



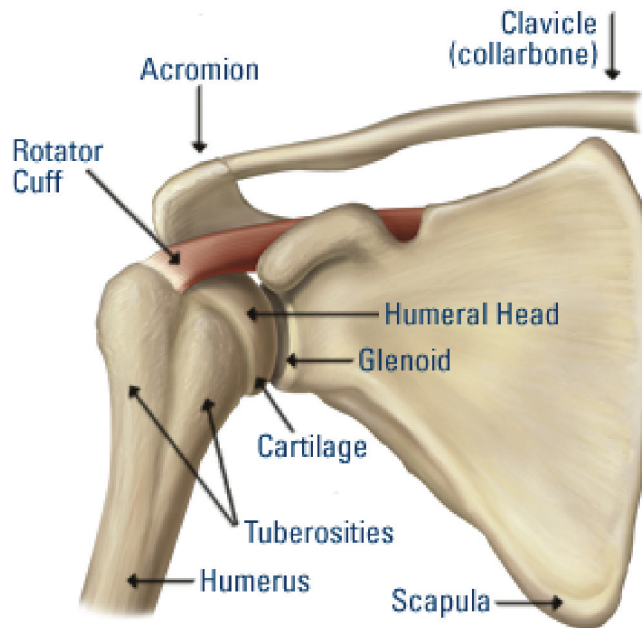
## COMMON SHOULDER CONDITIONS

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### Rotator Cuff

The term "rotator cuff" refers to a group of four tendons which extend from the scapula to the upper aspect of the humerus. The function of the rotator cuff is to stabilise the humeral head into the glenoid of the scapula in order to facilitate movement of the upper limb.

The upper part of the rotator cuff initiates abduction, allowing further abduction by the deltoid muscle. The anterior aspect of the rotator cuff is a strong internal rotator of the upper limb and the posterior aspect of the cuff is a strong external rotator.



When the rotator cuff is being tested at a clinical examination, specific tests are used to test each aspect of the rotator cuff in isolation, and also together. The tendons of the upper aspect of the rotator cuff pass beneath the acromion and are separated from the body of the acromion by a subacromial bursa, which is largely an anterior structure.

Disease of the rotator cuff is common and is frequently associated with impingement of the rotator cuff and bursa on the anteroinferior edge of the acromion and coracoacromial ligament.

Additionally, the tendon may be affected by age related degenerative change, and, not infrequently, a relatively minor work related injury may cause a tear in the degenerative rotator cuff.

## COMMON SHOULDER CONDITIONS (CONT'D)

### Rotator Cuff Tendinitis

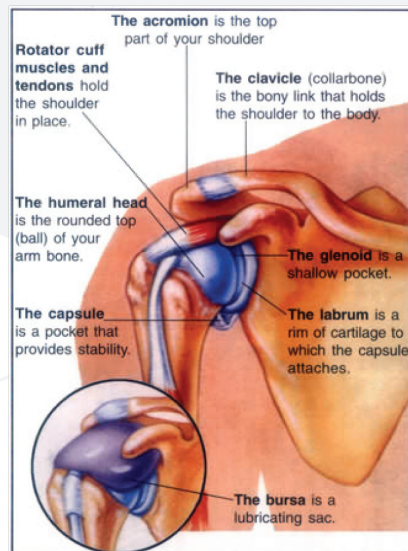
The upper aspect of the rotator cuff is separated from the under aspect of the acromion by the subacromial bursa. Repeated abduction and forward flexion of the upper arm may cause the tendon and bursa to rub under the anterior aspect of the acromion and coracoacromial ligament.

Characteristically, there is swelling and erythema in the region of the tendon and thickening of the bursa. This condition causes pain with certain movements of the shoulder, particularly with abduction and forward flexion from about 90° to 120°.

### Subacromial Bursitis

The subacromial bursa is a structure which is directly related to the upper aspect of the rotator cuff and the undersurface of the acromion. The bursa facilitates movement of the tendon beneath the acromion.

When there is irritation and swelling of the rotator cuff, corresponding changes occur in the bursa producing a "bursitis" which is characterised by thickening and erythema. From a WorkCover point of view, the terms tendinitis and bursitis may be used interchangeably.



### Painful Arc Syndrome

The term "painful arc" refers to the arc of movement, generally between 90° and 120° of abduction and forward flexion, where maximum impingement of the rotator cuff under the acromion occurs.

### Calcific Tendinitis

#### ► Chronic Calcific Tendinitis

- Rotator cuff tendinitis is characterised by swelling and irritation of the rotator cuff as it passes beneath the acromion. In some patients, calcium is deposited in the tendon, whereas in other patients calcium is not evident. The deposition of calcium appears to be an individual phenomenon and is not related particularly to the severity of the rotator cuff tendinitis. The calcium may be evident on x-ray or ultrasound.

