

ASSET case presentation

Case Presentation Title: Physical Therapy treatment, outcomes assessment, and return to play decision making in a swimmer with secondary impingement and multidirectional glenohumeral instability.

Brooks, GP: Texas Children's Hospital. Houston, Texas. USA

Background: The hypermobile swimmer with multidirectional glenohumeral instability of the shoulder presents a unique challenge to clinicians due to a lack of consensus regarding optimal treatment strategies and insufficient literature volume to guide the clinician in making return to play decisions.

Purpose: To describe the methods of physical therapy treatment, the outcomes assessment process, and the return to play criteria used in the management of an athlete with symptomatic multidirectional instability without surgical repair whom successfully returned to play in high school swimming and water polo competition.

Case Description: A 17 year old male swimmer and water polo player was treated in physical therapy for secondary impingement of the glenohumeral joint associated with multidirectional shoulder instability. Progressive proprioception drills, rotator cuff strengthening, and scapulothoracic muscle strengthening drills were employed during rehabilitation. Shoulder standardized functional index scores and isokinetic peak torque values were used as the outcome measures to determine return to play.

Outcomes: The measured outcomes included serial administration of the upper extremity functional index, isokinetic testing, clinical hand held dynamometry of muscle strength values, and subjective report of the patient. The upper extremity functional scale improved from 53/80 at initial evaluation to 78/80. Hand held dynamometry testing for shoulder strength values at discharge were greater for the involved-side shoulder than for the uninvolved side, dominant shoulder for all tests performed. Isokinetic testing demonstrated peak torque values for the involved shoulder that were greater than those of the uninvolved side at 30d/s and 60d/ but not for the 120 d/s speed. The aggregate of this data and subjective report of a stable, asymptomatic shoulder was used to return the athlete to overhead sports. A prescription for higher speed external rotation exercises was given to ameliorate the speed-specific deficits revealed by isokinetic testing. The patient returned to a high school state level competition with no recurrence of instability or pain.

Discussion: The demands of swimming and overhand throwing in water polo require elegant muscular stabilization of the shoulder complex and neuromuscular control in high-speed, high-torque contexts. Despite the frequency of recurrent instability episodes in the reported literature and the prevalence of shoulder impingement symptoms in the overhead athlete, return to play decisions are frequently made without objective criteria. This case demonstrates one successful method of using combined testing to indicate readiness to return to play and to identify opportunities for performance enhancement.