CONDITION

Shin splints

Shin splints are exercise-related pain and tenderness along the inner edge of the shinbone.

WHAT IT IS
Exercise-related stress injury along the inner shinbone

BODY SYSTEM
Bones, muscles, and connective tissues

MAIN SYMPTOMS
Inner shin pain, tenderness, exercise-related aching

WHAT CAUSES IT
Repeated loading faster than the shin can adapt

HOW IT IS DIAGNOSED
Symptom history and examination; imaging to exclude fractures

MAIN TREATMENT
Load reduction, gradual rehabilitation, and training changes

CAN IT BE CURED?
Yes - usually improves with activity changes

IS IT AN EMERGENCY?
Sometimes - sudden severe pain, numbness, or weakness

LONG-TERM OUTLOOK
Most recover, but recurrence can follow rapid training increases

Overview

Shin splints are pain along the inner edge of the shinbone, usually caused by repeated impact from running, jumping, or similar exercise. The medical name is medial tibial stress syndrome (MTSS).

MTSS is thought to involve stress in the shinbone and the tissues attached to it. It is not simply inflammation, despite the common name "shin splints." The pain usually covers a broad area rather than one small point.

Shin splints often begin after a sudden change in training. Examples include running farther, exercising more often, adding hills, or returning to sport after time away. Military training, dance, and sports involving repeated running or jumping can also trigger symptoms.

The condition usually improves when the shin is given time to recover and activity is rebuilt

gradually. However, other problems can cause similar pain. These include a bone stress fracture and chronic exertional compartment syndrome, in which pressure builds inside a group of leg muscles during exercise.

Symptoms

Shin splint pain is usually felt along the lower two-thirds of the inner shin. It may affect one or both legs.

Common features include:

As the condition becomes more irritated, pain may last throughout a workout or occur during ordinary walking. Mild swelling can sometimes develop.

Pain in one very specific spot is less typical of shin splints. It may suggest a bone stress injury, including a stress fracture. Pain at rest, pain at night, or pain when hopping on the affected leg also needs medical assessment.

Tightness, burning pain, numbness, or weakness that repeatedly appears during exercise and settles after stopping may point to chronic exertional compartment syndrome rather than shin splints.

- An aching or dull pain brought on by running or jumping
- Tenderness spread over a broad area of the inner shin
- Pain at the beginning of exercise that may ease as you warm up
- Pain that returns after exercise or later in the day

Causes and risk factors

Shin splints develop when repeated loading exceeds the shinbone's current ability to adapt and recover. This can happen even when an activity is normally safe.

A sudden training change is a common trigger. This might mean increasing distance, speed, hills, jumping, or the number of weekly sessions. Changing to a harder surface or returning too quickly after illness, injury, or a break can have the same effect.

Factors associated with a higher risk include:

No single foot shape, running style, or training error explains every case. Several factors may act together. Having one risk factor does not mean you will develop shin splints.

- Running or jumping sports
- A recent increase in training
- Limited recovery between demanding sessions
- Reduced ankle flexibility
- Foot movement that places more load on the inner shin
- Previous shin splints
- Shoes that are worn out or poorly suited to the activity

Diagnosis

Shin splints are usually diagnosed from your symptoms and a physical examination. A healthcare professional may ask when the pain started, what activities bring it on, and whether your training recently changed.

During an examination, they may press along the shinbone. MTSS usually causes tenderness across a broad strip of at least several centimetres along the inner shin. They may also check your walking, ankle movement, muscle strength, footwear, and the exact location of the pain.

Imaging is not always needed when the symptoms and examination are typical. An X-ray may be used if another injury is suspected, but an early stress fracture may not appear on an X-ray.

Magnetic resonance imaging (MRI) can show stress changes in bone and help identify a stress fracture. Other imaging, such as a bone scan or computed tomography (CT), is used less often and only when appropriate.

Tests may also be needed if your symptoms suggest a different condition, such as compartment syndrome, nerve compression, or a circulation problem.

Treatment and management

The first step is usually to reduce the activity causing pain. This is sometimes called relative rest. It does not always mean avoiding all exercise.

Lower-impact activities, such as swimming or easy cycling, may be possible if they do not cause shin pain. Continuing to run through worsening pain can delay recovery or allow a more serious bone stress injury to develop.

A cold pack wrapped in a towel may help with short-term soreness. Do not place ice directly on your skin. Pain medicines may sometimes be appropriate, but they do not repair the underlying

stress injury. Ask a pharmacist or healthcare professional what is safe for you, especially if you have other health conditions or take regular medicines.

Rehabilitation may include calf and foot strengthening, balance work, and exercises for the hips and legs. Stretching can help if ankle or calf movement is limited, although stretching alone is not a complete treatment.

A physiotherapist or other qualified professional can assess your movement and help plan a gradual return to activity. Foot supports may be considered for some people, but they are not needed in every case.

