



Varicose veins can be very vexing, but a variety of treatments can make them vanish.

By Wendy Har

Vanquishing

Carolyn Mishchenko of London, ON, was a self-conscious 13-year-old when fine, branching purplish lines began to appear on her legs. Before she turned 20, the

spider web-like marks were joined by a large, swollen blue vein, and she began experiencing intermittent pain in the affected area. "I started getting aching, heaviness, and throbbing down my legs," she

recalls. Nine years later, during her pregnancy, Mishchenko's discomfort worsened, and the unsightly blue line began rippling and bulging.

Such gnarled, enlarged veins afflict a surprising num-

ber of people. In the general population, "varicose veins occur in anywhere from 25 to 35 per cent of women and about 15 to 25 per cent of men," notes Dr. Sanjoy Kundu, an interventional radiologist and medical director of the Vein Institute of Toronto.

And the unsightly, uncomfortable condition is even more common after mid-life: according to the U.S. Department of Health and Human Services, one person in two over age 50 is affected.

If you number among that 50 per cent, or know someone who does, you may be wondering what causes varicose veins, and what kinds of treatments can improve their appearance and bring relief from bothersome symptoms such as pressure, swelling,

walk, for instance), they force blood through upward-leading veins. However, these muscle pulses aren't powerful enough to push the life-sustaining liquid very far, particularly

Why do these valves give out?

The reasons aren't clear, but scientists have established that certain risk factors make people more prone to

Varicose veins form when little valves in the superficial veins begin to break down.

against gravity. Little one-way flaps inside the vessels come to the rescue, snapping shut after each little squeeze and thereby preventing the blood from draining downward.

When some of these valves

valve breakdown. The most powerful of these predisposing traits is a family history of varicose veins. That they run down both branches of Carolyn Mishchenko's family tree, for example, may

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and itching. Read on for the answers to these questions—and others in the same vein.

What causes varicose veins?

Varicose veins form when little valves in the superficial veins—those lying closest to the skin—begin to break down. These valves help return oxygen-depleted blood from the feet and legs to the heart. Normally, the system—known as the venous pump—works this way: when muscles in these extremities clench (when you

break down, however, "the blood pressure inside them goes up, so you get congestion, or pressure-related symptoms of aching, swelling, and bulging veins," explains Dr. David Taylor, a vascular surgeon at Vancouver General Hospital and professor at the University of British Columbia. (Spider veins—fine, threadlike veins visible beneath the surface of the skin—are caused by the same process, but they're solely a cosmetic issue.) Over time, the excess pressure damages the blood vessel walls.

explain why she developed them at such an early age. And, as mentioned above, the likelihood rises with age: "The valves tend to weaken with time," observes Dr. Peter Vignjevic, a spokesperson for the Canadian Dermatology Association and an assistant professor of medicine at McMaster University in Hamilton, ON.

And while more women than men will end up with varicose veins, it's not gender alone that boosts the odds. "In women, the biggest risk

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factors are pregnancy and the number of pregnancies," Kundu says—probably because the surge in blood volume that occurs during pregnancy and the pressure of the uterus and baby against vessels in the pelvis exert extra wear and tear on the veins and valves.

Occupations that involve sitting or standing for protracted periods also bump up the chances of getting lumpy veins: being upright but immobile causes blood to pool and stretch the veins out of shape, which, in susceptible people, can slowly damage the vein walls. Being overweight and not getting enough exercise (both of which place additional strain on the venous pump) and smoking (which injures blood vessel walls) also raise the risk.

Do varicose veins pose any health dangers?

While the symptoms of varicose veins can cause mild to moderate disability due to pain, the condition itself is benign. "Varicose veins are not life-threatening," Taylor says. And while it's true they occasionally cause such complications as bleeding or ulceration—the latter of which can be severely life-impairing—these problems can often be averted with proper management. (More about that in a moment.)

Nor are varicose veins linked to an increased risk of other health problems, Taylor adds. "They're not related to hardening of the arteries—atherosclerosis—and they're not related to deep vein

thrombosis—blood clots," he says.

Deep vein thrombosis (DVT), however, can sometimes trigger the formation of varicose veins, Kundu notes: "If people have severe DVT, they may get some secondary problems with the superficial venous system."

What can I do?

