

Rotator Cuff Tendon Tear

What is it?

The rotator cuff muscles are four (4) muscles and tendons which form a "cuff" of muscles around the shoulder, stabilising the ball and socket which makes up this joint. The muscles, individually, are the supraspinatus (over the top), subscapularis (at the front of the shoulder) and infraspinatus and teres minor (at the back of the shoulder). The most commonly torn muscle is the supraspinatus muscle. These muscles stabilise the ball and socket of the shoulder and allow the shoulder to be one of the most highly mobile joints in the body. However, because of this they are susceptible to injury and pain. If the rotator cuff muscles become torn due to an acute injury, degeneration, or normal wear and tear this can cause pain and problems, especially with overhead activities for the affected shoulder. There is a certain rate of degeneration of rotator cuff in all people and it has been reported that approximately 70% of people by the age of 70 will have some form of rotator cuff tear.

What are the symptoms?

The symptoms of rotator cuff tear are highly varied. Some patients may have rotator cuff tears with absolutely no symptoms - this is more common in an older age group. The symptoms are often similar to impingement and tendinitis. Frequently, pain is felt over the shoulder and down the outer and anterior aspects of the shoulder. The pain is frequently described as being during the night and may cause difficulty with sleeping. Pain is worse when the arm is moved away from the body and overhead activities can become increasingly difficult or impossible. Some patients who have had rotator cuff tears several years may develop arthritis in the shoulder and require joint replacement surgery.

Clinical examination

Many patients demonstrate a lack of movement in their shoulder, with difficulty with overhead activities. Specific examination of the different muscles of the rotator cuff is possible and this can suggest weakness in any of the four different muscles, although often this diagnosis is confirmed with further imaging investigations. Acute rotator cuff tears, which usually occur in patients under 50 years of age with significant injury, often show a dramatic reduction in power and range of motion with high levels of pain. A degenerative type of tear which is often associated with subacromial impingement may be markedly less painful and compensated for well by the patient.

What investigations are required?

X-ray is required in all cases. Dr Taylor may also require an ultrasound scan to diagnose the rotator cuff tear. If surgery is being considered, a MRI scan is required to assess the size of the tear and also whether the tear is repairable. This is also likely to be able to predict the time of recovery and the likely outcomes of surgery.

What are the treatment options?

Non-operative

Rotator cuff tears can be treated with painkillers and anti-inflammatory medications. Physiotherapy is often recommended to maintain mobility and strengthen the muscles that are not damaged by the tear. In older patients, non-operative treatment is frequently recommended. A hydrocortisone and local anaesthetic injection may reduce the pain dramatically. A full thickness rotator cuff tear is unlikely to repair with non-operative treatment. However, if the patient is asymptomatic and can use their shoulder without any difficulty, often surgery is not required.

Operative

In younger patients, or patients with acute tears or failure of non-operative treatment, an operation is recommended. The goal of surgery is to perform a subacromial decompression, bursectomy, treat associated conditions such as acromioclavicular joint arthritis and biceps tendinosis and perform a rotator cuff repair. Routinely, Dr Taylor performs this in an arthroscopic fashion which is keyhole surgery and avoids an open procedure. After debridement and mobilisation of the tendon, the tendon is reattached to the humerus bone through several small incisions in the shoulder using anchors and multiple stitches to reoppose the torn tendon to its insertion site on the greater tuberosity of the humerus.

This surgery does require a general anaesthetic, frequently a regional anaesthesia such as a nerve block administered by the Anaesthetist is also required and an overnight stay in hospital. The patient will undergo a post-operative rehabilitation as outlined here ([link to rehab protocol](#)).

Possible complications

The most common complication of rotator cuff repair is stiffness, sometimes referred to as a Frozen Shoulder. There is also risk of re-tear and, interestingly, this is most common at 3 - 6 months post-surgery. Many patients who have further tears of the rotator cuff tendon do not require surgery, but this will be discussed if it should occur, on an individual basis.