

## **LARGE TO MASSIVE SIZED ROTATOR CUFF REPAIR/SUPERIOR CAPSULAR RECONSTRUCTION± BICEPS TENODESIS REHAB PROTOCOL AND POST-OP INSTRUCTIONS**

This protocol has been developed specifically for large to massive rotator cuff tears. These injuries can be chronic and develop slowly over time or can be due to trauma/shoulder dislocations. Many different factors influence the post-operative rotator cuff repair rehabilitation outcomes. These factors include size and location of the tear, acute versus chronic condition, tear complexity, muscle atrophy, tendon quality and patient factors such as diabetes and increased BMI. Alterations made be made depending on these factors.

The rehabilitation of massive tears is different than more typical or smaller rotator cuff tears due to the complexity and differences in healing capacity. As a result, special considerations in the rehab process are important. The first 6 weeks following surgery is critical and the primary goal during this time is protection of the repair. Physical Therapy is key to a successful outcome following operative treatment of these injuries.

### **For Patients: Recovery overview**

- a. The first few days following surgery should generally be spent resting/recovering. Keep activity at a minimum during the first few days
- b. Your arm may be numb for 1-3 days following surgery if you had a nerve block. It is normal to continue to experience numbness in your fingertips for several days
- c. **Brace:** wear for the **first 6 weeks** following surgery. Remove the brace for showering and your exercises. Use at night while sleeping.
- d. Once the nerve block wears off begin your exercises (3-4x/day). These include Pendulums table slides and elbow and wrist range of motion (see the last page).
- e. **Physical therapy:** Call for your first physical therapy visit **4 weeks** after surgery. You may complete your therapy at the location/facility of your choosing. Call to set up your first appointment as soon as possible.
- f. **Dressing:** Cover your dressing for showering x 3 days. In 3 days you may remove the bandage. Keep any steri-strips in place. Sutures will be removed at your first post-op appointment. After the bandage is removed, you do not need to cover the incisions for showers but do not scrub or soak the incisions. Do no submerge underwater until incisions are fully healed (~3-4 weeks).
- g. **Pain Medication/Ice:** Take pain medication as prescribed. Supplement pain with over the counter Tylenol, ibuprofen taking as directed on the bottle. Use Ice machine/bags of ice 20-30 minutes every 1-2 hours for the first 3-5 days.

- h. **Driving:** There is no conclusive data about when it is safe to return to drive. No driving while on pain medications. Return to driving is highly individualized. You may return to driving when you can take the brace on and off by yourself and feel safe to make evasive maneuvers if necessary.

### **For Physical Therapists:**

#### **I. REHABILITATION PROTOCOL 0-4 WEEKS POST-OP:**

- a. **Primary goal is to protect the repair and promote tendon to bone healing.**
- b. A 6 week period of brace use and delayed motion is recommended for massive tears. Wear the brace during the day and for sleeping. Remove the brace for showering and exercises.
- c. Exercises consist of pendulums, table slides, elbow and wrist range of motion 3-4x/day (see attached).
- d. Establish **1st visit with physical therapist within 4 weeks after surgery.**
- e. Modalities, ice as needed. Place a towel or covering between your skin Use 30 minutes/per 1-2 hours for first 3-5 days then as needed.
- f. No lifting/pushing/pulling. No weight bearing through surgical arm.
- g. For those with biceps tenodesis, gentle active motion of the elbow is allowed, but no lifting > 5 lbs.
- h. Scapular mobility exercises.
- i. 5 lb lifting restriction

#### **II. 4-6 WEEKS POST-OP:**

- a. **Brace:** Continue to wear the sling/brace. May submerge wounds once fully healed around 3-4 weeks.
- b. **ROM: Begin passive range of motion at 4 weeks**
  - i. focus on forward flexion, IR/ER, avoid abduction until week 6.
  - ii. begin with arm at side and elbow flexed to 90 degrees
  - iii. progress in scapular plane and then 90/90 position
- c. ER < 30 degrees if subscapularis performed
- d. Table Slides/Pendulums/elbow and wrist ROM 3-4x/day
- e. Weight Restrictions: <5 lbs
- f. Grip strengthening. **Gentle active elbow motion if biceps tenodesis was done. If not can start biceps isometrics.**
- g. Modalities as needed (heat to start, ice, electrotherapy, estim...)

#### **III. 6-12 WEEKS POST-OP:**

- a. **Brace:** Can begin to wean patient out of abduction sling as tolerated
- b. **ROM: Initiate Active Assisted/Active Range of Motion in scapular plane**
  - i. Initiate motion in supine position
- c. Progress passive ROM. **Goal is for full passive range of motion by 10-12 weeks**

- d. Avoid painful/aggressive passive ROM. Avoid reach behind back until 10 weeks
- e. **Progress ER for patients with subscapularis repair**
- f. Begin gentle posterior capsular strengthening
- g. Begin biceps PRE's if had biceps tenodesis
- h. Deltoid isometrics, **active assisted scapular strengthening in protective range (shrugs/retractions)**
- i. Weight restrictions: <10 lbs, Do not support body weight by operative arm

