



Information for  
patients and  
carers

**Understanding Radiofrequency  
Ablation (RFA) for Varicose Veins**

## What are varicose veins?

**There are two main systems of veins in the legs:**

**Deep veins** - Located deep within the muscles of the legs. The leg muscles squeeze the deep veins during walking, carrying most of the blood back up the legs to the heart.

**Superficial veins** - Located just under the skin, they are less important than the deep veins and can form varicose veins. Veins have one-way valves, which allow blood to be carried up the leg towards the heart. These valves can become damaged which causes a back flow of blood which increases the pressure in the veins. The increased pressure causes the veins to widen, bulge or twist. This is referred to as varicose veins.

Varicose veins often run in families and as you get older, they are more likely to occur. They may also be caused by pregnancy or weight gain; both increase the pressure on the leg veins. Varicose veins can also appear because the deep veins in the leg have been blocked by blood clots in the past.

## What are the symptoms of varicose veins?

- Aching, swollen legs
- Itching and/or a rash (varicose eczema)
- Skin changes such as brown discolouration
- Ulceration of the legs or threat of ulceration (a break in the continuity of skin)
- Phlebitis (sometimes called thrombophlebitis), is inflammation in the veins and overlying skin
- Bleeding through the skin

## What is Radiofrequency Ablation?

RFA is a minimally invasive procedure for the treatment of varicose veins. It is usually performed under local anaesthetic. A fine tube called a catheter is used to deliver heat into the vein and cause it to

close up. Blood is then redirected through nearby healthy veins.

## **What are the aims of RFA?**

The aims of RFA are to reduce the pressure in the skin veins which will relieve your symptoms. For those with ulcers it will help the wounds to heal. For those with skin changes around the ankles or previous ulceration, reducing the pressure prevents worsening of the skin change and usually reduces the risk of further ulceration. For these patients, the addition of support stockings further protects the skin around the ankles.

## **What are the alternatives?**

Compression hosiery can often relieve the symptoms of discomfort from varicose veins, but do not treat or remove the underlying problem.

Lifestyle changes i.e. weight loss, exercise, avoiding prolonged standing/sitting. Other procedures available to treat varicose veins include:

- Surgical removal of varicose veins (ligation and stripping)
- Foam sclerotherapy – injecting surface veins with foam to make them seal and close
- Sclerotherapy – Injecting the surface veins with a chemical to make them seal
- The surgeon will have discussed treatment options with you during your clinic visit and advised that RFA is the most appropriate treatment

## **Before coming into hospital**

Please have a bath or shower but do not shave the operation site (this will be done in theatre if necessary).

## Coming into hospital

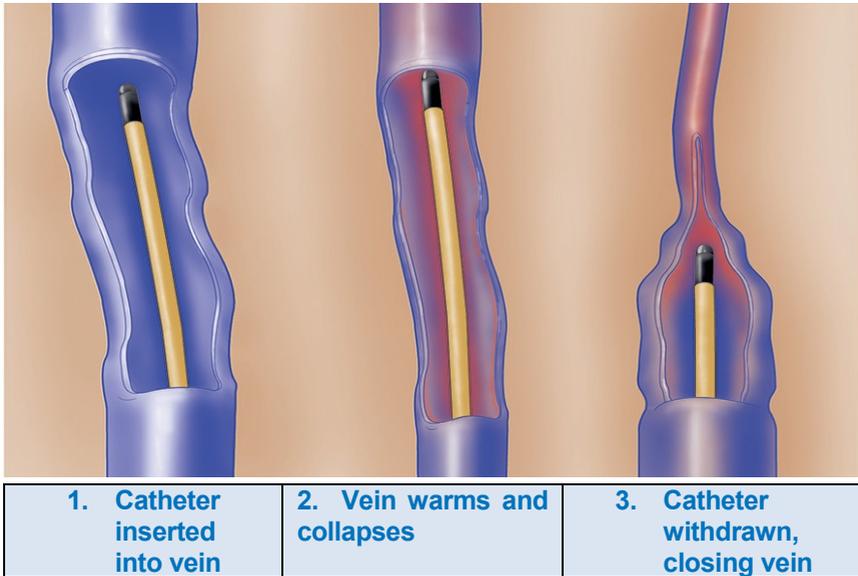
RFA is performed as a day case, meaning you come in and go home the same day. This will be offered to those who are fit and have someone to stay overnight. People with more complex needs or who live alone may require an overnight stay in hospital.

