

Exercise-Induced Compartment Syndrome

Exercise-induced compartment syndrome is a condition that causes pain over the front of the shin bone (although it is rarely found in the thigh). Athletes usually experience the pain after a specific time period of exercise, and it is quickly relieved by rest.

Compartment syndrome is due to a pressure build-up within the muscles of the leg. Muscles are enclosed within a non-yielding tissue called fascia that constrains the muscle fibers within a designated area in the body. With exercise, blood flow to a muscle increases, and the size of the muscle increases. Normally, the fascia allows sufficient room to accommodate this increase in muscle size; however, in patients with exercise-induced compartment syndrome, the fascia is too tight, and it constricts the muscle, blood vessels and nerves. The lack of blood flow causes ischemia (similar to a heart attack, but in the leg muscles) and this causes pain.

Symptoms

Symptoms of exercise-induced compartment syndrome include:

- Pain during activity that is quickly relieved with rest
- May experience tingling or numbness in the leg or foot
- Tightness over the muscles when pain is present

Diagnosis

The description of pain can lead a physician to the diagnosis. There is usually no specific findings on physical exam. X-ray and MRI are normal. Diagnosis is usually made by measuring the pressures within the muscles of the leg before exercise, one minute and five minutes after exercise. Normally, the pressure difference from rest and activity is small. Patients with exercise-induced compartment syndrome will have a dramatic increase in pressure readings when the symptoms are present after exercise and occasionally even have high resting pressures.

Treatment

Treatment can start with a period of rest from the offending activities. However, if this fails to provide relief, then surgery may be needed. Surgery involves the cutting of the fascia to give the muscle more room during exercise.