



ORTHOPEDICS

| Rotator Cuff Surgery Journey Guide

Knowing what to expect for rotator cuff surgery is key for recovery. Our shoulder specialists are committed to providing excellent care to help you throughout your journey.

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Surgical Treatment for Rotator Cuff Tears

Shoulder Anatomy

Your rotator cuff is made up of four small muscles arising from your shoulder blade. As these muscles travel from the shoulder blade towards your shoulder joint, they join together forming one tendon that attaches to the ball portion of the ball and socket joint. Three of the muscles are located on the top and back of your shoulder. The other muscle is located in the front of your shoulder. This complex is called a “cuff” because the tendons join together form a hood surrounding the joint. These muscles are responsible for normal shoulder strength and stability.

Rotator Cuff Tears

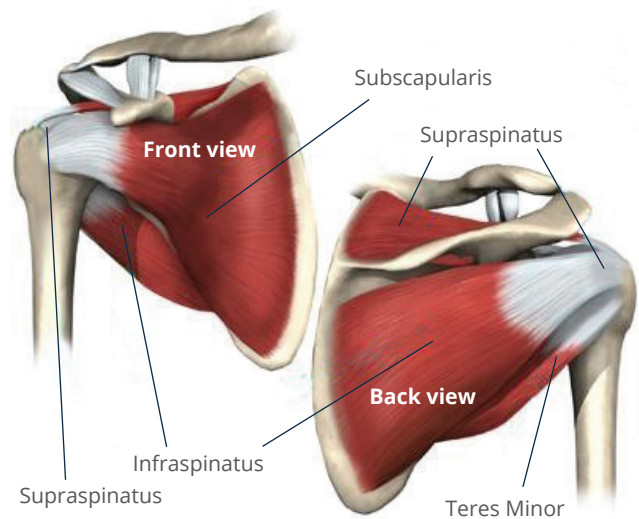
Tears of the rotator cuff tendon are the most common shoulder injury. These tears usually occur at the attachment of the tendon to the bone rather than within the muscle. Rotator cuff tears can be painful and can often lead to weakness. Pain may result from the tear itself or bursitis that forms as a result of the tear. A full-thickness tear occurs when the tendon tear is complete, allowing some retraction of the tendon from the end to the bone. A partial-thickness tear leaves a portion of the tendon attached.

What Causes Rotator Cuff Tears?

- Age-related changes in the rotator cuff tendon
- Injury to the rotator cuff
- Bone spurs
- Tobacco use

Most rotator cuff tears are age-related, as the rotator cuff tendon quality changes as we age. Some fibers of the tendon, usually on the deep surface, are torn, making the attachment thinner than it was originally. As a result, by the age of 60, approximately 30% of people will have a rotator cuff tear that may or may not cause pain, and over 50% of people will have some abnormality of the rotator cuff. While most tears are age-related, some result from an injury. Occasionally a rotator cuff tear may be caused by or irritated by bone spurs that form above the tendon.

Rotator Cuff Muscles



Why is Surgery Necessary?

A rotator cuff repair is a very reliable operation for pain relief and restoration of shoulder strength and function. Surgery is necessary because once a rotator cuff tendon is torn, it does not heal by itself. Because the tendon is attached to muscle, the muscle pulls on the tendon and causes a certain degree of retraction leaving a gap. This gap never fills in, and the tendon remains torn unless a surgical repair is performed. Full-thickness tears result in progressive muscle wasting (atrophy) over time. Advanced stages of muscle wasting are irreversible, even with surgery — one reason why your surgeon may recommend early surgery once the diagnosis is made.

Many factors can affect rotator cuff tendon healing after surgery. Tears are easier to repair earlier rather than later and when they are smaller rather than larger. Tears occurring in patients younger than 65 are much more likely to heal than tears in older patients. In some cases, tears can be so large and have been present for so long that they are not repairable. Often, this cannot be determined until the time of surgery. Tobacco use has been shown to impair healing after rotator cuff surgery and in some cases may have contributed to the original tear.

