



PATIENT EDUCATION HANDBOOK



CENTER FOR VEIN RESTORATION

Love your legs *again!*

Love your legs *again!*

Welcome from Our Founder and CEO	1
What is Venous Insufficiency	2
What Factors Can Cause Varicose Veins?	2
Our Procedures	3
Pre- and Post-Operative Instructions	4
Sclerotherapy	5
Glossary	6



A WELCOME FROM OUR FOUNDER AND CEO

At the Center for Vein Restoration, we believe in the words of Mahatma Gandhi:

"A customer is the most important visitor on our premises. They are not dependent on us. We are dependent on them. They are not an interruption in our work. They are the purpose of it. They are not an outsider in our business. They are part of it. We are not doing them a favor by serving them. They are doing us a favor by giving us an opportunity to do so."

Thank you for choosing the Center for Vein Restoration/Cardiothoracic & Vascular Surgery Associates as your healthcare partner. Our staff is committed to the long-term treatment and monitoring of your venous insufficiency. Venous insufficiency is a chronic ailment. The initial treatments will alleviate the majority of your symptoms. However, please remember that long-term follow up is an essential component to maintaining your leg's health. As a result, I must emphasize that today we are entering into a partnership. For optimal results, we must both keep our respective promises. The promises we seek from you include lifestyle changes if warranted, use of compression stockings when indicated, and keeping your appointments. We pride ourselves in offering the most advanced and patient-focused diagnostic and therapeutic modalities for the treatment of venous insufficiency. During the course of your treatments there will be times when you may debate the need to call your doctor or nurse after hours. Follow the simple rule is "When in doubt, always call". Amongst other things, we promise to be always available to our patients.

A handwritten signature in black ink that reads "Sanjiv Lakhanpal" with a stylized flourish at the end.

Sanjiv Lakhanpal, MD

At the Center for Vein Restoration (CVR), we are committed to your complete vein care. We believe the treatment of varicose veins and its cause, venous insufficiency, is not a luxury but a necessity. We offer the latest advancements in minimally invasive vein care and strive to formulate a treatment plan to fit your individual needs. While working within the community to raise awareness and provide education about venous insufficiency and venous disease, our friendly staff is dedicated to improving the quality of life for all our patients. Thank you for choosing CVR to perform your Varicose Vein Therapy. We realize you may have many questions regarding your upcoming procedure and hope this information will help explain the procedure to you. If you have further questions please call us at 1-800-FIX-LEGS (1-800-349-5347) or visit us at www.CenterforVein.com.

WHAT IS VENOUS INSUFFICIENCY?

Veins carry blood from your body back to the heart, so it can be oxygenated and re-circulated by the arteries. The leg muscles contract to help “pump” the blood back to the heart. This single directional flow is possible because of the tiny valves inside the veins. These valves are “one-way” and keep blood from flowing backwards (assisted by gravity) into the legs. A malfunction in one or more of these valves leads to venous insufficiency. Many circumstances related to your health or lifestyle can lead to your veins becoming dilated. This makes it harder for the valves in the vein to do their job. Blood now, due to the unopposed force of gravity, pools in the vein and consequently in the surrounding tissues, leading to swelling, undue achiness, tiredness, restless legs, etc. This inability of the veins to maintain the unidirectional flow of blood back to the heart is called venous insufficiency.

WHAT FACTORS CAN CAUSE VARICOSE VEINS OR VENOUS INSUFFICIENCY TO DEVELOP?

Family history (“Family Veins”) – Many of the choices we make in life can lead to varicose veins or aggravate them. However, it’s not necessarily your choice or your fault—family history is often a factor. If your close relatives have varicose veins, it may be only a matter of time until you develop them too—despite all the good things you may do for your health, like not smoking, making sure you eat right and getting regular exercise.

Pregnancy (“Mommy Veins”) – During pregnancy, your body goes through monumental physical and hormonal changes. Most of them are temporary, but your new varicose veins may not be. Pregnancy makes you more susceptible to this health problem because, as your baby grows, the uterus puts increased pressure on your veins. Hormonal changes can also cause the walls of the veins to relax. These factors can combine to cause

the one-way valve in one or more veins to stop working. So, blood that should return to the heart instead pools. The result can be the heavy, itchy, uncomfortable feeling of varicose veins. Your doctor can recommend many ways to keep you comfortable during pregnancy, including regular, moderate exercise, plenty of rest, support stockings and keeping your legs elevated, especially during the evening. If you’ve had varicose veins with previous pregnancies or you have a family history of varicose veins, the problem may not go away on its own. Your varicose veins may even get worse and require treatment so that you can feel your best and enjoy life with your growing family. It is best to wait a least 3 months post-partum to seek treatment for venous insufficiency.

