

About vein disease

Varicose veins are common – and treatable. Varicose veins are not just a cosmetic issue. Leg vein disease can cause varicose veins and other painful symptoms that can impact how you live. We believe life shouldn't be limited by pain caused by vein disease, and that's why we're here to help you understand your pain and break free from it.

Leg vein disease, or chronic venous insufficiency (CVI), occurs when the blood in the veins doesn't flow back to the heart but flows backward instead (referred to as reflux) when a diseased vein is left untreated.

Common signs and symptoms of vein disease¹

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

Causes of vein disease

Healthy leg veins have valves that keep blood flowing to the heart. Vein disease develops when the valves stop working properly and cause blood to flow backward and pool in the lower leg veins.

Known risk factors

- Family history
- Smoking
- Current or previous pregnancies
- Obesity or excess weight
- Prolonged sitting or standing
- Leg injury or trauma
- Lack of exercise
- A blood clot (deep vein thrombosis)

Visible signs of vein disease

Varicose veins



Leg swelling



Skin color and texture changes



Venous ulcers



Diagnosing vein disease

An ultrasound scan is the only definitive way to diagnose vein disease. A technician uses this test to visualize your veins. A doctor will review the test results and evaluate your venous disease by looking at your venous anatomy, how the valves function, any potential reflux, and the extent of your venous disease.

Varicose veins and chronic venous insufficiency (CVI) are recognized by many insurance companies, including Medicare and private insurers, as medical conditions.

Early diagnosis is critical.

When left untreated, venous disease can progress into a more serious form of CVI with venous leg ulcers. Ulcers are painful sores or wounds that typically appear near the ankle or lower leg and are brought on from the increased buildup of fluid and blood pressure from veins affected by CVI.²

Patients who receive early vein closure treatment along with compression stocking therapy for venous leg ulcers experienced significantly shorter time to healing and extended time free from ulcers.³

- More than one million people in the United States suffer from venous leg ulcers.^{4,5}
- 70-90% of ulcers below the knee are venous (caused by vein disease).^{4,5}
- More than 50% of venous ulcers treated are recurrent ulcerations.⁶
- Due to pain, mobility limitations, and other consequences, venous leg ulcers have been associated with increased rates of depression and substantial decreases in patient quality of life.^{7,8}

References

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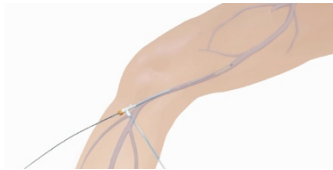
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The ClosureFast procedure

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

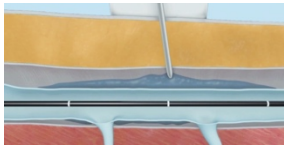
Step 1: Thermal catheter is placed

Using an ultrasound, your physician will position the catheter into the diseased vein through a small access site.



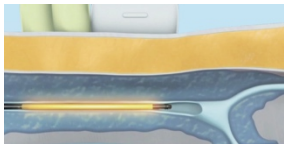
Step 2: Local anesthetic is applied

A series of injections numbs the area around the vein.



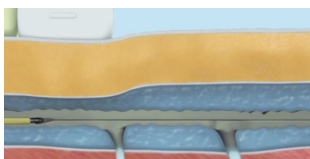
Step 3: Heat is delivered to vein wall

The vein wall is heated and the catheter is withdrawn from the vein.



Step 4: Vein is closed

The vein is "heat sealed" as the catheter is removed. A multilayer compression wrap is applied from foot to groin.



Before the procedure

You will have an ultrasound imaging exam of the leg being treated. This exam is important for assessing the diseased superficial vein and planning the procedure.

During the procedure

Your doctor will discuss the procedure with you. Here is a brief summary of what to expect:

- The ClosureFast procedure is performed on an outpatient basis. Your doctor will perform the ClosureFast procedure. Using an ultrasound, your doctor will position a catheter in the diseased vein through a small opening in the skin.
- The small catheter delivers heat to the vein wall, causing it to shrink and seal the vein. Once the diseased vein is closed, blood will reroute itself to other healthy veins.

