

Shin Splints.

What are shin splints?

A large number of football players develop or experience pain in the shin. There are several types of injuries that may develop in this area as a result of the repeated strain of training or running. ‘Shin splints’, ‘stress fractures’ and ‘chronic compartment syndrome’ – are all names given to shin pain and all have a common mechanism of development.

Generally shin splints are the name given to pain at the front of the lower leg or along the inside or outside of the shin. The usual location however, is along the lower half of the shinbone. The most common cause is inflammation of the periosteum (sheath surrounding the bone) of the tibia (the large bone in the leg) (See Figure 1). The injury is generally an overuse injury and can be caused by running on hard surfaces, a poor running style, or an increase in the amount of running or training. If a player over pronates (their foot rolls excessively inwards) then the player may also be more susceptible to shin splints. All these aforementioned factors lead to muscle

fatigue, which may then progress to higher forces being applied to the periosteum, then to the attachment of the periosteum to bone and finally the bone itself.

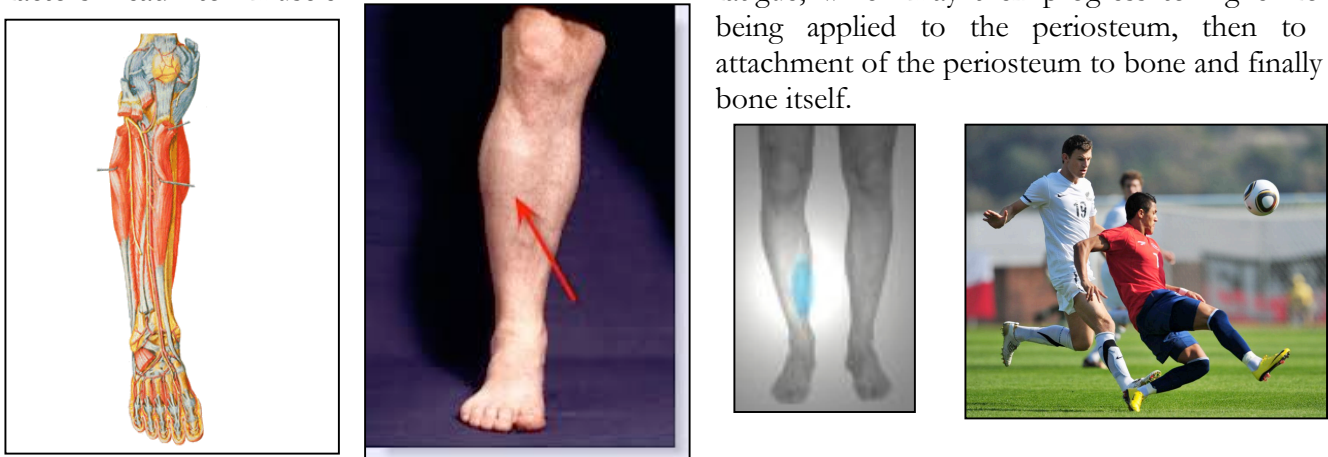


Figure 1: “Site” of Shin Pain

If a player can understand the circumstances that cause these symptoms – then the preventative measures needed to avoid shin splints are controllable.

The Symptoms of Shin Splints?

In the early stages of shin splints a football player will describe a pain that is present when the training first begins, but then disappears as the training continues. The pain will often return after training or a game or the next morning. As the injury progresses the player will experience more and more time with pain and less

time pain free. There is frequently a tender zone along the inside of the shinbone. If the player continues training and playing the pain may become quite sharp and may focus on a very small area of the bone. If this happens a stress fracture may have occurred.

Some common symptoms of shin splints –

- Tenderness over the inside or outside of the shin.
- Occasionally swelling on the inside of the leg.
- ‘Lumps and bumps’ over the shinbones and muscles.
- Pain when your toes or foot are bent downwards.