Biceps Tendon

The biceps muscle has two attachments at your shoulder. One is outside the joint and rarely ruptures. The other attachment (the long head) is formed by a long, thin tendon which runs up a very shallow groove on the front part of the humerus (arm bone). Once it reaches shoulder level it turns into the ball and socket joint and attaches to the top of the socket.

The biceps tendon is often injured or torn in conjunction with rotator cuff tears. We always examine the biceps tendon carefully as part of arthroscopic shoulder surgery. If there is a problem with the tendon, it is generally best to fix this at the time of surgery rather than leave it as a source of pain in the shoulder joint.

Acromioclavicular Joint

The acromioclavicular (AC) joint is located between the collarbone and the shoulder blade at the top of your shoulder. There is very little motion at the joint. Rather, it is a strong junction between these two bones held together by very strong ligaments.

This joint can develop painful arthritis that is often associated with rotator cuff disease. If this joint is painful, then we address this problem as well. Not everyone with a rotator cuff tear requires surgery on their AC joint, so this will be a discussion between you and your surgeon.

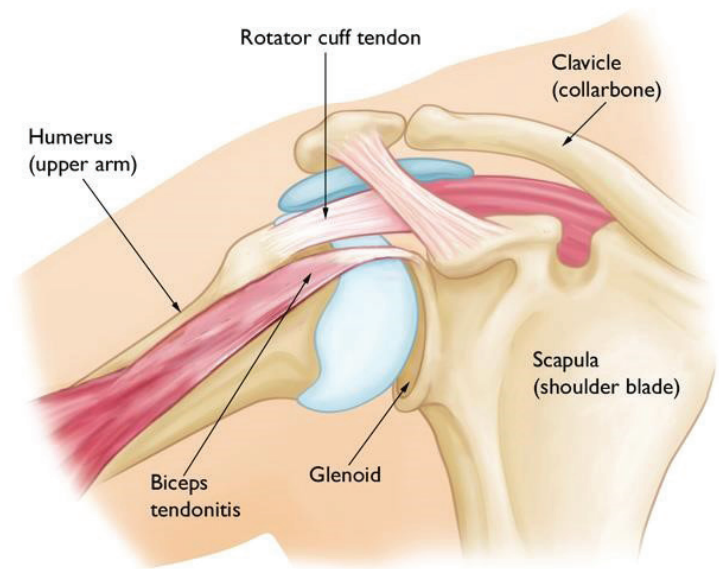


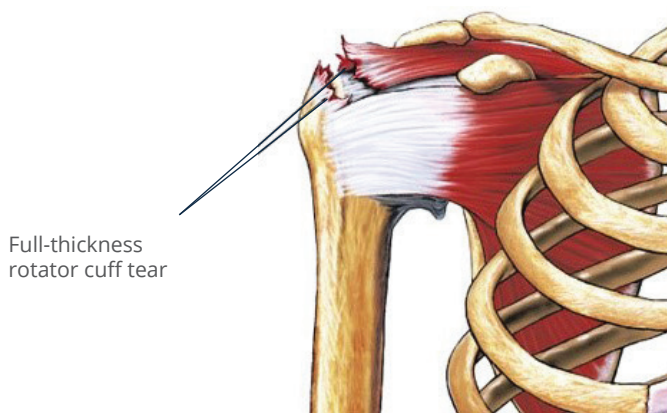
Image credit: American Academy of Orthopaedic Surgeons (AAOS)

SURGICAL RISKS AND COMPLICATIONS

The list below includes some of the common possible side effects from this surgery. Fortunately, complications are very rare. Please note that this list includes some, but not all, of the possible side effects or complications.

Complications may include:

- Complications from anesthesia
- Infection (very rare with arthroscopic procedures)
- Nerve injury (extremely rare)
- Blood vessel injury (extremely rare)
- Bleeding (extremely rare)
- Shoulder stiffness
- Failure of repair (failure of the tendon to completely heal to bone)
- Failure of the anchors or sutures
- Failure to improve your symptoms as much as you had hoped
- A blood clot can form in your arms or legs and very rarely travel to your lungs
- Complex regional pain syndrome (a painful condition involving the arm)



Your Surgical Plan

The rotator cuff surgery you have been scheduled for is to correct the problems that you have been having in your shoulder. Your surgeon has discussed with you the possible surgeries that may help correct your problems. Your surgeon has elected to perform the following surgery for you:

□ Rotator Cuff Repair

A rotator cuff repair involves reattaching the end of the torn tendon to the bone. This can, in the majority of cases, be performed as an arthroscopic outpatient procedure.

