Brachial Plexus Neuropathy Specific to the Long Thoracic Nerve in a Men’s Basketball Player
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**Background:** A 19-year-old male Division III basketball player presented to the athletic training room with difficulty forward flexing his right shoulder due to pain and weakness. He complained of upper trapezius muscle pain with active lateral neck flexion, and point tenderness over the medial border and inferior angle of the scapula. He could not recall a known mechanism of injury (MOI). Upon initial examination there was obvious scapular dyskinesis, winging scapula, and serratus anterior weakness when the shoulder was actively flexed or abducted above 45°. **Differential Diagnosis:** Long thoracic nerve palsy, brachial plexus injury, cervical disc pathology, cervical stenosis, upper extremity nerve entrapment, rotator cuff tear, glenoid labrum tear. **Treatment:** The athlete was referred to the team physician who performed an examination, and ordered neck and shoulder x-rays along with nerve conduction velocity testing. All tests were normal. He was diagnosed with acute brachial plexus neuropathy of the long thoracic nerve/Parsonage-Turner Syndrome. He was prescribed a course of prednisone and referred to an orthopedic surgeon who recommended conservative treatment involving a period of rest and avoiding overhead activities, while managing pain and spasm with modalities. After several weeks the pain improved, and exercises focusing on the rotator cuff at 0 degrees were performed as well as concentrating on shoulder retraction when performing activities. At 4 weeks post-injury, there was an increase in pain-free AROM of the shoulder and exercises at 90 degrees were added with a focus on neuromuscular control and scapular stabilization. By 6 weeks the athlete was able to begin controlled drills in practice that involved shooting, rebounding and defending, but the athlete complained of discomfort in the shoulder with prolonged running. To avoid aggravating the upper extremity while maintaining cardiovascular fitness, the athlete alternated bike and elliptical workouts. Although the scapular winging was still present, the dyskinesis was beginning to mimic a more normal/functional pattern. The athlete could shoot a basketball since the injury does not involve his shooting hand, using his guide hand to about 90° of forward flexion before experiencing pain. By 8 weeks he was able to begin participating in sport specific drills wearing a brace designed to stabilize the scapula. He completed the rest of the basketball season with minimal limitations, mostly complaining of muscular fatigue in the shoulder. There is no timeframe for full recovery, but the orthopedic surgeon discussed performing a surgical decompression if he is not recovered in a year. For now the athlete would like to continue a conservative approach of modalities and rehabilitation. **Uniqueness:** Long thoracic nerve palsy is rare, but when present it is usually the result of a traction force, direct blow, vigorous overhead activity, or pressure being placed on the nerve from a backpack, all causes which the athlete denied. The athlete did not present with pain or dysfunction immediately after, or even the day after practice. Rather his onset was insidious; he awoke unable to raise his arm. The athlete’s quick return to play is not typical and is likely attributed to the non-dominant side being affected, allowing him to become functional more quickly. **Conclusions:** Without an MOI, the exact cause of long thoracic nerve palsy is hard to conclude. Clinicians must differentially diagnose the injury and subsequent cause of shoulder dysfunction so that proper rehabilitation is implemented. It is challenging to put a timeframe on complete recovery with some cases taking up to 2 years and possibly requiring surgical intervention. It is important for the clinician and athlete to understand the goals of the rehabilitation process, and the longer duration it takes for nerve tissue to heal. **Word Count:** 596