

# Claudication

## Overview

Claudication is pain caused by too little blood flow to muscles during exercise. Most often this pain occurs in the legs after walking at a certain pace and for a certain amount of time — depending on the severity of the condition.

The condition is also called intermittent claudication because the pain usually isn't constant. It begins during exercise and ends with rest. As claudication worsens, however, the pain may occur during rest.

Claudication is technically a symptom of disease, most often peripheral artery disease, a narrowing of arteries in the limbs that restricts blood flow.

Treatments focus on lowering the risks of vascular disease, reducing pain, increasing mobility and preventing damage to tissues.

## Symptoms

Claudication refers to muscle pain due to lack of oxygen that's triggered by activity and relieved by rest. Symptoms include the following:

- Pain, ache, discomfort or fatigue in muscles every time you use those muscles
- Pain in the calves, thighs, buttocks, hips or feet
- Less often, pain in shoulders, biceps and forearms
- Pain that gets better soon after resting

The pain may become more severe over time. You may even start to have pain at rest.

Signs or symptoms of peripheral artery disease, usually in more-advanced stages, include:

- Cool skin
- Severe, constant pain that progresses to numbness
- Skin discoloration
- Wounds that don't heal

## When to see a doctor

Talk to your doctor if you have pain in your legs or arms when you exercise. Claudication can lead to a cycle that results in worsening cardiovascular health. Pain may make exercise intolerable, and a lack of exercise results in poorer health.

Peripheral artery disease is a sign of poor cardiovascular health and an increased risk of heart attack and stroke.

Other conditions involving the blood, nerves, and bones can contribute to leg and arm pain during exercise. It's important to have a complete exam and appropriate tests to diagnose potential causes of pain.

## Causes

Claudication is most often a symptom of peripheral artery disease. The peripheral arteries are the large vessels that deliver blood to the network of vessels in your legs and arms.

Peripheral artery disease is damage to an artery that restricts the flow of blood in an arm or leg (a limb). When you're at rest, the limited blood flow is generally still enough. When you're active, however, the muscles aren't getting enough oxygen and nutrients to work well and remain healthy.

Damage to peripheral arteries is usually caused by atherosclerosis. This is the buildup of cholesterol and other fats, blood cells, and other cellular debris into abnormal structures (plaques) on the lining of an artery.

Plaques cause a narrowing and stiffening of the artery, limiting the flow of blood. If the plaques rupture, a blood clot can form, further reducing blood flow.

## Risk factors

The risk factors for peripheral artery disease and claudication include the following:

- Smoking
- High cholesterol
- High blood pressure
- Obesity (a body mass index, or BMI, over 30)
- Diabetes
- Chronic kidney disease
- Age older than 70 years
- Age older than 50 years if you also smoke or have diabetes
- A family history of atherosclerosis, peripheral artery disease or claudication

## Complications

Claudication is generally considered a warning of significant atherosclerosis in the circulatory system, indicating an increased risk of heart attack or stroke. Additional complications of peripheral artery disease due to atherosclerosis include:

- Skin lesions that don't heal
- Death of muscle and skin tissues (gangrene)
- Amputation of a limb

## Prevention

The best way to prevent claudication is to maintain a healthy lifestyle and control certain medical conditions. That means:

- Quit smoking if you're a smoker
- Exercise regularly
- Eat a healthy, well-balanced diet
- Maintain a healthy weight
- If you have diabetes, keep your blood sugar in good control
- Keep cholesterol and blood pressure within normal values

By Mayo Clinic Staff

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