

# Treatment of Varicose Veins

**V**aricose veins are a problem affecting the veins of the legs. The leg veins function in circulating blood back to the heart. When an individual has varicose veins, the veins do not work well, causing the blood to pool in the lower legs and feet. Symptoms include heavy, tired, or achy legs and, in severe cases, skin discoloration and sores.

## EVALUATING VARICOSE VEINS

The initial evaluation includes taking a history and performing a physical examination. A **duplex scan**, a type of ultrasound, is the most common and preferred test to evaluate the vascular system. A duplex scan is performed by a vascular technologist and allows doctors to look at the blood flow within veins. This is a painless test performed with a probe and the application of gel. This test is not needed in all patients, especially when there are no symptoms or they are mild. Laboratory blood tests are not needed in patients with varicose veins unless they have ulcers or a history of phlebitis or deep vein thrombosis.

## TREATING VARICOSE VEINS

Compression stockings typically apply an external pressure of 20 to 30 mm Hg to the leg. These special socks that fit tightly over the legs and ankle can be used for symptom relief. For patients with varicose veins resulting from clots in the large, deep veins (**postthrombotic syndrome**) or patients with skin ulcers, stockings applying 30 to 40 mm Hg of pressure are preferred. These stockings are available over the counter or by physician prescription. Most patients require the stockings for some time, so it is best if they are custom fit based on leg size. For patients with varicose veins resulting from blood moving backward because of incompetent leg veins (**saphenous reflux**), compression therapy is not sufficient as the only treatment. Other therapies include

- **Microphlebectomy**—small incisions are made in the skin allowing for the removal of varicose veins just below the skin's surface.
- **Sclerotherapy**—a solution is injected into the vein causing it to scar down and visibly fade. This therapy is recommended for telangiectasias, reticular veins, or small varicose veins.
- **Radiofrequency ablation (RFA) or endovenous laser ablation (EVLT)**—this outpatient procedure is the preferred treatment for saphenous reflux because of shorter recovery and less pain compared with removing the vein. The vein is heated with a catheter inserted into the vein with the patient under local anesthesia. Heat is used to destroy the vein and the vein quickly disappears. Microphlebectomy is sometimes required as a second stage of treatment weeks to months later.
- **Vein-stripping surgery**—this operation is performed in the operating room but does not require a hospital stay. The surgeon makes small incisions in the groin area and below the knee to remove the major "culprit" vein (great saphenous vein) connecting these 2 areas (now mostly replaced by RFA and EVLT). After the operation, patients require compression stockings and may need microphlebectomy of other veins, preferably performed during the same visit or in a subsequent visit.

*Source:* Glociczki P, Comerota A, Dalsing MC, et al. The care of patients with varicose veins and associated chronic venous diseases: clinical practice guidelines of the Society for Vascular Surgery and the American Venous Forum. *J Vasc Surg.* 2011;53: 25-485.

**Conflict of Interest Disclosures:** The author has completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest and none were reported.

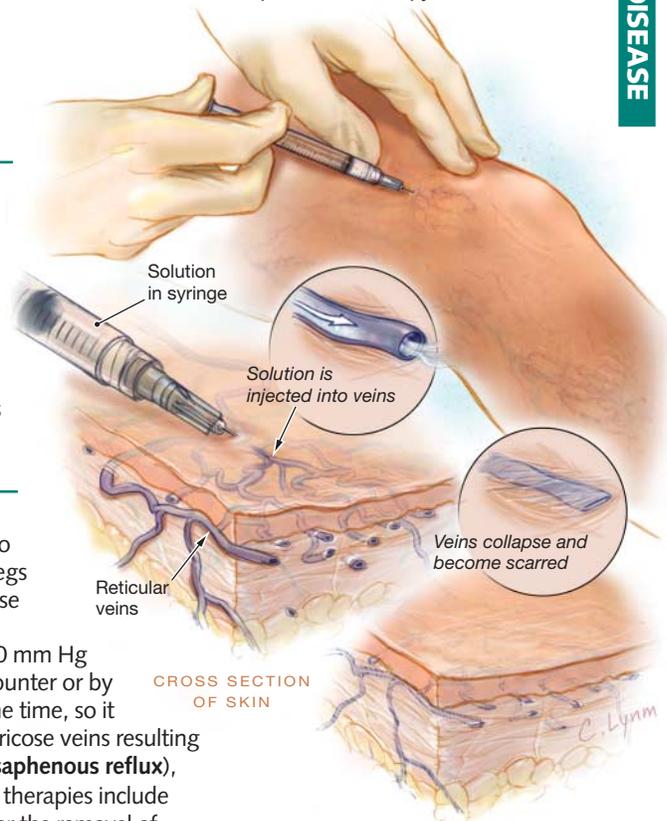
Allen Hamdan, MD, Writer

Edward H. Livingston, MD, Editor

Cassio Lynn, MA, Illustrator

The JAMA Patient Page is a public service of JAMA. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, JAMA suggests that you consult your physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, call 312/464-0776.

Example of sclerotherapy treatment



## FOR MORE INFORMATION

- National Heart, Lung, and Blood Institute  
[www.nhlbi.nih.gov/health/health-topics/topics/vv/](http://www.nhlbi.nih.gov/health/health-topics/topics/vv/)
- American Venous Forum  
[www.veinforum.org](http://www.veinforum.org)
- Healthy Veins  
[www.healthyveins.org](http://www.healthyveins.org)

## INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page index on JAMA's website at [www.jama.com](http://www.jama.com). Many are available in English and Spanish. A Patient Page on the causes, symptoms, and at-home treatment of varicose veins was published in the December 26, 2012, issue.

