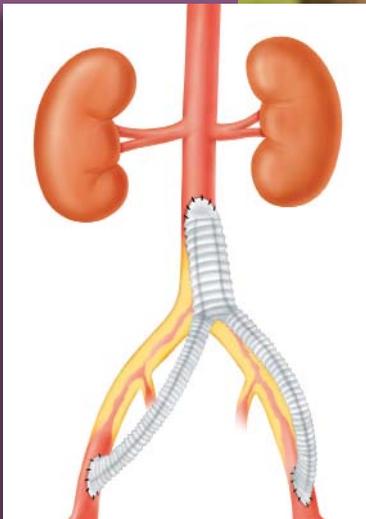
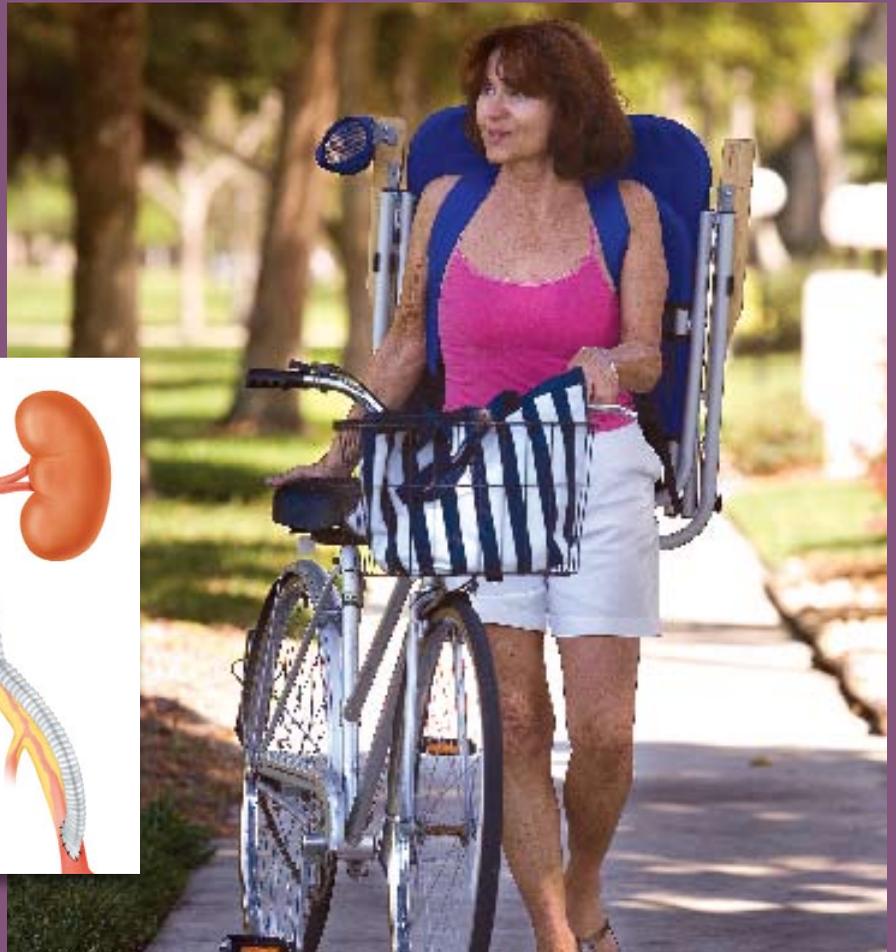


Aortofemoral Bypass Surgery



What Is PAD?

Your doctor has told you that you have peripheral arterial disease, also called PAD. This means that arteries to your legs are narrowed or blocked. You may have had tests that confirm a blockage. And you may already have tried lifestyle changes to relieve your symptoms. Unfortunately, PAD can't be cured. But treatment along with a healthy lifestyle can improve blood flow, helping to keep the disease from getting worse.

