

Varicose Veins and Venous Disease



Be well.

Our understanding of venous disease has improved tremendously and as a result we now have more effective and minimally invasive treatment options available.

We now know that venous disease is more common than we once appreciated. As many as 40 million Americans, most of them women, have varicose veins. We once believed that varicose veins rarely caused any symptoms and any treatment was purely cosmetic. The reality is that most patients have lifestyle limiting symptoms and not all patients present similarly. Furthermore, many patients seek medical attention with great reluctance because they have learned that short of major surgery or life long compression therapy little can be done.

How do varicose veins occur?

Most people have three groups of veins in their legs; the superficial veins (which lie closest to your skin); the deep veins (which lie in groups of muscles); and perforating veins (which connect the superficial veins to the deep veins). The deep veins lead to the vena cava, your body's largest vein, which runs directly to your heart. Varicose veins occur in the superficial veins in your legs.

When you are in standing or sitting, the blood in your leg veins must work against gravity to return to your heart. To accomplish this, your leg muscles squeeze the deep veins of your legs and feet. One-way flaps, called valves, in your veins keep blood flowing against gravity. When your leg muscles contract, the valves inside your veins open. When your legs relax, the valves close. This prevents blood from flowing in reverse, back down the legs. The entire process of sending blood back to the heart is called the venous or calf pump.

When you walk and your leg muscles squeeze, the venous pump works well. But when you sit or stand, especially for a long time, the blood in your leg veins can pool and the pressure in your veins increase. Deep veins and perforating veins are usually able to withstand short periods of increased pressures. In certain individuals, the veins are repeatedly overstretched which weakens the walls of your veins and damages the valves. Damage to these valves then cause reflux of blood into the legs, further increasing venous pressure, further increasing valve damage. Once this happens, venous blood **refluxes** back into the legs and this lead to various degrees of symptoms and varicose veins. Spider veins are mild varicose veins which look like a nest of red or blue lines just under your skin. Spider veins are not a

serious medical problem, but they can be a cosmetic concern to some people. A very advanced form present with markedly dilated ropy veins which can spontaneously bleed and develop into ulcers.

What are the symptoms?

- Chronic pain from swelling of varicose veins
- Swelling (edema)
- Recurrent cellulitis (infections of the skin)
- Heavy, tired, restless achy legs which worsen with prolonged sitting or standing
- Restless leg syndrome (night cramps)
- Itching
- Localized or generalized burning

People with **severe** varicose veins have slightly increased risk of developing deep vein thrombosis (DVT) – clot in the deep veins. DVT may cause sudden, severe leg swelling. DVT is a serious condition that requires immediate medical attention.

Who is more likely to develop varicose veins?

Factors that can increase your risk for varicose veins include having a family history of varicose veins, being overweight, not exercising enough, smoking, standing or sitting for long periods of time, or having DVT. Women are more likely than men to develop varicose veins. Varicose veins usually affect people between the ages of 30 and 70.

Pregnant women have an increased risk of developing varicose veins, but the veins often return to normal within 1 year after childbirth. Women who have multiple pregnancies may develop permanent varicose veins.

How are patients evaluated?

Generally this begins with seeing a primary care health provider who will obtain information about the individual's general health, medical history, and symptoms. In addition, a physical exam is performed to make the diagnosis. Once the diagnosis has been made usually a referral is made to a vascular specialist who treats varicose veins.

To confirm a diagnosis of varicose veins, your physician or the vascular specialist may order a duplex ultrasound test. Duplex ultrasound is a painless test used to see the veins in the leg and how blood moves through them. The test can take approximately 20 minutes for each leg. Besides showing varicose veins, duplex ultrasound can show if the varicose veins may be related to some other condition rather than the veins themselves such as a DVT or a developmental problem (May-Thurner Syndrome).

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How are varicose veins treated?

Unfortunately, varicose veins often worsen without treatment. Most patients are first treated with non-surgically in an attempt relieve symptoms. Patients with mild to moderate varicose veins are instructed to elevate their legs as much and whenever possible to help reduce leg swelling and relieve pain. When people need to stand for a long period of time, they should flex their legs or perform toe raises to trigger the venous pump and increase blood moving towards the heart.

Other treatment options include:

- Compression stockings
- Injection Sclerotherapy
- Radiofrequency Ablation (RFA)
- Endovenous Laser Ablation/Therapy (EVLT)
- Microphlebectomy (Ambulatory Phlebectomy)
- Surface laser therapy
- Vein stripping and ligation

Venous disease, when left untreated, may lead to long term complications which can be irreversible or extremely difficult to treat. These include

- Ankle hypo or hyperpigmentation (appearance or white or black spots in the skin)
- Lipodermatosclerosis (hard, raised areas generally along the ankle)
- Stasis dermatitis (recurrent inflammation or infection of the skin)
- Venous ulcerations (very painful and difficult to treat ulcers along the ankle.)
- Bleeding from varices
- Thrombophlebitis (inflammation and blood clots along the superficial veins)
- Deep venous thrombosis

Treatment Options

1. Compression Stockings

Compression stockings are elastic stockings that squeeze your veins and stop excess blood from flowing backward – it basically augments or replaces the calf pump. For patients with mild to moderate symptoms, compression stockings may be all that is needed to relieve pain and swelling and prevent progression of varicose veins. Patients with severe varicose veins may be required to wear compression stockings life long. It is important to note that compression stockings will not cure varicose veins so if a person stops wearing them, their symptoms will return and likely progress.

When this therapy fails to relieve a person's symptoms, a surgical or minimally invasive treatment may be required. These treatments include sclerotherapy, radio-frequency or endovenous ablation, vein stripping, and surface laser treatment.

2. Sclerotherapy

During sclerotherapy, a chemical is injected into the varicose veins. The chemical irritates and scars the veins from the inside and eventually destroys it. Blood from the leg now returns to the heart by alternated normal veins. Your body will eventually absorb the veins that received the injection.

3. Laser Treatment (EVLT)

Laser treatment is another way to treat varicose veins. This essentially is performed and functions much like RFA except that laser tip emits high energy that destroys the treated portion of your varicose vein. The vein closes and your body eventually absorbs it. This has really become the standard of care. It is far superior to vein stripping and sclerotherapy and slightly better than RFA. This is way we chose this form of therapy at our Vascular and Vein Center.

4. Vein Stripping

This is rarely indicated or performed now by an experienced phlebologist. This procedure is usually performed in the hospital setting and under general anesthesia. Incisions are made at the groin area and at the ankle or calf. All major varicose vein branches associated with the saphenous vein are ligated and the saphenous vein is removed from your leg. This generally results in significant pain, bruising and down time. This procedure, on occasion, is still necessary particularly in patients with massively enlarged (aneurismal) veins.



Be well.

5. Micro or Ambulatory Phlebectomy

May be done alone or conjunction with EVLT or vein stripping. Small incision avulsion allows your physician to remove individual varicose vein clusters from your leg using hooks passed through small incisions. Although these procedures sound painful, they cause relatively little pain and are generally well tolerated.