

# Pediatric and Adolescent Rehabilitation Protocol for Anterior Bankart Repair

This protocol is intended to guide clinicians through the post-operative course for Pediatric and Adolescent Anterior Bankart Repair. 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.

Special consideration for the pediatric population must be given as they are at high risk of recurrent instability after surgical stabilization. Currently, surgical stabilization is recommended after a first-time dislocation, particularly in those with other risk factors for recurrence as pediatric patients who require this procedure will often have concomitant impairments including hypermobility or low tone which should be recognized and managed by the physical therapy to prevent future injury post-operatively.

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 Bankart Repair Rehabilitation Program

Many different factors influence the post-operative Bankart rehabilitation outcomes, including the severity of the damage to the labral and capsular structures and individual co-morbidities. It is recommended that clinicians collaborate closely with the referring physician.

### Post-operative considerations

If you develop a fever, unresolving numbness/tingling, excessive drainage from the incision, uncontrolled pain or any other symptoms you have concerns with, please contact referring physician.

### ***PHASE I: IMMEDIATE POST-OP PHASE (0-3 WEEKS AFTER SURGERY)***

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>● Protect surgical repair</li> <li>● Reduce swelling and pain</li> <li>● Maintain elbow, hand and wrist ROM</li> <li>● Enhance scapular function</li> <li>● Gradually increase shoulder PROM</li> <li>● Minimize muscle inhibition</li> <li>● Patient education</li> </ul>
<b>Sling</b>	<ul style="list-style-type: none"> <li>● Sling on at all times, only remove for showering and therapy including elbow and wrist ROM             <ul style="list-style-type: none"> <li>○ Neutral Rotation, 30-45 degrees ABD</li> <li>○ Sleep in sling for 6 weeks</li> <li>○ Shower with arm by your side</li> </ul> </li> </ul>

<b>Precautions</b>	<ul style="list-style-type: none"> <li>● <b>No carrying objects until 12 weeks post-op</b></li> <li>● No shoulder AROM</li> <li>● No lifting objects</li> <li>● No reaching behind back</li> <li>● No supporting body weight with hands</li> <li>● Can shower after 48 hours <ul style="list-style-type: none"> <li>○ Do NOT get into a bathtub, pool or spa until sutures are removed and wound is healed</li> </ul> </li> <li>● Avoid abduction/external rotation activity to avoid anterior inferior capsule stress</li> <li>● No Driving until at least 6 weeks post-op once cleared by MD</li> </ul>
<b>Interventions</b>	<p><i>Pain/Swelling Management</i></p> <ul style="list-style-type: none"> <li>● Ice, compression, modalities as indicated</li> </ul> <p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>● Wrist AROM <ul style="list-style-type: none"> <li>○ <a href="#">Flexion</a></li> <li>○ <a href="#">Extension</a></li> <li>○ <a href="#">Radial and Ulnar deviations</a></li> </ul> </li> <li>● <i>Shoulder PROM: Begin week 2</i> <ul style="list-style-type: none"> <li>○ <a href="#">Flexion &lt; 90 degrees</a></li> <li>○ <a href="#">Pendulums</a></li> <li>○ <a href="#">Seated GH flexion table slide</a></li> <li>○ <a href="#">External rotation in scapular plane to &lt; 20 degrees</a></li> </ul> </li> <li>● <i>Shoulder AAROM: Begin week 3</i> <ul style="list-style-type: none"> <li>○ <a href="#">Supine flexion with cane and self-support to 90 degrees</a></li> <li>○ <a href="#">Cane ER to &lt;20 degrees</a></li> </ul> </li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>● <a href="#">Ball Squeezes</a></li> <li>● <i>Week 2:</i> <ul style="list-style-type: none"> <li>○ <a href="#">Scapular retraction</a></li> <li>○ <a href="#">Standing scapular setting</a></li> <li>○ <a href="#">Inferior glide</a></li> </ul> </li> <li>● <i>Week 3 Submaximal shoulder isometrics – Avoid ER/IR</i> <ul style="list-style-type: none"> <li>○ <a href="#">Flexion</a></li> <li>○ <a href="#">Extension</a></li> <li>○ <a href="#">Abduction - With Brace on</a></li> </ul> </li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>● PROM shoulder flexion to 90 degrees</li> <li>● PROM shoulder ER to 20 degrees</li> <li>● Palpable muscle contraction felt in scapular and shoulder musculature</li> <li>● No complications with phase 1</li> </ul>

