Os Acromiale in a High School Wrestler
Morelli ND ATC*, Sterner RL PhD ATC: Rowan University Glassboro, NJ. *Ithaca College Ithaca, NY

**Background:** A seventeen-year-old male high school wrestler was thrown to the mat during a wrestling match and landed directly on his right acromial process in a fully abducted and externally rotated position. He experienced immediate pain, point tenderness, and decreased range of motion due to pain. A percussion test to his acromion was positive, thereby indicating that all other special tests were contraindicated due to the possibility of a fracture. After the evaluation, it was decided that diagnostic testing was warranted. An MRI revealed a stress fracture to the acromion along with a predisposing pathology called os acromiale. Os acromiale is a congenital condition where one of the acromion’s epiphyseal plates fails to fuse together. This underlying pathology has been found to be a predisposition for many shoulder pathologies. **Differential Diagnosis:** Acromioclavicular sprain, fracture to the clavicle, labral pathologies, and rotator cuff pathologies. **Treatment:** An MRI revealed a stress fracture-like pathology to his acromion. The supervising physician diagnosed os acromiale as a predisposing condition for the stress fracture. This patient was placed in a sling for seven days to protect the shoulder from extraneous movements. During this time, he was treated for pain modulation using interferential electric stimulation and ice. On day eight, light range of motion exercises, increasing in five-degree increments every two days, was added to the rehabilitation program. Two weeks post injury the patient began some light biceps and triceps strengthening exercises and proprioceptive neuromuscular facilitation drills to strengthen and coordinate movements within the shoulder complex (within a pain-free range of motion). The athlete responded well to the rehabilitation so a functional progressive rehabilitation program was implemented at week three. This injury occurred at the end of the wrestling season; therefore the patient was unable to participate in any of the remaining practices or matches. However, he was able to return to functional activity one month after the injury occurred and was back to full activity 6 weeks post injury. **Uniqueness:** A stress fracture to the acromion is a rare pathology by itself, but to also have congenital os acromiale makes this case more unique. Os acromiale has been found to only affect about 8% of the population. This pathology is normally associated with rotator cuff tears and labral pathologies, however in this situation a stress fracture preceded the diagnosis of os acromiale. **Conclusions:** Os acromiale is a rare condition that has been shown to predispose the shoulder to different injuries. Since it is impossible to tell if an individual has os acromiale without diagnostic imaging, there is no way to prevent secondary pathologies from occurring. If a patient presents with repetitive shoulder pathologies, os acromiale could be an alternative diagnosis. After the diagnosis, athletic trainers can use preventative braces and implement more functional rehabilitation techniques to teach proper biomechanics. If correct biomechanics are used this will decrease the likelihood of chronic shoulder pathologies. **Word Count:** 505