Procedures for
Spider and Varicose Veins

- How Vein Problems Develop
- Easing Symptoms with Self-Care
- Minimally Invasive and Surgical Treatment Options
Understanding Problem Leg Veins

Do your legs feel tired and achy at the end of the day? Have you stopped wearing shorts because you don’t like the way your legs look? Vein problems are not related to artery problems such as those that cause heart disease. But abnormal leg veins can affect your health and your self-image. Treatments for these veins include self-care, minimally invasive treatments, and surgery. They can relieve symptoms and help you feel better about your appearance, too.

What Are Spider Veins?

When very small blood vessels just below the skin’s surface become damaged, they can form webs of blue, purple, or red veins. These “spider veins” rarely cause serious symptoms. But because they’re near the surface of the skin, their color is visible.

What Are Varicose Veins?

Varicose veins occur when vein damage causes blood to flow in the wrong direction. Blood then pools in the veins, causing them to swell. The most common site of varicose veins is the legs. These veins can cause leg fatigue, aching, itching, and other symptoms. The veins may also bulge, twist, and stand out visibly.
Who Gets Spider and Varicose Veins?

Anyone, male or female, can develop spider or varicose veins. But certain risk factors can make them more likely to form. The tendency toward vein problems can run in families. Women often develop problem veins during pregnancy. A job that keeps you on your feet or sitting at a desk all day can contribute as well. Other factors include lack of exercise, injury (trauma), and hormonal changes.

What Can Be Done About Problem Veins?

Your doctor will guide you through the process of deciding on treatment. In many cases, spider veins can be treated with sclerotherapy (injections). Treatments for varicose veins include endovenous ablation (a minimally invasive procedure), surgery, or a variation of one of these. All procedures either destroy or remove problem veins. Blood then reroutes through other veins. Meanwhile, self-care, though not a cure, can reduce symptoms. This booklet tells you more about treatment options to explore with your doctor.
How Leg Veins Work

Blood flows through a system of blood vessels, also known as veins and arteries. The job of the veins is to carry blood from the organs and limbs to the heart. The job of the arteries is to carry oxygen-rich blood from the heart to the rest of the body. Blood then drains back into the veins, and the cycle begins again.

Healthy Leg Veins

A vast network of veins manages blood flow for the entire body. The smallest surface veins drain into the reticular system, a web of tiny veins just below the skin. Blood then flows into the larger and somewhat deeper superficial veins. Perforating veins carry blood from the superficial veins to the deep veins. These large veins carry blood back to the heart.

Returning Blood to the Heart

To get from the feet and legs to the heart, blood has to flow upward. The action of the calf and thigh muscles helps pump blood upward against gravity. Valves (small flaps inside the veins) open to let the blood through, then close to hold it in place.
When Vein Problems Develop

The root of most vein problems is **venous insufficiency**. This condition occurs when veins widen and stretch (dilate) and valves become unable to close properly. As a result, affected veins have trouble carrying blood back to the heart.

**Spider Veins**

When tiny blood vessels just below the skin’s surface dilate, they can be seen easily. Clusters of spider veins can even look like a bruise. Spider veins can form due to heredity, injury, pregnancy, or hormonal changes. These veins are generally not harmful, but their appearance can make you self-conscious. In rare cases, these vessels can bleed, causing more serious problems.

**Varicose Veins**

When a vein is dilated or its valves are damaged, blood moves in the wrong direction. It leaks down the leg vein and “backs up.” This can cause the leg to ache and swell, and feel tired, heavy, or full. Problems with the saphenous veins can harm the side veins that drain into them, causing the smaller veins to dilate and become varicose too. Varicose veins can cause bleeding, changes in skin color, and ulcers. If blood clots in a varicose vein, the vein walls can become inflamed (**superficial thrombophlebitis**). Sudden pain, redness, or swelling in the affected area may result.
Evaluating Your Vein Problem

Your doctor will gather information before recommending a treatment approach for your vein problem. Before moving ahead with treatment, your doctor must also rule out more serious problems with the deep vein system. Your evaluation includes a physical exam and tests to determine the causes and extent of the problem.

