

# Popliteal Artery Entrapment Syndrome

## What is Popliteal Artery Entrapment Syndrome (PAES)?

**Popliteal artery entrapment syndrome (PAES)** is a condition that affects the main artery (called the popliteal artery) in the leg below the knee. It occurs when the blood flow to the popliteal artery is squeezed (compressed) by the muscles and tendons behind the knee. This limits blood flow to the lower leg and can cause damage to the artery.

## Who is at risk for PAES?

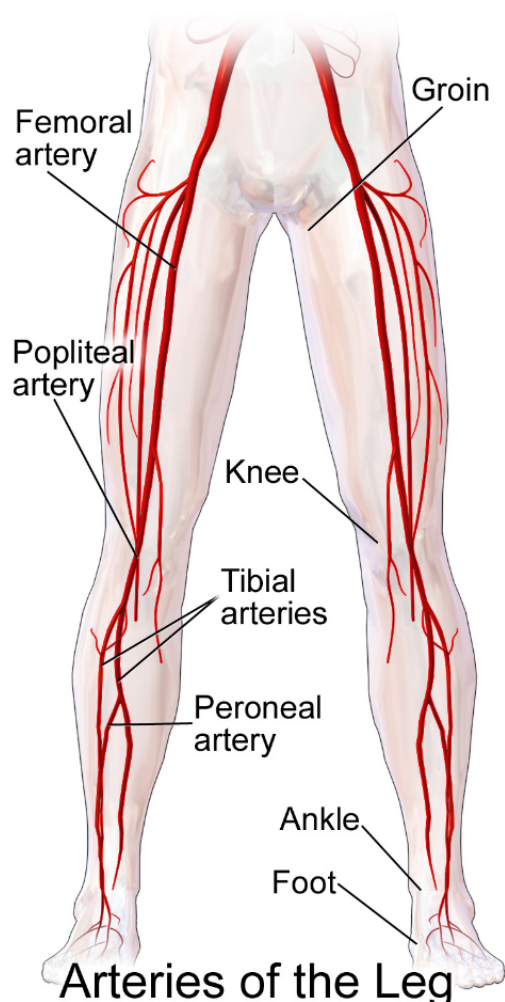
PAES affects individuals under the age of 55, but it is most commonly diagnosed in young athletes, particularly those who play soccer, football, rugby, or vigorously lift weights. As the calf muscle next to the popliteal artery gets larger from exercise, this can cause PAES to form over time. Men are two times more likely to get PAES than women.

## What are the symptoms of PAES?

People with PAES typically experience aching pain (claudication), coolness, numbness, or cramping in the back of the lower leg (calf) during exercise that goes away with rest.

Other symptoms may include:

- Swelling in the calf area
- Changes in skin color around the calf muscle



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## How is PAES diagnosed?

Your doctor will diagnose PAES based on your medical history, a physical exam and test results. The condition is often difficult to diagnose because it can mimic other conditions such as knee joint pain or other muscle-related problems. The following tests are common for diagnosing PAES:

- **Ankle brachial index (ABI) measurement with exercise** - this test measures the blood pressures in the arms and legs before and after exercise.
- **Intravascular ultrasound with angiography**- this test allows your doctor to see how blood is flowing to and from your lower leg in real time. During this test, a tiny ultrasound wand is attached to the top of a thin tube. This tube is called a catheter. The catheter is inserted into an artery in your groin area and moved to view the popliteal artery.

You may be asked to flex your foot up and down during this test.

- **Duplex ultrasound**- this test uses sound waves to create pictures of the popliteal artery and measures blood flow.
- **Computer Tomography Angiogram (CTA)** - is a special type of x-ray. The scan uses dye to look for areas around the knee with poor blood flow or narrowed arteries.
- **Magnetic Resonance Angiography (MRA)**- - this test uses a magnetic field and pulses of radio wave energy to provide pictures of the muscles, tendons and blood vessels inside your body. You may be asked to flex your foot up and down during this test also.
- **Compartment Pressure Measurement Test** - During this test, the doctor inserts a needle into the muscle. A machine attached to the needle gives a compartment pressure reading. The number of times the needle is inserted depends on the location of the symptoms. You may be asked to flex your foot up and down during this test also.

## How is PAES treated?

Surgery can be done to correct the problem. An incision is made behind the knee to reach the popliteal artery and the muscle or tendons to release the compression. This allows normal blood flow to return to the leg.

In more advanced cases when the popliteal artery is blocked rather than compressed, the surgeon will correct the problem with the muscles or tendons and also go around (bypass) the blocked section of the artery to restore blood flow. A vein or synthetic graft is used to bypass the blocked artery to create a new pathway for blood to reach the lower leg.

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