



MYTHS AND FACTS: VARICOSE VEINS

Considered by many to be merely cosmetic, this disorder may convince some to take it much more seriously after learning the facts.

By Ronale Tucker Rhodes, MS

DEPENDING ON THE source, between 20 million and 40 million people in the U.S. suffer from varicose veins.^{1,2} But, it's likely this number is highly underestimated by both patients and healthcare professionals because it is not a lethal condition and the consequences of the disorder are often overlooked.³

Varicose veins are one of the most common conditions of chronic venous disease (CVD) in the lower extremities,² with recent estimates placing the cost of all CVD treatment at \$3 billion per year in the United States (or up to 2 percent of the total healthcare budget of all Western countries).³ In addition to healthcare budgets, the condition has a significant impact on patients' quality of life and leads to more people unable to work than does arterial disease.²

Yet, despite the fact that varicose veins affect a significant proportion of the population, causing considerable morbidity and adversely affecting quality of life, it is often ignored as an important public health issue. This is why the facts surrounding the condition need to be told to help spread awareness among the public and healthcare authorities and professionals so patients are diagnosed early and effectively treated.

Separating Myth from Fact

Myth: There is only one type of varicose veins.

Fact: There are actually two types: primary and secondary. Primary varicose veins are frequently associated with heredity, female gender, pregnancy and older age. Secondary varicosities are a direct result of deep vein occlusion (the formation of a blood clot within a deep vein).² Both of these visible and bulging veins are more common in the legs and thighs, but they can develop anywhere in the body, and they can be visible, bulging, palpable (felt by touching), long and dilated (greater than 4 millimeters in diameter). In addition, small spider veins, or telangiectasis (a common, mild variation of varicose veins), can appear on the skin's surface that look like short, fine lines, starburst clusters or a web-like maze, but they are not palpable.⁴

Myth: Only women get varicose veins.

Fact: While the prevalence of varicose veins is greater in women (55 percent), the percentage of men who also suffer from them is not much lower (45 percent). An estimated 50 percent of the U.S. population and 41 percent of women over age 50 have varicose veins. In addition, women who are moderately overweight (body mass index [BMI] 25-29.9) have a 50 percent increased risk of developing varicose veins compared to women who are not overweight, and women with a BMI greater than 30 percent are three times more likely to develop them.¹

Myth: Varicose veins are an inevitable sign of aging.

Fact: Age is a risk factor for varicose veins, but not all older individuals will get them. As mentioned previously, only 50

percent of individuals over age 50 develop varicose veins.¹ According to Kathleen D. Gibson, MD, a vascular surgeon practicing in Bellevue, Wash., "It's a degenerative process that gets worse and more prominent as we age." At her practice, the average age of patients treated for varicose veins is 52, but she has treated patients as young as 13 years.

"The cause of varicose veins is primarily genetic," says Dr. Gibson. So, if someone has a parent or grandparent with varicose veins, it's likely he or she will, too.⁵ Other causes of varicose veins include older age, pregnancy, female sex, overweight or obesity, lack of movement and leg trauma. As a person ages, veins can lose elasticity, causing them to stretch. In addition, veins may become weak and allow blood that should be moving toward the heart to flow backward. Weakness and a lack of elasticity may cause poor venous circulation, or pooling of the blood, leading to varicose veins.^{6,4}

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During pregnancy, the volume of blood in a woman's body increases, but the flow of blood from the legs to the growing fetus decreases, which causes a circulatory change that enlarges veins in the legs. Varicose veins may occur for the first time or may worsen during pregnancy when the uterus exerts greater pressure on the legs. And, hormones during pregnancy can play a role. In addition to pregnancy, females are more likely to develop varicose veins because of premenstruation or menopause that can relax vein walls, as well as due to taking hormone replacement therapy or birth control pills that increase the risk.⁶

Being overweight puts added pressure on veins. And, people who stand or sit for long periods of time can have a problem with blood flow that can cause varicose veins.⁶

Less-common causes of varicose veins include phlebitis (inflammation of the veins), blood clots or any obstruction to blood flow in the veins, or congenital abnormalities of the veins.⁴

Myth: Varicose veins are noticeably visible.

