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Early Onset-Scoliosis Leads to Spinal Fusion in Young Female Athlete

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Objective: To identify the cause of the athlete's pain and to also determine what treatment is needed for the athletes to return to play with little to no pain. In 2009 the twelve year old female athlete started to develop severe back, foot, and shoulder pain.

Background: Athlete has no previous history of back issues until now, but mother had scoliosis when she was younger but grew out of it and did not require surgery to fix it.

Differential Diagnosis: Other causes for the pain she was reporting could have been a spondylolisthesis/spondylosis, bulging disc, spina bifida, and possibly a leg length discrepancy since she reports foot pain. The shoulder pain could be from her mechanics being off or from volleyball.

Treatment: Athlete was first given a brace to wear during volleyball and when she sleeps. After the first follow up the athlete seemed to improve and then the physician ordered physical therapy. The athlete was told to follow up with physician every 4-6 months, and athlete seemed to improve through 2010 and 2011. A follow up in May of 2012 the athlete started reporting the same pain again and tolerated the pain until a later follow up with physician in November of 2012. After the follow up, the athlete decided to have surgery to fix her curvature. Athlete had surgery in December of 2012, where they fused vertebrae T4-T10. The athlete followed up at 2-4 weeks, 3 months, 6 months, and then one year post operation. In

September of 2014, the athlete still was reporting low back pain and went to the athletic trainer to get evaluated. The athlete was diagnosed with an erector spinae grade one strain. Athlete was given rehab to strengthen core and also hip strength. Athlete was also advised to work on posture. Rehab consisted of core strength doing sit-ups, marching in place, and bridges. Hip strengthening was also done which was abduction/adduction, external rotation with thera-band, monster walks with thera-band, side steps with thera-band, and straight leg raises. Athlete was also given hamstring curls, rows with thera-band, manual therapy for trigger point release to the erector spinae and piriformis. Also the use of e-stim was used on left lumbar and piriformis. Athlete has progressed; she has been keeping up with her rehab and staying very active. Athlete still has pain but tolerates it, and has no pain when she takes days off. Since athlete is a senior she will be graduating and signed to play volleyball in college.

Uniqueness: This injury is unique because athlete had a significant curve in her back and needed spinal fusion surgery to fix the vertebrae at a young age.

Conclusion: A seventeen year old female volleyball player with scoliosis needed T4-T10 fusion at the age of twelve years old. This is relevant in the athletic training field because it's not something we treat often, it is helpful to know what treatments were done to establish if it did or did not work and to determine if more research needs done.

Key words: Fusion, erector spinae, scoliosis