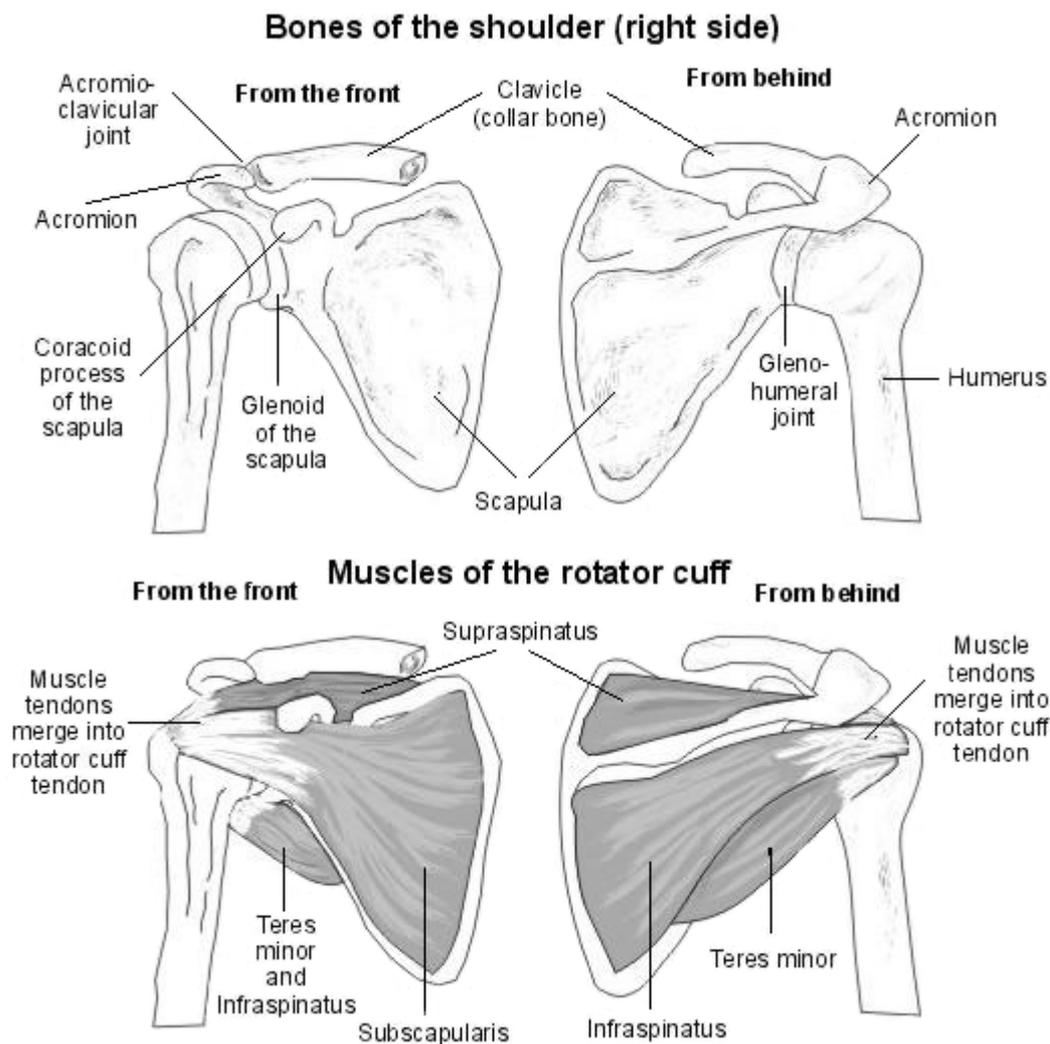


Rotator Cuff Injury and Pathology

The rotator cuff is made up of four muscles - supraspinatus, infraspinatus, subscapularis and teres minor. The tendons of these muscles blend together to form a cuff around the shoulder joint. When these muscles contract, their combined action centres the humeral head in the deepest part of the joint. This centering effect is essential for normal shoulder function as it provides strength and stability while still allowing a wide range of movement.

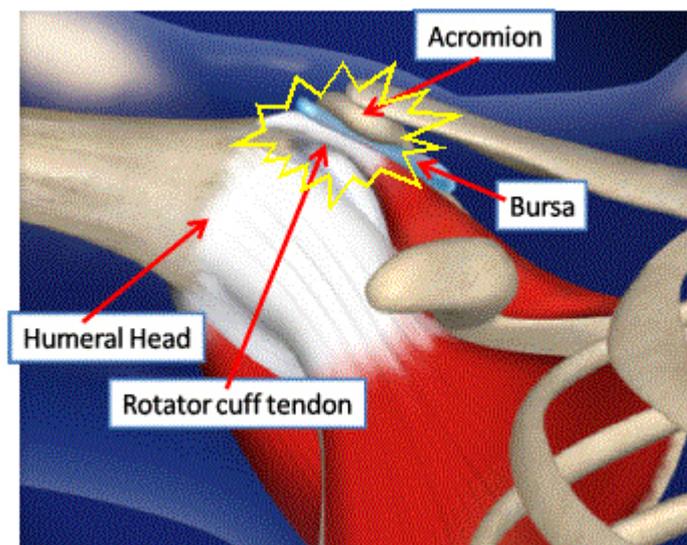


A rotator cuff dysfunction includes any type of irritation or damage to your rotator cuff muscles or tendons. Damage can occur from an acute injury such as a fall, from accumulated damage over time (repetitive stress) and from tendon weakening and degeneration as a result of the aging process. Rotator cuff pathology can involve any of the following:

