Shin Splints Soar During Spring!

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Spring marks the beginning of the running season for many fitness enthusiasts who have been cooped up for the long, hard winter. This time of year, complaints from shin splints soar. Shin splints are usually exercised induced by over-training or improper training. Repeated stress on the tibia (shinbone) and connective tissues results in soreness, pain, and inflammation. Shin splints can be a real nightmare for runners and cause a great deal of pain and discomfort. They can also be a nightmare for other athletes as well as the coaches and trainers who try to keep them in the game.

Runners are more likely to get shin splints as they shift their workouts from the treadmill to the road, or when they begin to train for a race. Indoor exercises on the treadmill, stair master, elliptical machine, or stationary cycle are excellent for cardiovascular conditioning; however, they do not expose the legs and feet to the same impacts that occur on outdoor terrain. Many runners ramp up spring workouts too soon and find that they are more prone to get shin splints. It's critical to allow your body to gradually adjust to the outdoor terrain. The general rule of thumb is not to exceed your distance and workout duration by more than five to ten percent a week.

It's difficult to diagnose shin splints because the pain can mimic other problems, such as growth plate inflammation, partial muscle tears, or tendonitis. Also, the origin of the pain can come from muscle imbalance, varying leg lengths, spine problems, nerve or artery entrapment syndrome, or compartment syndrome.

Most people think there is only one kind of shin splints, but this is a misconception. There are actually three types of shin splints: Medial Tibial Stress Syndrome (MTSS), stress fractures, and compartment syndrome. The latter of the two may be very serious if left untreated.

Medial Tibial Stress Syndrome (MTSS)

Medial Tibial Stress Syndrome (MTSS) is the most common form of shin splints. It involves the inflammation of tissue surrounding the bone lining of the tibia (shinbone) where several leg muscles originate. Often, there are micro-tears in the tissue attached to the tibia. MTSS can occur in the posterior (lower outside) or anterior (lower inside) portion of the leg.

Posterior shin splints are the most common and account for approximately 75 percent of the cases. This is usually attributed to over-pronation (excessive flattening of the foot) as it becomes load bearing to the ground.

Anterior shin sprints are typically present in both legs and especially common among runners at the onset of the season when they are exposed to uneven terrain. They are also present among athletes who play on hard surfaces, sports that require excessive starts and stops, and activities that involve jumping.

Micro-tears and inflammation in the soft tissue attached to the tibia are usually present. Moderate pain is present at the beginning of exercise and tends to dissipate until the exercise is over. It may also become noticeable after waking up in the morning.

The more advanced forms of shin splints are more difficult to diagnose. They can be related to a stress fracture or compartment syndrome.

Stress fractures

Stress fractures are incomplete breaks in the bone that are usually caused by excessive stress on the bone. The bone micro-fractures develop when there is not ample time for recovery. The most common stress fractures are located in the tibia. Athletes who engage in high-intensity training are at increased risk. This includes runners who average more than 25 miles per week, participants in track and field, soccer, dance, tennis, and basketball. Females are also at higher risk than males. Females are three times more likely to have shin splints evolve into stress fractures. Smokers and consumers of alcohol (10 drinks per week) are also more at risk. Stress fractures usually cause severe pain and even nausea in some cases. This condition is diagnosed with X-rays and bone scans. Walking is restricted to a CAM walker, icing, anti-inflammatory medications, massage therapy, laser therapy, different shoe wear, and protective shin guards. Pain usually improves when the fracture is during immobilized. Recovery varies but is usually around two to six weeks with proper rest, icing, immobilization, compression, elevation, and laser treatment. Return to activity must be gradual.

Compartment syndrome

Compartment syndrome is the most serious type of shin splints. It is more likely to develop as a result of an injury if you are taking anticoagulants. This condition occurs when pressure increases in a confined space. There are a few compartments within the lower leg but the most common one is found in the anterior (front) fascial compartment in the lower leg muscle below the knee. During exercise, the muscle can swell. This condition is common among long-distance runners and hill runners. Pain is quite severe with movement and persists when resting. In fact, it seems to be much greater than the injury itself. Pain tends to increase over time and causes a burning sensation and tightness around the area. If left untreated, it can have a damaging effect on the blood supply to the muscles in the affected compartment resulting in necrosis (death of the muscle). Other complications include permanent nerve damage, scarring resulting from surgery, infection, kidney failure, loss of limb, and in rare cases, death. It is critical that the condition be diagnosed quickly to relieve the pressure and to help facilitate recovery of the muscle. The prognosis for this condition depends on how quickly it is diagnosed and treated. Time is of the essence.

Suggestions

Don't ignore your body if you are feeling pain from shin splints. It's a signal to temporarily suspend your workout regime. Typically, it's not a good idea to resume activity for two weeks after your pain subsides.

When you do return, remember to stretch and warm up thoroughly prior to your workout. Come back gradually and with less intensity. It's a good idea to reduce the duration of your workout and frequency of workouts. Build up strength and endurance gradually. Beneficial results will come in time if you are patient and consistent with your re-cooperation efforts.

This is an excellent time to substitute or alternate workouts with cross-training activities that are non-weight bearing (biking, swimming, and lifting). Cross training will also help strengthen and tone other muscles to help keep your body in proper alignment and form. Flexibility exercises are also recommended to improve your condition and relieve soreness and pain.

Cold therapy is an effective way to reduce edema and pain. Over the counter nonsteroidal and inflammatory (NSAIDs) also help reduce pain and swelling as long as your physician says otherwise.

Wearing athletic shoes that fit properly and designed to accommodate your foot structure is critical. Consult with your podiatrist about shoe brands that are well-suited for you and custom orthotics and inserts. Custom orthotics or inserts will realign your feet to a proper position and relieve stress on your feet and lower legs.

Laser therapy is being used by many medical practitioners throughout the country and professional sporting teams to reduce edema and pain. Consult with your physician about this new technology and availability within your area.

Enjoy your spring fitness program and avoid shin splints! If you experience any discomfort in your feet or lower legs, contact the Foot & Ankle Center of Illinois at 217- 787-2700 to schedule an appointment. The Foot & Ankle Center of Illinois is located in seven convenient locations in Springfield, Decatur, Taylorville, Carlinville, Shelbyville, Sullivan, and Monticello, IL. Visit the patient library at myfootandanklecenter.com to review the literature on fitness and your feet.