

# ARTHROSCOPIC SLAP REPAIR CLINICAL PRACTICE GUIDELINE

Progression is time and criterion-based, dependent on soft tissue healing, patient demographics and clinician evaluation. Contact Ohio State Sports Medicine at 614-293-2385 if questions arise.

## Background

SLAP (superior labral anterior to posterior) tears can begin as a result of a traumatic injury such as a FOOSH or an atraumatic, degenerative injury as a result of repeated activity. SLAP tears are common in overhead athletes and overhead workers. SLAP tears are classified based on the type of tear as well as the portion of the labrum that is affected. Surgical intervention may include reattachment of the labrum, debridement, or a combination. Consultation with the surgeon as well as a review of the operative report should be completed prior to initiation of rehabilitation.

## Summary of Recommendations

<b>Risk Factors</b>	<ul style="list-style-type: none"> <li>• Repeated overhead activity</li> <li>• Falling on out stretched arm</li> <li>• Contact sports</li> <li>• Poor shoulder strength</li> <li>• Poor scapular stability</li> <li>• Limited trunk mobility</li> <li>• Faulty mechanics</li> </ul>
<b>Corrective Interventions</b>	<ul style="list-style-type: none"> <li>• Therapeutic exercise to improve shoulder and scapular strength, endurance, stability, and mobility</li> <li>• Therapeutic activity to improve ADLs</li> <li>• Neuromuscular reeducation to improve joint stability and proprioception</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• Excessive external rotation above guideline recommendations</li> <li>• Excessive loading of biceps</li> <li>• Cross body motion</li> <li>• Shoulder extension with elbow extension</li> <li>• Failure to return sport/position/job without appropriate external range of motion</li> </ul>
<b>Outcome Testing</b>	<ul style="list-style-type: none"> <li>• Disability of Arm Shoulder and Hand (DASH) or Kerlan-Jobe Orthopaedic Clinic (KJOC) questionnaires.</li> <li>• Strength testing for quality, endurance, and IR/ER strength ratios vs uninjured and based on sport</li> <li>• ROM appropriate for job/sport</li> <li>• Isokinetic strength assessment if available</li> </ul>
<b>Manual Therapy</b>	<ul style="list-style-type: none"> <li>• Soft tissue mobilization as appropriate</li> <li>• Joint mobilizations: initially to decrease pain, to improve ROM when appropriate</li> </ul>
<b>Criteria for discharge</b>	<ul style="list-style-type: none"> <li>• ROM within appropriate ranges based on patient specific needs</li> <li>• Full muscle strength and endurance of shoulder and periscapular strength</li> <li>• Consistently low pain scores</li> <li>• MCID on functional outcome measure</li> </ul>

## Phase I: Protection Weeks 1-2

<b>PROM</b>	<ul style="list-style-type: none"> <li>Elevation to 75° in the scapular plane</li> <li>ER in scapular plane up to 15°</li> <li>IR in scapular plane up to 45°</li> <li>Posterior joint mobilizations (grades I-II)</li> <li>Elbow ROM – may be AROM/PROM – no resistance</li> <li>Full hand/wrist ROM</li> <li>Pendulum Exercises</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>Scapular stabilization (scapular clock and manual resisted scapular PNF patterns)</li> <li>Submaximal isometrics in neutral for shoulder and elbow– no elbow flexion</li> </ul>
<b>Goals to Progress to Next Phase</b>	<ol style="list-style-type: none"> <li>Control pain and inflammation</li> <li>Gradual increase in ROM</li> <li>Promote healing of tissue</li> <li>Initiate muscle contraction</li> </ol>

## Phase I: Protection Weeks 3-4

<b>PROM</b>	<ul style="list-style-type: none"> <li>Elevation to 90° in the scapular plane</li> <li>Abduction to 80°</li> <li>ER in scapular plane up to 30°</li> <li>IR in scapular plane up to 55°</li> <li>Pendulum Exercises</li> </ul>
<b>AAROM</b>	<ul style="list-style-type: none"> <li>May begin with same restrictions as PROM</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>Continue scapular stabilization</li> <li>Rhythmic stabilization               <ul style="list-style-type: none"> <li>Side-lying neutral</li> <li>Hand on ball within ROM limitations</li> <li>No strong ER contractions</li> </ul> </li> <li>Continue isometrics</li> </ul>
<b>Goals to Progress to Next Phase</b>	<ol style="list-style-type: none"> <li>Achieve full PROM goals</li> <li>Reduce inflammation and pain</li> <li>Tolerate basic strengthening</li> <li>Postural awareness</li> </ol>

## Phase I: Weeks 5-6

<b>PROM and AAROM</b>	<ul style="list-style-type: none"> <li>Elevation to 145°</li> <li>ER at 45° abduction to 50°</li> <li>IR at 45° abduction to 60°</li> <li>Gentle IR and ER stretch at 90° abduction</li> </ul>
<b>AROM</b>	<ul style="list-style-type: none"> <li>Full can WITHOUT weight</li> <li>Abduction as tolerated</li> </ul>



