



Dedham Medical
Associates
Atrius Health

Venous Center

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VARICOSE VEINS: MINIMALLY INVASIVE TREATMENTS

Varicose veins are more likely to be an annoyance than a major health risk. Appearing as swollen, twisted or discolored blood vessels on the calves and insides of the legs, they can cause throbbing pain, achiness and a feeling of “heavy” or “tired” legs. In some cases, varicose veins *can* lead to serious problems through their complications. But most people find them a problem because they’re unsightly and affect their quality of life.

“Technically, varicose veins can develop anywhere within the body but the ones we fret about are in the legs,” says Dedham Medical Associates vascular specialist Thomas F. O’Donnell, Jr., MD, who uses advanced, minimally invasive techniques to eliminate the troublesome vessels. “Veins in the legs are under intense pressure and are the most vulnerable to having blood stall and pool up due to ineffective valves.”

Veins are the conduits that return blood to the lungs for replenishment after it’s performed its task of delivering oxygen and nutrients to the body’s tissues. Propelled largely by the leg muscles’ contractions, blood in the leg veins moves upward – against gravity – with tiny one-way internal valves in place to prevent the blood from flowing backwards. But in some people the valves weaken, letting blood leak back to accumulate within the vein. It’s this pooling that causes veins to swell and become distorted to the point of bulging out above the surface of the skin – in short, to become varicose.

“The most common risk factors for varicose veins,” Dr. O’Donnell says, “are the simple wear and tear on your vein valves that come with aging, hormonal changes associated with pregnancy, and a family propensity for the problem. Obesity adds to stress on your veins, as do lifestyles that involve long periods of standing. People like waitresses and sales clerks are particularly at risk.” Varicose

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MAKING VEINS VANISH

Thomas F. O’Donnell, Jr., MD, Director of DMA’s Venous Center, is internationally recognized for his expertise in diagnosing and treating venous disease.

As a long-time member of the staff of Tufts-New England Medical Center in Boston, Dr. O’Donnell has been a pioneer in developing techniques to evaluate and treat vein problems, including micro-injection treatments for spider veins and endovascular laser and radiofrequency ablation for advanced vein disease.

A graduate of the Tufts University School of Medicine, Dr. O’Donnell served his residency with Boston City Hospital’s Harvard Surgical Service. He received fellowship training in vascular surgery at St. Thomas’ Hospital in London and at Massachusetts General Hospital. He continues as Senior Vascular Surgeon at NEMC, and is Andrews Professor of Surgery (Emeritus) at Tufts University School of Medicine.

He has been President of the American Venous Forum, the country’s leading organization for venous specialists, and of the Society for Vascular Surgery, the nation’s oldest vascular organization.

At a time when varicose vein treatment has proliferated among medical professionals with varied backgrounds, Dedham Medical is gratified to be able to make the services of a renowned, certified vascular surgeon available in Boston’s western suburbs.

To make an appointment for an evaluation of your vein problems, call 781-329-1400 and ask for the Venous Center.

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veins affect as many as 35 percent of women and 20 percent of men, with the incidence increasing with age.

In severe cases, varicose veins can be associated with more serious complications – skin damage from ulceration, blood clots or, most seriously, external bleeding. But these are rare. Most people seek treatment because they find their varicose veins painful and unsightly.

Varicose problems occur most often in the saphenous vein – the lengthy vein below the surface of the skin that carries blood from the ankle all the way up to the groin area, and in numerous branches off it. Typically, the saphenous vein is about three millimeters in diameter but may swell to six or eight millimeters – just less than a quarter of an inch. Not only can it bulge markedly, it may appear lumpy, twisted or cord-like and be dark blue.

Sometimes, smaller veins that are closer to the skin's surface may form spider veins, growing in patterns resembling spider webs or star bursts with thin, jagged lines. And spider veins, usually red or blue, may appear on the face as well as the legs.

Without treatment, the only choices for dealing with varicose veins were to just ignore them or to wear elastic stockings to compress the veins and minimize the pooling of blood.

A successful treatment for smaller veins, especially spider veins, has been sclerotherapy – the injection of a chemical solution into the vessels to cause their walls to become inflamed and seal shut so that the veins will close down. Over time, the treated veins will fade as they shrink and are absorbed by surrounding tissues. While useful for thinner veins nearer the skin surface, however, it's not effective for dealing with larger blood vessels.

Fortunately, it's a biological phenomenon that when superficial veins are closed off, the flow of blood is redirected and assumed by other veins, particularly the deeper veins. In the early 1900's surgeons realized that they could safely remove diseased veins; the technique of "ligation and stripping," involving tying off an enlarged vein and pulling it out through an incision, was the standard procedure most of the 20th Century. Although an outpatient operation, vein stripping is usually done in an operating room with the patient under general anesthesia. It's effective but it involves bleeding, pain and, possibly, extensive bruising. Recovery can take several weeks.

In the late 1990's, endovascular technology began to be adapted to allow insertion of a thin catheter into a vein through a puncture in the skin so that the vein could be treated from within. Using either laser or radiofrequency energy, this approach is known as endovascular ablation.

"Radiofrequency ablation uses a catheter to heat the vein wall, seal it and close the vein off, causing it to shrink and disappear." Dr. O'Donnell notes. "Laser ablation, of course, accomplishes the same end with laser energy. They work equally well and the choice of which one depends on the surgeon's and patient's preferences."

Before any procedures, patients undergo ultrasound scanning to capture images of their venous anatomy. The color Doppler images let Dr. O'Donnell visualize the veins' extent of enlargement, how well their valves are working and how blood is flowing – forward or backwards. Dr. O'Donnell also uses the ultrasound device for real-time guidance as he maneuvers the catheter and its instruments during the endovascular treatments.

"These are minimally invasive procedures that avoid incisions," he notes. "They don't usually involve bleeding or bruising, can be performed right in the office with local anesthetic and have a recovery time so quick that patients walk out of the treatment room on their own." Typically, procedures take less than 60 minutes. Any smaller branch veins that remain after the main vessel is treated should disappear on their own, since their blood supply has been cut off. If they don't, they can be dealt with through follow-up minor surgery or sclerotherapy treatments.

These treatments resolve existing varicose veins quite effectively but they don't cure the general problem of leaky venous valves. As a result, it's possible for varicose problems to reoccur over a period of years. Recurrence can be minimized with some preventive measures, including regular exercise, losing excessive weight, avoiding standing or sitting immobilized for long periods and walking and shifting your weight frequently.

"We have safe, minimally invasive techniques for eliminating these unsightly veins," Dr. O'Donnell says. "No one should have to suffer with them if they're concerned about their legs."

For information about the full range of DMA staff and services, see our web site at www.dedhammedical.com.