After the procedure

- You will be taken to the recovery area to rest.
- Following the procedure, your doctor will apply a simple bandage over the insertion site and will give you compression stockings to aid in the healing process. Your doctor may encourage you to walk and to refrain from extended standing and strenuous activities for a period of time. The average patient typically resumes normal activities within a few days.^{1,2}
- Your doctor will recommend follow-up care as needed.

Patient results: before and after

Before ClosureFast procedure



Six weeks after ClosureFast procedure



Benefits of the ClosureFast procedure

- Relief of symptoms after two days, with a noticeable improvement in one to two weeks³
- Minimally invasive outpatient procedure
- Less pain and bruising than laser treatment³
- Faster recovery than laser treatment³
- Proven results with positive patient experience^{1,3,4}

- Rapid recovery – on average, patients resume normal activities within a few days²
- Lasting results – the only radiofrequency energy procedure with published long-term clinical data demonstrating safety and efficacy, with a **91.9%** closure rate at five years.⁴

Possible complications of the ClosureFast procedure may include nerve injury, hematoma, phlebitis, thrombosis, and/or pulmonary embolism. Talk to your doctor about the risks and benefits.

Type of therapy

Thermal shrinkage of the vein wall with radiofrequency energy or heat

Inpatient or outpatient procedure

Outpatient procedure

One- versus two-leg treatment

Typically, each leg will be treated in separate appointments

Needle sticks required

One needle stick for vein access. Typically, 5 to 10 needle sticks for anesthesia.

Typical post-treatment recovery

Healing of vein access site, anesthetic needle stick sites, and also healing of ablated vein section

Compression hose

Required for approximately one week

Procedure success rate

91.9% after five years⁴

ClosureFast procedure FAQ

Collapse All

Is the ClosureFast procedure painful?

Most patients report feeling little, if any, pain during the ClosureFast procedure.³ Your doctor will give you a local or regional anesthetic to numb the treatment area.

When can I return to normal activity?

Patients treated with the ClosureFast procedure may resume normal activity more quickly than patients who undergo surgical vein stripping or laser ablation. With the ClosureFast procedure, the average patient typically resumes normal activity within a few days.² For a few weeks following the treatment, your vein specialist may recommend a regular walking regimen and suggest you refrain from strenuous activities (heavy lifting, for example) or prolonged periods of standing.

When will my symptoms improve?

Most patients report relief of symptoms after two days, with a noticeable improvement in one to two weeks.

Is there any scarring, bruising, or swelling after the procedure?

Most patients report limited to no scarring, bruising, or swelling following the ClosureFast procedure.³

How is the ClosureFast procedure different from endovenous lasers?

Both ClosureFast and lasers use thermal technology to deliver heat into the diseased vein, but they each use a different method of delivery. Despite their similarity in using heat, a 2009 study showed that the ClosureFast procedure is associated with lower rates of pain, bruising, and complications and a faster improvement in patients' quality of life when compared to 980 nm laser ablation.⁴

How is the ClosureFast procedure different from vein stripping?

During vein stripping, incisions are made in the groin and calf, and a tool is threaded through the diseased vein to pull the vein out of the leg. With the ClosureFast procedure, only one small incision is made at the insertion site and the vein is then treated and left in place. ClosureFast is a minimally invasive approach that reduces the likelihood of pain and bruising, associated with vein stripping surgery.¹

Is the ClosureFast procedure covered by insurance?

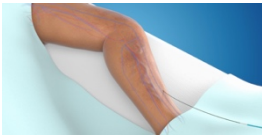
Many patients have access to the ClosureFast procedure through their insurance coverage plan. Insurance companies detail access to the ClosureFast procedure and other radiofrequency ablation procedures in coverage policies for varicose veins or chronic venous insufficiency. As with all healthcare procedures, you may also have some cost associated with receiving treatment, such as a copay or coinsurance. Please reach out to your insurance company to discuss your specific plan coverage and potential costs prior to seeking treatment

The VenaSeal procedure

The VenaSeal procedure delivers a small amount of a specially formulated medical adhesive to seal – or close – the diseased vein, rerouting blood to nearby healthy veins and providing symptom relief. The VenaSeal closure system is a safe and effective treatment, offering significant improvement in quality of life.¹

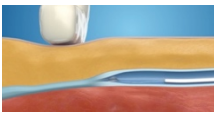
Step 1: Catheter is placed in the vein

Using an ultrasound, your doctor will position a catheter into the diseased vein through a small access site.



