrombosis and infection in the vein may lead to severe pain. Please note that severe pain felt in the leg in the absence of infection or thrombosis may be due to causes other than varicose veins.

### CAUSES

Varicose veins are extremely common occurring in over 30% of the population. They can be inherited. Pregnancy and obesity are also important causes. They are more common in females than in males.

### TREATMENT

#### CONSERVATIVE MANAGEMENT

Elastic stockings can be worn to relieve symptoms. These should be European Class II Compression elastic stockings (23-32mmHg) usually worn to the knee. Even after successful surgery, it is advisable for patients who have a strong tendency to have varicose veins, or who have a history of skin rashes or ulceration, to continue to wear elastic stockings. For long-term use, elastic stockings to the knee are satisfactory; they are worn all day, do not need to be worn in bed.

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## DUPLEX SCANNING

Ultrasound or duplex scanning of the veins of the leg is carried out as an out-patient procedure. The scan allows the varicose veins to be carefully mapped, indicating where leakage originates. Duplex scanning is usually required before treatment to assist in the planning of either sclerotherapy or surgery. Duplex scanning as an out-patient may be covered by private health insurance (Code 5940).

## COMPRESSION SCLEROTHERAPY

### (VARICOSE VEIN INJECTION)

Spider veins or skin flares can be treated using sclerotherapy. This involves the injection of a sclerosing agent or irritant liquid into the small veins through a fine needle. After sclerotherapy elastic stockings are applied, and the patient can drive themselves home.



It is important to:

1. Wear the elastic stocking continuously until the evening of treatment. At that stage the elastic stocking and any dressings can be removed
  2. Elastic stockings are not worn in bed, however they need to be worn daily for ideally seven days after injection treatment
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3. Remain mobile and wear comfortable shoes
  4. If ankle swelling occurs elevate your leg
  5. Patients cannot fly for a week after sclerotherapy

### **Complications of Compression Sclerotherapy: -**

- Localised lumps and bruising, which should fade in time.
- Recurrent or new varicose veins.
- Light brown staining due to pigmentation, which can occur in 1 – 3%. This can be permanent.
- Skin blistering or ulcer formation can occasionally occur. If this happens an antiseptic cream should be applied.

## **LASER SCLEROTHERAPY**

As an alternative to injection sclerotherapy, laser treatment can be used for spider veins or venous flares. Laser is preferred where the veins are very fine. Laser delivers an intense powerful burst of light. This heats the blood within the vessel causing destruction of the vessel. Immediately after laser treatment your skin may be red with some tenderness. Generally over a period of 24 - 48 hours this redness will resolve. Patients need to wear elastic stockings daily (not at night) for one week.

### **Complications of Laser Therapy :-**

- Bruising, which should fade in time.
- Recurrent or residual varicose veins.
- Light brown staining due to pigmentation. This can be permanent.
- Ulcer formation is extremely rare.
- Skin burns and scalding can occur.

## **INJECTION SCLEROTHERAPY AND LASER THERAPY TREATMENT COURSE**

Both of these treatments are principally aimed at improving cosmetic appearance and therefore it is largely up to the patient to decide how successful the treatment is, and how long a course of treatment should last.

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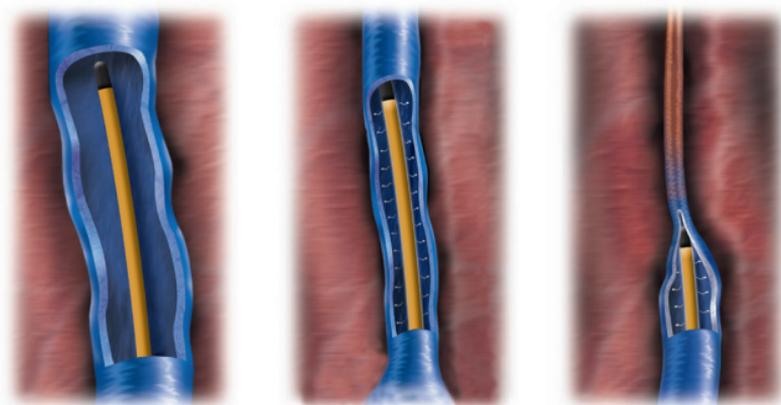
Depending on the extent of varicose veins, patients are originally enrolled for a number of weekly sessions. During this course of time it is anticipated that up to 70% of the spider veins or varicose veins will disappear. Usually this is sufficient to relieve symptoms and greatly improve the cosmetic appearance of the leg.

