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Diagnosing and treating compartment syndrome in athletes

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Each of our arms and legs have compartments that contain muscles and nerves which are surrounded by tough walls of tissue called fascia. When we experience an injury or overuse muscles, these compartments can fill with fluid and swell. In some people, the fascia surrounding each compartment is not very flexible and swelling can restrict blood flow, which can lead to pain, numbness and weakness in the affected limb. These symptoms may be a sign of compartment syndrome.

Compartment syndrome occurs when excessive pressure builds up in an enclosed muscle space. The acute condition is often the result of bleeding or swelling into the muscle after an injury like a severe bone fracture or a crush injury, and while rare, it is a surgical emergency. The chronic condition, called chronic exertional compartment syndrome or CECS, is often the result of prolonged physical activity and is most common in endurance athletes like runners and soccer players.

For those experiencing CECS, the associated symptoms occur, or worsen, during physical activity and subside immediately after stopping. Symptoms of CECS can mimic symptoms of other overuse injuries like plantar fasciitis or shin splints, and if you're middle aged or older, it may be the result of cholesterol build-up in the blood vessels. Thus, your doctor may want to perform several tests to rule out other diagnoses.

Treatment for CECS can vary and depends on the activity level and desire of the athlete. A physician may suggest modifying or taking a break from the exercise causing the injury or performing low-impact

activities like biking or swimming. Physical therapy, strengthening and stretching are a few approaches that can help relieve symptoms. For those that don't respond to conservative measures, or if activity modification is not an option, surgery may be the most effective treatment. The surgical procedure, a fasciotomy, involves opening or removing the fascia in each affected compartment to relieve pressure. While there is a risk of complications associated with surgery, left untreated compartment syndrome can lead to permanent muscle and nerve damage or the inability to continue participating in your favorite sport.

If you experience symptoms after an injury or symptoms develop during physical activity and worsen overtime, it's important to talk with your primary care provider about your symptoms and see a doctor who specializes in sports medicine.

Provided by University of Kentucky

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