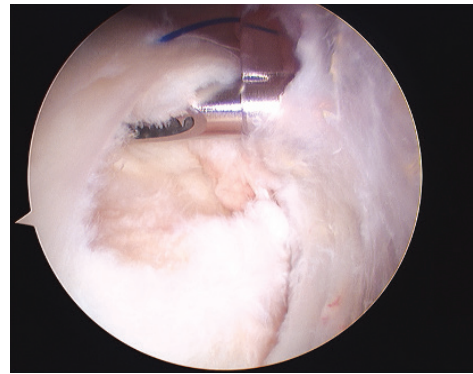
An arthroscopic rotator cuff repair requires a few small (1 cm or less) incisions. We make a small incision in the back of the shoulder and a camera is placed inside the shoulder joint. We make a small incision in the front of the shoulder an incision. We examine all the structures in the shoulder at the time of surgery and address any problems. The camera is then repositioned above the rotator cuff and another incision is made on the side of the shoulder. Instruments are used to remove the inflamed bursa.

The rotator cuff tear is then repaired. One or two small incisions are made on the top of the shoulder in order to place anchors. Anchors look like very small screws that have an eyelet through which a couple of sutures are passed. The anchors are placed into the bone where we plan to reattach the tendon.

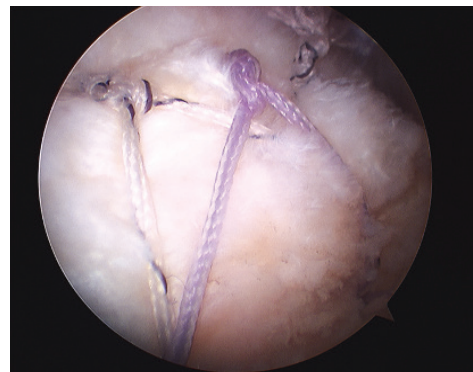
Instruments are used to pass the sutures through the tendon and knots are tied restoring an anatomic tendon insertion to the bone. The number of anchors required depends on the size of the tear. In some cases of larger cuff tears or tears in front of the rotator cuff tendon, an open (larger incision) may be performed. This decision is made at the time of surgery.

□ Subacromial Decompression

A subacromial decompression involves removal of inflamed tissue within the space above the shoulder joint between the rotator cuff and the acromion, which is part of the shoulder blade on the top of the shoulder. If there are any bone spurs present, we smooth them with a small burr. This is a standard part of rotator cuff surgery.



Above: Torn rotator cuff



Above: Repaired rotator cuff



Biceps Tenotomy or Tenodesis

Surgery for a diseased biceps tendon is needed in about 25% of patients with a rotator cuff tear. A biceps tendon procedure is only performed if there is a problem with the biceps tendon which is felt to be significant enough to remain a source of shoulder pain after rotator cuff surgery. Sometimes, biceps disease is not seen until the time of surgery, as damage is not always seen on a MRI or ultrasound.

Surgery for a torn biceps tendon involves removing it from inside the joint and reattaching it where it exits the joint. In some cases, we simply cut the tendon and allow it to retract from the joint.

The negative consequences of this procedure are possible asymmetry of the biceps muscles (that it will look different from side to side) and possibly some spasm in the muscle belly which routinely resolves. This rarely causes a problem, and removing the long head of the biceps tendon from the shoulder does not affect shoulder function. The biceps muscle continues to work at the elbow and moving or releasing this tendon does not affect motion or strength of the shoulder.

Sometimes a biceps tenodesis can be performed arthroscopically. However, in younger or more active patients, an open biceps tenodesis surgery may be recommended. If biceps tenodesis is needed, this is usually performed through a separate small incision in the upper arm. Your surgeon will discuss this with you prior to surgery.

