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Rehabilitation Protocol:
SLAP repair
Superior Labral Lesion Anterior to Posterior

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Overview:

The shoulder labrum is a fibrocartilaginous rim attached to the margin of the glenoid cavity. It deepens the cavity by approximately 50%. Approximately 40% of the long head of biceps tendon (LHBT) attaches to the labrum. A superior labrum anterior and posterior (SLAP) tear involves a tear in the 10 o'clock to 2 o'clock positions on the glenoid and frequently involves the LHBT.

A SLAP tear can be caused by an acute injury such as a fall onto an outstretched arm, a shoulder dislocation or a motor vehicle accident or it may be due to repetitive overhead activities. Labral fraying is also part of the normal aging process.

Surgical intervention may involve debridement or repair depending on the size of the tear, the mechanism of injury and the age of the patient. The LHBT may be reattached, or may have undergone a tenodesis or tenotomy.

It is important for the therapist to work closely with the surgeon to understand the surgical intervention, which will guide the rehabilitation process.¹

¹ Burns, JP et al. Superior labral tears: repair versus biceps tenodesis J Shoulder Elbow Surg 2011 Mar; 20(2 suppl): S2-8

◀ Phase I Protective Phase: 0–4 Weeks

Goals:

- Protect anatomic repair
- Allow healing of repaired labrum
- Initiate early protected and restricted range of motion
- Minimize muscular atrophy
- Decrease pain/inflammation
- Promote dynamic stability

Precautions

- Sling for 4 weeks during day and at night
- **NO** active ER, extension or elevation
- **NO** isolated activation of biceps
- **NO** jogging, running, jumping
- **NO** long head bicep tension for 6 weeks to protect repaired tissues- avoid long lever arm with shoulder flexion
- **NO** resisted supination or resisted elbow flexion
- **NO** early pendulums

Weeks 0–2

- Cryotherapy
- AROM C-spine, wrist and hand
- PROM elbow flexion, supination and pronation as tolerated

Weeks 3–4

- Continue cryotherapy
- PROM/AAROM:
 - Flexion as tolerated
 - Abduction to 80°
 - ER in neutral as tolerated
 - ER/IR in scapular plane:
 - ER: 30°
 - IR: 60°

Therapeutic Exercise

Active:

- Scapular retraction
- C-spine, wrist and hand
- Ball squeezes
- Scapular Rhythmic stabilization (RS)
- Walking, stationary bike wearing sling
- **3 Weeks:**
 - Sub-maximal isometric exercise at 0° abduction:
 - Flexion
 - Abduction
 - IR/ER
 - Overhead pulley/Wand AAROM **4 weeks**

D/C sling at 4 weeks unless advised by surgeon

◀ Phase II – Intermediate Phase (5-7 weeks after surgery)

Goals

- Gradual increase in ROM
- Improve strength
- Decrease pain/inflammation
- Promote dynamic stability

Precautions

- Gentle mid-range ER in scapular plane, gradually progress to ER in abduction
- Avoid resisted supination during ER to protect biceps
- Progress active motion only when patient **demonstrates scapulohumeral rhythm**
- No biceps strengthening until 6 weeks

Weeks 5–7

D/C Sling after 4 weeks unless advised by surgeon

PROM → AAROM → AROM (with scapulohumeral rhythm)

- Continue AAROM overhead pulleys/wand
- Shoulder flexion as tolerated (initiate in supine)
- Abduction/Scaption as tolerated (initiate in sidelying)
- ER at 0° abduction as tolerated
- ER/IR in scapular plane:
 - ER: 50°
 - IR: 60°
- Gentle IR behind back

Therapeutic Exercise

- Active-assisted progressing to active forward flexion and scaption with scapulohumeral rhythm
- Sidelying ER

6 weeks

- Theraband IR/ER
- Latissimus strengthening below 90° elevation (never behind head)
- begin light and gradual ER at 90° abduction progressing to 45° ER
- Initiate AROM elbow
- Prone row
- Prone extension
- Prone T

