



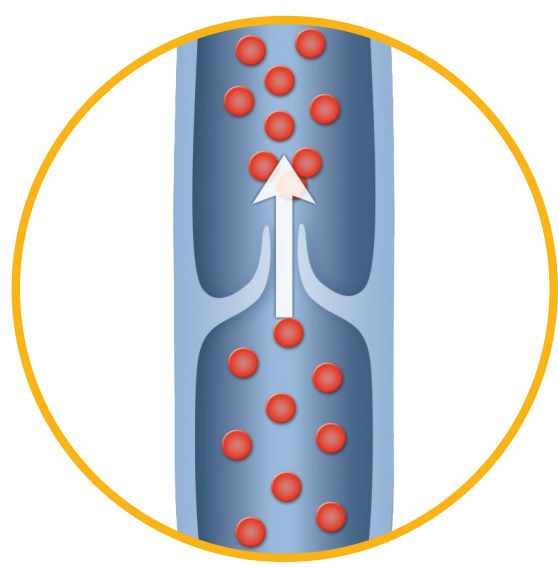
See and feel a difference in your legs.

Relief from varicose veins is possible.

Understanding the cause

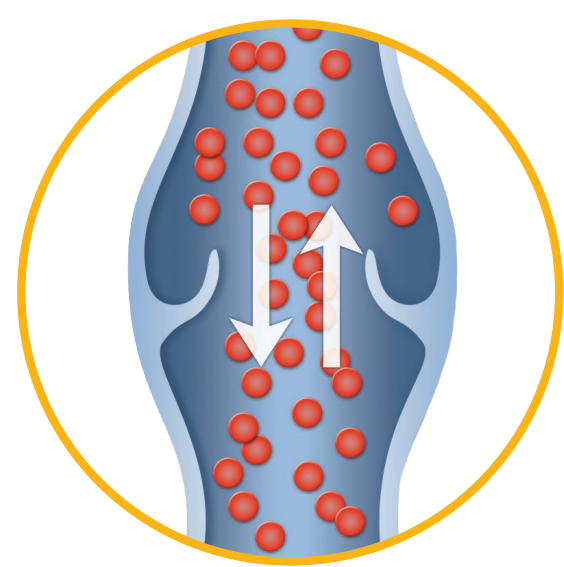
About vein disease

Healthy leg veins have valves that keep blood flowing to the heart.



Normal vein

Valves ensure blood flows in one direction.



Diseased vein

Valves that cannot close allow blood to drain and pool.

Venous reflux develops when the valves stop working properly and allow blood to flow backward (i.e., reflux) and pool in the lower leg veins.

Chronic venous insufficiency

If venous reflux is left untreated, it may worsen over time and develop into a more serious form of vein disease called **chronic venous insufficiency (CVI)**.¹

Signs and symptoms in the legs or ankles^{2,3}

- Varicose veins
- Aching or pain
- Swelling
- Cramping
- Heaviness or tiredness
- Itching
- Restlessness
- Skin changes and/or discoloration
- Open sores or ulcers



Varicose veins



Leg swelling



Skin color and texture change



Venous ulcers

Photos courtesy of Dr. Charles Dietzek

Treatment options for lasting relief

With proper treatment, the progressive symptoms of venous reflux are preventable. Your doctor can help you determine which treatment is right for you.

The VenaSeal™ procedure delivers a small amount of a specially formulated medical adhesive to close the diseased vein, rerouting blood to nearby healthy veins, which provides symptom relief.

- Simple, outpatient procedure
- No tumescent anesthesia
- Less pain and bruising than thermal ablation^{4,5}
- Faster recovery time than thermal ablation^{4,5}
- Compression stockings not needed after the procedure^{†,5,6}

Adverse events can include allergic reaction, inflammation, phlebitis, deep vein thrombosis, and/or pulmonary embolism.

The ClosureFast™ procedure uses radiofrequency energy (heat) to close the diseased vein, which redirects blood flow to healthy veins, relieving symptoms.

- Minimally invasive outpatient procedure
- Local anesthesia along various points of the leg
- Less pain and bruising than laser treatment⁷
- Faster recovery time than laser treatment⁷
- Compression stockings needed for at least one week after procedure⁶

Adverse events can include nerve injury, hematoma, phlebitis, thrombosis, and/or pulmonary embolism.



Before



After

Photos shown are for the ClosureFast procedure before and six weeks after treatment. Photos are illustrative of general results a patient might expect with the VenaSeal or ClosureFast procedures. Individual results may vary. Talk to your doctor about which treatment option might be right for you. Photos courtesy of Dr. Jonathan Calure.

[†] Some patients may benefit from the use of compression stockings post-procedure.

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2. Chronic Venous Insufficiency. Johns Hopkins Medicine. Available at: <https://www.hopkinsmedicine.org/health/conditions-and-diseases/chronic-venous-insufficiency>. Accessed November 20, 2025.

3. Gloviczki P, Comerota AJ, 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*. May 2011;53(5 Suppl):25-48S.

4. Morrison N, Gibson K, McEnroe S, et al. Randomized trial comparing cyanoacrylate embolization and radiofrequency ablation for incompetent great saphenous veins (VeClose). *J Vasc Surg*. April 2015;61(4):985-994.

5. Probstle T, Alm J, Dimitri S, et al. Three-year follow-up results of the prospective European Multicenter Cohort Study on Cyanoacrylate Embolization for treatment of refluxing great saphenous veins. *J Vasc Surg Venous Lymphat Disord*. March 2021;9(2):329-334.

6. Almeida JJ, Javier JJ, Mackay EG, Bautista C, Cher DJ, Probstle TM. Thirty-six-month follow-up of first-in-human use of cyanoacrylate adhesive for treatment of saphenous vein incompetence. *J Vasc Surg Venous Lymphat Disord*. September 2017;5(3):658-666.

7. Almeida JJ, Kaufman J, Göckeritz O, et al. Radiofrequency endovenous ClosureFAST versus laser ablation for the treatment of great saphenous reflux: a multicenter, single-blinded, randomized study (RECOVERY study). *J Vasc Interv Radiol*. June 2009;20(6):752-759.

8. Probstle TM, Alm BJ, Göckeritz O, et al. Five-year results from the prospective European multicenter cohort study on radiofrequency segmental thermal ablation for incompetent great saphenous veins. *Br J Surg*. February 2015;102(3):212-218.