



Pediatric and Adolescent Sports Medicine Update

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Shin Splints in Young Athletes

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Medial tibial stress syndrome, or “shin splints”, is very common in young athletes involved in any running activities. 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 muscles resulting in inflammation of the attachment of muscle to the tibia or shin bone.

Risk factors for this condition include running on hard surfaces, increasingly running mileage too rapidly, 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.

What are the symptoms of shin splints?

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

Your doctor will diagnosis shin splints based on symptoms, clinical examination, and x-rays. X-rays may be ordered by your doctor to confirm the diagnosis or to exclude other problems.



Treatment Options: Treatment options for shin splints include anti-inflammatory medication, applying ice to the shin, and rest from running. There are rarely any complications and symptoms generally resolve over time.

Medication: Taking anti-inflammatory medicine or NSAID (non-steroidal anti-inflammatory drugs) such as Motrin, Advil, or Aleve as directed by your doctor may be helpful. This medication should be taken for 10 to 14 days to allow the medicine to build to therapeutic levels in the body.

Icing

- Ice packs or ice massage can be applied to the shin immediately after the activity for 15 minutes. This can be repeated every 30-45 minutes, several times a day.
- Ice massage is performed by filling several paper cups with water and placing them in a freezer. When frozen, the cup's rim is torn off to create a ice cone. The ice is then directly applied to the sore area and massaged until the area becomes numb.

Activity Modification: Symptoms may be relieved by avoiding activities that cause the pain.



Tips for young athletes to help treat and prevent shin splints:

- Never run when you are experiencing pain, it will only get worse and may progress to a stress fracture.
- Rest may be required for 4 to 6 weeks. During this time, cross-training is usually well tolerated. Biking, swimming, or using a low-impact elliptical machine are all examples of cross-training.
- Keep the 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 or worsening shin splints.
- Keep your running shoes in good repair. Your shoes should be replaced every 500 miles or every year, whichever comes first.
- Add some extra shock absorption to your shoes in the form of cushioned arch supports, especially in young athletes with low arches or whose feet pronate.
- Try an ace bandage or compression wrap over your shin 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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