

Medial Tibial Stress Syndrome (MTSS)

This term is correlated to pain that is along or just on the inside of the shin bone (tibia), which is the large bone in the front part of your lower leg. The syndrome can occur during any type of physical activity. It results from an excessive amount of force being placed on the shinbone and the connecting tissues that attach the bone and the muscles together. The syndrome commonly occurs in runners and those who participate in activities that have a lot of sudden starts and stops, such as soccer, tennis or basketball.

The more common name for MTSS is shin splints. The less common name is medial distal tibial syndrome. Shin splints are micro-fractures along the tibia that occurs from repetitive sports or excessive weight bearing. If shin splints get worse they can develop into small stress fractures.

The risk of getting the syndrome isn't a reason why you should give up your morning aerobics class or afternoon jog. Most of those who end up with the syndrome can easily treat the problem with an array of self-care measures. Modifying your exercise routine and wearing the right footwear can prevent it from happening again. However this condition is far more commonly affected by high-level athletes who train every day. Jumpers and sprinters are the most commonly affected.

Medial Tibial Stress Syndrome Anatomy

Four bones make up the entire leg: thighbone (femur), kneecap (patella), thick bone on the front of the lower leg (tibia), and the thin bone along the side of the lower leg (fibula). Below the knee are the fibula and the tibia. The muscles within the lower leg are responsible for movement of the ankle and the foot. The back part of the lower leg is referred to as the calf. The tibialis anterior and tibialis posterior attach to the shin bone, and attachments of these muscles can pull against the shin bone exacerbating the problem.

The gastrocnemius is the calf's largest muscle. It is attached to the femur along the back of the knee before turning into the Achilles tendon, which is attached to the heel. Thanks to the gastrocnemius, the leg is able to flex at the knee. A short tight calf muscle can also contribute to shin splints.



How to Treat Medial Tibial Stress Syndrome (MTSS):

1. Rest

Avoid participating in activities that cause swelling, pain and discomfort, but don't eliminate all physical activity in its entirety. While healing, consider trying low-impact exercises. Use crutches until you are able to walk without a lot of pain.

2. Ice

Apply ice to the affected shin for 5-10 minutes at a time three to five times per day. To protect your skin, wrap the ice in a thin towel.

3. Minimize Swelling

Elevating the affected shin above heart level, especially during the nighttime hours. It also helps to compress the area using an elastic bandage. If the pain increases or it becomes swollen or numb below the wrapped area, loosen the bandage.

4. Therapy

Physical therapy, chiropractic, osteopathy and sports rehabilitation can all be very beneficial. Therapists can work in many different ways to address the problem.

- Firstly, any issue with the foot knee or hip might be checked. Changes in these joints can affect gait and weight bearing through the tibia. If foot biomechanics or pelvic biomechanics are out, this places excess strain on your legs.
- Secondly, gait can be addressed for poor technique. This might also involve the consultation of a running coach.
- Thirdly footwear and trainers might be checked to ensure they work for your feet and sports requirements.
- Orthotics may be considered for long standing sufferers to alter the forces going through the feet and minimize stress on the tibia.
- Fifth, tightness in the calf muscles and shin muscles might be addressed to reduce strain on the shin.
- Sixth, strength exercise for the leg might help to improve force transference.

Tips:

- Taking an over-the-counter pain reliever will help in reducing pain and inflammation. But should only be used short term.
- You might need to get a shoe that is specially designed to fit your exact type of foot, sport and stride.
- Arch supports can provide you with cushioning and work to disperse the stress placed on your shinbone.
- Resume all of your normal activities slowly. If the area isn't all the way healed, you might experience continued pain when returning to normal activities.
- Cross-train with a sport that doesn't place as much impact on your shins, such as walking, swimming or biking. Start any new activity slowly and increase intensity and time gradually.