As we all get older we tend to get more spider veins, and therefore sclerotherapy may need to be repeated at intervals in some people.

Most private health insurance plans allow for treatment of medically significant superficial varicose veins (Code 1460), however purely cosmetic treatments are excluded.

## TREATMENT OF MAJOR VARICOSE VEINS

Surgery is used to treat large varicose veins; especially where there are leaking valves in the main veins.



Disposable catheter inserted into vein

Vein heats and collapses

Catheter withdrawn, closing vein

Nowadays surgery usually does not involve cutting, stripping of veins, or insertion of stitches. Incompetent veins can be treated by insertion of either a radio-frequency/heater probe (**Venefit**) or a laser fibre (**EVLV**) into the vein using ultrasound guidance. This allows the vein to be destroyed in a controlled manner without making any major incisions on the leg. Independent evidence confirms that both radio-frequency and laser ablation are equally effective, however radio-frequency is much less painful and better tolerated.

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VenaSeal uses glue to occlude the main veins and is an interesting new technique. It has not been in use long enough to be an established procedure and consequently is not covered by Health Insurance or available in Health Service Hospitals. That being said, the technique has some potential advantages, has been used by Vein Clinics of Ireland, and we are happy to consider it in individual cases.

Small incision wounds may also need to be made to remove other visible varicose veins in a procedure that is called avulsions. At the end of the procedure the patient will have a number of tiny incisions over the leg where the veins have been treated. These incisions are then closed with steristrips or paper plasters. Patients may have hard tender lumps at these sites due to bruising.

At the end of the operation the leg is bandaged to limit bruising, and also to absorb the anaesthetic fluid which has been inserted into the leg during the operation. Prior to discharge the bandages are replaced by thigh length elastic stockings. It is important that these stockings should be worn for six weeks after surgery. Stockings do not need to be worn at night in bed, however some patients may wish to keep them on in bed for the first few days.

Patients will all be supplied with a prescription for pain killers prior to their discharge. It is important that these painkillers are commenced as soon as discomfort is felt.

Operations are usually performed under local anaesthetic, but patients will need to be fasting from all fluid and food for at least five hours prior to surgery. If patients need to take their regular medicines on the morning of surgery it is acceptable for them to do so with a half cup of water.

For those with afternoon surgery, it will be possible to have a light breakfast (tea and toast) before 8.00am; others must fast from midnight.

Local anaesthetic is delivered in one to two litres of fluid, and therefore patients can anticipate three consequences: Firstly their leg will be numb for 6 – 24 hours post operatively. Secondly their leg will be swollen and hard immediately after the operation.

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Finally there will be leakage of blood stained fluid from their leg in the early postoperative period.

Additional leaflets on the Venfit closure procedure and endovenous laser therapy are available for patients having those treatments.



\* Individual results may vary

## COMPLICATIONS OF SURGERY

- Most patients will have bruising or discoloration of the skin, together with mild pain and stiffness where veins have been removed. Hard lumps due to bruising occur under the skin and these can be quite painful. These changes resolve with time.
  - Ten percent of people develop pain, pins and needles, or numbness after varicose vein surgery. This is due to disturbance or damage to skin nerves. It may recover completely but in some people it persists.
  - If you have had previous varicose vein surgery and are having surgery for recurrent varicose veins, you may experience swelling of the ankle, which occurs in about 5% of patients. In the long-term this would require treatment with elastic stockings.
  - Bleeding, wound infection or gaping wounds can occur but are unlikely.
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- Deep vein thrombosis (clot on the leg) or pulmonary embolism (clot on the lung) can occur after any operation, however they are not common after this type of surgery; 1 in 700 for DVT and 1:1,000 for PE. All patients will receive a preventative injection of anticoagulant (Enoxaparin/Clexane) into the skin of the abdomen prior to surgery, unless they are already on an anti-coagulant like warfarin. Female patients cannot use an oestrogen-based contraceptive pill within 6 weeks of surgery.

