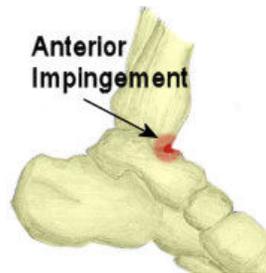


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Impingement syndromes of the ankle

Anterior Impingement



Anterior ankle impingement is pinching of tissues in the front of the ankle. Athletes who have had ankle sprains are most likely to have anterior impingement. This is especially true for athletes who repeatedly dorsiflex (take the toes closer to the shin) the ankle, such as baseball catchers, basketball and football players, and dancers.

Symptoms:

- The pain worsens as the foot is forced upward into dorsiflexion
- There is limited range of ankle motion, particularly in dorsiflexion.
- Ankle pain that continues long after an ankle sprain.
- Pain is worse with walking or running up hill, inclines or stairs.
- Pain when an activity starts and the pain eases as the activity continues.
- The ankle may feel weak and unsteady.
- Tissue thickening may be felt in front and slightly to the side of the ankle.
- If the ligaments have irritated the synovium of the ankle joint capsule, throbbing pain and swelling from inflammation may also be felt in this area.

Pathology:

Irritation in the lower edge of the anterior talofibular ligament can thicken these ligaments. The irritated and thickened ligaments become vulnerable to getting pinched between the tibia and talus as the foot is dorsiflexed.

A similar problem can happen after an ankle sprain. As the torn ligament heals, the body responds by forming excess scar tissue. Dorsiflexing the ankle can trap the tissue between the edge of the ankle joint causing pain, popping, and a feeling that the ankle will give way.

Over time, damage from past ankle sprains may also lead to the formation of bone spurs. As the ankle hinges into dorsiflexion, the bone spurs may begin to jab into the soft tissues, causing symptoms of anterior impingement. The cause of the anterior spurs is unknown and they most likely are the result of repetitive minor injuries.

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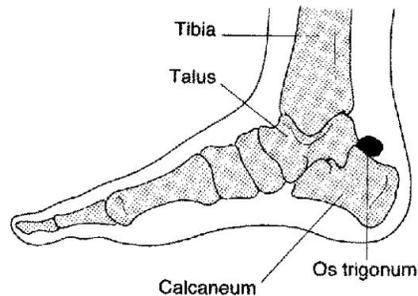
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Posterior Impingement



Posterior impingement occurs in the back of the ankle. It is most common in ballet dancers who must continually rise up on their toes, pointing their foot downward into extreme plantarflexion. Other athletes are rarely affected but may have problems if they routinely plantarflex their feet.

Pathology:

Ankle posterior impingement is very common in sports where the ankle is placed in full plantar (downwards) flexion, such as with ballet dancers. Often the impingement is caused by an extra bone called an os trigonum. As the foot points downward sharply, the os trigonum can get sandwiched between the bottom edge of the tibia and the top surface of the calcaneus. This can trap the tissues above and below the os trigonum, leading to symptoms of posterior impingement.

Posterior impingement can also occur in a ballet dancer who has had a previous ankle sprain. Damage from the past ankle sprain may create too much instability in the ankle. As the dancer rises up on the toes, the talus may be free to slide forward slightly allowing the calcaneus to come into contact with the back of the tibia, pinching the soft tissues in between.

Symptoms:

- Pain behind the heel or deep in the back of the ankle.
- Tenderness just behind the bottom tip of the fibula (the outer ankle bone).
- Pain is usually worse when the foot is pointed down into plantarflexion.
- A painful clicking sensation may also be felt as the foot moves into inversion (inwards) and eversion (outwards).
- Pain when going up onto the toes
- Pain on active and passive plantarflexion

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Physiotherapy Treatment

- deep tissue massage & joint mobilization
- electrotherapy modalities in the acute phase
- anti-inflammatory medication
- stretches & mobility exercises for the ankle
- taping and bracing
- ice or heat treatment(depending on the stage of injury)
- exercises to improve flexibility, strength and balance
- biomechanical lower limb and foot analysis
- advice graded return to sport
- In severe cases special walking boot or short-leg cast may be recommended to restrict ankle movement and allow tissue to heal
- In cases where conservative treatment is not helping a CT or MRI Scan may be indicated with the view to a possible cortisone injection or even arthroscopic surgery

Differential diagnosis

- Sinus Tarsi Syndrome
- Ligament sprain
- Degenerative joint disease
- Fracture of talus or calcaneus
- Subtalar joint dysfunction

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