



**Virtua Reconstructive Orthopedics**  
**SPORTS MEDICINE & ARTHROSCOPY**

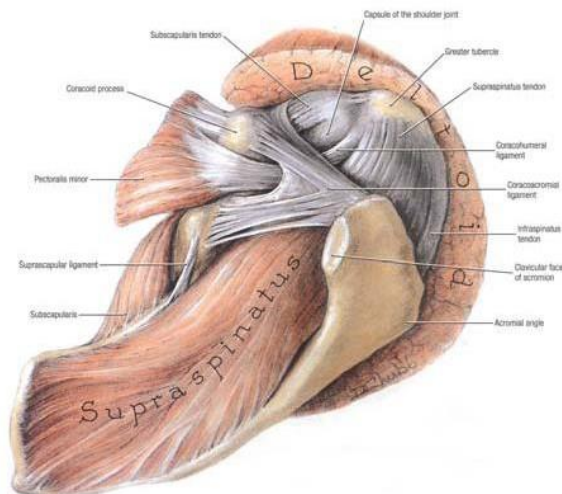
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### ROTATOR CUFF TEARS – SMALL

The shoulder is a ball and socket joint that enables you to raise, twist, bend and move your arms forward, to the sides and behind you. The head of the upper arm bone (humerus) is the ball and a circular depression (glenoid) in the shoulder bone (scapula) is the socket. A soft tissue rim (labrum) surrounds and deepens the socket. The head of the upper arm bone is coated with a smooth, durable, covering (articular cartilage) and the joint has a thin, inner lining (synovium) for smooth movement. The surrounding muscles and tendons provide stability and support.

The shoulder is moved and also stabilized by the muscles of the rotator cuff. The rotator cuff is comprised of four muscles and their tendons that attach from the scapula to the humerus. The rotator cuff tendons (subscapularis, supraspinatus, infraspinatus and teres minor) are just outside the shoulder joint and capsule. These muscles help stabilize the shoulder and enable you to lift and rotate your arm as well as reach overhead and take part in activities such as swimming, throwing and tennis.



The rotator cuff can tear as an acute injury such as when lifting a heavy weight or falling onto the shoulder or elbow. The shoulder is immediately weak and there is often pain when trying to lift the arm. A torn rotator cuff due to injury is often treated by prompt surgical repair. The rotator cuff can also tear as a result of degeneration. This type of tear may or may not need to be repaired surgically, or it may not be possible to repair it surgically. However, if the tear is causing significant pain and disability, surgery may be a good way to relieve pain and improve shoulder function.

It is currently believed that:

- Rotator cuff tears that are small, tend to become larger
- Rotator cuff tears that are asymptomatic (causing no pain) tend to become symptomatic (cause pain)
- Rotator cuff tears that are straightforward to repair at one point in time can become more difficult to fix at a later point in time. This is due to degeneration of the tendon as well as atrophy of the muscle.

Rotator cuff tears that are not repaired may progress to developing painful arthritis many years later. This type of arthritis, called cuff tear arthropathy (CTA) is very difficult to treat and the longstanding tear in the rotator cuff may be irreparable.

Surgical repair of the rotator cuff is done either arthroscopically (with small incisions through which instruments are passed and the tendon is repaired) or open (with a larger incision through which the tendon is repaired). The decision to repair the rotator cuff open or arthroscopically is based on several factors and will be discussed by you and your surgeon.

The risks of the surgery include but are not limited to:

- Infection
- Nerve injury
- Failure of the repair
- Stiffness
- Pain, postoperative and/or persistent
- Arthritis
- Blood clots

### **Postoperative Instructions**

You will wake up in the operating room with a sling and pillow in place and ice on your shoulder. You will then be brought to the recovery room for a few hours while the effects of anesthesia run their course. You will be discharged from the recovery room after a few hours and will need someone to drive you home.

