WEIGHTED ELEVATION TEST

Step 1

Have the patient stand holding a 1kg weight in each hand, arms in the neutral/relaxed position. (In their study, McClure et al. used weights of 1.4 kg (3 lb) for subjects weighing less than 68.1 kg (150 lb) and 2.3 kg (5 lb) for subjects weighing 68.1 kg or more.

Step 2

Ask the patient to elevate the arms in forward flexion keeping the thumbs up.

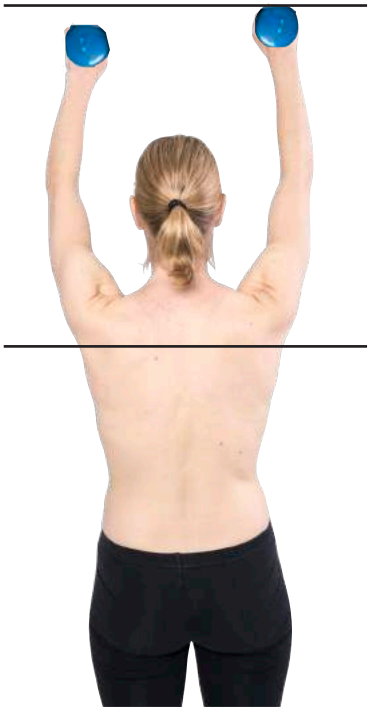
Step 3

Observe for one or more of the following:

- Winging "the medial border and/or inferior angle of the scapula are posteriorly displaced away from the posterior thorax"[25]
- Medial border prominence
- Lack of smooth coordinated movement (scapula elevation or shrugging during ascending forward arm flexion and/or rapid downward rotation during arm lowering from full flexion)
- Asymmetry

If any of these are observed then dyskinesis is said to be present. Repeat the test using bilateral shoulder abduction and observe again.

Asymmetry



Winging and medial border prominence

SCAPULA ASSISTANCE TEST

The patient must have a painful condition of the shoulder, particularly painful arc/impingement symptoms to determine if scapula dyskinesis is contributing to their problem (i.e. this test cannot be used on asymptomatic patients).[23,138]

Step 1

Have the patient stand or sit in front of you and ask them to report when they experience pain during the test.

Step 2

Ask the patient to first perform shoulder flexion and report their pain on a visual analogue scale. Record the results. Ask the patient to perform shoulder abduction and report their pain on a visual analogue scale. Record the results.

Step 3

Cup one hand around the superior medial border of the scapula and the other hand around the inferior border of the scapula.

Step 4

Ask the patient to repeat the flexion and abduction test. This time provide manual assistance of scapula upward rotation by pushing the inferior medial border of the scapula laterally and upward and stabilising the superior medial border. This, in theory, mimics the action of serratus anterior and the lower trapezius muscles.

Results

If the pain is relieved or diminished during assistance then it implies that retraining of scapula muscle function is appropriate. This test was described by Kibler and McMullen[139] but does not appear to have been independently investigated.

SCAPULA REPOSITIONING TEST

Step 1

Have the patient stand or sit in front of you. Hold one of the patient's wrists and passively elevate the arm to 90 degrees in the scapula plane and fully internally rotate it (Jobe/empty can test position). Ask the patient to maintain their arm in this position.

Step 2

Place your hand on the elbow or wrist and ask the patient to resist your downward pressure. Place downward pressure on the arm. This part of the test is considered indicative of a tear of the supraspinatus tendon if it reproduces shoulder pain and/or if the patient finds it difficult to resist the downward pressure. Ask the patient to rate their pain using a verbal pain intensity scale (0 no pain, 10 worst pain imaginable). Then allow the patient to relax the arm by their side.

Step 3

Return to the step one (empty can) position. Hold the scapula with your fingers contacting the acromioclavicular joint anteriorly and your palm and thenar eminence contacting the spine of the scapula posteriorly.[140]

Step 4

Apply a moderate force to the scapula that encourages posterior tilting, external rotation, scapula rotation and thoracic extension but not to end range movement.

Step 5

Repeat the step 1 procedure. While maintaining the force on the scapula place downward pressure on the elbow or wrist. Ask the patient to rate their pain using the verbal pain intensity scale.

Results

The test is considered positive if there is a reduction in pain or an increase in strength during step 5. In their study Tate et al.[140] found an increase in torque in both the impingement and non-impingement groups while a subset of overhead athletes increased their elevation strength regardless of the presence of absence or presence of impingement symptoms. Only 47% of those with one positive impingement test had a reduction in symptoms by one point or greater on the verbal pain intensity scale. While this is a commonly performed test, these results call into question its usefulness. Regardless, the authors suggested it may be useful to identify athletes who could respond to interventions addressing scapula function such as strength, taping or bracing.[140] They could not identify which factors would identify those athletes. They also performed the repositioning in two other impingement tests: Hawkins-Kennedy test and Neer test.