Too much running or excessive training with poor or inadequate recovery, often leads to shin splints. Excess and inadequate are relative terms and must be judged against the individual’s normal soccer training routine. Different training surfaces can also cause shin splints. Generally, that harder the running surface the greater the energy of force on the shinbones.

What can the player do to prevent shin splints?

To prevent or reduce the severity of this condition, the player must have an understanding of the underlying or contributing factors, so that an effective preventative rehabilitation or prehabilitation program can be established. Some things a soccer player can do to help are:

- Rest.
- Apply ice in the early stages when it is very painful.
- Wear shock-absorbing insoles in shoes or an orthotic.
- Maintain fitness with other non-weight bearing exercises (Eg cycling).
- See a sports professional who can advise on treatment and rehabilitation (physiotherapist, sports doctor, or podiatrist).



Strapping

What can a sports professional do about it?

- Analyze the player’s running style and training schedule.
- Use sports massage techniques – (Eg friction massage).
- Prescribe stretching and strengthening exercises to “correct” any underlying biomechanical anomalies.
- Strap or tape the ankle or shin for support.
- Prescribe anti-inflammatory medication.



Orthotics



The best treatment for shin splints is relative rest. Depending upon the severity it is often necessary to completely stop training or playing for a period of time. Generally this is done until day-to-day activities are pain free. When training is resumed, it must be significantly reduced from the original training schedule. The concept of relative rest employs lengthening the interval between training as well as decreasing the volume and intensity of training. The player can substitute cross training activities (cycling, swimming, gym work) for running and football training to help increase the interval between running days. There should be a graded and gradual increase in weight bearing training such as soccer and running. The player should not have a return

of their symptoms – if so a decrease in activity is necessary. The most important strategy is not to over train or repeat the mistakes of a players training schedule that lead to the injury.

Some other options that a sports professional may utilize to help you rehabilitate after shin splints are:

- Biomechanical. Has the physiotherapist or sports doctor checked the player for excessive inward angle of your leg and other foot conditions such as a fallen arch, high arch or low arch? Weak muscles and poor running style are often associated with shin splints. Instruction on proper and efficient running mechanics can be helpful.
- Equipment. Does the player’s shoe or boot provide adequate support for the foot – in particular the arch? Does the player’s shoe or boot provide adequate control and shock absorption qualities? Proper fit and adequate support of a player's shoes is essential. A sports professional will be able to help you with your boots and running shoes.



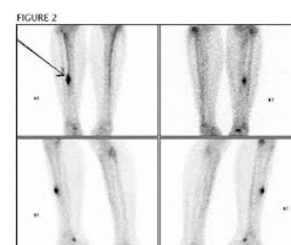
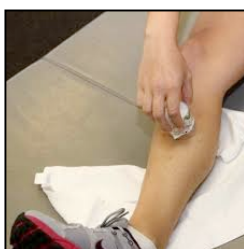
Aqua Jogging

- Muscular Strength and flexibility. Does the player have an appropriate flexibility and strengthening program? Flexibility exercises for the lower back, hamstring, Achilles and calf muscle groups are critical. Strengthening exercises for the knees, gluteal muscles, abdominal muscles and muscles of the lower leg are also important.

- Training schedule and program. Is the player’s training program designed to meet their specific physical requirements and enable the player to progress gradually? Do the factors of non-weight bearing training, swimming, aqua jogging & cycling provide a sufficient part of the rehabilitation program. Running and training on a grass surface whenever possible, rather than on hard concrete, footpaths or sand is also effective for preventing shin splints.



Ice Cups



A sports doctor can arrange a “bone scan” to help determine the underlying cause of the shin pain.

Anti-inflammatory medications along with rest and ice or ice massage can help reduce the inflammation, often associated with shin splints - particularly in the early stages. However, if the underlying causes such as tight muscles, poor training techniques, inappropriate equipment and any underlying biomechanical anomalies are not corrected or treated the likelihood of the pain and symptoms continuing are high. It is important you see a sports injury professional if you have shin splints that continue to reoccur.