If you had a nerve block placed you will likely have numbness and pain relief for 6 or more hours afterwards. It will be important to begin taking pain medicine prior to this wearing off, as it is always important to “stay ahead of the pain.” You will be prescribed oxycontin and oxycodone to help with your pain control for the first several days.

**Activities and advice for in the hospital and while at home:**

1. Please call with any concerns: (609) 747-9200
2. Apply ice to the shoulder, as it will be quite helpful. After two days, you can change the dressing to a smaller one to allow the cold to better get to the shoulder. Be sure to leave the little pieces of tape (steri-strips) in place.
3. Remove the sling on the first day after surgery. Move your elbow, wrist, hand and fingers several times a day. Begin the pendulum exercises several times a day. Put the sling back on when you're done with these exercises. It is likely the sling will be used for 4-6 weeks.
4. If you had a purely arthroscopic procedure, it is okay to shower and get the wound wet after two days, but do not soak the wound as you would in a bath tub or hot tub. If you had an open procedure it will be necessary to keep the wound(s) dry for two weeks.
5. To wash under your operated arm bend over at the waist and let the arm passively swing away from the body. It is safe to wash under the arm in this position.
6. DO NOT lift the arm or move the arm at your shoulder using your muscles. This could damage the repair.
7. After shoulder surgery there is a variable amount of pain and swelling. This will dissipate after several days. Continue to take the pain medicine you were prescribed as needed. Remember it is called pain control, not pain elimination.
8. You will have an office visit scheduled approximately 10-14 days after your surgery.

## REHABILITATION AFTER ROTATOR CUFF REPAIR

**Phase I:** Immediate post-op phase (first 5-7 days after surgery, prior to starting PT)

### Goals:

1. Protect the rotator cuff repair
2. Ensure wound healing
3. Diminish pain and inflammation
4. Prevent stiffness and regain motion

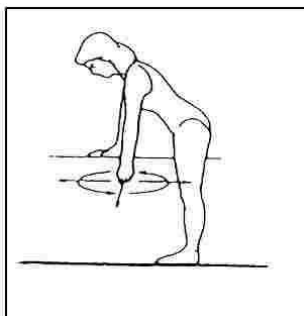
### Activities:

1. Sling: Use your sling most of the time. Remove the sling 4 or 5 times a day to do pendulum exercises. You will need to sleep with your sling and pillow in place. It is often more comfortable to sleep in a recliner or on several pillows.
2. Use of the affected arm: You may use your hand on the affected arm in front of your body but **DO NOT** raise your arm or elbow away from your body. It is all right for you to flex your arm at the elbow. Continue to move your elbow wrist and hand to help circulation and motion. Also:
  - a. No lifting of objects
  - b. No excessive shoulder extension
  - c. No excessive stretching of sudden movements
  - d. No supporting of body weight by hands
3. Continue to ice on a regular basis. At least 20 minutes at a time, 4-5 times per day.
4. Your first therapy appointment should be within 5-7 days after your surgery.

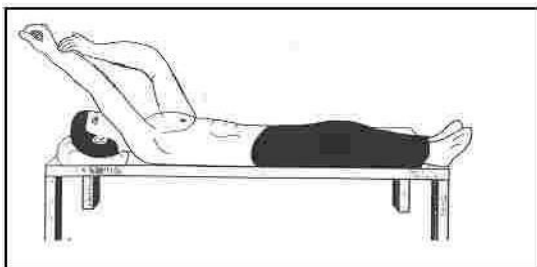
### Exercises:

Program: 7 days per week, 4-5 times per day

Pendulum exercises	1-2 sets	20-30 reps
Supine external rotation	1-2 sets	10-15 reps
Supine passive arm elevation	1-2 sets	5-10 reps
Scapular retraction	1-2 sets	5-10 reps
Shoulder shrug	1-2 sets	10-15 reps

*Pendulum exercise*

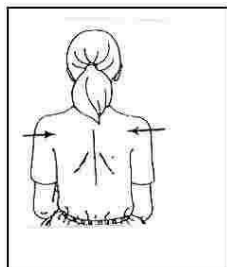
Remove your sling, bend over at the waist and let the arm hang down. Using your body to initiate movement, swing the arm gently forward and backward and in a circular motion.

