Peripheral Artery Disease

Definition

Peripheral artery disease is a disease of the blood vessels outside the heart and brain. This condition is caused by a narrowing of vessels that carry blood to the legs and feet, arms, brain, stomach or kidneys.

Peripheral artery disease (PAD) is often used interchangeably with the term "peripheral vascular disease (PVD)." The term "PAD" is recommended to describe disease that affects the lower- or upper-extremity arteries. PAD stems from structural changes in the blood vessels resulting from fatty buildup (atherosclerosis) in the inner walls of the arteries. These deposits hinder and block normal blood flow.

Why is peripheral artery disease dangerous?

In PAD, the blockages that occur in the arteries can restrict blood flow to the brain, stomach, arms, kidneys, legs and feet. Left untreated, PAD can lead to gangrene and limb amputation. If the blockage occurs in a carotid artery to the brain, it may cause a stroke. Patients with PAD are at heightened risk for death from both heart attack and stroke. PAD can result in poor kidney circulation, leading to high blood pressure, or blood pressure that is difficult to control with lifestyle changes and medications. In some cases, blockage of the kidney arteries may progress to loss of kidney function or kidney failure.

What are the symptoms of PAD?

The most common symptom of PAD, especially in the early stages, is "claudication," which results from poor leg circulation and causes cramping, fatigue, heaviness, pain or discomfort in the legs and buttocks. The symptoms occur during activity and usually go away with rest. Claudication can often decrease the distance you can walk, and can negatively affect your ability to function at home and at work.

Leg or foot wounds that are slow to heal

Unexplained leg pain or cramping, especially during exercise or walking

Skin problems or discoloration on your legs and feet, poor nail growth

Visit heart.org/PADtoolkit to learn more.
What are the risk factors for PAD?

The risk factors for PAD include a family history of the disease, older age (>65 years), age 50-64 years with risk factors for atherosclerosis, age <50 years with diabetes and other risk factors for atherosclerosis and previously diagnosed atherosclerosis in vessels including those supplying the heart, brain and kidneys. There are also other conditions and lifestyle factors that can raise your risk for PAD. These include diabetes, smoking, high blood pressure, high cholesterol, overweight or obesity, and a sedentary lifestyle. You may find it reassuring to know that many of these risk factors can be controlled with medical therapy and lifestyle changes. As a result, your PAD symptoms may improve. These therapies can also help prevent PAD from getting worse.

How is PAD diagnosed and treated?

Diagnosing PAD begins with a medical history and physical exam. Your healthcare provider may also perform a simple noninvasive test called an ankle brachial index (ABI) which compares the blood pressure in your arms and in your legs to look for a decrease in circulation. Treatment for PAD may include medication and heart healthy lifestyle modifications. Medications that are often used for PAD include antiplatelet agents to prevent blood clots, cholesterol-lowering medications and high blood pressure drugs.

Lifestyle changes that can help control PAD include smoking cessation, controlling diabetes and high blood pressure, managing your weight and eating a heart-healthy diet. Regular exercise prescribed by your health care provider is particularly important to reduce the pain and other symptoms of intermittent claudication. With a structured exercise program, you can improve your walking distance and your quality of life.

Procedures for PAD

When medications, lifestyle changes and exercise are not adequate to relieve claudication, an invasive procedure to widen arteries may be needed. This is called “revascularization.” Less invasive procedures to relieve PAD include angioplasty that widens narrowed or blocked arteries. A thin tube or catheter with a deflated balloon on its tip is passed into the narrowed artery to the location of the blockage. The balloon is inflated, which pushes open the narrowed segment. Other procedures that can help open a narrowed artery use a stent or wire mesh tube. The stent is placed at the artery segment that is block or narrowed, and expanded until opened. It stays in place, keeping the diseased artery open.

If the narrowed artery segment is unable to be treated with angioplasty or stent placement, bypass surgery may be considered. A vein from another part of the body or a synthetic blood vessel is attached above and below the blocked area to detour blood around the blocked area.

HOW CAN I LEARN MORE?

Call 1-800-AHA-USA1 or visit heart.org to learn more about PAD, PVD, heart disease and stroke.

Sign up to get HeartInsight, a free magazine for heart patients at heartinsight.org.

Connect with others with similar conditions by joining our Support Network at heart.org/supportnetwork.

Visit heart.org/PADtoolkit to learn more.