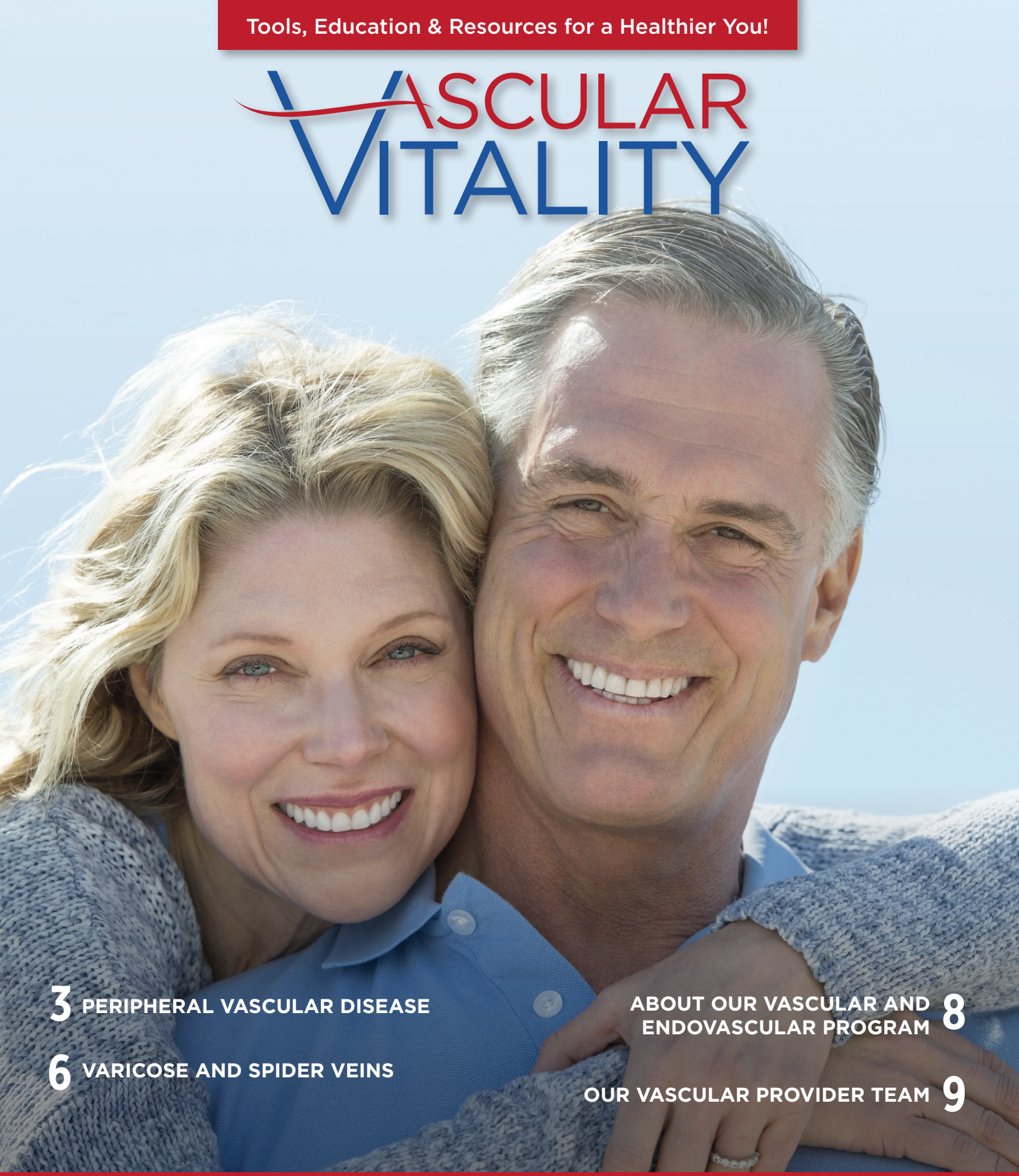
Tools, Education & Resources for a Healthier You!

# VASCULAR VITALITY






Cooper Vascular Surgery

A publication of Cooper University Health Care
Division of Vascular and Endovascular Surgery

# VASCULAR VITALITY

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## IN THIS ISSUE



### Dear Readers,

We believe that education is the key to better health, not only in treatment but in prevention and awareness. We have developed this publication as a tool for education with articles devoted to you vascular health, information about diseases that affect the vascular system and the latest in treatments.

