

Patient Information on Varicose Veins

Eighty million Americans have either “spider veins” (telangiectasias) or varicose veins of the legs. Using a combination of three technologies available at Renew Laser Skin Care this common problem can now often be safely and effectively treated in the medical office.

The venous system. Arteries transport oxygen-rich blood from the heart to all areas of the body. Veins transport deoxygenated blood back to the heart. Blood in the veins of the legs must flow upward against gravity. To counteract the effect of gravity, the muscles of the legs contract to pump the blood upward in the direction of the heart. Veins have one-way valves to control the direction of blood flow. When blood flows toward the heart the valves open and when gravity attempts to pull blood downward the valves close to prevent backflow.

Varicose veins. Varicose veins are veins that have been damaged by over pressure from slow moving blood that causes the vein to engorge and distend. The most common place to get varicose veins is in the superficial veins of the legs where the pull of gravity makes blood return to the heart most difficult. As the pressure builds in the vein it enlarges and stretches the one-way valves until they fail. As each tiny valve fails the pressure on the next valve down the leg increases until it also fails and so on. From the surface these abnormal and ineffective veins appear swollen and knotted. Since these veins no longer efficiently return blood to the heart, their removal will not only improve the appearance of the legs but also improve the overall efficiency of blood circulation. Frequently, varicose veins in the legs cause discomfort and pain in the legs and sometimes the low back.

Types of Veins. There are three main types of veins in the legs.

Deep veins. Deep veins are located deep in the legs between muscle and fascia (tough fibrous tissue). They are responsible for returning 90-95% of venous blood back to the heart. These veins are firmly supported on all sides and seldom develop varicosities.

Perforating veins. These veins link the deep and superficial veins together.

Superficial veins. These are the visible veins on the legs. They drain blood from the skin and act as a storage site for excess blood. These veins have little external support and commonly develop into varicose veins.

Spider veins. Telangiectasias are the tiniest superficial varicose veins. They form a fan or star shape of visible veins when the blood becomes backed up in them. They are often called “spider veins”.

Reticular (feeder) veins. These are the larger superficial veins that are blue and can be seen through the skin. They feed blood into smaller superficial veins.

Causes of varicose veins. Many factors play a role in the development of varicose veins.

Heredity. There is a strong genetic factor in the development of spider or varicose veins. The children of parent(s) with these abnormal veins have an increased risk of the same problem.

Age. Varicose or spider veins can develop at any age but most commonly start between 18 and 35.

Sex. Females are four times as likely as males to develop varicose veins. A major factor in this disparity is pregnancy. The enlarged uterus tends to obstruct venous return from the lower part of the body. It is also possible that hormone changes during pregnancy affect the vein walls making distention and valve damage more likely.

Lifestyle/occupation. Prolonged sitting or standing due to a person’s daily routine can increase the risk of varicose veins.

Trauma. Injury to an area of the leg may increase the chances of developing associated varicose veins.

Symptoms. Varicose veins usually develop gradually and become progressively worse. Varicose veins are not only unsightly but can cause symptoms such as leg fatigue, pain, or burning with prolonged standing. Some patients experience night cramps, leg/ankle swelling, and back pain.

Home treatment and prevention. When possible avoid prolonged sitting. Get up and walk frequently to keep the blood flowing in the legs. When possible elevate the legs above the heart. Exercise daily by doing

such activities as walking, climbing stairs, cycling or swimming. Move your legs frequently. The use of compression hose to provide external support to the superficial veins is very effective in slowing the progression of varicose veins.

Medical treatment. If varicose veins become unsightly or cause symptoms, a patient may elect to have them treated medically. There are four main treatment modalities: (1) Intense Pulse light, (2) laser, (3) sclerotherapy injections, and (4) surgical vein stripping. Our office performs all levels of treatment except for surgical stripping of extremely bad veins. We refer severe cases to a qualified vascular surgeon and treat residual varicosities after surgery is complete. Before any treatment of leg veins a careful medical evaluation of the leg circulation is conducted including assessment of arterial blood flow and Doppler analysis of venous competence. Patients with backflow of venous blood at the thigh or knee will not get lasting results without surgical intervention. Patients with venous backflow will be referred to a qualified surgeon for evaluation and treatment before we perform our therapy.

Modalities that we use for treatment of spider veins.

Intense pulse light. We use the Quantum VL intense pulse light system from Lumenis. This technology uses a pulse of light with a wider spectrum than a laser to eliminate spider veins on the legs or face and small to medium varicose veins on the legs. This system is also excellent for the treatment of tiny capillary vessels that are red, blue, or purple in color. The pigments in the blood located in the target vessels selectively absorb the pulsed light. The absorbed light heats the blood damaging the vein's walls. The body breaks down and absorbs the damaged vein causing it to essentially disappear in most cases. There are no needles and each pulse covers an area of about one square inch.

Nd: Yag laser. Sometimes moderate size veins need a more specific and powerful pulse of light for effective treatment. We use a Lumenis Nd:Yag laser that emits a 1064nm wavelength pulse of light that is precisely absorbed by the hemoglobin in the superficial veins up to 5mm in diameter. This effectively destroys veins that are a little too big for the Quantum VL system. These veins are destroyed and absorbed in the same way as described above. We currently do not have the Nd:Yag laser.

Sclerotherapy. Some patients have varicose veins that are too large for either the QuantumVL or the Nd:Yag laser to effectively treat. Failure to treat larger veins that put pressure on the smaller superficial veins is a common reason for recurrence of varicose

veins after treatment. (Sclerotherapy is the injection of a solution into a vein that causes the vein to be damaged and destroyed). Sclerotherapy and Quantum VL and or Nd:Yag laser will be the most effective treatment for some patients.

Surgery. When varicose veins become very large or when there is backflow in the thigh or knee veins, surgery to ligate (tie off) or remove the abnormal veins may be the best option for treatment. Patients with such veins will be referred to a qualified vascular surgeon for treatment. After surgical treatment, any residual varicosities may be treated with the above methods at our clinic.

Post treatment. Patients must wear compression stockings after all treatments. Multiple treatments may be required.