Rotator Cuff Rupture

Rotator cuff ruptures are serious injuries to the muscle in the shoulder. They commonly affect older people, typically over the age of 65, and occur in about equal numbers of males and females. They cause significant pain and disability in the arm and shoulder.

Rotator cuff ruptures occur in two main scenarios:

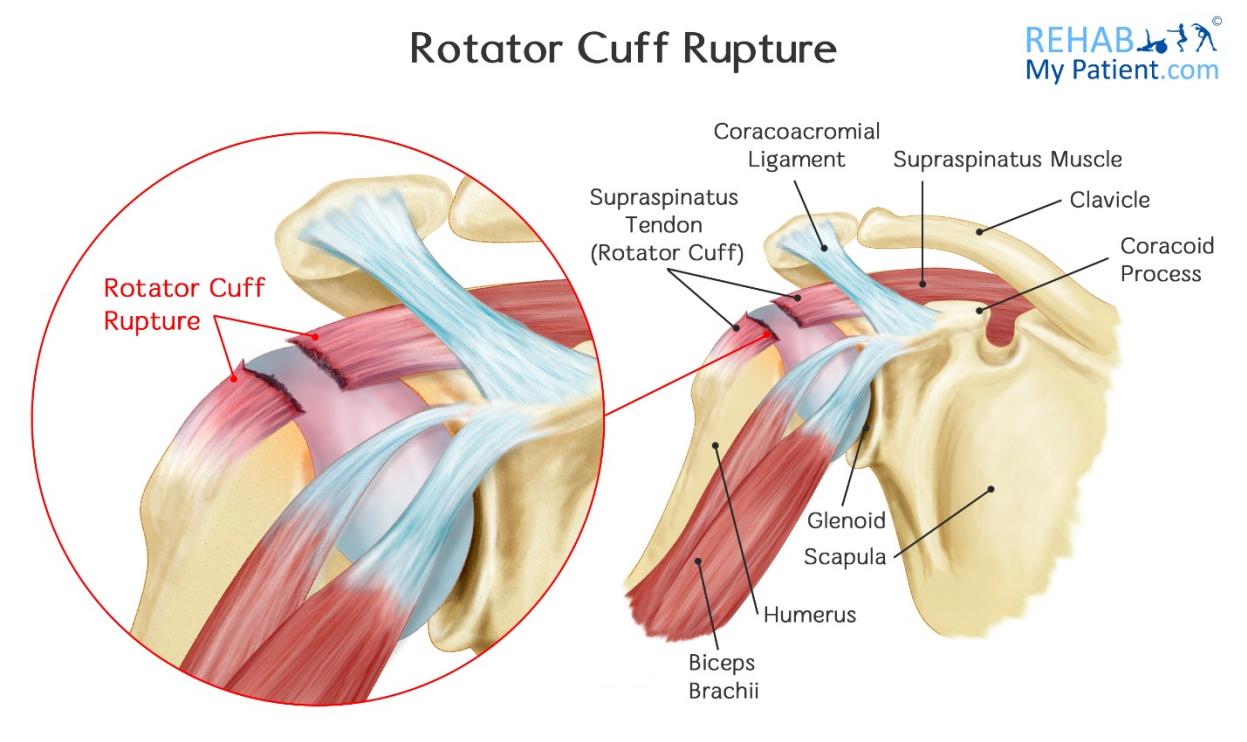
1. Degenerative
2. Traumatic

Degenerative cuff ruptures occur after many years of micro-tearing to the rotator cuff muscle. Initially this causes a partial thickness tear that can develop into a full thickness tear, and then a rupture. Traumatic ruptures are more sudden, and occur after a fall on the shoulder, arm or hand.

Initially you are unlikely to be able to lift the arm much beyond 90 degrees. With rehabilitation or surgery you will get higher.

Rotator Cuff Tear Anatomy

The rotator cuff is composed of four different muscles that join together as tendons and form a covering surrounding the head of the humerus. The rotator cuff connects the humerus to the shoulder blade and aids in rotating and lifting your arm. While all four rotator cuff muscles can tear, the most common by far is the supraspinatus muscle.



