



Education

Peripheral Artery Disease

What is peripheral artery disease?

Peripheral artery disease is a type of atherosclerosis. Atherosclerosis is a hardening and narrowing of the arteries. The peripheral arteries are the blood vessels that supply blood to the arms and legs. In most cases, peripheral artery disease affects the legs. When the problem becomes severe it causes leg pain.

How does it occur?

The narrowing of the inside of the arteries occurs when deposits of cholesterol and calcium build up over time. These deposits on the inner artery walls are called plaque. The plaque may eventually become so thick that it completely blocks the flow of blood through the arteries.

Several factors can put you at a high risk for developing peripheral artery disease:

- an inherited (genetic) tendency in your family
- diabetes
- high levels of blood fat (for example, cholesterol)
- high blood pressure
- cigarette smoking
- being overweight.

What are the symptoms?

The disease progresses silently, without symptoms, until the arteries have become significantly narrowed.

The first symptom is usually pain or cramping in the calf muscles when you walk or exercise your legs. The discomfort quickly goes away when you rest and may come back soon after you are active again. As the narrowing worsens, the pain worsens. Pain may be felt in the thighs and buttocks if the narrowing is in the arteries leading to the thighs. One or both legs may be affected.

Other possible symptoms are:

- feet that feel cool
- loss of feeling in the feet and toes
- loss of hair on the tops of your feet
- thickened nails
- pale, shiny, or bluish skin
- if you are a man, trouble getting and keeping an erection
- slow healing of cuts and scrapes.

How is it diagnosed?

Your health care provider will examine you and ask about your symptoms and your personal and family medical history. He or she will check the pulses in your feet, legs, and groin.

To find the location and degree of arterial narrowing, you may have an angiogram or Doppler (ultrasound) test. For

an angiogram, dye is injected into the arteries. The dye allows the flow of blood to be observed. Your provider can measure the narrowing of the arteries and find blockages with this test. A Doppler test does not require any injections and is helpful as a first test, but it is not as precise as an angiogram.

How is it treated?

The first important step of treatment is to manage any risk factors. For example you might need to:

- Stop smoking.
- If you are diabetic, control your blood sugar.
- Reduce your blood pressure to a normal level.
- Lower the levels of fats in your blood.

Changes in your diet may be necessary. A diet high in complex carbohydrates (whole grains, pastas), fresh fruits, vegetables, and fiber, and low in salt, animal fats, and refined sugar is healthy for nearly everyone. It is especially important in the treatment of diabetes, hypertension, lipid (blood fat) disorders, and vascular disease.

If you are a smoker, you must stop smoking. One of nicotine's effects is narrowing of the arteries (vasoconstriction). Each cigarette you smoke decreases blood flow as the inhaled nicotine circulates in your blood.

Your health care provider may need to adjust or change the medicines you are taking. Some dosages or drugs restrict blood flow less than others. Your provider may prescribe new medicine to try to improve blood flow.

Exercise is vital to improving and maintaining good circulation in your arteries. Your provider may recommend an exercise program for you. However, you may need to have surgery first.

Your health care provider may recommend surgery for significant blockages. During surgery the blocked area may be removed and replaced with a piece of your own vein (removed from another part of your body). The replacement is called a graft. Sometimes synthetic material instead of a vein is used for the graft. Abdominal surgery may be necessary to repair blockages in the arteries that flow into the legs.

In some cases blockages in the peripheral arteries may be treated with catheterization and balloon dilatation instead of surgery. In catheterization a small tube is inserted in an artery in the groin. It allows your health care provider to see blockages. The blockages can sometimes be treated by inflating a balloon at the tip of the catheter to widen the area around the blockage. In some cases a stent may be inserted into the artery as part of this procedure to help keep the artery open. Stents are tiny tubes.

If your disease is extremely severe or other health problems prevent surgery, amputation of your foot or leg may become necessary. Amputation is usually necessary if you have so little blood flow that the skin and other tissues die and you become susceptible to life-threatening infection. Amputation is a last resort, but if peripheral vascular disease is not controlled, it is a possible complication.

Ask your provider if you need to take medicine to keep blood clots from forming in your arteries. Blood clots can be a problem when the arteries become too narrow.

How long will the effects last?

Peripheral artery disease is a disease that you will continue to have and that will get worse unless you get treatment and do things to lessen your risk.

How can I take care of myself?

- Follow your health care provider's instructions on diet, exercise, and medicine.
- If you are a smoker, stop smoking.
- Take care not to injure the affected leg. Injuries to that leg will heal much more slowly. Proper shoes, safe terrain, and safe exercise equipment are important.
- To prevent infection of the feet, inspect and care for them regularly. Wash your feet and change stockings daily. Wear comfortable shoes and trim your toenails straight across.
- When you are exercising, stop and rest if the pain in your legs becomes too great. Resume walking when the discomfort has gone away.
- See a health care provider right away if your symptoms suddenly become more severe. The worsened symptoms could indicate a complete blockage.

What can I do to help prevent peripheral artery disease?

The best way to try to prevent peripheral artery disease is to maintain all-around fitness.

- Try to reach and keep a normal weight, normal blood pressure, and normal levels of lipids and sugar in your blood.
- Eat a diet low in fat and refined sugar, and high in complex carbohydrates and fiber.
- Exercise at least 3 to 4 times a week, striving to walk 20 or more minutes each time, or according to your health care provider's prescription. Cycling and swimming are good alternatives to walking, but you should consult with your provider before you start a more vigorous program.
- Do not smoke.

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