

MEDIAL 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).

FREQUENT 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. The pain initially occurs after exercise. This progresses to hurt in the beginning of exercise and lessens after a short warm up period. With continued exercise and left untreated, pain becomes constant and eventually causes the athlete to stop participation.

CAUSES

Overuse from repetitive activity leads to breakdown of the tissues. Continued activity, before the breakdown can be repaired, leads to inflammation of the periosteum (lining of the bone) and the tendon insertions into the bone and its lining. This breakdown exceeds the ability of the tendon and periosteum to heal completely resulting in injury, more inflammation and pain.

RISK INCREASES WITH

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

PREVENTIVE MEASURES

- Appropriate warm-up and stretching before practice or competition.
- Appropriate conditioning including leg and ankle flexibility, strength and endurance as well as cardiovascular fitness
- Proper shoe fit with adequate cushioning
- Cushioned arch supports
- Proper technique / coaching
- Gradual increase in activity
- Run on surfaces that absorb shock, such as grass, composite track or sand (beach).

EXPECTED OUTCOME

Usually curable with appropriate treatment and slow return to activity. This may take 2 weeks to 2 or more months.

POSSIBLE COMPLICATIONS

- Frequent recurrence of symptoms resulting in a chronic repetitive problem. Appropriately addressing the problem the first time decreases the frequency of recurrence.
- Healing time will be prolonged if not appropriately treated or if not given adequate time to heal.
- Performance will be affected and may even have to stop performing due to pain if activity is continued without treatment.

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain, stretching and strengthening exercises of the foot, ankle and leg, rest and modifying the activity which initially caused the problem to occur. Particularly, strengthening the muscles that turn your foot and ankle inwards are a key goal of rehabilitation. These can all be carried out at home for acute cases, though 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. Slow return to activity is allowed after pain is gone. Rarely, surgery is needed to remove the chronically inflamed tissue.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs.
- 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 - 15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms and after doing the rehabilitation exercises. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

NOTIFY OUR OFFICE IF

- Symptoms get worse or do not improve in 4-6 weeks despite treatment
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.



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