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Trevor Pfister

Kent State University, College of Education, Human and Health Sciences, ewalters@bw.edu

Samantha Phillips

Kent State University, College of Education, Human and Health Sciences, sphillips@kent.edu

Trent Stratton

Kent State University, College of Education, Human and Health Sciences, tstratton@kent.edu

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Lumbar Transverse Process Fractures in Collegiate Male Football Player

Trevor Pfister, ATS, Samantha Phillips, ATS, and Trent Stratton, MS, AT

Kent State University, College of Education, Human and Health Sciences

Background: 20 year old male football player with no prior complaints tackled to the ground after being airborne, landing on the left leg and hit in the back by opponent's helmet and reported severe pain and extreme difficulty with activity and relieving pressure off of the left leg. Initial examination found as posterior hip contusion, later re-diagnosed as transverse process fractures at L2, L3, and L4. Signs and symptoms include point tender over the PSIS, pain with trunk rotation, burning sensation over the SI area. No radiating or neurological pain into buttock or leg. No deformity, edema, ecchymosis. Pain worsened over time.

Differential Diagnosis: SI joint contusion, posterior hip contusion, lumbar spine injury, muscle strain.

Treatment: X-rays found transverse process fractures at L2, L3, L4 and potentially an old spondylolisthesis. There was no evidence of a pelvic fracture. Final diagnosis is transverse process fracture of the lumbar spine. Treatment includes resting for two weeks, modality use of electrical stimulation and ice, and renewing X-rays to follow healing. After two weeks, core stability and strengthening is incorporated.

Cardio on the elliptical is encouraged. Healing is moving slow but shows promise. Return to play should be relatively short due to there being no traumatic injury in addition to the fractures such as splenic or liver rupture, pneumothorax, or internal bleeding.

Uniqueness: Typically in sport, transverse process fractures occur at low-velocity mechanisms of injury and overuse and in the general public, from intense scenarios such a car accidents. In such high velocity traumas, there is a significant probability of traumatic internal and/or abdominal injury. There were no secondary or other traumatic injury. The return to play timeline is also usually long for a minor fracture.

Conclusions: We have found that treatment of the transverse process fractures should include rest and pain management for the initial stage. Once pain subsides, the patient may begin with core stability and strengthening. Clinical Application: These findings may help with future transverse process fracture protocols because the occurrence is low in the athletic population and often accompanied by traumatic injury.

Key words: Lumbar, Transverse process, Fracture, Football, Collegiate