



Main Line Health[®]

Orthopaedics & Spine

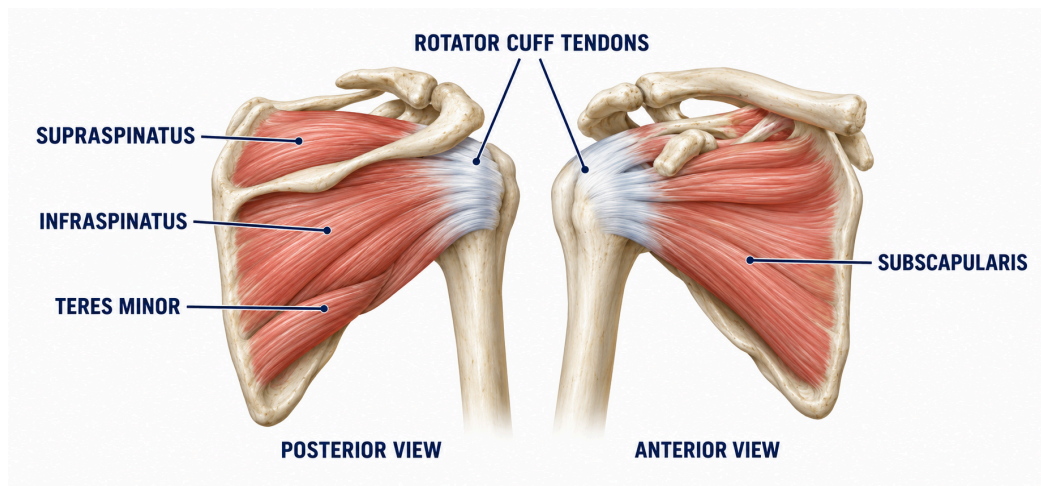
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ROTATOR CUFF TEAR: REPAIR AND REHABILITATION

Understanding the Injury

The shoulder is a highly mobile ball-and-socket joint connecting the humerus (upper arm bone) to the scapula (shoulder blade). The rotator cuff is a group of four muscles and their tendons – the supraspinatus, infraspinatus, teres minor, and subscapularis – that arise from the scapula and attach to the humerus, just outside the shoulder joint capsule.

Together, these tendons stabilize the shoulder joint and power the motions needed to lift the arm, reach overhead, and perform activities such as throwing, swimming, and tennis.



A rotator cuff tendon can tear acutely, such as from lifting a heavy weight or falling onto the shoulder or elbow. This typically causes immediate weakness and pain with attempted lifting of the arm, and is usually best treated with prompt surgical repair.

The rotator cuff can also tear gradually as a result of degenerative wear. Degenerative tears can often be repaired, though some tears are not repairable.

If a torn rotator cuff is left unrepaired, the shoulder can develop degenerative changes and arthritis over time. This type of arthritis is difficult to treat, and a long-standing tear may become irreparable.

Diagnosis of a Rotator Cuff Tear

Shoulder pain that wakes you at night, combined with weakness raising the arm, is suggestive of a rotator cuff tear. Physical examination typically reveals weakness with resisted lifting of the arm.



Diagnosis is confirmed with Magnetic Resonance Imaging (MRI), or with an X-ray taken after dye is injected into the shoulder (arthrogram). A more sensitive study, such as an arthrogram MRI or diagnostic arthroscopy, may be needed to identify a small or partial-thickness tear.

When Is Surgery Recommended?

Not every rotator cuff tear requires surgery. Some individuals, particularly older or less physically active patients, can recover good function with physical therapy alone.

However, when a tear causes significant pain and disability – or when it occurred acutely from an injury – surgical repair is often recommended to relieve pain, restore strength, and prevent the shoulder from developing further degenerative changes.