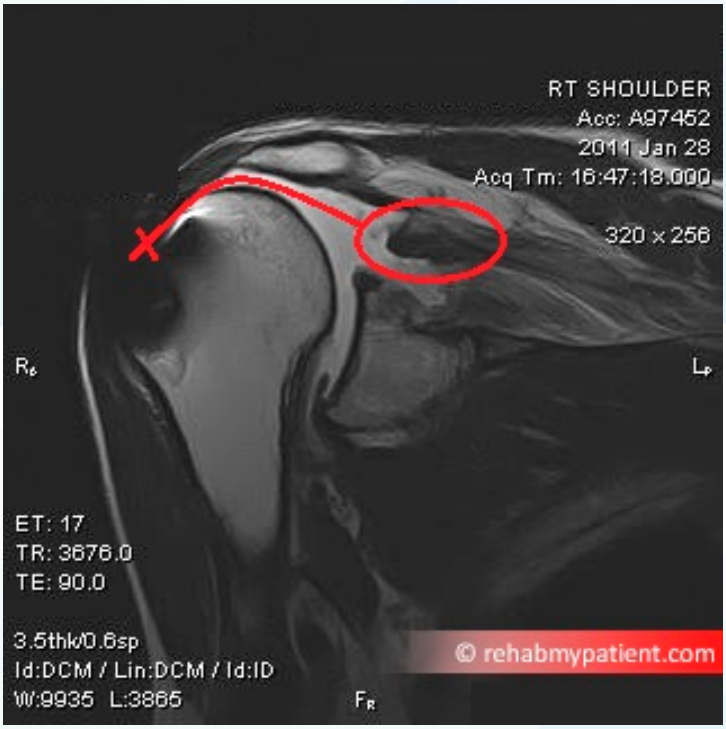
The supraspinatus sits above the spine of the shoulder blade, and attaches to the top of the arm bone (humerus) via a tendon. A rotator cuff rupture most commonly relates to a full rupture of this tendon.

Tears Are Usually Classified Into the Following:

- Fraying of the supraspinatus tendon (usually occurs along the top of the tendon).
- Partial thickness tear (the tear goes partially though the width of the tendon).
- Full thickness tear (the tear goes all the way through the tendon).
- Rupture (the tendon is completely split into two parts.
- Retraction (the tendon has split into two parts, and one part has migrated towards the shoulder blade).

There is a lubricating sac known as the bursa that lies between the rotator cuff and the bone that sits on the top of the shoulder. The bursa allows the rotator cuff tendons to freely glide whenever you move your arm. When the tendons are damaged or injured, the bursa will become painful and inflamed. So it is not uncommon to have "subacromial bursitis" with a rotator cuff tear.

The problem usually occurs under a joint known as the AC Joint (acromioclavicular joint), which is a joint that sits next to the shoulder joint (the main ball and socket joint).



An MRI scan showing a full rupture with retraction of the supraspinatus tendon. The tendon should join where the X is.

How to Treat a Rotator Cuff Rupture:

1. **Physiotherapy / Manual Therapy**
   It's important to see a physical therapist to assess the damage. Sometimes it is not possible to identify if the tendon is completely ruptured or not, and your therapist may refer you for an ultrasound scan or MRI scan. If a rupture is identified, a process of shared decision making will take place where you discuss (either with a consultant or your therapist) the pro's and drawbacks of having rotator cuff repair surgery. If surgery is decided against, then you can start rehabilitation and this will involve increasing mobility to your shoulder, reducing inflammation and stability exercises.

2. **Modification of Activities**
   Avoid any activities that cause pain in the shoulder, especially sleeping on the affected side, and lifting your arm to the side or above your head.

3. **Anti-Inflammatory Medication**
   An anti-inflammatory medication can help to reduce the swelling and pain in the affected area. Use this for 2 weeks to get you over the initial pain.

4. **Exercises**
   Specific types of exercises will often help to restore movement and strengthen the joint. The exercise program will include a variety of different stretches for improving movement and flexibility. When you strengthen the muscles that support the shoulder, you can relieve pain and prevent any further injury from occurring.

5. **Rotator Cuff Repair Surgery**
   Rotator cuff surgery is commonly recommended in cases of a rupture, especially if pain is very bad or the shoulder is very weak. However, rehabilitation time can be long (6-9 months) and there is a risk of frozen shoulder following the surgery.

6. **Steroid Injection**
   If physical therapy, medication and rest aren't able to relieve your pain, you might need an injection of a local anesthetic and cortisone. This is one of the most effective types of an anti-inflammatory medication. The injection can help reduce the inflammation but will not help the tendon to heal.

Tips:

- Try to avoid falling on an outstretched arm or lifting an object that is too heavy using a jerking motion. In doing so, you could end up tearing your rotator cuff.
- Repeating the same activity and motion over and over will cause stress on the tendons and muscles of the rotator cuff. Tennis, baseball, weightlifting and rowing are all examples of activities that leave you at risk for tearing the tendon.
- As you age, the blood supply to the tendon lessens. If there isn't a good blood supply, the ability of the body to repair damage to the tendon is hindered.
- As you grow older, bone spurs will often develop on the underside of the shoulder bone. Whenever the arms are lifted, the spur will rub on the rotator cuff, which weakens it and leaves it prone to tearing.
- Carpenters, painters and others performing a great deal of overhead work are more prone to tearing.
- Golfers typically suffer these conditions, although they will not report being in pain when actually playing golf.