Rehabilitation Protocol for SLAP Repair-*Type II*

This protocol is intended to guide clinicians through the post-operative course for SLAP Repair-Type II. 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. 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 SLAP repair Rehabilitation Program
Many different factors influence the post-operative SLAP repair rehabilitation outcome, including the type of SLAP lesion, the size of the tear/number of anchors placed, concomitant procedures and amount of shoulder hypermobility and/or hyperlaxity. Consider mechanism of injury as well as the sport the athlete would like to return to when initiating certain interventions.

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 elbow AROM (avoid biceps contraction) • No lifting of objects • No supporting of body weight with hands • No reaching behind back
Intervention	*Swelling Management* • Ice, compression *Range of motion/Mobility* • PROM: ER<30 scapular plane, Forward elevation <90, full elbow flex and ext, seated GH flexion table slide, horizontal table slide (add hyperlink) • AROM: hand, wrist • AAROM: none *Strengthening (Week 2)*

	• Periscapular: scap retraction*, prone scapular retraction*, standing scapular setting*, supported scapular setting, inferior glide, low row ○ *to neutral; avoid shoulder extension • Rotator cuff: submaximal pain-free isometrics • Ball squeeze
Criteria to Progress	• 90 degrees shoulder PROM forward elevation • 30 degrees of shoulder PROM ER in the scapular plane • Full elbow PROM flexion and extension • 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 • Gradually increase shoulder PROM • Minimize substitution patterns with shoulder AAROM • Initiate motor control exercise • Patient education
Sling	• Neutral rotation • Use of abduction pillow in 30-45 degrees abduction • Use at night while sleeping
Precautions	• No shoulder AROM • No elbow AROM (avoid biceps contraction) • No lifting of objects • No supporting of body weight with hands • No reaching behind back
Intervention **Continue with Phase I interventions*	*Range of motion/Mobility* • PROM: ER<45 scapular plane, Forward elevation <120 • 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*, serratus punches ○ *to neutral; avoid shoulder extension *Motor Control* • Internal and external rotation in scaption and Flex 90-125 (rhythmic stabilization) *Stretching* • Sidelying horizontal ADD, sleeper stretch
Criteria to Progress	• 120 degrees shoulder PROM forward elevation • 45 degrees shoulder PROM ER in scapular plane • Minimal substitution patterns with shoulder AAROM • Pain < 4/10 • No complications with Phase II

PHASE III: INTERMEDIATE POST-OP CONT'd (7-8 WEEKS AFTER SURGERY)

Rehabilitation Goals	• Do not overstress healing tissue • Reduce swelling, minimize pain • Gradually increase shoulder PROM/AAROM • Initiate shoulder and elbow AROM • Initiate RTC strengthening

	• Improve scapular muscle activation • Patient education
Sling	• Discontinue
Precautions	• No resisted elbow flexion • No lifting of heavy objects (>10 lbs)

Intervention
**Continue with Phase I-II interventions*
	Range of motion/Mobility
	• PROM: ER Full in scapular plane, ≤90 degrees ER in 90 degrees of abduction, IR Full in scapular plane, Forward elevation Full
	  ○ *do not push beyond 90 degrees ER in 90 degrees of abduction
	• AAROM: seated shoulder elevation with cane, seated incline table slides, ball roll on wall
	• AROM: supine flexion, salutes, supine punch, wall climbs, elbow flexion
	
	Strengthening
	• Rotator cuff: side-lying external rotation, standing external rotation w/ resistance band, standing internal rotation w/ resistance band, internal rotation, external rotation
	• Periscapular: Resistance band shoulder extension*, resistance band seated rows*, rowing*, lawn mowers, robbery
	  ○ *to neutral; avoid shoulder extension
	• Elbow: Triceps
	
	Motor Control
	• Quadruped alternating isometrics

Criteria to Progress	• Full pain-free shoulder PROM ER and forward elevation • Within 10 degrees of shoulder IR PROM of contralateral shoulder • Minimal substitution patterns with shoulder AROM • Pain < 4/10

PHASE IV: TRANSITIONAL POST-OP (9-12 WEEKS AFTER SURGERY)

Rehabilitation Goals	• Do not overstress healing tissue • Restore full shoulder PROM and AROM • Initiate resisted elbow flexion at 12 weeks • 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: Full • 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 ○ *to neutral; avoid shoulder extension • Elbow (12 weeks): Biceps curl, resistance band bicep curls *Motor control* • Ball stabilization on wall *Stretching* • Hands behind head, IR behind back with towel, triceps and lats, doorway series
Criteria to Progress	• Full pain-free shoulder PROM and AROM • Minimal to no substitution patterns with shoulder AROM • Performs all exercises demonstrating symmetric scapular mechanics • Pain < 2/10

PHASE V: LATE POST-OP (13-16 WEEKS AFTER SURGERY)

Rehabilitation Goals	• Maintain pain-free shoulder ROM • Enhance functional use of upper extremity
Intervention **Continue with Phase II-IV 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 • Periscapular: T and Y, "T" exercise, push-up plus knees extended, pointer, wall push up, "W" exercise, resistance band Ws, dynamic hug, resistance band dynamic hug *Motor Control* • PNF – D1 diagonal lifts, PNF – D2 diagonal lifts, field goals , resistance band PNF pattern, PNF – D1 diagonal lifts w/ resistance, diagonal-up, diagonal-down, wall slides w/ resistance band
Criteria to Progress	• Clearance from MD and ALL milestone criteria below have been met • Full pain-free shoulder 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 VI: 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-V interventions*	*Strengthening* • 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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