

EDUCATION

Peripheral Artery Disease

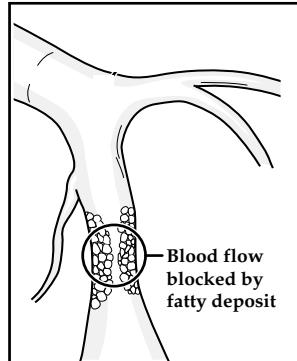


Allina Health

Peripheral Artery Disease

You may have circulation problems that have to do with your blood vessels. You may feel aches, pains, cramps, numbness or muscle fatigue when you exercise.

These feelings may be caused by atherosclerosis, which interferes with blood flow to or from your blood vessels. This is also known as peripheral artery disease (PAD).



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In PAD, cholesterol and plaque (fatty deposits) collect on the insides of the walls of your blood vessels. This most often occurs in your legs. If the fatty build-up keeps collecting, your blood flow will be reduced.

When you exercise, your blood flow may not meet your body's need for extra oxygen. Without a constant supply of oxygen, tissue below the blockage can be permanently damaged. You will need treatment to prevent the loss of your foot or part of your leg.

Symptoms of PAD

You may have leg cramps after walking a short distance. This is called intermittent claudication. When the plaque blockages are large enough that your blood flow is nearly or totally blocked, you may feel pain — even during rest.

There are many symptoms of PAD. You may have:

- an aching, cramping, tired feeling or numbness, tingling or pain in your feet, toes, legs or buttocks after walking. (The pain goes away after a few minutes.)
- leg pain during the night or during rest that goes away if you hang your leg over the edge of your bed or put your leg up on a foot stool
- blue or red discoloration of your foot or leg when sitting or standing
- a wound or sore on your foot that does not heal
- cold feet and cold or numb calves
- dry and scaly feet and legs
- less hair growth on your legs
- no pulse in your foot
- impotence (in men).

Tests Used to Find PAD

- **Ankle-Brachial Index (ABI).** This test tells how well blood is flowing through the arteries of your legs. Blood pressure readings will be taken from your arms and legs. A doppler probe (the size of a large pen) will be used to listen to your blood pressure
- **Ultrasound.** Sound waves are bounced off your arteries to produce an image of the vessel that shows its size and shape, as well as any blockage.
- **Magnetic resonance angiography (MRA).** This test is a kind of X-ray that will take a picture of the blood vessels in your body.
- **Computed tomography angiography (CTA).** This special X-ray uses a computer to show the flow of blood through your body's blood vessels.
- **Angiography and venogram.** Contrast is injected into arteries or veins of your lower body. This X-ray shows how blood is flowing, and gives detailed pictures of narrowed or blocked arteries and veins. (You may feel a warm or burning sensation as the contrast is injected.)

Treatment for PAD

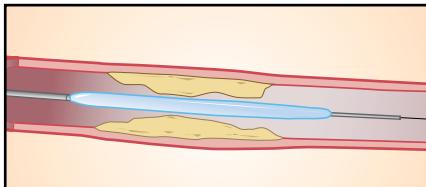
The kind of treatment you will receive depends on your symptoms, test results and doctor recommendations.

The following are different types of procedures or surgeries used to treat PAD.

Balloon angioplasty/stent

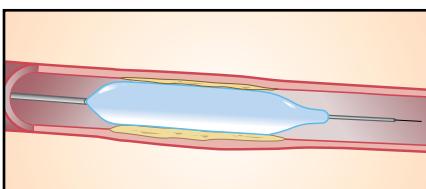
This procedure repairs short segments of a narrowed or blocked artery, using a small balloon on the end of a tube (catheter). This is the main treatment for PAD.

- Your doctor uses a guidewire to guide a balloon-tipped catheter through the plaque.
- Your doctor injects contrast to take an X-ray of the blocked artery.
- With the catheter in place, the doctor will slowly inflate the balloon. It pushes the plaque to the sides of your artery, which lets more blood flow through your arteries.
- The balloon will be inflated and deflated many times to flatten the plaque.
- Your doctor will remove the balloon catheter.
- Your doctor may want to insert a **stent** — a small, mesh wire tube — that helps keep the artery open. The stent is placed on the end of a balloon catheter.