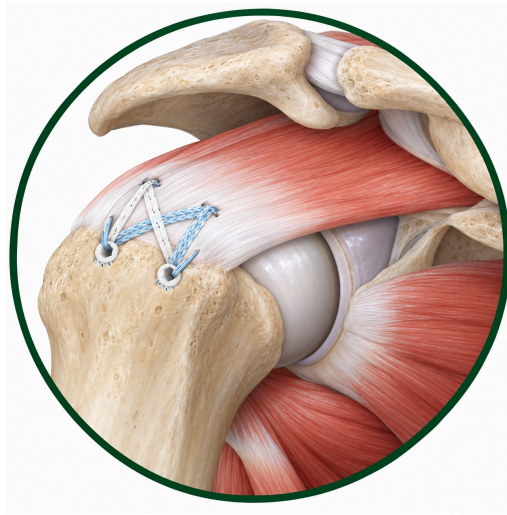
Surgical Repair

Most rotator cuff tears are repaired arthroscopically, using small incisions and a camera to visualize and access the torn tendon. Sutures are placed through the torn tendon and secured to the humerus, most commonly using suture anchors placed into small holes drilled in the bone, re-establishing the normal tendon-to-bone attachment.

Healing of the tendon back to bone takes several months. During this time, forceful use of the shoulder – including weightlifting and raising the arm out to the side or overhead – must be avoided to protect the repair.

After surgery, a sling is typically worn for 4 to 6 weeks. The sling can be removed 4 to 5 times per day for gentle pendulum motion exercises. Rarely, for a very large or difficult-to-repair tear, an abduction pillow that holds the arm out to the side is used for up to 6 weeks.

Expected Outcomes and Surgical Risks



The success of rotator cuff repair depends primarily on the size of the tear and how long it has been present. Small tears generally have an excellent chance of full recovery; for large tears, the extent of recovery cannot be accurately predicted until repair and rehabilitation are complete.

Shoulder pain is usually worse than before surgery for the first 2 to 3 weeks, then gradually improves. Pain is often most noticeable at night; sleeping in a reclining chair during this period can help reduce night pain. It can take up to a full year to regain maximal motion and function in the shoulder.

Potential risks and complications include:

- Shoulder stiffness and loss of motion
- Re-tear of the repaired tendon if excessive force is placed on it before it is fully healed
- Infection (uncommon)
- Nerve or muscle injury (uncommon)

Most patients achieve good pain relief and return to desired activities following appropriate rehabilitation and recovery, unless the tear is massive.

PRE-OPERATIVE INSTRUCTIONS

Shoulder Surgery Preparation Guide

Your preparation before surgery plays an important role in a smooth procedure and recovery. Please review the timeline below carefully.

One (1) Month Before Surgery

(As directed by Dr. Fliegel and the surgical team)

- Attend your preoperative visit for a full history, physical examination, and detailed surgical counseling.
- Complete any required laboratory testing (such as a CBC) if indicated.

- Obtain an EKG if recommended based on your age or medical history.

This visit ensures you are medically optimized and fully prepared for surgery.

Several Days Before Surgery.

- Wash the shoulder and underarm area thoroughly each day.
- Avoid any skin irritation near the surgical site, including sunburn, rashes, poison ivy, cuts, or abrasions.
- Healthy skin reduces the risk of infection

The Day Before Surgery.

- Confirm your arrival time with our office or the surgical center.
- Do not eat or drink anything after midnight.

The Day of Surgery.

- Bring your sling and ice machine (if provided).
- Bring any imaging studies (MRI, CT, or X-rays) that were performed outside of our system.
- Plan to arrive approximately 2 hours prior to your scheduled procedure time.

ROTATOR CUFF REPAIR REHABILITATION PROTOCOL

This rehabilitation program is criteria-based and patient-specific. Progression depends on tissue healing, pain control, motion quality, and strength — not on time alone. Your surgeon and physical therapist will individualize your program.

PHASE I: MAXIMUM PROTECTION (0–6 Weeks)

Goals

- Protect the rotator cuff repair
- Control pain and swelling
- Protect wound healing
- Maintain scapular mobility and prevent stiffness

Immobilization

- Worn at all times except during exercises and hygiene
- Sleep in the sling for 4 to 6 weeks
- Rarely, an abduction pillow is used for a large or difficult repair

Range of Motion (Protected)

- Passive range of motion only — no active shoulder flexion or abduction
- Passive supine forward elevation as tolerated, within limits set by your surgeon
- Passive external rotation to prescribed limits
- Passive internal rotation behind the back may begin around week 2–3, as directed

Exercises

- Pendulum exercises
- Elbow, wrist, and hand range of motion
- Scapular retraction and mobility drills
- Ball squeezes
- Sub-maximal deltoid isometrics in neutral
- Ice 15–20 minutes, 4–5 times per day, as needed

