

Rotator Cuff Impingement vs Tear

Rotator cuff impingement has many contributing factors and is one possible cause of anterior shoulder pain. The subacromial space is the region between the humeral head tuberosities and coracoacromial arch. This space contains the supraspinatus, infraspinatus, teres minor and long head of biceps tendons as well as the subacromial/deltoid bursa. Primary impingement is due to loss of subacromial space; secondary impingements, usually seen in younger patients, are the result of instability at the glenohumeral joint that decreases the relative subacromial space via humeral head position.

What They Say (Impingement)

- Quick movements painful, especially behind the back.
- Pain at night, worse to sleep on the affected shoulder (removal of gravity leads to a loss of subacromial space).
- Pain during certain positions of reaching upwards, and again when lowering the arm.

What They Say (Tear)

- Unable or difficult to lift the arm.
- +/- trauma in the older patient; typically traumatic in the younger patient.
- A pop or snap may be reported.

What We See

Research of the most common clinical shoulder tests suggest that a combination of tests will give the highest probability of correct diagnosis.

If the patient has a positive Hawkins-Kennedy test, the Painful Arc sign and a positive Infraspinatus Muscle test then there is a 95% post-test probability of **impingement**.

A combination of the Painful Arc Sign, and positive Infraspinatus Muscle test and Drop Arm tests means there is a 91% post-test probability of a **full thickness rotator cuff tear**. Many surgeons believe that prompt repair leads to the best results while some suggest that surgery be considered when conservative measures fail.

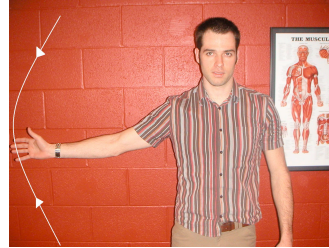
Hawkins-Kennedy Test



Passively flex the patient's shoulder to 90 then take the shoulder into internal rotation.

A positive test will reproduce symptoms

Painful Arc Sign



The patient elevates the arm through abduction or scaption.

Reproduction of symptoms through the mid-portion of the test (60 - 120) is a positive sign.

Infraspinatus Muscle Test

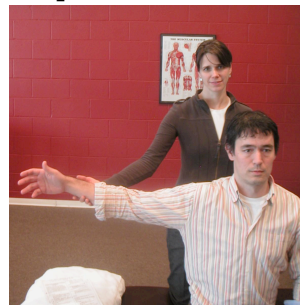


Patient's elbows are bent to 90 with the shoulders in adduction.

Press inwards so that the patient provides an external rotation force.

Weakness of rotation is positive.

Drop Arm Test



Passively abduct the patient's arm to 90.

Ask patient to slowly lower their arm in the same plane.

If patient drops their arm, or is unable to control the return, then the test is positive.

What We Do

- Biomechanical assessment of the upper kinetic chain
- Establish the best evidence diagnosis to frame the treatment plan
- Manage pain
- Restore range of motion to the shoulder, neck and thoracic spine
- Retrain humeral head control at the glenoid
- Retrain scapular control and glenohumeral rhythm
- Progress from closed chain to open chain exercises, then retrain strength and speed to restore functional performance

References

Park HB, Yokota A, Gill HS, El Rassi G, McFarland EG. Diagnostic Accuracy of Clinical Tests for the Different Degrees of Subacromial Impingement. J Bone Joint Surg Am. 2005;87:1446-1455.

Mitchell C, Adebajo A, Hay E, Carr A. Shoulder Pain: Diagnosis and Management in Primary Care. BMJ. 2005;331:1124-1128.