SHOULDER EXAMINATION

Introduction

Shoulder disorders are can be broadly classified into the following types:
1. Pain
2. Stiffness
3. Instability

The common disorders arise from diseases of the following structures:
1. The Rotator Cuff
2. The Glenohumeral joint
3. The Acromioclavicular joint
4. The Clavicle
5. The Neck

Naturally there are combinations of the above, but it is worth keeping the above system in mind when examining a shoulder disorder.

Look

From the front, side and above

- Asymmetry, scars, deltoid wasting, SCJ or ACJ deformity, swelling of the joint

From behind

- Look and feel for rotator cuff wasting, scapula shape and situation e.g. winging, Sprengel shoulder etc

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Feel

- SCJ to the ACJ and acromion
- Greater and lesser tuberosity, feel for rotator cuff defects
- Glenohumeral joint: anterior and posterior aspects
- Biceps tendon/bicipital groove
- Spine of scapula

Move
ALWAYS EXAMINE THE CERVICAL SPINE FIRST

- Move both arms at the same time. Active then passive ROM.
- Quick screening test: "Arms above the head and behind the back "
- **Flexion**: **0-180°**
- **Abduction**: **0-180°** check for painful arc and watch the scapulohumeral rhythm

- If restricted then repeat with the scapula fixed to check for the amount of glenohumeral movement
- **Internal rotation: T4**
- **External rotation**: **70°**

Feel for crepitation during passive motion

Special tests

<u>**1. Subacromial Impingement**</u>

- **Hawkin's test:** Shoulder flexed 90º, elbow flexed 90º; internal rotation will cause pain.
- **Neer's test:** Pain eliminated by local anaesthetic injection into the subacromial bursa.
- **Copeland Impingement Test:** Passive abduction in internal rotation (in the scapula plane) painful; pain eliminated with passive abduction in external rotation.
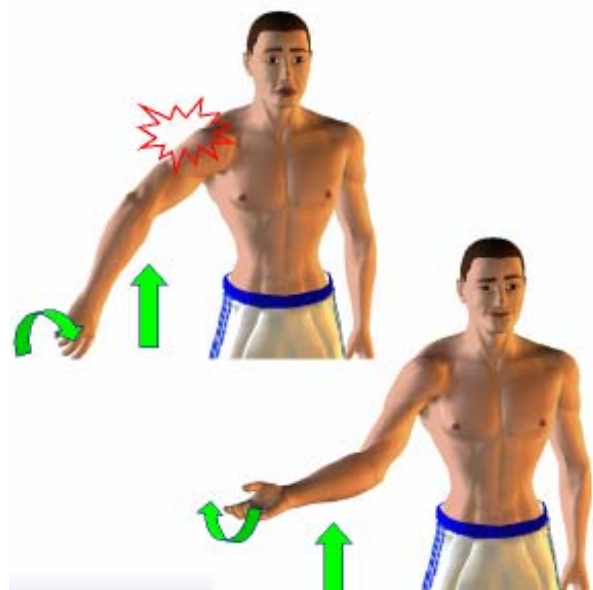
| *Hawkin's Test* | *Copeland Empty Can Test* |

2. AC Joint

- **Scarf test:** forced cross body adduction in 90⁰flexion, pain at the extreme of motion over the ACJ is indicative of ACJ pathology

ScarfTest

3. Rotator cuff Integrity
3.1 Supraspinatus/anterosuperior cuff:

- Resisted abduction with arms by side
- **Jobe's test (also known as 'empty can' test):** arm abducted to 20°, in the plane of the scapula, thumb pointing down

Jobe's 'empty can' test

3.2 Infraspinatus+teres minor/posterior cuff:

- Resisted ER with the arms by side

- **Drop test**: Hold arm fully ER by side and release. If arm drops forward = massive infraspinatus tear.
- **Patte's test:** 90º flexion, flexed elbow and resisted external rotation
- **Hornblower's sign (Emery):** similar to Patte's test. Inability to ER & Abduct from hand in front of mouth (against gravity)
- **Hornblower's sign (JBJS, 1998) / Drop test:** with arm in 90º abduction & ER, elbow 90º (+ve = massive tear of both infraspinatus and teres minor and operative repair will result in 50% failure)
- **Yokum Pointing elbow test:** place hand on opposite shoulder and ask pt to hold shoulder flexed to 90º

| *Patte's test* | *Yokum test* |

3.3 Subscapularis/anteroinferior cuff:

- **Gerber's lift off test:** push examiner's hand away from 'hand behind back position' (eliminates pectoralis major)
- **Internal rotation lag sign:** inability to hold hand away from back
- **Napoleon / LaFosse Belly-Press test:** if patient cannot fully internally rotate, push on their belly, elbow will drop backwards if positive

4. Biceps

- Check for long head of biceps rupture
- **Speed's test:** supinated arm flexed forwards against resistance pain felt in the bicipital groove indicates biceps tendon pathology
- **Yergason's test:** feel for subluxation of the biceps tendon out of the bicipital groove when the arm is gently internally and externally rotated in adduction
- **AERS test:** Abduction External Rotation Supination test. Pt feels pain on resisted supination in this position. Test with elbow abducted & ER to 90°.

Speed's test | *AERS test (LaFosse)*

5. Deltoid: resisted abduction at 90º
6. Serratus anterior: "Winging" test – performed best with arms at waist level pushing forward against a wall.