## POST-OPERATIVE CARE

1. Wear elastic-stocking daily for 6 weeks. The stocking can be taken off at night before going to bed. They should be replaced every morning.
  2. Remain as mobile as possible. It is advisable to take a minimum of four 5 minute walks in the first 24 hours after surgery. After that, patients should be able to walk normally from day 2 after surgery. There is no requirement to walk any specific distance, but walking may help.
  3. Wear low heeled comfortable shoes.
  4. You will experience some pain, particularly at areas of bruising over the leg. Please take painkillers as prescribed or alternatively Paracetamol or simple painkillers.
  5. After a 48-hours, patients should remove the steristrips or paper plasters from their wounds. They can then return to normal activities. Showers can be resumed at 48 hours; however, dressings should be kept on during showering and replaced with dry dressings afterwards.
  6. Driving can be resumed as soon as the patient is capable of making an emergency stop, which is usually around day three.
  7. The patient is perhaps the best judge of when they should return to work. In some this will be a day or two after surgery, however some would need up to 2 weeks off.
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8. Exercise can be resumed immediately after discharge. Patients should increase their walking time a bit every day. At a minimum patients should walk for five minutes every six hours after surgery.
  9. Patients should not fly for at least six weeks after major surgery.

## WHEN TO CALL THE DOCTOR:

If wounds become red, swollen, painful or open-up; if you develop a fever; if you develop chest pain or breathlessness, call your doctor. In non-urgent situations, call 01 809 3754 or 086 210 6749 during office hours.

Patients with an **urgent postoperative problem** should contact Professor Leahy or one of his team in Beaumont Hospital 01 809 3000 or attend Beaumont Emergency Department where they will be seen by Professor Leahy's team.

## FOLLOW-UP VISIT

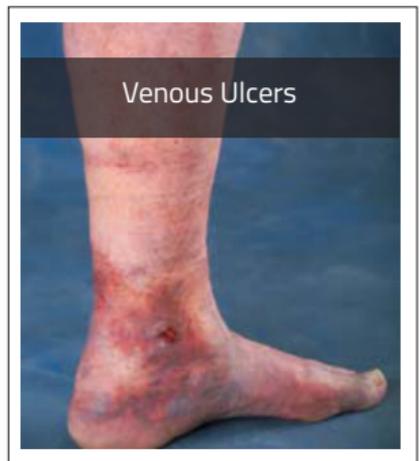
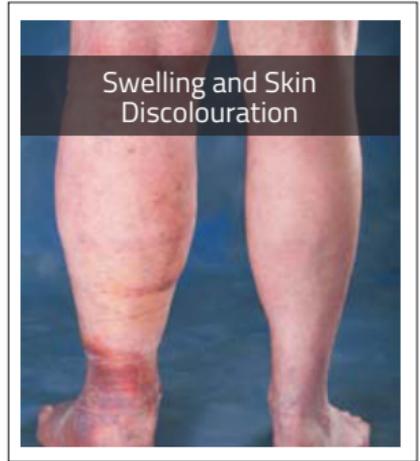
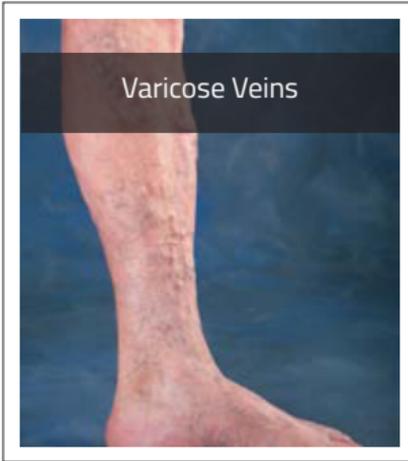
Please arrange a follow-up visit 6 weeks following surgery.

**For all contact information please refer to the back cover page of this booklet.**

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# VENOUS REFLUX DISEASE IS PROGRESSIVE - SYMPTOMS CAN WORSEN OVER TIME IF LEFT UNTREATED

A Serious Progressive Disorder





Prof Austin Leahy, M.B, BAO, DCH, FRCS, FRCSEd, FRCSI, M.Ch. is a consultant vascular surgeon in Beaumont Hospital with over 30 years clinical experience. He qualified from University College Dublin in 1977, and was appointed as Consultant Vascular Surgeon to Beaumont Hospital and Bon Secours Hospital in 1993. He is Professor of Health Science and Management at the Royal College of Surgeons in Ireland.

He is an internationally known vascular surgeon, having published over 200 scientific publications and 4 books: including “Minimal Access Vascular Surgery” and the “The Irish Health System in the 21st Century”.

He is a founder and past president of the Irish Association of Vascular Surgeons; past Chair of the Division of Surgery in Beaumont Hospital; Founder and Chair of the Irish Society for Quality in Healthcare; Past President of the International Society for Quality in Healthcare; Editor in Chief of “The Surgeon Journal”.

## CONTACT INFORMATION:

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**In the event of an emergency please contact Professor Leahy or one of his team at Beaumont Hospital on 01 809 3000, or attend Beaumont Hospital Emergency Department.**