# Rehabilitation Protocol for Rotator Cuff Repair-Small to Medium Sized Tears

This protocol is intended to guide clinicians and patients through the post-operative course of a rotator cuff repair. Specific interventions should be based on the needs of the individual and should consider exam findings and clinical decision making. If you have questions, contact Dr. Carr.

**Considerations for the Post-operative Rotator Cuff Repair Rehabilitation Program**
Many different factors influence the post-operative rotator cuff repair rehabilitation outcome, including rotator cuff tear size, type of repair, tissue quality, number of tendons involved, and individual patient factors like age and co-morbidities including increased BMI and diabetes. Consider taking a more conservative approach for more complex tears, including large/massive tears (>3 cm) and >1 tendon involvement.

**Post-operative Complications**
If you develop a fever, unresolving numbness/tingling, excessive drainage from the incision, uncontrolled pain or any other symptoms you have concerns about you should contact the referring physician.

## ***PHASE I: IMMEDIATE POST-OP (0-3 WEEKS AFTER SURGERY)***

**Rehabilitation Goals**
- Protect surgical repair
- Reduce swelling, minimize pain
- Maintain UE ROM in elbow, hand and wrist
- Gradually increase shoulder PROM
- Minimize muscle inhibition
- Patient education

**Sling**
- Neutral rotation
- Use of abduction pillow in 30-45 degrees abduction
- Use at night while sleeping

**Precautions**
- No shoulder AROM/AAROM
- No lifting of objects
- No supporting of body weight with hands
- Avoid scapular retraction with a teres minor repair

**Intervention Swelling Management**
- Ice, compression

**Range of motion/Mobility**
- PROM: ER<20 scapular plane, Forward elevation <90, seated GH flexion table slide, horizontal table slide
- AROM: elbow, hand, wrist (PROM elbow flexion with concomitant biceps tenodesis/tenotomy)
- AAROM: none

**Strengthening (Week 2)**

• Periscapular: scap retraction*, prone scapular retraction*, standing scapular setting, supported scapular setting, inferior glide, low row
*avoid with subscapularis repair and teres minor repair
• Ball squeeze

**Criteria to Progress**
• 90 degrees shoulder PROM forward elevation
• 20 degrees of shoulder PROM ER in the scapular plane
• 0 degrees of shoulder PROM IR in the scapular plane
• Palpable muscle contraction felt in scapular and shoulder musculature
• No complications with Phase I

## *PHASE II: INTERMEDIATE POST-OP (4-6 WEEKS AFTER SURGERY)*

**Rehabilitation Goals**
• Continue to protect surgical repair
• Reduce swelling, minimize pain
• Maintain shoulder PROM
• Minimize substitution patterns with AAROM
• Patient education

**Sling**
• Neutral rotation
• Use of abduction pillow in 30-45 degrees abduction
• Use at night while sleeping

**Precautions**
• No lifting of objects
• No supporting of body weight with hands

**Intervention**
*Continue with Phase I Interventions

**Range of motion/Mobility**
• PROM: ER<20 scapular plane, Forward elevation <90
• AAROM: Active assistive shoulder flexion, shoulder flexion with cane, cane external rotation stretch, washcloth press, sidelying elevation to 90 degrees

**Strengthening**
• Periscapular: Row on physioball, shoulder extension on physioball

**Criteria to Progress**
• 90 degrees shoulder PROM forward elevation
• 20 degrees shoulder PROM ER in scapular plane
• 0 degrees of shoulder PROM IR in the scapular plane
• Minimal substitution patterns with AAROM
• Pain < 4/10
• No complications with Phase II

## PHASE III: INTERMEDIATE POST-OP CONTD (7-8 WEEKS AFTER SURGERY)

**Rehabilitation Goals**
• Do not overstress healing tissue
• Reduce swelling, minimize pain
• Gradually increase shoulder PROM/AAROM
• Initiate shoulder AROM
• Improve scapular muscle activation
• Patient education

**Sling** • Discontinue

**Precautions** • No lifting of heavy objects (>10 lbs)

**Intervention**
*Continue with Phase I-II Interventions

**Range of motion/Mobility**
• PROM: ER<30 scapular plane, Forward elevation <120
• AAROM: seated shoulder elevation with cane, seated incline table slides, ball roll on wall
• AROM: elevation < 120, supine flexion, salutes, supine punch, wall climbs

**Strengthening**
• Periscapular**: Resistance band shoulder extension, resistance band seated rows, rowing, lawn mowers, robbery, serratus punches
• **Initiate scapular retraction/depression/protraction with subscapularis and teres minor repair
• Elbow: Biceps curl, resistance band bicep curls and triceps

**Criteria to Progress**
• 120 degrees shoulder PROM forward elevation
• 30 degrees shoulder PROM ER and IR in scapular plane
• Minimal substitution patterns with AROM
• Pain < 4/10

## PHASE IV: TRANSITIONAL POST-OP (9-10 WEEKS AFTER SURGERY)

**Rehabilitation Goals**
• Do not overstress healing tissue
• Gradually increase shoulder PROM/AAROM/AROM
• Improve dynamic shoulder stability
• Progress periscapular strength
• Gradually return to full functional activities