Your job (“Work Veins”) – If you stand on your feet all day, you may be paying a price—tired, achy, heavy legs caused by varicose veins. Blood in your veins has to fight gravity to return to your heart. So, when you’re on your feet for hours at a time, especially standing in one place, that blood has an even harder time making its way back up through the body. It can flow backwards and begin pooling—and that’s what leads to varicose veins.

Weight problems (“Heavy Veins”) – Being overweight puts added pressure on the entire body—veins included. Increased pressure can cause the veins to enlarge and damage the valves that keep blood flowing toward the heart. Often, people with weight problems are not getting regular exercise, which can lead to circulation problems and make varicose veins worse.

Venous insufficiency is a chronic condition. Our procedures are very effective in treating the symptoms associated with this disease such as heavy, tired legs, but they don’t lessen the appearance of “SPIDER VEINS”. As a result of our procedures, you may experience spider veins around the treated area. However, we do offer sclerotherapy to enhance the cosmetic appearance of your legs. Please see page 5 for more information about sclerotherapy.

OUR PROCEDURE CONSISTS OF FOUR PRINCIPAL STEPS:

1. Map the Saphenous Vein.

A typical procedure begins with noninvasive ultrasound imaging of the varicose vein to trace its location. This allows our physician to determine the site where the ablation catheter will be inserted and to mark the desired position of the catheter tip to begin treatment.

2. Insert the Closure/Laser Catheter.

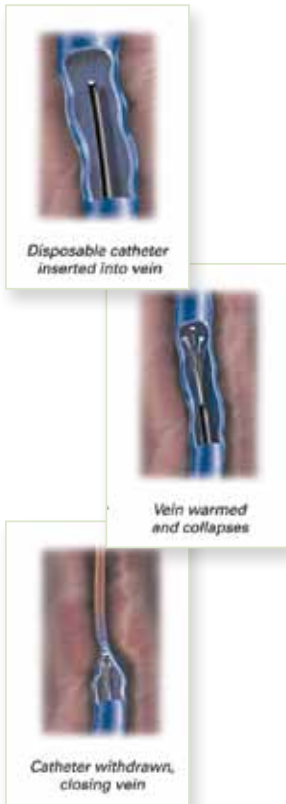
Our physician then typically injects a volume of diluted anesthetic fluid into the area surrounding the vein. This numbs the leg, helps squeeze blood out of the vein and provides a fluid layer outside the vein to protect surrounding tissue. Then our physician accesses the saphenous vein or the appropriate vein. The Closure or Laser catheter is inserted into the vein and advanced to the uppermost segment of the vein.

3. Deliver RF (Radio Frequency) or Laser Energy and Withdraw Catheter.

Noninvasive ultrasound is used to confirm the catheter tip position and the physician then activates the RF generator, causing the electrodes at the tip of the catheter to heat the vein wall to a target temperature. As the vein wall is heated, the vein shrinks and the catheter is gradually withdrawn. During catheter pullback, which typically occurs over 1 to 2 minutes, the RF generator adjusts the power level to maintain target temperature to effectively shrink collagen in the vein wall and close the vein over an extended length. The laser procedure performed much the same way, using a different type of catheter. After local anesthesia is administered, a laser fiber is inserted through a catheter into the vein. The laser delivers short bursts of energy and the vein collapses around it. The collapsed vein soon shrinks and disappears. This technique rapidly treats the veins and takes 10–20 seconds to perform.

4. Follow up with Ultrasound Study.

24–72 hours after your treatment, ultrasound imaging is used to check for a DVT (deep vein thrombosis).



Please note that even with our best efforts, there may be times that one of our doctors may be called away on an emergency. As all of our physicians are experts in treating venous insufficiency sometimes doctors from other locations will fill-in, as to not interrupt your treatment plan.