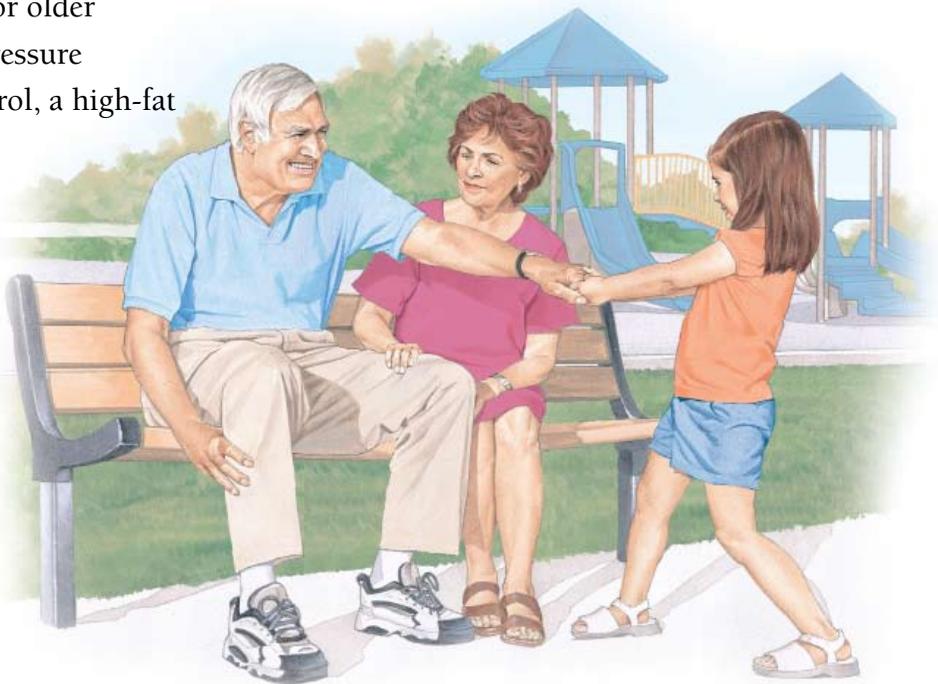
Who Gets PAD?

Certain health problems and habits increase the chances of developing PAD. The more risk factors you have, the greater your chances of getting this disease. The most common risk factors include:

- Smoking
- Diabetes
- Heart disease, such as coronary artery disease (CAD)
- Being age 60 or older
- High blood pressure
- High cholesterol, a high-fat diet, or both

What Are the Symptoms?

PAD can cause cramping or aching in your buttocks, thighs, or calves after a short walk. The pain, called **claudication**, goes away when you stop but returns when you move again. It's likely to be worse when you climb stairs or go uphill. As PAD gets worse, you may have pain more often. Having PAD also makes it more likely that other arteries may be blocked. Arteries that carry blood to the heart or brain are often affected. This puts you at risk of heart attack or stroke.



Treating PAD with Bypass Surgery

Sometimes PAD can be controlled with lifestyle changes alone. These include stopping smoking, exercising daily, and managing health problems such as diabetes. You also may benefit from combining lifestyle changes with certain medications. But lifestyle changes and medication do not always relieve symptoms. For that reason, your doctor has suggested a surgery called **aortofemoral bypass**. Read on to learn more about this surgery. You will learn how to prepare for the bypass, how it is done, and what to expect after.



