Syndesmotic Ankle Sprains in Athletes

Reference:

Scientific Literature Reviews

Reviewed by: Thuy Ho, DPM
Residency Program: Saint Joseph Regional Medical Center, South Bend, IN

Podiatric Relevance:
Ankle sprains are the most common injuries among athletes. Often times, the lateral ankle ligaments are the main focus of clinical evaluation. Assessment of the distal tibiofibular syndesmosis can often be missed or ignored. Consequently, syndesmosis injuries have been underdiagnosed. Differentiating lateral ankle sprains from syndesmotic injuries can sometimes be difficult. The proper diagnosis and management of tibiofibular syndesmosis sprains (high ankle sprains) can become challenging when determining the extent of injury, expected time of recovery, and the best treatment approach for the athlete.

Methods:
This was a literature review discussing the anatomical content of the distal tibiofibular syndesmosis, the mechanism of injury for syndesmosis sprains, the incidence of such injuries, and the diagnosis and treatment

Results:
From the literature available, the authors found that anatomically, there was no significant difference between the AITFL and PITFL in strength or stiffness. They found that classically, the mechanism of injury involves the ankle externally rotating with the foot dorsiflexed and pronated. However, some studies show that syndesmotic injuries do occur with inversion sprains. The incidence of syndesmosis sprains reported among their review showed about 75% of these injuries occurred during football, lacrosse, hockey, and rugby, whereas the incidence among the general athletic population was only 10-20%.

Diagnosis should include palpation for anterior tenderness and its extent proximally, as this correlates with severity of injury and recuperation time. Two studies looking at the reliability of tests to diagnose syndesmotic ruptures, revealed that current tests are unable to predict the degree of instability in these injuries. Radiosteriometric studies revealed that when the AITFL, PITFL, and deltoid ligaments were sectioned, mean medial-lateral translation was only 1 mm and anterior-posterior translation was 1.9 mm, demonstrating unreliability of stress radiography. MRI studies are much more reliable in diagnosing syndesmotic injuries, with 100% sensitivity and 93-100% specificity. The optimal rehabilitation is unknown, as no published randomized controlled trials investigate rehabilitation of these injuries. The authors describe their preferred 3-phase approach for rehabilitation. Surgical treatment remains controversial, but based on the literature, the authors found that fixation was not necessary to gain stability, though it facilitated stable healing.

Conclusions:
This article provides a good review of the anatomy, proper diagnosis, and treatment options for syndesmotic injuries. Syndesmotic injuries not only occur more often than lateral ankle sprains in collision sport injuries, but also involve more time lost from activity. Increased awareness among physicians can allow for proper diagnosis and fewer delays in treating syndesmotic injuries. More studies are needed to formulate a standard approach in recognizing and managing this underdiagnosed injury.