Examination of the Upper Quarter

Presented by:
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Based upon:
Diagnosis and Treatment of Movement Impairment Syndromes

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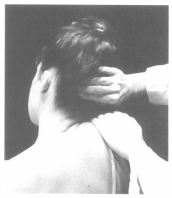
Standing

- Alignment: head, neck, shoulders, scapula, humerus
- Unilateral and bilateral shoulder flexion, abduction and return
  - Monitor movement of the cervical spinous process**
- Humeral lateral rotation
  - Monitor movement of the scapula
- Cervical Rotation**
- Passive shoulder girdle elevation**
- Cervical Rotation with passive shoulder girdle elevation**

** important when assessing cervical dysfunction

Sitting

- Upper Trapezius Strength



Sitting

- Serratus Anterior Strength

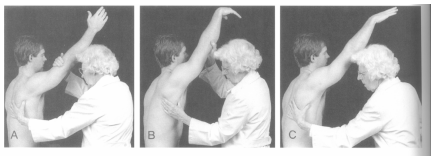


Figure A: When the arm is raised in flexion, to position the scapula for the serratus test, the scapula does not move to the normal position of abduction. (see p. 333.) However, the Serratus *appears* to test strong in that position (probably because of over development of shoulder flexors). Figure F below shows the same subject. The winging of the scapula clearly indicates weakness of the serratus anterior

Figure B: The scapula can be brought forward to almost normal abduction if the subject relaxes the weight of the arm and allows the examiner to draw the arm diagonally forward into the test position.

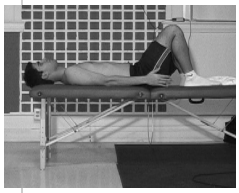
Figure C: The scapula cannot hold the abducted and upwardly rotated position when the examiner releases the arm, and the subject attempts to hold it in position.

Supine

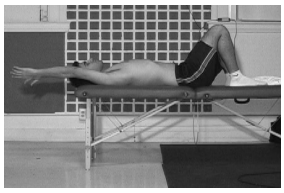
- **Shoulder Flexion – Latissimus Dorsi**
  - Full flexion (180°) with lumbar spine flat
  - Scapula does not protrude more than ½ beyond posterolateral aspect of the thorax
- **Pectoralis Major Length – Sternal head**
  - Abduction (135°) – arm rest on the table
  - Watch out for anterior/superior glideof the humeral head
- **Pectoralis Major Length – Clavicular head**
  - Abduction (90°) – arm rest on the table
  - Watch out for anterior glide of the humeral head

Latissimus Dorsi Length

Starting Position



Finishing Position

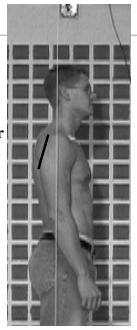


Supine

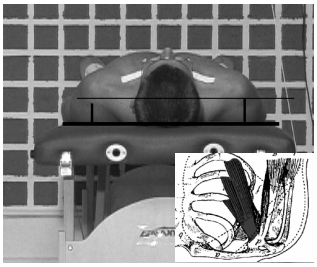
- **Pectoralis Minor**
  - Posterior border of acromion no greater than 1 inch from table with arms at side and elbows flexed
- **Shoulder Internal Rotation**
  - 70° with arm abducted (90°) without scapular tilt or humeral anterior glide
    - Anterior tilt – rotators stiffer than lower trapezius
    - Humeral anterior glide – laxity of anterior joint capsule
    - Less than 70 ° - stiff of external rotators

Pectoralis Minor Tightness

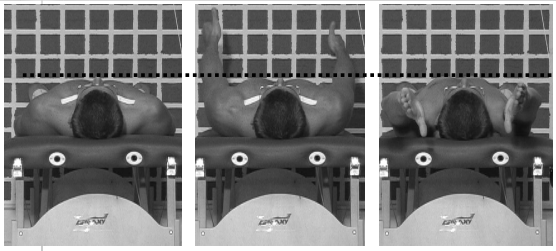
Anterior tilt of scapula



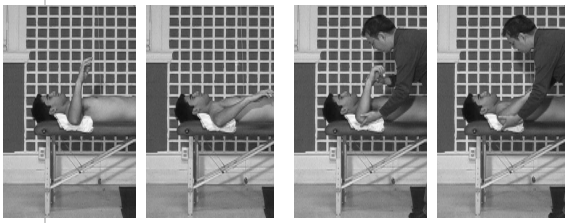
Between-sides differences in tightness of the pectoralis minor



Tight Pectoralis Minor Affects Trunk Control



Limited Shoulder Internal Rotation

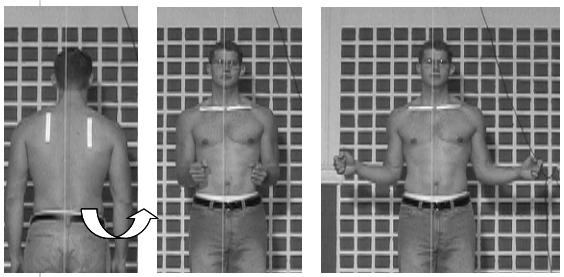


Supine

- **Shoulder External Rotation**
  - 90° with arm abducted (90°) with minimum movement of the scapula
    - Anterior/superior glide of humeral head – stiff of the lateral rotators, laxity of anterior joint capsule
    - Less than 90 ° - shortness of Teres major, subscapularis, pectoralis major (Clavicular)
- **Biceps Length Test**
- **Horizontal Adduction** – posterior capsule
- **Upper Cervical Flexors Strength**

