

Shoulder Solutions to Get You Back in the Game

By Susan Locke, M.D., Medical Director

The rotator cuff's function is to move and stabilize the shoulder joint. Your joint is made of a network of 4 muscles and tendons that connect the upper arm to your shoulder blade. Any type of irritation or damage to these muscles or tendons can cause a rotator cuff injury.

There is a wide spectrum of injuries to the rotator cuff tendons. The tendons are responsible for moving the arm and when they are damaged, the result is pain and weakness. Injury to the tendons is analogous to wearing through a rope which is about as thick as your finger. The most common injury is a partial tear of the tendon. If it is not cut or torn all the way through, it typically can get better without surgery.

Injuries can be acute or chronic. An **acute** rotator cuff tear can result from lifting the arm against resistance or attempting to cushion a fall. You may experience a sudden tearing sensation followed by severe pain shooting from the upper shoulder area down the arm and a decreased range in motion. You may also feel acute pain if there is bleeding or a muscle spasm. In the case of large tears, you will not be able to raise your arm out to the side (abduct).

A **chronic** tear is found among people in occupations or sports where there is excessive overhead activity. Chronic tears can also be a result of a structural problem within the shoulder like a bone spur or repetitive trauma to the muscle by everyday movement of the shoulder. People with chronic tears can experience pain that usually worsens at night, decreased ability to move their arm out to the side and the inability to use your arm for activities that entail lifting the arm as high as or higher than the shoulder.

Inflammation or irritation of a tendon, **tendinitis**, can appear in people who have excessive overhead activity and can lead to the rupture of the tendon. This condition is common in women 35-50 years of age and presents itself with a deep ache in the shoulder and the outside of the upper arm. There may be point tenderness. Pain usually comes on gradually and becomes worse when lifting arm to side or turning it inward.



Edward McFarland, M.D., Johns Hopkins Hospital

Diagnosis of a rotator cuff injury is made by patient history, physical examination, and X-rays to rule out fractures and arthritis. An MRI has become the test of choice for most significant shoulder injuries. Other possible tests include an ultrasound or an arthrography where dye is injected into the shoulder.

Most cases of rotator cuff injuries can be successfully treated **non-surgically** with rest, ice, physical therapy and anti-inflammatory medications or steroid injections to relieve inflammation and pain.

To find out about **surgical options** for the repair of a rotator cuff injury, I asked **Edward McFarland, M.D.**, Vice-Chairman of the department of Orthopaedic Surgery, and the Co-Division Director of the Division of Shoulder Surgery in the Department of Orthopaedic Surgery at Johns Hopkins and Healthnetwork *Service Excellence Award* recipient, for more information.

When is surgery indicated for a rotator cuff injury?

Occasionally surgery is needed for a **partial** tear if all non-surgical options have not worked. If the tendon is cut all the way through, especially if the tear is due to a fall or an injury, the tendon will not heal back to the bone and surgery is needed to repair the tendon. Sometimes the tendon has

a tear which occurs over time without trauma, and this type of tear occurs without you knowing it "like a hole in the seat of your pants." This latter type of tear is called an "attritional tear" and whether that needs surgery or not depends upon your symptoms, how big the tear is in centimeters, your age and activity level, whether it is your dominant arm or not and whether you have any symptoms or not. All of these variables should be considered when considering surgery for rotator cuff injuries.

What are the surgical repair options?

If the tendon is torn, the surgery is designed to sew the tendon back to the bone where it can heal. The surgery is done using anchors in the bone which pull the tendon into contact with the bone. This can be done in some instances with **arthroscopic techniques** where small holes are made for the arthroscope and the instruments. The time-proven method is to make an incision about two inches long and repair the tendon to bone. Either method is acceptable and each has advantages and disadvantages, but in either case the tendon takes a long time to heal to the bone. As a result, the rehabilitation after the surgery is very important.

How do you decide which technique to use?

In my practice, I will use an **arthroscopic technique** for smaller tendon tears of around one or two centimeters. For larger tears, I still prefer to make a larger incision and repair the tendon under direct visualization, called an "**open**" **technique**. Some surgeons like to repair any tendon tears with arthroscopic techniques and some with open techniques. The surgical results appear to be nearly the same with either technique, but there is some evidence that larger tears of several tendons or more may be more successful with open techniques.

What does the rehabilitation after surgery entail?

Rehabilitation usually begins the first week after arthroscopic surgery or an open rotator cuff repair. It is very important to follow the program that the surgeon recommends. The physical therapist will demonstrate how to do the exercises to increase range of motion and to build muscle strength. A typical program might start with stretching and some minor strengthening exercises with rubber bands and light weights. With surgery, it might take up to several months before strength is back to normal, but

with hard work and adherence to the recommended program, full recovery is likely in most cases.

What are the outcomes of surgical repair?

The good news is that over 90% of people who have a rotator cuff repair will get pain relief. How much strength and function one gets back after rotator cuff repairs depends entirely upon how large the tear of the tendon or tendons is at the time of surgery. If the tendons heal completely, then the patient should have good strength and function, but it takes about 6 to 9 months for complete healing. Even with successful surgery there may still be some weakness using the arm over shoulder level or when lifting away from your body.

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If you are concerned about the pain in your shoulders, please call Healthnetwork. We can help you find the answers you need.