



TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
EL PASO



TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER™
EL PASO

SHOULDER EXAM



ANTERIOR VIEW



With the patient standing, inspect for abnormal contours and bony prominences. An acromioclavicular separation produces a “step-off” deformity with prominence of the distal clavicle. An anterior shoulder dislocation produces a prominent posterior acromion and anterior fullness of the deltoid, and the arm typically is held in slight abduction and external rotation. By contrast, with a posterior dislocation, the coracoid and anterior acromion are prominent, there is posterior fullness, and the arm is held in adduction and internal rotation.



POSTERIOR VIEW



With the patient standing, note symmetry of shoulder heights and contours (the dominant shoulder often rests slightly lower than the opposite shoulder). Look for muscle atrophy, particularly of the trapezius, deltoid, and infraspinatus muscles. Diminished posterior contour from neck to shoulder indicates atrophy of the trapezius. With atrophy of the supraspinatus/infraspinatus muscles, loss of lateral shoulder contour occurs at the deltoid, and a prominent scapular spine can be seen. While viewing the posterior shoulder, have the patient elevate both arms in the scapular plane and evaluate both sides for any scapula dyskinesia (not shown in the video).



ACROMIOCLAVICULAR JOINT



To evaluate the acromioclavicular joint, palpate the distal clavicle and the acromion for tenderness or spurs. Tenderness usually is most pronounced at the posterior joint interval and is exaggerated when the patient horizontally adducts the arm toward the opposite shoulder.



SUBACROMIAL BURSA

To evaluate the subacromial bursa, palpate the anterolateral portion of the acromion, moving down toward the deltoid until you feel the acromiohumeral sulcus. Tenderness in this area usually is related to subacromial bursitis or a rotator cuff tear (supraspinatus tendon).



LONG HEAD OF BICEPS TENDON

To evaluate the long head of the biceps tendon, palpate over the humeral head in the region of the bicipital groove. With tendinitis, there is tenderness and swelling, and the area of tenderness should move with the humeral head as the shoulder is rotated.



FLEXION

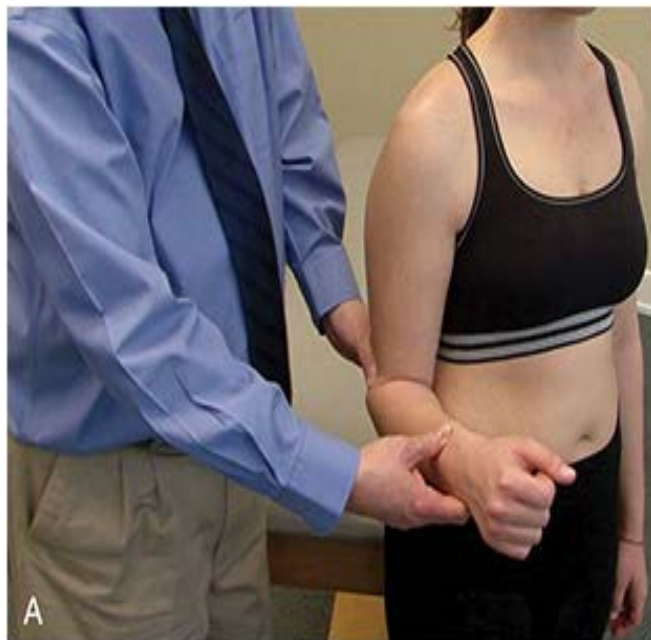


Normal shoulder motion is a composite movement that couples glenohumeral motion with movement of the scapula on the thorax. Scapular movement is derived from motion of the acromioclavicular and sternoclavicular joints. Shoulder mobility is efficiently assessed by measuring four ranges of motion: flexion, external rotation with the arm at the side, external rotation with the arm in 90° of abduction, and internal rotation.

To evaluate shoulder flexion, place the patient's arm at the side (A). Ask the patient to raise the arm in the sagittal plane (B), and then measure active and passive motion in reference to the thoracic spine. Normal shoulder flexion is 160° to 170°.



EXTERNAL ROTATION



To evaluate external rotation, place the patient's arm at the side, held comfortably against the thorax, the elbow flexed to 90° , and the forearm parallel to the sagittal plane of the body (A). Measure external rotation by evaluating the maximum lateral rotation of the arm (B).



INTERNAL ROTATION



To evaluate internal rotation, ask the patient to place the arm behind the back and reach as high as possible. Note the highest midline spinous process that can be reached by the hitchhiking thumb. This maneuver is simple and easy to reproduce, but it represents a composite motion that depends on shoulder extension as well as scapular protraction and elbow, wrist, and thumb motion. Young adults typically can reach beyond the inferior tip of the scapula (approximately at the T7 level). Internal rotation may be severely limited in patients with adhesive capsulitis or degenerative arthritis. In these patients, the thumb may reach only to the sacrum, gluteal region, or greater trochanter.



SUPRASPINATUS



To evaluate the supraspinatus, place the patient's arm in 90° of abduction, 30° of horizontal adduction, and internal rotation with the elbow extended. Push down on the distal arm as the patient resists this pressure.



