

# ROTATOR CUFF INJURIES

*A range of treatment options*

By Jason Dieterle, DO, MS



Shoulder pain is common across all age groups. One of the most common causes of shoulder pain is inflammation of or injury to the rotator cuff. Your rotator cuff is four muscles around your shoulder blade that combine to form a “cuff” of tendon over the top of your arm bone in your shoulder. The purpose of your rotator cuff is to position your arm in place and help keep the ball centered in the socket of your shoulder joint.

Your rotator cuff gets used almost constantly in daily life. Every time you move your arm, you are engaging the help of your rotator cuff. Unfortunately, the tendons of the rotator cuff live in a small

space between the bones of your shoulder, making it particularly vulnerable to irritation or injury.

## Daily motions

Anytime you lift your arm away from your body, especially when raising your arm above your head, the tendons of the rotator cuff are pinched between the top of your arm bone and your acromion—the part of your shoulder blade that you feel on the top and outside part of your shoulder. A cushion, known as a bursa, softens blows in this area. When this area of tendon and bursa becomes inflamed, it becomes painful to move your arm. This condition is called impingement syndrome, rotator cuff tendinopathy, or shoulder bursitis. This is really three ways to say the same thing.

This condition is normally brought on by a change in activity, such as a new workout regimen or a repetitive overhead activity, such as painting. Like any part of the body, your rotator cuff tendon will wear with time, so older people can be more prone to this condition. Your tendon will rub across your bone like a rope that is rubbed across a sharp corner. Over time the tendon will start to fray and will often show up on an MRI (magnetic resonance imaging) as a partial tear. Often there is no single injury or inciting event to this ailment.

Symptoms usually consist of sharp pain that runs down the side of your arm during certain movements, such as reaching out or behind. A throbbing pain often occurs at night. The pattern of pain is caused by the way your nerves run across your shoulder and down your arm. Rotator cuff pain is usually not pain in your shoulder blade or neck, nor does it travel past your elbow.

Your doctor may perform physical tests. If there is no specific injury, physical therapy is the first step. Physical therapy strengthens other muscles in your shoulder to take the pressure off the rotator cuff muscles. When pain subsides, strengthening the rotator cuff itself can help reduce the chance of reoccurrence.

Cortisone shots are another option. Cortisone, a strong anti-inflammatory medicine, is injected directly into the site of inflammation in the bursa, quickly reducing your pain. If inflammation of the bursa or tendon is the cause of pain and dysfunction, the shot itself can often cure the condition. In impingement syndrome there is no anatomic damage, so “covering” the pain is not harmful. You are not causing further damage by continued use of the arm, and it

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is actually better to use the arm, as pain allows, so the shoulder joint does not become stiff.

If these treatments fail, an MRI is indicated. You cannot see the rotator cuff on an X-ray. The MRI will best show the anatomy of the rotator cuff. If you cannot have an MRI, a CT (computerized tomography) scan or ultrasound can also be used to evaluate the tendon. If less than 50 percent of the tendon is torn, the tendon usually does not need to be fixed.

### **Surgical repairs**

If the tendon itself is not torn enough to warrant reattachment, and conservative measures fail, a minimally invasive decompression surgery can be done. Under this arthroscopic procedure, narrow tubes are inserted through small incisions. Through these tubes, the inflamed bursa is surgically removed, and the bone is ground down to allow more room for the tendon.

If surgery consists of a decompression and not a rotator cuff repair, recovery is much faster. Usually a sling is worn only for comfort, as there is no repair to protect with the sling. Physical therapy can start right away. You can expect to have good use of your arm and less pain in four to six weeks.

A full tear of the rotator cuff is treated quite differently. A full tear is where the tendon is completely detached from the bone, usually as the result of injury. Falling and trying to catch yourself on an outstretched arm, falling directly on your shoulder, or lifting a heavy weight away from your body are examples of common rotator cuff tearing injuries.



*Your rotator cuff gets used almost constantly.*

A full tear is usually more painful than an inflamed tendon. It is not true that you will not be able to lift your arm out to the side if it's a full tear. There are accessory muscles that will help lift your arm. However, there is usually noticeable weakness, especially when tested by a trained health care provider. The weakness is worst in the first movements away from your body. When your arm is raised past 30 degrees out, your big shoulder muscle, the deltoid, takes over the lifting.

Full thickness rotator cuff tears cannot heal on their own. Once detached, the muscle connected to the tendon will continue to contract, pulling the tendon farther away from its intended attachment point. Generally the pain will eventually go away, but you will always have a degree of weakness. If the tear is not repaired, the muscle will atrophy and turn into fat, and your body will start to resorb the tendon.

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That is why old rotator cuff tears cannot be fixed. The tendon will not hold suture to repair it, and the muscle will not contract to pull the tendon. This process takes place over a few months. That is why it's important to get evaluated, and, if torn, to have surgery to repair the tendon in the first two to three months after injury.

The surgery to repair a torn rotator cuff is usually a same-day surgery that does not require overnight hospitalization. The repair can be done either through an incision or arthroscopically, as determined by the surgeon. The repair consists of placing an anchor in your bone at the attachment point of the tendon that has suture attached. The suture is passed through the tendon and tied down, bringing the tendon back to the bone. Sometimes, if indicated, a decompression will be performed at the same time as the repair. The point of the surgery is to reattach the tendon so that it heals back to the bone. The anchor and suture are not meant to hold the repair forever.

Because there is a healing process that takes place, the recovery after surgery is longer. The repair is protected by wearing a sling for four to six weeks after surgery. Physical therapy can start before or after this time frame, depending on the size of the repair and your surgeon's preference. The shoulder can become stiff, and therapy

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starts with regaining the motion in your shoulder. This takes six to eight weeks after surgery. Then you will gradually start to strengthen your shoulder and rotator cuff. This is a slow progression, and it can take up to six to eight months to regain full strength. It is a long recovery, but the hope is that you will have regained the full use of your arm that would have not been possible without surgery.

### Summing up

If you have pain that runs down the side of your arm that is worse when reaching out or lifting away from your body, it's likely rotator cuff-associated pain. If the pain does not subside in a few days, it's best to be evaluated by a health care professional. Conservative treatments such as physical therapy and cortisone injections can usually cure your pain if there is no tear. An MRI may be performed if there is question of a tear. If a full tear is noted, surgery is required for full functional recovery. Recent techniques, including all-arthroscopic repair of the tendon, have decreased the pain of recovery associated with rotator cuff surgery. ❏

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