

# Managing Shin Pain

## Medial Tibial Stress Syndrome



Medial tibial stress syndrome (MTSS) is a common cause of pain experienced in the lower part of the shin of one or more commonly both legs. Pain experienced with MTSS can vary greatly, with some people experiencing very high levels of pain with activities like walking and standing, whilst others may only experience moderate pain when running long distances.

MTSS often occurs following a sharp increase in activity, too much too soon. This can lead to pain experienced in the shin (tibia) and surrounding soft tissues. The advice in this booklet will guide you as to the most appropriate management for MTSS. It is recommended that you see a health care professional to guide your treatment further.

For many pain from MTSS significantly improves within a couple of weeks. Getting help early may increase your chances of a full recovery as your therapist will be able to help guide management. How long people suffer from pain with MTSS varies significantly. If it has been present for a longer time, it may take 12 months or more to be able to return to running or high activity sports. Unfortunately, in some people with MTSS pain will persist despite best efforts to get rid of it.

Most people with lower leg pain can be diagnosed with MTSS based on their presentation and a clinical examination. Usually, scans are not required. However, should your healthcare professional suspect a different cause for your leg pain, if you experience severe pain and/or pain at night they may refer you for further tests.

Standing, walking, jumping, and running will all load your legs. Higher impact activities like running and jumping will usually result in greater loading, and the longer you spend doing these activities the greater the overall load. Managing load, the type of activities you do and for how long you do them, is the key to recovering from MTSS. In general, your body adapts very well to load, however excessive loading, too much too soon can sometimes cause pain. Finding the level of physical activity you can participate in, then **gradually** increasing what you do allowing your body to adapt will give you the best chance of returning to your normal activities.

Pain is a very individual experience. As a guide try to manage load so that your shin pain remains low (not above 4/10 on the pain scale). If you have severe shin pain, you may need a short period of rest to allow pain to settle. When you are ready to gradually increase physical activity and load, allow only a small increase in pain during the activity (no more than a 2/10 on a pain scale as a guide). Any increase in pain with activity should settle quickly once you stop. If you have a significant increase in shin pain or it does not settle, you should return to activities you can comfortably do that did not increase pain. Always use your pain to guide how much you can do. The key is to gradually increase your physical activity without a significant increase in pain. This may slow but will be your best chance of returning to your normal activities and sport.

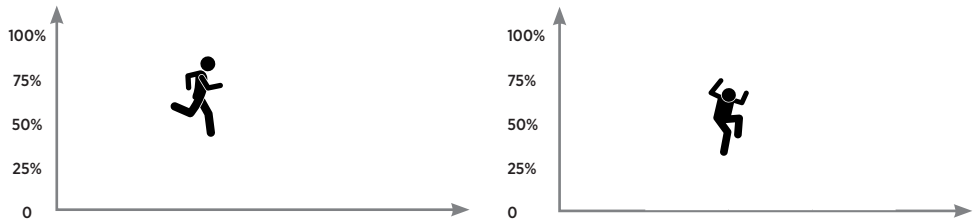


If you have severe shin pain, you may need a period of rest before starting exercise or returning to running/sport. Once pain is no longer severe, find the amount of activity you can tolerate without a significant increase in shin pain (do not allow pain to increase by more than 2/10 from your normal level or above 4/10 on a VAS). This will be your starting point for rehabilitation. From here you can gradually increase the amount you do, avoiding spikes in physical activity levels or activities that significantly worsening symptoms. You may also have periods where you plateau in your rehabilitation, that is normal. Continue to use pain as your guide.

- Monitor and record your daily physical activities and whether you had pain during or after those activities. You may want to keep a diary or use apps.
- If you are unable to run without symptoms monitor the distance you can walk or time you can stand before aggravating your shin pain.
- If you are able to run, you can use running applications to monitor the distance and speed you can run. Include the surface you ran on e.g. road, track or off-road.
- Also monitor sporting or work-related activities you do during the day. Anything that loads your legs!

Running on a treadmill	2 miles, speed 7mph	2/10 during, settled after
Standing	1 hour	Nil

Once you have found your starting level of activity, you can gradually increase activity by approximately 10% per week (use as a guide only). For example, if you can run 2 miles one week, the next week aim for 2.2 miles. Only progress one thing at a time and avoid spikes in activity, so if you increase the speed you should not also increase the distance. Continue to use pain as a guide to how quickly you can progress, and make sure to regress if you get a significant increase in symptoms.



If you have severe shin pain, you may need short period of rest to allow your symptoms to settle. If you can run or participate in sport, make sure you have a day rest between sessions. Don't run or take part in sport two days in a row. If your pain gets worse, you may need more than a day rest and only return to running/sport when the shin pain has settled.

You could benefit from daily calf stretches and calf strengthening:



**Gastrocnemius stretch:** standing upright facing a wall. Place your hands on the wall and extend one leg straight backward, bending your front leg, until you feel a stretch in the calf of your back leg. Make sure to keep your heels on the ground and back knee straight during the stretch. Hold for 30seconds and repeat 3 times.

**Soleus stretch:** take a half step forward. Keep your weight evenly distributed on both feet and slowly bend your knees and sink down toward the ground. Keep your heels on the ground. You will feel a stretch in the calf of the back leg. Hold for 30seconds and repeat 3 times.

**Heel raises:** standing holding a chair or table for support. Lift your heels off the ground putting your weight onto your toes, then slowly lower heels to floor. Repeat 10 times. Do 3 sets of 10. If this is easy do a single leg at a time.

You may find insoles, supportive or cushioned footwear more comfortable. However, the type of footwear suited will vary amongst individuals and you may wish to discuss this with your healthcare professional.

- Guide you on the most appropriate exercises and most helpful other treatments.
- Answer questions related to your shin pain, and explain in greater detail the contents of this information booklet where necessary
- Help you understand why you have shin pain and how to modify your activity to improve your pain and recovery.

You can return to sport when you have gradually built up your physical activity levels to enable to participate in your chosen activity/sport without worsening shin pain. Continue to use the same principles of using pain as a guide and gradually increasing activity, include rest days as needed.

1. Managing load is the key to recovery from MTSS
2. If you have severe pain, you may need a short period of rest before starting rehabilitation
3. You should monitor and record how physically active you are each day and whether you had pain during and/or after that physical activity. You may want to keep a diary or use applications
4. Find your starting point for rehabilitation by identifying activities/distance run that do not significantly worsen your shin pain
5. In general, your activities should not increase pain more than 2/10 and not go above 4/10 either during or after physical activity (e.g. walking/running)
6. Gradually build up your physical activity levels at a pace that does not significantly increase pain and avoid spikes in activity. As a guide you can increase activity levels by 10% per week.
7. If you experience an increase in shin pain, reduce your training, or daily activity levels to the previous level of activity where you did not experience this higher level of shin pain
8. Progress may be slow but don't be tempted to do too much too soon, monitor carefully and gradually increase what you do