CARDIOVASCULAR HEALTH
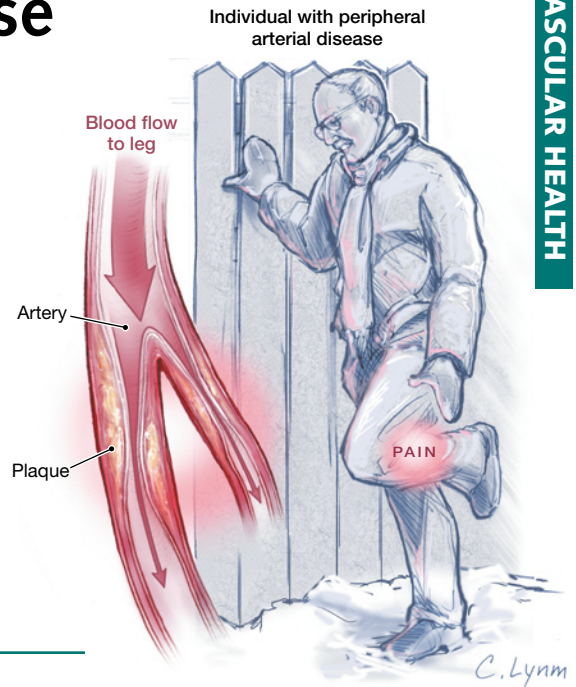
Peripheral Arterial Disease

B lood flow to the legs (and sometimes the arms) can be reduced when their arteries are affected by **peripheral arterial disease** (PAD). Narrowing of the peripheral arteries occurs because of buildup of **plaque** (a mixture of fat, cholesterol, blood platelets, and blood vessel wall damage) within the arteries themselves. Plaque can block blood flow partially or totally. Poor circulation due to PAD can cause leg pain with walking and poor wound healing, which decrease quality of life and may lead to severe complications such as leg amputation. PAD is associated with several chronic medical problems, such as diabetes, high blood pressure, and high cholesterol. Persons who smoke have a much higher chance of developing PAD. Having PAD may signal the presence of heart disease, **cerebrovascular** (blood vessels in the brain) disease, or major arterial disease (**thoracic** or **abdominal aortic aneurysms**). It is important to understand that vascular disease anywhere is a marker for blood vessel disease in all other parts of the body. The January 14, 2009, issue of *JAMA* includes an article about exercise to treat peripheral arterial disease.

Individual with peripheral arterial disease

Blood flow to leg

Artery

Plaque

PAIN

C. Lynm

SIGNS AND SYMPTOMS

- Cramping of leg muscles that may stop a person from doing normal daily activities or exercise. The occurrence of leg cramping or pain in the calf muscles that starts with walking and stops with rest is called **claudication**
- Leg pain, especially tingling pain. Pain at rest may be a symptom of severe PAD
- Sores on the legs or feet that do not heal
- Changes in skin color or texture
- Many people with PAD have no leg symptoms

DIAGNOSIS AND TESTING

A medical history and physical examination evaluate signs and symptoms of PAD and associated medical problems. A simple test, called the **ankle-brachial index**, measures the ratio of blood pressure at the ankle to blood pressure in the arm. A low ratio indicates poor blood flow in the lower extremity. Further testing may include ultrasound examinations, exercise testing, and **angiography** (tests to show blood flow).

TREATMENT

- Stop smoking. This is the most important part of treating peripheral arterial disease.
- Control diabetes, high blood pressure, and cholesterol.
- Eat a healthy, low-fat diet rich in fruits, vegetables, and whole grains. Avoid high-sodium, high-fat, and processed foods.
- Exercise regularly.
- Medications such as aspirin that interfere with platelet function or blood clotting may help protect patients with PAD against heart disease and stroke.

Sources: National Heart, Lung, and Blood Institute; American Heart Association; Vascular Disease Foundation; Peripheral Arterial Disease Coalition

FOR MORE INFORMATION

- National Heart, Lung, and Blood Institute
  www.nhlbi.nih.gov

- Vascular Disease Foundation
  www.vdf.org

- Peripheral Arterial Disease Coalition
  www.padcoalition.org

INFORM YOURSELF

To find this and previous JAMA Patient Pages, go to the Patient Page link on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on peripheral arterial disease was published in the February 1, 2006, issue; one on myocardial infarction was published in the January 30, 2008, issue; one on hypertension was published in the June 25, 2008, issue; and one on aortic aneurysms was published in the January 24/31, 2007, issue.

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