

Radiofrequency Ablation for Perforator Vein Reflux

Radiofrequency perforator ablation is performed on perforator veins, which are **short connections between your deep and superficial veins**. Perforator veins can suffer the same sort of valve damage and retrograde blood flow (venous reflux) as other veins. Most patients with vein disease who experience skin changes, (that also may result in leg ulcers if left untreated) have reflux in perforator veins near their ulcers, as well as in the superficial or deep veins.



What are Perforator Veins?

Perforator veins serve as connections between the two networks of veins in the extremities, the superficial venous system and the deep venous system. Perforators connect the two parallel systems, and normally drain blood from the superficial veins to the deep veins as part of the process of returning oxygen-depleted blood to the heart.

Perforator veins have one-way valves designed to prevent backflow of blood down towards the superficial veins. When those valves no longer function properly and reflux occurs, the buildup of blood and pressure can cause not only the superficial veins but the perforators themselves to become incompetent. Perforator veins in the lower leg and ankle are particularly vulnerable to distention and incompetence, and the resultant circulatory problems create an increased likelihood of edema, skin discoloration, dermatitis and skin ulcers in the immediate area.



Your doctor may have recommended treatment of your perforator vein(s) because it is contributing to:

- Venous leg ulcers
- Pre-ulcerative skin changes
- Persistent or recurrent varicose veins
- Leg pain
- Leg swelling

VNUS Closure RFS stylet treating perforator vein

How does the treatment work?

Radiofrequency perforator ablation is an outpatient procedure, performed in the doctor's office. Using ultrasound guidance, a fine needle is passed into the perforating vein through the skin. The radiofrequency current heats the inside of the perforator causing it to shrink down and remove the abnormal flow between the deep and varicose veins. Treatment itself takes approximately 10 minutes per perforating vein. Some patients have one perforator vein or multiple veins on the same leg that require treatment. You can expect to be in the office for at least an hour, because of the sterile preparation and set-up portion of the procedure.



What should I expect on the day of treatment?

The procedure is performed with local anesthesia, but many patients elect to use a mild oral sedative (Valium), which is taken after checking in and completing all paperwork. You will change into a gown or shorts. Depending on the vein to be treated, you will lay on your back or on your belly. We do our best to make special accommodations (for example, if you cannot lie flat or cannot bend a knee very well) with body positioning and using pillows. We will do our best to make you comfortable.

Then, we will give you the option of watching a movie on Netflix or listen to music. Once you are comfortable, you leg (s) will be prepped with cleansing solution for the sterile procedure. The doctor will perform an ultrasound to map the vein (s) to be treated. Then, a numbing agent (lidocaine) will be injected into the skin. In the numb area of the skin, a tiny puncture is made to pass the radiofrequency catheter. Your doctor will then use a needle to administer additional local anesthetic around the vein. This solution numbs the vein and insulates it from the surrounding tissue. After the numbing solution is applied, the vein is painlessly treated with radiofrequency energy. Once your vein has been treated, we will clean your leg and apply a compression stocking which you will wear for 72 hours continuously. You will walk for 30 minutes prior to getting in your car.

What should I do after treatment?

You should walk 30 minutes twice daily after treatment. This will alleviate discomfort and avoid pooling of blood in the legs.

What should I avoid after treatment?

For at least 7 days after treatment, you should avoid airline travel to minimize pooling of blood in the legs. You should also avoid strenuous exercise (anything more than a brisk walk), heavy lifting, saunas or hot tubs, and leg massages for two weeks. All of these dilate the superficial veins and interfere with their healing.

What are the possible adverse effects?

It is normal to have aching in the treated veins. This responds well to walking, ice packs, and anti-inflammatory medications such as ibuprofen (Advil[®], Motrin[®]) and naproxen (Aleve[®]). Expect some bruising over the injection sites, which fades over about two weeks. Less common complications include blood clots within the deep veins or a temporary area of skin numbness over a tiny branch of a skin nerve that travels close to a vein.

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