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Stress Fractures

Stress fractures are common in the foot and ankle. A stress fracture represents a chronic injury where there's an imbalance between the loads sustained by the bone and the ability for the body to heal injury. There are two main causes of stress fractures: overuse injury or metabolic bone issues.

Overuse injuries in the foot and ankle are usually related to running or sprinting and a rapid increase in distance. Even a sudden increase walking can cause a stress fracture, such as a vacation to Europe or Disneyland, which may significantly increase daily mileage.

Metabolic bone disorders such as osteopenia or osteoporosis, Vitamin D deficiency, use of oral steroids, and other systemic bone issues may lead to unusual weakness in the bone that makes it susceptible to fracture even under normal stress.

DIAGNOSIS

The first step in diagnosis is appropriate imaging (weight-bearing x-rays of the foot and ankle) and a thorough physical examination. There is generally warmth and swelling over the area of the fracture. If there is suspicion for a stress fracture, an MRI will be ordered.

TREATMENT

Each different bone has a different approach to treatment. Some are amenable to nonoperative treatment and others are not.

Rest and Immobilization

A CAM boot, used to fully immobilize the foot and ankle, will be necessary in the event of a stress fracture. Fractures take 6-12 weeks to heal.

Vitamin D Supplementation

Vitamin D levels will be tested, and Vitamin D will be supplemented, as necessary. Usually, 2000-5000iu of Vitamin D_3 is recommended.

Anti-Inflammatories

NSAIDs should be taken around the clock for two to three weeks for anti-inflammatory dosing. Speak to your physician if you have concerns about whether anti-inflammatories are safe for you.

Ice

Only use ice if you have no numbness in your feet. If you have neuropathy, ice application may not be safe. Always protect the skin with a tea towel. Ice for up to twenty minutes at a time, and wait an hour if you are going to repeat the ice application.

Physical Therapy

Physical therapy is not expected to heal a stress fracture. It works to gain/maintain strength in a safe and effective way, improve balance, and stretch the muscles that tighten over time due to the injury during/after the fracture has healed. A physical therapist can also help to reintroduce the athlete to impact activities in a safe manner.

Surgery

Although relatively uncommon, if surgery is required for your stress fracture to heal, this will be discussed in detail if you are a candidate.

References:

"Stress Fracture." http://legacy.aofas.org/footcaremd/conditions/ailments-of-the-midfoot/Pages/Stress-Fractures.aspx