*Supine passive forward elevation*

Lie on your back. Hold the affected arm at the elbow with the opposite hand. Assisting with the opposite arm, lift the operated arm upward, as if to bring the arm overhead. Slowly lower the arm back to the bed.

*Supine external rotation*

Lie on your back. Keep the elbow of the operated arm against your side with the elbow bent 90 degrees. Using a cane or a long stick in the opposite hand, push against the hand of the operated arm so that the operated arm rotates outward. Hold for 10 seconds, relax and repeat. The amount of allowed external rotation will be specified after surgery.

*Shoulder blade pinches*

While standing, pinch shoulder blades backward and together.

**Phase II:** Intermediate post-op phase (7-14 days post surgery)

At this point you should begin your formal physical therapy, the instructions that follow are to aid your therapist in maximizing the results of your surgery while still protecting the repair.

Your therapist will instruct you on how to perform the exercises below and give you a home exercise program. It is important that you stay within the limits demonstrated and that you perform your exercises daily. You should strive to do your home exercise program at least 3-4 times per day, every day. The success of your repair depends on your rehab.

*\*\*\*PT should not hurt. Do not force painful motions.\*\*\**

**Goals and Activities:**

As in Phase I.

**Exercises:**

- Pendulum exercises
- Progress Passive ROM to tolerance
  - Flexion to at least 115 degrees
  - ER in scapular plane at 45 degrees abduction to 20-25 degrees
  - IR in scapular plane at 45 degrees abduction to 30-35 degrees
- Active Assisted ROM exercises (L-bar)
  - ER/IR in scapular plane at 45 degrees abduction
  - Flexion to tolerance (therapist provides assistance by supporting arm -- especially with arm lowering)
- Continue elbow/hand ROM & gripping exercises
- Continue isometrics (submaximal and subpainful)
  - Flexion with bent elbow
  - Extension with bent elbow
  - Abduction with bent elbow
  - ER/IR with Arm in scapular plane
  - Elbow flexion
- Initiate rhythmic stabilization ER/IR at 45 degrees abduction

**Phase III:** Protection phase (day 15 – week 6)**Goals:**

1. Allow healing of soft tissues
2. Do Not overstress healing tissue
3. Gradually restore full Passive ROM (Week 4-5)
4. Re-establish dynamic shoulder stability
5. Decrease pain and inflammation

**Activities:**

1. Sling: continue to use your sling for at least the next 2-4 weeks. Dr. Mc Millan will discuss with you when you can discontinue using your sling. It is permissible to now come out of your sling while at home in a controlled environment (for example, sitting at a computer or watching television). If you are out of your sling it is important that you keep your elbow tucked in to your side and do not perform any sudden movements or use your arm to lift things.
2. Showering: if you had any open procedure it is now permissible to get the wound wet.
3. Ice several times per day, especially after therapy.
4. Once you are no longer taking pain medications and are not using the sling it will be okay to drive.
5. Precautions:
  - a. No heavy lifting
  - b. No excessive behind the back movements
  - c. No supporting the body weight by hands and arms
  - d. No sudden jerking motions

**Exercises:****Days 15-21:**

- Passive Range of Motion to tolerance (do not force painful motions)
  - Flexion to 140-155 degrees
  - ER at 90 degrees abduction to at least 45 degrees
  - IR at 90 degrees abduction to at least 45 degrees
- Active Assisted ROM to tolerance
  - Flexion (continue use of arm support)
  - ER/IR in scapular plane at 45 degrees abduction
  - ER/IR at 90 degrees abduction

