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

This protocol is intended to guide clinicians through the post-operative course for rotator cuff repair-small to medium tears. This protocol is time based (dependent on tissue healing) as well as criterion based. Specific intervention should be based on the needs of the individual and should consider exam findings and clinical decision making. The timeframes for expected outcomes contained within this guideline may vary based on surgeon's preference, additional procedures performed, and/or complications. If a clinician requires assistance in the progression of a post-operative patient, they should consult with the referring surgeon.

The interventions included within this protocol are not intended to be an inclusive list of exercises. Therapeutic interventions should be included and modified based on the progress of the patient and under the discretion of the clinician.

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
Interventions	*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
Interventions **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 CONTINUED (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)
Interventions **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)
Interventions **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 CONTINUED (11-12 WEEKS AFTER SURGERY)

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

Interventions **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
Interventions **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.

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Contact	Please email MGHSportsPhysicalTherapy@partners.org with questions specific to this protocol

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