

# Preventing Shin Splints

## How to Prevent Shin Splints



A shin splint, which is also known as tibial stress syndrome, refers to a painful shin injury that may occur due to overexerted muscles in the lower legs, having flat feet, an increased body mass index (BMI), or a stress fracture.

Runners, dancers, basketball players, and military personnel frequently suffer from shin splints.

Although risk factors such as engaging in certain activities (e.g., jogging, military training, playing basketball) increase the risk of experiencing shin splints, there are a number of strategies that help prevent this type of injury from occurring.

Let's take a closer look at a few useful strategies.

### **Wear Shoes That Offer Proper Support**

One of the key ways to avoid shin splints is by wearing shoes that are designed to offer optimal support of the feet. Research indicates that proper cushioning fitness shoes help stop shin injuries, while certain types of athletic shoes such as spiked sneakers are linked to a higher incidence of shin splints, runner's knee (chondromalacia), knee pain (iliotibial band syndrome), plantar fasciitis (jogger's heel), and Achilles tendinitis.

Fitness shoes or boots that keep the foot leveled during movement, but also decrease excessive flexing of the arches in the feet, reduce pressure on the shins during activity. Therefore, active individuals have to ensure that they are wearing shoes that fit properly and provide the right amount of support for the arch of the foot. Boots worn by military personnel are designed for those who spend long hours on their feet and protect the ankle and foot from the hazards of military training and active duty. The key thing is to pick the

appropriate shoe best matched for your main activity, particularly if you experienced foot or lower leg pain in the past. In addition, the use of shock-absorbing insoles has been shown to lower the incidence of shin splints.

### **Warm Up and Perform Dynamic Stretching**

Before engaging in a sport or recreational activity, it is important to warm-up and stretch the muscles. Gently jogging in place or doing a few minutes of jumping jacks, lunges, and squats helps warm up the muscles and prepares the heart, lungs, and circulatory system for exercise.

After warming up, dynamic stretches should be performed as this allows muscles to begin to gently engage in a full range of motion. Dynamic stretching involves controlled movements that actively lengthen the muscles and improve overall flexibility and preparedness for activity.

Research shows that the combination of a warm up and dynamic stretching helps reduce injuries and increases the range of motion in the joints. However, static stretching should be avoided as this slows down the muscle firing rate before the activity even begins, instead of working it up to speed. Dynamic stretches that are beneficial for the legs and may be quite useful for runners, dancers, military personnel, etc., include leg pendulums, the jog to quad stretch, the plantar flexor stretch, and front lunges. Another important point to remember is that if intense, sharp pain starts to develop in the shins during exercise, the activity should be discontinued if pain free movement can't be re-established quickly. Try taking a brief rest to do some mobility work or stretching and see if your activity can be resumed.

### **Get Professional Advice**

Getting a proper biomechanical assessment of your walk or run stride by a physiotherapist can prevent a persistent shin splint from developing. In the event that a shin splint occurs, physiotherapy is a great choice for developing strategies for pain management, efficient movement and strengthening to recover, and decreases the risk of experiencing shin splints again in the future.

### **References**

1. Hamstra-Wright KL, Bliven KC, Bay C. Risk factors for medial tibial stress syndrome in physically active individuals such as runners and military personnel: a systematic review and meta-analysis. *Br J Sports Med.* 2015;49(6):362-9.
2. Winkelmann ZK, Anderson D, Games KE, Eberman LE. Risk Factors for Medial Tibial Stress Syndrome in Active Individuals: An Evidence-Based Review. *J Athl Train.* 2016;51(12):1049-1052.
3. Greensword M, Aghazadeh F, Al-Qaisi S. Modified track shoes and their effect on the EMG activity of calf muscles. *Work.* 2012; 41 Suppl 1:1763-1770.
4. Rome K, Handoll HH, Ashford R. Interventions for preventing and treating stress fractures and stress reactions of bone of the lower limbs in young adults. *Cochrane Database Syst Rev.* 2005; (2):CD000450.
5. Perrier ET, Pavol MJ, Hoffman MA. The acute effects of a warm-up including static or dynamic stretching on countermovement jump height, reaction time, and flexibility. *J Strength Cond Res.* 2011; 25(7):1925-1931.
6. Behm DG, Blazevich AJ, Kay AD, McHugh M. Acute effects of muscle stretching on physical performance, range of motion, and injury incidence in healthy active individuals: a systematic review. *Appl Physiol Nutr Metab.* 2016;41(1):1-11.
7. Thacker SB, Gilchrist J, Stroup DF, Kimsey CD. The prevention of shin splints in sports: a systematic review of literature. *Med Sci Sports Exerc.* 2002; 34(1):32-40.