

Sports Injury Guidelines: Shin Splints

Washington County Public Schools Athletic Training

Beth Funkhouser, ATC
276.698.7530
bethf@wcs.k12.va.us

Brad Bussey, ATC
276.356.3642
bbussey@wcs.k12.va.us

What are shin splints?

“Shin Splints” is a general term used to describe several overuse conditions that cause lower leg pain. The most common cause of this condition is Medial Tibial Stress Syndrome (MTSS). This injury is characterized by tenderness along the inner aspect of your shin bone (tibia) as well as pain with activity.

The pain often develops gradually. You usually start out feeling some discomfort only after activity. If the condition is ignored, pain will be experienced during and after activity, often affecting your performance. Eventually, the condition may progress to a stress fracture, a tiny crack in the bone.

What causes shin splints?

MTSS is an overuse injury from trying to do too much too soon. The area where your lower leg muscles attach to your shin bone is irritated.

The bone covering (periosteum) is often inflamed as well. In addition to training errors, foot abnormalities and improper footwear can contribute to shin pain, too.

For example, an excessively high-arched foot doesn't absorb shock well. Forces are transmitted up the shin each time the foot strikes the ground when running, which can eventually cause pain. If this sounds like your type of foot, wear shoes with a well-cushioned heel and insole that absorb energy at the point of impact. Those with low-arched or flat-feet have a problem as well. Each time this type of foot strikes the ground, it rolls in excessively (pronates). Over time, this can cause inflammation of the shin muscles and tendons and a shift in bony alignment. If you are flat-footed, wear shoes that have a firm midsole to help control excessive motion. Some type of additional arch support may be necessary as well - so check with your ATC or your doctor.

Use ice massage

Ice massage is one of the best forms of treatment for shin pain.

Fill several paper cups with water and freeze them at home.

When frozen, peel off the top of the cup. Rub the ice up and down on your shin for 8-10 minutes, 4-5 times a day.

Additional treatment measures include:

- Rest by reducing or avoiding running and jumping activities.
- Stretch and strengthen your shin muscles.
- Correct foot abnormalities through the use of arch supports or better running shoes, or orthotics if necessary.
- Adjust any training errors.

Preventing shin splints

Progress your training slowly. Gradually increase the intensity, frequency and duration of your workouts. Runners should not increase their distance by more than 10% a week.

- **Wear proper footwear and replace running shoes every 400-500 miles.**

Take a "wet test" to determine what type of foot you have. Some running magazines do excellent biannual reviews of running shoes and even categorize them by foot type.

- **Warm-up and stretch properly before activity.** Hold stretches at least 30 seconds and repeat several times each. Stretch after activity too.

- **Run on softer surfaces when possible.**

- **Be careful when changing running surfaces.** For example, if you play field hockey or soccer all fall on grass and then switch to playing basketball in the winter, the change in surface can cause shin pain. When you must change running surfaces, back off a little bit and then gradually build up to the amount of running you were doing before.

Stay in shape when you can't run:

Your condition may require you to avoid running for a while. You can maintain your cardiovascular conditioning in several ways. Stationary biking and rowing can help keep you in shape while you recover without aggravating your injury. You can also use a step machine, elliptical trainer, or even swim!

The key is to avoid the pounding associated with running to keep the stress off your shins so they can heal.

What is a stress fracture?

A stress fracture is a tiny crack in the bone that can occur from excessive activity. The break is so small that it may not even show up on an x-ray right away.

Don't ignore your shin pain. If your shins aren't getting better, you may need to see a doctor to determine if you have a stress fracture. Playing through the pain will make matters worse. That tiny crack can work its way all the way through the bone, resulting in a broken leg!

Stress fractures are most common in distance runners but they can affect any athlete whose sport involves a lot of running or jumping.

You may need to see your doctor if...

Your shin pain does not improve within 10-14 days despite appropriate rest and treatment.

Although MTSS is the most common cause of shin pain, other more serious conditions which resemble shin splints, such as a stress fracture, can also cause lower leg pain.



About Athletic Training

From on-field emergency care to follow-up treatment and rehabilitation, athletic trainers offer professional health care for injured athletes.

