

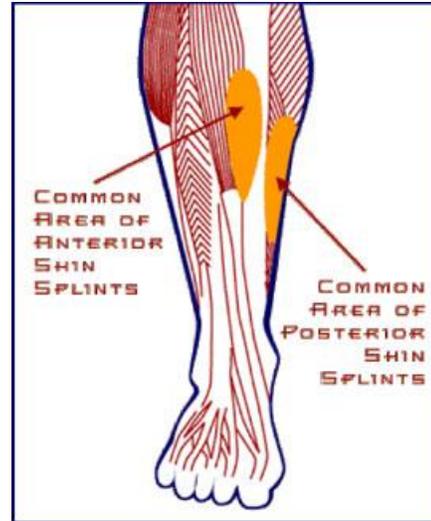
Tips for managing shin pain

By Christina Butler, MS ATC

Serious shin pain can be extremely frustrating for athletes and coaches alike. Here are some tips on why shin pain occurs, how to prevent it, and how to manage it so that playing time lost is kept to a minimum.

The injury

“Shin splints” is a term used to describe any pain in the front (anterior shin pain) or inside (posterior shin pain) of the lower leg. This pain is typically caused by two mechanisms. The first is *over-pronation*. Every time you step down, your arch falls a little bit. In some, it falls a little bit too much. In this situation, the muscle originating on the shin bone that supports that arch gets irritated. This repetitive stress leads to a type of tendonitis in the lower leg. The second common mechanism is *impact*. Forces from striking the heel during running or walking transmit up the lower leg and cause pain. In severe cases stress fractures may develop.



How to prevent it

There are many things to consider when determining the source of shin pain. It truly is a multi-faceted approach. Each athlete may find a different strategy that works better for him or her. In the case of high school sports it is very important to consider playing surfaces. In the fall and spring seasons athletes are running on pavement, bumpy grass fields, dirt trails, turf, rubberized tracks, and indoor volleyball courts. In the winter athletes are on ice, basketball courts, in swimming pools (no impact at all), indoor tracks, pavement, or even the hallways of the school. It is important to recognize that it takes time to transition from playing on one surface to something completely different. Having a structured pre-season ramp up program will ease your athletes into the season sparing their shins.



In addition to the surface you run *on*, the footwear you run *in* is also a very important consideration. Running shoes are meant for running, basketball shoes are meant for basketball. The way different shoes are cushioned and how much they give on a specific surface affects the forces traveling up the lower leg and the actions of the muscles that support the foot and ankle. Within your sport you will find great variation in the footwear that is

more or less comfortable. For runners, specifically distance runners, the type of shoe is extremely important. If you are unsure what type of shoe you need based on your stride and foot structure, visit a reputable running store for help. In general, keep your athletes in sport-specific footwear to eliminate any potential problems.

Finally, good form might be the ultimate key to shin pain prevention. There are various schools of thought on this topic. One is that we should be running on our toes, another that we should adopt a mid-foot strike. It might not seem like a hard landing when heel striking, but over time, mile after mile, that micro-trauma may be the root cause of your athlete's pain. Whether you are pro-toe or pro-mid-foot, switching up running form takes time and practice. Some further resources on this topic include Pose Running (www.poseotech.com), Chi Running (www.chirunning.com), and Good Form Running (www.goodformrunning.com).



How to treat it

The first thing to do is figure out what is causing the pain. Is it your running form? Is the change in surface? Are your shoes too old? Do they not fit right? Are you wearing running shoes for basketball? Once that is figured out there are some great ways to deal with the pain.



Ice massage. Ice is a great numbing agent to relieve any pain from a workout. Massage will help break up any adhesions in the muscles and tendons of the lower leg. Put these two modalities together for a winning treatment combo. Fill a paper cup with water, throw it in the freezer. When frozen, peel off the top inch or so of paper. Then, holding the cup, massage the shins with the ice. Do this for 5-10 minutes after every workout.

Strengthening. Keeping the muscles of the foot and ankle strong will help them maintain their own posture without necessarily having to rely on fancy footwear. A few good things to practice are picking things up with your toes, splaying your toes (spreading them apart), walking on the different sides of your feet, balance exercises, and inversion and eversion ankle exercises with rubber bands.

Compression. For pain relief during activity some tape or a compression sleeve can really help. The fit should be snug, but not so tight that circulation to the foot is lost.



Gel heel cups and arch supports. These two orthotic devices can turn a not-so-great shoe into something a little better. The gel cups will help cushion the heel strike runner, while the arch supports (or arch taping) can help with over-pronation.

Hopefully shin pain in your athletes can be avoided. If not, try a few of these tips to help relieve pain. If symptoms persist or worsen after 3-4 weeks of trying these different approaches, give your MD a call to investigate the possibility of a stress fracture.