#### ► Acute Calcific Tendinitis

- This appears to be a separate condition where calcium is deposited in the rotator cuff rapidly and the condition is characterised by severe pain and severe restriction of movement.

## COMMON SHOULDER CONDITIONS (CONT'D)

- This condition appears to be separate from the “chronic” calcific tendinitis which is not uncommon with long-standing rotator cuff tendinitis.

Acute calcific tendinitis is probably not related to an injury and occurs for constitutional reasons. The patient is characteristically quite distressed regarding the shoulder discomfort which generally comes on without a precipitating event. A steroid injection into the subacromial space and “needling” of the calcific deposit may be helpful.

In this condition, as opposed to chronic tendinitis, the calcific deposit is quite soft and has the appearance of “toothpaste”. Release of the calcium from the tendon is commonly associated with immediate pain relief. This is one condition where urgent arthroscopic decompression may be required.

### Frozen Shoulder Syndrome

This condition is characterised by severe pain and prolonged stiffness involving the shoulder. There is some controversy as to whether the condition is related to constitutional factors, such as an autoimmune disease, or whether it may be related in some way to trauma.

The characteristic finding with this condition is global loss of movement, as opposed to loss of movement in a specific direction. The syndrome progresses along a fairly predictable course, usefully divided into 3 phases.

The first phase is characterised by severe pain and stiffness and lasts about 3 or 4 months. During the second phase, the pain starts to settle, though the stiffness remains. This also lasts about 3 or 4 months. The third phase is characterised by no pain and gradual improvement of stiffness.

Most patients are pain free after about 12 months, though some residual stiffness may be present. Various modalities of treatment may be helpful, and on occasion, a treating orthopaedic surgeon may recommend manipulation or an arthroscopic procedure.

### Rotator Cuff Tear

The end result of rotator cuff tendinitis generally is a tear of the tendon. A tear may be “partial” or “full thickness”. Since the rotator cuff tendinitis is very frequently associated with degenerative changes and age-related changes in the tendon, the success of any surgery will be related to the quality of the tendon and the quality of the muscle.

Generally speaking, repair of a rotator cuff is restricted to a full thickness tear in a patient where the quality of tendon is likely to be good enough to accept the sutures that are required, and where the quality of the muscle is likely to be good enough to allow rehabilitation.

A working man aged less than about 60, with a tear that is not retracted excessively and with muscle that does not have too much fatty atrophy would be a good candidate for surgery.

The management of a “partial” thickness tear is controversial. There is some evidence that approximately 50% of these tears will go on to a full thickness tear. Tears of the rotator cuff are very common in the working community and also in the aged community. Many elderly people have undiagnosed and asymptomatic cuff tears.

Frequently, a minor injury may be the final insult to a degenerate rotator cuff, causing the tear.

## COMMONLY USED TERMINOLOGY IN SHOULDER REPORTS

### Impingement Syndrome

Impingement syndrome is a condition of shoulder pain which usually occurs when the arm is flexed and abducted, especially if the arm is externally rotated. In this position the rotator cuff is most compressed as it passes under the anterior edge of the acromion and the coracoacromial ligament. The worker has difficulty with working with the arm above the level of the shoulder.

### Bursa

A bursa is a fibrous sac between certain tendons and the bones beneath them. Lined with a synovial membrane that secretes synovial fluid, the bursa acts as a small cushion that allows the tendon to move over the bone as it contracts and relaxes. The subacromial bursa plays a large part in the pathology of rotator cuff tendonitis.

### Bursitis

Bursitis is inflammation of the bursa, a connective tissue structure surrounding a joint. Bursitis may be precipitated arthritis, infection, injury, or excessive or traumatic exercise or effort.

### Atrophy

Atrophy is a wasting or decrease in size or physiological activity of a part of the body because of disease or other influences. A skeletal muscle may undergo atrophy as a result of lack of physical exercise or neurological or musculoskeletal disease.

### Degeneration

Degeneration is the gradual deterioration of normal cells and body functions, resulting in loss of function.

## OTHER COMMONLY USED TERMINOLOGY IN SHOULDER REPORTS

- Abduction ▶ Moving of a part away from the body
- Adduction ▶ Moving of a part toward the body
- Anterior ▶ Situated in, or toward the front of a part, organ or structure
- Posterior ▶ Situated in, or toward the back of a part, organ or structure
- Inferior ▶ Below or lower than the reference point
- Superior ▶ Above or higher than the reference point
- Internal ▶ Within, inside
- External ▶ Outer, outside
- Retract ▶ To pull back
- Proximal ▶ The nearer distance of two items
- Distal ▶ Situated away from the point of attachment

Terminology reference: Mosby's Medical Dictionary 7th Edition