



Your Guide to Understanding Vein Disease and Treatment



Welcome to Vascular Vein Centers

Our Mission is to help you maintain your leg health, self-confidence and restore your unique natural beauty.

Our Medical Services Include:

- The first and only IAC Accredited Vein Center in Central Florida
- Evaluation and treatment of leg swelling
- Evaluation and treatment for Deep Vein Thrombosis (DVT)
- Full service IAC-accredited Vascular Laboratory to diagnose vein and arterial problems
- Compression stocking education and fitting

The following information will help you to understand venous disease, its causes and the latest treatment options that are available at Vascular Vein Centers.

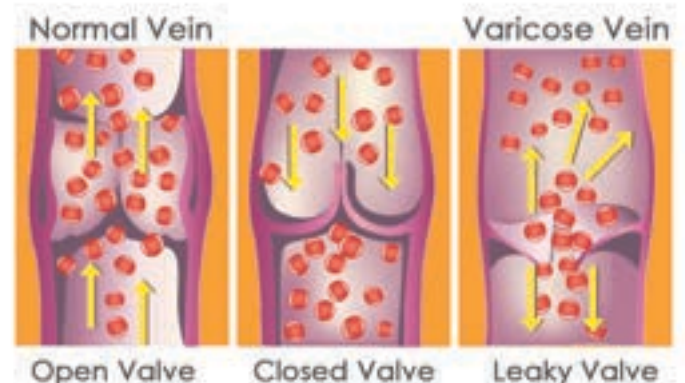
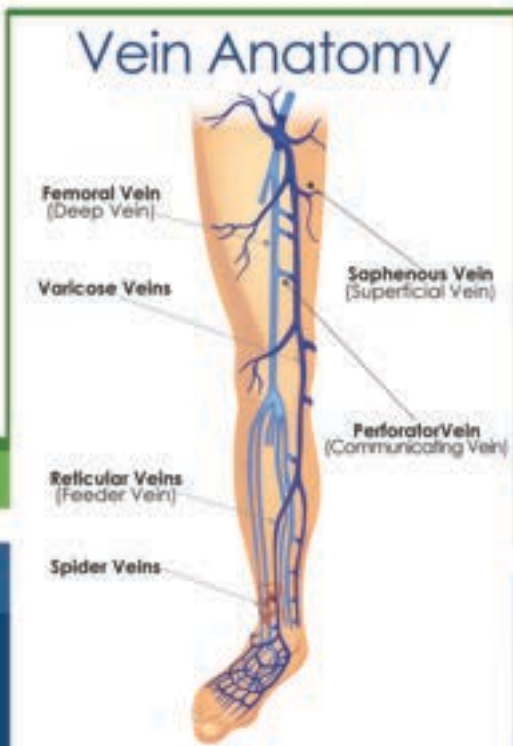


A few words about vein disease

What are varicose veins?

The terms "varicose vein" is a general term use to describe veins that are enlarged with leaky valves. People usually use this term to describe the bulging, rope-like veins seen in legs. These veins have become permanently dilated so that they no longer effectively transport blood back to the heart. This is also referred to as "venous insufficiency." The valves normally allow blood to flow up, out of your legs, and back to your heart. Varicose veins occur because the one-way valves in the veins leak, allowing blood to flow backward in a vein. The reverse flow of blood distends the vein below, eventually causing valves below to leak and new veins to dilate and become varicose.

The venous system consists of three systems of veins; the **superficial system**, the **deep system**, and the **perforator system**. The **superficial system** lies just below the surface of the skin. The great and small saphenous veins and their branches are the main superficial system veins. They drain from the skin and tissues into the **deep system**, which lies between the muscles of the leg. The deep system is responsible for carrying 90% of the blood back to the heart. A third system consists of **perforating veins**, which carry blood from the superficial system to the deep system. Varicose veins occur in the superficial system. Perforator veins may also demonstrate incompetence and create or worsen existing varicose veins.



In the United States, it is estimated that 25 million people have varicose veins. By the time we reach our 60's, it is estimated that 72% of women and 42% of men will experience varicose veins. Over 3 billion dollars is spent annually for the complications of varicose veins, predominately venous skin ulcers.

What causes varicose veins?

Varicose veins may occur for no obvious reason. There are, however, multiple factors that may increase your risk of developing varicose veins.

