



Orthopaedic Surgery & Sports Medicine

Tibial stress syndrome (shin splints)

Description

Shin splints is a term broadly used to describe pain in the lower extremity brought on by exercise or athletic activity. Most commonly it refers to medial tibial stress or periostitis. Periostitis is inflammation of the lining of the bone (periosteum).

Common signs and symptoms

- Pain in the front or more commonly the inner part of the lower half of the shin (lower leg), above the ankle.
- Pain that initially occurs after exercise, progressing to pain in the beginning of exercise that lessens after a short warm-up period.
- With continued exercise and left untreated, constant pain that eventually causes the athlete to stop sports participation.

Causes

- Overuse from repetitive activity, which leads to breakdown of the tissues.
- Re-injury from continued activity, not allowing the breakdown of tissues to be repaired. This breakdown exceeds the ability of the tendon and periosteum to heal completely, resulting in increased inflammation and pain.

Risk increases with:

- Weakness or imbalance of the muscles of the leg and calf
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up and stretching before practice or play
- Sports that require repetitive loading or running, such as marathon running, soccer, walking and jogging, particularly on uneven terrain or hard surfaces (concrete)
- Lack of conditioning early in the season or practice
- Poor running technique
- Flat feet
- Sudden change in activity level, distance, or intensity

Initial treatment:

Consists of medications and ice to relieve pain; stretching and strengthening exercises of the foot, ankle, and leg; rest; and modification of the activity that initially caused the problem. These can all be carried out at home for acute cases, although referral to a physical therapist or athletic trainer for further evaluation and treatment may be recommended. Arch supports (orthotics) for those with flat feet may also be indicated. Occasionally, taping, casting, or bracing the leg may be recommended. Gradual return to activity is allowed after symptoms are resolved. Rarely, surgery is attempted to remove the chronically inflamed tissue.

Medication

Nonsteroidal anti-inflammatory medications such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur. Topical ointments may be of benefit. Pain relievers may be prescribed as necessary by your physician. Use only as directed and only as much as you need.

Heat and cold

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage. Cold should be applied for the first 72 hours after initial injury.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak. Do not use heat if inflammation (swelling) is present.