Distal Clavicle Resection

A distal clavicle resection is performed if there is pain at the acromioclavicular joint. The decision to perform a distal clavicle resection is based on symptoms. Many patients have changes of this joint on radiographic studies (X-rays or MRI).

If the joint is not painful, there is no reason to perform surgery on it, regardless of X-ray/MRI reports. If the joint is painful, surgery is performed to remove the outer 5-7 mm of the collarbone, preventing painful contact of the collarbone with the shoulder blade. The ligaments are left attached to preserve stability, and there is no loss of shoulder function. Performing a distal clavicle resection will not lengthen your recovery period.



Getting Ready for Surgery

Preoperative Assessment

Depending on the location of your surgery, you may be required to have preoperative testing. In some cases blood work, EKG (heart tracing), or a chest X-ray may be needed. If any of these tests are needed they will be scheduled for you and will be done during pre-testing when you meet with the anesthesia staff. If it has been some time since you have seen your primary care physician and you have several medical problems, it would be best that you see your primary care physician before your pre-test date.

Night Before Surgery

You should not have anything to eat or drink after midnight the night before surgery. You may be advised to take some of your medications with a sip of water only. The anesthesia staff will discuss this with you at the time of your pre-testing.

Arriving at the Hospital

You will arrive at the hospital approximately **two hours before your scheduled surgery time.** Occasionally, a procedure scheduled ahead of yours may take longer than expected, so there may be some delay before your surgery. Regardless, it is important that you arrive on time.

Before Surgery

Upon arrival to the hospital, you will go through a check-in process. A nurse will see you, review your records, and an IV will be started. A member of the anesthesia team will meet with you to discuss any anesthesia concerns and anesthetic options. Your surgery will be performed under general anesthesia (you will go to sleep). In addition, the anesthesiologist may recommend a regional block if they think that you are a good candidate. This involves an injection of local anesthetic (numbing medicine) or placement of a catheter near the nerves at the base of the neck. These blocks are generally recommended to help control your pain following surgery. The anesthesiologist will discuss the risks of the block. The decision to perform this is a mutual decision between the patient and the anesthesiologist.

During Surgery

You can anticipate that your surgery will last approximately 1.5 to 2.5 hours, although this varies from case to case. Your belongings will be stored in a locker in the pre-operative area. If you have family members with you they will wait for you in the waiting room. During your surgery, family members should plan on remaining in or near the

waiting area in order to be accessible at the completion of the procedure. Your surgeon will speak with them immediately after your surgical procedure to let them know that you are finished.

After Surgery

When you wake from surgery, you will be located in the post-operative recovery room. Once you have been stabilized and are comfortable, family members will be invited to sit with you while you continue recovering from surgery. You will have a dressing on your shoulder and your arm will be immobilized in a sling. To be discharged to go home, your pain should be under control, and you should be eating, drinking, and able to walk to the bathroom with minimal assistance.



MEDICATIONS TO AVOID BEFORE SURGERY

Medications that increase the chance of excessive bleeding after surgery include:

- **Aspirin, enteric-coated, baby, and plain aspirin or any other products containing aspirin.** In some cases, we may recommend stopping your aspirin 1 week before surgery. In other cases, low-dose aspirin may be continued based on your medical condition. Please discuss with your surgeon.
- **Coumadin:** discuss this with the prescriber as to the best time to stop this medication before surgery.
- **Celebrex**
- **Ibuprofen (Advil, Motrin):** stop 1 week prior to surgery.
- **Naprosyn (Aleve):** stop 1 week prior to surgery.
- **Plavix:** discuss this with the prescriber as to the best time to stop this medication before surgery.
- **Over-the-counter supplements:** Some over-the-counter supplements can also effect bleeding. These include **chondroitin, danshen, feverfew, garlic tablets, ginger tablets, ginko, ginseng, and quilinggao and fish oil.**

MEDICATIONS TO AVOID AFTER SURGERY

After rotator cuff repair, you should **avoid all anti-inflammatory medications** including:

- **Ibuprofen (Advil, Motrin)**
- **Naprosyn (Aleve)**
- Any other **prescription anti-inflammatories**, unless your surgeon prescribes them.

