

## **ROTATOR CUFF REPAIR POSTOPERATIVE REHABILITATION PROTOCOL**

### **PHASE 1 – PROTECTIVE/HEALING: 0-6 weeks—PROM Only**

#### **PRECAUTIONS/ACTIVITY GUIDELINES**

- **Sling** worn at all times (except below), with abduction pillow in place, including sleep.
  - Sling may be removed if sitting in a chair or desk and arm supported.
  - Sling should be removed for exercises 3-5 x per day (as below)
- **Weight bearing:** No weight bearing with operative arm
  - Ok for light hand/wrist/finger motion (knife and fork, smartphone, typing).
  - Avoid passive tension across repaired rotator cuff tendon (no excessive cross body adduction and no internal rotation up the back)
- **Dressings:** should be removed 5 days after surgery (steri-strips left in place)
  - No dressing needs to be worn after this time, but band-aids can be used if suture tails are irritated by clothing.
- **Showering:** Ok to shower after dressings removed and let water/soap run over wound
  - No submersion of the wounds (hot tub, bath, pool) until 4 weeks and wound totally healed
- **Driving: not recommended during Phase 1**
- **Pull-out strength of your repair is only 25% of normal and that abduction of only 30° places a force on the repair equivalent to 1 body weight!!**

#### **GOALS**

- Achieve **90° passive elevation** and **30° passive ER at 0° abduction** by first post-op
- Establish stable scapula

#### **EXERCISES/PT INTERVENTIONS**

- **Range of Motion** – True Passive Range of Motion Only to Patient Tolerance
  - Goals: 140° Forward Flexion, 40° External Rotation with elbow at side, 60-80° Abduction without rotation, Limit Internal Rotation to 40° with the shoulder in the 60-80° abducted position
  - Maintain elbow at or anterior to mid-axillary line when patient is supine
- **Therapeutic Exercise** – No canes or pulleys during this phase
  - Codman Exercises/Pendulums
  - Elbow/Wrist/Hand Range of Motion and Grip Strengthening
- **Isometric Scapular Stabilization**
- **NO ROM behind the back in this phase; No cross-body adduction past midline**
- Please help teach home-exercise program for the following:

- Table top step-backs (max 90°) and table top ER (max 30°).
  - Gentle pendulums 3 x per day.
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## **PHASE 2 – MOTION RECOVERY: (End week 6 through week 12)—Begin AROM**

### **PRECAUTIONS /ACTIVITY GUIDELINES**

- Discontinue sling: Wean over 1-2 days after week 6
- Begin using arm for light activity with elbow close to side.
- **Emphasis is on range of motion--no significant weight!**
  - “Nothing heavier than a full coffee cup”
- PROM progressed toward normal and adding internal rotation
- AAROM initiated and progressed toward AROM gradually with goal for full or near full AROM at 12 weeks
- As AROM is restored, ensure proper biomechanics of elevation with avoidance of “scapular shrug”
- Load to failure of the repair is still only at ~50% by the *end* of 12 weeks!  
**Motion is key in this phase but not strengthening!**

### **GOALS**

- Continued protection of healing tissue with slow progression of activity (exercises and ADLs) from waist level first, and then slowly in more elevated positions
- Restore full PROM by week 12 (gradual restoration) with an emphasis on home stretching moving past prior ROM limits and adding IR
- Normalize AROM without overstressing healing tissue

### **EXERCISES/PT INTERVENTIONS**

- Continue thoracic extension and scapular set (retraction to neutral plus depression) prior to any passive or active exercise for optimal positioning
- **PROM** to tolerance with gentle overpressure in all planes; begin cross body adduction and IR hand slide up spine. May begin ER at 90 deg abduction in scapular plane.
- **AAROM:** Continue AAROM progression. Emphasize HEP building on supine, passive motion taught in phase 1, but now make these AAROM with over-pressure; add IR.
- **AROM:**
  - Advance from AAROM (weeks 6-8) to AROM (weeks 8-12)

### **CRITERIA TO PROGRESS TO PHASE 3**

- 12 weeks of healing have elapsed
- Full passive range of motion
- AROM with normalized mechanics for elevation without scapular shrug or other substitution patterns

