



GARNET ORTHOPEDIC
SOLUTIONS



PATIENT EDUCATION GUIDE

Understanding Shin Splints and Getting Back to Pain-Free Movement

A practical guide to why medial tibial stress syndrome develops, what puts you at risk, and how a personalized plan can get you moving comfortably again.

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Contents

01 What Is Medial Tibial Stress Syndrome?

02 Recognizing the Symptoms

03 Why the Research Is Still Catching Up

04 Risk Factors Worth Knowing

05 What You Can Do Today

06 Staying Active Without Setting Yourself Back

07 Your Treatment Options

08 Custom Orthotics vs. Off-the-Shelf

09 What to Expect at Garnet

10 Prevention and Long-Term Movement Health

11 About Garnet Orthopedic Solutions

SECTION 01

What Is Medial Tibial Stress Syndrome?

Medial tibial stress syndrome, commonly known as shin splints, develops along the lower two-thirds of the shin. Unlike a sharply localized injury, the pain here is diffuse: it spreads across at least five centimetres of the inner shin rather than sitting in one clear spot.

Most people notice it at the start of a run or workout, feel it ease once they are moving, and then have it return once they stop. It is one of the most common overuse injuries among runners and jumping athletes, and it affects women somewhat more often than men.



Shin splints can affect runners at any age, from a first 5K to a lifetime of marathons.

SECTION 02

Recognizing the Symptoms

The clearest sign of shin splints is a sharp pain along the lower, inside part of the shin, spread out over a distance rather than concentrated at a single point. Pressing along that area typically reproduces the discomfort across at least five centimetres.



Diffuse pain along the inner shin, worse after activity in the early stages, is the clearest sign of MTSS.

HOW SYMPTOMS TEND TO PROGRESS

In the early stages, pain generally shows up after you finish exercising. Left unaddressed, that pattern can shift, with pain appearing at the very start of activity and even persisting through it. Trouble running up or down hills is another common early signal worth paying attention to.

SECTION 03

Why the Research Is Still Catching Up

There is no single, universally agreed definition of medial tibial stress syndrome, largely because researchers have used inconsistent terminology over the years. That inconsistency has made it harder to pin down the exact tissue and mechanism involved.

Proposed explanations range from periostitis, an inflammation of the connective tissue surrounding the muscle, to enthesopathy at the tendon's attachment point, myofascial strain, and even a bone stress reaction.

What this means practically is that MTSS is best understood as a syndrome rather than a single, precisely defined injury, and treating it well depends on a careful assessment of your own presentation rather than a one-size-fits-all protocol.

SECTION 04

Risk Factors Worth Knowing

Risk factors for MTSS fall into two broad categories: things related to your own body, and things related to your training environment.

Internal factors

- Increased navicular drop, greater than ten millimetres
- A previous history of MTSS
- Being female, which research consistently links to higher risk
- A higher body mass index
- Being new to running or returning after time away
- Increased external rotation of the hip, seen more often in males with MTSS

External factors

- Training on hard running surfaces
- Uphill or downhill running

- Footwear that is too old or simply wrong for your activity
- High impact sports such as basketball, volleyball, or racquet sports



High-impact sports, including wheelchair basketball, carry the same repetitive loading pattern that raises MTSS risk.

SECTION 05

What You Can Do Today

A properly fitted footwear change is usually the best place to start. Shoes that have broken down exaggerate your biomechanics in ways your body may not tolerate well, so replacing worn footwear with something suited to your foot type and activity is a meaningful first move.



The right pair of shoes, fitted to your foot type and activity, is often the single most effective first step.

Beyond footwear, rest and ice help during the acute phase: applying ice for fifteen to twenty minutes at a time can ease discomfort while you plan next steps with your healthcare provider. Because MTSS is an overuse injury, it can be genuinely hard to dial back activity, but that reduction is often exactly what the tissue needs to recover.

SECTION 06

Staying Active Without Setting Yourself Back



Cycling, swimming, and other low-impact cross-training keep you active while your shins recover.

Staying active with MTSS is possible, and a few adjustments make a real difference. Decrease the intensity, duration, and frequency of your usual training without stopping activity altogether. Favour low-impact cross-training such as swimming, cycling, or the elliptical instead of running, and avoid hill training entirely while symptoms are active, since hills place extra strain on the same lower-leg musculature that needs to recover.

Allow adequate rest between sessions, and once symptoms have settled, progress back into your usual activity gradually rather than resuming everything at once. If conservative measures are not helping, it is worth visiting your family physician to rule out other possibilities such as a tibial stress fracture or compartment syndrome; an MRI can help grade the severity and guide the right next step.