It is our hope that you will read this publication, save it for future reference, and share it with family and friends.

Communication with your primary care provider is vital to maintaining the health of your vascular system. Risk factors such as tobacco use, high blood pressure, diabetes, high cholesterol and a family history of vascular disease can significantly increase your risk. Talk to your doctor about screenings for abdominal aortic aneurysm, carotid artery disease and peripheral vascular disease — these simple, non-invasive screenings can be lifesaving.

In good health,

Joseph V. Lombardi, MD, FAC
Professor & Head, Division of Vascular and Endovascular Surgery
Director, Acute Aortic Treatment Center
Director, Vascular Surgery Integrated Residency

# Peripheral Vascular Disease (PVD)

**Peripheral vascular disease (PVD) is a slow, progressive circulation disorder that affects the arteries, veins, and lymphatic vessels outside of the heart and brain, causing narrowing, blockages, or spasms in these blood vessels. As a result, the organs and muscles that are supplied by these vessels—such as the brain or legs—may not get enough blood flow to function properly.**

When peripheral vascular disease affects only arteries, it is referred to as peripheral arterial disease (PAD). PAD most often affects the legs.

The most common cause of PVD is atherosclerosis, the buildup of plaque inside the blood vessel wall. Blood clots also may form on the blood vessel walls, further decreasing the inner diameter of the blood vessel and blocking blood flow. Other causes of PVD may include an injury to the arms or legs, irregular anatomy of the muscles or ligaments, or an infection.

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## Symptoms of PVD

About half of all patients with PVD will have no symptoms. The rest will have discomfort, pain or cramping in the legs (claudication), pain at rest, or tissue loss. These are signs that the disease is getting worse. Claudication may occur when walking a certain distance. The pain disappears after resting for a few minutes, but returns after walking again.

Pain in the foot, both at rest and with exercise, and tissue loss, including ulcers that don't heal or black toes, are signs of the most advanced disease. In these situations, a physician who specializes in diseases of the blood vessels can help to prevent amputation. Diabetic patients are up to ten times more likely to need an amputation than people who do not have diabetes.

A simple, noninvasive way to identify PVD is by measuring the blood pressure in an arm and comparing it with the blood pressure in each ankle. Many treatment options are available, some of which do not involve surgery.

## Treatment of PVD

***Lifestyle Modifications for PVD***

Quitting smoking, managing blood sugar, and eating a diet low in cholesterol are examples of lifestyle modifications. Quitting smoking can help by slowing the progression of arterial disease and maximizing the length of time that a surgical intervention or treatment is effective. For example, for active smokers interventions such as stent placement (a small mesh tube inserted into narrow or weak arteries) or bypass surgery only last half as long as they do for nonsmokers.

## These factors can increase your risk of having PVD:

- **Age (especially older than age 50)**
- **Male gender**
- **Postmenopausal status in women**
- **Family history of high cholesterol, high blood pressure, or PVD**
- **Coronary artery disease**
- **Diabetes**
- **High cholesterol**
- **High blood pressure**
- **Obesity**
- **Physical inactivity**
- **Smoking or use of tobacco products**

***Medications for PVD***

Important medications for patients with PVD include aspirin and Plavix (clopidogrel), statins (medications that lower cholesterol), and ACE inhibitors (a type of blood pressure medication).

Aspirin and Plavix prevent blood platelets from clotting. These medications are important in preventing a heart attack, the most common cause of death in people with PVD. Studies have shown that Plavix and aspirin (81 mg) taken together reduce heart attacks by 20% over the use of aspirin alone. An inexpensive generic form of Plavix called clopidogrel is now available.

Statins (for example, Simvastatin, Lovastatin, Crestor, and Zocor) are medications used to treat high

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"Like many chronic illnesses, the physician-patient relationship is extremely important for achieving success in the management of PVD. Through open communication and sometimes difficult work on both the patient's and the physician's parts, the quality of life for the patient with PAD can significantly improve,"

**Jose L. Trani, MD**
Vascular Surgeon, Division of Vascular and Endovascular Surgery, Cooper University Health Care

cholesterol. Statins can also reduce inflammation and stabilize blockages in arteries. Even people with normal cholesterol levels and PAD will likely benefit from taking a statin.

