

ORIGINAL RESEARCH

THE LATERAL SCAPULAR SLIDE TEST: A RELIABILITY STUDY OF MALES WITH AND WITHOUT SHOULDER PATHOLOGY

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ABSTRACT

Background. Abnormal scapular movement or malposition is related to shoulder pathology. The lateral scapular slide test (LSST) is used to determine scapular position with the arm abducted in three positions.

Objective. The purpose of this study was to test the reliability of the LSST using a scoliometer.

Methods. Thirty-three male subjects (18 to 34 years) participated in this study. Group one (n= 15) had shoulder pathology; Group two (n= 18) did not have pathology. A test-retest, repeated measures design, with three experienced raters and the three positions of the LSST, was used to test the reliability of the LSST. All measurements in each position were taken bilaterally.

Results. Pearson Correlations for Position 1 and 2 ranged from .78 to .92 whereas position 3 ranged from .62 to .81. The ICC (2,2) ranged from .87 to .95 for positions 1 and 2. ICC (2,2) ranged from .70 to .82 for positions 3. Overall ICC (2,3) ranged from .83 to .96. The coefficients of determination ranged from .38 to .89. The SEM ranged from 3.00 to 8.26 mm, with the largest error found in position 3.

Discussion and Conclusion. The LSST can be reliable in screening scapular position. Although a large range of error exists in measurements as indicated by the standard error of the measurement, the LSST provides more objective measures than pure observation.

Key Words: scapula, shoulder, measurement.

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INTRODUCTION

Orthopedic clinicians frequently evaluate and provide therapeutic intervention for shoulder dysfunction. A very important link in shoulder function, the scapula merits special attention. The functional role of the scapula is often misunderstood by clinicians, and this lack of awareness can result in incomplete evaluation and diagnosis of impairment of the shoulder.^{1,2} Consequently, scapular rehabilitation is often ignored.^{3,5}

Most authors consider the assessment of scapular positioning on the thoracic cage to be part of a comprehensive evaluation of patients with suspected shoulder dysfunction.⁶⁻⁸ Restricted scapulohumeral motion may lead directly to rotator cuff impingement and an eventual partial or full-thickness tear of the rotator cuff tendons.^{7,9,10} Observing the scapulothoracic rhythm is necessary because disruption to this movement may lead to dysfunction.^{3,6,7,10-12}

Kibler^{1,4} described a test to clinically measure static scapular positions called the lateral scapular slide test (LSST). This test involves measuring the distance from the inferior angle of the scapula to the nearest vertebral spinous process using a tape measure or goniometer in three positions: shoulder in neutral, shoulder at 40-45 degrees of coronal plane abduction with hands resting on hips, and the shoulder at 90 degrees abduction with the arms in full internal rotation. Kibler^{1,4} contends that the injured or deficient side would exhibit a greater scapular distance than the uninjured or normal side and asserted that a bilateral difference of 1.5 cm (15 mm) should be the threshold for deciding whether scapular asymmetry is present. Kibler¹ also suggested that the LSST may be used to monitor the scapular stabilizer muscles in any rehabilitative program that involves shoulder strengthening exercises. Inferences drawn by Kibler¹ about scapular symmetry and shoulder