Check that your footwear is comfortable, suitable for your activity, and not excessively worn. Changing shoes is unlikely to fix the problem by itself if training load remains too high.

Return to running or jumping gradually. A typical progression begins only after everyday walking is comfortable and shin tenderness has clearly improved. Increase one part of training at a time, such as duration before speed or hills. If pain returns and continues after the session, reduce the load again.

There is no single treatment that works quickly for everyone. Surgery is not a routine treatment for shin splints.

Complications

Most shin splints settle without lasting damage. The main problem is persistent or recurring pain, especially if the same training pattern continues.

Ongoing loading may worsen stress within the shinbone. A focal bone stress injury or stress fracture can then become a concern. This is more likely when pain becomes sharply localised, occurs during walking or rest, or steadily worsens.

Shin pain may also be incorrectly assumed to be shin splints when another condition is responsible. Chronic exertional compartment syndrome, tendon problems, nerve irritation, and circulation disorders need different treatment.

Reducing activity for a long period can lead to loss of fitness and strength. A planned switch to pain-free exercise and gradual rehabilitation can help limit this.

Prevention

Shin splints cannot always be prevented. However, you can reduce the chance of them developing or returning by allowing your body time to adapt to exercise.

Build training gradually rather than making several changes at once. Avoid suddenly adding distance, speed, hills, and extra sessions in the same week. Include easier days and enough recovery after demanding exercise.

Strengthening the calves, feet, hips, and other leg muscles may improve how your body handles impact. Addressing limited ankle movement may also be useful.

Wear shoes that fit comfortably and suit your activity. Replace them when support or cushioning has noticeably broken down. There is no one shoe type that prevents shin splints for everyone.

Pay attention to early symptoms. Shortening or changing a session when shin pain begins is usually more helpful than repeatedly pushing through it.

Living with it and what to expect

Recovery often takes several weeks, but it can take months when symptoms have been present for a long time or everyday walking has become painful. There is no fixed timetable.

Pain should gradually become less frequent and less intense as the irritating load is reduced. Daily activities usually become comfortable before running, jumping, or hard training does.

A temporary reduction in training does not mean giving up sport. Many people maintain fitness with activities that do not reproduce the pain. Rehabilitation can also focus on strength, balance, and mobility while the shin recovers.

Recurrence is possible. It commonly follows a rapid return to the previous training level or another sudden increase in exercise. A slower rebuild may feel cautious, but it gives the bone and surrounding tissues time to adapt.

If progress stops, or pain returns each time you try to increase activity, seek an assessment. The diagnosis may need to be reviewed, particularly if the pain has become focused in one spot.

When to get medical help

Arrange a routine appointment if:

Seek urgent medical advice if one leg becomes noticeably swollen, red, or warm, especially without a clear exercise injury. These symptoms can have causes other than shin splints.

Get emergency help for sudden severe leg pain with marked tightness, numbness, weakness, pale or cold skin, or difficulty moving the foot. These can be signs of acute compartment

syndrome, which requires immediate treatment.

Call emergency services for unexplained leg swelling accompanied by sudden shortness of breath, chest pain, coughing up blood, or fainting.

- Shin pain does not improve after reducing the triggering activity
- Pain keeps returning when you resume exercise
- The painful area is small and sharply defined
- Walking, standing, or everyday tasks have become painful
- Pain occurs at rest or during the night
- You are unsure whether the symptoms are shin splints

Common questions

Can I keep running with shin splints?

Running through mild pain can allow symptoms to worsen. It is usually better to pause or reduce the activity that causes pain and use pain-free, lower-impact exercise instead. Return gradually after ordinary walking is comfortable and tenderness has improved.

How long do shin splints take to heal?

Some cases improve within several weeks. Others take a few months, particularly when pain has been present for a long time. Recovery is influenced by the severity of symptoms, training load, and how gradually activity is resumed.

How can I tell shin splints from a stress fracture?

Shin splints usually cause tenderness over a broad area along the inner shin. A stress fracture more often causes focused pain in one small spot and may hurt during walking, at rest, or at night. Symptoms alone cannot always confirm the difference, so focused or worsening pain should be assessed.

Should I stretch shin splints?

Stretching may help if your calf or ankle is tight, but it does not directly remove stress from the shinbone. Strengthening, training changes, and a gradual return to impact are usually more important. Stop any stretch that increases the shin pain.

Do compression sleeves cure shin splints?

Compression sleeves may feel supportive or comfortable, but they do not address the underlying training load and are not a proven cure. Do not use reduced pain from a sleeve as a

reason to continue an activity that is worsening the injury.

Do I need an X-ray?

Not always. Typical shin splints can often be identified from your symptoms and an examination. Imaging may be needed when pain is focused, severe, persistent, or present at rest. Early stress fractures may not show on an X-ray, so MRI may be considered when suspicion remains.

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