Your Medical History

Your healthcare provider will ask questions about your medical history, such as:
- Family history of abnormal veins
- Duration and symptoms of the problem
- Your job and activities
- Previous treatments
- Medications you are taking
- Current or previous pregnancies

Duplex Ultrasound

Duplex ultrasound is a noninvasive test that uses sound waves to create pictures. It provides detailed information about the venous system. It also shows blood flow, which helps your doctor determine where reflux is occurring. Duplex ultrasound makes it possible to pinpoint leak points that may be the source of the problem. This test can also help the doctor rule out more serious vein conditions.

During the test, gel is applied to the leg and a probe is moved over the skin. Pictures of the vein can then be viewed on a computer screen.

Your Physical Exam

Your doctor will examine your legs during one or more office visits. The abnormal veins may be photographed to map their size and locations. During your exam, a hand-held Doppler scanner may be used to check for signs of reflux. This scanner is used like a stethoscope, to listen to and assess the sounds of blood flow.
Your Treatment Plan

After your evaluation, you'll work with your doctor to develop a treatment plan. This plan is tailored to your individual needs. You may have several treatment options. That's why it's key to learn about each type of treatment and make sure all of your questions are answered.

Making Decisions About Treatment

Your treatment options may include injections, minimally invasive procedures, and surgery. One or more of these may be recommended. All treatments destroy or remove veins. (The remaining veins take over the workload, carrying the blood where it needs to go. Blood flow then becomes more efficient.) Your doctor and his or her staff can make suggestions and offer alternatives. Together, you'll decide on the plan to meet your needs. No matter which treatment you choose, compression stockings are likely to be prescribed as part of your plan.

What to Expect from Treatments

Know what to expect. Treatment:
- **Can** decrease or eliminate symptoms.
- **Can** improve your appearance.
- **Can't** guarantee that problem veins won't develop in the future. This can be a recurring condition, and its underlying causes may still exist.
- **Can't** make your legs look perfect—but your doctor will strive for the very best result.

If You're Pregnant

Varicose veins often develop or worsen during pregnancy. Keep in mind that:
- Self-care, such as wearing elastic compression stockings daily, can relieve symptoms during pregnancy. (See pages 8 and 9 to learn more.)
- Abnormal veins may improve after pregnancy. Your veins can then be reevaluated to see if treatment is needed.
- You need not delay treatment until you're finished with childbearing. In fact, getting treated between pregnancies can reduce vein problems during future pregnancies.
Self-Care for Your Problem Veins

Proper care of your legs can help reduce the symptoms of problem veins. Self-care is key to your comfort during pregnancy, and it’s part of your aftercare for any type of treatment. Any self-care you do can help. But the more you do, the better your results are likely to be.

Compression Stockings

Gradient compression stockings fit tightly around your legs, exerting more pressure at the ankle than at the top. This moves blood upward and helps keep it from pooling in the legs. These elastic stockings come in different degrees of pressure. Your doctor will prescribe stockings in a safe and effective pressure for you. In general, stockings up to 20 mm pressure are safe—but check with your doctor before buying or wearing any compression hose. The stockings come in a variety of styles, lengths, colors, and sizes, including maternity sizes. You may be able to buy them at your doctor’s office, a pharmacy, online, or at a surgical supply store.

Tips for Using Compression Stockings

To use stockings safely and effectively:

- Make sure to wear them correctly. Pull them to the designated height and no further. Don’t let them bunch up at the top, as this can restrict circulation.
- Replace them when they start to become loose, which is often after about 4 to 6 months.
- Don’t sleep in them unless so directed.
- Wear the length recommended by your doctor.
- Wear them for the amount of time recommended by your doctor.
- If you have trouble pulling them on, wear thin rubber gloves to help improve your grip and prevent tearing. You can also use equipment, such as a stocking donner, to help put them on.
Exercise

Working calf and thigh muscles helps move blood upward. And keeping these muscles toned may help with blood flow even when you're sitting or standing. To get the most benefit:

• Choose exercises that work the leg muscles. Walking, swimming, and cycling are great choices.
• If you're new to exercise, start slowly and build up to at least 30 minutes of exercise, most days of the week. Ask your doctor which exercises are best for you.
• If you sit most of the day, get up and walk from time to time. Just changing position may offer some relief. Also try wiggling your toes for a minute 10 times a day.

Elevation

Raising your legs lets gravity help blood flow back to the heart. For the most benefit, raise your feet a few inches above your heart, 2 to 3 times a day for 15 minutes. If this is not practical, do as much as you can. Any elevation can help.