Fact: Of the approximately 50 percent of the U.S. population that has varicose veins, 20 percent to 25 percent of women and 10 percent to 15 percent of men will have visible varicose veins⁷ that are bulging, visible ropes on the legs. But, in others, they are not visible because they are too deep, even though they may still cause symptoms such as swelling, tired and achy legs, leg cramps, itchy rashes and darkening.⁸ “It really depends on the makeup of the leg,” says Dr. Gibson. “If you’ve got a lot of fatty tissue between the muscle and the skin, you may not see them. Sometimes, surface veins are the tip of the iceberg, and there’s a lot going on underneath.”⁵

In many cases, lifestyle and home remedies can both prevent and slow the development of varicose veins.

Myth: Varicose veins aren’t painful.

Fact: For many, varicose veins don’t cause any pain. Instead, their only symptoms are veins that are dark purple or blue and those that appear twisted and bulging, often like cords. However, a significant portion of patients will eventually develop painful symptoms that may include an achy or heavy feeling in the legs; burning, throbbing, muscle cramping and swelling in the lower legs; worsened pain after sitting or standing for a long time; itching around one or more of the veins; bleeding from the veins; a painful cord in the vein with red discoloration of the skin; color changes; hardening of the vein; inflammation of the skin;⁶ and more serious complications such as wounds, ulcers and blood clots.⁷

Varicose veins usually become painful with time when pooling of blood and pressure in the veins increase. When there is high pressure in the veins, blood can leak out of the vessels and into the tissues and become trapped in the skin and turn brown (typically occurring around and above the ankles). If left untreated, blood leakage can cause skin damage and ulcers of the skin. However, only 1 percent of adults over age 60 have chronic ulceration.⁷

Myth: Lifestyle changes won’t help to prevent or improve varicose veins and its symptoms.

Fact: In many cases, lifestyle and home remedies can both prevent and slow the development of varicose veins. While some people believe running can cause varicose veins, exercise, including running, is actually a good thing.⁹ Pablo Sung Yup Kim, MD, assistant professor of surgery at Mount Sinai’s Icahn School of Medicine in New York City, says, “Exercise is always good for the circulation. Walking or running can lead to more calf-muscle pumping and more blood returning to the heart.” Dr. Gibson adds that while running doesn’t cause varicose veins, there is some controversy over whether it makes them worse. Therefore, she recommends wearing compression stockings afterward to help prevent blood from pooling in the lower legs, as well as elevating the legs.⁵ In fact, taking several short breaks daily to elevate the legs is another self-help measure that should be taken even by those who don’t run because it helps improve circulation.⁹

Patients should also watch their weight. Excess weight puts unnecessary pressure on the veins, which is added work that can cause the veins and the valves inside them to weaken and break, thus leading to varicose veins. In addition, being overweight or obese can hide varicose veins because they are not as close to the surface of the skin as they are for thinner people. This can be problematic because varicose veins and their underlying causes go unseen and untreated, which can lead to serious vascular and other health issues, including leg ulcers.¹⁰

Lastly, patients should avoid sitting or standing for long periods of time. And, they should watch what they wear. High heels should be avoided in favor of low-heeled shoes that work calf muscles more. And, tight clothes around their waist, legs or groin should be avoided because they can reduce blood flow.⁹

Myth: Surgery is the only treatment option for varicose veins.

Fact: Treatment is not always necessary such as when varicose and spider veins are primarily a cosmetic issue and don’t affect quality of life. However, there are many treatment options for those who want and need it. Treatments are based on the size and location of the varicose veins, presence of symptoms and skin changes. These include compression dressings/stockings, sclerotherapy, ablation and surgery.

Compression stockings, which come in various brands and styles, squeeze the leg to reduce the amount of blood and pressure in the veins. A healthcare professional fits the stocking to the leg as determined by the amount of pressure to apply. Cases that don’t respond to compression therapy require further treatment.

