## SLAP Lesion Type II Repair Rehabilitation Program

The GLSM SLAP Type II Repair Rehabilitation Program is an evidence-based and soft tissue healing dependent program allowing patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur depending on surgical details and patient response to treatment. Contact us at 1-800-362-9567 ext. 58600 if you have questions or concerns.

Phase I: 0-3 weeks	(Immediate post-op maximum protected motion phase)
Goals	Protect anatomic repair
	<ul> <li>Prevent negative effects of immobilization</li> </ul>
	Diminish pain and inflammation
	Gently begin AAROM per tolerance
Sling	<ul> <li>24 hours/day for 3-6 weeks.</li> </ul>
	D/C per MD approval
Precautions	<ul> <li>No behind the back movements (avoid combined ext/add/IR)</li> </ul>
	<ul> <li>No lifting or carrying of objects</li> </ul>
	<ul> <li>No AROM for shoulder flexion, abd, or scaption until 4 wks.</li> </ul>
	<ul> <li>No AROM for IR/ER until sling removed</li> </ul>
	<ul> <li>No isolated resisted biceps contraction (elbow flexion or supination) for 6 wks</li> </ul>
	Avoid CKC exercises for 8 wks to minimize compression/shear forces
Recommendations	Remove sling 3x/day for AAROM
	Ice 15 minutes 3-5x/day if needed
PROM / AAROM Goals	Initiate AAROM at 1 wk post-op. Gradually progress based on
	tolerance with goals to be met by 3 wks including:
	- 90° of scaption/flexion
	- 15° of ER and 45° of composite IR in scapular plane (initiate in
	seated
	position and progress to supine per pt comfort)
Immediate post-op	<ul> <li>AROM for cervical spine, elbow, wrist, hand</li> </ul>
exercises	Gripping activities without lifting
Exercises to initiate at 1 wk post-op	<ul> <li>Patient will primarily be doing a HEP with sling removed 3x/day for AAROM.</li> </ul>
	Codman's without weight
	<ul> <li>AAROM (guidelines listed above)</li> </ul>
	<ul> <li>Sub-max pain-free isometric shld flexion, abd, extension, and ER/IR in scapular plane</li> </ul>
	Active scapular retraction



Phase II: 4-6 weeks	(Intermediate moderate protection phase)
Goals	Protect anatomic repair
	Prevent negative effects of immobilization
	Diminish pain and inflammation
	Gently progress AAROM per tolerance. Initiate AROM for
	scap/flex/abd
Sling	D/C per MD approval
Precautions	No lifting or carrying objects
	<ul> <li>Avoid behind the back movements</li> </ul>
	• No isolated resisted biceps contraction (elbow flexion or supination) for
	6 wks
	Avoid CKC to minimize compression/shear forces for 8 wks
Recommendations	<ul> <li>Treatment emphasis on restoring PROM/AAROM/AROM based on</li> </ul>
	guidelines provided below.
	<ul> <li>Patient can perform ADL's below shoulder height</li> </ul>
	<ul> <li>Core stability and low-impact CV conditioning per patient request and</li> </ul>
	MD approval
ROM for	Continue with gentle PROM/AAROM
flexion/scaption/abducti	<ul> <li>Initiate AROM at 4 wk post-op with limit of 90° until Phase III</li> </ul>
on	Goals for PROM/AAROM are as follows:
	4wks: 0-90° 5 wks: 0-120° 6 wks: 0-140°
ROM for IR/ER:	<ul> <li>Continue with gentle PROM/AAROM/AROM. Progress to 45° of</li> </ul>
	abduction at wk 4, to $60^{\circ}$ of abduction at 5 wks, to $90^{\circ}$ of abduction at
	6 wks
	Goals for PROM/AAROM are as follows
	4 wks: ER 0-30°, IR 0-60° in scapular plane
	6 wks: ER 0-50°, IR 0-60° at 60° of abduction
Interventions for wk 4:	Active warm-up: Codman's, UBE at 5 wks
	<ul> <li>Prolonged end-range stretch if necessary</li> </ul>
	<ul> <li>Mobilizations / PROM / AAROM / AROM based on guidelines</li> </ul>
	Therapeutic exercises:
	Active scapular retraction
	Shoulder isometrics
	Proprioceptive / neuromuscular control activities:
	Sub-max rhythmic stabilizations in supine scapular plane for
	ER/IR,
	flexion /extension to facilitate co-
	contraction
	<ul> <li>Ice 15 minutes 3-5x/day, electric stimulation (IFC or NMES) if</li> </ul>
Additional interventions	necessary
starting at wk 5:	Continue to improve PROM, AAROM, AROM
siai illiy al wh J.	Biofeedback to inhibit compensatory shoulder shrug
	Scapulothoracic strengthening: Supine protraction, rows with     subject of extension part pautral, propa barizontal abduction in
	avoidance of extension past neutral, prone horizontal abduction in
	neutral rotation



