

Thompsonhealth Sports Medicine Center

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ATHLETIC TRAINING CORNER

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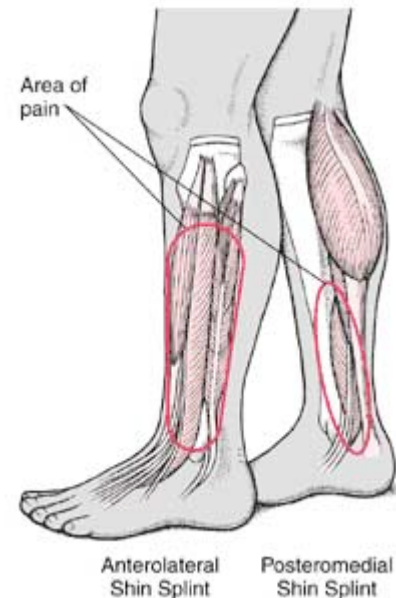
SHIN SPLINTS

What are Shin Splints?

The term "shin splints" is often used to describe a variety of lower leg problems. However, it actually refers specifically to a condition called Medial Tibial Stress Syndrome (MTSS).

The main components of the lower leg that are affected by the pain associated with shin splints are the tibia and fibula, as well as the muscles that attach to them. When these muscles are overworked, they can pull on the tibia and fibula and cause pain.

Shin splints cause dull, aching pain in the front of the lower leg. Some people feel it only during exercise, others when they've stopped exercising. Sometimes the pain is constant. Pain may be located along either side of the shinbone or in the muscles, and the area may be painful to the touch. Swollen muscles can sometimes irritate the nerves in the feet, causing them to feel weak or numb.



What causes Shin Splints?

Overload: Shin splints are commonly associated with sports that require a lot of running or weight-bearing activity. However, it is not necessarily the added weight or force applied to the muscles and

tendons of the lower leg, but rather the impact force associated with running and weight-bearing activities.

In other words, it's not the running itself, but the sudden shock force of repeated landings and change of direction that cause the problem. When the muscles and tendons become fatigued and overloaded, they lose their ability to adequately absorb the damaging shock force.

Other overload causes include:

- Exercising on hard surfaces
- Exercising on uneven ground
- Beginning an exercise program after a long lay-off period
- Increasing exercise intensity or duration too quickly
- Exercising in worn out or ill-fitting shoes
- Excessive uphill or downhill running

Biomechanical Problems: The major biomechanical problem contributing to shin splints is that of flat feet. Flat feet lead to over pronation, which occurs just after the heel strikes the ground. The foot flattens out and then continues to roll inward. This excessive inward rolling causes the tibia to twist, which in turn over-stretches the muscles of the lower leg.

Other biomechanical causes include:

- Poor running mechanics
- Tight, stiff muscles in the lower leg
- Running with excessive forward lean
- Running with excessive backwards lean
- Landing on the balls of your foot
- Running with your toes pointed outwards

Shin splints are very common, especially in runners and dancers. They're the cause of 13% of all running injuries.

Treatment

Although shin splints may be caused by different problems, treatment is usually the same: Rest your body so the underlying issue heals. Here are some other things to try:

- **Icing the shin** to reduce pain and swelling for 20-30 minutes every three to four hours for two to three days, or until the pain is gone
- **Non-steroidal anti-inflammatory drugs (NSAIDs)** – like ibuprofen, naproxen, or aspirin – will help with pain and swelling
- **Arch supports for your shoes** can be custom-made or bought off the shelf and may help with flat feet

- **Neoprene sleeves** can support and warm the legs
- **Exercises** can improve flexibility and strengthen the muscles of the lower leg:
 - Heel Walk
 - Toe Walk
 - Ankle Pumps (with band)
 - Calf Stretch
 - Ankle dorsiflexion stretch against wall
 - Toe Raises

When Will I Feel Better?

It depends on what's causing your shin splints and the rate at which you heal. Sometimes it can take months. The most important thing is not to rush back into your sport. While you heal, you could take up a new non-impact activity that won't aggravate your shin splints, such as swimming.

Your shin splints are fully healed when:

- Your injured leg is as flexible as your other leg
- Your injured leg feels as strong as your other leg
- You can jog, sprint and jump without pain
- Your X-rays are normal or show that stress fractures have healed

Prevention is the best option!

- Always wear shoes with good support and padding
- Warm up before working out, making sure to stretch the muscles in your legs
- Stop working out as soon as you feel pain in your shins
- Don't run or play on hard surfaces like concrete