### ***PHASE II: PROTECTION PHASE (4-5WEEKS AFTER SURGERY)***

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>● Protect surgical repair</li> <li>● Promote dynamic stability and proprioception</li> <li>● Reduce swelling and pain</li> <li>● Gradually restore shoulder PROM</li> <li>● Minimize substitution patterns with AAROM</li> <li>● Patient education</li> </ul>
<b>Sling</b>	<ul style="list-style-type: none"> <li>● Continue use of sling unless instructed otherwise by surgeon</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>● <b>No carrying objects until 12 weeks post-op</b></li> <li>● No lifting objects</li> <li>● No supporting body weight with hands</li> <li>● No AROM</li> <li>● Driving may start at week 6 based on MD clearance</li> </ul>
<b>Additional</b>	<i>Pain/Swelling management</i>

<p><b>Interventions</b> *Continue with Phase I interventions, as indicated</p>	<ul style="list-style-type: none"> <li>• Cryotherapy and Modalities as indicated</li> </ul> <p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• PROM <ul style="list-style-type: none"> <li>○ <a href="#">Flexion to 90-120</a></li> <li>○ <a href="#">IR to 60 deg</a></li> <li>○ <a href="#">ER to 30 degrees in scapular plane</a></li> <li>○ <a href="#">ER to 45 @ 90 degrees ABD</a></li> <li>○ <a href="#">Full Abduction in scapular plane</a></li> </ul> </li> <li>• AAROM: Same ROM guidelines as above <ul style="list-style-type: none"> <li>○ <a href="#">Washcloth press-up</a></li> <li>○ <a href="#">Table slides flexion and abduction</a></li> <li>○ <a href="#">Seated/standing shoulder elevation with cane</a></li> <li>○ <a href="#">Wall climbs</a></li> <li>○ <a href="#">Pulleys</a></li> </ul> </li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Submaximal rotator cuff isometrics: <a href="#">ER, IR, flexion, abduction</a> and <a href="#">extension</a></li> <li>• Submaximal rotator cuff isotonic</li> <li>• Periscapular strengthening: <a href="#">Row, shoulder extension on physio-ball, serratus punch</a></li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• ROM guidelines: Unless otherwise specified by surgeon: <ul style="list-style-type: none"> <li>○ PROM shoulder flexion to 140 degrees</li> <li>○ PROM shoulder ER in scapular plane to 45 degrees</li> <li>○ PROM shoulder ER in 90 degrees ABD to 45 degrees</li> <li>○ PROM shoulder IR in scapular plane to 50 degrees</li> <li>○ Full abduction PROM</li> </ul> </li> <li>• Minimal substitution patterns with AAROM</li> <li>• Pain &lt; 2/10</li> <li>• No complications with Phase II</li> </ul>

**PHASE III: INTERMEDIATE PHASE (6-8 WEEKS AFTER SURGERY)**

<p><b>Rehabilitation Goals</b></p>	<ul style="list-style-type: none"> <li>• Gradually increase shoulder PROM/AROM</li> <li>• Preserve integrity of surgical repair</li> <li>• Independence with ADLs</li> <li>• Initiate rotator cuff strengthening</li> <li>• Progress periscapular strengthening</li> <li>• Enhance neuromuscular control</li> <li>• Patient education</li> </ul>
<p><b>Sling</b></p>	<ul style="list-style-type: none"> <li>• Discontinue use of sling</li> </ul>
<p><b>Precautions</b></p>	<ul style="list-style-type: none"> <li>• No aggressive ROM/stretching</li> <li>• Avoid strength activities that produce a large amount of anterior shoulder stress (i.e. push-ups, pec flys)</li> <li>• No posterior-anterior glenohumeral joint mobilizations</li> <li>• Avoid running on treadmill</li> <li>• No lifting &gt; 10 lbs</li> </ul>
<p><b>Additional Interventions</b> *Continue with Phase I-II Interventions, as indicated</p>	<p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> <li>• PROM <ul style="list-style-type: none"> <li>○ ER: 50-65 deg scapular plane</li> <li>○ ER @ 90 ≤ 75 deg</li> <li>○ Flexion ≤ 160 deg</li> </ul> </li> <li>• AAROM</li> <li>• AROM <ul style="list-style-type: none"> <li>○ Start in gravity minimized positions and progress to full AROM against gravity</li> </ul> </li> <li>• <a href="#">Pec Minor stretch</a></li> </ul>

