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Efficacy and reliability of the subscapularis lift-off test.

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Purpose: The purpose of this study is to evaluate the clinical reliability of the lift-off test (LOT), which tests the congruity of the subscapularis. This is compared with the manual muscle tests of the subscapularis muscle. The LOT has not been previously studied for clinical reliability and efficacy. **Methods**: The LOT is performed by asking the patient to place the dorsum of the hand of the involved extremity against the lumbar region. The patient is then asked to push the hand away from the back (hyperinternal rotation). If the patient has difficulty or pain with the performance of the maneuver, the LOT is considered positive, and subscapularis pathology is assumed. For comparison, manual muscle testing of the subscapularis was performed in full adduction and 0 degrees rotation (MMTADD). A ssecond manual muscle test of the subscapularis was performed with 90 degrees shoulder abduction and 90 degrees lateral rotation (MMT90). A standard muscle strength gradient of 0-5 was used. **Results:** LOT's were performed on 89 subjects. Of the subjects tested, 27% elicited pain, weakness or a "pinching sensation", or the patient was unable to perform the test. Seventy-one percent of the subjects with positive LOT had an MMTADD of 5; 21% had a MMTADD of 5-; 4% had an MMTADD of 4+; and 4% had an MMTADD of 4-. Seventy-nine percent of the subjects with a positive result on the LOT had a MMT90 of 5; 8% had an MMT90 of 5-; 8% had an MMTADD of 4+; and 4% had an MMT90 of 3. Further comparison revealed 8 subjects with an MMT gradient of less than 5 of the MMTADD and MMT90, and all eight had a negative LOT result. Seven subjects had both pain and a 5 gradient when performing the MMT90 and all seven had a negative LOT result. Four subjects had pain and a 5 gradient when performing the MMTADD and all four had a negative LOT. **Conclusion:** The LOT does not have a high correlation to the MMTADD or MMT90. The LOT is an unreliable test for evaluating subscapularis pathology when compared with manual muscle tests of the subscapularis.

Author's note: The LOT in this investigation did not include resistance to the upper extremity. JMH, 2002.

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