Phase III: 6-12 weeks	(Minimal protection phase)
Goals	<ul> <li>Preserve the integrity of the surgical repair</li> </ul>
	Restore full ROM
	<ul> <li>Restore muscle strength and balance</li> </ul>
	Initiate gentle biceps resistance
Precautions	<ul> <li>Avoid CKC until 8 weeks to minimize compression/shear forces</li> </ul>
	<ul> <li>Gradual return to activity depending on function requirements and MD approval</li> </ul>
Recommendations	Emphasis on return of full ROM and initiating gentle strengthening
	<ul> <li>Assess posterior capsule for tightness</li> </ul>
	<ul> <li>Strengthen using uni-planar movement and progress to multi-planar</li> </ul>
	<ul> <li>Emphasize scapular stabilization and rotator cuff strengthening</li> </ul>
	<ul> <li>Continue with core stability and CV endurance</li> </ul>
ROM Goals:	<ul> <li>PROM/AAROM: full motion in all planes by 10 wks. Limit ER to &lt;90°</li> </ul>
	in 90/90 position until wk 9
	<ul> <li>AROM: full in all planes by 12 weeks including ER in 90/90 position</li> </ul>
Interventions:	<ul> <li>Active warm-up: UBE, rower (avoid extension beyond neutral until 8 wks)</li> </ul>
(Examples of exercises	<ul> <li>Prolonged end-range stretch and accessory mobilizations if necessary</li> </ul>
but not an all-inclusive list)	<ul> <li>Scapulothoracic strengthening: supine protraction press or chest press</li> </ul>
	(+), rows in full ROM, prone horizontal abduction in neutral rotation, scaption
	Glenohumeral strengthening: Sidelying ER, forward flexion, isotonic
	IR/ER in scapular plane, isokinetic IR/ER in scapular plane
	Total arm strengthening: Triceps extensions, biceps curls (light
	resistance with reps of 15 with gradual progression)
	<ul> <li>Proprioceptive/Kinesthesia activities: rhythmic stabilizations,</li> </ul>
	alternating isometrics, body blade
	<ul> <li>Cryotherapy, electrical stimulation, and biofeedback, and if necessary</li> </ul>
Additional interventions	<ul> <li>Start CKC exercises: quadruped (ie: euroglide, cuff link, wall push-ups,</li> </ul>
starting at wk 8:	partial prone walk-outs)
	Lateral pull downs to chest
	Biceps curls moderate resistance with reps of 8-10
Additional interventions starting at wk 10-12	<ul> <li>Progress strengthening depending on functional demands (ex: athlete or overhead laborer)</li> </ul>
	Full prone walk-out
	<ul> <li>2 handed plyometrics with &lt; full body weight</li> </ul>
	PNF patterns



Phase IV: 12 + weeks	(Advanced strengthening phase)
Goals	<ul> <li>Establish and maintain full ROM, mobility, and stability</li> <li>Progress muscular strength, power, and endurance</li> <li>Initiate higher level activates depending on functional demands and</li> </ul>
	MD approval
Interventions	<ul> <li>Continue and progress program initiated in Phase III</li> <li>Initiate single arm plyometrics if needed</li> <li>Progress to 90/90 strengthening for IR/ER</li> </ul>
Isokinetic IR/ER testing	<ul> <li>Wk 16-20 at 30/30/30 position or 90/90 (if appropriate)</li> </ul>
Return to work/sport	Based on MD approval, full ROM, minimal pain at rest or with activity, isokinetic strength and functional testing at 90 % compared to uninvolved side
	<ul> <li>5-6 months: Return to interval throwing program per MD approval</li> </ul>

Updated 3/2006



## **SLAP Type II Repair References**

Burkhart SS, Morgan C. SLAP lesions in the overhead athlete. Orthop Clin North Am, 2001;32:431-41.

Burkhart SS, Morgan CD, Kibler WB. Shoulder injuries in everhead athletes. The "dead arm revisited. Clinic in Sports Medicine, 2000; 19: 125-58

Burkhart SS, Morgan CD. The peel-back mechanism: its role in producing and extending posterior type II SLAP lesions and its effects on SLAP repair rehabilitation. Arthroscopy, 1998; 14: 637-40

Davies GJ, Ellenbecker TS: Focused exercise aids shoulder hypomobility.Biomechanics 1999, 77-81.

Davies GJ, Ellenbecker TS: Documentation enhances understanding of shoulder function. Biomechanics 1999, 47-55

Handelberg F, Willems S, Shahabpour M, Huskin JP, Kuta J. SLAP lesions: a retrospective multicenter study. Arthroscopy, 1998; 14: 856-62

Kim TK, Queale WS, Cosgarea AJ, McFarland EG. Clinical features of the different types of SLAP lesions: an analysis of one hundred and thirty-nine cases. Superior labrum anterior posterior. Journal of Bone Joint Surgery, 2003; 85: 66-71

Manske RC, Davies GJ: Postrehabilitation outcomes of muscle power (torque-accleration energy) in patients with selected shoulder dysfunctions. Journal of Sport Rehab, 12(3); 2003, 181-198

McClure PW, Blackburn LG, Dusold C. The use of splints in the treatment of joint stiffness: biological rational and algorithm for making clinical decisions. Physical Therapy, 1994, 74: 1101-1107

Moseley JB, Jobe FW, Pink M, Perry J, Tibone J. EMG analysis of the scapular muscles during a shoulder rehabilitation program. American Journal of Sports Medicine, 1992; 20: 128-134

Musgrave DS, Rodosky MW. SLAP lesions: current concepts. American Journal of Orthopaedics 2001, 30: 29-38

Sapega AA, Quedenfeld TC. Biophysical factors in range of motion exercises. Physician and SportsMedicine, 1981; 9: 57-65

Townsend H, Jobe, FW, Pink M, Perry J. Electromyographic analysis of the glenohumeral muscles

during a baseball rehabilitation program. American Journal of Sports Medicine 19, 1991, 264-272

