



**QUESTION | MY PATIENT IS A 23 YEAR OLD MALE WHO ROLLED HIS ANKLE DURING A SOCCER MATCH THREE WEEKS AGO. THE INJURY WAS QUITE SEVERE, AND HE IS CURRENTLY UNABLE TO PUT WEIGHT ON HIS FOOT. THE GP ORDERED AN ULTRASOUND THAT INDICATED HE HAD A “COMPLETE RUPTURE OF THE ATFL AND CFL LIGAMENTS”. DO YOU EVER CONSIDER SURGERY FOR THESE PATIENTS?**

**ANSWER|** An ankle twisting injury can result in many different injuries to the bone or soft tissue around the ankle. The most common injury involves a tear of the Anterior Talofibular Ligament and Calcaneo-fibular ligament. These ligaments are stretched and vulnerable to injury when the ankle is plantar flexed and forced into inversion. Injury usually occurs when the peroneal muscles are not prepared to protect the ankle, such as when a basketball player lands from jumping onto another player's foot.

Grading systems have been created to describe these injuries, usually based on severity of injury to the ligaments. Grade 1 is a stretch to the ligaments, grade 2 a partial tear, and grade 3 a complete tear. A grading system can be useful to help explain in an injury to a patient and to help guide the appropriate treatment course. Unfortunately, the current system fails to help with ankle sprains, as the severity of injury to these ligaments has no correlation with length of recovery. Furthermore, current treatment protocol for all grades is nonsurgical and varies little across all grades.

Petersen et al. performed a systematic review in 2013 looking at the various treatments for lateral ankle sprains. They found that the main advantage of surgical ankle ligament repair is that objective instability and recurrence rate was less common compared to non-surgical treatment.

Balancing advantages and disadvantages of surgical and non-surgical treatment, they concluded that the majority of grades I, II, and III lateral ankle ligament ruptures can be managed without surgery.

For non-surgical treatment, long-term immobilisation should be avoided. Early immobilisation was found to be advantageous for grade III injuries, and a semi-rigid ankle brace helps to protect against inversion for all grades.

There is good evidence that acute ankle sprains should be supported by neuromuscular training and balance training to help prevent re-injury. The use of a brace is effective for prevention of ankle sprains.<sup>1</sup>

A Cochrane database systematic review was performed in 2007 to compare surgical versus conservative treatment for acute injuries of the lateral ligament complex of the ankle in adults. Looking at twenty randomized controlled trials, they concluded that there was insufficient evidence to determine the effectiveness of surgical and conservative treatment for acute lateral ligament injuries.<sup>2</sup>

My approach with an ankle injury starts by defining the nature of the injury and ruling out more severe injuries that may require surgery. I examine the patient to assess for any syndesmosis injury, lisfranc midfoot sprain or Achilles rupture. If I am unsure, I will order an urgent MRI and weight bearing radiographs to rule out these injuries. An ultrasound may help with identifying an AITFL ligament injury but an MRI will provide more information.

If my examination confirms an isolated injury to the lateral ankle ligaments, or further investigation confirms the same, then I initiate non-operative treatment in ALL lateral ligament sprains, regardless of the grade. The only instance that surgery would be considered is if there is gross instability or dislocation of the ankle on x-rays.

My non-operative protocol consists of early-protected weight bearing. I will usually provide a rigid ankle brace initially and instruct the patients to walk on the ankle as early as possible. If the patient cannot bear weight, then I will provide them with a cam walker to give them more stability. I believe this early weight bearing is important to prevent the development of complex regional pain syndrome. I allow minimal movement in the first four weeks, and NO inversion. My goal is to let the torn ligaments heal without being stretched.

After four weeks, patients can begin strengthening and proprioception exercises. They should avoid passive and active ankle inversion and plantar flexion past 10 degrees. The rigid ankle brace should be used at all times when walking.

At six weeks, further progression of rehabilitation, strengthening, and proprioceptive training is done to achieve full recovery, and return to sports is allowed when function is restored to the normal side. A brace or taping is advised for sport to help prevent re-injury for six months.

In Summary:

- The ATFL and CFL ligaments are commonly ruptured with a lateral ligament injury
- Reviews of the literature have shown that surgery is no better than non-operative management in the treatment of lateral ligament injuries.
- Non-operative management should involve the use of rigid ankle immobilisation, and early weight bearing should be encouraged.
- Early investigation with MRI and weight bearing radiographs is necessary if a syndesmosis injury is suspected as this may require early surgery.

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1. *Petersen W, Rembitzki IV, et al. Treatment of Acute ankle ligament injuries: a systematic review. Arch Orthop Trauma Surg 2013 Aug;133(8):1129-41.*
2. *Kerkhoffs GM, Handoll HH, et al. Surgical versus conservative treatment for acute injuries of the lateral ligament complex of the ankle in adults. Cochrane Database Syst Rev. 2007 Apr 18;(2).*