Tight shoulder internal rotators limit external rotation

Resting Posture **Starting Position** **Finishing Position**

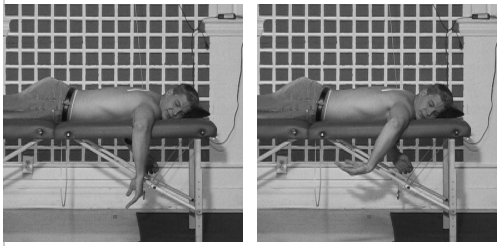


Prone

- **Internal Rotators - Performance**
  - 70° medial rotation with arm abducted (90°) without scapular tilt or humeral anterior glide
  - Able to maintain medial rotation with application of maximum resistance
  - Humeral anterior glide – Teres minor, infraspinatus, posterior deltoid are stiff, laxity of the anterior joint capsule
  - Scapular anterior tilt – weak and long Lower trapezius
  - Scapular elevated – dominant Upper Trapezius
  - Unable to maintain medial rotation – Weak subscapularis

Tight External Rotator Limits Shoulder Internal Rotation

Starting Position **Finishing Position**

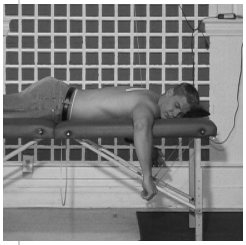
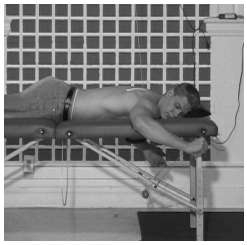


Prone

- **External Rotators - Performance**
  - 90° external rotation with arm abducted (90°) without scapular tilt or humeral anterior glide
  - Able to maintain lateral rotation with application of maximum resistance
  - Humeral anterior glide – posterior deltoid is dominant stiff, laxity of the anterior joint capsule
  - Scapular abduction – Trapezius and Rhomboid are long and weak
  - Scapular depression – Lower Trapzius and/or Latissimus are dominant
  - Less than 90° rotation – short internal rotators
  - Unable to maintain lateral rotation – Weak infraspinatus, teres minor and posterior deltoid

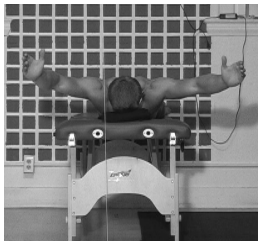
External Rotator - Performance

Starting Position **End Position**

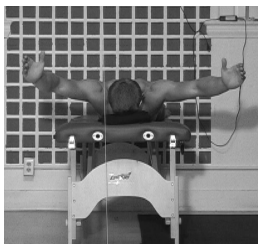
Prone

- **Lower Trapezius Performance**
  - Able to maintain scapular upward and adducted position and lateral rotation of humerus with shoulder 135° abduction against maximum resistance
  - Difficulty passively move arm into the test position – stiff/tight of pectoralis minor



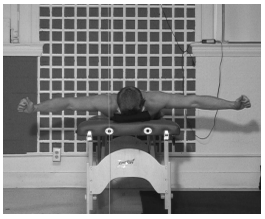
Prone

- **Lower Trapezius Performance**
  - Unable to maintain the test position, give ~ 10-15° - long lower trapezius
  - Unable to tolerate maximum resistance at any position – weak
  - Shoulder elevated – dominant Upper trapezius
  - Scapular downward rotation or humerus medial rotation – rhomboids dominant



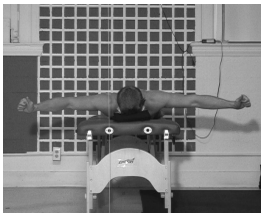
Prone

- **Middle Trapezius Performance**
  - Able to maintain scapular upward and adducted position and lateral rotation of humerus with shoulder 90° abduction against maximum resistance
  - Unable to maintain the test position, give ~ 10-15° - long middle trapezius



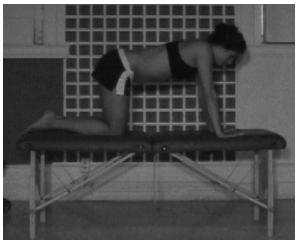
Prone

- **Middle Trapezius Performance**
  - Unable to tolerate maximum resistance at any position – weak middle trapezius
  - Shoulder elevated – dominant Upper trapezius
  - Scapular downward rotation or humerus medial rotation – rhomboids dominant



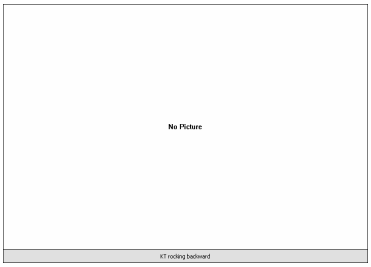
Quadriped

- Alignment



Quadriped

- Rocking forward and backward



Standing at the wall:

- Shoulder flexion with back to the wall
- Shoulder abduction with lateral rotation with back to wall
- Shoulder flexion sliding hands up wall done facing the wall

Standing at the wall:

- Shoulder flexion sliding hands up wall done facing the wall

Other

- Abdominal length and performance