No more tired, achy, heavy legs

SCLEROTHERAPY

What is sclerotherapy?

Sclerotherapy is a popular method of reducing the appearance of superficial telangiectasias (“Spider Veins”) in which a solution called a sclerosing agent, is injected into the veins. The injection causes a sclerosis or the formation of fibrous tissue in the vessel subsequent to an inflammatory reaction. This process causes a gradual fading of the treated vessel over a period of several weeks to several months.



BEFORE



AFTER

How many treatments will I need?

The number of treatments differs from patient to patient, depending on the extent of spider-veins present. One to six or more treatments may be needed; the average is three to four. Individual veins usually require one to three treatments.

Sclerotherapy Procedure:

Sclerotherapy, or ‘injection therapy’, is the most common treatment for spider and varicose veins on the legs. During treatment, a mild chemical solution is injected into the incompetent vein or small vessel. The sclerosing agent irritates the walls of the vessel, causing it to collapse. The body then absorbs the vein and blood is re-routed to a healthy vein, restoring proper venous circulation in the area. A single sclerotherapy treatment session involves multiple injections. Patients describe the injections as feeling like a pinprick or mosquito bite. The number of treatment sessions needed will vary from patient to patient, depending on the number of veins treated, healing time and the level of cosmetic perfection desired. Following injections, a compression stocking needs to be worn to help keep the vein closed. Normal daily activities can commence immediately after treatment. Age revealing veins on the back of the hands can also be reduced with sclerotherapy.

Foam-Sclerotherapy with Ultrasound Guidance:

Foam-Sclerotherapy is a new form of delivering the sclerosing agent. The foam solution has the consistency of shaving cream, which improves treatment in two distinct ways. First, the foam displaces blood within the vein, permitting the full strength of the sclerosing agent to be in direct contact with the vein wall for an extended period of time without any dilution effects. Second, the foam is visible via ultrasound imaging and can be easily tracked and guided to the source of the venous problem.

GLOSSARY

Catheter – Used during EVLT, a thin long tube designed to move within the vein, and close it by delivering laser energy.

Duplex scan – Ultrasound system that uses colour to indicate the direction of blood flow. This is particularly helpful in visualizing and evaluating both the deep and superficial venous systems.

Compression therapy – A non-surgical therapy for venous insufficiency. Often involves compression stockings with varying degrees of pressure to improve blood flow and reduce symptoms caused by venous insufficiency.

Deep veins – Non-surface veins in the leg, which are near to the leg bones. They return blood directly to the heart.

Deep vein thrombosis (DVT) – Thrombus or blood clot, within a deep vein.

Doppler – Ultrasound device to detect the presence and movement of blood inside vessels.

Endovenous – Inside a vein.

Endovascular – Inside a blood vessel.

Incompetent Vessel – Blood vessel that allows blood to fall back under the effect of gravity.

Lumen – Interior of a blood vessel.

Edema – Swelling caused by fluid. Frequently occurs in the legs and ankles of people with varicose veins.

Paraesthesia – Numbness or tingling often associated with damage to sensory nerves.

Perforator veins – Veins connecting the superficial veins and deep veins.

Radiofrequency ablation – A minimally invasive technique which closes the great or small saphenous vein using microwave energy delivered through a fine catheter. This interrupts the feed to the visible varicose veins avoiding open surgery and allowing a quicker recovery.

Reflux – Reflux contributes to the development of varicose veins when incompetent leg vein valves let blood flow towards the feet instead of the heart.

Saphenous vein – The long saphenous vein is a large vein running from the ankle to the groin; the short saphenous vein runs up the back of the leg from the ankle to the knee.

Sclerotherapy – The injection of unwanted veins with a chemical. Often used for treatment of small diameter (1–2 mm) surface veins, such as thread veins.

Superficial veins – Veins just beneath the skin. Because they enjoy less support from nearby muscles and bones, they can develop areas of weakness in their walls and are more likely to become varicose than deep veins.

Ulcer (venous) – Lesion on skin caused by tissue loss (in the presence or caused by varicose veins).

Valves – Flaps in the leg veins that open and close to prevent blood from flowing backwards.



Appointment Line
1-800-FIX-LEGS or (301) 860-0930

www.CenterforVein.com



CENTER FOR VEIN RESTORATION

Love your legs *again!*