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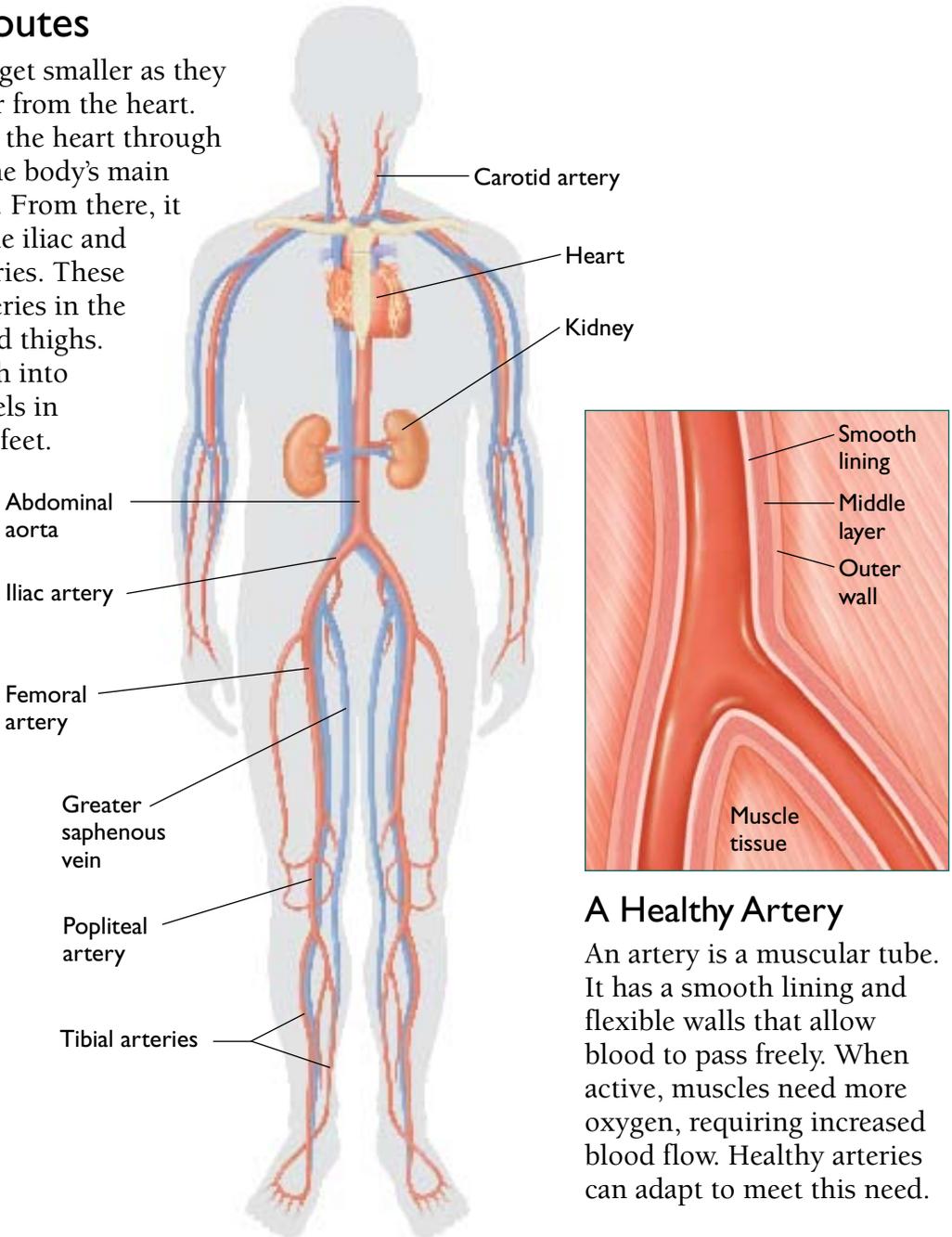
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How Blood Circulates

With each beat, your heart pumps oxygen-rich blood throughout the body. Arteries carry this blood to your organs and muscles. Veins then return oxygen-poor blood to the heart. This cycle works well when the arteries and veins are healthy. But if an artery is damaged, blood flow may be slowed or blocked. This means your muscles and tissues don't get all the oxygen they need.

Major Routes

The arteries get smaller as they travel farther from the heart. Blood leaves the heart through the **aorta**, the body's main blood vessel. From there, it flows into the iliac and femoral arteries. These are large arteries in the abdomen and thighs. These branch into smaller vessels in the legs and feet.

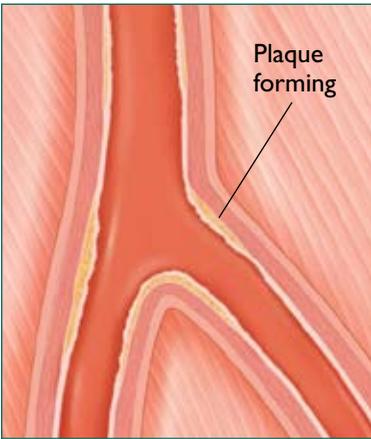


A Healthy Artery

An artery is a muscular tube. It has a smooth lining and flexible walls that allow blood to pass freely. When active, muscles need more oxygen, requiring increased blood flow. Healthy arteries can adapt to meet this need.

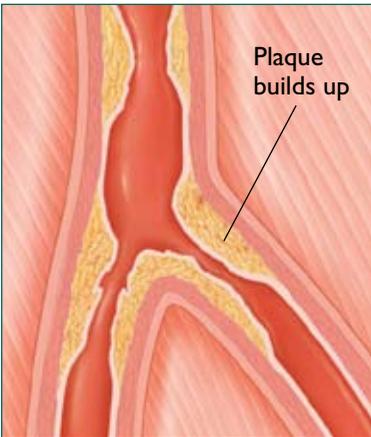
When Blood Flow Changes

As you age, your arteries become stiffer and thicker. In addition, risk factors, such as smoking and high cholesterol, can damage the artery lining. This allows plaque (a buildup of fat and other materials) to form within the artery walls. The buildup of plaque narrows the space inside the artery and sometimes blocks blood flow.



