Shin Splints

There is often a lot of confusion and misinformation whenever runners begin discussing shin splints, which is why I have asked Dr. Geoff Gamble to clear the air for us!

Please read this excellent article so you can be properly informed. Remember, a smart runner is a faster runner!

RUN!
Benny

The Dreaded Shin Splints

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Medial Tibial Stress Syndrome (MTSS), commonly known as shin splints, is a condition which has plagued runners for years. As a chiropractor who treats runners on a regular basis, MTSS is one of the most misunderstood and complicated conditions out there.

Anatomy

The confusion arises when trying to determine the actual factors that cause MTSS. Over the years there have been numerous proposed reasons but none have been solidly backed in the literature. Previous theories regarding the mechanism for MTSS have implicated muscles of the posterior lower leg. These muscles include, soleus, tibialis posterior and flexor digitorum longus. The difficulty occurs when we consider where runners feel pain with MTSS. This location is the the lower 1/3 of the inside of the tibia (shin bone)(see Fig 1). Recent studies however, have confirmed that this area is void of muscular attachments and therefore eliminates muscles as the primary culprit. On the otherhand, the same studies have shown that the Deep Crural Fascia (DCF) has strong attachments to the bone at this location.

Figure 1.

Current Theories on the Cause of MTSS

1. **Traction induced injury** – Traction/tension at the attachment point of the DCF. This traction/tension leads to inflammation of the fascia and irritation of the periosteum of the tibia. This may occur because of over training or from biomechanical dysfunction such as over pronation and weak gluteal muscles.

2. **Tibial microbending** – Opponents of the traction-induced injury theory have come up with Tibial Microbending as a potential cause. This causes increased reaction and stress along the concave (inner) side of the tiba. Although a relationship between tibial microbending and MTSS has not been firmly established, this mechanism has been shown to be closely related to the development of tibial stress fractures which has long been considered a complication of ignoring MTSS (the believed predecessor)

Treatment of MTSS

Seeing as neither theory has been definitively established as the cause of MTSS we must consider both when determining a treatment regime. In cases where runners are in a full blown case of MTSS, rest from the aggravating activity is advised. During the rest period the inflammatory process occuring within the fascia and tibia must be addressed. This may be achieved with ice, compression, anti-inflammatories, etc. Addressing tension in the DCF (Graston Technique® or Myofascial Release Techniques) and correcting biomechanical dysfunction (sometimes with orthotics) will help to reduce stress on affected structures. Once the tibial pain has subsided and a rehabilitation program to correct dysfunction has been completed, gradual reintroduction to activity can occur.

It is highly advised that individuals who plan to begin running do so with a coach who is educated in proper progression into the sport. By gradually increasing your running over the course of weeks and months you allow the body to adapt to the new stresses that are being placed upon it. If, however, you begin to experience pain in the inside of the shin, have it assessed by a trained clinician immediately. This will help reduce the chances of your MTSS from becoming a debillitating injury which may frustrate you away from running.

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