Evaluating Your Lifestyle

Are there things you can change about your lifestyle that might help relieve your symptoms?

• **Are you overweight?** If so, losing weight will help relieve some of your symptoms.
• **Is your diet a factor?** Eating too much sodium can make you retain water. To help cut back on salt, take the saltshaker off the table.
• **Do you sit in one position for long periods?** You might have a long commute, be a frequent flier, or spend a lot of time in front of the TV or computer. If so, try to get up and move about every hour. While in your seat, move your feet and ankles to work your calf muscles. And wear your compression stockings!
Sclerotherapy

This technique involves injecting a problem vein with a chemical. The chemical causes the blood vessel to close up and eventually disappear. Sclerotherapy is the main treatment option for spider veins. It’s also used for treatment of certain varicose veins. This treatment is performed in a short office visit and is often painless.

How It Works

Using a very fine needle, your doctor injects a “sclerosing” chemical into the dilated blood vessel. The chemical causes inflammation, which makes the walls of the vessel stick together. As a result, the treated vessel can no longer hold blood. It shrivels and is eventually reabsorbed by the body.

Your Experience

Your doctor may ask you not to use cream or lotion on your legs on the day of treatment. No other special preparation is needed before this therapy. During your first session, your doctor may perform a few injections to test your response to the chemical. Based on your response, the amount of the chemical may be adjusted. You may then have multiple sessions for different parts of the leg. Many veins can be treated in one session. In most cases, there is little or no pain during treatment, though you may feel a slight burning or stinging sensation.
What to Expect Afterward

Right after the procedure you will most likely feel back to normal. You can return to your normal activities, including work, right away. You may see some bruising, but this is usually not severe. It may take up to 12 weeks for veins to disappear. In rare cases, some veins may need to be injected more than once. Blood may become trapped in some spider veins. If so, your healthcare provider can remove it with a small puncture.

Aftercare

Resume your normal daily activities as soon as possible. But keep these points in mind while you recover:

• Wear compression stockings or bandages as directed.
• Elevate your legs as directed.
• Walk each day.
• Avoid high-impact activities as advised by your doctor.
• Avoid hot baths, saunas, whirlpools, and other hot environments as advised by your doctor.
• Protect the treated area from sun exposure. Cover up or use sunblock.
• Avoid immediate air travel if possible.
• Follow any special instructions from your doctor.

Risks and Complications

Risks and potential complications of sclerotherapy are rare. They include:

• Brown discoloration along the treated vessel (usually temporary)
• Allergic reaction to the chemical used in injections
• Blood clot
• Scabbing or scarring
• Small skin ulcers
• Formation of new blood vessels around treated area

When to Call Your Doctor

Call your doctor if you have questions about your treatment, or if you experience any of the following:

• Persistent pain in the legs or feet
• Persistent itching
• Persistent bleeding or oozing
• Swelling
• Fever
• Chest pain
Endovenous Ablation

Endovenous ablation uses heat to treat a varicose vein, often a saphenous vein. Closing off a problem vein reduces pressure on smaller varicose veins. The procedure is a less invasive alternative to stripping surgery. Endovenous ablation involves only needle punctures, not incisions. You can resume normal activities soon after the procedure.

How It Works
Your doctor punctures the vein with a needle. A heat source, either radiofrequency (RF) or laser, is delivered by a catheter (thin tube) into the vein. Ultrasound is used to help position the heat source in the proper place in the vein. The heat source is then drawn backward, ablating (destroying) the tissue and closing the vein behind it. Over time, the body absorbs the treated vein.

Your Experience
This procedure can occur in your doctor's office, a hospital, or a surgery center. In most cases, you don't need to do anything special to prepare. You'll be awake and able to talk to your doctor during the procedure. Pain is controlled with local anesthesia. You may also be given a mild sedative to help you relax. When the procedure is complete, pressure or a bandage is applied to the puncture site to stop bleeding. A bandage or compression stocking is then put on the leg.
What to Expect Afterward
You'll be able to go home soon after the procedure. You can resume your normal activities, including work, in 1 to 2 days. You may see some bruising, but little or no swelling. Any pain you have can likely be controlled with over-the-counter medications. Your legs may look and feel better right away. Or it may take 1 to 2 weeks after the procedure for you to see improvement.