- Dynamic stabilization drills
  - Rhythmic stabilization drills
    - ER/IR in scapular plane
    - Flexion/Extension at 100 degrees flexion and 125 degrees flexion
- Continue all isometric contractions
- Initiate scapular isometrics

**Weeks 4 & 5:**

- Patient should exhibit full passive range of motion by week 4
- Continue all exercises listed above
- Initiate ER/IR strengthening using exercise tubing at 0 degrees of abduction (use towel roll)
- Initiate manual resistance ER supine in scapular plane (light resistance)
- Initiate prone rowing to neutral arm position
- Initiate prone shoulder extension
- Initiate ER strengthening exercises
- Initiate isotonic elbow flexion
- May use heat prior to ROM exercises
- May use pool for light AROM exercises
- Rhythmic stabilization exercises (flexion 45, 90, 125 degrees) (ER/IR)

**Weeks 5 & 6:**

- May use heat prior to exercises
- Continue AAROM and stretching exercises (especially for movements that are not full)
  - Shoulder flexion
  - ER at 90 degrees abduction
- Initiate Active ROM exercises
  - Shoulder flexion in scapular plane
  - Shoulder abduction
- Progress isotonic strengthening exercise program
  - ER Tubing
  - Sidelying IR
  - Prone rowing
  - Prone horizontal abduction (bent elbow)
  - Biceps curls (isotonics)

**Phase III: Intermediate phase (weeks 7-14)****Goals:**

1. Full Active ROM (Week 8-10)
2. Maintain full Passive ROM
3. Dynamic shoulder stability
4. Gradual restoration of shoulder strength
5. Gradual return to functional activities

**Activities:**

1. Your sling is no longer necessary unless your doctor has told you otherwise
2. You should continue to avoid lifting your arm away from your body, because this is the action of the tendon that was repaired. You can lift your arm forward in front of your body but **not** to the side. You may raise your arm to the side, if you use the good arm to assist the operated arm.
3. Unless instructed otherwise it should be okay to drive at this point.

**Exercises:****Week 7:**

- Continue Stretching & PROM (as needed to maintain full ROM)
- Continue Dynamic Stabilization Drills
- Progress Strengthening Program
  - ER/IR Tubing
  - ER Sidelying
  - Lateral raises\*
  - Full can in scapular plane\*
  - Prone rowing
  - Prone horizontal abduction
  - Prone extension
  - Elbow flexion
  - Elbow extension

\*Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonic; if unable, continue glenohumeral joint exercises.

**Week 8:**

- Continue all exercise listed above
- If physician permits, may initiate **light** functional activities

**Week 10:**

- Continue all exercise listed above
- Progress to fundamental shoulder exercises
- Therapist may initiate isotonic resistance (1 lb.) during flexion and abduction (as long as there is no pain!).

**Weeks 11-14:**

- Progress all exercises
- Continue ROM and flexibility exercises
- Progress strengthening program (increase 1 lb/10 days, as long as this is not painful)

**Phase IV:** Advanced strengthening phase (weeks 15-22)**Goals:**

1. Maintain full non-painful ROM
2. Enhance functional use of upper extremity
3. Improve muscular strength & power
4. Gradual return to functional activities

**Week 15:**

- Continue ROM & Stretching to maintain full ROM
- Self capsular stretches
- Progress shoulder strengthening exercises
- Fundamental shoulder exercises
- Initiate interval golf program (if appropriate)

**Weeks 20- 22:**

- Continue all exercises listed above
- Light, gradual progression to sports
  - Progress golf program to playing golf (if appropriate)
  - Initiate interval tennis program (if appropriate)
  - May initiate swimming

**Phase V:** Return to activity phase (weeks 23-36)**Goals:**

1. Gradual return to strenuous work activities
2. Gradual return to recreational sport activities

**Week 23 and on:**

- Continue fundamental shoulder exercise program (at least 4 times weekly)
- Continue stretching
- Continue progression to sport participation, emphasize gradual return