7 weeks

- Deloaded Scapular Stabilization

◀ **Phase III Early Strengthening (8–12 Weeks after surgery)**

Goals

- Protect repair
- Gradually restore full range of motion
- Increase strength
- Improve neuromuscular control
- Enhance proprioception and kinesthesia

Precautions

- Gentle mid-range ER in scapular plane, gradually progress to ER in abduction
- Continue to protect biceps
- Progress only when patient demonstrates scapulohumeral rhythm
- Gentle biceps strengthening only

Week 8-9:

- Gradually progress to Full ROM:
- G/H mobilization as needed
- Flexion to 180°
- ER to 90° at 90° abduction
- IR full at 90° abduction

Therapeutic Exercise

- Sleeper stretch if posterior capsule tightness
- ER in scapular plane gradually progress to ER in abduction
- Wall slide
- IR behind back
- Horizontal adduction
- Sidelying IR at 90° flexion
- PNF patterns with tubing

Week 9-10:

- Hands behind head starts
- Theraband exercises:
 - Scapular Stab, ER, IR forward, punch, shrug, dynamic hug, "W"'s

Week 11-12:

- Seated row
- Dynamic exercises
- Continue phase II exercises
- Progressive Resistive Exercises 1-3 lb. as tolerated
- Prone Y
- Continue rhythmic stab
- Continue proprioception drills
- Scapulohumeral rhythm exercises

◀ Phase IV (12-16 Weeks after surgery)

Goals

- Full ROM
- Improve: strength, power and endurance
- Improve neuromuscular control
- Improve dynamic stability

Precautions

- **NOT ready for return to sports**
- Weight training precautions: Never drop elbows below plane of body
“Always see elbows”
- **No** lat pulls behind head
- Continue to avoid excessive or forceful extension and ER

Weeks 12-16

- Full ROM
- Continue previous stretches

Therapeutic Exercise

- Continue phase III exercises
- Progress bicep curls
- Plyometric exercises:
- Rebounder throws arm at side
- Wall dribbles overhead

◀ **Phase V (16-20 Weeks after surgery)**

Goals

- Progressively increase activities to prepare patient for unrestricted functional return

Precautions

- Weight training precautions

Weeks 16-20

- Full ROM

Therapeutic Exercise

Continue above

Plyometric Exercise:

- Add rebounder throws with decelerations
- Wall dribbles at 90°
- Wall dribble circles

Interval sports programs can begin per MD clearance

Rehabilitation Protocol for Superior Labral Lesion Anterior to Posterior: Summary Table

Post –op Phase/Goals	Range of Motion	Therapeutic Exercise	Precautions
<p>Phase I 0 - 4 weeks after surgery</p> <p>Goals: Protect anatomic repair</p> <p>Allow healing of repaired labrum</p> <p>Initiate early protected and restricted range of motion</p> <p>Minimize muscular atrophy</p> <p>Decrease pain/inflammation</p> <p>Promote dynamic stability</p>	<p>Weeks 0-2</p>	<p>Cryotherapy AROM C-spine, wrist and hand PROM elbow flexion, supination and pronation as tolerated</p>	<p>Sling for 4 weeks during day and at night</p> <p>NO active ER, extension or elevation</p>
	<p>Weeks 3-4</p> <p>PROM/AAROM Flexion as tolerated</p> <p>Abduction to 80°</p> <p>ER in neutral as tolerated</p> <p>ER/IR in scapular plane: ER: 30 ° IR : 60 °</p>	<p>-Passive and Active-assisted ROM:</p> <p>Active: -Scapular retraction -C-spine, wrist and hand AROM -Ball squeezes -Scapular Rhythmic stabilization (RS) -Walking, Stationary Bike wearing sling</p> <p>3 weeks: -Sub maximal isometric exercise at 0° of abduction: flexion, abd, IR & ER</p> <p>4 weeks Overhead pulley/Wand AAROM</p>	<p>NO isolated activation of biceps</p> <p>NO jogging, running, jumping</p> <p>NO long head bicep tension for 6 weeks to protect repaired tissues – avoid long lever arm with shoulder flexion</p> <p>NO resisted supination and resisted elbow flexion</p> <p>NO early pendulums</p>

