



## **Endovenous Laser Therapy (EVLT) for Varicose Veins**

### **What are varicose veins?**

Veins are the blood vessels that carry blood back to the heart. Varicose veins are abnormally enlarged and tortuous 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 and rarely cause discomfort or complications.

### **What causes varicose veins?**

Varicose veins are due to weaknesses in the wall of superficial veins leading to stretching. This causes failure of the one-way valves inside the veins. These valves normally only allow the blood to flow up the leg towards the heart. If the valves leak, then blood can flow back the wrong way on standing. This reverse flow causes increased pressure on the veins, which swell and become varicose. The increased pressure can cause aching and complications such as eczema, discolouration and leg ulceration.

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

### **How common are varicose veins?**

Approximately half the population has some form of venous disease, and varicose veins affect up to 30% of all adults.

### **How does endovenous laser therapy work?**

Previously, treatment of painful, swollen varicose veins required a surgical procedure where the great saphenous vein was stripped. More recently, endovenous laser therapy, also called EVLT, has been used to treat leaking saphenous veins (which feed the visible varicose veins) by delivering laser energy through a small puncture in the leg to close the diseased vein. The procedure may be undertaken using local or general anaesthetic, depending on how extensive your varicose veins are. It is not suitable for all patients with varicose veins.

A thin laser fibre is inserted into the great saphenous vein along your thigh. Laser energy is then delivered through the fibre and into the vein, causing the vein to close. The procedure takes about 30 minutes although treatment to visible varicose veins may lengthen the procedure.

### **Why is the laser fibre placed in the thigh, when the varicose veins may be located below the knee?**

Faulty valves located in the groin (or behind the knee) and in the vein running up the thigh (or calf) feed the bulging varicose veins in the lower leg. The endovenous laser therapy blocks this leaky feeding vein. If you have extensive varicose veins then these may need removing through tiny incisions (microphlebectomies) in addition to the laser treatment. This combination of treatment is usually performed under a general anaesthetic.

### **Is endovenous laser painful?**

Although individual responses vary, most people report little or no pain associated with endovenous laser therapy.

### **How successful is endovenous laser therapy?**

Clinical studies have been published which document the success of endovenous laser treatment although long term results are not yet available. Like any medical treatment endovenous laser has certain risks, which will be explained to you.

**What should I do before the operation?**

If you are having your procedure under a general anaesthetic and are taking an oestrogen containing oral contraceptive pill, you should stop this six weeks before the treatment. If you require contraceptive cover during this period, you may wish to discuss changing to a progesterone only mini pill with your G.P. The progesterone only mini pill does not need to be stopped before surgery. Usual oral contraception may be recommenced in the week after surgery.

Hormone replacement therapy (HRT) does not need to be stopped before surgery.

On the actual day please do not apply any moisturiser to your legs. Ensure that you wear loose trousers or a skirt and loose shoes or sandals so that there is room for the dressings.

**What should I do after the procedure?**

Following the operation a compression bandage will be applied. This should be worn continuously for the next five days. The bandage can then be removed. A supplied specially measured stocking should then be put on and worn during the day and removed at night for the next two weeks. You may have a shower 4 days after your operation, and on the 10<sup>th</sup> day you should have a bath to soak off the adhesive strips.

You will be encouraged to mobilise straight after the procedure but also to rest with the leg elevated so that your heels are higher than your hips to aid the drainage of excess fluid from the tissues and assist healing. Slight discomfort is normal. Local twinges of pain may occur in some patients. In the first week after the operation you may need to take a mild painkiller such as Paracetamol to relieve discomfort.

Frequent (2 – 4 times daily) short (15 – 20 minutes) walks are beneficial for the first 7 – 10 days post-operatively. You will be encouraged to rapidly return to normal activities but it is advisable not to drive for one week after the operation. A short break from work (7 -10 days) is sensible depending on your occupation. Swimming, vigorous exercise and hot baths should be avoided for two to three weeks as this increases the risk of blood flow returning to the treated vein. It is wise to avoid long-haul flights for 6 weeks postoperatively. It is advisable to leave at least one month after your operation before a holiday or special occasion.

**What to expect during the recovery period**

Sometimes a little blood will ooze from the wounds during the first 12-24 hours. This will stop on its own. If necessary, press on the wound for ten minutes.

When the bandage is removed there will be a variable amount of bruising, depending on the extent of your varicose veins preoperatively. This is quite normal and settles 2 - 3 weeks after the operation. It is very common to have some lumpy areas where the veins have been removed and this settles 6 – 12 weeks after the operation. Although the majority of healing is complete at 6 – 8 weeks it is usually 3 – 4 months before the final result is achieved.

There will be a small scar in the groin, or behind the knee, which will fade over time. The other wounds on your legs will continue to fade for several months before disappearing.

**Are there any complications following this procedure?**

Some degree of temporary bruising is inevitable and this usually settles within 2 - 3 weeks. There is a risk of altered pigmentation or staining of the skin where the veins have been removed. It usually settles after some weeks or months, but may occasionally be permanent.

Infection in the wounds may occur (3%) which might require a course of antibiotics.

The sensory nerves adjacent to the saphenous vein can suffer heat damage causing numbness. This is usually mild and rarely lasts for more than a few weeks. Numbness or tingling in the leg, if you have a number of small cuts, occurs in up to 10% of cases. Rarely, this may be permanent.

Some people may develop worse or new "spider" or "thread" veins close to the sites of treatment. These can be treated by micro injection techniques if necessary.

As with all surgery there is a risk of deep vein thrombosis (DVT), although this is rare (approximately 1 in 250). You will be supplied with compression stockings and encouraged to mobilize to prevent this.

There is a risk of recurrence of varicose veins (3 to 6% per year), as you are clearly disposed to them. The taking of regular exercise, the avoidance of becoming overweight, and the wearing of light support tights or stockings will all help prevent you being troubled by varicose veins in the future.

Your health professionals will make every effort to make your treatment as safe as possible. However, complications can happen with any medical treatment.