

**Contact: Maryann Verrillo
Diane Shnitzler
(703) 691-1805**

3975 Fair Ridge Drive
Suite 400 North
Fairfax, Virginia

22033
703.691.1805
703.691.1855 fax
www.SIRweb.org

Peripheral Arterial Disease and Interventional Radiology ***Hardening of the Arteries Is a Red Flag for Vascular Disease, Including Heart Attack and Stroke***

Peripheral arterial disease (PAD), also known as peripheral vascular disease (PVD), is a very common condition affecting 12-20 percent of Americans age 65 and older.⁴ PAD develops most commonly as a result of atherosclerosis, or “hardening of the arteries,” which occurs when cholesterol and scar tissue build up, forming a substance called plaque inside the arteries that narrows and clogs the arteries. This is a very serious condition. The clogged arteries cause decreased blood flow to the legs, which can result in pain when walking, and eventually gangrene and amputation.

Because atherosclerosis is a systemic disease, people with PAD are likely to have blocked arteries in other areas of the body.² Thus, people with PAD are at increased risk for heart disease, aortic aneurysms and stroke. PAD is also a marker for diabetes, hypertension and other conditions. This is a major public health issue and the Society of Interventional Radiology recommends greater screening efforts through the use of the ankle brachial index (ABI) test. This simple, painless test compares the blood pressure in the legs to the blood pressure in the arms to determine how well the blood is flowing and whether further tests are needed. Each September, during Peripheral Vascular Disease Month, interventional radiologists participate in Legs For Life[®], a nationwide screening program sponsored by the Society of Interventional Radiology Foundation.

Symptoms

- The most common symptom of PAD is called claudication, which is leg pain that occurs when walking or exercising and disappears when the person stops the activity.²
- Other symptoms of PAD include: numbness and tingling in the lower legs and feet, coldness in the lower legs and feet, and ulcers or sores on the legs or feet that don't heal.

Many people simply live with their pain, assuming it is a normal part of aging, rather than reporting it to their doctor.

Prevalence

- PAD is a disease of the arteries that affects 10 million Americans.¹
- PAD can happen to anyone, regardless of age, but it is most common in men and women over age 50.²
- PAD affects 12-20 percent of Americans age 65 and older.⁴

Risk Factors

Get tested if you:

- Are over age 50
- Have a family history of vascular disease, such as PAD, aneurysm, heart attack or stroke
- Have high cholesterol or high lipid blood test
- Have diabetes
- Have ever smoked or smoke now
- Have an inactive lifestyle
- Have a personal history of high blood pressure, heart disease, or other vascular disease
- Have trouble walking that involves cramping or tiredness in the muscle with walking or exercising, which is relieved by resting
- Have pain in the legs or feet that awakens you at night

Treatments

- **Lifestyle**

Often PAD can be treated with lifestyle changes. Smoking cessation and a structured exercise program are often all that is needed to alleviate symptoms and prevent further progression of the disease.

- **Angioplasty and stenting**

Interventional radiologists pioneered angioplasty and stenting, which was first performed to treat peripheral arterial disease. Using imaging for guidance, the interventional radiologist threads a catheter through the femoral artery in the groin, to the blocked artery in the legs. Then the interventional radiologist inflates a balloon to open the blood vessel where it is narrowed or blocked. In some cases this is then held open with a stent, a tiny metal cylinder. This is a minimally invasive treatment that does not require surgery, just a nick in the skin the size of a pencil tip.

Balloon angioplasty and stenting has generally replaced invasive surgery as the first-line treatment for PAD. Early randomized trials have shown interventional therapy to be as effective as surgery for many arterial occlusions, and in the past five to seven years, a very large clinical experience in centers throughout the world has shown that stenting and angioplasty are preferred as a first-line treatment for more and more processes throughout the body.^{5,6,7}

The long-term clinical results of stent placement to treat PAD are comparable to those of aortofemoral artery bypass surgery, with a much lower risk of associated morbidity and mortality. Surgery should be reserved for the rare patient in whom stenting can't be done or fails.⁵

- **Cryoplasty**

Cryoplasty is the newest type of angioplasty. It uses a freezing technique to open the artery. In the smallest vessels, the artery is more likely to renarrow over time. In these cases, cryoplasty may be a better choice than conventional angioplasty. In this newer procedure, the balloon is filled with nitrous oxide, which freezes the plaque inside the artery during the angioplasty. Freezing the plaque causes cell death in the plaque and

breaks up the plaque. This is believed to aid in reshaping the plaque with minimal injury or inflammation to the vessel wall.

About Interventional Radiologists

Interventional radiologists are doctors who specialize in minimally invasive, targeted treatments that have less risk, less pain and less recovery time compared to open surgery. They use their expertise in interpreting X-rays, ultrasound, MRI and other diagnostic imaging studies to understand, visualize and diagnose the full scope of the disease's pathology and to map out the procedure tailored to the individual patient. Then during the procedure, they image as they go to guide tiny instruments, such as catheters, through blood vessels or skin, to treat diseases at the site of the illness nonsurgically.

Interventional radiology is a recognized medical specialty by the American Board of Medical Specialties. Interventional radiologists complete preliminary training in Diagnostic Radiology and advanced training in Vascular and Interventional Radiology. The American Board of Radiology certifies their specialized training.

For Further Information

For more information on PAD or interventional radiology, visit the SIR Web site at www.SIRweb.org.

References

1. Weitz JI, Byrne J, Clagett GP, Farkouh ME, Porter JM, Sackett DL, et al. Diagnosis and treatment of chronic arterial insufficiency of the lower extremities: a critical review. *Circulation* 1996; 94:3026-49.
2. De Sanctis J. Percutaneous interventions for lower extremity peripheral vascular disease. *American Family Physician* 2001; December.
3. Sacks D, Bakal C, Beatty P, et al. Position statement on the use of the ankle-brachial index in the evaluation of patients with peripheral vascular disease. *JVIR* 2002; 13:353.
4. Becker G, McClenny T, Kovacs M, Raabe R, Katzen B. The importance of increasing public awareness of peripheral arterial disease. *JVIR* 2002; 13:7-11
5. Murphy TP, Ariaratnam NS, Carney WI Jr, et al. Long term experience with stent treatment of aortoiliac insufficiency. *Radiology* 2004; 23:243-9.
6. Wilson SE, Wolf GL, Cross AP. Percutaneous transluminal angioplasty versus operation for peripheral arteriosclerosis. *J Vasc Surg* 1989; 9:1-9.
7. Wolf GL, Wilson SE, Cross AP, et al. Surgery or balloon angioplasty for peripheral vascular disease: a randomized clinical trial. *JVIR* 1993; 4:639-48.