

Inter- And Intratester Reliability For A Qualitative Dynamic Observation Method For Scapular Dyskinesia

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Abnormal scapular movements have been associated with shoulder pathologies. There is no clear method for classifying abnormal patterns. The goals of this study were to determine the intra- and interrater reliability of a new observational method and evaluate associations between scapular patterns and posture, active range of motion (AROM), and lateral scapular slide test (LSST). Twenty subjects (age = 32.85 +/- 12.01 yr., ht = 171.45 +/- 12.12 cm, wt = 77.18 +/- 16.17 kg) with and without shoulder pain participated in the study. Three clinicians, (two physicians and one certified athletic trainer) initially evaluated all subjects and categorized subjects' into one of the four categories of scapular patterns. At the initial evaluation postural, AROM, and LSST evaluations were performed. Posture was determined from a digital image using a lateral plumline aligned just anterior to the lateral malleolus. The distance from the plumline to the anterior acromion was considered a measure of rounded shoulders. Forward head was determined by the angle formed from a horizontal line perpendicular to the plumline bisecting the acromion and the line from the plumline to the earlobe. AROM of external rotation, flexion, and sidelying internal rotation were determined with a goniometer. Lateral scapular slide was assessed in 3 positions. A follow up assessment of scapular pattern was made one week later to determine intratester reliability by the primary investigator. Assessment of scapular patterns was determined by observing approximately 5 arm elevations in the plane of the scapula and flexion. The most prominent pattern was recorded. Kappa correlation coefficients were performed to determine agreement within the same observer 1 week apart was $k = .51$ ($p < 0.01$). The interrater agreement between the three observers ranged from $k = .11$ -.33. A general linear model multivariate analysis was performed to determine if posture, AROM, and LSST variables affected scapular patterns categorizations as determined by the primary investigator. No significant differences were found between scapular patterns indicating this group of variables did not contribute to differences in scapular patterns observed (Wilk's Lambda $p = .442$). These findings suggest that the scapular patterns observed as defined by this method are low to moderately reliable. Subjects' scapular patterns appear not to be directly influenced by this grouping of static posture, AROM, and LSST tests. Further refinements of scapular dyskinetic patterns are needed.