

Shin Splints

To the savvy exerciser, this familiar expression has come to represent an overuse syndrome which causes a painful burning sensation along the front of the lower leg. To the new exerciser, this term does little to explain the actual problem.

The "shin splints" we have come to know and hate are now technically referred to as Medial Tibial Stress Syndrome. Pain is felt along the lower third of the inside border of the shin bone (tibia). Whether or not the source of the pain is a result of some trauma to either the tibialis posterior muscle or the soleus muscle and their attachments, is still unclear. However, the similar functions of these muscles makes them susceptible to the same movement stresses. Individuals whose feet hyperpronate (ankles roll in), for whatever reason, are at higher risk of developing this syndrome.

Not all lower-leg pain is "shin splints". Pain along the outside border of the shin is known as Anterior Tibial Strain. This condition is common among new exercisers who take on too much too soon. ATS is associated with a weak anterior tibialis muscle in relation to the posterior muscles, as well as a tightened Achilles tendon. Again, RICE and strengthening/stretching exercises of the affected muscles is warranted.

Another possibility of lower leg pain is referred to as Compartment Syndrome. The musculature of the lower leg is divided into four separate compartments by sheaths of connective tissue. The individual compartments are designated as "anterior", "anterolateral", "deep posterior", and "superficial posterior" - each containing muscles specific to the area. Compartment Syndrome is associated with pain accompanied by numbness, weakness, or tenseness in one or more of the areas. If compartment pressures become very high, surgery may be necessary.

Stress fractures are another possible cause of pain. These may occur at various sites in the leg and foot. Symptoms include pain which begins with the onset of activity, worsens as the activity continues, and eventually causes cessation of activity.

"Shin splints" are often a sign that an individual is "doing too much too soon". The condition can arise as a result of sudden increases in activity (increased mileage for runners, more classes for dancers, etc.). In fact, any change in routine can bring on an episode of "shin splints." If someone who has been running on sidewalks for 10 years suddenly switches to a soft, resilient indoor track, problems could occur. Even new shoes might cause problems. Have someone check your form/technique for possible clues, too. Many make the mistake of staying on the balls of their feet all throughout an aerobic dance class. Again, this increases the amount of stress on the tendon struggling to hold up the arch of the foot. It is crucial that with each step the heel is lowered all the way to the floor in order to relieve the pull on the posterior tibial muscle.

Individuals with flat feet are also highly prone to shin splints. The foot tends to roll over inward (pronate) with each step, increasing the work of the posterior tibial muscle. This problem is correctable with the addition of an arch support or orthotic. Another condition that might lead to shin splints is tight and/or shortened calf muscles. The tight muscles tend to pull the heel of the foot up, adding to the stress on the posterior tibial tendon. The problem is common in women who wear high heels regularly.

Treatment almost always involves rest for at least a week. During painful episodes, RICE is important for controlling inflammation. Massaging the affected area with ice twice a day for 10-20 minutes is recommended by most physicians. Stretching and strengthening exercises of the posterior muscles of the lower leg are helpful in prevention and rehabilitation of the syndrome. Helpful exercises include heel raises with the toes on a stair, plantar flexion against resistance, and gathering a towel under the foot by flexing the toes. Stretching can be done by leaning against a wall in a lunge with your foot placed flat on the floor directly behind you, and/or standing on a step and allowing the heels of your foot to lower down towards the step below. If pain continues for more than a week, it is a good idea to check with your physician. Anyone experiencing any of these syndromes should re-evaluate activity level and exercise technique, in addition to seeking medical assistance if needed.