Advancement Criteria

- Normal scapular mobility
- Minimal pain and inflammation
- Shoulder range of motion within goals set by your surgeon
- Good sling compliance

PHASE II: EARLY MOTION AND INITIAL STRENGTHENING (6–12 Weeks)

Goals

- Continue protecting the repair
- Gradually restore active-assisted and active range of motion
- Restore scapulohumeral rhythm
- Begin gentle rotator cuff activation

Immobilization

- Discontinued per surgeon clearance, typically around 6 weeks

Range of Motion

- Progress from active-assisted to active range of motion in the scapular plane
- Wall slides, overhead pulley exercises
- External and internal rotation progressed per surgeon guidance

Strengthening

- Side-lying external rotation
- Prone row and prone extension
- Scapular stabilization and rhythmic stabilization drills
- Sub-maximal isometric external/internal rotation
- Upper body ergometer (UBE) for endurance
- Proprioceptive drills

Precautions

- No resistance band (theraband) strengthening yet
- Avoid lifting objects greater than one pound
- Avoid abduction in the coronal plane
- Avoid shoulder shrug compensation

Advancement Criteria

- Ability to activate the cuff and deltoid without pain
- Range of motion at least 80% of normal for elevation and external rotation
- Normal scapulohumeral rhythm below 90° of elevation

PHASE III: PROGRESSIVE STRENGTHENING (12–18 Weeks)

Goals

- Restore full, pain-free passive range of motion
- Begin resistance-based strengthening
- Normalize scapulohumeral rhythm throughout full range of motion

Range of Motion

- Progress toward full active range of motion in all planes

Strengthening

Theraband external rotation, internal rotation, standing forward punch, shoulder shrug, dynamic hug, and “W’s”

Seated row, biceps curl

Prone “Y” and “T” raises, prone row, prone extension

Proprioceptive neuromuscular facilitation (PNF) and rhythmic stabilization drills

Resistance limited to 1–3 lb

Precautions

- No weight training yet
- Avoid resisted abduction in the coronal plane
- Avoid jerking movements or lifting heavy objects
- Avoid shoulder shrug with active elevation

Advancement Criteria

- Full passive range of motion
- Rotator cuff and scapular strength improving toward 5/5
- Normal scapulohumeral rhythm throughout full range of motion
- Minimal pain and inflammation

PHASE IV: ADVANCED STRENGTHENING AND RETURN TO ACTIVITY (18–26 Weeks)

Goals

- Achieve full strength (5/5) and endurance of the rotator cuff and scapular musculature

- Improve neuromuscular control
- Begin sport- and activity-specific training

Strengthening

- Theraband external/internal rotation at 90° abduction
- Standing “T’s,” diagonal patterns (up and down)
- Push-up progression
- Plyometrics — rebounder throws with a weighted ball, decelerations, wall dribbles (pain-free only)

Weight Training Guidelines

- Begin approximately 4–6 months after surgery, once full range of motion and normal strength are achieved, and only with surgeon clearance
- Start with 3 sets of 15–20 repetitions
- Never train to muscle failure
- Progress weight by no more than 10–15% every 10–14 days

Avoid

- Behind-the-neck shoulder press
- Behind-the-neck pulldown
- Wide-grip bench press
- Deep triceps dips

PHASE V: RETURN TO SPORT (6+ Months)

Goals

- Achieve symmetric strength and endurance compared to the uninvolved side
- Restore sport-specific mechanics
- Safely return to work, recreational, and sport activities

Minimum Timetable for Return to Activity

- Golf: 6 months
- Weight training: 6 months
- Throwing: 6 months
- Skiing: 6 months
- Tennis: 6–8 months
- Swimming: 6–8 months

Requirements Before Full Return

- Pain-free, full range of motion
- Rotator cuff strength at least 85% of the contralateral side
- Completion of a supervised interval sport program
- Clearance from your surgeon

Key Rehabilitation Principles

- Protect the repair early – tendon-to-bone healing takes months
- Restore scapular control before aggressive strengthening
- Progress based on function and objective criteria, not time alone
- Emphasize quality of motion over quantity
- Follow your surgeon's individualized modifications to this protocol
- Please arrange to return to Dr. Fliegel's office 7 to 10 days after surgery