What You Should Know About Peripheral Arterial Disease

This brochure was created by the Society of Interventional Radiology to answer frequently asked questions about peripheral arterial disease (PAD), a common condition that people often think of as “hardening of the arteries.” The brochure contains general information about PAD, including signs and symptoms, who is at risk, and treatment options.

• **Thrombolytic therapy** — clot-busting drugs are delivered to the site of blockages caused by blood clots.
• **Stents** — a tiny metal cylinder, or stent, is inserted in the clogged vessel to act like a scaffolding and hold it open.
• **Stent-grafts** — a stent covered with synthetic fabric is inserted into the blood vessels to bypass diseased arteries.

Sometimes, open surgery is required to remove blockages from arteries or to bypass the clogged area. These procedures are performed by vascular surgeons.

**Q. How can I find out if I have PAD?**

**A.** If you suspect that you may have PAD, it is important that you see your personal physician for an evaluation.

**Q. What is an interventional radiologist?**

**A.** Interventional radiologists are board-certified doctors who specialize in minimally invasive, targeted treatments performed using imaging for guidance. They use their expertise in reading X-rays and using ultrasound, magnetic resonance imaging (MRI), and other diagnostic imaging equipment to guide tiny instruments, such as catheters, through blood vessels or through the skin to treat diseases without surgery. Interventional radiologists are certified by the American Board of Radiology in both Vascular and Interventional Radiology and Diagnostic Radiology. Your interventional radiologist will work closely with your primary care or other physician to be sure you receive the best possible care.

For more information on interventional radiology, contact the Society of Interventional Radiology at (800) 488-7284 or visit www.sirweb.org
Questions and Answers about Peripheral Arterial Disease

Q. What is peripheral arterial disease?
A. Peripheral arterial disease, or PAD, is a condition in which the arteries that carry blood to the arms or legs become narrowed or clogged, interfering with the normal flow of blood. The most common cause of PAD is atherosclerosis (often called hardening of the arteries). Atherosclerosis is a gradual process in which cholesterol and scar tissue build up, forming a substance called plaque that clots the blood vessels. PAD may also be caused by blood clots.

Q. What are the symptoms of PAD?
A. The disease, which affects both men and women, often goes undiagnosed and many people mistakenly think the symptoms are a normal part of aging. The most common symptom of PAD is called intermittent claudication, a painful cramping in the leg or hip, particularly when walking. Intermittent claudication occurs when there is not enough blood flowing to the leg muscles during exercise. The pain typically goes away when the muscles are given a rest.

Other symptoms may include numbness, tingling or weakness in the leg. In severe cases, you may experience a burning or aching pain in the feet or toes while resting, or develop a sore on the leg or foot that does not heal. People with PAD may also experience a cooling or color change in the skin of the legs or feet, or loss of hair on the legs. In extreme cases, untreated PAD can lead to gangrene, a serious condition that may require amputation of a leg or a foot.

If you have PAD, you are also at higher risk for heart disease and stroke.

Q. Who is at risk for PAD and intermittent claudication?
A. As many as 10 million people in the U.S. may have PAD. It is estimated that four million of those suffer leg pain symptoms. Those who are at highest risk are:
- Over the age of 50
- Smokers
- Diabetic
- Overweight
- People who do not exercise
- People with high blood pressure or high cholesterol

A family history of heart or vascular disease may also put you at higher risk for PAD.

Q. How is PAD diagnosed?
A. The most common test for PAD is the ankle brachial index (ABI), a painless exam to determine if you have PAD. The ankle pressure in your arms and ankles is checked using a regular blood pressure cuff and a special ultrasound stethoscope called a Doppler. The pressure in your foot is compared to the pressure in your arm to determine how well your blood is flowing and whether further tests are needed.

Based on the results of your ABI, as well as your symptoms and risk factors for PAD, the physician can decide if further tests are needed. PAD also can be diagnosed noninvasively with an imaging technique called magnetic resonance angiography (MRA), or with computed tomography (CT) angiography.

Q. How can PAD be treated?
A. The best treatment for PAD depends on a number of factors, including your overall health and the severity of the disease. In some cases, lifestyle changes are enough to halt the progression of PAD and manage the disease. Your physician may prescribe drugs when lifestyle changes are not enough. Procedures that open clogged blood vessels also are used to treat PAD.

Lifestyle changes. Most treatment plans will include a low fat diet and a program of regular exercise. If you are a smoker, it is absolutely essential that you stop the use of all types of tobacco. If decreased blood flow to the legs is causing injury to the feet and toes, a foot care program to prevent sores or infection may be prescribed. This may include referral to a podiatrist.

Medication. Medications that lower cholesterol or control high blood pressure may be prescribed. Medication also is available that has been shown to significantly increase pain-free walking distance and total walking distance in people with intermittent claudication. Other medications that help prevent blood clots or the build-up of plaque in the arteries are available as well.

Q. What can be done to treat PAD when lifestyle changes and medications are not enough?
A. There are a number of ways that physicians can open blood vessels at the site of blockages and restore normal blood flow. In many cases, these procedures can be performed without surgery using modern, interventional radiology techniques. Interventional radiologists are physicians who use tiny tubes called catheters and other miniaturized tools, and X-rays to do these procedures.

Procedures performed by interventional radiologists include:
- Angioplasty — a balloon is inflated to open the blood vessel.
- Stents — a tiny, flexible metal tube is inserted to keep the blood vessel open.
- Atherectomy — a small tube removes the plaque from the artery.
- Bypass surgery — a new blood vessel is surgically created to go around the blocked section.