

FACT SHEET

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Varicose Veins and Venous Insufficiency *Nonsurgical Outpatient Procedure Treats Varicose Veins*

Venous insufficiency is an abnormal circulatory condition, with decreased return of blood from the leg veins up to the heart and pooling of blood in the veins. Normally, stop valves in the vein close to keep blood from flowing downward with gravity. When the valves in the vein become weak and don't close properly, they allow blood to flow backward, or reflux. Varicose veins are prominent veins that have lost their valve effectiveness and, as a result of dilation under pressure, become elongated, rope-like, bulged and thickened.³ The most common underlying cause of varicose veins is reflux within the greater saphenous vein in the thigh, which leads to pooling in the visible varicose veins below.

Prevalence

Chronic venous disease of the legs is one of the most common conditions affecting people.

- Approximately half of the U.S. population has venous disease—50 to 55 percent of women and 40 to 45 percent of men. Of these, 20 to 25 percent of the women and 10 to 15 percent of men will have visible varicose veins.¹
- Varicose veins affect one out of two people age 50 and older, and 15 to 25 percent of all adults.¹

Risk Factors

Risk factors include age, family history, female gender and pregnancy.^{1,2} Pregnancy, especially multiple pregnancies, is one of the most common factors accelerating the worsening of varicose veins.

Symptoms

Symptoms caused by venous insufficiency and varicose veins include aching leg pain, easy leg fatigue, and leg heaviness, all of which worsen as the day progresses. Many people find they need to sit down in the afternoon and elevate their legs to relieve these symptoms.² In more severe cases, venous insufficiency and reflux can cause skin discoloration and ulceration which may be very difficult to treat. One percent of adults over age 60 have chronic ulceration.¹

People without visible varicose veins can still have symptoms. The symptoms can arise from spider veins as well as from varicose veins, because, in both cases, the symptoms are caused by pressure on nerves by dilated veins.

Diagnosis and Assessment

An interventional radiologist, a doctor specially trained in performing minimally invasive treatments using imaging for guidance, will use duplex ultrasound to assess the venous anatomy, vein valve function, and venous blood flow changes, which can assist in diagnosing venous insufficiency. The doctor will map the greater saphenous vein and examine the deep and superficial venous systems to determine whether the veins are open and to pinpoint any reflux. This will help determine if the patient is a candidate for a minimally invasive treatment, known as vein ablation.³

Minimally Invasive Vein Ablation Treatment

This minimally invasive treatment is an outpatient procedure performed using imaging for guidance. After applying local anesthetic to the vein, the interventional radiologist inserts a thin catheter, about the size of a strand of spaghetti, into the vein and guides it up the greater saphenous vein in the thigh. Then laser or radiofrequency energy is applied to the inside of the vein. This heats the vein and seals the vein closed.

Reflux within the greater saphenous vein leads to pooling in the visible varicose veins below. When the greater saphenous vein is closed, the twisted and varicose branch veins, which are close to the skin, shrink and improve in appearance. Once the diseased vein is closed, other healthy veins take over to carry blood from the leg, re-establishing normal flow.

Benefits of Vein Ablation Treatment

- The treatment takes less than an hour and provides immediate relief of symptoms.
- Immediate return to normal activity with little or no pain.
- There may be minor soreness or bruising, which can be treated with over-the-counter pain relievers.
- No scar. Because the procedure does not require a surgical incision, just a nick in the skin about the size of a pencil tip, there are no scars or stitches.
- High success rate and low recurrence rate compared to surgery.

Efficacy

The success rate ranges for vein ablation ranges from 93-95 percent.^{4,5}

Insurance

Many insurance carriers cover the vein ablation treatment, based on medical necessity for symptom relief.

Surgical Treatment of Veins

Traditionally, surgical ligation or vein stripping was the treatment for varicose veins, but these procedures can be quite painful and often have a long recovery time. In addition, there are high rates of recurrence with the surgical procedures. One study found a 29 percent recurrence rate after ligation and stripping of the great saphenous vein, and a rate

of 71 percent after high ligation. These recurrence rates are similar to those reported in other studies.^{3,8}

Other Treatments for Varicose Veins

Ambulatory phlebectomy and injection sclerotherapy are also used. Ambulatory phlebectomy is a minimally invasive surgical technique used to treat varicose veins that are not caused by saphenous vein reflux. The abnormal vein is removed through a tiny incision or incisions using a special set of tools. The procedure is done under local anesthesia, and typically takes under an hour. Recovery is rapid, and most patients do not need to interrupt regular activity after ambulatory phlebectomy.

Injection sclerotherapy can also be used to treat some varicose and nearly all spider veins. An extremely fine needle is used to inject the vein with a solution that shrinks the vein.

About Interventional Radiologists

Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments that have less risk, less pain and less recovery time compared to open surgery. They use their expertise in interpreting X-rays, ultrasound, MRI and other diagnostic imaging studies to understand, visualize and diagnose the full scope of the disease's pathology and to map out the procedure tailored to the individual patient. Then during the procedure, they image as they go to guide tiny instruments, such as catheters, through blood vessels or skin, to treat diseases at the site of the illness nonsurgically.

Interventional radiology is a recognized medical specialty by the American Board of Medical Specialties. Interventional radiologists complete preliminary training in Diagnostic Radiology and advanced training in Vascular and Interventional Radiology. The American Board of Radiology certifies their specialized training.

For Further Information

For more information on varicose veins or interventional radiology, visit the SIR Web site at www.SIRweb.org.

References

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