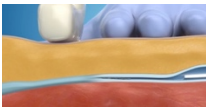
Step 2: Specialized adhesive is placed

A specially formulated medical adhesive is placed in the diseased vein via a small catheter.



Step 3: Light external pressure is applied

Light external pressure is applied to adhere the vein walls together. This step is repeated for the length of the vein.



Step 4: Catheter is removed

The catheter is removed and a single adhesive bandage is applied to the vein access site.



Before the procedure

You will have an ultrasound imaging exam of the leg being treated. This exam is important for assessing the diseased superficial vein and planning the procedure.

During the procedure

Your doctor can discuss the procedure with you. Here is a brief summary of what to expect:

- You may feel some minor pain or stinging with a needle stick to numb the site where the doctor will access your vein.
- Once the area is numb, your doctor will insert the catheter (i.e., a small hollow tube) into your leg. You may feel some pressure from the placement of the catheter.
- The catheter will be placed in specific areas along the diseased vein to deliver small amounts of the medical adhesive. You may feel a mild sensation of pulling. An ultrasound will be used during the procedure to guide and position the catheter.

After the procedure

- After treatment, the catheter is removed and a small adhesive bandage is placed over the puncture site.
 - You will be taken to the recovery area to rest.
 - Your doctor will recommend follow-up care as needed.
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Patient results: before and after

Before VenaSeal procedure



Three months after VenaSeal procedure



Individual results may vary. Images courtesy of Dr. Kathleen Gibson.

Benefits of the VenaSeal procedure

- Simple outpatient procedure
- Lasting results, with a **94.6%** closure rate at five years¹
- Compression stockings may not be needed after the procedure^{2,3}
- Faster recovery time than thermal ablation^{1,2}
- Less pain and bruising than thermal ablation^{1,2}
- No tumescent anesthesia

Possible complications of the VenaSeal procedure may include allergic reaction, inflammation, phlebitis, deep vein thrombosis, and/or pulmonary embolism. Talk to your doctor about the risks and benefits.

Type of therapy

Closure with medical adhesive (permanent implant)

Inpatient or outpatient procedure

Outpatient procedure

One- versus two-leg treatment:

Typically, both legs can be treated in the same appointment

Needle sticks required

One needle stick for vein access

Typical post-treatment recovery

Typically limited to healing of vein access site; some patients may experience temporary skin and tissue irritation

Compression hose

Not required, but your doctor may recommend it post-procedure

Procedure success rate

94.6% closure rate at five years¹

VenaSeal procedure FAQ

Is the VenaSeal procedure painful?

Most patients feel little, if any, pain during the outpatient procedure.¹

When can I return to normal activity?

The VenaSeal procedure is designed to reduce recovery time. Many patients return to normal activity immediately after the procedure. Your doctor can help you determine when you can return to normal activity.

When will my symptoms improve?

Symptoms are caused by the diseased superficial vein. Thus, symptoms may improve as soon as the diseased vein is closed.

Is there bruising after the VenaSeal procedure?

While bruising is common with all vein treatments, patients report it to be mild and to resolve with no treatment or with over-the-counter anti-inflammatory medication.¹

What happens to the VenaSeal procedure adhesive?

Only a very small amount of VenaSeal procedure adhesive is used to close the vein. Your body will naturally create scar tissue around the adhesive over time to keep the vessel permanently closed.

How is the VenaSeal procedure different from thermal energy procedures?

The VenaSeal procedure uses an adhesive to close the superficial vein. This differs from thermal energy procedures that use heat to close the vein. This intense heat requires numbing medicine, which is injected through multiple needle sticks. The injections may cause pain and bruising after the procedure.

Is the VenaSeal procedure covered by insurance?

As with any procedure, insurance coverage may vary. Insurance companies detail access to the VenaSeal procedure and other nonthermal ablation procedures in coverage policies for varicose veins or chronic venous insufficiency. Please reach out to your insurance company to discuss your specific plan coverage and potential costs prior to seeking treatment.