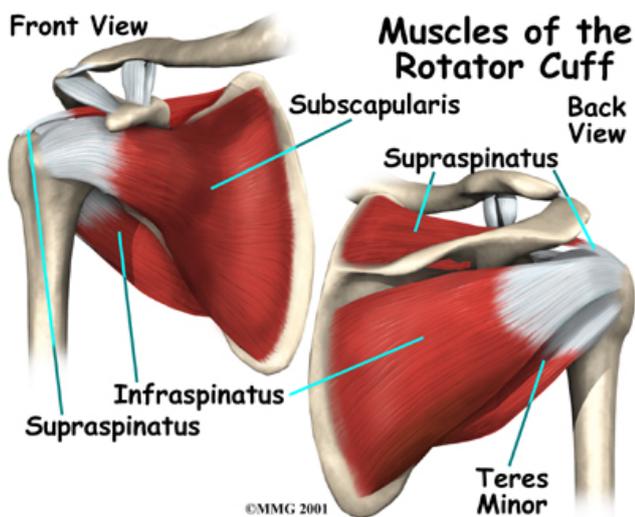


Rotator Cuff Tendon Injury

What is rotator cuff tendon injury?

The rotator cuff muscles are a group of 4 muscles running from the scapula or shoulder blade, out to the top of the humerus, and play a vital role in controlling the position of the ball of the shoulder in its' socket. Rotator cuff tendon injury is thought to be the most common cause of shoulder pain, especially in those aged over 40 years of age. Rotator cuff tendon injuries tend to present as a tendinopathy or tear to the tendon tissue of one or more of the rotator cuff muscles.

Rotator cuff tendinopathies are a tendon disorder much like patella tendinopathy or tennis elbow where repetitive strain or overload has caused a weakening or degeneration of the tendon unit. Rotator cuff tendon tears on the other hand exhibit a focal disruption in the tendon unit of one or more rotator cuff muscles, and often occur from an acute trauma or repetitive microtrauma. Tear sizes will vary greatly which will have an impact on management.



Diagnosis

Diagnosis of rotator cuff pathology is achieved through a detailed subjective and physical examination. Imaging such as ultrasound or MRI may help with the diagnosis although research shows that many adults will have tendinopathy or tear on imaging despite a lack of symptoms. There are a range of tests to help differentiate between conditions and when combined with the clinical history an accurate diagnosis can be achieved.

Those with rotator cuff tendon injuries often present with shoulder pain and weakness that may be worse at night, and aggravating activities often includes overhead lifting, lying on the side and reaching behind the back. Rotator cuff tendinopathies often present with:

- minimal resting pain
- duration of symptoms over three months
- often still have full shoulder range
- painful on resisted movements

Rotator cuff tendon tears on the other hand often present with:

- marked lack of shoulder range
- history of recent trauma
- may ache at rest

It is important to correctly diagnose sub-groups of rotator cuff tendon injury as this will differentiate management strategies.

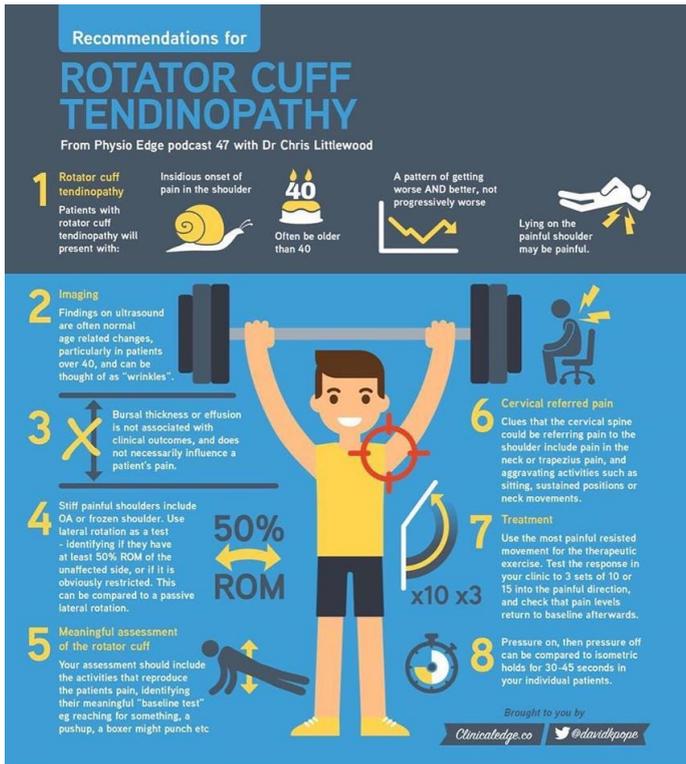
Management

Management of rotator cuff tendon injury often involves a combination of manual therapy, exercise therapy and activity modification to maximise results. As the diagnosis of rotator cuff pathologies can be varied, so must the management be tailored to a patient's needs.

Recommendations for ROTATOR CUFF TENDINOPATHY
From Physio Edge podcast 47 with Dr Chris Littlewood

- 1 Rotator cuff tendinopathy**
Patients with rotator cuff tendinopathy will present with:
 - Insidious onset of pain in the shoulder
 - Often be older than 40
 - A pattern of getting worse AND better, not progressively worse
 - Lying on the painful shoulder may be painful.
- 2 Imaging**
Findings on ultrasound are often normal age related changes, particularly in patients over 40, and can be thought of as "wrinkles".
- 3** Bursal thickness or effusion is not associated with clinical outcomes, and does not necessarily influence a patient's pain.
- 4** Stiff painful shoulders include OA or frozen shoulder. Use lateral rotation as a test - identifying if they have at least 50% ROM of the unaffected side, or if it is obviously restricted. This can be compared to a passive lateral rotation.
- 5** Meaningful assessment of the rotator cuff
Your assessment should include the activities that reproduce the patients pain, identifying their meaningful "baseline test" eg reaching for something, a pushup, a boxer might punch etc
- 6** Cervical referred pain
Clues that the cervical spine could be referring pain to the shoulder include pain in the neck or trapezius pain, and aggravating activities such as sitting, sustained positions or neck movements.
- 7** Treatment
Use the most painful resisted movement for the therapeutic exercise. Test the response in your clinic to 3 sets of 10 or 15 into the painful direction, and check that pain levels return to baseline afterwards.
- 8** Pressure on, then pressure off can be compared to isometric holds for 30-45 seconds in your individual patients.

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Rotator cuff tendinopathy and smaller rotator cuff tears will generally react well to a graduated loading program of strength exercise as with other tendinopathies around the body (achilles, tennis elbow). Addressing any postural or biomechanical contributors to the development of the injury as well as ensuring adequate mobility of the shoulder joint and thoracic spine are vital in effective management of these injuries.

Anti-inflammatories may be indicated if there is the presence of swelling in the joint. Regarding partial or full thickness rotator cuff tears, if non-surgical management fails then imaging and surgery can be considered in collaboration with the multidisciplinary team. There is some conjecture over the timing of surgery for rotator cuff tears, but emerging evidence suggests that conservative management should be trialled first before considering surgical management.