This will be discussed with you during your consultation with your surgeon. The procedure is usually performed under local anaesthetic; therefore you can eat and drink as normal before the procedure (unless advised otherwise). You should bring all your current medications with you.

When you arrive you will be met by a member of the nursing team who will assist you to prepare for theatre. The surgeon who will be performing your operation will visit you before the procedure. If you are also having some of the smaller varicose veins removed at the same time (avulsions) the surgeon will mark up your veins with a waterproof pen, agreeing with you which veins will be removed. You should ensure that all your varicose veins are marked.

## The operation

The surgeon will use an ultrasound machine to establish the position of the vein and they will then administer local anaesthetic to the area in which the catheter will be inserted - this is usually around the knee or on the calf. The catheter is put into the vein that needs treating. Ultrasound images are used to make sure it is in the right place. A fine probe is then passed through the catheter and inside your vein. Local anaesthetic is injected along the path of the vein and the surgeon then activates the tiny catheter, which is powered by radio frequency (RF) energy, to deliver heat to the vein wall. As heat is delivered, the vein wall shrinks and the vein is sealed closed. The catheter is slowly removed and a dressing is applied over the small incision site. An ultrasound scan checks that the procedure has been successful. The whole procedure takes approximately 1 hour.



## What happens after the procedure?

Once the catheter is removed your leg will be bandaged from the ankle up to the top of the thigh. You will be allowed home once your blood pressure and bandage have been checked and the nurses have explained you're after care. You can walk around freely but you should not drive yourself home.

The leg is usually a little more uncomfortable the morning after the procedure, as the local anaesthetic has worn off and your leg may feel slightly swollen. You will be given painkillers to take home with you. It is important to follow the instructions on the packet.

## Going home

You will usually be advised to keep your bandage on for 24 hours then remove it and apply a thigh length compression stocking (this will be provided on the day of your procedure). You will need to wear the

stocking for 7 days in total. For the first 4 days you should wear the stocking continuously day and night. For the following 3 days you should wear the stocking during the day but may take it off at night. After 7 days you can stop wearing the thigh length stocking.

Prior to the procedure if you were supplied with a below knee compression stocking you should resume wearing this after wearing the thigh length stocking for 7 days, or until you return to clinic.

You should be able to resume driving after 24-48 hours if you feel safe to do so and are able to perform an emergency stop if required. You can resume normal activities within a day but we advise that heavy exercise (such as long distance running and contact sports) should be avoided for approximately 4 weeks. You should also avoid swimming for up to 4 weeks and avoid standing for long periods of time for up to 2 weeks.

It is recommended that you take a couple of days off work after the procedure to recover.

We advise patients not to undertake long haul flights or long distance coach or car journeys for 4-6 weeks. Short flights (under three hours) may be acceptable but you should discuss this with your surgeon first.

Your surgeon may wish to see you in clinic, if so an appointment will be sent for you to attend clinic 6-12 weeks after your procedure.

## **How soon will my symptoms improve?**

You may notice an immediate relief of symptoms; however the full benefit of the procedure may take a few weeks. Although RFA is successful in closing the main vein in the majority of cases there may still be some residual varicose veins left which, if causing symptoms, may be removed at a later date.

## **What are the benefits of RFA?**

RFA can be performed under local anaesthetic and is minimally

invasive. It requires fewer cuts in the skin, therefore leaving fewer scars and less potential for complications such as wound infections or post procedure pain. You can walk straight away and most normal activities can be resumed within a day.