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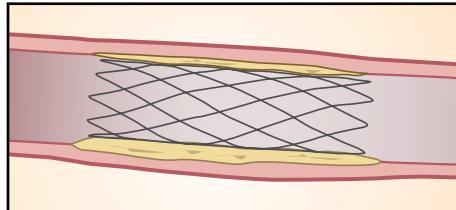
Angioplasty is used to break up plaque in an artery. A guidewire is inserted through the plaque.



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A balloon catheter on the end of the guidewire is inflated, breaking up the plaque.

When the doctor inflates the balloon, the stent expands in the artery. The doctor deflates the balloon catheter and removes it. The stent stays in place.



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A stent is a mesh wire that helps keep your artery open. The doctor inserts it with a balloon catheter.

After about 4 weeks, your artery builds a coating of cells around the stent. It will feel like a normal artery wall.

Thrombolytic therapy

This procedure delivers special medicine through your vein or artery. The medicine dissolves blood clots in your blood vessel.

Endarterectomy

This surgery involves opening the diseased blood vessel and removing the plaque.

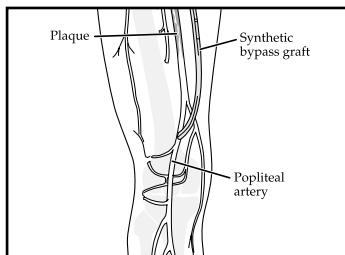
Embolectomy

This surgery involves removing a blood clot from an artery.

Bypass

This surgery can be done on arteries to improve circulation. Bypass surgery involves using one of your own veins or a synthetic graft to re-route blood around a segment of a narrow or blocked artery.

Blood flow then goes from the artery, through the bypassed graft and out to the rest of your leg.



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Bypass uses a healthy vein or a synthetic vein to restore blood flow.

How to Help Your PAD

You can slow down the progress of PAD by changing basic lifestyle habits, exercising and decreasing your risk factors.

Improving your circulation

- ❑ Tobacco products include cigarettes, electronic nicotine delivery systems (ENDS, includes e-cigarettes), cigars, smokeless tobacco (dip or chew), hookahs, pipes, roll-your-own, and oral nicotine products.

Tobacco makes the insides of your veins and arteries sticky. This makes them clog up faster. This is one reason why smoking is the most important risk factor for PAD.

- ❑ Eat a diet low in cholesterol and saturated fat to reduce your risk of atherosclerosis. This is the process of plaque buildup in your arteries. The plaque slows or stops blood flow to and from your blood vessels.
- ❑ Join a walking program to improve the circulation to your legs and promote growth of new blood vessels. Ask your health care provider for advice.
- ❑ Lose weight if you are overweight. For every pound of fat, your heart needs to pump blood through an extra mile's worth of blood vessels.
- ❑ Watch your blood pressure. If you have high blood pressure (hypertension) you are at an increased risk of heart attack, stroke, heart failure or kidney damage.

You have high blood pressure if you usually have a top number of 130 or higher or a bottom number of 80 or higher. Talk with your health care provider if you have high blood pressure.

- If you have diabetes, work to keep your blood glucose in good control. People with diabetes are at a greater risk for PAD because of the damage the disease can do to blood vessels. Check with your health care provider if you are having problems with your diabetes.

Taking good care of your feet

- Check your feet every day for cuts, blisters, red spots, sores, cracks and swelling. Use a mirror to check the bottoms of your feet or ask a family member for help if you have trouble seeing.
- Call your health care provider right away if a cut, sore, blister or bruise does not heal after several days.** Your health care provider may apply a special dressing to help the ulcer heal and protect it from infection. You may also receive antibiotics (medicine) to fight an infection.
- Wash your feet with mild soap and slightly warm water every day. Do not soak your feet because they may dry out.
- Dry your feet well. Be sure to dry between the toes.
- Use a thin coat of lotion and cream for dry skin, but not between your toes. Avoid lotions with perfumes.
- Use a pumice stone to smooth corns and calluses.
- Cut your toenails straight across and file the edges with an emery board or nail file.
- Wear shoes and socks at all times:
 - Never walk barefoot.
 - Wear comfortable shoes that fit well and protect your feet.
 - Wear shoes at the beach or on hot pavement.
 - Wear socks at night if your feet get cold.

- Always check inside your shoes for worn areas or things that might cause sores on your feet. Ask your health care provider about special shoes.
- Avoid crossing your legs for long periods of time. Instead, cross your legs at the ankles.
- Wiggle your toes and move your ankles up and down for 5 minutes, 2 or 3 times each day.



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