Sclerotherapy has been used since the 1920s to treat spider veins and varicose veins up to 15 millimeters in diameter. It involves using a fine needle to inject a solution (most commonly, hypertonic saline and sodium tetradecyl sulfate [Sotradecol] and polidocanol [Aethoxysklerol, Asclera]) directly into the vein that irritates its lining, causing the vein to swell and the blood to clot.

The vein's surrounding tissue is then wrapped in compression bandages for several days, and patients are put on walking regimens to force the blood to flow into other veins and prevent blood clots. The vein then turns to scar tissue and may eventually fade from view. Typically, more than one treatment is required.

For smaller varicose veins, laser therapy can be applied as an intense energy to destroy the small blood vessels in the surface of the skin. Larger varicose veins can be destroyed with endovenous (inside the vein) catheter ablation, or laser surgery. This involves inserting a probe (or catheter) into a large vein in the lower leg and closing it by applying heat generated through laser.

In use since the 1950s, vein stripping surgery strips out the problematic veins by passing a flexible device through them and removing them through an incision near the groin. Smaller tributaries of the veins are also removed through a series of small incisions. Those veins that connect to the deeper veins are then tied off.⁴ It should be noted that vein stripping is an older surgical procedure that has been largely replaced by sclerotherapy and laser treatments, which are less invasive. Studies show that vein stripping surgery is only 71 percent effective, compared with a 98 percent success rate of minimally invasive laser therapies.¹¹

Recently, researchers at the Center for Advanced Studies of Peter the Great St. Petersburg Polytechnic University (SPbPU) in collaboration with industrial partner Company Neo developed new technology to eliminate varicose veins by using focused high-intensity ultrasound. With this method, the patient's lower limb is placed into a container with liquid conducting ultrasound. The physician marks areas that must be subjected to irradiation on the screen of the device. The program then determines the required number of areas, presses the irradiated portion of the vessel to stop the blood flow (applying mechanical press with compression cuffs), and the device starts the irradiation procedure under a physician's supervision. The advantage of this technique is that it is carried out without damaging the skin and, therefore, is not performed in the operating room. Moreover, this is the first method combining both diagnostics and treatment: Ultrasound diagnoses the disease and also affects blood vessels for their obliteration. The researchers are now planning to create an automated diagnostic ultrasound that will consist of two or more diagnostic modules operating simultaneously to create a unified picture of the lower limb's venous network, thus significantly increasing the speed of the procedure.¹²

Myth: Insurance doesn't pay for varicose vein treatment.

Fact: Many people falsely believe that insurance doesn't cover treatment for varicose veins because they view it as a cosmetic issue. In fact, 90 percent of cases are covered by insurance because they are not just an aesthetic concern.¹¹

Myth: Varicose veins can be cured.

Fact: While treatments are effective, they aren't a cure because they can come back after treatment. "What I tell my patients is it's kind of like weeding a garden," says Dr. Gibson. "We clear them all out, but that doesn't mean there's never going to be another dandelion popping out."⁵

Myth: Varicose veins aren't dangerous.

Fact: Varicose veins can result in serious complications that require medical attention. Ulcers may form on the skin near varicose veins, particularly near the ankles, caused by long-term fluid buildup in the tissues due to increased pressure of blood within affected veins. In some instances, veins deep within the legs can swell considerably, which may indicate a blood clot (thrombophlebitis). And, veins very close to the skin may burst, resulting in minor bleeding.⁶

In the U.S., approximately two million people per year develop deep vein thrombosis, and up to 600,000 are hospitalized. Deep vein thrombosis can lead to blood clots in the lung (pulmonary embolism), a more serious complication that results in at least 650,000 deaths each year, making it the third most common cause of death in the U.S.¹³

Dispelling the Myths Now

Varicose veins are a long-term problem, but their symptoms can be controlled. In many cases, the condition isn't serious. But, if lifestyle measures aren't taken to deter the worsening of varicose veins, serious consequences can occur. That's why it's necessary for patients to understand the facts surrounding varicose veins and for physicians to educate patients about the potential seriousness of the condition so proper treatment, if needed, can be provided. ❖

RONALE TUCKER RHODES, MS, is the editor of *BioSupply Trends Quarterly*.

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