Os Trigonum in a High School Soccer Player
Bulman J, Sterner RL, Briles K, Ali A; Rowan University, Glassboro, NJ

**Background:** A 16 year old female soccer player was evaluated in the Athletic Training Clinic following a preseason practice. The chief complaint was pain along the medial aspect of the right ankle. The athlete collided with another player resulting in the foot being forced into eversion. A medical history indicated that there was a previous fracture to the talus of the involved limb. Initial pain was described as a four out of ten with a one out of ten rating with activities of daily living and a one out of ten rating while at rest. The patient’s gait appeared normal at the time of the initial evaluation. However, there was mild edema and swelling over the deltoid and the medial malleolus. All fracture tests suggested there was no acute fracture to the tibia, fibula or other foot structures. All range-of-motion assessments were within normal limits; however, pain was elicited during active, passive, and resistive eversion, as well as resistive inversion and ankle plantarflexion. Manual muscle testing revealed weakness and pain of the Tibialis Posterior and Peroneus tertius. Talar tilt and Kleiger’s test were both positive for pain when moving the foot into eversion. There were no circulation or neurological deficits present. The initial diagnosis was believed to be a grade I eversion ankle sprain. However, following 2 weeks of unsuccessful rehabilitation, the patient was referred for an x-ray, which revealed the presence of bilateral Os Trigonum syndrome. **Differential Diagnosis:** Os Trigonum can go unnoticed due to the location of pain and its association with achilles strain or ruptures. Talar fractures can be indicated if the mechanism of injury involved forced plantarflexion of the sub-talar joint. In this case, an eversion ankle sprain was the initial impression. **Treatment:** Conservative treatment has taken place while maintaining patient comfort. Rehabilitation has included stretching exercises, range-of-motion exercises, isometrics, and neuromuscular control, followed by resistance exercises. All rehabilitation activities were done while avoiding terminal plantarflexion of the ankle joint to avoid irritation following the discovery of the Os Trigonum. **Uniqueness:** The patient had previously suffered a fracture to the talus. Although an x-ray was used previously to diagnose the fracture, the Os Trigonum was not identified at that time. Knowledge of this injury was not available until the present injury occurred. **Conclusion:** Although the patient presented initially with an eversion ankle sprain, concern began to arise when the patient was not recovering in a timely fashion. The presence of Os Trigonum in both ankles may be a contributing factor to the delay in recovery for this patient. This may be due to the fact that while participating in practices and games, there was constant irritation to the posterior aspect of the talus. **Relevant Evidence:** Os Trigonum is often found accidentally during the time of a radiograph and is present in approximately 10% of the population. It is difficult for physicians to differentiate between a true Os Trigonum and a fracture to the lateral tubercle of the talus. Often observation of the fragment is helpful in identifying whether Os Trigonum is present. Os Trigonum will appear smooth and rounded while a fragment due to a fracture will present as jagged. Past literature has suggested conservative treatment initially for this pathology, including RICE therapy. NSAID’s can be utilized when pain is present. Stretching exercises and ankle rehabilitation programs should be initiated and performed as tolerated. Surgery is considered four to six months following unsuccessful conservative treatment. **Word Count:** 592.