Shoulder Examination

"Full Shoulder examination Video by the department".Video.

Most likely if you perform exactly the same as shown in this video you'll get a full mark.

Objectives:

- By the end of the teaching session, Students should be able to identify normality and abnormality by of the shoulder joint by performing a proper physical examination of shoulder joints.

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References: Department handout, Notes(by moath baeshen),Browse's, Toronto, 433 OSCE Team.

WIPE:

★ **Look**, **Feel**, **Move**, **Special tests**, **Neurovascular status**. **Joint** above and below.

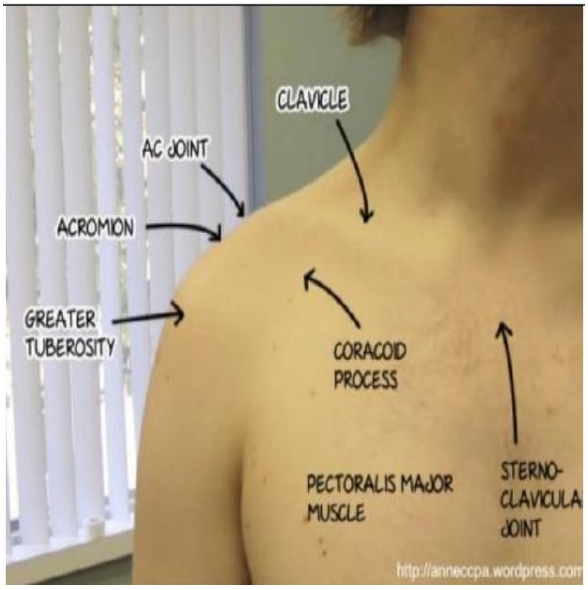
Look (Position: standing)

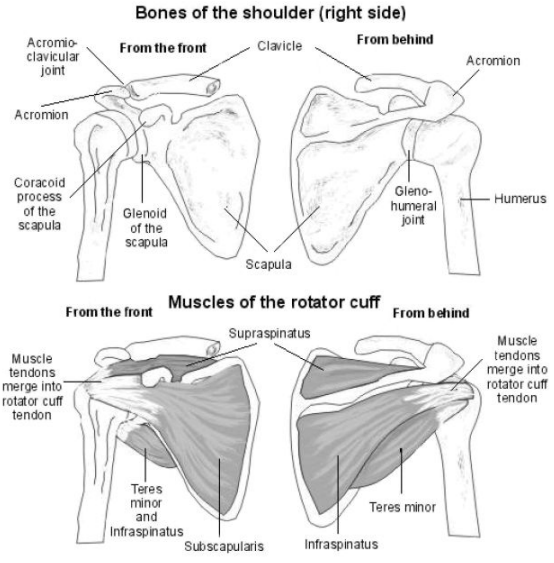
- From the **Front**, **Side** and **Back** for:
  - **Alignment** (shoulder & scapula), **Deformity** (Winging of scapula), **Muscle wasting** (Deltoid atrophy), **Skin changes**, **Swelling**, **Scars**.

Feel

- **Temperature**
- **Tenderness of bones and soft tissues:**
  - **Bones - Sternoclavicular J, Clavicle(has two prominences at its two peripheries), Acromioclavicular J, Acromion, coracoid process, Scapular Spine, Medial & inferior borders of scapula, Scapular apex, Humeral greater tuberosity & joint line.**
  - **Soft tissues: Deltoid, Supraspinatus and Infraspinatus grooves, teres minor, Trapezius, Bicipital Groove.**

(Don't forget to warm your hand and to look at the patient's face)

