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## Biceps Tenodesis Post-operative Rehabilitation Protocol

### Phase 1: 0-2 weeks post-operatively

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Protect repair</li> <li>• Minimize pain</li> <li>• Minimize swelling</li> <li>• Begin passive range of motion exercises, NO active extremity ROM</li> </ul>
<b>Sling use/ precautions</b>	<ul style="list-style-type: none"> <li>• Sling for 3-4 weeks after surgery to be determined by surgeon</li> <li>• Must sleep in sling for first 3 weeks</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>• <b>Avoid</b> resisted elbow flexion/forearm supination for first 6 weeks             <ul style="list-style-type: none"> <li>○ Elbow PROM flexion/extension and forearm supination/pronation</li> </ul> </li> <li>• <b>NO</b> active external rotation, extension or abduction for 4-6 weeks</li> <li>• Scapulothoracic AROM in all planes</li> <li>• Passive and gentle active assisted ROM exercises             <ul style="list-style-type: none"> <li>○ Pendulums</li> <li>○ Flexion and scaption to 90°</li> <li>○ ER to 40° for first 4 weeks</li> <li>○ IR to 45°</li> </ul> </li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>• Submaximal isometrics for glenohumeral and scapular musculature</li> <li>• Work on scapular stabilization</li> <li>• Arm immobilized seated scapular retraction</li> <li>• Hand gripping exercises – utilize red ball on sling</li> </ul>
<b>Home Instructions</b>	<ul style="list-style-type: none"> <li>• Keep surgical dressings clean and dry</li> <li>• Change surgical bandages on the 2<sup>nd</sup> day after surgery (keep covered until first clinic visit)</li> <li>• Can bathe on the 2<sup>nd</sup> day after surgery (do not scrub, soak, or submerge the incisions)</li> <li>• Remove arm from sling only for writing, typing, hygiene and gentle ROM exercises (pendulums)</li> <li>• Take Aspirin (or other DVT medication) for 2 weeks after surgery</li> <li>• Plan to start physical therapy after 2 week follow up appointment</li> </ul> <p><b>Criterion to progress to Phase II :</b></p> <ul style="list-style-type: none"> <li>• Full passive shoulder ROM</li> <li>• Full passive elbow ROM</li> <li>• Full passive forearm supination/pronation</li> </ul>

## Phase 2: 3-6 weeks post-op

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Protect repair</li> <li>• Minimize pain</li> <li>• Minimize swelling</li> </ul>
<b>Sling use/ precautions</b>	<ul style="list-style-type: none"> <li>• Can discontinue sling at the discretion of the surgeon</li> </ul>
<b>Range of Motion</b>	<p><b>Weeks 3-4 post-op</b></p> <ul style="list-style-type: none"> <li>• No biceps tension for 6 weeks</li> <li>• No ER to 40°</li> <li>• Progress from passive range of motion to active as tolerated</li> <li>• Can do scar massage- no cross friction</li> </ul> <p><b>Weeks 5-6 post-op</b></p> <ul style="list-style-type: none"> <li>• Flexion and scaption to 145° (can progress further if tolerated)</li> <li>• ER to 50°</li> <li>• IR to 60°</li> <li>• Initiate limited AROM/AAROM of shoulder to 90° flexion/abduction</li> <li>• Begin AROM supination with no resistance/elbow flexed <ul style="list-style-type: none"> <li>○ <b>NO</b> biceps loading until week 10</li> </ul> </li> </ul> <p><i>*full ROM should be achieved at 8-10 weeks</i></p>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>• Initiate scapulothoracic isometrics</li> <li>• Initiate submaximal shoulder isometrics to include IR, ER, ABD, &amp; ADD</li> </ul> <p>Criterion to progress to phase 3:</p> <ul style="list-style-type: none"> <li>• Pain-free, full shoulder, elbow flexion and extension, and forearm supination and pronation AROM</li> <li>• Dynamic scapular control with AROM</li> </ul>

## Phase 3: 7-12 weeks post-op

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Progress/maintain full restoration of AROM</li> <li>• After week 8, can return to biking, running, Stairmaster, golf with proper kinematics</li> </ul>
<b>Sling Use</b>	<ul style="list-style-type: none"> <li>• Discontinue sling as directed by surgeon</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>• Continue PROM to AROM of shoulder and elbow</li> <li>• <b>NO</b> biceps loading until week 10</li> </ul> <p><b>Weeks 7-12 post-op</b></p> <ul style="list-style-type: none"> <li>• Resisted IR and ER at 30° ABD progressing to 90°</li> <li>• <b>Slowly</b> and cautiously progress resisted biceps curl, supination, pronation</li> </ul>

<b>Strengthening</b>	<ul style="list-style-type: none"> <li>• Gain muscle endurance with high reps, low resistance</li> <li>• Isotonic IR and ER light resistance resisted movement with wrist in neutral (no supination)</li> <li>• Supine ABC and SA punches with high reps, low resistance</li> <li>• At week 6, begin prone scapular stability program</li> </ul> <p><b>Weeks 7-12 post-op</b></p> <ul style="list-style-type: none"> <li>• Progress prone Scap 6 to Supine 5</li> <li>• Resisted SA punch and bear hugs while standing</li> <li>• Resisted low row, prone 30°/45°/90° to standing</li> <li>• Push-up plus: wall, counter, knees on floor, and floor</li> <li>• Rhythmic stabilization <ul style="list-style-type: none"> <li>○ ER &amp; IR in scapular plane</li> <li>○ Flexion, extension, ABD &amp; ADD at various angles of elevation</li> </ul> </li> <li>• Supine to standing diagonal patterns; D1 &amp; D2</li> <li>• Resisted biceps curl, supination, and pronation</li> <li>• Begin closed chain stabilization exercises</li> </ul> <p><b>Criterion to progress to Phase 4:</b></p> <ul style="list-style-type: none"> <li>• Pain-free, full AROM of shoulder and elbow with normal scapulohumeral rhythm</li> <li>• 5/5 MMT for RTC 90° ABD in scapular plane</li> <li>• 5/5 MMT for scapulothoracic musculature</li> </ul>
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#### **Phase 4: Weeks 12+**

<b>Goals</b>	<ul style="list-style-type: none"> <li>• Return to Sport/Activity</li> <li>• Maintain full non-painful AROM</li> <li>• Progress strength and power without having to compensate</li> <li>• Progress higher level slowly as tolerated by patient</li> <li>• Return to sports progression: throwing/swimming</li> </ul>
<b>Sling Use</b>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Range of Motion</b>	<ul style="list-style-type: none"> <li>• Maintain full active range of motion</li> </ul>
<b>Strengthening</b>	<ul style="list-style-type: none"> <li>• Continue as above</li> <li>• Initiate plyometric training below shoulder to overhead: begin with both arms and progress to a single arm</li> <li>• Low to higher velocity strengthening and plyometric activities: ball drops in prone to D2 reverse throws</li> </ul> <p><b>Criterion to return to sports/activity:</b></p> <ul style="list-style-type: none"> <li>• Pain-free, stability &amp; control with higher velocity movements including sport specific patterns and change of direction movements</li> <li>• Proper kinematic control transfer from the hip &amp; core to the shoulder with dynamic movement</li> </ul>

For any questions about operative details or rehabilitation guidelines, please contact the respective surgeon's Athletic Trainer at the contact information found at this link: <https://med.virginia.edu/orthopaedic-surgery/orthopaedic-divisions/sports-medicine/protocols/>