As you've probably already surmised, exercising regularly, maintaining a healthy body weight, and changing positions frequently when you have to sit or stand for any length of time may help slow the progression of varicose veins. The same goes for reducing your salt intake—too much sodium causes fluid retention, which forces the venous pump to work harder. On the other hand, eating plenty of veggies and fruits rich in vitamin C and substances called flavonoids—citrus fruits and berries contain both—may help strengthen blood vessels.

You can also ease the stress on your leg veins by making some simple wardrobe changes. Toss any clothing with tight banding around the waist, groin, or legs, which can impede blood flow back to the heart. Swapping your high heels for flats works the muscles of your calves, which helps massage pooled blood back upward.

Two other strategies can immediately ease pain and heaviness and lighten the load on your beleaguered blood vessels. One is to rest

with your legs raised above the level of your heart—try lying with your legs propped up on two or three pillows—for about 15 minutes three or four times each day. The other is to wear properly fitted compression hose. These special stockings, which your doctor can prescribe, provide graduated compression along the leg (pressure is greatest at the ankle, lessening towards the knee), which helps prevent blood from flowing backward. "They really do make your leg feel less fatigued and sore," Mishchenko says.

When should I start considering treatment?

If the above techniques have

failed to prevent complications, it's probably time for plan B, but it's really your call—you alone can decide whether your level of disability is sufficiently bothersome to warrant treatment.

Whom should I consult?

There are three main categories of treatment available in Canada: injections (sclerotherapy), surgery, and endovenous laser therapy (EVLV), in which a tiny laser probe is used to destroy the vein from within.

Some experts argue that your treatment is more likely to be properly tailored to your specific situation if you go to a practice or facility offering all three types of treatment

rather than to, say, a sclerotherapy clinic. That said, many doctors who only do one type of procedure will recognize cases that would be better treated with another technique and refer you to someone more appropriate. Your family doctor may be able to give you some guidance, too.

What are the pros and cons of each treatment?

Sclerotherapy. "You can inject something into the vein that causes inflammation of the lining of the vein," Vignjevic explains. The irritating substance—called a sclerosant—can be a liquid, like a saltwater or iodine solution, or a special foam. "Es-

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essentially, the lining becomes gummy, so the vein closes and eventually disappears."

The advantages? Sclerotherapy can be done in the doctor's office using only a

after injections, discolouration can also occur along the vein, "and sometimes that can take years to fade away, or it may not fade." And while more varicose veins can crop

go back to work in a week," Taylor says.

The surgeon makes several small cuts then uses hook-like instruments to gently pull out the damaged

Injections can be painful, and, "sclerotherapy can leave the veins lumpy and bruised for a while," Taylor notes.

little local anesthetic, and you can usually resume normal activities almost immediately. The risk of complications (which include the possibility of an ulcer developing at the injection site, and a slim chance of an allergic reaction to the sclerosant) is very low. In many cases, sclerotherapy is also more financially attractive than the alternatives. When it's done for medical reasons, most provincial health plans pick up the tab; if you're paying out of pocket for cosmetic treatment, at roughly \$125 to \$500 a session, it's less expensive than the other options. (Multiple sessions may be needed, however.)

On the minus side, injections can be painful (you may feel burning when the sclerosant goes in), and, "sclerotherapy can leave the veins lumpy and bruised for a while," notes Taylor, who does sclerotherapy and EVLT as well as surgery.

Vignjevic points out that

up in the surrounding area after any of the three types of treatment, that scenario may be more likely following sclerotherapy. According to Vignjevic, with smaller varicose veins, "it probably happens at least 20 to 30 per cent of the time."

Nor is sclerotherapy with conventional sclerosant appropriate for large or extensive varicose veins, though some physicians believe such veins can be effectively treated with a newer technique that involves using ultrasound to view the veins while injecting foam sclerosant. (Others, including Taylor, aren't yet sold.)

Surgery. The mere thought of surgery is enough to make many of us shudder, but operations to tie off and remove varicose veins have come a long way. Yes, the procedure is usually done under general anesthetic, "but we use minimal incisions, and lots of local anesthetic, and people can

vein. "Sometimes, for minor varicose veins, surgery under local anesthetic is actually easier, and the recovery faster than after sclerotherapy," Taylor observes. And in cases in which veins would require multiple injections, a one-time operation might be more convenient, too, despite the hassle of having to go to hospital. However, the strongest selling point is probably that surgery for symptomatic varicose veins is covered by most provincial health plans.