	<ul style="list-style-type: none"> <li>• Begin posterior capsule stretching: <ul style="list-style-type: none"> <li>○ <a href="#">Cross arm stretch</a></li> <li>○ <a href="#">Sleeper stretch</a></li> <li>○ Posterior/inferior GHJ mobilizations if needed</li> </ul> </li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Rotator cuff: <ul style="list-style-type: none"> <li>○ <a href="#">side-lying external rotation</a></li> <li>○ <a href="#">standing external rotation</a></li> <li>○ <a href="#">internal rotation with band</a></li> </ul> </li> <li>• Periscapular: <ul style="list-style-type: none"> <li>○ <a href="#">shoulder extension with band</a></li> <li>○ <a href="#">row with band</a></li> <li>○ <a href="#">push up plus on knees</a></li> <li>○ <a href="#">prone shoulder extension</a></li> <li>○ <a href="#">forward punch dumbbell or band</a></li> </ul> </li> </ul> <p><i>Motor Control</i></p> <ul style="list-style-type: none"> <li>• Rhythmic Stabilization (with therapist): Internal and external rotation in scaption and 90-125 deg flexion</li> <li>• Rhythmic stabilization (with therapist) IR/ER and flexion 90-125 deg</li> <li>• <a href="#">Ball stabilization on the wall</a></li> </ul>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• Negative apprehension signs</li> <li>• Pain &lt; 2/10</li> <li>• ROM Guidelines: Unless otherwise specified by surgeon <ul style="list-style-type: none"> <li>○ Flexion: 160 degrees</li> <li>○ Full Abduction</li> <li>○ PROM IR to 65 degrees in scapular plane at 90 deg ABD</li> <li>○ PROM ER to 50-65 degrees in scapular plane at 90 deg ABD</li> <li>○ PROM ER to 75 degrees in 90 degrees ABD</li> </ul> </li> </ul>

**PHASE IV: TRANSITIONAL PHASE (9-11 WEEKS AFTER SURGERY)**

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Preserve the integrity of the surgical repair</li> <li>• Gradually increase shoulder PROM/AROM to WNL</li> <li>• Progress rotator cuff strength</li> <li>• Progress periscapular strength</li> <li>• Improve dynamic shoulder stability</li> </ul>
<b>Precautions</b>	<ul style="list-style-type: none"> <li>• Do not stress anterior capsule with aggressive overhead strengthening</li> <li>• Avoid contact sports</li> <li>• No lifting &gt; 10lbs</li> </ul>

<p><b>Additional Interventions</b> *Continue with Phase I-III interventions, as indicated</p>	<p><i>Range of motion/mobility</i></p> <ul style="list-style-type: none"> <li>• PROM: Full</li> <li>• AROM: Full</li> <li>• Continue with capsular stretching</li> </ul> <p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Light resistance until week 12</li> <li>• Rotator cuff: <a href="#">Side-lying ABD</a> → <a href="#">standing ABD</a>, <a href="#">scaption</a> and <a href="#">shoulder flexion to 90 degrees</a></li> <li>• Periscapular: <a href="#">Prone T and Y</a>, <a href="#">full push-up plus</a>, <a href="#">prone ER at 90</a>, <a href="#">wall push-up</a>, <a href="#">W exercise</a>, <a href="#">dynamic hug</a></li> <li>• <a href="#">Triceps extension</a></li> <li>• <a href="#">Biceps curls</a></li> <li>• <a href="#">Shoulder Shrugs</a></li> <li>• Begin strengthening at 90/90 by at week 10</li> </ul> <p><i>Motor Control</i></p> <ul style="list-style-type: none"> <li>• PNF <a href="#">D1</a> and <a href="#">D2</a> diagonals</li> <li>• Continue PNF strengthening</li> <li>• Advance rhythmic stabilizations and proprioception</li> </ul>
<p><b>Criteria to Progress</b></p>	<ul style="list-style-type: none"> <li>• No signs of apprehension</li> <li>• Full pain-free PROM and AROM</li> <li>• Minimal to no substitution with shoulder AROM</li> <li>• Demonstrates symmetric scapular mechanics with all exercises</li> <li>• Pain &lt; 2/10</li> </ul>

