Os Trigonum Syndrome: A Case Study
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**Background:** A twenty one year old, right limb dominate, 6’4, 197 lb, Division III college male basketball player sustained an os trigonum injury during a team scrimmage in week five of the season. The athlete indicated that his right foot was forcefully plantarflexed while stepping forward. He had a history of posterior heel pain and discomfort when pushing off his right foot since the second week into the season. The patient described pain as sharp, but not overwhelming both medial and lateral to the Achilles tendon. Pain was presented over the medial and lateral sides of the Achilles tendon, and mild swelling was observed over the posterior heel. The os trigonum stress test imposed pain with forceful plantarflexion. **Differential Diagnosis:** Differential diagnosis in this patient include ruling out Achilles tendinitis, peroneal tendonitis, flexor hallucis longus tendonitis, Achilles tendon rupture, posterior talus fracture, and ligamentous sprains in the foot. **Treatment:** Initially, the patient was iced in the athletic training room and told to ice again at home along with taking an anti-inflammatory (400mg of ibuprofen) before bed. The rehabilitation process began the following day before practice with icing and dorsiflexion stretches. The patient complained of sharp posterior ankle pain after practice with most of the pain relieved with stretching and ice. Other rehabilitation techniques used included theraband ankle strengthening exercises (inversion, eversion, plantarflexion, and dorsiflexion), proprioception exercises involving a single leg trampoline balance and ball catching technique, increasing ROM, and taking 200-400mg of ibuprofen as needed. The goal of having the patient pain free and fully functional during activity was quickly reached. Taping to prevent extreme plantarflexion and possible irritation to the os trigonum was used once, however the patient refused further strapping techniques in the future. Currently, the patient claims to have stiffness in the posterior ankle at night and in the morning. **Uniqueness:** Os trigonum syndrome is a very unique injury because of the low percentage of individuals who actually possess this defect. An os trigonum is formed when Stieda’s process (posterior bony projection off the talus) separates from the talus. In about 93% of the population, the process fuses together with the talus within the first year of appearance. The other 7% of the population’s process fails to fuse with the talus during ossification, thereby generating the os trigonum pathology. Specifically, this case is unique in the way it was diagnosed without and x-ray or MRI. Ruling out differential diagnoses, as well as the signs and symptoms noted and special tests performed to elicit pressure on the os trigonum region, contributed to our diagnosis. **Conclusion:** The goal of having the patient pain free and fully functional during activity was quickly reached. This patient is generally asymptomatic, and has been demonstrating great improvements. He occasionally suffers from post-activity soreness over the os trigonum region, which is effectively reduced with stretching followed by ice. A year later, the patient suffers from minimal discomfort with activity. The patient claims that the discomfort goes away between activity periods, and mentions that the minimal discomfort level does not require him to perform any treatments. **Word Count:** 530.