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at
WASHINGTON HOSPITAL CENTER

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CENTER FOR VASCULAR CARE
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DO YOU HAVE
VARICOSE VEINS?

TOTAL
VEIN CARE

Diagnosis and Minimally
Invasive Treatment
of
VENOUS INSUFFICIENCY



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Varicose Veins and Venous Insufficiency

Q. What is venous insufficiency?

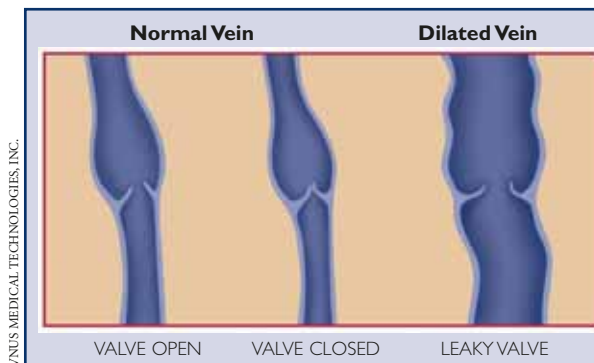
A. Venous insufficiency is an abnormal circulatory condition with decreased return of blood from the leg veins up to the heart, with pooling of blood in the veins. Normally, stop valves in the vein close to keep blood from flowing downward with gravity. When the valves in the vein become weak and don't close properly, they allow blood to flow backward, or reflux. Fluid buildup is usually the first sign of the venous insufficiency; pain, varicose veins and ulceration may follow.

Q. What are varicose veins?

A. Varicose veins are prominent veins that have permanently lost their valve effectiveness and, as a result of continuous dilation under pressure, become elongated, tortuous, bulged, and thickened.

Q. What are the symptoms of varicose veins or venous insufficiency?

A. Symptoms caused by venous insufficiency and varicose veins include aching pain, easy leg fatigue, leg heaviness, and itching, all of which typically worsen as the day progresses. Many people find they need to sit down in the afternoon and elevate their legs to relieve these symptoms. In more severe cases, venous insufficiency and reflux can cause skin discoloration and ulceration, which may be very difficult to treat. One of every 100 adults over age 60 has chronic ulceration.



VNUS MEDICAL TECHNOLOGIES, INC.

Q. How common is venous disease and varicose veins?

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

People without visible varicose veins can still have symptoms of venous insufficiency. The symptoms can arise from small spider veins as easily as from varicose veins, because, in both cases, the symptoms are caused by pressure on nerves by dilated veins. Approximately 50% of patients with spider veins will have such symptoms and 85% of them can be relieved by appropriate treatment.

Q. Who is at risk for varicose veins?

A. Risk factors include age, family history, female gender and pregnancy.

Female hormones have a great effect on veins. Some varicose veins develop during pregnancy, often in the first few weeks of pregnancy.

Q. How is venous insufficiency diagnosed?

A. Your Interventional Radiologist, a doctor specially trained in performing minimally invasive treatments using imaging 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 if the veins are open and to pinpoint any reflux. This will help your Interventional Radiologist to determine if you are a candidate for a minimally invasive treatment, known as vein ablation.

Q. What is the vein ablation treatment?

- A.** This minimally invasive treatment is an outpatient procedure performed using imaging 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 radio frequency energy is applied to the inside of the vein.



This heats the vein and seals the vein closed.

The greater saphenous vein communicates with the varicose veins where reflux is occurring. By closing the greater saphenous vein, the twisted and varicose branch veins, which are close to the skin, shrink and lose their unsightly appearance. Once the diseased vein is closed, other healthy veins take over to carry blood from the leg, re-establishing normal flow.

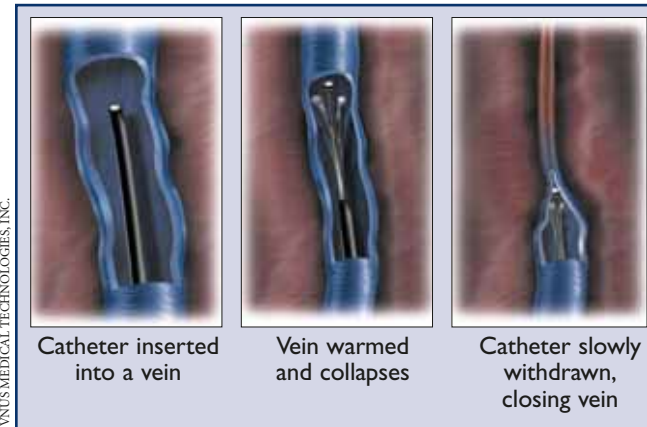
Q. What are the benefits of vein ablation?

- A.** The treatment typically takes less than an hour and provides immediate relief of symptoms. You can return to normal activity immediately with little or no pain. There may be minor soreness or bruising, which can be treated with over-the-counter non-aspirin pain relievers. There is no scar, because the procedure does not require a surgical incision, just a nick in the skin, about the size of a pencil tip.

Traditionally, surgical ligation or vein stripping was the treatment for varicose veins, but these procedures can be quite painful, often have a long recovery time, and frequently leave scars. In addition, there are high rates of recurrence with the surgical procedures. One study found a 29% recurrence rate after ligation and stripping of the greater saphenous vein, and a rate of 71% after high ligation alone. These recurrence rates are similar to those reported in other studies.

Q. How successful is the vein ablation?

- A.** The two-year data show a 93-95% success rate. This is a much higher efficacy rate than surgical ligation or stripping.



Q. What other procedures may I need?

A. Ambulatory Phlebectomy

This is a minimally invasive surgical technique used to treat mid-size varicose veins, which are too small for vein ablation. The abnormal vein is removed through a tiny incision or incisions using a special set of tools. This outpatient 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

This outpatient technique is used to treat the smallest veins, including spider veins. An extremely fine needle is used to inject the vein with a special solution which destroys the vein wall.



Q. Does insurance cover vein ablation?

- A.** Many insurance carriers cover venous insufficiency treatments, based on medical necessity for symptom relief.

Q. What is an Interventional Radiologist?

- A.** Interventional Radiologists are medical doctors who specialize in doing medical procedures that involve radiology. Radiologists use imaging equipment such as X-rays, magnetic resonance (MR) imaging, ultrasound and computed tomography (CT) to diagnose disease. Interventional Radiologists are board certified radiologists who are fellowship trained in percutaneous interventions using guided imaging. Their specialized training is certified by the American Board of Medical Specialties.



Dr. Richard Gray, MD



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