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Radiofrequency Ablation (RFA) for Varicose Veins

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

About the treatment:

Varicose veins arise from problems with the valves in the superficial veins in the legs. These valves usually ensure that the blood can only go up (against gravity) back towards the heart. If you have varicose veins, these valves are not working (they are "incompetent") and so the blood is pushing back down toward the feet, blowing out the veins, and potentially causing symptoms in the feet/ankles/shins, such as aching and swelling, or even skin pigmentation, eczema or ulceration.

Historically the mainstay of treatment for varicose veins was to surgically "strip" one or both of the main superficial veins of the thigh (the long or short saphenous veins), to stop that head of pressure bearing down on the veins in the calf. This is a very effective operation, but does cause quite a lot of bruising and pain in the thigh where the vein is stripped, from bleeding from all the small branches of the vein.

Please note that you still have plenty of ways the blood can get out of your leg via the deep venous system, which is working normally (we will have demonstrated this with the ultrasound you have had, if you have been deemed to be suitable for RFA). Many patients ask whether destroying veins will cause a circulation problem. In fact, you *already have* the circulation problem, with blood constantly going *backwards* through the superficial system of veins. By removing this system, the blood is all forced to go *forwards* (ie up out of the leg, back to the heart) through the deep system, *improving* the circulation of blood out of the leg.

In the last few years, two new modalities have been introduced whereby we can "burn" the inside of this vein, which causes damage and blockage of the vein. This then stops the increased venous pressure without causing the pain and bruising. These modalities are

radiofrequency ablation and laser ablation. In recent large trials, it has been shown that of the two, radiofrequency ablation has less bruising and pain than the laser therapy.

The treatment works by damaging the inner layer of the vein wall, which then sticks to itself when there is external compression applied (using a stocking). After 24-48 hours, this vein sticks to itself permanently, meaning that instead of the vein acting like a pipe, transmitting high pressures back to the foot, it becomes an almost invisible line of fibrous tissue.

Before your procedure:

Please ensure you bring your compression stocking(s), as you cannot have the procedure without them.

The procedure:

Using local anaesthetic, Dr Ward-Harvey will insert the radiofrequency probe into your saphenous vein, usually via a 2-3mm incision below the knee. Then he will inject dilute local anaesthetic all around the vein from the groin to the incision point. This acts to numb the vein for the procedure, and also to act as a "heat sink" to ensure no heat is transmitted to any surrounding tissues. Then the probe is activated and slowly withdrawn, causing damage to the vein on the way. Depending on what the rest of your veins look like, Dr Ward-Harvey may then treat your remaining varicose veins in the same sitting, either by injection sclerotherapy, or by tiny cuts and pulling the visible veins out (called "avulsions"). Your leg is then placed in a full length stocking.

Dr Ward-Harvey and your anaesthetist will discuss anaesthetic options with you, which may be: using local anaesthetic only, sedation, or general anaesthesia.

You should be discharged soon after the procedure is finished, as it is almost always performed as a day-only procedure. Try to go for a walk straight away (15-30 minutes) to keep the blood circulating.

Afterwards:

For the first week after the treatment, please take at least a thirty minute walk every day. When sitting, elevate the legs with the knees slightly bent. Try to avoid standing still for any length of time. Please continue to have a normal active lifestyle. The worst thing you can do is become inactive after the treatment, as this will increase your likelihood of developing clots in the leg veins.

After 48 hours you should remove the bandaging or stocking (depending which has been applied) and have a shower. After this the stocking should be worn during the day for at least a further 2 weeks (i.e. feel free to remove it for bed and showering). If you are having trouble with getting your stocking on, try using rubber washing-up gloves. Talcum powder can help with getting the stocking on. If your stocking is hurting you, please let us know.

You should be able to return to work/normal activities after the bandaging has been removed.

The success of the treatment relies upon the pressure that the bandage and stocking apply to the treated area. Wear the stocking until the leg is completely comfortable on standing (usually 3-4 weeks).

Over the first few weeks following the treatment, any slight discomfort, hardness or tenderness at the small wounds should gradually subside.

If you develop a tender swollen calf, please let us or your GP know straight away, so that you can get an ultrasound scan to rule out Deep Vein Thrombosis.

If you have any concerns that your recovery is not proceeding as expected, please call the rooms and we can discuss what to do.

Complications:

Most patients cope very well with RFA and suffer few (if any) ill effects. Dr Ward-Harvey will discuss with you any specific details about your particular veins or risk factors which make you any more or less likely to have problems. The following complications are detailed for transparency so that you are aware that RFA is not immune from ill-effects, no matter who performs the procedure.

-**Pain**: The procedure is usually quite comfortable, apart from some of the needles for the local anaesthetic. Pain in the first few days can be treated with anti-inflammatory tablets. Some patients notice a firm tender “cord” going down the inner thigh where the saphenous vein has been treated. This is due to the post-treatment inflammation, which is normal and settles after a few weeks.

-**Bleeding**: If you have had vein avulsions, you may have a little bleeding from some of these small wounds. This bleeding usually stops very quickly with the compression stockings, but if not, please put local pressure on the bleeding point and elevate your legs for 10 minutes.

-Bruising: Sometimes there is some bruising along the path of the vein (the inner thigh), or around where there were vein avulsions in the thigh or calf. The larger the veins, the more likely there is to be bruising. This resolves after a few weeks.

-**Infection**: Rarely, patients can have a postoperative wound infection around one of the small wounds created to get the probe into the vein or to pull a vein out. This may need antibiotics but should resolve easily.

-**Residual veins**: Radiofrequency ablation has a very high success rate of occluding the saphenous vein. However it may be that there are a couple of residual visible veins left after the treatment. Often these will become less prominent over the next few months, now that they no longer have such high pressures in them, and nothing further may need to be done. If they remain an issue, Dr Ward-Harvey will discuss other options for treatment, which are highly likely to be simple injections of the veins.

-**Nerve damage**: Extremely rarely the nerve running next to the saphenous vein (the saphenous nerve, or the sural nerve) may be affected by the heat from the probe, causing either temporary or permanent skin numbness in various areas of the leg.

-**Recurrent veins**: Despite documented complete treatment of varicose veins, up to 20% of patients may experience recurrent varicose veins many years after the treatment. This is usually due to new venous pathways forming, and the valves in these veins not working. Fortunately it is much less likely that recurrent veins are symptomatic, and if you require treatment, usually all that is required are some injections. Please notify Dr Ward-Harvey if you think there are more veins recurring.

-**Allergic Reactions**: If you are having injection sclerotherapy, you may (very rarely) be allergic to the sclerosant compound, and have a minor or major allergic reaction. You will be monitored for this and treated appropriately if it occurs.

-**Deep Venous Thrombosis**: This occurs in less than 1% of patients, and is largely prevented by wearing stockings and mobilising.

Airline Travel:

Although the risk of blood clots is minimal with RFA treatments, we do not advise patients to undertake long distance air travel within four weeks of treatment. Short flights may be acceptable, but if you have any doubts please discuss them with Dr Ward-Harvey.