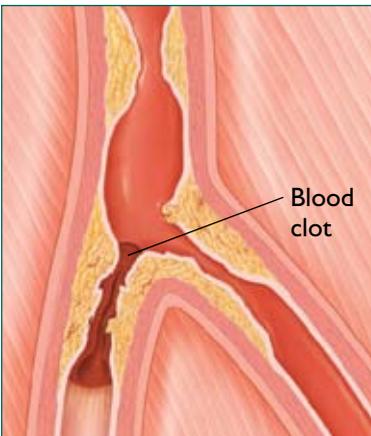
A Damaged Artery

PAD begins when the lining of an artery is damaged. This is often due to a risk factor such as smoking or diabetes. Plaque then starts to form within the artery wall. At this stage, blood flows normally, so you're not likely to have symptoms.



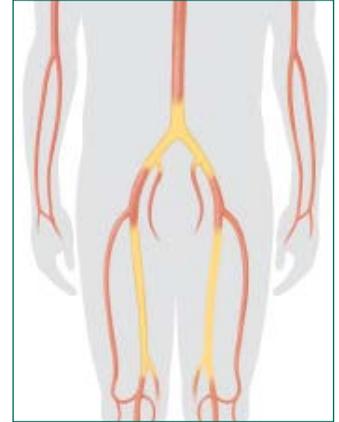
A Narrowed Artery

If plaque continues to build up, the space inside the artery narrows. The artery walls become less able to expand. The artery still provides enough blood and oxygen to your muscles during rest. But when you're active, the increased demand for blood can't be met. As a result, your leg may cramp or ache when you walk.



A Blocked Artery

An artery can become blocked by plaque or by a blood clot lodged in a narrowed section. When this happens, oxygen can't reach the muscle below the blockage. Then you may feel pain when lying down (**rest pain**). This type of pain is especially common at night when you're lying flat. In time, the affected tissue can die. This can lead to the loss of a toe or foot.



With PAD, a leg can have more than one blockage. The yellow areas show common sites of blockages.

Your Evaluation

You've probably been referred to a specialist who evaluates and treats blood vessel problems. The referral may have been due to your symptoms or the results of blood flow measurements. Your health history, a physical exam, and certain tests help determine whether you have PAD. Other tests can show where arteries are narrowed or blocked.

Your Health History

You'll be asked about the symptoms and risk factors you may have for PAD. Be sure to mention any medications you're taking, including aspirin, blood thinners, and herbs.

Physical Exam

Plaque can form in blood vessels throughout your body. For that reason, your doctor will feel for pulses and listen to blood flow in your major arteries. Your upper arms and abdomen are also likely to be checked. And your feet and legs will be examined carefully for signs of PAD. These can include nail problems, changes in color and temperature, and sores that don't heal.



Your doctor will listen to your major arteries, including the carotid arteries in the neck.

Tests to Measure Blood Flow

You also may have tests that check the blood flow in your legs and feet. These tests are quick and painless.

- **Ankle-brachial index (ABI)** compares blood pressure in your ankle with the pressure in your arm. Based on the results, your doctor may diagnose PAD.
- **Doppler ultrasound** looks at the blood flowing through your arteries. It can show changes in blood flow due to artery narrowing or blockage.



Doppler ultrasound is a painless test that shows blood flow in your arteries.

Imaging Tests

If you're found to have PAD, you may have other tests. These show the amount of damage in an artery and its exact location. Your doctor will use the results to plan the most effective treatment for you.

