Kid's Sports Corner
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Shin Splints in Young Athletes

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Shin splints or medial tibial stress syndrome is a very common cause of lower leg pain in individuals involved in running. It is an overuse condition which means it develops gradually over a period of time rather than due to an acute or sudden injury.

Shin splints are due to repetitive stress to the lower leg musculature resulting in inflammation of the attachment of muscle to the tibia or shin bone.

Risk factors for this condition include running on hard surfaces, too rapidly increasing running mileage, wearing worn out or non-supportive shoes, and running with improper form. Individuals with pronated or flat feet are also more likely to develop this condition.

The typical symptoms of shin splints are aching pain and tenderness over the medial aspect of the tibia. Initially the pain occurs only after running. As running activities continue, the pain is experienced both during and after running.

There are two other causes of lower leg pain that may occur in runners.

Exertional compartment syndrome also causes pain during running, but the pain goes away within a few minutes of stopping activity. There is also no tenderness of the leg in individuals with compartment syndrome.

Stress fractures of the tibia are another cause of lower leg pain. The pain is experienced during a run as well as after running. Patients with a stress fracture also have soreness of the lower leg, but with a stress fracture there is point tenderness at one spot, as opposed to patients with shin splints in which there is tenderness over an area usually measuring at least one inch in length.

Are X-rays necessary?

In the evaluation of a patient with lower leg pain, radiographs may be ordered by the physician to help determine the diagnosis or rule out other causes of leg pain. In patients with shin splints, radiographs are usually normal.

What Can Be done?

Treatment of shin splints is conservative with rest from running, especially if there is pain during running.

Application of ice can also help relieve the pain. Ice massage can be performed by freezing a Styrofoam cup of water, tearing off the rim of the cup, and using a gentle circular motion to massage the leg with ice for 5 to 10 minutes.

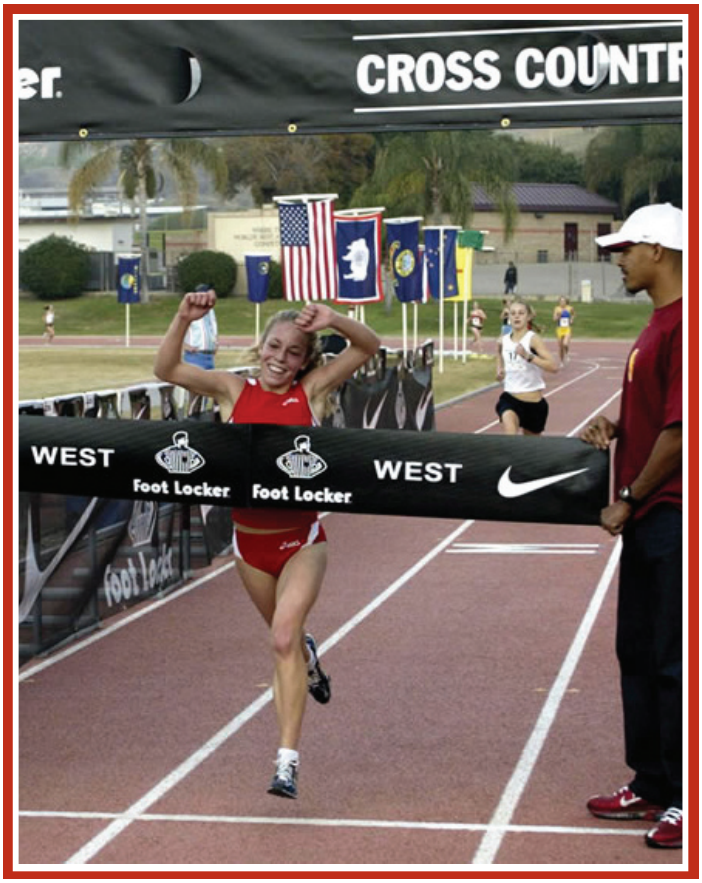
Anti-inflammatory medication may also help relieve the pain of shin splints. The physician may suggest an over-the-counter

Continued on page 2

medicine such as ibuprofen or naproxen or possibly prescribe a medicine.

Rehabilitative exercises such as lower leg stretches and heel walking can also help with management of this condition.

When the pain subsides, running activities may be resumed. The individual should be careful to progress the running distances very slowly, over a period of weeks. The surfaces to be run on should



be soft and level. It is important that well- cushioned, supportive shoes be worn during activities. Arch supports and shin sleeves are also effective in preventing the pain during running.

Tips for runners in treating and preventing shin splints

- Never try to run through the pain, it will only get worse and may to progress to a stress fracture.
- The period of rest may be as much as 4-6 weeks. During this time, cross-training is usually well tolerated in the form of biking, swimming, or using a low-impact elliptical machine.
- Keep your training on level ground, preferably on a rubberized cushioned track or a grassy cross-country trail. Running hills, stadiums, bleachers, or on hard pavement may increase the risk of developing shin splints
- Keep your running shoes in good repair. They should be replaced every 350 miles or each year, whichever comes first.
- Add some extra shock absorption to your shoes in the form of cushioned arch supports, especially if you have low arches, or pronate.
- Try a compressive wrap such as a ace bandage or a weave-type tape job over your shins while running. Some athletes get relief with this.
- When starting a new running program, or returning after an injury, make sure you increase your mileage *gradually*, with increases no more than 10-15% per week.

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Dr. Bill Primos is a board certified pediatrician and certified diplomate in sports medicine. He received his Medical Degree from the University of Mississippi. He completed a pediatric residency at the University of Mississippi Medical Center and a sports medicine fellowship at the University of Wisconsin. He has been in private practice, primarily in sports medicine and musculoskeletal medicine, for the past nineteen years. He presently practices with Children's Orthopaedics of Atlanta at Children's Healthcare of Atlanta. For a full bio on Dr. Primos, visit www.childrensortho.com.

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