Risk factors include:

Heredity

Prolonged standing or sitting on a daily basis

Pregnancy

Hormonal factors

Advancing age

Injury

Clots in the superficial or deep veins

Glossary of terms:

1. **Varicose** - From the Latin word "dilated"
2. **Reflux** - Backward flow. Contributes to the development of varicose veins by allowing the blood to flow toward the feet instead of the heart
3. **Valve** - Structure in the vein with a flap to ensure one-way flow of blood
4. **Incompetent valves** - Valves that do not function properly, causing reverse flow of blood which contributes to edema and leg pain
5. **Venous insufficiency** - Flow of venous blood from the feet to the heart is impaired

Are there any tests or procedures to diagnose varicose veins?

Usually the physical examination will reveal varicose veins, but in obese patients and in some others, varicosities may not be visible. A doppler ultrasound examination is performed to evaluate the veins and whether they leak. This procedure uses sound waves to visualize the size of the veins and the direction of flow in the veins, indicating whether the valves are working properly. The ultrasound gives us a road map of the veins in the leg to determine where they are abnormal and to what degree they are abnormal.



What are the signs and symptoms of varicose veins?

Varicose veins may cause an aching, throbbing or burning sensation in your legs. Other signs and symptoms include pain; muscle cramps; itching around the vein or leg; swelling; color changes of the skin; firm, hard tissue in the lower leg; and, if left untreated, eventually ulcers.

What are the consequences of untreated venous reflux?

If not treated, venous reflux (backflow caused by faulty valves) may cause pain, swelling and varicose veins. These problems may progress to permanent darkening of the skin, especially at the ankle level, and possibly blood clots.

Patients are vulnerable to progressive swelling which may go into the foot. With time, venous ulceration can occur around the ankle. A venous ulcer causes damage and loss of skin above the ankle. Occasionally the pressure in the veins can cause them to bleed, especially when the skin is dry.

Skin changes due to Chronic Venous Insufficiency (CVI)



Fig. 1



Fig. 2



Fig. 3



Fig. 4

Images Courtesy of SIGVARIS

Fig. 1: Large varicose veins and early skin changes from venous reflux

Fig 2: Increased pigmentation, eczema and swelling caused by more advanced disease

Fig. 3: Venous stasis ulcer, which is one of the worst complications of untreated venous reflux

Fig 4: Bleeding varicosity

What causes spider veins?

Spider veins (also called telangiectasias) are small superficial blood vessels in the skin. Spider veins get their name because their appearance is similar to that of a spider web. While spider veins are a cosmetic concern, certain patterns may indicate underlying vein disorders and should have a careful pre-treatment assessment. They most commonly appear on the inner and outer thighs, calves, back of the knees and the ankle area. Spider veins can also appear on your face and chest. They are usually red or purple in color and tend to appear in multiples, looking like a pattern. Distension of underlying veins can cause small branches to enlarge which can lead to spider veins. Unlike varicose veins, spider veins do not have valves. There are a number of factors that contribute to spider veins which include hormones (progesterone and estrogen), pregnancy, weight gain, occupation or activities which require prolonged standing or sitting, and heredity.

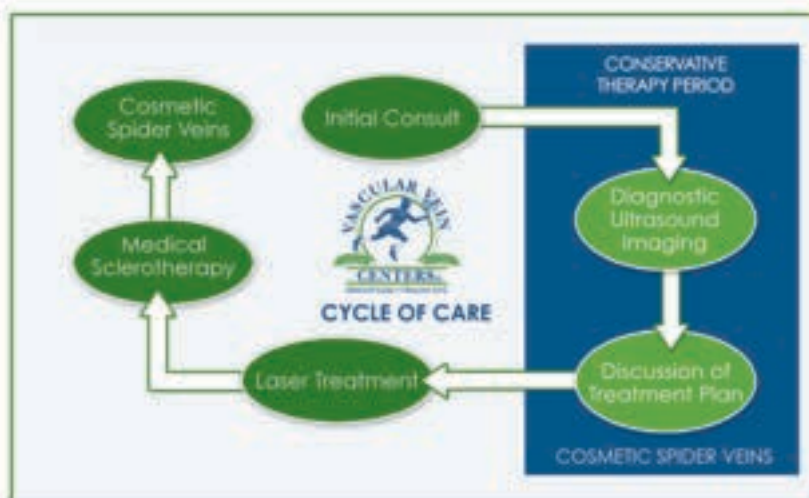


Patient Cycle of Care

Comprehensive process

To ensure that you receive the highest level of care and longest-lasting results, the medical experts at Vascular Vein Centers have established a six-step Cycle of Care that allows our providers to evaluate, understand,

treat, and follow-up on your vein condition. Our comprehensive process ensures you will receive the most advanced treatments available.