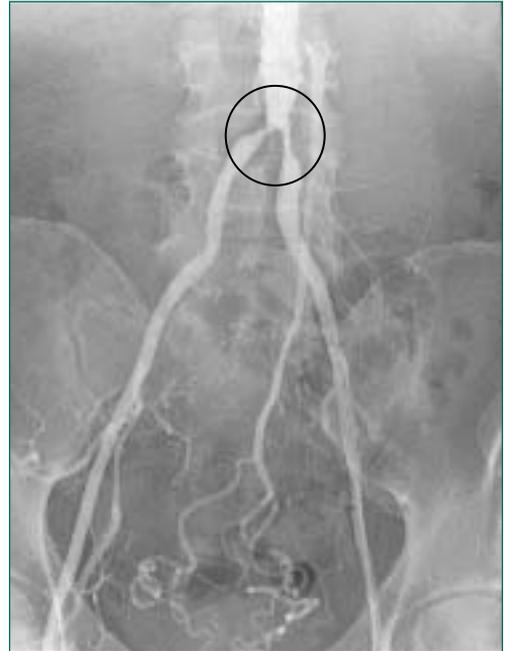
Arteriography

In this test, x-rays help pinpoint where the artery is narrowed or blocked. Before the procedure, you'll be given medication to make you comfortable. A long, thin tube (**catheter**) is then inserted into an artery, usually in your groin. From there, it's carefully threaded to the affected artery. Once the catheter is in place, a contrast dye is injected into the artery. The contrast dye fills the artery so blood flow shows up clearly on the x-rays. Several images (**arteriograms**) are then taken.

Other Imaging Tests

You may have other tests to help detect a narrowing or blockage. The use of contrast dye allows the condition of the arteries to be seen more easily.

- **CT arteriography** uses computer-generated x-rays to provide detailed images of arteries.
- **MR arteriography** uses a strong magnet and radio waves to produce images of blood flow in the arteries.



This arteriogram shows narrowing in both iliac arteries. The sites are shown in the circle above.

Risks and Complications of Arteriography

Although complications of arteriography are fairly rare, risks may include:

- Bleeding from the catheter insertion site
- An allergic reaction to the contrast dye
- Small blood clots
- Artery damage
- Kidney problems

Preparing for Bypass Surgery

Bypass surgery may be the best way, or the only way, to improve your symptoms. So your doctor is recommending this surgery for you. You can discuss this surgery and any other options you have with your doctor. Before your bypass surgery, you are likely to have tests to assess your overall health. You'll also be told how to prepare for surgery.

What Is Aortofemoral Bypass Surgery?

Aortofemoral bypass surgery treats a blockage in the abdominal aorta. This treatment uses a graft to reroute blood around a blocked artery in the abdomen or thigh. Your doctor will discuss this surgery and its risks and benefits with you. Be sure to get answers to any questions you have.



After the evaluation, you'll meet with your doctor to discuss having bypass surgery.

Risks and Complications of Bypass Surgery

All surgery has some risks. Possible risks of aortofemoral bypass surgery include:

- Bleeding
- Blood clots
- Infection
- Heart or lung problems
- Kidney problems
- Loss of a toe or foot
- Death (rare)

Testing Before the Surgery

To help ensure that your surgery goes smoothly, you may have one or more of these tests:

- An ECG to check the health of your heart. You also may have a test that measures how your heart responds to stress. You won't have to exercise during this test.
- A routine chest x-ray to help detect lung problems.
- Some blood tests to show how well your kidneys are working. Others assess the blood's ability to clot. Blood sugar levels are also likely to be checked.

Getting Ready for Surgery

Being well prepared can make you feel more at ease on the day of your procedure. Be sure to:

- Know all the medications you take, including vitamins, herbs, and other supplements.
- Stop taking medications as directed. You are likely to receive special instructions if you have diabetes or use blood thinners.
- Keep taking certain medications as instructed by your doctor.
- Don't eat or drink anything after the midnight before your procedure.
- Arrive at the hospital early to fill out paperwork.
- Arrange for an adult family member or friend to drive you home. And pack a bag for your stay in the hospital.



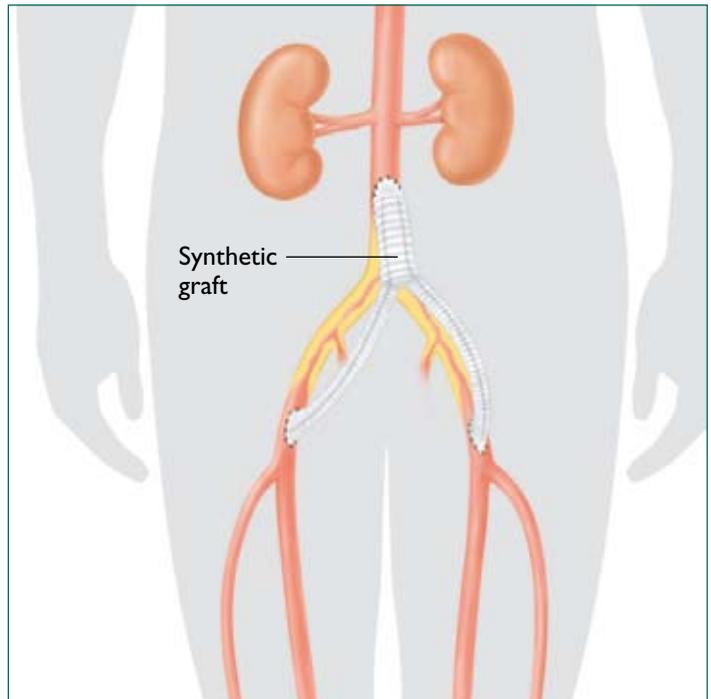
Have a family member help you make a list of your medications.