## What are the potential complications?

There is a small chance that the vein may not be completely blocked off (2% risk).

There may be some visible varicose veins left after the procedure which should not cause any symptoms but if they do can be removed at a later date.

There may be some bruising, swelling and pain but this should be minimal and will settle down.

There is a small risk of a blood clot in your leg (deep vein thrombosis (DVT)) or lungs (pulmonary embolism (PE)); the risk is around 1 in 400. You may be given a blood thinning injection at the end of the procedure to reduce this risk, however because of this there is a small risk of bleeding.

You may experience some numbness in your leg as nerves can lie close to the vein that has been treated. This is almost always temporary but may take some time to recover and is usually not troublesome.

There is a risk of skin burn and vein perforation but this is rare. If the vein is close to the skin you may have a brown mark over the vein or feel a cord like structure but this will eventually disappear.

**You need to seek urgent medical attention (via your doctor or if out of hours via primary care or your local Emergency Department). If you experience excessive pain, redness or swelling to the leg, or have any difficulties breathing. Please also inform us on the numbers provided even if deep vein thrombosis (DVT) has been excluded as we would like to see you in clinic sooner.**

**Please do not hesitate to contact us should you have any concerns or questions.**

## **Contact details**

Should you require further advice or information please contact:

### **Vascular Specialist Nurses:**

Preston/ Chorley site - 01772 523757 or via switch board on 01772 71655 and ask for bleep 4605 or 4606.

Blackpool site: Via switch board 01253 300000 and ask them to contact the Vascular Specialist Nurse:

Royal Lancaster hospital: Via switch board 01524 65944 and ask them to contact the Vascular Specialist Nurse:

Furness General: Via switch board 01229 870870 and ask them to contact the Vascular Specialist Nurse.

### **Vascular secretaries:**

**Preston/ Chorley/ Blackpool/ Lancaster/ Kendal /Furness General Hospital:**

Via switch board: 01772 716565

**Wigan Wrightington and Leigh:**

01942 264057 01942 822068

## **Sources of further information**

[www.lancsteachinghospitals.nhs.uk](http://www.lancsteachinghospitals.nhs.uk)  
[www.nhs.uk](http://www.nhs.uk)  
[www.patient.co.uk](http://www.patient.co.uk)  
[www.accessable.co.uk](http://www.accessable.co.uk)

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If you want to stop smoking you can also contact the Quit Squad Freephone 0800 328 6297.

Please ask if you would like help in understanding this information. This information can be made available in large print and in other languages.

**Cantonese:**

如果你希望以另外一種格式接收該資訊，請和我們聯絡，不必猶豫。

**Gujarati:**

જો તમને આ માહિતી બીજી રચના કે ફોર્મેટમાં મેળવવાની ઈચ્છા હોય, તો કૃપા કરી અમારો સંપર્ક કરતા અચકાશો નહિ.

**Hungarian:**

Kérjük, vegye fel velünk a kapcsolatot, ha más formában kéri ezt az információt.

**Polish:**

Jeżeli chciał(a)by Pan/Pani otrzymać niniejsze informacje w innym formacie, prosimy o kontakt.

**Punjabi:**

ਜੇ ਤੁਸੀਂ ਕਿਸੇ ਹੋਰ ਫਾਰਮੈਟ ਵਿਚ ਇਹ ਜਾਣਕਾਰੀ ਲੈਣਾ ਚਾਹੁੰਦੇ ਹੋ ਤਾਂ ਸਾਡੇ ਨਾਲ ਸੰਪਰਕ ਕਰਨ ਤੋਂ ਨਾ ਝਿਜਕੋ।

**Urdu:**

اگر آپ اس معلومات کو کسی اور صورت میں حاصل کرنا چاہتے ہیں تو برائے مہربانی ہم سے رابطہ کرنے میں ہچکچاہٹ محسوس نہ کریں۔

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**Division:** Surgery

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