

LOWER LEG PAIN

At this time of the year the temperature is changing and those of us who enjoy exercising outdoors are often forced indoors when the morning and evening temperatures begin to range in the 30s and 40s. By contrast though, this is also the time when those small training aches and pains often have become chronic problems. Whether indoors in the gym on a treadmill or outdoors running in a 5k, most athletes at one point or another have dealt with some form of lower leg pain. The challenge for most then becomes determining what is serious and what is not, and what needs an athletic trainer or orthopedist vs. what needs a few anti-inflammatory meds, ice, and rest.



When an injury does become chronic, keep in mind that there is so much more to lower leg pain than just shin splints. In fact, the term is very often applied quite loosely to any pain in the lower leg that occurs as a result of running or other type activities. Broadly speaking though, most lower leg pain in the active population can be boiled down to one of the following common conditions:

Posterior Tibialis Tendinitis:

Most prevalent in patients with a pronated and/or flatter foot.

Achilles Tendinitis:

Often seen in patients who make drastic increases in mileage or those who consistently train on steeper surfaces

Medial Tibial Stress Syndrome

Most common in those who train great distances over harder terrain for longer periods of time.

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Tendinitis

Tendinitis is nothing more than the inflammation and injury response that occurs in a tendon as a result of overuse. The tendon, just like any other tissue, is normally stressed due to activity and can be subsequently injured by additional stress if it is never given the opportunity to rest, recover, and remodel. Although many in the realm of athletics do not like to rest or refrain from their specific sport, keep in mind that a little rest periodically can save you from having to undergo one very long (i.e. 4-8 weeks) rest period.

ACHILLES TENDINITIS:

As the Achilles tendon is the major force transmitter for the calf musculature that raises the heel off the ground, it is not surprising to see cases of tendinitis in the Achilles tendon in those who drastically increase their distance or steepen their terrain.

Prevention:

- Gradually increase distance
- Gradually progress to hills
- Be consistent with your stretching program
- Don't push through pain
- Ice consistently
- Take frequent, easy bike rides



Signs and Symptoms:

- Pain specific to the area of the tendon that:
 - *Occurs within the first few minutes of walking each day
 - *That decreases slightly only after a very good warm-up
 - *That drastically intensifies towards the end of the day or event
- Localized swelling

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Medial Tibial Stress Syndrome

During each foot strike of running, an average of 6 times one's body weight is transmitted through the tibia, the largest and most central of the two lower leg bones. This is actually the reason why running and other weight-bearing endurance activities are so helpful to ensuring bone density. As a result of weight-bearing exercise, the bones in the lower leg actually have their structural integrity broken down slightly due to the stress of the event. In response, and with rest, these weight-bearing bones harden, become more dense, and increase their overall calcium content. However, when stress applied to the tibia is not offset with appropriate rest, the next running event is now placing stress on a slightly weakened bone structure. If consistently repeated, the force and stress applied begins to cause microfractures in the bone.



Signs and Symptoms:

- Consistent shin pain over a period of weeks
- Point-specific pain on the tibia
- Consistent aching and boring pain symptoms
- Very localized swelling over the shin bone

Diagnosis:

- Bone Scan or MRI is ideal as they determine areas of bone growth & healing as a result of stress or overuse

Treatment:

- Most patients require non-weight bearing status to allow the tibia to heal completely.

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Tendinitis cont...

POSTERIOR TIBIALIS TENDINITIS:

The Posterior Tibialis muscle runs down the backside of the long axis of the tibia, around the bottom of the inside ankle bump known as the medial malleolus, and then inserts on the apex of the arch on the navicular bone. Other than good calf stretching, the best prevention is proper arch support as this muscle is a very strong elevator of the arch.

Prevention:

- Good, consistent calf stretching
- Appropriate arch support
- Appropriate rearfoot shoe stability

Signs and Symptoms:

- Pain specifically located on the apex of the arch or around the inferior or posterior aspects of the medial malleolus
- Heel strike is pain free but pain occurs when force is transmitted through the arch
- Localized swelling in the medial ankle joint
- Pain directly behind the medial border of the lower tibia

Diagnosis:

- Diagnosis requires a detailed history and a symptomatic and focused evaluation

Treatment:

- Anti-inflammatory measures:
 - *Rest, Ice, and Anti-Inflammatory Medications
- Progressive strengthening program
- Progressive return to running program

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