STEP 1: Initial consultation

The initial consult consists of a thorough assessment including symptoms and physical findings. Based on physical findings, A Doppler ultrasound may be recommended for a complete assessment of the venous system. Your insurance benefits will be verified to make sure they cover the treatment of varicose veins. Insurance companies recognize treatment of venous insufficiency and varicose veins as medically necessary if there are significant symptoms.

Most insurance companies require a period of three to six months of conservative therapy. This consists of the use of medical grade elastic compression stockings, efforts at weight loss if the patient is overweight, periodic elevation of the legs, exercise and documentation of whether analgesics are used for discomfort. Spider veins and reticular veins are considered cosmetic and will not be covered by insurance.

Choosing a physician

When seeking treatment for your veins, it is important to find a physician who has experience and training, not just a weekend course or a week tutorial. Veins are a medical condition deserving medical expertise, not just a "dabbler." Vascular Vein Centers are dedicated to vein care. We have served Central Florida for over 22 years and have been pioneers in the use of non-operative vein therapy since 2000. Our staff members are active in the American College of Phlebology and share over 50 years of medical experience.

Patient Cycle Of Care

STEP 2: Doppler ultrasound study

A Doppler study of the superficial and deep vein systems is necessary to rule out a superficial or deep vein clot, and to document sources of reflux (back flow of blood that causes varicose veins). It is necessary to perform a large portion of this test while standing, since varicose veins are worse with gravity. You will be requested not to wear compression stockings on the day of your test. After the Doppler study is completed, we will review your study and your symptoms and determine if there is medical necessity for treatment.

STEP 3: Discuss scan/conservative treatment

The treatment plan will be discussed with you. If you have varicose veins and they meet your insurance companies' criteria for treatment, a period of conservative management will be started, unless compression hose have been worn in the past. Although you may want your varicose vein surgery immediately, insurance carriers are strict in their requirements for reimbursement. In most cases this consists of three to six months of conservative management, consisting of wearing compression hose, efforts at weight loss, and taking analgesics for pain. If you will be a cash patient, using no insurance benefits, treatment can begin immediately.

STEP 4: Treatment plan

Your treatment plan has been designed to specifically treat your symptoms and physical findings. The treatment options described below may be necessary for your treatment.

1. Treatment for each leg will usually require several treatment sessions.
2. Each insurance company has their own specific criteria for treating varicose veins. In addition to requiring

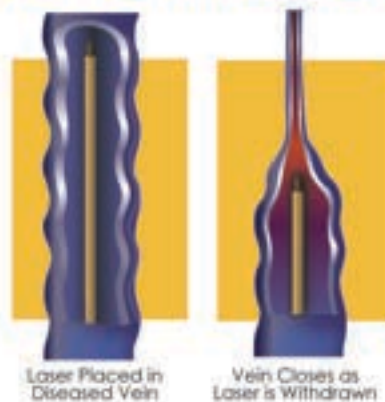
conservative treatment, a diseased vein must be a specific size or greater in order to qualify for treatment, even if its function is abnormal.

Medical treatment for varicose veins usually consists of Laser Vein Treatment

This 30-minute procedure is performed in our clinic using local anesthesia. A catheter (small tube) is inserted into the vein and a thin laser fiber is placed through the catheter. As the laser fiber is pulled back, focused energy shrinks and closes the problem vein. The results of laser ablation are equal to if not better than surgical removal, and there is less discomfort and recovery time. Walking immediately after the procedure is encouraged, and recovery time is fast. Strenuous exercise usually can resume in a week.

After the procedure, an ultrasound will be performed to evaluate the treated vein for closure. Laser treatment of veins is a safe and effective procedure. The blood that would normally flow through these veins is redirected into the deep veins, which carry most of the blood from the leg anyway. There is a very low recurrence rate with less post-procedure discomfort when compared to traditional "vein-stripping." Most patients are satisfied with their results.

Laser Vein Treatment



The key benefits of EVLT:

- No scars
- Only local anesthesia is needed
- Procedure performed as a clinic procedure

Generally, treatment of superficial venous insufficiency (leaking veins) with endovenous laser ablation will eliminate the problem of reflux and should help stop the symptoms of pain and discomfort. Swelling related to reflux in the deep veins of your legs may persist.