Aftercare
Resume your normal daily activities as soon as possible. But keep these points in mind while you recover:

- Wear elastic stockings or bandages as instructed.
- Elevate your legs from time to time throughout the day.
- Walk each day.
- Avoid heavy exercise, lifting, or prolonged standing for 7 to 14 days.
- Avoid hot baths, saunas, whirlpools, and other hot environments as advised by your doctor.
- If possible, avoid immediate air travel.
- Follow any other special instructions from your doctor.

Risks and Complications
Risks and complications of this procedure are rare. They may include:

- Superficial inflammation
- Temporary skin numbness
- Infection
- Skin burn
- Blood clot in a deep vein
- Blood clot traveling to the lung

When to Call Your Doctor
Call your doctor if you have questions about your treatment, or if you experience any of the following:

- Increasing pain
- Persistent bleeding or oozing
- Numb feet
- Swelling
- Fever
- Chest pain
- Shortness of breath
Surgery to Remove Leg Veins

In some cases, surgery is needed to remove varicose veins. Microphlebectomy can be used to treat small varicose veins. If a saphenous vein needs to be removed, ligation with stripping may be done. Surgery may be performed in the surgeon's office, an outpatient surgery center, or a hospital. You can expect to go home within a few hours after surgery is complete.

Preparing for Surgery

Before surgery, you may be told not to take aspirin or ibuprofen for a week or more. Tell your doctor about any other medications, herbs, or supplements you take. In some cases, you may be told to adjust medications before surgery. Anesthesia will be used to make you relax or fall asleep, and control pain during surgery. Depending on the type of anesthesia you receive, you may be asked to not eat or drink anything for 6 to 8 hours before surgery. Arrange to have an adult family member or friend drive you home after surgery. Your surgeon can tell you how long surgery is likely to take.

Microphlebectomy

With this procedure, small incisions are made over or beside the vein or veins to be removed. These incisions are made with a needle or small puncturing instrument. A special hook is then used to remove the vein in sections through these punctures. More than one vein may be removed in a single session. This procedure can be done alone, or combined with endovenous ablation or ligation with stripping in a single procedure.

Microphlebectomy: What to Expect

Before surgery, you may be given a sedative to help you relax. Local anesthetic is then injected into the leg to numb it. The surgeon makes the incisions and gently removes the vein. After surgery is complete, incisions are closed with stitches or Steri-Strips (small strips of tape). The leg is then wrapped in a bandage or compression stocking. Shortly afterward, you'll be able to walk, and about an hour later you can go home. You can expect to get back to work and your normal activities in a day or two.
Ligation with Stripping
This surgery can be used to remove the great or small saphenous vein. You will receive either local or general anesthesia. During surgery, small incisions are made at the top and bottom of the vein to be removed. The saphenous vein is tied off or closed (ligated) at the top and bottom. The surgeon then removes (strips) the vein through the lower incision. After surgery, your legs are wrapped in compression bandages to control bleeding and swelling. In 1 to 3 hours, an adult family member or friend can take you home. Pain medication is likely to be prescribed. You can expect to return to work and your normal routine in about a week after surgery.

Recovering from Surgery
While you recover:
• Take pain medications as prescribed.
• Keep your legs elevated when sitting or lying down.
• Walk frequently, starting the day after surgery. Even short walks help.
• Wear compression stockings or bandages as directed.
• Avoid heavy exercise, lifting, or prolonged standing for 7 to 14 days.
• Avoid hot baths, saunas, whirlpools, and other hot environments as advised by your doctor.
• Avoid immediate air travel if possible.

Risks and Complications
Risks and complications of these surgeries are rare. They may include:
• Bleeding
• Swelling
• Numbness in legs
• Clots in deep veins of legs
• Complications of anesthesia

When to Call Your Doctor
Call your doctor if you have any of the following:
• Severe bleeding or swelling
• Increasing leg pain
• Numb feet
• Fever
• Chest pain
• Shortness of breath
After Vein Treatment Is Complete

Treatment for spider and varicose veins can help you feel better and look better. To ensure the best results, keep follow-up appointments with your doctor. Use self-care to aid recovery and help reduce symptoms. And get ready to dig your shorts out of the dresser drawer!

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