Do not resume these medications until your surgeon says it is okay. You may take Tylenol unless otherwise instructed not to do so. Your surgeon will discuss with you what other medications you will need to stop taking after surgery.

Your Journey Home

Sling Instructions

After surgery, your shoulder will be placed in a sling as directed by your surgeon. The sling is used to limit motion of your shoulder so that the rotator cuff tendon can incorporate and heal. In some cases where the repair must be carefully protected, your arm may be placed in a sling with a pillow that is attached around your waist. It is very important to wear your sling as directed by your surgeon after surgery.

- The sling is typically used for four to six weeks after surgery.
- You **should not** do any reaching, lifting, pushing, or pulling with your shoulder during the first six weeks after surgery.
- You **should not** reach behind your back with the operative arm.
- You may remove your arm from the sling to bend and straighten your elbow and to move your fingers several times a day.
- You may remove the sling to bathe, dress, and perform elbow range of motion several times a day.

Your Diet

We recommend that you eat a light diet the evening of surgery and the next day. You may resume eating a regular diet as soon as you tolerate it.

Pain Management

When you are discharged from the hospital, you will be given a prescription for pain medicine. You may take this medicine as prescribed.

Ice Therapy

You will be given the option to purchase a cold pack machine. This machine has a sleeve which is attached to an ice cooler. You place ice and some water in the cooler

and plug this in to a regular outlet. This circulates cold water through the shoulder sleeve providing relief of pain and swelling after surgery. If you do not purchase a cold pack, you may use ice bags or frozen vegetable bags to ice your shoulder.

- You should keep ice on the shoulder for the first 48-72 hours after surgery.
- Ice your shoulder two to three times per day for the first week, especially before sleep.
- We do recommend that you put a t-shirt or a thin towel between you and the sleeve so that it doesn't injure your skin.

Caring for Your Surgical Incision

- You may remove your dressing and shower 48 hours after surgery if you do not have a pain catheter. If you had a biceps tenodesis surgery, you should leave your dressing on for five days after surgery.
- If you have a pain catheter, this should be removed by a family member 72 hours after surgery along with the shoulder dressing before showering.
- You should not get in a tub or pool and immerse the incisions underwater for six weeks, but you may get in the shower and let the water run over them. Pat the incisions dry afterwards, and place Band Aid's over the incisions. There is no need to place any ointment over the incisions.
- If you notice drainage, swelling or increased pain five days after surgery please call the office.
- Redness around the incision is very common and should not be a concern. However, please call our office if you have:
 - Redness and drainage five days after surgery
 - Redness spreading away from the incision
 - Redness and a fever



Sleeping

It is often very difficult to sleep in the week or two following rotator cuff surgery. The surgery itself may interfere with your sleep-wake cycle. In addition, many patients have increased shoulder pain lying flat on their back. We recommend that you try sleeping in a recliner or in a reclined position in bed. You may place a pillow between your body and your arm and also behind your elbow in order to move your arm away from your body slightly. You should wear your sling when you sleep.

Driving

Operating a motor vehicle may be difficult due to your inability to use your operative arm. If you should have an accident or get pulled over while wearing a sling, authorities may consider that driving while impaired. The decision to drive is based on your comfort level with driving essentially one-handed. If you need to drive, and a rotator cuff repair has been performed, you should wait at least until you have seen your surgeon at the first postoperative visit. No one should operate a motor vehicle while taking narcotic medications.

CALL YOUR SURGEON IMMEDIATELY IF:

- **Increasing redness, swelling, and significant drainage from the incision site**
- **Fever greater than 101.5°**
- **Inability to tolerate food and fluids after surgery**
- **Breathing difficulties: in rare cases, temporary breathing difficulties can occur in patients who have had a regional block or a pain catheter**

For emergency calls during normal business hours, please call (314) 514-3500. After 4:30pm, please call the after-hours exchange at (314) 388-5550.

To contact your physician for a non-urgent question, please call your physician's nurse or medical assistant with the contact information provided on page 13.



