DELTOID LIGAMENT SPRAIN WITH ANTERIOR TIBIOFIBULAR AND SYNDESMOSIS SPRAIN IN A FOOTBALL PLAYER
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Background: A 23-year-old male senior Division-I football player presented with acute medial, lateral, and superior left ankle pain. The athlete is 195.6cm tall and weighs 114.76kg. The athlete was participating in a spring scrimmage when he made a reception and was running down the sideline and was tackled out of bounds from behind. Upon being tackled to the ground the athlete did not get up and was in noticeable pain while grasping his ankle. This athlete had a previous history of ipsilateral lateral and syndesmotic ankle sprains. The mechanism of injury was not clear due to the number of opponents surrounding him when the injury occurred. The athlete also was not able to state exactly what position his ankle was in at the time of injury. He said that all he knew was that he was tackled and someone came down on the back of his ankle. After initial inspection at the injury site, the athlete was brought to a treatment table located on the sideline, where the team physician evaluated the patient. After evaluation, the athlete's ankle was placed in an air splint and he was taken into the athletic training room. Upon arrival to the athletic training room, the physician used a fluoroscope to examine the athlete's ankle. Upon this examination it was recommended that the athlete receive X-rays as well as an MRI. The X-ray and MRI revealed a medial ankle and syndesmotic sprain. Differential Diagnosis: Maisonneuve Fracture, Talar Fracture, Calcaneofibular Sprain, Deltoide Ligament Sprain with Anterior Tibiofibular Syndesmosis Sprain. Treatment: The athlete was placed in a walking boot and on crutches and was referred for surgery. The athlete was not participating in any rehabilitation program because he had previously completed one for prior sprains before this injury. The athlete had surgery two days post-injury. During surgery, the physician placed two screws into his lower leg between the tibia and fibula to prevent strain placed on the syndesmosis. Before surgery the athlete received 20-minute Gameready treatments with varying pressure to minimize edema and inflammation. After surgery, the athlete began an aggressive rehabilitation program in an effort to return to play as soon as possible. His program included range of motion (ROM) and strength exercises to safely increase ankle ROM and strengthen the surrounding musculature of the ankle. Since the athlete was not able to bear weight, he started proprioceptive exercises in a rehabilitation pool. As he was able to place more weight on his ankle, more intense exercises were instituted which focused on strengthening muscles in his lower and upper leg. Proprioceptive exercises on firm surfaces in addition to the pool were introduced into his rehabilitation program as well as cardiovascular exercises to maintain his fitness. The athlete returned to play 34 days post surgery. Gameready treatments in conjunction with rehabilitation exercises continued throughout the remainder of the season. Uniqueness: Anterior tibiofibular and syndesmosis sprains involving the deltoid ligament are common injuries. However, they usually do not occur at the same time. When these injuries do occur, they are treated conservatively with gradual rehabilitation until the athlete can bear weight and return to play. In this case, screws were inserted into his lower leg to reduce the syndesmosis sprain allowing quicker progression to weight bearing and return to play. Conclusion: Suffering a torn deltoid ligament with an anterior tibiofibular and syndesmosis sprain simultaneously is uncommon. Usually these are treated conservatively, but surgical intervention can be utilized to decrease recovery time and ensure healing of the syndesmosis and tibiofibular ligament. Long-term consequences of this type of management have yet to be determined.