Of course, like any medical procedure, varicose vein surgery carries risks. There's a slight chance of a serious complication (such as heart attack or stroke) stemming from the general anesthetic, but such events are thankfully rare in otherwise healthy people. Occasionally, surgery can also trigger another uncommon, but potentially dangerous, problem:

"The risk of inducing a clot in the other veins from

treatment is rare, but serious," Taylor says. "It's probably about one in 1,000, for either surgery or [endovenous] laser."

The odds of minor complications—mainly bleeding or infection—while only one to two per cent, are still probably a little higher than with the laser treatment. Obviously, the treated area may be tender and swollen, particularly in the first few days after surgery (depending on the extent of the varicose veins, bruising, redness, and any associated pain should fade within one to four weeks), and the incisions may leave small scars or minor numbness in the leg.

Endovenous Laser Therapy (EVL). Dr. Sanjoy Kundu describes endovenous laser therapy (also known as endovenous laser ablation) this way: "What we do is localize the abnormal vein with ultrasound, and then we use ultrasound guidance to insert a needle and thread a catheter and a laser fibre

all the way up [the vein] to the groin, where the superficial venous system starts in the leg." (The spot where the needle is inserted is numbed with local anesthetic beforehand.) "Then we'll use the laser to ablate from the groin down, usually to the level of the knee." In essence, the laser produces bursts of light energy which seal off the vein.

In many ways, EVLT offers the best features of both sclerotherapy and surgery. It doesn't require hospitalization or general anesthesia, it's less invasive than surgery, treatment is completed in a single office visit, and you're back on your feet as soon as the procedure is finished. While the possible after-effects are similar to those of surgery and sclerotherapy (bruising, swelling, tenderness, and tightness along the treated area), they're likely to be milder and to disappear more quickly.

EVL and surgery are on fairly even footing when it

comes to the risk of both minor complications (in EVLT, infection at the insertion site or skin burns from the laser) and the more serious threat of a blood clot, but the laser procedure is arguably a little safer because it doesn't require general anesthesia. Overall, "for larger varicose veins, I think laser is better," Taylor concludes.

The catch? In Canada, no public plans pay for the procedure, which carries a price tag of \$2,500 to \$3,000 per leg.

What factors go into deciding among the three?

According to Taylor, a key consideration is the extent and severity of the varicose veins, something that's difficult to judge based solely on appearance and even with clinical tests like pressing on the veins to see how they fill with blood. Consequently, your doctor will probably order an ultrasound test to measure the speed of blood

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flow and the size of the varicose veins. (Ultrasound is also used to confirm the diagnosis of varicose veins, particularly if none are visible but you're experiencing symptoms that suggest they could be present.)

The cost of a particular procedure, of course, and whether it's covered by your provincial health insurance plan, will also guide your decision. Ultrasound comes in handy here, too—in Ontario, for example, the province picks up the tab for certain treatments if the vein is five millimetres or greater in diameter.

For Carolyn Mishchenko, the choice came down to two options: "They said my alterna-

tives were either surgery—and there was a bit of a waiting list—or a doctor who would give me a needle with the medicated foam." Because the veins in question were larger than five millimetres—Mishchenko was shocked to learn that they had bulged to 13 or 14 millimetres—the foam (three shots at \$75 each) was the only item the Ontario Health Insurance Plan wouldn't cover. (Otherwise, the price tag for this type of sclerotherapy runs about \$500 per session, including materials.) Mishchenko decided on the injections, which were spread out over two visits a few weeks apart.

A year later, she's delighted with the results. Not only have the large, bulging

veins disappeared, her spider veins are less visible, and she's no longer reluctant to wear skirts and shorts. Best of all, her discomfort has dwindled.

"You don't realize that your legs are throbbing all the time until you actually get it taken care of," she observes. "It really does make a difference. I just wish I'd done it sooner!" ■

Resources

Society for Vascular Surgery
www.vascularweb.org/patients

Office on Women's Health (US)
www.womenshealth.gov/FAQ/varicose-spider-veins.cfm

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