



## SHIN SPLINTS

### What is it?

Tibialis Anterior and/or Tibialis Posterior tendonitis or “shin splints” generally refers to pain anywhere along the shin-bone (tibia) between the knee and the ankle. It occurs as a result of damage and inflammation of the tendons and muscles that run up the shin. Shin splints is commonly seen in runners and athletes.

Signs and symptoms may include pain along the front inside edge of your shin. You may also have pain on the inner back side of your leg. The area may be tender to the touch and in some cases can become red and swollen. You may be able to reproduce the pain of shin splints by pointing your foot and toes down, but it is mostly aggravated by activity and exercise. Your doctor may consider an x-ray to rule out stress fractures and other conditions.

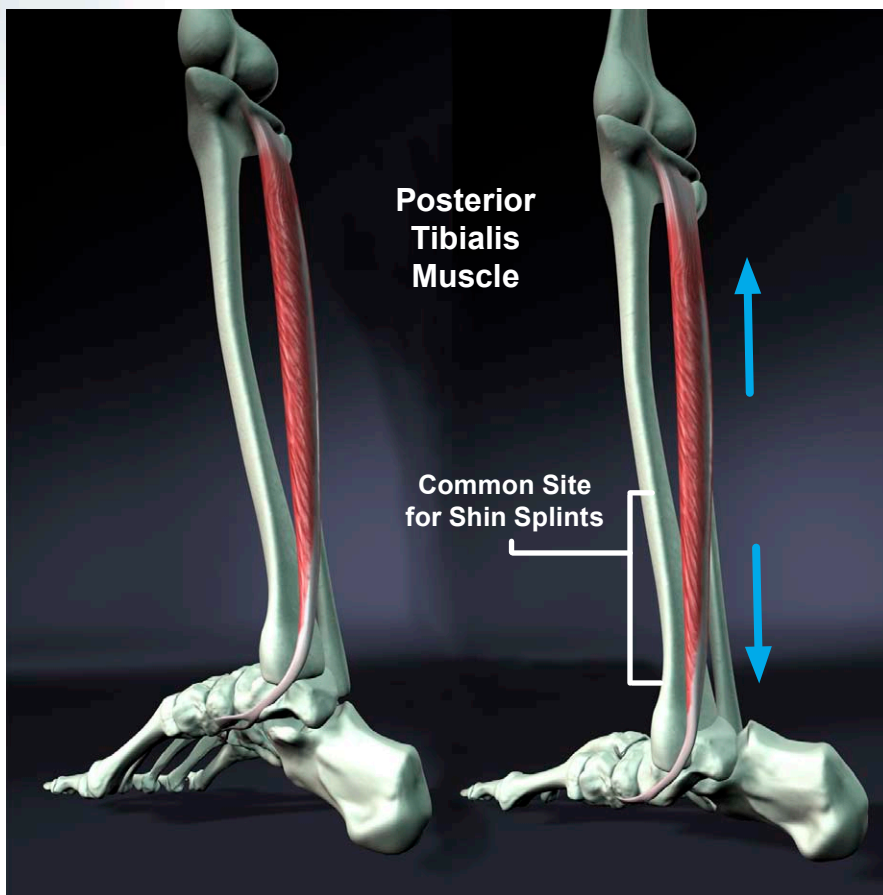
### How did I get it?

The primary cause of shin splints is the overuse of the involved muscle and tendon. This can happen with an increase in exercise levels, repetitive movements as in running and other stresses to the lower leg such as hard or changing running surfaces.

Another major contributor to shin splints is over-pronation or arch flattening. The muscles in your leg that are primarily involved are the tibialis anterior and tibialis posterior muscles. These muscles help support your arch. When your arch flattens these muscles can become overworked and start to break down causing pain and inflammation.

### How is it treated?

There are two main concepts in the treatment of shin splints: 1) the decrease of pain, inflammation or swell-



*Normal Arch: note relaxed position of muscle and height of arch*

*Flattened Arch: the muscle is stretched and pulled to the inside of the foot*

ing and 2) addressing the cause of the condition.

