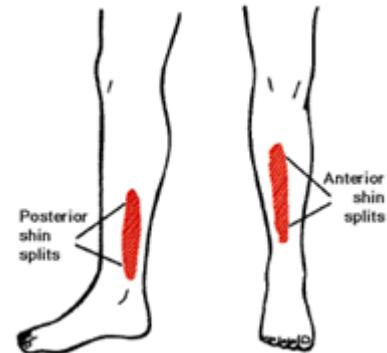


# What is Medial Tibial Stress Syndrome?



- Tibial stress syndrome, more commonly known as **shin splints**, is a common complaint for runners and people doing running based sports such as football or netball.
- This pain can be felt on the inner side of the shinbone is called 'medial/posterior shin splints'
- 'anterior shin splints' refers to pain felt on the outer side.



## What causes MTSS?

Tibial stress syndrome occurs when the muscles and connective tissues attaching to the shin (tibia) become overloaded and tighten up and **the tibial periosteum (outer layer of the bone) becomes irritated**.

The acute pain **is caused by irritation** (and sometimes inflammation) of the area **when there is an increase in load**. Our bodies are very adaptive and respond to changes in load by getting stronger. But when we increase by **too much, too soon they don't have time to adapt** so tissues and structures can become overloaded and irritated.

This change in load might look like a simple increase in volume of training or general activity or more subtle changes in activity levels.

Muscle weakness can also increase the load through the shin muscles and tibia:

- **The calf and foot muscles are super important** for supporting the area and weakness in this area can increase the load through the area
- The hip, knee and ankle all work together to create movement like squatting or running. If there is a deficit in one area it will increase the load in the others.
- Rate of force development (muscle power) is how quickly the muscles can switch on and contract. This is really important, particularly for running, because without good power we can't

absorb the load with each step we take and this increases ground reaction forces and load through the plantar fascia.

The way we move when we run, squat and jump can also increase the load in the area. While there is no right or wrong way to run, different running styles, in particular excessive toe running, load up the calf and tibia more. Similarly there are lots of different ways to do a squat, lunge or jump, some variations will load up the tibia more and while this isn't bad, too much too soon can be a problem.

ALSO **sometimes a decrease in load can also cause overload**. As we start to decondition from reduced activity our capacity and strength of the knee drops below the requirements for day to day activities.

### Do I need to stop running/jumping/training etc?

As physiotherapists it is our job to keep you moving as much as possible, even throughout rehab. Because MTSS pain is not caused by an actual injury or structural damage, **some pain associated with MTSS is absolutely okay**. We stick to **the 4/10 rule**: pain up to a 4/10 during any activity is okay, so long as the pain settles within 1 hour of finishing the activity and is not worse the next day after.

### How do I fix my shin pain?

- Load management is the **MOST IMPORTANT** part of treatment. This might involve adjusting your training sessions, trying cross training, changing the periodisation of weekly sessions or reducing the volume. Then we will gradually build you back up to where you need to be for your goals.
- A **progressive strength program** over a **minimum of 6-12 weeks** is needed to make good strength gains. This needs to be targeted at your specific needs for best results.
- An assessment of your running, walking or jumping to adjust technique as needed
- **Taping and manual therapy** can be a helpful **short term tools** to manage the pain and allow you to perform your rehab program
- Self management strategies like **icing the shin and rolling the calf** with a spiky ball can provide **short term pain relief**
- Sometimes orthotics or different footwear needs to be considered.