**PHASE V: STRENGTHENING PHASE (12-16 WEEKS AFTER SURGERY)**

<p><b>Rehabilitation Goals</b></p>	<ul style="list-style-type: none"> <li>• Maintain full pain-free ROM</li> <li>• Enhance functional use of upper extremity</li> <li>• Gradually progress activities with ultimate return to full function</li> </ul>
<p><b>Precautions</b></p>	<ul style="list-style-type: none"> <li>• Do not begin throwing or overhead athletic moves until 4 months post-op</li> <li>• Weightlifting: <ul style="list-style-type: none"> <li>○ Avoid wide grip bench, military press or lat pulldowns behind the head</li> </ul> </li> </ul>
<p><b>Additional Interventions</b> *Continue with Phase II-IV interventions, as indicated</p>	<p><i>Strengthening</i></p> <ul style="list-style-type: none"> <li>• Rotator cuff: <a href="#">ER at 90 degrees</a>, <a href="#">IR at 90 degrees</a></li> <li>• Closed chain exercises: <ul style="list-style-type: none"> <li>○ Push-ups: <a href="#">wall</a> → <a href="#">incline</a> → <a href="#">knee</a> → <a href="#">standard</a></li> <li>○ Quadruped</li> </ul> </li> <li>• <a href="#">Lat pull down</a></li> <li>• <a href="#">Throwers ten</a> – if applicable</li> <li>• Endurance training</li> <li>• Restricted sport activities (light swimming, half golf swings)</li> <li>• Progress weights to up to 15lbs</li> </ul> <p><i>Motor control</i></p> <ul style="list-style-type: none"> <li>• <a href="#">Manual resistance PNF</a></li> <li>• <a href="#">Body Blade</a> in varying degrees of abduction and flexion</li> <li>• <a href="#">UE on uneven surfaces</a></li> <li>• <a href="#">Serratus wall slide with band</a></li> </ul> <p><i>Stretching</i></p> <ul style="list-style-type: none"> <li>• <a href="#">ER at 90 degrees ABD</a></li> <li>• <a href="#">Hands behind head</a></li> </ul>

<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• No pain or tenderness</li> <li>• 5/5 shoulder strength Bilaterally</li> <li>• Satisfactory shoulder stability</li> <li>• Use Quick DASH and/or PENN shoulder scale</li> <li>• Upper Extremity Functional Assessment <ul style="list-style-type: none"> <li>○ Full pain-free PROM and AROM</li> <li>○ Joint position sense &lt; 5-degree margin of error</li> <li>○ Strength 85% of uninvolved arm with isokinetic testing or handheld dynamometer</li> <li>○ ER/IR ratio &gt; 64%</li> <li>○ Scapular dyskinesis test symmetrical</li> <li>○ Functional performance and shoulder endurance tests &gt; 85% of uninvolved arm</li> <li>○ Males &gt; 21 taps; females &gt; 23 taps on CKCUEST</li> </ul> </li> <li>• Negative impingement and stability signs</li> <li>• Performs all exercises with symmetric scapular mechanics</li> </ul>
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### ***PHASE VI: UNRESTRICTED RETURN TO SPORT (4-6 MONTHS AFTER SURGERY)***

<b>Rehabilitation Goals</b>	<ul style="list-style-type: none"> <li>• Maintain full pain-free ROM</li> <li>• Enhance functional use of upper extremity</li> <li>• Gradual return to strenuous work activities</li> <li>• Gradual return to recreational activities</li> <li>• Gradual return to sports activities</li> </ul>
<b>Additional Interventions</b> <i>*Continue with Phase III-V interventions, as indicated</i>	<ul style="list-style-type: none"> <li>• Continue strengthening and motor control exercises</li> <li>• Begin throwing and overhead sport activities – per MD clearance</li> <li>• Progress into plyometrics</li> </ul> <p>Refer to specific return-to-sport protocols/throwing programs (coordinate with surgeon)</p>
<b>Criteria to Progress</b>	<ul style="list-style-type: none"> <li>• Last stage, no additional criteria</li> </ul>

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<b>Contact</b>	Please email <a href="mailto:MGHSportsPhysicalTherapy@partners.org">MGHSportsPhysicalTherapy@partners.org</a> with questions specific to this protocol
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References:

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