Finally, ACE inhibitors have been shown to improve walking distance by up to 20% in patients with PVD and claudication. In addition, ACE inhibitors have been shown to protect kidney function in diabetic patients.

***Exercise for PVD***

Although lifestyle changes and medications may slow the progression of PVD, exercise has the greatest potential to help someone with the disease.

Patients should exercise for 20 to 30 minutes four to five times per week for the greatest effect. Within 6 to 12 months, patients with PVD who exercise can increase their walking distance by two to ten times. It is important to use a treadmill or the same walking route to see improvements in walking distance.

Patients who improve their walking distance through exercise alone have results that are similar to patients who have had an intervention. Patients who exercise generally are happier with their results than patients who rely only on an intervention for improvement.

***Surgical Options for PVD***

Sometimes bypass surgery may be required in the peripheral arteries if the atherosclerosis (hardening of the arteries) is severe enough. Bypass surgery is a way to create new channels to carry blood around the blocked areas in the peripheral arteries.

Angioplasty and stenting are among the most common surgical treatments for PVD. Angioplasty is a surgical procedure that widens arteries to restore blood flow. The vascular surgeon inserts a thin tube called a catheter into an outer blood vessel and guides it through to the site of the problem. A tiny balloon at the tip of the catheter is inflated to push open the narrowed blood vessel, the balloon is deflated and removed. The vascular surgeon may also implant a hollow mesh tube called a stent, to permanently support the walls of the blood vessel and prevent it from closing up again (restenosis). •

# Varicose and Spider Veins

**There are three kinds of veins in the legs: superficial veins, which lie closest to the skin; deep veins, which lie in groups of muscles; and perforating veins, which connect the superficial veins to the deep veins. The deep veins lead to the vena cava, the body's largest vein, which runs directly to your heart.**

**Varicose veins occur in the superficial veins in the legs.**

Varicose veins are swollen veins that can be seen through the skin. They often appear blue, bulging, and twisted. Left untreated, varicose veins may worsen over time. Varicose veins can cause aching and fatigue as well as skin changes such as rashes, redness, and sores. As many as 40 million Americans, most of them women, have varicose veins.

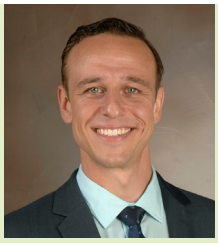
Varicose veins cause the legs to feel heavy, tired, restless, or achy. Standing or sitting for too long may worsen these symptoms. Night cramps also may occur. In addition, there may be small clusters of veins in a winding pattern, or soft, slightly tender knots of veins. Sometimes the skin on the legs may change color, become irritated, or even form sores. Severe varicose veins can lead to slightly increased chances of developing deep vein thrombosis (DVT). DVT may cause sudden, severe leg swelling. It requires immediate medical attention.

Factors that can increase the risk of varicose veins include having a family history of varicose veins, being overweight, not exercising enough, smoking, standing or sitting for long periods, and having DVT. Women are more likely than men to develop varicose veins. Varicose veins usually affect people between the ages of 30 and 70.

## Treatment Options

Varicose veins can worsen without treatment. Physicians will first try methods that do not require surgery to relieve the symptoms. For mild to moderate varicose veins, elevating the legs can help reduce leg swelling and relieve other symptoms. The physician may recommend propping the feet up above the

"Varicose veins can cause a whole spectrum of disease including pain, itching, swelling, heaviness and fatigue. Our team of experts offer a number of treatments options to lessen the impact varicose veins have on the quality of a person's life."



**Bruce L. Tjaden Jr., MD**
**Co-Director, Limb Preservation Program**

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level of the heart three or four times a day for about 15 minutes at a time. People who need to stand for a long period can flex their legs occasionally to allow the venous pump to keep blood moving toward the heart.

Several options are available to remove varicose veins. All are minimally invasive and are performed in Cooper's outpatient offices. Most patients are back on their feet in as little as a day or two, and they can resume normal activities within a week.

Radiofrequency ablation delivers heat to the vein wall, shrinking and sealing off the abnormal vein. It requires no incisions and is performed under local anesthesia and with ultrasound.

Another option is endovenous laser therapy, which uses ultrasound-guided laser energy to collapse and seal off the damaged vein. No surgical incisions are made.

During sclerotherapy, the physician injects a chemical into the varicose veins. The chemical irritates and scars the veins from the inside out so that the abnormal veins can then no longer fill with blood. The blood that would normally return to the heart through these veins returns to the heart through other veins. The body eventually absorbs the veins that received the injection.