7. Instability testing

7.1 LAXITY TESTS

- These tests examine the amount of translation allowed by the shoulder starting from positions where the ligaments are normally loose.
- These are tests of *laxity,* not tests for *instability*. Many normally stable shoulders, such as those of gymnasts, will demonstrate substantial translation on these laxity tests even though they are asymptomatic.
- The amount of translation on laxity testing is determined by the length of the capsule and ligaments as well as by the starting position (i.e. more anterior laxity will be noted if the arm is examined in internal rotation - which relaxes the anterior structures, than if it is examined in external rotation - which tightens the anterior structures).
- Use the contralateral shoulder as an example of what is 'normal' for the patient.

7.1.1. Drawer Test

The patient is seated with the forearm resting on the lap and the shoulder relaxed. The examiner stands behind the patient. One of the examiner's hands stabilizes the shoulder girdle (scapula and clavicle) while the other grasps the proximal humerus. These tests are performed with (1) a minimal compressive load (just enough to center the head in the glenoid) and (2) with a substantial compressive load (to gain a feeling for the effectiveness of the glenoid concavity). Starting from the centered position with a minimal compressive load, the humerus is first pushed forward to determine the amount of anterior displacement relative to the scapula. The anterior translation of a normal shoulder reaches a firm end-point with no clunking, no pain and no apprehension. A clunk or snap on anterior subluxation or reduction may suggest a labral tear or Bankart lesion. The test is then repeated with a substantial compressive load applied before translation is attempted to gain an appreciation of the competency of the anterior glenoid lip. The humerus is returned to the neutral position and the posterior drawer test is performed, with light and again with substantial compressive loads to judge the amount of translation and the effectiveness of the posterior glenoid lip, respectively.(Silliman and Hawkins, 1993)
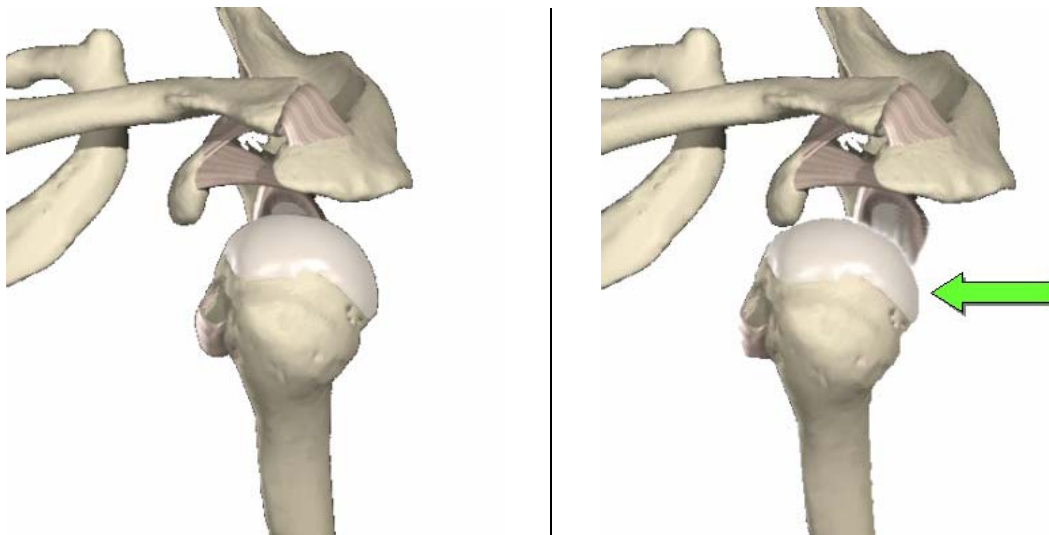
Anterior Drawer Test

The Drawer tests have been graded as:

Laxity Grade	Description
Normal	Mild Translation (0-25%)
Grade 1	Feeling of Head riding onto rim (25-50%)
Grade 2	Head over rim, reduces spontaneously (>50%)
Grade 3	Head over rim, remains dislocated

7.2. STABILITY TESTS

- o These tests examine the ability of the shoulder to resist challenges to stability in positions where the ligaments are normally under tension.

7.2.1. Apprehension Test

The patient sits with the back toward the examiner. The arm is held in 90 degrees of abduction and external rotation. The examiner pulls back on the patient's wrist with one hand while stabilising the back of the shoulder with the other. The patient with anterior instability usually will become apprehensive with this maneuver. No translation is expected in the normal shoulder because this test is performed in a position where the anterior ligaments are placed under tension.

7.2.2. Relocation Test (Jobe)

The relocation test is performed immediately after a positive result on the anterior apprehension test. With the patient supine, the examiner applies posterior force on the proximal humerus while externally rotating the patient's arm. A decrease in pain or apprehension suggests anterior glenohumeral instability.

Anterior Apprehension   *Jobes Relocation*

7.2.3. Posterior Apprehension Test (Jerk Test)

The patient sits with the arm internally rotated and flexed forward to 90 degrees. The examiner grasps the elbow and axially loads the humerus in a proximal direction. While axial loading of the humerus is maintained, the arm is moved horizontally across the body. A positive test is indicated by a sudden jerk as the humeral head slides off the back of the glenoid. When the arm is returned to the original position of 90-degree abduction, a second jerk may be observed, that of the humeral head returning to the glenoid.