



Rotator Cuff Problems

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Shoulder pain is a very common problem in the population. Well over a million people a year visit their doctors for rotator cuff related problems. There are many different reasons why a shoulder can hurt. Pain in the front of the shoulder is often related to an injury to the rotator cuff. Injury to the rotator cuff can range from surface inflammation to a complete rotator cuff tear.

Your shoulder is made up of three bones including the upper arm bone (humerus), the shoulder blade (scapula), and the clavicle. The shoulder is a shallow ball-and-socket joint. The shoulder anatomy is built for motion rather than stability. The ball (humeral head) is kept in your shoulder socket by your rotator cuff. The rotator cuff consists of four muscles that join together as a continuous tendon to form a cuff around the head of the humerus. The rotator cuff attaches the humerus to the shoulder blade and helps to lift and rotate your arm.

There is a slippery layer called a bursa between the rotator cuff and the bone on top of your shoulder. The bursa allows the rotator cuff tendons to glide freely when you move your arm. When the rotator cuff tendons are injured or damaged, this bursa can also become inflamed and painful.

Rotator Cuff Tear

When the rotator cuff tendon is torn, the tendon no longer fully attaches to the head of the humerus. Most tears occur in the supraspinatus muscle and tendon, however the remaining tendons of the rotator cuff may also be involved.

Most commonly, the rotator cuff tendon gradually tears off over time. These tears are called partial thickness rotator cuff tears and are very common. As the damage progresses, the tendon can completely tear, sometimes with lifting a heavy object. A complete tear does not always require a big event however. More often than not, it is a smaller event that is the "straw that breaks the camel's back."

The two types of rotator cuff tearing are:

- **Partial Tear.** This type of tear damages the soft tissue, but does not completely sever it. This is very common with aging.
- **Full-Thickness Tear.** This type of tear is also called a complete tear. With a full-thickness tear, there is basically a hole in the tendon. The tendon generally tears off of the humeral head.

The most common rotator cuff tear is a gradual process that eventually tears all the way through. Once in a while a more acute or traumatic injury can create a rotator cuff tear. If you fall down on your outstretched arm or lift something too heavy with a jerking motion, you can tear your rotator cuff. This type of tear can occur with other shoulder injuries, such as a broken collarbone or dislocated shoulder.

How and why does a rotator cuff tear?

Because most rotator cuff tears are largely caused by the normal wear and tear that goes along with aging, people over 40 are at greater risk.

People who do repetitive lifting or overhead activities are also at risk for rotator cuff tears. Athletes are especially vulnerable to overuse tears, particularly tennis players and baseball pitchers. Painters, carpenters, and others who do overhead work also have a greater chance for tears.

Although overuse tears caused by sports activity or overhead work also occur in younger people, most tears in young adults are caused by a traumatic injury, like a fall.

Diagnosis of rotator cuff tears

With a description of your symptoms and a physical exam, a physician should be able to accurately diagnose a rotator cuff tear. Generally, pain is over the front and the top of the shoulder. If that pain persists and/or there is significant weakness in the shoulder, an MRI would be ordered. A rotator cuff tear cannot be seen on routine x-rays, but can be seen quite well with an MRI.

Treatment of rotator cuff tears

If you have a rotator cuff tear and you keep using it despite increasing pain, you may cause further damage. A rotator cuff tear can get larger over time.

Chronic shoulder and arm pain are good reasons to see your doctor. Early treatment can prevent your symptoms from getting worse. It will also get you back to your normal routine much quicker.

The goal of any treatment is to reduce pain and restore function. There are several treatment options for a rotator cuff tear, and the best option is different for every person. In planning your treatment, we consider your age, activity level, general health, and the type of tear you have.

Nonsurgical Treatment

In about 50% of patients, nonsurgical treatment relieves pain and improves function in the shoulder. Shoulder strength, however, does not usually improve without surgery.

Nonsurgical treatment options may include:

- **Activity modification.** Avoid activities that cause shoulder pain.
- **Non-steroidal anti-inflammatory medication.** Drugs like ibuprofen and naproxen reduce pain and swelling.
- **Strengthening exercises and physical therapy.** Specific exercises will restore movement and strengthen your shoulder. Strengthening the muscles that support your shoulder can relieve pain and prevent further injury.
- **Steroid injection.** An injection of a local anesthetic and a cortisone preparation may be helpful in relieving pain. Cortisone is a very effective anti-inflammatory medicine.

The disadvantages of nonsurgical treatment include limited improvements in strength and permanent activity limitations. Additionally, the size of the rotator cuff tear will often increase over time.

Surgical Treatment

Your doctor may recommend surgery if your pain does not improve with nonsurgical methods. If you are very active and use your arms for overhead work or sports, your doctor may also suggest surgery.

Surgery to repair a torn rotator cuff most often involves re-attaching the tendon to the head of humerus bone. There are a few different techniques for repairing rotator cuff tears. Your orthopedic surgeon will discuss with you the best procedure to meet your individual health needs.

While each of the methods available has its own advantages and disadvantages, all have the same goal: getting the tendon to heal back to the bone.

The type of repair performed depends on several factors, including your surgeon's experience and familiarity with a particular procedure, the size of your tear, your anatomy, and the quality of the tendon tissue and bone.

Many surgical repairs can be done on an outpatient basis and do not require you to stay overnight in the hospital. You also may have other shoulder problems in addition to a rotator cuff tear including bone spurs. During the operation, your surgeon will be able to take care of these problems, as well.

Post-Operative Rehabilitation

Rehabilitation plays a vital role in getting you back to your daily activities. A physical therapy program will help you regain shoulder strength and motion.

After surgery, therapy progresses in stages. At first, the repair needs to be protected while the tendon heals. To keep your arm from moving, you will most likely use a sling and avoid using your arm for the first 4 to 6 weeks. How long you require a sling depends upon the severity of your injury.

Passive Exercise

Even though your tear has been repaired, the muscles around your arm remain weak. Once your surgeon decides it is safe for you to move your arm and shoulder, a therapist will help you with passive exercises to improve range of motion in your shoulder. With passive exercise, your therapist supports your arm and moves it in different positions. In most cases, passive exercise is begun within the first 4 to 6 weeks after surgery.

Active Exercise

After 4 to 6 weeks, you will progress to doing active exercises without the help of your therapist. Moving your muscles on your own will gradually increase your strength and improve your arm control. At 8 to 12 weeks, your therapist will start you on a strengthening exercise program.

Full recovery after rotator cuff repair can take several months. Most patients have a functional range of motion and adequate strength by 4 to 6 months after surgery. Although it is a slow process, your commitment to rehabilitation and strengthening the reattached rotator cuff is the key to a successful outcome.