During and After Bypass Surgery

During the surgery, a graft (tube) is used to create a new pathway for blood around the blockage in your aorta. After the surgery, you will stay in the hospital for one or more days while you recover. When you go home, follow your doctor's instructions to help your recovery go smoothly.

During the Bypass

The surgeon makes incisions in the abdomen and groin. A synthetic graft is then sewn into the artery above and below the blocked section. The damaged section of artery is not removed during this procedure. Once blood flows freely through the graft, the incision is closed with sutures or staples.



A synthetic graft reroutes blood around a blocked artery in the abdomen.

Right After Surgery

Following surgery, you will be monitored closely as you recover. And you will receive medication to help control pain. Tell your healthcare provider if you are uncomfortable for any reason. You'll be able to go home when you can walk on your own. This is often within a few days.

Recovering at Home

These measures help your body heal more quickly:

- Take aspirin, blood thinners, and pain medications as directed.
- Care for incisions as instructed.
- Shower or take sponge baths. Don't take a tub bath without your doctor's okay.
- Have staples or sutures removed when your doctor recommends.
- Drink plenty of fluids.
- Try to walk a little farther each day.



When to Call Your Doctor

Call your doctor right away if you have:

- Bleeding or increased pain, swelling, redness, or warmth at the incision sites
- A fever of 101.4°F (38.5°C) or higher
- Chest pain or trouble breathing
- A change in temperature or skin color below the bypass site
- A return of symptoms similar to those you had before the bypass

Changing for Life

Although there is no cure for PAD, you can play a major role in the treatment process. Long-term lifestyle changes can reduce risk factors that damage arteries. By staying committed to a healthy lifestyle, you can help slow the progress of this disease. After surgery, you can help your recovery if you stop smoking, exercise daily, and eat low-fat foods. These measures help improve blood flow throughout your whole body. This can reduce PAD risks such as heart attack and stroke. Read on to learn more.

Living a Healthier Life

Maintaining a healthier lifestyle can help slow the disease. It can also improve the overall health of your arteries, reducing the chance of heart attack or stroke.

Keep Follow-up Visits

Be sure to keep all of your follow-up appointments. During these visits your doctor will check your blood flow to make sure the graft is working properly. If problems are found, they can be treated right away.

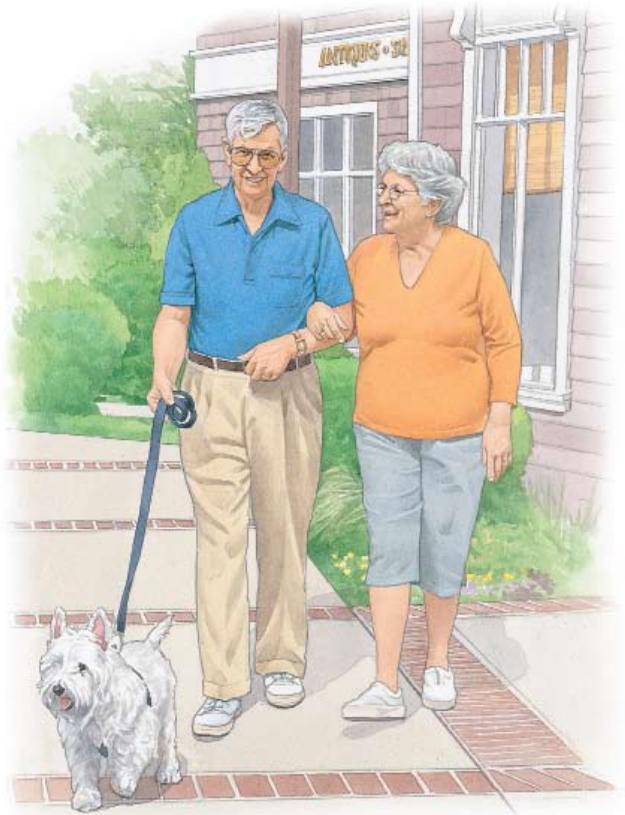
Exercise Daily

Frequent exercise is important for your health. It improves blood flow and helps lower blood pressure. When you resume your walking program, start with short walks. Then increase your distance a little each day. Ask your doctor if a supervised exercise program is right for you.