Ultrasound Guided Sclerotherapy (UGS)

is performed after laser treatment. These vessels are generally too small, too tortuous or in an area that is not appropriate to laser. These treatments will be discussed with you and will generally take place after laser therapy is complete. Ultrasound Guided Sclerotherapy (UGS) is an injection of medication that chemically irritates the vein and closes it with the help of compression. An ultrasound is performed over the affected vein to ensure direct visualization. Several treatments may be needed to achieve vein closure. You may return to work or your daily activities after the procedure.

STEP 5: Cosmetic spider vein treatment

Spider veins and "blue veins" can be treated after the varicose veins have been eliminated. These veins are considered cosmetic by the insurance companies. A combination of laser and injection sclerotherapy is used to treat the spider veins. Sclerotherapy for treatment of spider veins requires a methodical step-by-step elimination process in which an understanding of the

complexity and anatomy of the venous system is necessary. A multilevel approach is sometimes necessary to ensure long-term results. It is necessary for the spider veins to be examined with a vein light. This is an intense light source which shows the "feeder veins" which need to be eliminated to have the best, most enduring results. Multiple treatment sessions are often necessary. Some spider patterns are extremely difficult to eliminate completely. With time, new spider vein patterns may appear.

Insurance coverage/conservative treatment

Insurance companies recognize treatment of venous insufficiency and painful varicose veins as medically necessary. Laser ablation and ultrasound guided sclerotherapy will be covered if three months of conservative treatment (compression stockings, pain medications, efforts at weight control, exercise and elevation) have been unsuccessful.

Vascular Vein Centers accepts most insurance carriers. Our authorization department will verify your insurance benefits, the period of required conservative treatment and obtain the authorization.

Treatment of spider veins or reticular veins with sclerotherapy and/or laser is considered by insurance companies to be cosmetic and is not a covered benefit. Vascular Vein Centers is committed to obtaining the most optimal results possible for you. Financing is available.



Cosmetic Sclerotherapy

Keeping your veins and legs healthy

Veins are controlled, they are never completely cured, especially if the deep veins have valvular problems. If one's job entails a great deal of standing, sitting or if there is another pregnancy after treatment, new veins will appear. While there is no way to completely avoid leaky veins, there are steps you can take to reduce your risk of further problems and improve your leg health.

Wear Medical compression stockings every day

Medical compression hose are the gold standard for treating vein disease and swelling and can help alleviate your symptoms. By providing "graduated" compression, with the greatest pressure at the ankle and reducing pressure as the stocking goes up to the calf or thigh - medical compression stockings support the weakened vein walls. This helps promote the pumping action veins are designed to do - keeping the blood flowing toward the heart, so it is less likely to pool in the legs. As a result, blood flow is increased, which helps reduce swelling, fatigue,

pain and possible formation of clots in the legs. It is important that these stockings be medical grade and fitted. Compression stockings should be replaced when they start to feel loose (typically 6 to 12 months). Using equipment such as a stocking butler, or wearing rubber gloves, can make it easier to put compression stockings on. Compression stockings are not recommended for patients who have a significant decrease in circulation to their legs. Caution is also recommended in the case of sensory impairments due to diabetes and neuropathy (nerve damage). A medical consultation should be obtained before wearing elastic compression.



Graduated compression supports vein walls and helps "push" blood up toward the heart.

To learn more about leg health, visit:
www.BestVeinTreatment.com

Exercise daily

Exercise, using the muscles of the legs, helps your veins pump blood. The "calf pump" pushes blood back to the heart, and every step lowers the pressure in the leg. If you have a job that entails sitting or standing for long periods of time, keep the blood moving by doing foot or leg exercises every 30 minutes. Simple exercises such as heel raises, wiggling your toes or simply changing positions can help.

Elevation helps to reduce swelling

Elevate your feet whenever possible. Elevation keeps the blood from pooling in your lower legs. While sitting, elevate your legs on a stool whenever possible.

Maintain a healthy weight and diet

Being overweight puts extra pressure on the veins. Watch your weight and maintain a healthy, low-sodium, low-carbohydrate diet. Limit canned and processed foods, which can cause water retention and increase swelling. Avoid alcohol and smoking.

Maintain healthy skin

It is important to keep your skin lubricated with lotion or gel (baby oil gel) to prevent dryness or itching. Ulcers are less likely to form if the skin is lubricated. It should be applied several times daily, especially after a bath or shower.

Vein problems can improve with proper treatment and care. The Vascular Vein Centers are dedicated to finding solutions to help keep your legs looking and feeling better. We appreciate your confidence in us, and we are committed to providing you with the best care available.





www.BestVeinTreatment.com
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