



# Patrick Coughlin

## Vascular Surgeon

### **Patient Information Sheet**

#### **Ultrasound Guided Foam Sclerotherapy (UGFS)**

You have varicose veins that can be treated using ultrasound guided foam sclerotherapy (UGFS).

#### **What is Ultrasound Guided Foam Sclerotherapy?**

Ultrasound Guided Foam Sclerotherapy (UGFS) is a minimally invasive technique performed under local anaesthesia to treat varicose veins. Its main role is in the treatment of small varicose veins or varicose veins that have recurred after previous treatment. It has been approved by the National Institute for Health Care and Excellence ([www.nice.org.uk](http://www.nice.org.uk)) which assesses the safety and effectiveness of all new treatments.

UGFS involves injecting a solution, which is mixed with air to form a foam, directly into the vein. The foam causes the vein to scar and collapse, forcing blood to reroute through healthier veins. The collapsed vein is reabsorbed into local tissue and eventually fades.

After UGFS, treated veins tend to fade within a few weeks, although occasionally it may take up to a month to see the full results. In some instances, repeated sclerotherapy treatments may be needed.

### **What will happen during and after the procedure?**

UGFS can be performed in an out patient setting. It can be performed without anaesthetic and generally takes less than half an hour to complete.

For the procedure, you'll lie on your back with your legs slightly elevated. After cleansing the area to be treated with an antiseptic solution, the varicose vein will be identified using an ultrasound machine and a needle placed into the vein. Once it has been confirmed that the needle is in the vein the foam mixture will be formed and then injected under ultrasound guidance into the vein. The foam works by irritating the lining of the vein, causing it to swell shut and block the flow of blood. Eventually, the vein will become scar tissue and disappear. The foam tends to cover more surface area than the previously used liquid form of sclerotherapy which means that you do not have to use as much to treat the same amount of veins.

Some people experience minor stinging or cramps when the needle is inserted into the vein. If you have a lot of pain, tell your doctor.

Once the needle is withdrawn, your doctor applies compression and massages the area to keep blood out of the injected vessel and disperse the solution. A compression pad may be taped onto the injection site to keep the area compressed while your doctor moves on to the next vein.

The number of injections depends on the number and size of veins being treated.

After the treatment has finished, you will receive an injection in your tummy to thin the blood a little and a bandage will be applied to the leg. This bandage should be kept on for 5 days but if you get any pain / numbness or pins and needles in your foot then take off the bandage and put on the stocking which you will be sent home with. IF you have no problems with the bandages you should keep them on for 5 days and then replace this with a stocking for two weeks (wearing it day and night but able to take off to bath / shower for the first week and then just during the day for the second week).

You will be able to go home on the same day as the treatment. You should not drive yourself home and if you are travelling for more than an hour from the hospital you should sit in the back of the car with your leg up. When you get home it is important that you do some walking.

### **What are the advantages of UGFS over conventional surgery?**

- UGFS can be performed without anaesthetic and as such the benefit of this is that you should be able to return to work in a couple of days.

### **What are the potential complications?**

UGFS is a fairly safe procedure with few complications.

Complications are not common but may require treatment. These include:

- All treated veins contain some extent of thrombus (clot) after treatment. In some cases, this causes a local **superficial thrombophlebitis** with symptoms of discomfort and discoloration. The thrombus usually begins to liquefy within 1–2 weeks of injection. Typical symptoms and signs are localized pain, tenderness, redness along the path of thrombosed vein. This is typically managed with regular pain relief using non-steroidal anti-inflammatory agents (Brufen, Voltaren) as well as topical ointments such as Hirudoid or Arnica. All of these medications are available over-the-counter. Topical ointments should be utilized twice a day by firmly rubbing the preparation into tender and lumpy changes caused by thrombophlebitis. In majority of patients superficial thrombophlebitis is self-limiting and resolves within 1-2 weeks.
- Postsclerotherapy **hyperpigmentation** is the occurrence of brown-black staining of the skin overlying the treated veins. It is common, with reported incidences ranging from 2% to 80%, and appears to depend upon the choice and concentration of sclerosant solution, vessel size, injection technique, and post procedure care. Skin staining is caused by the deposition of hemosiderin in the tissues around the treated vein. Skin staining can be worsened by the presence of undrained coagulum. Skin staining usually fades with time and is most often resolved within 6–12 months of treatment. On rare occasions it can persist beyond a year. Unfortunately, there is no reliable treatment for persistent skin staining, although transcutaneous laser treatment appears to have the greatest success.

- **Telangiectatic matting** is the appearance of a complex of fine red veins around a treated vein after sclerotherapy. It is probably due to neovascularization of the treated tissues and occurs in ~16% of patients. Matting is a source of frustration to both patient and physician but (like skin staining) usually resolves without therapy.
- **Air bubbles.** Tiny air bubbles may rise in your bloodstream. These don't always cause symptoms, but if they do, symptoms include visual disturbances, headache, coughing and nausea. These symptoms generally go away, but call your doctor if you experience problems with limb movement or sensation after the procedure.
- **Allergic reaction.** It's possible that you may have an allergic reaction to the solution used for treatment, but this is uncommon.
- **Skin necrosis** can occur at puncture sites, especially if there has been extravasation of sclerosant. This is usually very focal and heals without therapy in a short time.
- Overspill of sclerosant into the deep system can cause **Deep Venous Thrombosis (DVT)** if the concentration of sclerosant is high enough to damage the endothelium of the deep veins. This is of particular concern when treating vessels in the knee and thigh, where the deep vessels in question (femoral and popliteal veins) are unpaired and thus without available collaterals. More central complications of non-target sclerotherapy are rare. Nonetheless, there have been a few reports of patients experiencing transient visual disturbance after being treated with sclerosing foam. The aetiology of this experience is unclear, but

it may be due to small amounts of foam crossing a clinically silent hole in the heart.

- Typical changes which should raise concern are: significant and worsening pain and sensation of tightness within calf muscles, increasing calf and/or foot swelling, difficulties in walking due to pain within calf muscles. Any of the above should be reported immediately to Mr. Coughlin. Afterhours or during weekends, presentation to available GP or nearest emergency department is recommended.

If one accepts that the accumulation of coagulum and occasional **skin staining** are not true complications but rather expected sequelae of injection sclerotherapy, complications are rare and usually minor.