<p>Phase II 5 to 7 weeks after surgery</p> <p>Goals:</p> <p>Gradual increase in ROM</p> <p>Improve strength</p> <p>Decrease pain/inflammation</p> <p>Promote dynamic stability</p>	<p>Flexion as tolerated (initiate in supine)</p> <p>Scaption as tol (initiate in sidelying)</p> <p>Abduction as tol. (initiate in sidelying)</p> <p>ER in neutral as tol.</p> <p>ER/IR in scapular plane ER: 50 ° IR : 60 °</p> <p>At 6 weeks begin light and gradual ER at 90° abduction progressing to 45° ER</p>	<p>D/C Sling at 4 weeks per surgeon clearance</p> <p>Continue Phase I exercises</p> <p>PROM →AAROM→ AROM (with scapulohumeral rhythm)</p> <p>Sidelying ER</p> <p>Continue AAROM overhead pulleys/wand</p> <p>Shoulder flexion as tolerated (initiate in supine)</p> <p>Abduction/Scaption as tolerated (initiate in sidelying)</p> <p>ER at 0° abduction as tolerated</p> <p>Gentle IR behind back</p> <p>6 weeks Prone: row, extension, "T" Theraband IR/ER Latissimus strengthening below 90° elevation (never behind head) Begin light and gradual ER at 90° abduction progressing to 45° ER Initiate AROM elbow</p> <p>7 weeks Deloaded Scapular Stabilization</p>	<p>Gentle mid-range ER in scapular plane, gradually progress to ER in abduction</p> <p>Do not allow pt to supinate during ER to protect biceps</p> <p>Progress only when patient demonstrates scapulohumeral rhythm</p> <p>NO biceps strengthening until 6 weeks</p>
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<p>Phase III 8-12 weeks after surgery Goals:</p> <p>Gradually restore full range of motion</p> <p>Increase strength</p> <p>Improve neuromuscular control</p> <p>Enhance proprioception and kinesthesia</p>	<p>Gradually progress to full ROM: Flexion to 180 ° ER to 90° at 90° abd IR full at 90° abd</p>	<p>G/H Joint mobilization as needed to progress ROM Sleeper stretch if posterior capsule tightness ER in scapular plane Wall slide IR behind back Horizontal adduction Sidelying IR at 90° flexion PNF patterns with tubing</p> <p>Week 9: Hands behind head starts Theraband exercises: -Scapular Stab, ER, IR, forward, punch, shrug, dynamic hug, 'W's</p> <p>Week 11: -Seated row -Dynamic exercises: -Continue phase II exercises -PRE 1-3 lb. as tolerated -Prone Y -Continue Rhythmic Stab -Continue proprioception drills -Scapulohumeral rhythm exercises</p>	<p>Gentle mid-range ER in scapular plane, gradually progress to ER in abduction</p> <p>Continue to protect biceps</p> <p>Progress only when patient demonstrates scapulohumeral rhythm</p> <p>Gentle biceps strengthening only</p>
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<p>Phase IV 12- 16 weeks after surgery Goals: Full ROM Improve: strength, power and endurance Improve neuromuscular control Improve dynamic stability</p>	<p>Full ROM Continue previous stretches</p>	<p>-Continue phase III exercises -Plyometric exercises: -Rebounder throws arm at side Wall dribbles overhead</p> <p>Week 12 -Progress biceps curls</p>	<p>Not ready for return to sports Weight training precautions: Never drop elbows below plane of body “Always see elbows” No Lat pulls behind head Continue to avoid excessive or forceful extension and ER</p>
<p>Phase V 16-20 weeks after surgery Goals: Progressively increase activities to prepare patient for unrestricted functional return</p>	<p>Full ROM</p>	<p>-Continue above -Plyometric exercise: -Add rebounder throws with -Decelerations -wall dribbles at 90°, -wall dribble circles</p> <p>Interval sports programs can begin per MD</p>	<p>Weight training precautions</p>
<p>AAROM = active-assisted range of motion, ADL = activity of daily living, AROM = active range of motion, PROM = passive range of motion, ER = external rotation, IR = internal rotation, ROM= Range of Motion G/H = glenohumeral</p>			