Your Journey to Recovery

Healing and Recovery

Tendon tissue heals much more slowly than other tissues in your body. For example, if you cut your skin, it will typically heal in seven to 10 days. Rotator cuff tendon tissue, however, heals over a three month period. After three months, it typically takes another two to three months to regain good shoulder strength, depending on the size of the rotator cuff tear.

While the goal of surgery is to restore a pain-free and functional shoulder, there may be some limitation based on the age and the size of the tear. In larger tears or tears in older patients, the tendon repair may not heal. In these cases, pain relief and function are usually good; however, some weakness usually remains in the shoulder. In general, about 90% of patients are satisfied with their shoulders after rotator cuff repair, and have significant improvements in pain and function after surgery.

Physical Therapy

The decision to prescribe physical therapy and when to start these activities is made on a case-by-case basis. This will be discussed with you on your first postoperative visit. You may be instructed by your surgeon or recovery room nurse to begin gentle range of motion exercises on the day of surgery. These will be self-directed exercises that you start on your own.

Your Follow-Up Appointment

Patients are seen in the office eight to 14 days after surgery for suture removal. A follow-up appointment is usually scheduled at the time that your surgery is scheduled. If you have not been scheduled for a follow-up appointment, please call the office at **(314) 514-3500**. At this time, we will also schedule your second follow-up appointment for approximately three to four weeks after.

WASHINGTON UNIVERSITY ORTHOPEDICS DISABILITY/INSURANCE FORMS

There is a \$15 charge for each insurance, disability, or non-patient FMLA form to be completed, and this must be paid prior to form being released. FMLA and disability insurance forms are completed according to surgery date and processed approximately five days prior to surgery date, however, please allow 10 to 14 business days for the forms to be completed due to large volume requests.

Do not bring FMLA or disability insurance forms with you on the day of surgery. Forms must be brought with you to an office visit or faxed to your surgeon's nurse or medical assistant at (314) 747-2800. Please include a check with your forms or make payment via telephone with a credit card.

This section must be completed by the patient and turned in with your forms:

Date: _____ Physician's Name: _____
Patient Name: _____ Date of Birth: _____
Patient's Contact Phone Number: _____ Date Needed By: _____
Date of Injury: _____ First Day of Leave: _____

Please return your forms by fax or mail:

1. Fax the completed form to the attention of _____ at _____
2. Mail the completed form to the following address:

If medical records are needed, please call (314) 273-0453. Please be aware that your signature is needed for medical information to be released. Please fax a signed release to (844) 868-1435.



Orthopedics

Notes and Questions

Lined area for writing notes and questions, consisting of 24 horizontal lines.

Notes and Questions

Resources

+ For more information on rotator cuff tears, rotator cuff surgery, and video resources, visit: ortho.wustl.edu/RotatorCuff

Important Phone Numbers

HEALTH CARE PROVIDER/FACILITY	PHONE NUMBER	OPEN HOURS
Washington University Orthopedics	(314) 514-3500	Monday to Friday, 8am-4:30pm
Washington University Orthopedics After-Hours Exchange	(314) 388-5550 or (866) 582-8055	Monday to Sunday (during weekdays, use after 4:30pm)

For more information, visit ortho.wustl.edu/RotatorCuff

Barnes-Jewish Hospital
One Barnes-Jewish Plaza
St. Louis, MO 63110

Barnes-Jewish West County Hospital
12634 Olive Boulevard
Creve Coeur, MO 63141

Orthopedics



NATIONAL LEADERS IN MEDICINE

Barnes-Jewish Hospital complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex.

Atención: hay servicios de asistencia de idiomas disponibles a su disposición sin costo. Llame al 314-747-5682 (TTY: 1-800-735-2966).

注意: 免费提供语言协助服务, 如有需要敬请致电 314-747-5682 (TTY: 1-800-735-2966)。

Barnes-Jewish West County Hospital complies with applicable federal civil rights laws and does not discriminate on the basis of race, color, national origin, age, disability or sex.

Atención: hay servicios de asistencia de idiomas disponibles a su disposición sin costo. Llame al 314-440-8487 (TTY: 1-800-735-2966).

注意: 免费提供语言协助服务, 如有需要敬请致电 314-440-8487 (TTY: 1-800-735-2966)。