

**Rotator Cuff Repair Protocol – Small to Medium – good tissue quality**  
1 cm or less

**Phase I – Immediate postoperative phase**

**Goals:** Protect the anatomic repair  
Prevent negative effects of immobilization  
Promote dynamic stability  
Diminish pain and inflammation

**RTC tear size:**  
small < 1cm  
medium 1-3 cm  
large 3-5 cm  
massive > 5 cm

**Principles:**

Progress through rehab once specific criteria met  
Follow evaluation based protocol, but adapt to individual  
Remember biologic healing tendon to bone (6-8 weeks or longer)

**Week 0-2 (Day 1-14)**

- Sling for 2 weeks, may sleep in sling 3 weeks per MD
- Shoulder shrugs/squeezes – scapula movement only, not arm
- Elbow/hand ROM
- Hand gripping exercises
- Cervical ROM, lateral flexion
- Passive ROM exercise:
  - Flexion/scaption to tolerance – PROM, NOT stretching (no more than 125° week 1)
  - ER to tolerance in 45 & 60 degrees of abduction in scapular plane (towel roll or wedge under arm), IR in 45 degrees of abduction in scapular plane – Gentle PROM, NOT stretching – limit ROM to 45° unless history of stiff shoulder
  - Cryotherapy, modalities as indicated
- Codman’s exercises – perform closed chain with hand on a swiss ball or on a table with a cloth if patient cannot relax or if arm is heavy (Roll the ball with arm straight- use ball for support, do not weight bear through arm), or perform with the elbow bent, hand touching shoulder, patient uses opposite upper extremity with contact at involved elbow to passively raise, lower and perform circles with involved arm

**Week 2**

- PROM: flex/scaption to tolerance (up to 145°), ER in 45 & 60° abd in the scapular plane to 55°, IR in 45° abd scapular plane to 55°.
- Submaximal isometrics for shoulder musculature – shoulder in scapular plane with towel roll between arm and body, elbow flexed 90° - flexion, extension, external rotation, internal rotation, adduction and abduction (no abduction isometric with open repair), bicep isometric
- Gentle oscillation – grade I-II mobilization of Glenohumeral and Scapulothoracic joint
- Scapular protraction, retraction, depression manual resistive exercise in sidely with a towel roll between arm and body, hand contacts on scapula
- Wand exercises supine on towel roll – ER/IR scapular plane
- Pulley flexion/scaption, table slide flexion
- Rhythmic stabilization ER/IR with arm supported on a towel roll

### Week 3-4: (Day 15-28)

- Discontinue use of sling at night after 3 weeks completed
- Continue PROM – add caudal glide as needed.
  - Flexion and scaption to tolerance
  - ER to tolerance in 45 to 90° abduction with arm on towel roll (less stress on supraspinatus in 45 to 90 degrees than at 0 degrees of abduction) up to 75-80°
  - **Perform ER only in 45° abduction for subscapularis tear**
  - IR to tolerance in 45° - 60° abduction scapular plane (arm on towel roll or wedge) to 60° – caution with excessive IR
  - A/AROM supine flexion/D2 with wand, A/AROM with support of therapist – start with elbow flexed.
  - Begin rhythmic stabilization in 90 degrees of flexion week 3, ER/IR un-supported week 4
  - Balance point exercises – passively raise the arm to 90°, and have the patient move the arm from 90 to 110° back and forth in a protracted position
  - Theraband/dumbbell bicep/tricep with arm at the side
  - Table top exercises: scapular protraction/retraction, elevation/depression (ball roll or towel slide). Weight of arm supported by ball or table
  - Lower trapezius table lift – (standing with table at side, push back on table with palm and stick chest out)
  - Wall push up plus exercise (serratus – elbows stay straight)
  - Low row/lower trap table press isometric – stand with table at side, push back on table with palme and lift chest (sternal lift/scapular retraction)
  - Active punches (arm raised 90° by therapist, then punches (protraction & retraction), then therapist lowers arm)
  - Week 3 active assistive ER in sidely (with assist of therapist) – towel between arm and body
  - Week 4 progress sidely ER with towel roll between arm and body to active
  - Week 4 add prone extension, row by the side

### Week 5-6: (29-42)

UBE for ROM only (slowly, no resistance)

- Continue PROM – continue ER stretching in 45 to 90°, progress IR stretching to 60-90 degrees as tolerated on a towel roll. Add stretches into ER in neutral adduction week 6 (arm by side) Continue inferior glides /posterior glides if needed. Goal full ROM
- Add crossbody stretch week 5
- Week 6 add sidely IR stretch
- Supine active flexion/scaption/D2 – may start with elbow flexed, progress to supine with dumbbell week 6,
- active standing flexion, scaption, and abduction to 90° week 6. Patient must be able to elevate arm without shoulder or scapular hiking before initiating isotonic; if unable, continue humeral head control exercises) – progress to weight as tolerated
- Wall washes: incorporate squat with scapular retraction, to overhead arm with protraction as knees/hips extend
- Lawnmower exercises: start with trunk flexion, arms extended across body, then come to upright, scapular retraction, slight ER
- ER/IR exercises with towel roll between arm and body with dumbbell/theraband
- Week 6: Prone scapular exercises: horizontal abduction palm down, flexion at 135 degree angle
- Lower trapezius theraband bilateral ER with scapular retraction (hold 20° ER and pull scapula down and back ) – towel roll between arm and body bilaterally

