

WELLNESS MIDSOUTH GUIDE

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Sudden Death

By Arie Szatkowski, M.D., FACC
Stern Cardiovascular Center

Hip Bursitis- It’s Not Just For

“Old Folks”

By Jeffrey Luebke, DC, CCRD, CCSP®
Cole Pain Therapy Group

Cover

Proteinuria

By Julio P. Ruiz, M.D.
Midsouth Nephrology Consultants

Venous Disease:

“More than just a cosmetic issue...”

By James E Klemis, M.D., FACC
Stern Cardiovascular Center

“Our Readers Have An Attitude Toward Living”

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“More than just a cosmetic issue...”

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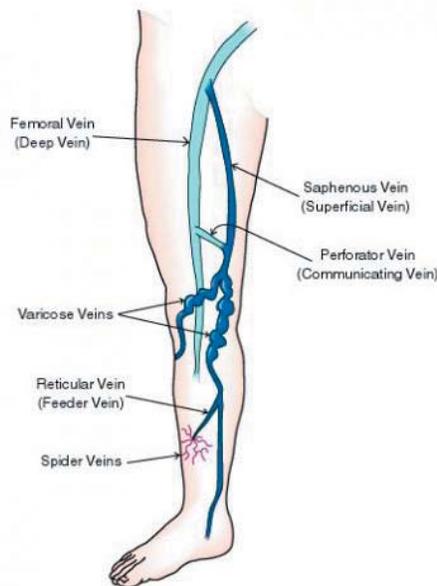


Introduction: Veins are blood vessels that return blood to the heart. Problems with the veins in the legs can lead to pain, swelling, varicose veins, skin discoloration, and in severe cases can lead to nonhealing ulcers which are often misdiagnosed and can lead to months and sometimes years of frustrating and unnecessary disability. In this article, we will focus on the diagnosis and treatment of symptomatic venous disease.

Anatomy/Physiology: The veins in the legs return blood to the heart by means of special one way valves which act to force the blood against gravity back to the heart. When the muscles of the leg contract with normal activity and walking, the blood travels upward through the veins. The valves in the veins can become damaged from various poorly understood causes and then fail to function normally (Fig 1). When these damaged vein valves leak, they cause a backup of fluid in the legs. Typically patients notice swelling or fatigue in the legs which is worse as they are on their feet throughout the day and usually is better when they are off their feet, such as when they have been in bed overnight. There are 3 main types of veins in the leg: 1) the deep veins which lie deep in the muscle, 2) the superficial veins (greater and lesser saphenous) which lie just beneath the skin,

Figure 2

Vein Anatomy



and 3) perforator veins which connect the deep and superficial veins (Fig 2). Diseases of these veins can lead to a backup of pressure in the veins (known as venous hypertension) and if the valves become damaged can lead to symptoms described above, a condition known as chronic venous insufficiency (CVI).

thrombosis, ankle sores or nonhealing ulcers, and even bleeding. Clinically patients are classified under the CEAP (clinical, etiologic, anatomy, and physiology) classification system according to the severity of disease (Fig 3).

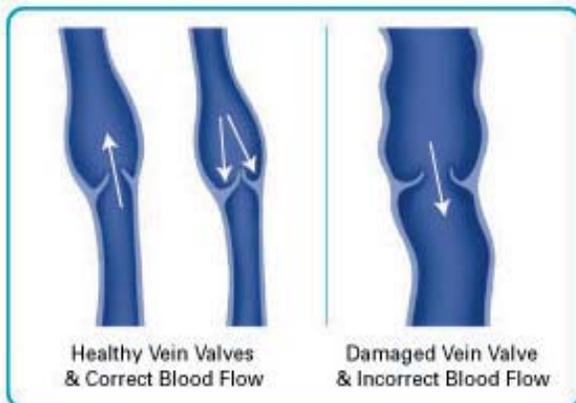
It is important to rule out other medical conditions which can also lead to swelling in the legs such as congestive heart failure, disease of the heart valves, severe kidney or liver disease, or disease of the lymphatic vessels. These can usually be ruled out with a careful exam, lab tests, and other noninvasive tests such as an echocardiogram. Additionally, some common medications can cause edema: a blood pressure medicine called amlodipine (Norvasc) as well as a diabetes medication called rosiglitazone (Avandia). Check with your physician if you experience edema after starting these or other medications to see if there is a treatment alternative, as the symptoms usually resolve after stopping the medication.

Additionally, the recent onset of swelling in one leg may be a serious condition known as deep venous thrombosis (or DVT) and can usually be diagnosed with an ultrasound of the leg. Patients with DVT need to seek urgent medical attention to avoid a condition where the blood clot breaks loose and travels to the

Figure 3
Clinical Manifestations of Chronic Venous Disease



Figure 1



Clinical Information:

Patients with CVI typically notice early symptoms such as leg pain, heaviness or tiredness in the legs, burning or tingling, edema (swelling) or throbbing, and tender areas around the veins in the legs. These symptoms tend to be worsened by prolonged sitting or standing and better when the patient is lying down. If untreated, the disease may progress and can cause inflammation and skin discoloration, dilated or varicose veins, blood clots or

arteries in the lungs (pulmonary embolus, or PE), which can be fatal if untreated.

