DIAGNOSIS AND TREATMENT OF A RADIAL HEAD FRACTURE IN A COLLEGE FOOTBALL PLAYER


Background: The purpose of this study is to discuss the effectiveness of a single hinged elbow immobilizer with a short arm cast to treat a radial head fracture with a second degree ulnar collateral sprain. The athlete is a 19 year old college football player with no previous history of elbow injuries. The athlete presented the acute elbow injury to the Athletic Training staff during a practice drill. The athlete was blocking for a running play on the line of scrimmage with both of his arms extended. Pain was described both medially and laterally about his left elbow. There was no obvious deformity noted. The athlete described a valgus force with his elbow forced into extension with external rotation. Initially the athlete had dull pain on the medial and lateral aspects of his elbow. His pain was mild to moderate with point tenderness, especially over his radial head. All fracture special tests came up negative. A valgus test came up positive for pain with minimal laxity. The following day the athlete came in complaining of severe pain over his ulnar collateral ligament and radial head. He also noted pain with rotation of his affected arm. The patient was then scheduled to meet with the doctor who recommended x-rays.

Differential Diagnosis:
1. Contusion to the extensor mass of his left arm
2. Strain to the extensor mass of his left arm
3. Contusion to the lateral humeral epicondyle

Treatment: Radiographs were taken of the affected area, which revealed a fracture of his radial head. The patient also underwent a magnetic resonance imaging which revealed a second degree tear of his ulnar collateral ligament. After the diagnosis was completed the athlete was casted over his left upper arm and on his left forearm for 6 weeks. A hinge linked the two which restricted ROM and prevented him from any valgus forces on his humeroulnar joint. While the cast was on he worked on his grip strength by doing ball squeezes. After the cast is removed his rehabilitation will include building back a full ROM and building his strength in the surrounding musculature.

Uniqueness: A radial head fracture not resulting from a direct blow is fairly uncommon. This left arm was forced into a valgus position while externally rotating. The casting method for this injury is also unique because of the unusual
combination of structures injured. The other unique aspect of this injury is that all of the initial fracture tests came up negative.

**Conclusion:** Overall the casting method and the treatment for the radial head fracture and the UCL sprain were successful. Due to the timing of the injury the athlete decided to red shirt the season. The athlete will continue his range of motion and strengthening exercises throughout the rest of the season. He is expected to have full function and strength by the start of next season.

**Key Words:** Radial Head Fracture, Ulnar Collateral Ligament Sprain