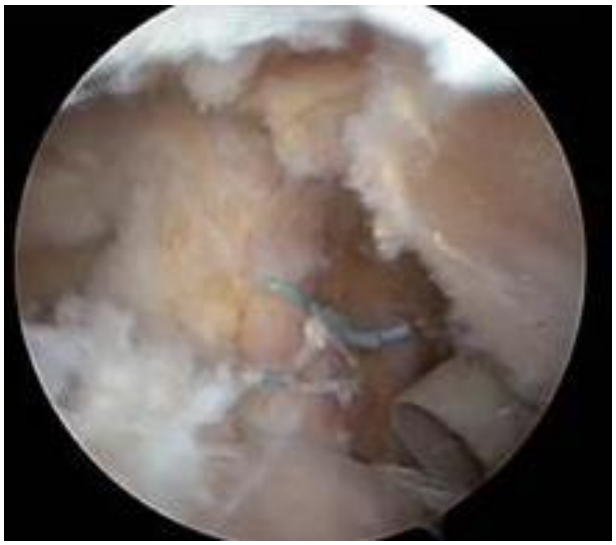
AAOS
American Academy of Orthopaedic Surgeons

# Plain Language Summary

## The Management of Rotator Cuff Injuries



**Background**

This plain language summary provides an overview of the surgical and non-surgical management for rotator cuff tears in adults over 18 years of age.

The rotator cuff is a group of four tissues that connect to bones (tendons) and muscles that act together to help you lift and rotate your shoulder so that you can perform activities such as reaching for things on a shelf. The muscles come from the shoulder blade (scapula) and attach to the top of the arm bone (humerus). A tear of the rotator cuff can affect either a single tendon or multiple tendons. The tear can either be complete when it is no longer attached to the arm bone, or it can be incomplete where part of the tendon remains attached to the arm bone. A high percentage of tears are degenerative, meaning they result from the normal aging process of the body. A far smaller number result from an injury such as a fall or from a separation of two bones where they meet at the joint (dislocation). Rotator cuff issues are the most common reason for a person with shoulder pain to be treated in the office.

**What are the risk factors for a rotator cuff tear?**

In general, there is a higher risk for a rotator cuff tear as we age. The most common time for being diagnosed is during the 40s and beyond because of the normal wear and tear to the tendons. In some cases, there is little to no pain caused by these tears. In younger patients, especially those that are part of overhead sports (tennis, baseball pitchers), tears can come from repeat trauma to the tendon from the force needed to play the sport. It is more common for a younger patient to get a tear from a specific injury such as a shoulder dislocation.

**How are rotator cuff tears diagnosed?**

There is strong support showing that an examination by your orthopaedist can help to diagnose whether you have a tear. However, there is also strong evidence that the use of imaging studies such as an MRI (magnetic resonance imaging) or an ultrasound (machine using sound waves), when used with the clinical examination, can increase the chance for identifying a rotator cuff tear.

**What are the treatment options for a tear?**

The initial treatment choice depends on many factors including the age and activity level of the patient, the cause of the tear (trauma versus wear and tear), the size of the tear, the patient's overall health, and the level of the patient's pain and how it affects their life. Not all rotator cuff tears need to undergo surgery right after diagnosis and your surgeon will take into account your history and expectations. If you have many medical problems or are older, you should discuss surgery versus no surgery with your orthopaedic surgeon. There is strong evidence that older age is associated with higher failure rate of the repair after surgery, and

moderate evidence that having medical problems, such as diabetes, can result in worse results after rotator cuff surgery. There is strong evidence that physical therapy can lead to improved symptoms in patients with complete tendon tears that cause pain; however, the tears can get bigger without surgery. There is moderate evidence that a steroid (corticosteroid) injection with a local anesthetic can give short-term improvement in pain and shoulder function. If the tear is small (1/2 inch or less) or medium (up to 1 inch) in size, there is strong evidence that both surgery and physical therapy can improve symptoms. If the pain does not improve without surgery, surgical treatment can be performed. There is moderate evidence that having a healed tendon after surgery results in better outcomes compared with physical therapy.

**Surgical management**

If you choose to have surgery, you will likely be seen by your medical doctor first to make sure your medical problems are controlled as much as possible before the surgery. This may include getting lab work and other medical tests. You will be given anesthesia to prevent you from experiencing pain during and for one or more days after the surgery. You may also be prescribed medicine prior to the surgery date that will lower the amount of pain medicine needed after the surgery. In most cases, the anesthesiologist will use a nerve block that will numb the arm and/or give you general anesthesia. There is moderate strength evidence that using non-opioid medications and the use of the nerve block for the surgery helps with managing pain after surgery. Surgery usually involves 3-4 small incisions that are ¼ inch in size and placement of a small camera into the shoulder so the surgeon can see the torn tendon. To repair the tendon, one or more non-metal screws with sutures are placed into the top of the arm bone. The sutures are then passed through the torn tendon, and it is tied back to the bone. There is strong evidence that using a double-row repair (two rows of screws in the upper arm bone at the repair site) compared with a single-row repair (one row of screws) result in a lower re-tear rate, though there is also strong evidence that the double-row does not give better outcomes. The surgeon may also shave down any bone spurs, which is also known as a osteophyte in the shoulder above the top of the arm bone to open the space where the repaired tendon lies. For small and medium sized tears, there is moderate evidence that routinely shaving the bone spur is not needed. After the surgery, the patient will be placed into a sling to lower the stress on the repair. There is moderate evidence that having a high expectation before surgery results in a better patient-reported outcome after surgery. Therefore, it is important as a patient to have a positive outlook for recovery if you opt to have a rotator cuff repair.

**What to expect following surgical treatment**

After surgery, the surgeon will decide when to start physical therapy and how long the sling needs to be worn. This depends on many factors including the size of the tear, the quality of the repaired tendon, and how easy it was to bring the tendon to the bone. For small and medium tears, there is strong evidence that early movement of the shoulder versus later movement could lead to the same outcome. In general, patients may begin motion of the elbow, wrist, and hand on the same side of the surgery immediately following the repair. It is important to follow the surgeon's instructions to increase the chance that the tendon will heal. There is moderate evidence that a healed tendon following surgical repair results in a better outcome than a tendon that does not heal.

*This summary was written by the Committee on Healthcare Safety.*

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