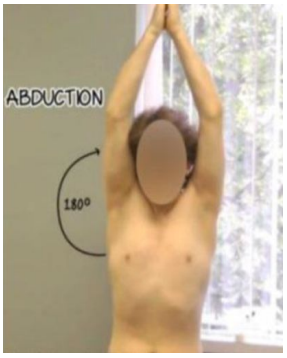


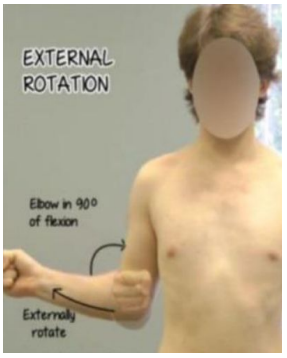


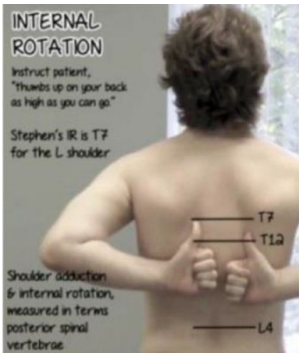
Move

- Test **ROM** both **actively** and **passively**. Attempt passive ROM if active ROM is limited or painful.Video.
  *if Intact active ROM, no need for passive test.
    - **Forward flexion:** measured from zero to 180 (or up to 170) degrees.
      - Muscles: Anterior fibers of deltoid muscle, Pectoralis major, Coracobrachialis (muscle of arm), Short head of biceps.
    - **Extension** Muscles: Posterior fibers of deltoid, Latissimus dorsi, Teres major.
    - **Abduction**: from zero beside body to 180 degrees at maximum.
      - Muscles: 0- 15 deg. Supraspinatus, 15 -90 deg. middle fibers of deltoid.
    - **External rotation:** keep patient arm flat against sides, range from zero to 80-90 degrees.
      - Muscles: Post. Fibers of deltoid, Infraspinatus, Teres minor.
    - **Internal rotation:** ask patient to rotate his arm cross his back and walk the fingers(usually the thumb) as far up the back as possible, record this by vertebral level (inferior tip of scapula =T7, iliac crest = L5). (A Normal person should reach T7)
      - Muscles: Pectoralis major, Latissimus dorsi, Teres major, Ant. fibers of deltoid, Subscapularis.

  *Note if painful or painless.
- **Screening test :** ask pt. to put his hands at the back of his head (this test external rotation and abduction), then ask him to rotate his arm cross his back and walk the fingers as far up the back as possible (test internal rotation and adduction)







Special tests

- **Rotator cuff integrity and strength:**
    - **Empty can test/ jobe test** (for supraspinatus).**Video**.
        - Resisted abduction with arm abducted 90° abduction. 30° of forward elevation in the plane of the scapula (glenohumeral joint horizontally abducted 30°- 45°) for and maximally internally rotated.
        - A positive test when there is pain or weakness.

Fig. 7.4 The supraspinatus empty can test.

    - **Lift-off test for subscapularis.VIdeo.**
        - ask patient to rotate his arm cross his back and push against your hand away from his body.

Fig. 7.7 The subscapularis Gerber lift-off test.

(If you are applying resistance, make sure that the action is produced from the shoulder joint and not the fingers or wrist joint. Put your hand against the proximal aspect of the hand or distal forearm to make it easier for you to notice. Also make sure that the patient's hand/arm moves on a horizontal level and not downwards.)

    - **Resisted external rotation.Video.**
        - with arm against body sides for infraspinatus and teres minor(posterior cuff).

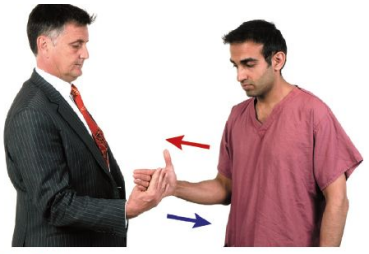


Fig. 7.5 The infraspinatus external rotation test.

(Put your hand against the distal forearm of the patient)

- ➢ **Rotator cuff muscles** (SITS muscles):
    - **Supraspinatus:** Initiates Abduction "Most common tear". Abduction above 15°-30° is continued by Deltoid muscle.
    - **Infraspinatus:** Primary ER.
    - **Teres minor:** ER
    - **Subscapularis:** Primary IR "Strongest Muscle"
        - Their tests are similar to their actions but, at their maximum extension.
        - In the young athletic patient the shoulder cuff may be torn as the result of a violent traumatic incident.
        - In the older patient tears may occur spontaneously (e.g. in a cuff weakened as a result of chronic impingement and attrition) or follow more minor trauma, such as sudden arm traction. It may occur in patients suffering from instability of the shoulder joint. Most commonly the supraspinatus region is involved, and the patient has difficulty in initiating abduction of the arm.

