



# SOLUTIONS FOR SHIN SPLINTS

WITH THE RUNNING SEASON IN FULL SWING IT'S TIMELY TO EXPLORE THAT PESKY PROBLEM OF SHIN SPLINTS. PHYSIOTHERAPIST, TIM KEELEY EXPLAINS.

## What are shin splints?

'Shin splints' is a common term for 'medial tibial stress syndrome' (MTSS), which refers to tissue injury and inflammation to the connective tissue and muscles attached to the shin bone (which controls the rolling of the foot). It is very common in runners, but the good news is that it is relatively easy to diagnose and treat.

## Why do they occur?

The main reason is foot biomechanics. As the heel hits the ground during foot strike, you are supposed to land on the outside of your heel and then roll inwards (pronation). Then, during the mid-stance phase, you should roll back outwards (supination) and put the weight through the outside of the foot (lateral arch). After which, you should push off through the toes.

However, in people suffering from shin splints, the person most often over-pronates at the heel during the strike phase, (meaning the heel rolls inwards too much). Then, during the mid-stance phase, the front part of the foot drops down and the arch collapses. The body is then unable to hold the foot in a dynamically good position

during landing or when pushing off into the next step.

This problem is also exacerbated if the person lands heavily on the heel, has tight calf muscles, is overweight, has poor lumbo-pelvic stability and/or weak gluteal muscles. Another factor that can cause shin splints is 'over-training', where the person is doing too much running without enough rest, combined with the fact that they (and therefore their muscles) are underconditioned to the level of exercise they are trying to perform. This latter scenario is very common in runners who increase their training capacity and distance (e.g., if they are entering a running event, starting a running program for the first time, commencing pre-season sport training on hard ground, or if they're embarking on an intensive fitness program to lose weight).

It is also important to ensure you have the right shoes. And by this I don't just mean in terms of the type of support, but the shape and structure for the amount and type of exercise you are doing. You also need to make sure that if you are training a lot, you are replacing your shoes more frequently.

**THE GREAT NEWS IS THAT SHIN SPLINTS ARE TREATABLE.**

**How do you know you have shin splints?**

Pain usually develops down the length of the inside of the shin bone during exercise and then eases once the activity stops. Because the pain can be mild and always ceases afterwards, many people continue to exercise week after week. However, as the injury progresses, the pain can intensify and can come on earlier and more severely, to the point where the person cannot continue their training. They feel like they are becoming less and less able to run the same distance or exercise the same amount. If the problem is not addressed early and the pain becomes worse, or continues after the activity stops (i.e., it does not go away until a few hours after exercise), or if it develops into aching at night, then they could be at risk of having the inflammation and damage become so severe it causes stress fractures in the shin bone (and this requires months of rest, so you don't want to go there!).

**What can you do about shin splints?**

Firstly you should see a physiotherapist as they can diagnose the problem and identify the causes, as well as provide treatment for the injury. It is crucial to settle the symptoms quickly and get you back on track and into a rehab program early. The physio will also assess if you need custom-made orthotics, which help correct the foot biomechanics.

Hands-on treatment with a physio can include deep tissue massage, dry needling and using kinesio-taping. The rehab training program will consist of stretches for the calf muscles, eccentric calf muscle strengthening and exercises specifically targeting gluteus medius, minimus and the lateral hip rotators. The rehab exercises help to increase control and strength, improving the dynamics of the hip, knee and foot during impact and can be the difference between someone who is able to recover and return to exercise, and someone who doesn't.

At our clinics our physiotherapists use the 'Gaitscan' pressure force plate to assess the dynamics of the foot during heel strike and stance phase of the movement. The information collected via the plate to the computer, combined with the physio's physical assessment of the

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foot, provide the ideal measurements for the construction for custom orthotics. This takes out the guesswork and creates more precise orthotic construction, tailoring them to the individual and helping correct the way each foot moves as it hits the ground.

A physio can also look at your individual running technique to identify how the foot moves during impact, including the level of pronation. Even if you run midfoot or forefoot (on your toes), orthotics can help by proprioceptively correcting the position of the entire foot from strike to push off. Once the symptoms have settled and you are ready to return to impact exercises, the level of training needs to be low initially and you will need to follow a progressive regime of slowly increasing the distance or impact over time.

So, if you have the symptoms of shin splints, get them assessed by a physio who will devise good treatment, provide orthotic advice and recommend new shoes if required.

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Tim has more than 13 years experience in physiotherapy and the fitness industry. He is also an exercise rehabilitation expert, clinical educator and presenter. As well as being the principal physiotherapist at his Bondi Junction clinic inside Fitness First Platinum, Tim is also the director of Physio Fitness Australia, operating four clinics across Sydney. For more information go to [www.physiofitness.com.au](http://www.physiofitness.com.au) or to book an appointment call 1300 233 300.

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