Take Care of Your Feet

Even after treatment, your feet need extra care. Sores or blisters may take a long time to heal. This increases the risk of infection. To protect your feet:

- Have a podiatrist (foot specialist) trim your toenails.
- Wear sturdy shoes. Avoid high heels and shoes with open toes.
- See a healthcare provider if you have cuts or wounds on your feet.



If You Smoke, Quit!

Smoking is the main risk factor for PAD. It interferes with blood flow and injures the walls of the arteries. Quitting isn't easy, but these steps may help:

- Ask your doctor for advice on programs and aids.
- Get support from your family, friends, or support groups.
- Avoid places and situations where you're likely to smoke.
- Don't give up—it may take 3 or 4 tries to finally quit.

Eat Healthy Foods

A healthy diet is a good way to lower your risk of PAD. It helps prevent plaque buildup and reduces blood pressure and cholesterol levels. For the greatest health benefits:

- Limit all fats to one-third of your daily calories. Then choose the right kinds of fats. Use olive or canola oil instead of butter or margarine.
- Eat at least 5 servings of fruits and vegetables each day. They contain fiber, vitamins, minerals, and antioxidants.
- Limit red meat, dairy products, and processed foods. Instead, choose chicken, fish, or tofu.
- Bake, broil, or steam foods. They taste great and have less fat.
- Follow diet changes that can help control health problems. Use less salt if you have high blood pressure. Limit sugar and carbohydrates if you have diabetes.
- Eat smaller portions to reach or maintain a healthy weight.



Better nutrition is good for you and your family.

Manage Any Health Problems

Managing other health problems is a big part of keeping your arteries healthy. Talk to your doctor about the best way to control diabetes, high blood pressure, high cholesterol, or heart disease. In general:

- Take medications as directed. Don't skip days or stop taking them without your doctor's okay.
- Have your cholesterol and blood pressure checked as often as directed.
- Maintain a healthy weight.
- If you have diabetes, test your blood sugar as directed.



If you have diabetes, controlling blood sugar can help keep arteries healthier.

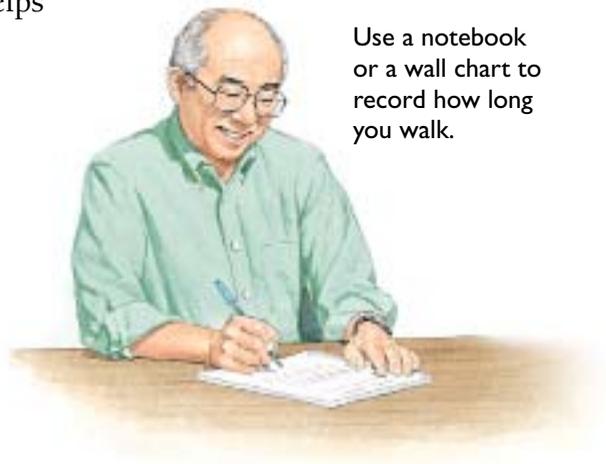
Starting a Walking Program

Exercise plays a major role in managing artery disease. For that reason, you may be told to walk daily. Start with one or two short walks each day. Then try to increase your time or distance.

To Get on Track

If you are given guidelines for your walking program, be sure to follow them. For instance, your healthcare provider may tell you to keep walking even when you feel leg pain. Doing so can help improve circulation. Over time, this may help lessen your pain. Try the suggestions below to help make your program a success:

- Stretch before and after you walk. This helps reduce the risk of injury.
- Warm up and cool down. Walk slowly for 5 minutes before and after you exercise.
- Don't let bad weather stop you. When you can't walk outside, walk indoors. You can walk in a mall or even at home.
- Don't walk through pain unless your doctor says it's okay.
- Track your progress. Each day, record how long and how far you walked.



Use a notebook or a wall chart to record how long you walk.

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