**Precautions** • No lifting of heavy objects (> 10 lbs)

**Intervention**
*Continue with Phase II-III Interventions

**Range of motion/mobility**
• PROM: ER<45 scapular plane, Forward elevation <155, ER @ 90 ABD < 60
• AROM: supine forward elevation with elastic resistance to 90 deg, scaption and shoulder flexion to 90 degrees elevation

**Strengthening**

• Periscapular: Push-up plus on knees, prone shoulder extension Is, resistance band forward punch, forward punch, tripod, pointer

**Criteria to Progress**
• 155 degrees shoulder PROM forward elevation
• 45 degrees shoulder PROM ER and IR in scapular plane
• 60 degrees shoulder PROM ER @ 90 ABD
• 120 degrees shoulder AROM elevation
• Minimal to no substitution patterns with shoulder AROM
• Performs all exercises demonstrating symmetric scapular mechanics
• Pain < 2/10

## PHASE V: TRANSITIONAL POST-OP CONTD (11-12 WEEKS AFTER SURGERY)

**Rehabilitation Goals**
• Restore full PROM and AROM
• Enhance functional use of upper extremity

**Intervention**
*Continue with Phase II-IV Interventions

**Range of motion/mobility**
• PROM: Full
• AROM: Full

**Stretching**
• External rotation (90 degrees abduction), Hands behind head, IR behind back with towel, sidelying horizontal ADD, sleeper stretch, triceps and lats, doorjam series

**Criteria to Progress**
• Full pain-free PROM and AROM
• Minimal to no substitution patterns with shoulder AROM
• Performs all exercises demonstrating symmetric scapular mechanics
• Pain < 2/10

## PHASE V: TRANSITIONAL POST-OP CONTD (11-12 WEEKS AFTER SURGERY)

**Rehabilitation Goals**
• Restore full PROM and AROM
• Enhance functional use of upper extremity

**Intervention**
*Continue with Phase II-IV Interventions

**Range of motion/mobility**
• PROM: Full
• AROM: Full

**Stretching**
• External rotation (90 degrees abduction), Hands behind head, IR behind back with towel, sidelying horizontal ADD, sleeper stretch, triceps and lats, doorjam series

**Criteria to Progress**
• Full pain-free PROM and AROM
• Minimal to no substitution patterns with shoulder AROM

• Performs all exercises demonstrating symmetric scapular mechanics
• Pain < 2/10

## PHASE VI: STRENGTHENING POST-OP (13-16 WEEKS AFTER SURGERY)

**Rehabilitation Goals**

• Maintain pain-free ROM
• Initiate RTC strengthening (with clearance from MD)
• Initiate motor control exercise
• Enhance functional use of upper extremity

**Intervention**

*Continue with Phase II-V Interventions

**Strengthening**

• Rotator cuff: internal external rotation isometrics, side-lying external rotation, Standing external rotation w/ resistance band, standing internal rotation w/ resistance band, internal rotation, external rotation, sidelying ABD→standing ABD
• Periscapular: T and Y, "T" exercise, push-up plus knees extended, wall push up, "W" exercise, resistance band Ws, dynamic hug, resistance band dynamic hug
• Biceps curl (begin with concomitant biceps tenodesis/tenotomy)

**Motor Control**

• Internal and external rotation in scaption and Flex 90-125 (rhythmic stabilization)
• IR/ER and Flex 90-125 (rhythmic stabilization)
• Quadruped alternating isometrics and ball stabilization on wall
• PNF – D1 diagonal lifts, PNF – D2 diagonal lifts
• Field goals

**Criteria to Progress**

• Clearance from MD and ALL milestone criteria below have been met
• Full pain-free PROM and AROM
• ER/IR strength minimum 85% of the uninvolved arm
• ER/IR ratio 60% or higher
• Negative impingement and instability signs
• Performs all exercises demonstrating symmetric scapular mechanics
• QuickDASH/PENN

## PHASE VII: EARLY RETURN-TO-SPORT (4-6 MONTHS AFTER SURGERY)

**Rehabilitation Goals**

• Maintain pain-free ROM
• Continue strengthening and motor control exercises
• Enhance functional use of upper extremity
• Gradual return to strenuous work/sport activity

**Intervention**

*Continue with Phase II-VI Interventions

**Strengthening**

• Rotator cuff: External rotation at 90 degrees, internal rotation at 90 degrees, resistance band standing external rotation at 90 degrees, resistance band standing internal rotation at 90 degrees

**Motor control**
• Resistance band PNF pattern, PNF – D1 diagonal lifts w/ resistance, diagonal-up, diagonal-down
Wall slides w/ resistance band
• See specific return-to-sport/throwing program (coordinate with physician)

**Criteria to Progress**
• Last stage-no additional criteria
Return-to-Sport • For the recreational or competitive athlete, return-to-sport decision making should be individualized and based upon factors including level of demand on the upper extremity, contact vs non-contact sport, frequency of participation, etc. We encourage close discussion with the referring surgeon prior to advancing to a return-to-sport rehabilitation program.

**References**


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