

Rotator Cuff Injuries

The rotator cuff is the group of four muscles and tendons that surround the shoulder joint, providing strength and stability. Above the rotator cuff there is a bursa, or sac of tissue, that covers and protects the rotator cuff as it comes into close contact with bones around the shoulder (**Figure 1**). When the rotator cuff is injured or damaged, it can lead to inflammation of the bursa, called bursitis, which causes pain and loss of motion.

Causes

While some rotator cuff injuries occur as a result of an accident, most result from aging and deterioration of the cuff. Rotator cuff tears increase in incidence with age.

Signs and Symptoms

Damage to the rotator cuff can vary from microscopic tears to large irreparable tears. Symptoms can include:

- Pain
- Weakness
- Restricted motion
- Catching
- Locking
- Feeling of instability

The symptoms are usually worse in certain positions, such as reaching backward to fasten a seat belt or pick up a briefcase out of the back seat. Symptoms can also be worse when the arm is elevated overhead, especially if there is weight on the arm, such as when picking up a stack of plates out of a cupboard. Overhead activities like pitching, throwing, playing tennis or playing racquetball commonly worsen symptoms.

But not all rotator cuff tears are painful, and many individuals with rotator cuff injuries have no symptoms.

How are rotator cuff injuries diagnosed?

The diagnosis can come from:

- **History and physical examination:** This is the best way to initially evaluate. It is important for the doctor to identify pain that may be coming from places other than the shoulder, such as the neck or even the heart.
- **X-rays:** Although plain x-rays do not show the rotator cuff muscles, they are helpful to look for calcifications, arthritis or bone problems that can cause rotator cuff tears.
- **MRI:** This is the most common imaging method to diagnose rotator cuff tears (**Figure 2**). It can be used to look for tears or inflammation of tissues and to help determine the size and character of the tear to recommend proper treatment.

Injections or arthroscopy may also be used to help diagnose rotator cuff tears.

Treatment

Common treatment options may include:

- **Alterations in activities:** Learning to use the shoulder in a safer, more comfortable manner is important.
- **Physical therapy:** This may help improve mobility and strengthen shoulder muscles.
- **Anti-inflammatory medications and injections:** These are used for pain relief and to decrease inflammation.

If these treatments fail, surgical intervention (**Figure 3**) such as arthroscopy is a reasonable option. Large tears may require joint replacement surgery.

Rehabilitation

Postoperative treatment depends on which surgical procedure was chosen, but therapy is a critical part of the recovery. Therapy can last from three to 12 months. A coordinated effort between the patient, surgeon and physical or occupational therapist is required.

Figure 1. Shoulder anatomy

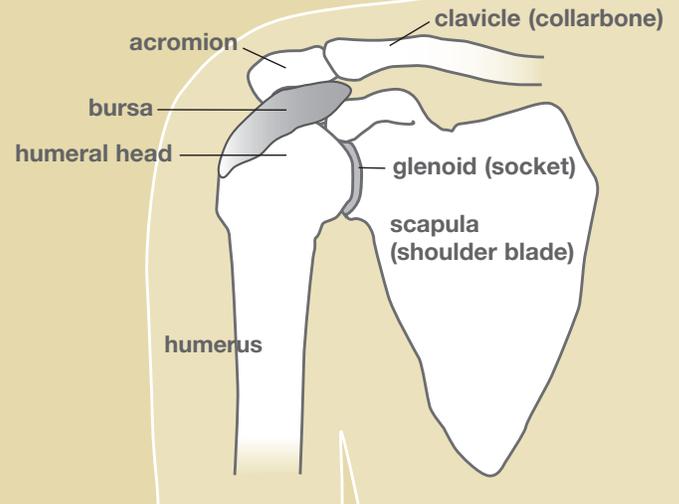


Figure 2. MRI of the shoulder

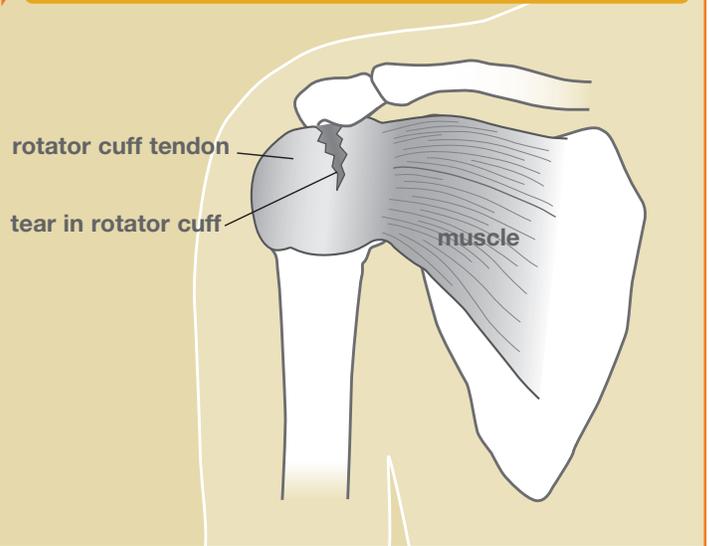


Figure 3. Pre- and post-surgery

