Kienbock’s Disease in a 21 year old male collegiate wrestler
Matz NG, Kulpa TA, Knouse CL, Ciocco MM: King’s College, Wilkes Barre, PA.

**Background:** The patient reported to family physician (physician A) complaining of mild pain in left wrist (dominant hand) one week after closing a car door. The patient had been an avid weight lifter and had no previous history of wrist injuries. Patient’s pain increased to a 9/10 with wrist hyperflexion. Pain and point tenderness was at the dorsal, distal radiocarpal joint and over the lunate. No edema, ecchymosis, deformity noted. Patient lacked 15° of flexion. RROM was weak in all directions except for extension compared to contralateral side. All special tests were negative. Jamar grip test in position 3 was 150/140lbs. Patient was neurovasculary intact. **Differential Diagnosis:** Lunate subluxation, lunate fracture, flexor carpi radialis strain, radiocarpal ligament sprain, Kienbock’s Disease. **Treatment:** Initial treatment was to wrap with an elastic bandage and advised to decrease load with upper extremity exercises. When patient’s pain did not decrease he was referred to an orthopedic physician (physician B) who ordered x-ray’s, which were negative for fracture, but did demonstrate a minor negative ulnar variance bilaterally. An MRI, showed edema to the lunate, no fracture. A triple phase bone scan showed increased activity over the lunate, with unremarkable findings on the right side. Diagnosis was Kienbock’s Disease, avascular necrosis of the lunate. He was placed in a cock-up splint and ordered to discontinue all activity. The patient saw an upper extremity specialist (physician C) to confirm diagnosis. The patient returned to school, informed ATC about problem, and was advised to continue course of treatment. Additional x-rays and MRI showed no changes from previous films. Physician C confirmed the diagnosis and presented option of radial shortening surgery. The physician agreed to conservative course of treatment if an additional MRI showed healing. The patient sought third opinion on own accord. Physician D ordered a grip x-ray which showed a positive ulnar variance. Physician D advised against the surgery secondary to x-ray results. At 8 weeks, athlete reported back to Physician C with resolution of symptoms and a new MRI showed decreased lunate edema. The patient, ATC, and physician agreed to postpone surgery and continue conservative treatment. A 12 week MRI showed further resolution of edema. A MRI at 14 weeks was considered normal. Patient was removed from the cock-up splint and advised to begin rehabilitation with ATC. Rehabilitation consisted of wrist strengthening and avoiding proprioception exercises (loading position of the wrist). The patient had been performing cardiovascular exercise and lower extremity weight lifting throughout the immobilization process leading to accelerated return to participation. The patient was cleared to return to wrestling 16 weeks after initial injury with wrist taping preventing hyperflexion. **Uniqueness:** We found few relevant cases of Kienbock’s Disease in collegiate athletic populations. Many of the cases we did find were in gymnasts and competitive weight lifters. This athlete fits into Stage II classification due to defined density changes in the lunate. Typical treatment for this stage is surgery involving radial shortening/ulnar lengthening or revascularization. We did not find cases involving only conservative treatment for this stage. The literature is unclear about the etiology of Kienbock’s Disease. It is unclear whether the acute injury caused the disease, or if the disease was present and the acute injury caused it to become symptomatic. **Conclusions:** The ATC should be aware that these injuries can occur and should recognize the etiology in order to provide appropriate medical treatment. Diagnostic imaging needs to be pursued if signs and symptoms persist over the lunate. Early recognition and conservative treatment worked well in our case, and prevented the athlete from needing surgery and missing the entire season. **Word Count:** 598