INFRASPINATUS AND TERES MINOR



Test strength in the infraspinatus and the teres minor by placing the patient's arm at the side in neutral rotation and with the elbow flexed. Support the elbow and instruct the patient to maintain this position while you apply moderate to firm pressure at the distal forearm, attempting to internally rotate the arm.



HORNBLOWER'S TEST



To evaluate the teres minor, the hornblower's test is helpful. Support the patient's arm abducted to 90° in the scapular plane with the elbow flexed to 90° . Ask the patient to rotate the arm externally 90° against resistance. A positive sign is indicated by the inability to maintain the externally rotated position, and the arm drops back to neutral position.



GERBER LIFT OFF TEST

Test subscapularis strength and possible tendon rupture by asking the patient to place the hand behind the back, palm facing away from the body, and then lift it away from the back against resistance.



SERRATUS ANTERIOR

Test serratus anterior strength by asking the patient to elevate the arm as you depress the arm with one hand and palpate the scapula with the other. With normal strength of the serratus anterior, the scapula remains in position on the chest wall. Winging and prominence of the vertebral border occurs with a weak serratus anterior muscle. Stretch or avulsion injuries of the long thoracic nerve with resultant paralysis of the serratus anterior also cause winging of the scapula and fatigue with overhead activities.



RHOMBOIDS



Test rhomboid function by asking the patient to place both hands on the iliac crests. Push the patient's arm forward with your hand at the elbow and palpate the vertebral border of the scapula with the other hand. An intact rhomboid maintains the scapula against the chest wall.



NEER IMPINGEMENT TEST



The Neer impingement sign is helpful to evaluate the shoulder for impingement or rotator cuff tear. Place one hand on the posterior aspect of the scapula to maintain it in the anatomic position, and use your other hand to take the patient's internally rotated arm by the wrist and place it in full flexion. This maneuver compresses the greater tuberosity against the anterior acromion and elicits discomfort in patients who have a rotator cuff tear or rotator cuff tendinitis. It may also be painful in patients with adhesive capsulitis, anterior instability, or arthritis.



HAWKINS IMPINGEMENT TEST



The Hawkins impingement sign reinforces a positive Neer impingement sign. Flex the patient's shoulder to 90° , flex the elbow to 90° , and place the forearm in neutral rotation. Support the elbow and then internally rotate the humerus. Pain elicited with this test is indicative of rotator cuff tear or rotator cuff tendinitis.



HORIZONTAL ADDUCTION TEST



To perform the cross-body adduction test, flex the patient's shoulder to 90° (A) and then horizontally adduct the arm across the patient's body (B). Pain over the acromioclavicular joint suggests arthritis of this joint but is also indicative of other acromioclavicular joint pathology, such as a sprain or separation.



APPREHENSION TEST

With the patient supine, place the patient's arm in 90° of abduction with the elbow flexed 90° . Gently externally rotate the forearm to 90° . Patients with anterior instability may display apprehension and report a sense of impending dislocation. A report of pain without apprehension is less specific.



SULCUS SIGN



With the patient's arm relaxed at the side, place one hand on the posterior scapula and use your other hand to apply traction to the patient's arm in an inferior direction. In patients with inferior shoulder laxity, this maneuver causes inferior subluxation of the humeral head and a widening of the sulcus between the humerus and acromion. A visible dimple is a positive sulcus sign.



JERK TEST



To perform the jerk test for posterior instability, place the patient's arm in 90° of flexion and maximum internal rotation with the elbow flexed 90° (A). Adduct the arm across the body in the horizontal plane while applying an axial load at the elbow to push the humerus in a posterior direction (B). If this maneuver causes a posterior subluxation or dislocation, the humeral head can be felt to “clunk” or jerk back into the joint as the arm is then horizontally abducted.



O'BRIENS TEST



Have the seated or standing patient position the arm in 90° of flexion and 20° to 30° of horizontal adduction. Then position the shoulder in full internal rotation and the forearm fully pronated to point the thumb down (A). Now ask the patient to maintain this exact position as you apply a downward force to the arm. Then maintain the same position except place the arm in external rotation and the forearm in supination (B). Ask the patient to maintain this exact position as you again apply a downward force to the arm. Pain elicited in the first maneuver and reduced or eliminated in the second is a positive test. Pain on top of the shoulder indicates AC joint pathology, while internal shoulder pain is indicative of labral pathology.



SPEED'S TEST



Stabilize the patient's arm with one hand and resist active shoulder flexion with the elbow extended and the forearm supinated. If pain occurs in the biceps groove, the test is positive for biceps tendinitis. This test may also be positive if a SLAP (superior labrum anterior to posterior) lesion is present. If profound weakness is present on resisted supination, severe second- or third-degree strain of the distal biceps should be suspected.



JOBE TEST-EMPTY CAN TEST

Have the patient sit or stand with the elbow in full extension and the shoulder abducted 90° and horizontally adducted 30° so that the arm is in the scapular plane. Maximally internally rotate the arm so that the thumb is pointed to the floor. Then apply downward pressure to the arm while the patient attempts to resist. Pain and/or weakness suggests supraspinatus weakness or inflammation.