Phelebectomy is used when larger veins become swollen and inflamed. Physicians remove individual vein clusters from the leg through a series of small incisions. This minimally invasive procedure is done under local anesthesia using micro-instruments and magnification. No stitches are required, and patients are typically back on their feet immediately.

For more severe varicose veins, the physician may prescribe compression stockings. Compression stockings are elastic stockings that squeeze the veins and stop excess blood from flowing backward. In this way, compression stockings also can help to heal skin sores and prevent them from returning. Patients may be required to wear compression stockings daily for the rest of their lives. For many patients, compression stockings effectively treat varicose veins and may be all that is needed to relieve pain and swelling and prevent future problems. •

## TIPS TO PREVENT OR LESSEN VARICOSE VEINS

### Exercise.

Walking is a great way to encourage blood circulation in the legs. A doctor can recommend an appropriate activity level.

### Maintain a healthy weight and diet.

Losing weight can take unnecessary pressure off the veins. Maintain and low-sodium, high-fiber diet. Daily fiber intake can be increased by eating whole grains and fresh fruit and vegetables.

### Elevate the legs.

One way to improve the circulation in the legs is to take several short breaks daily to elevate the legs above the level of the heart. An example is lying down with the legs resting on three or four pillows.

### Avoid long periods of sitting or standing.

Changing position frequently encourages blood flow.

**The Cooper Vein Center has vascular surgeons at locations throughout South Jersey to assess and treat varicose veins.**

ABOUT OUR

# Vascular and Endovascular Program

## Our doctors, who are all fellowship-trained, are among the best vascular and endovascular surgeons in the country.

**U.S. News & World Report, Best Doctors in America, Castle Connelly Top Doctors, Philadelphia Magazine Top Doctors, South Jersey Magazine Top Physicians have all honored our surgeons for their excellence.**

## The strengths of our division include:

- **High volumes of procedures:** We are a high-volume center for carotid artery surgeries, aortic aneurysm repairs, and lower extremity limb salvage procedures. Performing a high number of procedures contributes to the depth of our surgeons' experience and helps to ensure excellent outcomes for our patients.

- **Devoted surgical team:** Our surgeons carefully follow strict quality protocols, which improve our patients' safety during procedures. Our advanced practice nurses and operating room technicians are completely dedicated to the care of patients with vascular diseases.

- **The latest technologies:** We have extensive experience with traditional open surgery and endovascular surgery. Our Hybrid OR Suite allows our surgeons to use both approaches as part of your treatment to ensure you receive the best care possible. Endovascular techniques are minimally invasive, resulting in less pain after surgery and shorter recovery times.

- **Surgical training programs:** The hallmark of any quality vascular department is a thriving education program. Our doctors, who are highly knowledgeable in the latest standards of care, train future generations of vascular and endovascular surgeons through surgical residency and fellowship programs. Our skilled residents and fellows provide evaluations and assist with surgical procedures. Having several doctors overseeing your treatment plan helps to ensure excellent care.

- **Access to clinical trials:** Our patients have access to the latest clinical trials, many of which use new technologies for treating more complex vascular disease. We are participating in more than 10 global clinical trials, leading the advancement of new methods for minimally invasive vascular surgery. We participated in the trials for several new FDA-approved devices for treating aneurysm and peripheral vascular disease (PVD).

# Our Vascular Provider Team

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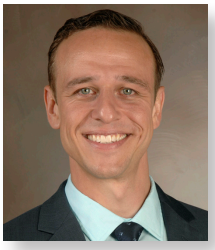

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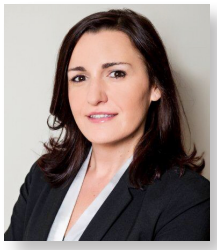

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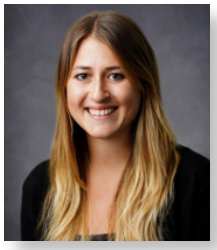

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Physician Assistant

## Cooper Vascular Surgery

**Cooperhealth.org**

**800.8.COOPER** (800.826.6737)

**LOCATIONS**

- Camden
- Egg Harbor Township
- Moorestown
- Sewell
- Sicklerville
- Voorhees
- Woodstown
- Willingboro