**Exercise:** Stretching and strengthening exercises are aimed at lengthening and strengthening muscles in your lower leg to take the stress off your shins. Exercises that make your muscles stronger are usually effective in prevention of a recurrence once your shin

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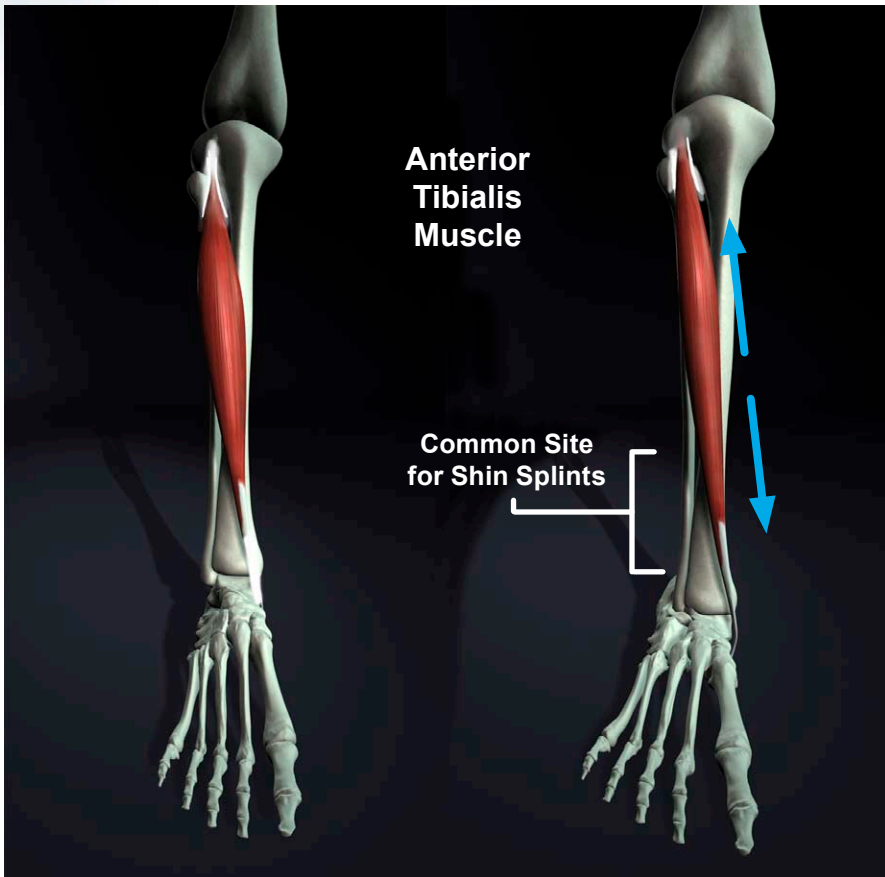
splints have healed.

**Anti-Inflammatory Agents:** These may include ice and oral anti-inflammatory medications. Ice can be applied directly to the painful areas of your shin. A compressive elastic bandage can be helpful if there is any swelling. These may provide some temporary relief from the pain of inflammation, but are not helpful in addressing the underlying causes of your condition.

**Rest and Avoidance:** Rest is often recommended to reduce inflammation and swelling. You may be advised to decrease your training time or distance until your shins have a chance to heal. You may also be advised to avoid activities such as running and try biking or swimming until your shin can heal. It is important to remember that although rest may decrease your pain temporarily, it does not address the reason why you have shin splints.

**Surgery:** In very rare cases that do not respond to conservative measures, surgery may be considered to repair muscles and tendons that are severely damaged.

**Custom Foot Orthotics:** Properly designed biomechanical orthotics (the kind that actually change how your foot functions) are often the most effective treatment of shin splints. The right orthotic will address *both* the current painful condition and prevent re-occurrence of the problem over the long term. A *Sole Supports*™ orthotic will cradle your arch –thereby relieving the stress of the muscle you have damaged. This is most effective in correcting the structural origin of the problem: loss of arch height. A combination of foot orthotics (to address the cause of your shin



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splints) and therapies (to decrease the inflammation) is the most effective strategy.

### How long will it take to heal?

This depends on how long you have had the problem (chronicity) and how active you are. By correcting the cause of your problem with a *Sole Supports*™ foot orthotic, you can expect 50-70% relief the first month, 70-90% the second month and 90-100% the third.

*This handout provides a general overview on this topic and may not apply to everyone. To find out if this condition applies to you and to get more information on this subject, talk to your health care provider.*