Not sure if your shin pain is MTSS or something else? A proper assessment rules out the more serious possibilities and points you toward the right plan.

[Book Your Assessment](#)

SECTION 07

Your Treatment Options

Treatment for MTSS typically combines several approaches rather than relying on just one. Anti-inflammatory medication may help with pain and swelling; speak with your family physician before starting one. A footwear change is often the most effective single step, alongside proper stretching and strengthening of the calf muscles, the soleus and gastrocnemius, to reduce ongoing risk.

Rest and icing are well supported for the acute phase, and modified training, reducing intensity, duration, and frequency while symptoms are present, gives the tissue the space it needs to settle. Low-impact cross-training such as swimming, biking, or elliptical work can keep you active throughout this process without adding to the strain.

SECTION 08

Custom Orthotics vs. Off-the-Shelf

Off-the-shelf orthotics are pre-fabricated and often heat moldable, giving a degree of immediate customization. Depending on your foot type and biomechanics, that may be all you need. Custom foot orthoses, by contrast, are designed specifically around a 3D model of your own foot and can be tailored fully to your mechanics.

Research points to pronation on the inside of the foot as a contributing factor in MTSS, and the change in your arch height between non-weight-bearing and weight-bearing positions can help explain why the pain shows up during activity. Custom orthotics let us capture your foot in its ideal position, limiting the movements that contribute to the problem while adding cushioning and comfort, and adjusting the fit further as your needs change.

Curious whether your mechanics call for custom support?

[See How Custom Orthotics Work](#)

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SECTION 09

What to Expect at Garnet

Your first appointment includes a thorough foot examination, and follow-up visits build on that baseline to confirm your progress and adjust the plan as needed. During these appointments, we will typically:

- Assess joint and muscle function, including range of motion and gait
- Evaluate your current footwear for fit and function
- Identify modifiable risk factors and recommend targeted changes
- Use tools such as pressure mapping to pinpoint areas of concern
- Build a treatment plan that may include footwear changes, activity modification, custom orthotics, or a referral to a complementary provider such as a physiotherapist

BEYOND THE FIRST VISIT

Alongside your individual plan, we provide educational resources to help you maintain your progress well after your last appointment, so the improvements you make actually last.

[Learn more about our gait analysis process →](#)

SECTION 10

Prevention and Long-Term Movement Health

Preventing MTSS largely comes down to proper footwear selection matched to your biomechanics and foot type, along with a training progression that avoids doing too much, too soon, too fast. Building in adequate rest and minimizing over-training protects the lower leg musculature from the repetitive strain that leads to this syndrome in the first place.

Strength and flexibility in the lower limb, appropriate to your specific activity, round out a solid prevention plan. Because a previous history of MTSS is itself a risk factor for a repeat episode, staying attentive to these habits even after symptoms resolve is part of protecting the progress you have made.

SECTION 11

About Garnet Orthopedic Solutions

Ready to Feel Better?

If shin pain has been holding back your training or your daily routine, a proper assessment is the fastest way to a real plan.

[Book Your Assessment](#)

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Garnet Orthopedic Solutions provides pedorthic assessment, custom orthotics, and footwear guidance built around each patient's specific anatomy and goals, rather than a one-size-fits-all approach. Our clinic combines hands-on biomechanical assessment with practical, evidence-informed treatment, so patients leave with a plan they understand and can actually follow.

Jeff Lewis, C. Ped (C)

Canadian Certified Pedorthist

Jeff leads patient assessment and custom orthotic care at Garnet Orthopedic Solutions, working with patients to identify the root cause of their foot and lower limb pain and to build a treatment plan suited to their specific needs, goals, and symptoms.

garnetsolutions.ca | This guide is intended for general education and does not replace an individual assessment. Please consult your pedorthist or physician about your specific symptoms.

Appendix: Image Sources

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#	DESCRIPTION	PHOTOGRAPHER	SOURCE
1	Cover — a young man jogging alongside an elderly woman	Liliana Drew	pexels.com/photo/8497647
2	Sec. 1 — an older man running in a marathon	Roman Biernacki	pexels.com/photo/19123875
3	Sec. 2 — a person holding their shin in discomfort	Pexels contributor	pexels.com/photo/4672602
4	Sec. 4 — a wheelchair athlete holding a basketball	Kampus Production	pexels.com/photo/6763758
5	Sec. 5 — sneakers and socks, close-up	Christian Araújo	pexels.com/photo/11403032
6	Sec. 6 — a cyclist riding on the road	Pavel Danilyuk	pexels.com/photo/5807579

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