#### IV. 12-16 WEEKS POST-OP:

- a. **ROM:** Progress active range of motion exercises. Focus on end range of motion with capsular stretching. **Goal: achieve full forward flexion by 16 weeks.**
  - i. Manual Therapy
- b. Sub-maximal pain free isometrics with the arm at the side
- c. Wall climbs, pulleys, functional reach behind the back
- d. Progress Rotator cuff isotonic exercises as ROM approaches normal
  - i. Begin Theraband IR / ER with the arm at the side
  - ii. Upper extremity progressive resistance exercises for large muscle groups (pec, lats)
  - iii. Begin isokinetic program 14 weeks
- e. Advance scapular stabilization exercises
  - i. standing rows, progress to bent over row
- f. Progress posterior capsular stretching
- g. Weight restriction: <20 lbs

#### V. 16-24 WEEKS POST-OP:

- a. Return to normal everyday activity, still avoiding heavy overhead lifting >20 lbs
- b. Continue ROM exercises and stretching as needed
- c. Continue isotonic exercises with emphasis on progressive RC strengthening
- d. For shoulder internal/external rotation, gradually increase the stress to the shoulder by exercising in the functional shoulder position (progressing from 0° to 45° to 90° of shoulder abduction as tolerated). Add supraspinatus strengthening 0°-70°. This movement should be pain free and performed in the scapular plane
- e. Active horizontal abduction (prone).
- f. Add total conditioning program – strength, endurance and core stabilization
- g. Can start gentle exercises at gym 24 weeks: shoulder press, lat pulldown, pec fly etc.

#### VI. 24+ WEEKS POST-OP:

- a. Advance progressive strengthening exercises, begin to emphasize sport specific exercises
- b. Initiate light upper body plyometrics program
- c. As strength improves, continue to increase weight resistance and high speed training with isotonic and isokinetic exercises

- d. Emphasize eccentric phase in strengthening the rotator cuff
- e. Continue total body conditioning program with emphasis on the shoulder
- f. Begin practicing skills specific to the activity (work, recreational activity, sport, etc).

**VII. RETURN TO SPORTS/ACTIVITY**

- a. Return to sports/unrestricted activity will vary depending on each individual and factors such as activity demand, strength, range of motion, pain, etc. Generally the earliest return to sports is between around 6-9 months
- b. Overhead athletes initiate throwing program around 8 months
- c. Isokinetic test results for the shoulder patterns should demonstrate at least 80% strength and endurance (as compared to the other side) before proceeding to sport specific activities

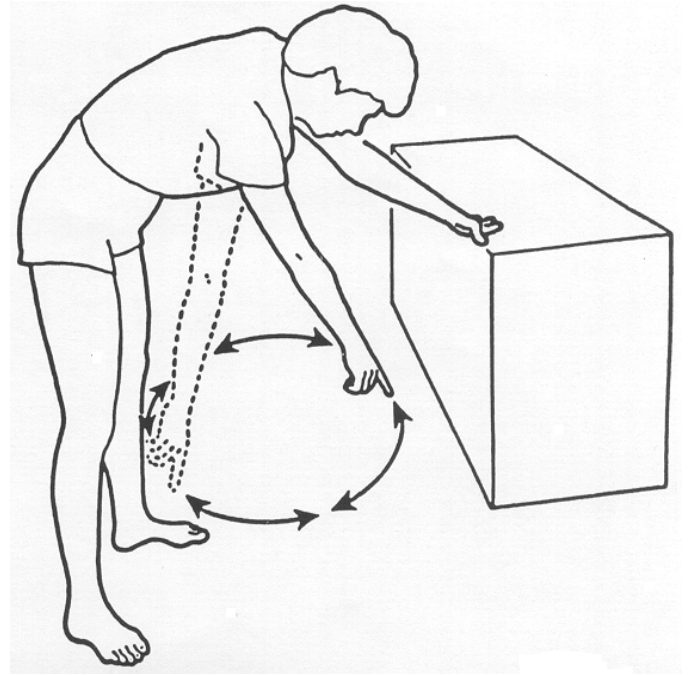
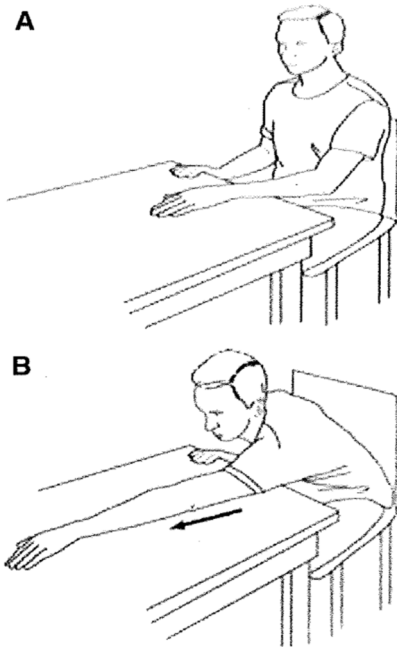


FIGURE 1. Table slide. (A) Starting position. While seated at a table, the patient places the hand of the affected shoulder on a sliding surface (e.g., a magazine that slides over a smooth table surface). (B) Ending position. The patient slides the hand forward, maintaining contact with the table, while the head and chest advance toward the table.