Background: A 16 year old high school football quarterback reported to the athletic training room complaining of chronic right medial elbow pain. Evaluation revealed a wrist flexor strain. The athlete received modalities for pain control for one week and then returned to football activities pain free. During the next week's game the athlete reported a “pop” during the “cocking” phase of his throwing motion. There was minimal edema over the ulnar collateral ligament (UCL) of the elbow and there was a palpable mass over the medial epicondyle of the humerus. The athlete had 90 degrees of elbow flexion and was lacking 10 degrees of elbow extension. Special testing revealed a (+) valgus stress test. Neurovascular testing was normal. Differential Diagnosis: Wrist Flexor Strain, UCL Sprain, Avulsion Fracture, Medial Epicondylitis. Treatment: The athlete was referred to the emergency room for x-rays. The results of the x-rays were negative and he was diagnosed with a UCL sprain. The patient began receiving cryotherapy, and e-stim to control pain and edema. The edema subsided after 1 week, but the athlete still reported pain and was unable to flex his elbow more than 30 degrees without pain. The athletic trainer referred the athlete to receive a second set of x-rays. The second set of x-rays, revealed an avulsion fracture of the UCL from the medial epicondyle of the humerus. Surgery was recommended to repair the avulsion. The surgery consisted of a screw to pin down the avulsed bone and a figure eight wiring to apply tension to the bone. After surgery, the athlete was casted for 6 weeks. Upon removal of the cast, the athlete was instructed on exercises to increase his range of motion with in his elbow joint. The athletic trainer had applied anterior and posterior joint mobilization to increase flexion and extension in the elbow, in association with active and passive stretching techniques. After one week of rehabilitation, the athlete had pain free, full range of motion. The athlete began to work on increasing his strength and muscular endurance. Due to lack of exercise equipment, the athlete was referred to a sports medicine clinic to do more strengthening, proprioception, and progress to functional exercises. Currently the athlete is at 90 percent of his original strength. The athlete is also working on his proper throwing mechanics, so he is able to throw without pain. Uniqueness: This injury is unique because it is a non-traumatic UCL avulsion fracture in an adolescent. Typically an avulsion fracture has a chronic mechanism, this fracture was cause be an acute mechanism. The UCL did not rupture, but instead, it avulsed from the humerus. Surgery was opted instead of using a conservative treatment to treat the avulsion fracture by pinning it to the humerus. Typically avulsion fractures are treated conservatively in adolescents because the bone is still soft and the fragment will bind back to the rest of the bone with just being casted. Conclusion: Athletic trainers need to be aware that UCL avulsion fractures can occur from a chronic or acute mechanism. Research shows that it is more common for adolescents to have an avulsion fracture because the bone is still soft and the muscles, tendons, and ligaments are stronger than the bone. While surgery is not always necessary; surgery would be a
more effective treatment than a conservative approach because of the size of the avulsion fracture. The doctor felt that surgery would allow the athlete to return to football the following year, with a minimal chance of re-injury. **Key Words:** Avulsion fracture, medial elbow pain, improper throwing mechanics, over head athlete. **Word Count:** 590