<b>Strength</b>	<ul style="list-style-type: none"> <li>• Initiate IR/ER at neutral (0° of abduction) with tubing</li> <li>• Towel roll placed under arm</li> <li>• Prone exercises WITHOUT weight</li> <li>• Row</li> <li>• Horizontal abduction</li> <li>• Extension to neutral</li> <li>• Supine punches with light resistance</li> <li>• Scapular PNF Patterns</li> <li>• UBE with light resistance</li> </ul>
<b>Goals to Progress to Next Phase</b>	<ol style="list-style-type: none"> <li>1. Achieve PROM and AAROM limitations</li> <li>2. No exacerbations of pain</li> <li>3. Independent with HEP</li> </ol>

## Phase II: Weeks 7-9

<b>PROM and AAROM</b>	<ul style="list-style-type: none"> <li>• Full flexion</li> <li>• Full abduction</li> <li>• ER in neutral and 90° abduction: up to 90°</li> <li>• IR in neutral and 90° abduction: up to 70°</li> <li>• Towel and side-lying internal rotation stretch</li> <li>• Continue posterior and initiate inferior Grade III-IV mobilization at GH joint</li> </ul>
<b>AROM</b>	<ul style="list-style-type: none"> <li>• May begin AROM biceps at 8 weeks</li> <li>• Continue to progress elevation and abduction AROM</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>• Initiate biceps strengthening at 8 weeks with elbow flexed and neutral abduction</li> <li>• Continue isotonic strengthening</li> <li>• Initiate Thrower's 10 Program</li> <li>• PNF patterns with tubing</li> <li>• Progress rhythmic stabilization</li> </ul>
<b>Goals to Progress to Next Phase</b>	<ol style="list-style-type: none"> <li>1. Achieve full AROM by 9 <b>weeks except ER if thrower</b></li> <li>2. NO substitution patterns</li> <li>3. Low pain scores</li> </ol>

## Phase II: Weeks 10-12

<b>PROM and AAROM</b>	<ul style="list-style-type: none"> <li>• Full in all planes</li> <li>• <b>May progress throwers to beyond 90° ER</b></li> </ul>
<b>AROM</b>	<ul style="list-style-type: none"> <li>• Continue as necessary to sport and ADL demands</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>• Continue isotonic and scapular strengthening</li> <li>• Begin ER/IR at 90° abduction</li> <li>• Advance Thrower's 10 and CKC exercise as tolerated <ul style="list-style-type: none"> <li>○ Progress biceps strengthening</li> </ul> </li> </ul>
<b>Goals to Progress to Next Phase</b>	<ol style="list-style-type: none"> <li>1. Maintain full AROM in all planes (beyond 90 ER if overhead athlete)</li> <li>2. 4+/5 shoulder strength in all planes</li> <li>3. No reported pain</li> <li>4. Verbal confidence in initiation of return to sport progression</li> </ol>



## Phase III: Weeks 12-16

<b>ROM</b>	<ul style="list-style-type: none"> <li>Continue to progress AROM, PROM as needed for ADL and sport demands</li> <li>Ensure thoracic and cervical mobility</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>May begin resisted biceps and forearm supination</li> <li>Muscular endurance exercise</li> <li>Light plyometrics               <ul style="list-style-type: none"> <li>Begin with two hands and progress to one</li> <li>Wall ball dribbles/free throws with single hand</li> </ul> </li> <li>Light tossing – Single knee throwing 15 feet with emphasis on proper throwing mechanics and follow through. (Only if ROM has been normalized in all planes)</li> <li>Progress eccentric strengthening of posterior cuff and scapular musculature</li> <li>Begin throwing progression at 4 months</li> <li>Restricted sport activity (light swimming, half golf swings, sport specific activities)</li> <li>No contact sports</li> </ul>
<b>Goal to Progress to Return to Sport Phase</b>	<ol style="list-style-type: none"> <li>Full throwing status at 6-8 months with successful completion of throwing program</li> </ol>

## Phase IV: Return to Sport/Activity Weeks 16-20

<b>ROM</b>	<ul style="list-style-type: none"> <li>Terminal end ROM stretching</li> <li>Teach long term home stretching and mobility</li> </ul>
<b>Strength</b>	<ul style="list-style-type: none"> <li>Advance plyometrics to sport specific</li> <li>Begin throwing program or other sport specific program if all goals met and physician has provided clearance</li> <li>Progress shoulder strengthening to include return regular gym/team strengthening</li> </ul>
<b>Return to Sport Criteria</b>	<ol style="list-style-type: none"> <li>ROM appropriate for sport or activity</li> <li>Strength of shoulder and scapular musculature tested at 5/5 MMT or isokinetics vs uninvolved</li> <li>Completion of closed chain functional measurement such as Closed Kinetic Chain Upper Extremity Strength Test CKCUEST</li> <li>MCID for functional outcome measure</li> <li>Completion of progressive return to sport/throwing program</li> <li>No pain with activity</li> </ol>

**Reviewers:** Katherine Sullivan, Joann Walker



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