

Dr. Shockley's Health Tips

SHIN SPLINTS

Definition:

Inflammation of the muscle attachments and interosseous membranes to the tibia (shin bone) on the inside of the front of the lower leg. Note: “shin splints” is a very widely used phrase and can refer to several lower leg injuries. It’s a generic catchall term referring to leg pain brought on by any running or jumping activity. “Shin splints” is more of a symptom than a diagnosis. The focus of this description is specifically on the inflammation described above.

Symptoms:

Pain or tenderness along the inside of the shin that occurs during specific activity & increases during the activity. Initially the pain is relieved with rest, as the condition worsens the pain becomes constant & can even occur at night. Pain on palpation (touch) of the shin & with passive (someone/something else doing the stretch) stretching. Pain is most severe at the start of a run but may disappear during the run as the muscles loosen up. This is different from a stress fracture where the pain will be continuous throughout weight-bearing activities (walking, running). Swelling is rare. Small lumps or nodules along the muscle attachment to the tibia may be present & could be an indication of a more severe situation (compartment syndrome).

Causes:

Repetitive impacts, most commonly in a runner, aerobic dancer, or other running/jumping sports, gymnastics, volleyball, basketball. Running long distances, hills, on hard &/or uneven surfaces, changes in routine or new activity, poor shoes, poor conditioning or inadequate warm up can also cause this problem to occur. Overpronation (feet roll inward too much upon impact) & overuse leads to increased stresses on muscles & connective tissues in the muscle/tendon/bone complex, which causes myofascitis (inflammation of muscles), tendinitis (inflammation of tendons), and periostitis (inflammation of bone covering) & ultimately results in pain. Also can occur from weak tibialis anterior, tight gastrocnemius/soleus, tight or weak quads or hamstrings.

Self-Treatment:

If pain is mild, reduce high impact mileage, hills & intensity. If the pain is severe, stop running for a 1-2 week period & then resume training gradually. Apply ice to the shin area for 15-20 minutes or until the skin first feels numb every 2 hours & after activity to help reduce inflammation. Self-massage with arnica, biofreeze or another anti-inflammatory lotion to the muscle only (along side of the shin). Gentle stretching of the calf muscles. Get appropriately fitted shoes (involves gait analysis). Wear lycra/polypropylene tights or some other form of elastic compression while performing activity. Return to training gradually. Full recovery is usually between 2-4 weeks.

Medical Treatment:

If your injury doesn't respond within 2 weeks, go see a sports certified chiropractor (CCSP or DACBSP), MAT (Muscle Activation Techniques) therapist or physiotherapist. Then upon his/her recommendation, see a physiotherapist or orthopedic surgeon. These doctors have access to several modalities to aid the healing process & further evaluate the severity of the condition.

Alternative Exercises:

Swimming, pool running, cycling (in low gear) "spinning". Avoid or do very little weight-bearing exercises.

Preventative Measures:

Proper warm up, microprogress your way into your activity (i.e. If you're going to be running, start first with walking, then jogging, then running). Light stretching after running of the gastrocs (keep knee straight) & of the soleus (keep the knee bent) will aid in keeping the muscles loose. Have your shoes fit (someone who will do a gait analysis, put you on a treadmill, etc). Strengthening of foot & calf muscles: 1) Place a weight around the foot & move foot up & down from the ankle, with no movement in the rest of the leg. Or use a partner to grasp the foot and provide manual resistance. 2) Band exercises. Anchor one end of an exercise band (i.e. inner tubing of bicycle) to a heavy object, such as the leg of a couch. Loop the other end around the foot. Move the foot up, down, & from side to side against the band's resistance to exercise different muscle groups. Gradual progression of your training program & incorporate rest time into your training program as well. Avoid excessive hill training & speed work.

References:

Vizniak, N. & Carnes, M. Quick Reference Clinical Chiropractic Conditions Manual. Canada: DC Publishing International; 2004: 137-188.