

Add Stability to Your Step

Treatment Options for Sprained Ankles

By Mark M. Jones, MD

Ankle injuries are the most common sports-related injuries. These injuries are usually divided into three categories: lateral ligament injuries, medial ligament injuries, and injuries involving the syndesmosis.

Lateral ligament injuries are by far the most common, constituting approximately 75% of ankle sprains. These injuries usually result from a combination of plantar flexion and inversion of the ankle.

This mechanism puts the anterior talofibular ligament (ATFL) in a vulnerable position, making

medial ligament complex, or the deltoid ligament, are uncommon; injuries to the medial ankle are often seen in association with fibular fractures.

Injuries to the syndesmotric ligaments, the ligaments that secure the tibia to the fibula, are commonly referred to as a high ankle sprain. These occur as a result of a combination of external rotation of the foot, dorsiflexion of the ankle, and axial loading. Such injuries are usually not isolated, but may be seen in combination with injuries to the medial deltoid ligament or fractures of the malleoli. Recognition of such injuries is important, as untreated syndesmotric sprains can lead to chronic pain.

Diagnosis

Evaluation of the injured ankle can be difficult if done immediately after the injury. Swelling and tenderness are often widespread. Clinical evaluation is much more specific four to seven days after the injury.

Testing of ankle stability via the anterior drawer test (grasping the heel and pulling the foot forward while stabilizing the tibia) and the talar tilt test (inverting the heel while stabilizing the tibia) is best done in comparison to the opposite ankle.

Radiographs are required for patients with tenderness at the tip or posterior edge of the medial or lateral malleolus, tenderness and pain at the base of the fifth metatarsal, or inability to bear weight for four steps. These criteria have been established to reduce the number of unnecessary x-rays. X-ray views include AP, lateral, and mortise views. Stress radiographs are difficult to obtain and interpret in the acute setting and are much more useful for cases of chronic instability.

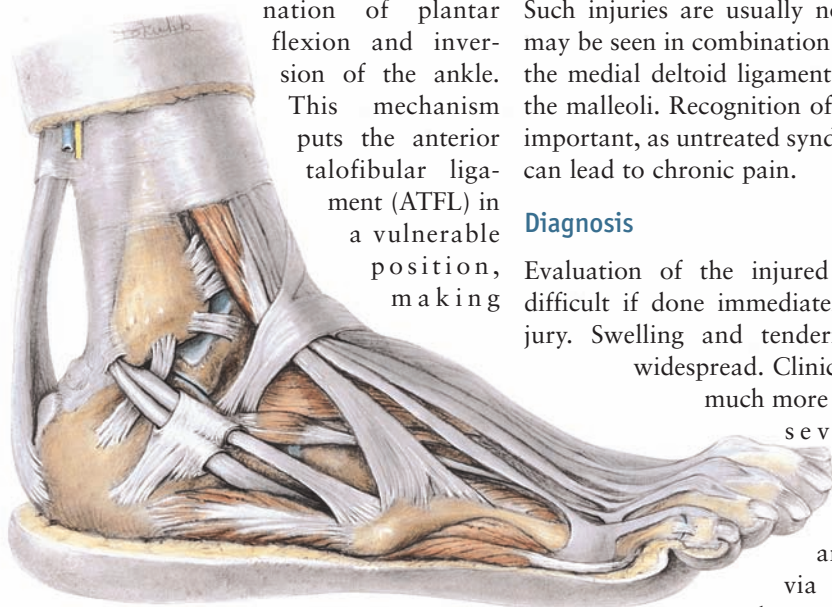
Treatment

Initial treatment of the acutely injured ankle should always include the “RICE” protocol of rest, ice, compression, and elevation of the extremity. During the one-to-three-week period after the injury, protection of the injured ligaments allows proper production of collagen fibers to replace and repair the damaged ligament. This is provided in the form of a brace, wrap, or taping. Beyond three weeks, controlled immobilization is important to prevent stiffness and atrophy. It takes four to eight weeks for new collagen fibers to withstand normal forces and stresses.

Surgery is rarely performed in the acute setting. It is reserved for cases in which there is a history of momentary but complete dislocation, clinical or radiographic suspicion of complete tears of the ATFL and CFL, or osteochondral injury of the talus and tibia.

Prevention

Most studies have supported the use of a laced ankle brace, either with or without taping, as the most effective means of preventing a sprain. Braces have also proven less restricting with regard to athletic performance. 🏃



Lateral view showing synovial sheaths and tendons at ankle; the ankle, subtalar, and calcaneocuboid joints are exposed to reveal their positions.

this the most commonly injured ligament. The remaining lateral ligaments, the calcaneofibular ligament (CFL) and the posterior talofibular ligament (PTFL), are often injured when the inversion continues far enough. Anatomic studies have demonstrated that an isolated ATFL injury occurs in about two-thirds of ankle sprains; combined ATFL and CFL ligament injuries occur in about 20% to 25% of cases.

Medial ligament injuries are less common and result from the body rolling over an inverted foot. Isolated injuries of the



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