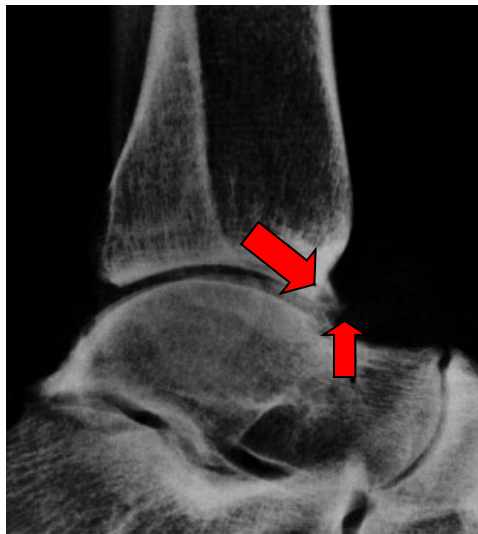


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Anterior Ankle Impingement

Anterior ankle impingement describes the abutment (contact) of bone and soft tissue, including scar tissue, at the front of the ankle as the ankle dorsiflexes (moves upward). Scar tissue or osteophytes (bony spurs) can form at the front of the ankle joint following ankle injuries, usually after repeated injury. When someone walks or runs and the ankle dorsiflexes (move upward), the scar tissue and osteophytes (bony spurs) between the lower part of the tibia and the talus bones at the ankle abut and contact each other resulting pain, inflammation of surrounding tissues, and decreased ankle motion (dorsiflexion).



X-ray of ankle with anterior spur

Frequent Signs and Symptoms

- Pain when dorsiflexing the ankle (bending the foot up at the ankle)
- Loss of ability to run, cut, or jump at full speed due to pain and loss of motion
- Swelling (occasionally) and locking (rarely)

Etiology (Causes)

- Repetitive injury to the ankle, particularly ankle sprains



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Risk Factors

- Participation in sports that require high speed change in direction and have high risk for ankle injury, including basketball, volleyball, football, soccer, tennis, etc.
- Repetitive injuries to the ankle
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or competition

Prevention

- Appropriately warm up and stretch before practice and competition.
- Maintain appropriate conditioning, including ankle and leg flexibility, muscle strength, and endurance.
- Use proper technique.
- Include core strengthening and proprioceptive (balance) exercises into off- and in-season training programs. Both activities can reduce the risk for ankle injury.
- Wear proper protective taping or bracing to prevent ankle injuries.
- Allow complete rehabilitation after an ankle or foot injury before returning to sport.

Outcomes

Often, with rest, nonoperative treatment, and activity modification, the secondary pain and inflammation can be reduced, allowing a gradual return to previous activities. However, if the condition is more severe (larger osteophytes and significant scar tissue), permanent activity restrictions or surgery to remove the osteophytes and scar tissue is required to alleviate symptoms.

Potential Complications

- Frequent recurrence of symptoms, resulting in chronically inflamed tissue, more scarring and a chronic problem with permanent loss of ankle motion
- Disability severe enough to diminish an athlete's competitive ability and force activity changes
- Arthritis of the ankle



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Treatment Considerations

Initial treatment consists of anti-inflammatory medications and ice to relieve pain and reduce inflammation. Stretching and strengthening exercises can sometimes be helpful. Restriction from activities that produce the symptoms is crucial and cross training such as biking and swimming can help maintain conditioning while resting. Injections with corticosteroids may help to reduce swelling and inflammation in the tissues which can decrease the symptoms and pain. Ankle braces or heel lifts that may reduce ankle motion to avoid impingement can allow an athlete to continue in some cases. For persistent and more severe cases, a permanent change in activities (biking rather than running) or surgery may be required. Depending on the severity of the case, surgery may be performed arthroscopically (through multiple small incisions with a joint camera) or open (single larger incision) to remove the osteophytes (bone spurs), the inflamed tissue, and chronic scar tissue.

Possible Medications

- Nonsteroidal anti-inflammatory medications, such as ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are sometimes recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Pain relievers are usually not prescribed for this condition unless surgery is performed.
- Injections of corticosteroids may be given to reduce inflammation and swelling of scar tissue.

Modalities

- **Cold** is used to relieve pain and reduce swelling and inflammation after the injury. Cold can be applied to the injury for 20 minutes every 3 to 4 hours as needed. Be careful not to apply the ice directly on the skin and do not leave the ice on too long as it can cause severe permanent injury to the skin.
- **Heat** may be used for 5 to 10 minutes before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak. Be careful not to apply heat for too long as it may burn the skin.

Notify My Office If Symptoms get worse



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