- Progress push up plus exercise – scapula motion only, keep elbows straight to quadruped, table over ball
- Week 6: theraband rows and extension to the plane of the body

### **Phase II – Intermediate Phase: Moderate Protection Phase**

- Goals:** Gradually restore full ROM and capsular mobility  
 Restore muscular strength and balance, normalize scapulohumeral rhythm  
 Preserve the integrity of the surgical repair

**\*Patient must be able to elevate the arm without shoulder or scapular hiking. If unable – continue scapular and stabilizing exercises**

#### **Week 7-8: (Day 43-56)**

- Continue PROM all angles to tolerance. Progress ROM to functional demands (ie goal total passive motion for a pitcher 180° combined ER/IR)
- Week 7 add prone chicken wing stretch week 8-9 (towel roll under anterior shoulder); hangs, lat pull stretch if elevation limited (monitor impingement)
- Un-supported rhythmic stabilization in various degrees of elevation, and in the scapular plane ER/IR in open and closed chain
- Standing flexion/scaption/abduction/D2 – progress to 160° flex/scaption, 90° abd
- Standing punches/retractions several planes (forward/lateral), with step lunges
- Progress prone horizontal abduction to thumb up and thumb down as tolerated, add prone flexion @ 145° (may require assistance to complete full ROM to plane of body)
- Add prone row with ER. Progress to weight as tolerated
- Active ER at 90°. Start in squat (trunk hips/knees flexed, arms outstretched), come to upright 90/90 abd/ER position 0#
- Progress lawnmower to resisted
- Week 8: incorporate kinetic chain with active lateral raises with lateral lunges, overhead press with step up

#### **Week 9-10: (Day 57-70)**

- Week 9: Bodyblade 90° flexion, scaption, ER/IR at 0°, Impulse ER/IR at 0°
- Progress standing flexion, scaption D2 ROM as tolerated to 160° without hiking, abduction to 90° - progress to resistance.
- ER/IR with tubing at 90° abduction. May place upper arm on a bolster for support if unable to hold arm in 90/90 position – work to unsupported as tolerated
- Seated press up
- Start weight training with anterior shoulder protection techniques

### **Phase III – Minimal Protection Phase**

- Goals:** Establish and maintain full functional ROM and capsular mobility  
 Improve muscular strength, power and endurance  
 Initiate functional activities

#### **Criteria to enter Phase III:**

1. Full non-painful ROM
2. Good scapulohumeral rhythm
3. Muscular strength good grade or better (4/5 or better)
4. No pain or tenderness

#### **Week 10-12: (Day 71-84)**

- Begin manuals once at least 3# can be lifted throughout the ROM: supine D2, sidely ER, prone horizontal abduction palm down, thumb up, thumb down, flexion at 145°, row
- Isokinetics scapular plane (180, 240, 300°/second)
- Progress manuals to row with ER conc/ecc, 90/90 ER conc/ecc, and D2 conc/ecc if overhead athlete or functional demand
- Bodyblade D2, 90/90 ER/IR
- Initiate plyometric program if above criteria met – start 2 handed and progress to 1 handed
  - 2 handed:** chest, rotation, woodchop, forward and backward toss (simulate forehand/backhand swing)for tennis), overhead
  - 1 handed:** semicircle and 90/90 wall dribble, ER flip, kneeling D2, theraband ER/IR plyo, progressing to 15' throw for mechanics (throwers only)
- Initiate putting and chipping portion of interval golf program

### **Week 15-16: (Day 99-112)**

- Biodex test in 90/90 position: 180°/second 10 reps and 300°/second 15 reps bilaterally
- Initiate interval sport/throwing program, progress golf program if attached criteria are met and MD clears

### **Criteria to Initiate an Interval Sport Program**

1. Good tolerance to overhead motion - full functional painfree ROM
  2. Negative impingement signs
  3. 85-90% strength of external and internal rotation compared to the opposite UE on Biodex
  4. External/Internal strength ratio at least 62-65%
  5. Microfet criteria met (at least low average)
1. Isokinetic Testing:
    - External/Internal rotation ratio at least 65% dominant arm, 75% non-dominant arm.
    - Peak Torque to body weight ratio at 300 degrees per second ER at least 14 and IR at least 20.
    - Peak Torque to body weight ratio at 180 degrees per second ER at least 15 and IR at least 19.
    - ER and IR strength at least 90% of uninvolved UE.
  2. Completed interval sport program without symptoms.
  3. 5/5 MMT all shoulder and scapular groups.
  4. Microfet normal.
  5. Able to perform all daily activities without restrictions.
  6. Clearance from MD.

**Generally no return to contact sports for at least 6 months.**