Popliteal Artery Entrapment Syndrome (PAES)

What is PAES?
PAES is a condition seen in young patients where the popliteal artery is *temporarily compressed* behind the knee during vigorous exercise. This *reduces blood flow* to the lower leg, resulting in aching calf pain, numbness, or cramping in the calf during exercise. Symptoms usually resolve within 5 minutes of rest. Repetitive trauma to the artery can result in progressive stenosis and ischemic injury to the lower extremity.

What causes PAES?
PAES can be caused by several different congenital and developmental factors:

- popliteal artery can lie in a slightly different location, which causes narrowing and compression of the artery
- some people are born with a narrowed popliteal artery in the back of the knee
- some athletes develop a large calf muscle, causing compression of the popliteal artery
- a band of fascia or scar tissue compressing the artery

Diagnosis:
Because PAES can be difficult to diagnose, it might take a while before a correct diagnosis is made. Many people are initially misdiagnosed with shin splints, stress fractures, sciatica, and even compartment syndrome. Several tests can be used to diagnose PAES.

- Ankle-brachial index (ABI) – decreases with exercise
- Duplex Ultrasound – measures reduced blood flow through the popliteal artery after exercise
- CT angiography or Magnetic Resonance angiography – with dynamic plantar flexion

Treatment:

- Exercise modifications – reduce running, jumping, and repeated plantar flexion activities
- Physical Therapy
- Massage Therapy
- Surgery – reserved for patients who continue to have pain despite conservative treatment
    - surgical release of the artery and gastrocnemius
    - arterial bypass for those with long-standing, PAES and arterial narrowing