Table 9. Rotator Cuff Special Tests

Test	Examination	Positive Test
Jobe's Test	Supraspinatus: place the shoulder in 90° of abduction and 30° of forward flexion and internally rotate the arm so that the thumb is pointing toward the floor	Weakness with active resistance suggests a supraspinatus tear
Lift-off Test	Subscapularis: internally rotate arm so dorsal surface of hand rests on lower back; patient instructed to actively lift hand away from back against examiner resistance (use Belly Press Test if too painful)	Inability to actively lift hand away from back suggests a subscapularis tear
Posterior-Cu f Test	Infraspinatus and teres minor: arm positioned at patient's side in 90° of flexion; patient instructed to externally rotate arm against the resistance of the examiner	Weakness with active resistance suggests posterior cuff tear
Neer s Test	Rotator cuff impingement: passive shoulder flexion	Pain elicited between 130-170° suggests impingement

- **Impingement syndrome:**
    - **Neer's** impingement sign: Pain with forward flexion with humerus in internal rotation position(when you internally rotate the arm you bring the tuberosity closer to the joint exacerbating impingement).**Video.**

Fig. 7.11 Neer's impingement test.

    - **Hawkin's test:** With arm in the throwing position(90° of forward flexion) and elbow flexed forward about 30°, forcibly internally rotate the humerus.**Video.**
        - Pain suggest impingement of the supraspinatus tendon against the coraco-acromial ligament.

Fig. 7.12 Hawkins test for impingement.

➢ Compression during glenohumeral movement, giving rise to pain. The commonest site is Subacromial, painful bet. 70° and 120° abduction. Also, compression beneath the acromioclavicular joint itself, pain during the last 30° of abduction, or deep to the coracoacromial ligament.

➢ Symptoms may occur acutely (e.g. in young sportsmen, especially n activities involving throwing) or be chronic, particularly in the older patient, usually degenerative changes in the acromioclavicular joint which lead to a reduction in size of the supraspinatus tunnel; this may cause attrition and rupture of the shoulder cuff.

- **Instability**
  - **apprehension test.Video.**
    - Can be done at any position.
    - Arm in throwing position, 90° abduction and elbow 90° flexion, then push forearm posteriorly while looking to patient face.
    - A positive test if there is pain or fear(patient feels his shoulder is coming out of place).

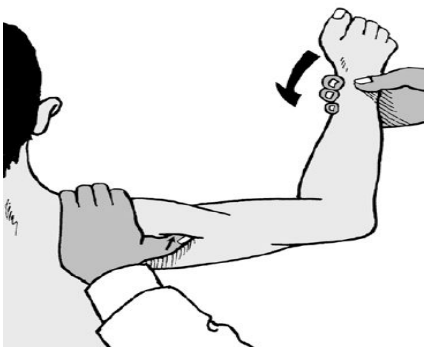
➢ Tear in glenoid labrum which deepens the glenoid cavity leads to instability.

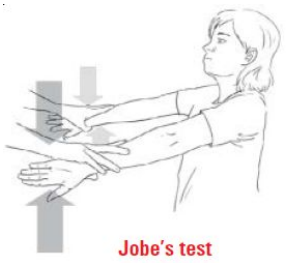
Fig. 7.14 The apprehension test.

Neurovascular Examination.

★ Exmin Joint above (Cervical spine) and Below (Elbow).

Anterior Apprehension Test



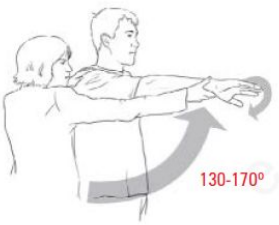


Jobe's test

Lift-off test

Posterior cuff test

Neer's test



130-170°

Hawkins-Kennedy test