

EFFICACY OF REFLEXIVE NEUROMUSCULAR STABILIZATION DURING TREATMENT OF SCAPULAR DYSKINESIA IN AN OVERHEAD ATHLETE: A CASE REPORT

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ABSTRACT

Background and Purpose: Shoulder injuries are common amongst overhead athletes. Dysfunctional motor patterns (scapular dyskinesis) may be the cause or result. Improperly treated, they can sideline athletes or reduce quality of life. Current treatment protocols are lengthy and may result in recurrence. Individualization of treatment is key. Functional tests, like the Selective Functional Movement Assessment (SFMA), help discern and properly identify dysfunction, paving the way for interventions like reflexive neuromuscular stabilization (RNS). RNS focuses on restoring proper motor control and may positively influence healing. The purpose of this case report is to describe an evaluation and treatment strategy for scapular dysfunction in an overhead athlete.

Case Description: The subject was a 16-year-old, multi-sport athlete in the high school setting. He presented with upper back pain during his sophomore baseball season. Clinical findings upon examination included but were not limited to irregular scapular positioning as compared bilaterally, dysfunctional scapular movement patterns, soft tissue muscular irritability and loss of glenohumeral (GH) ROM in internal and external rotation, flexion and abduction. Intervention consisted of a combination of positional release therapy and reflexive neuromuscular stabilization aided by some traditional therapeutic modalities.

Outcomes: The combination of conservative treatments and RNS provided relief of the subject's symptoms in a shorter time frame, three treatments over the course of six days, than just utilizing traditional protocols. The utilization of the paired treatments resulted in diminished pain, restored ROM and improvement in perceived fluidity (speed and stability) of motion as observed by the clinician. A minimal clinically important difference (MCID) was reported on the disablement of the physically active scale (DPAs) on all follow-up treatments as well as on the numeric pain rating scale (NPRS) after the first and second treatments. The minimal detectable change (MDC) requirement was met on the patient specific functional scale (PSFS) prior to the second and third treatment. The activities measured with the PSFS were: GH flexion, GH abduction and throwing a baseball.

Discussion: In this case report, the use of the SFMA along with a traditional orthopedic examination allowed for proper identification and location of the dysfunctional motor patterns. The coupling of a traditional modality like the moist heat pack, with PRT and RNS proved to be a beneficial treatment combination for this subject as it provided a clinically meaningful resolution of his condition. Even though current literature suggests that treatment for scapular dysfunction is comprised of three phases over the course of ten weeks, clinicians should focus on the individualization of the treatment, possibly utilizing novel interventions like PRT and RNS.

Level of Evidence: 4 Case Report

Keywords: Movement patterns, motor control, shoulder complex

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