

Using Scapular Repositioning Exercises to Correct Glenohumeral Internal Rotation Deficit

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Background: Shoulder injuries in throwing athletes have been linked to alterations in glenohumeral rotational ability. Glenohumeral internal rotation deficit (GIRD) has been shown to be a contributing factor to developing superior labral tears and posterior impingement symptoms. It has been hypothesized that the posterior capsule may become tight creating this loss in internal rotation. The common treatment for the proposed tight capsule has focused on stretching the capsule either manually or through specific self-stretches. However, scapular repositioning exercises may also be effective in restoring internal rotation. Therefore the purpose of this case report is to present scapular repositioning strategies used to reduce GIRD in a high school baseball player.

Case Description: A 17 year-old high school senior baseball catcher presented with a 6 week history of right shoulder pain during throwing. The athlete started playing baseball competitively at 7 years-old which has consisted of playing mostly on select baseball teams. Objectively, he presented with thoracic abduction, a depressed and protracted right scapula with hypertonicity in his right latissimus dorsi muscle. Shoulder range of motion of his dominant arm was 117° external rotation, 42° internal rotation with 159° of total rotational range of motion. His non-dominant side measured 108° external rotation, 70° internal rotation with 178° of total rotational range of motion. On his initial visit, he was introduced to two repositioning exercises for the right scapula: belly press and a modified left sidelying hip lift.

Outcome: During the first visit, the scapular repositioning drills improved his glenohumeral internal rotation to 62°. Four days later the patient was seen for follow up. Measurements taken at the start of the session showed he maintained this reposition as his internal rotation measured 60°. Demonstrating that he was able to maintain good GH motion, the patient was started on rotator cuff and scapular strengthening exercises specific to baseball. The patient was seen for 2 more visits, 6 and 11 days following his initial visit, for additional rotator cuff/scapular strengthening exercises and throwing biomechanical analysis and correction. After 4 visits, the patient was symptom-free throwing and did not need further follow up visits.

Discussion: This case report highlights the process of using scapular repositioning techniques for the treatment of glenohumeral internal rotation deficit as compared to a stretching routine commonly given as the treatment.