Miami Valley Hospital
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The Sports Medicine Center

Keeping you informed about sports-related topics | **Spring 2011**

Athlete's Update

Shin Pain in the Athlete

By Roberta Kern, MD

Everyone wants to be outside as soon as the warm weather hits, whether it be for conditioning for a spring sport or training for that local marathon. In doing this training, pain in the shins is a common problem. The most common causes of shin pain include shin splints, stress fractures, and exertional compartment syndrome.

Shin splints (medial tibial stress syndrome) is characterized by diffuse tenderness over the inside aspect of the lower third of the tibia (bone pain near the inside part of the ankle). The condition itself may be an inflammation of either the muscles or bone involving the tibia (shin bone).

Common causes include:

- running and or jumping overuse (start of sport seasons),
- flat feet, shoes with poor support (especially in the arches),
- running on slanted surfaces/roads, muscle imbalances (tight Achilles),
- rapid increase in training, inadequate warm-up.

Treatment involves initially resting from activity, ice 2-3 times per day for 15 mins. at a time, and then starting anti-inflammatory meds (i.e. Advil) to decrease pain and inflammation. Sometimes crutches are necessary if walking is painful. One should seek care of a doctor if limping is involved, pain is intolerable, or symptoms persist. Imaging (bone scan or MRI) may be needed at that time.

Prevention is key, and should include stretching and strengthening exercises utilizing the achilles stretch, bent-knee stretch, pointed-toe stretch, heel walking, and heel raises. The school athletic trainer or local physical therapist can review these exercises in greater detail.

Stress fractures could be a possible cause of shin pain. This is one reason for seeing your doctor, and possibly getting imaging. The treatment of this is different than shin splints. A bone scan or MRI can show stress fractures. Treatment depends on the location of the stress fracture, but usually takes 4-8 weeks of immobilization in a walking boot as well as shutting down from the activity.

Exertional compartment syndrome (ECS) is a rare but possible cause of shin pain in the athlete. There are 4 main compartments of the lower leg (shin area) and each contains a major nerve and blood vessels. ECS pain is usually describes as tight, cramplike, or squeezing ache of a specific area that increases with increased training. Classically, symptoms are relieved with discontinuation of the exercise. ECS is not the easiest to diagnose, and thus athletes will likely get imaging and therapy prior to getting its test of choice, compartment pressure monitoring. Pressure monitoring is done in each of the four lower leg compartments before and right after exercise. Contributing factors to ECS include many of the same risk factors for shin splints, but a unique cause includes the rapid increase in muscle size due to fluid retention secondary to the supplement creatine. Treatment includes rest, ice, stretching/strengthening, and rarely surgery.

Dr. Kern specializes in Sports Medicine and Family Medicine. Dr. Kern is accepting appointments and is located at the EduCare Family Medicine office in Springboro.

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