## **Phase 3- FUNCTIONAL RECOVERY: (end of week 12 through 6 months)—Begin Strengthening**

### **PRECAUTIONS/ACTIVITY GUIDELINES**

- Use of the arm at and above shoulder level may occur with light weight, as long as mechanics for elevation remain normalized.
- Strengthening gradually introduced
  - 13-16 weeks: up to 5 lbs lifting/pushing/pulling
  - 17-20 weeks: up to 8 lbs
  - 21-24 weeks: up to 10 lbs
  - 25 + weeks: advance as tolerated
- Normalization of ADL's (no strenuous yard work--shoveling snow, chopping wood, etc.)
- *Gradual* progression of exercises to begin to restore strength, endurance, and work/sport-specific movement
- **Resistance exercises should only be initiated when there is Full AROM with normalized mechanics—motion comes first!**
  - Maintaining full PROM and normal movement patterns are more important than strength—strengthening remains limited by the slow healing nature of the rotator cuff
- Return to work and sport on a case-by-case basis
- **Load to failure is still increasing until the 6 month point.**

### **GOALS**

- Full AROM with normalized mechanics in all planes
- Teach Home exercise program
  - TheraBand, high-rep, 1x per day
    - ER at 0° abduction
    - Seated rows with emphasis on scapular retraction and upward tilt.
  - Stretching in all planes

### **EXERCISES/PT INTERVENTION**

- Continued end-range stretching and mobilizations as needed, particularly posterior capsule (cross body adduction, sleeper stretch with scapula stabilized, ER > 90 degrees for throwers/tennis).
- **Rotator cuff strengthening:** “full can” scaption, initially to 90°, then throughout range, no weight, to max 3-5 lb. resistance; ER and IR strengthening with hand weights or TheraBand, initially below shoulder level, progressing to above shoulder level as needed for work or sport.
  - Emphasize high repetitions (30-50) with low resistance (1-5 lbs);
  - Progress in increments of one pound when 30-50 repetitions are easy and painless
- **Scapular stabilization exercises:** Extension to hip and horizontal abduction with ER, either prone with hand weights, or standing with TheraBand; serratus presses in supine with hand weight; serratus wall presses with shoulder in neutral and in ER, then progress to weight bearing on incline when well-controlled without scapular winging. Incorporate scapular work to end range; low resistance and high reps

- **Biceps:** May begin biceps curls with weight at this point if a biceps tenodesis was performed in addition to the RCR
- **Deltoid:** forward raises and lateral raises with bent elbow to 90 degrees with light hand weight
- **Weightlifting machines:** only anterior the plane of the body (i.e. elbow not behind body);

#### **CRITERIA FOR RETURN TO WORK/SPORT**

- Clearance from physician
- Pain free at rest and minimal pain with the work or sport specific activity simulation
- Sufficient ROM and strength with normalized mechanics for the activity

#### **Phase 4- STRENGTH RECOVERY PHASE: (end of week 25+): Gradual Return to Activities**

##### **PRECAUTIONS/ACTIVITY GUIDELINES**

- Continue stretching once daily
- Continue HEP for strengthening
- Return to all work/sport activity included heavy/strenuous vocation/avocation
- Gradual progression of exercises to restore full strength, endurance, and work/sport specific movement
- **The tendon is *no stronger* than the original tendon and can tear again.** Caution with high-risk activities such as weights overhead (e.g. overhead luggage on airplane) is warranted

##### **GOALS**

- A strong, supple, and pain free shoulder for life!
- Education: Reinforce that while the connection of the tendon to the bone is now at full strength, the muscles around the shoulder and flexibility will continue to improve with effort for up to 2 years post-op
- Gradual and controlled initiation of muscle strength improvement in the rotator cuff, scapular stabilizers, and shoulder primary movers
- Return to ADL's, work and recreational activities without pain or disability
- Continue to emphasize HEP
  - TheraBand, high-rep, 1 x per day
    - ER at 0° abduction
    - Seated rows with emphasis on scapular retraction and upward tilt.
  - Stretching in all planes

##### **EXERCISES/PT INTERVENTION**

- Continued stretching for any residual deficits
- Strengthening to focus on
  - High rep, low weight (15-20 in a set)
  - Avoid exercises that are overly strenuous on the rotator cuff
    - Dips
    - Military press
    - Lateral raises with heavy weight
    - Lat pull-down behind the head
  - Encourage exercises that work the periscapular stabilizers and contribute to good mechanics

- Seated row with emphasis on scapular “pinching” and sticking out chest
- Cable ER
- Cable extension
- Lat pull-down with bar on chest

**CRITERIA FOR RETURN TO WORK/SPORT**

- Clearance from physician—even the most strenuous sports/work activities are typically cleared by 6 months, but please confirm first