Diagnosis: The mainstay of diagnosis involves a noninvasive procedure known as an ultrasound. It should be performed by a physician with experience in CVI, as most testing in hospitals is aimed at ruling out life threatening conditions such as DVT and may miss CVI. A careful evaluation performed with the patient in the standing position and using special testing to evaluate for CVI will usually confirm the presence of leaky veins. Additionally, another noninvasive test known as venous refill testing can measure how quickly the veins fill back up after exercising the calf muscles and will determine if the patient has elevated pressures in the veins of the legs, or venous hypertension. Once the diagnosis of CVI is made, there are several treatment options. It is important to recognize that CVI is generally NOT a life threatening condition and generally has a favorable prognosis with treatment, although patients with severe longstanding symptoms may get irreversible discoloration of the skin and as mentioned above may develop ulcers or bleeding, a more serious condition. Your physician can discuss your case individually once a careful diagnosis is made.

Treatment: The mainstay of treatment for CVI is the use of compression stockings, available by prescription in various sizes with various levels of compression and counteract the effect of gravity on the legs. They are worn throughout the day and removed at night, and patients may have a dramatic improvement in their symptoms. Many styles are available and look just like dress socks, sheer stockings, or even athletic socks depending on the preference of the patient. Lifestyle modifications such as regular exercise to improve circulation in the legs, avoidance of prolonged sitting or standing, and the avoidance of high heels in women can also lead to significant improvement in symptoms. If you continue to experience symptoms or have more advanced disease, other treatment options are available.

Sclerotherapy: a chemical known as a sclerosant, may be injected into the diseased vein and cause them to close off. This is commonly used to treat smaller veins. (Fig 4)

Vein stripping: this is the oldest method for treating larger varicose veins and involves making incisions in the leg and directly removing, or stripping the veins. It may require the use of general anesthesia and is associated with a high rate of recurrence, can damage the nerves in the leg, and has a longer recovery time than nonsurgical alternatives.

Endovenous laser ablation (EVLT): this procedure involves using a laser or radiofrequency ablation device which is inserted into the vein and causes

Figure 4



closure of the diseased vein. This minimally invasive technique can be performed with local anesthesia, is done in the outpatient setting, lasts around 45 minutes, has a high (95%) long term success rate, and patients are returned to normal activity within 1-2 days. (Fig 5,6) Over 60 peer reviewed articles have been published documenting the clinical success with this procedure and it is becoming the standard treatment for CVI.

Side Effects: You may experience bruising at the treated site, which resolves within a few weeks. Additionally, you may experience a tightness in the leg in the first 4-7 days after the procedure, which is a

Figure 5

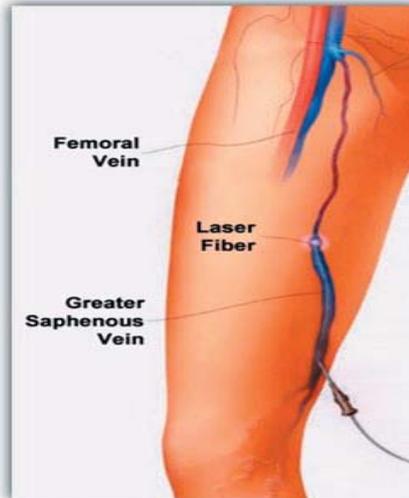


Figure 6



normal response and improved by early and frequent walking after the procedure. Serious complications are very rare, but include hematoma, thrombosis, PE, nerve damage, infection and skin burns.

Common Questions: many patients ask “don’t I need these veins?” – the diseased veins actually contribute to the problematic symptoms and after the procedure to treat the diseased segment, the blood flow is directed back into normal healthy veins and actually improve symptoms and circulation.

Summary: *Chronic venous disease represents one of the most common vascular disorders. Symptoms can cause significant discomfort and even more serious conditions such as ulcers or bleeding. If you think you may be experiencing any of the signs and symptoms of chronic venous disease, a clinical and noninvasive evaluation by a doctor skilled in the evaluation of venous disease may be warranted. There are many conservative and minimally invasive treatment options available as described above and can lead to significant improvement in lifestyle and symptoms.*

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About The Author

Dr. Klemis is a heart and vascular specialist in private practice with the Stern Cardiovascular Center. In addition to clinical cardiology, he has an active vascular practice and has expertise in the minimally invasive treatment of vascular disorders affecting arteries and veins. He is board certified in internal medicine, cardiovascular diseases, interventional cardiology, endovascular surgery, and vascular medicine. If you are interested in an appointment, please contact Dr. Klemis at 901-271-1000.

References and Weblinks of interest:

- 1) JJ Bergan, et al. “Chronic Venous Disease”, New England Journal of Medicine, Aug 2006
- 2) RT Eberhardt and JD Rafferto. “Chronic Venous Insufficiency”, Circulation, May 2005
- 3) www.EVLT.com : informative website for patients and physicians, features an online video presentation illustrating venous disease and treatment options. Excellent resource!