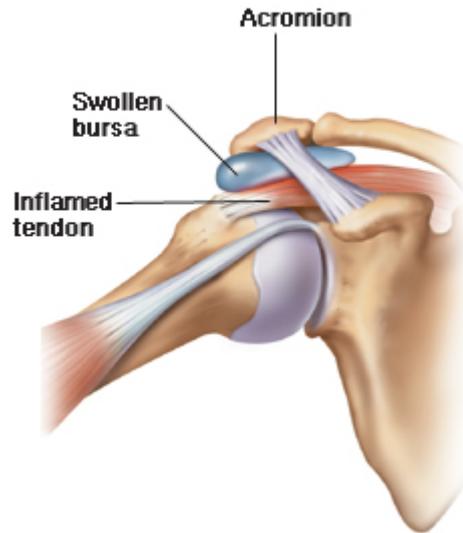
- Tendonitis
- Bursitis
- Calcific tendonitis
- Impingement
- Partial thickness tears
- Full thickness tears

Impingement, tendonitis, bursitis and calcific tendonitis

Rotator Cuff Impingement is when the rotator cuff tendons or bursa impact on the acromion bone above. This should not happen during normal shoulder function and causes the rotator cuff tendon to become inflamed and swollen. This is known as tendonitis.



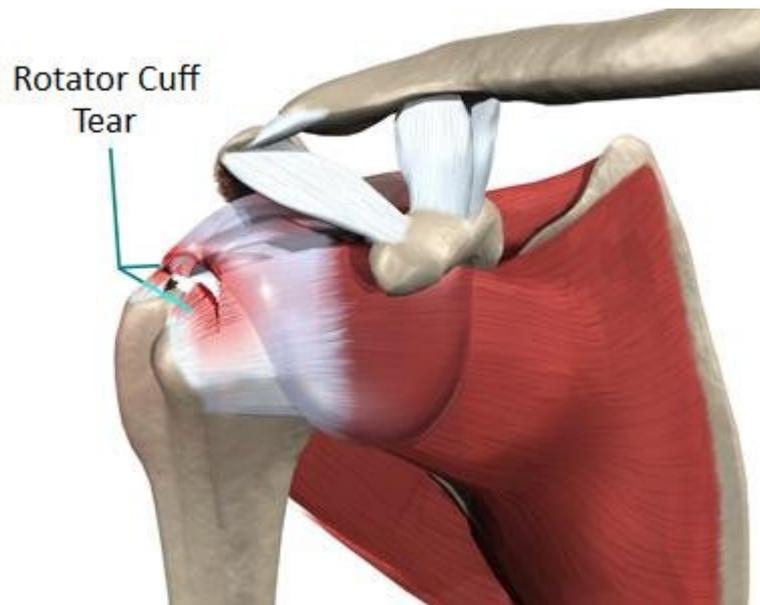
There is a lubricating sac called a bursa between the rotator cuff and the bone on top of your shoulder (acromion). The bursa allows the rotator cuff tendons to glide freely when you move your arm. When the bursa becomes inflamed the condition is known as bursitis. These conditions can exist together or independently.



Impingement can be caused a trauma such as a fall or by repetitive movements overhead or at shoulder height such as swimming and ball throwing. Sometimes the rotator cuff tendons can become calcified. This is when calcium is deposited in the tendons, due to long-standing inflammation. This is called calcific tendonitis.

Rotator Cuff Tears

If injuries go untreated they can progress and develop into tears involving one or more of the rotator cuff tendons, most often the supraspinatus muscle and tendon. Partial thickness tears involve damage to the soft tissue but the muscle is not completely severed and is still attached to the humerus bone. Full thickness tears or complete tears involve a complete split of the soft tissue and detachment of the tendon from the humerus. Such tears have a major impact on shoulder strength and stability as the cuff can no longer centre the arm in the joint. This allows the humeral head to migrate upwards and impact on the acromion bone above. Over time, this abnormal relationship between the ball and socket leads to erosion of the bone and subsequent arthritis.



Symptoms of rotator cuff damage

- Shoulder pain that can extend from the top of your shoulder to your elbow
- Pain at night time and when lying on the injured shoulder
- Pain at rest with the arm hanging down (more severe cuff injuries)
- An arc of shoulder pain or clicking when the arm is at shoulder height or overhead
- Weakness and pain when trying to reach or lift
- Pain with reaching across the body or behind the body



Diagnosis

A diagnostic ultrasound scan or an MRI is the most accurate method to diagnose the specific rotator cuff pathology. X-rays are of little diagnostic value when a rotator cuff injury is suspected.

Treatment

- Rest from aggravating activities especially overhead movements.
- Control the pain with adequate analgesic medication and NSAIDs to control the inflammation. Putting a cold pack on the shoulder for 15-20 minutes at the end of the day can also help reduce the inflammation.
- Gentle range of motion exercises in a pain free range will help keep your shoulder moving. Total inactivity and avoiding using the arm completely over a long period of time can result in the shoulder becoming extremely stiff (frozen shoulder).
- Physiotherapy will assist in return to work, sport and normal function by restoring full range of motion and scapular control and strengthening the rotator cuff muscles. This can take anywhere from several weeks to several months depending on the severity of the injury and the activities you need to return to.
- If rest, medication and physiotherapy do not relieve your pain, a corticosteroid injection may be helpful to reduce the inflammation and pain.
- If your pain does not improve with nonsurgical methods then surgery may be recommended. This is usually indicated when you have ongoing pain, your symptoms have lasted longer than 6 months, you have a large tear, you have significant weakness and loss of function. Surgery involves repairing and re-attaching the tendon to the bone.