



Sports Medicine, Joint Preservation & Cartilage Restoration

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HIP, KNEE, SHOULDER, ELBOW •

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## TRICEPS REPAIR

### Rehab Protocol

#### Summary of Recommendations

|                                    |   |
|------------------------------------|---|
| <b>Risk Factors</b>                | <ul style="list-style-type: none"><li>• Subsequent surgeries</li><li>• Lack of adherence to surgical precautions</li><li>• Secondary comorbidities</li></ul>  |
| <b>Precautions</b>                 | <ul style="list-style-type: none"><li>• No aggressive stretching of the triceps</li><li>• Splint for first two weeks</li><li>• Light soft tissue mobilization, <b>not directly on the scar</b>, to improve blood flow and reduce edema</li><li>• Limit passive shoulder flexion to &lt;90 degrees for <b>6 weeks</b></li><li>• No isolated triceps contraction with elbow extension or shoulder extension for <b>6 weeks</b></li><li>• No <u>resisted</u> elbow extension or shoulder extensions/rows for <b>12 weeks</b></li><li>• No weight bearing through the surgical extremity (pushing open a door, pushing up from a chair) for <b>12 weeks</b></li></ul> |
| <b>Manual Therapy</b>              | <ul style="list-style-type: none"><li>• PROM exercises and GH joint mobilizations (phase I &amp; II)</li><li>• Scar massage is appropriate in phase III</li></ul>   |
| <b>Corrective Interventions</b>    | <ul style="list-style-type: none"><li>• Cryotherapy for pain and inflammation</li><li>• Manual Therapy</li></ul>  |
| <b>Functional Outcome Measures</b> | <ul style="list-style-type: none"><li>• Disability of Arm Shoulder and Hand (DASH) Questionnaire</li><li>• Kerlan-Jobe Orthopaedic Clinic (KJOC) Questionnaire</li></ul>  |
| <b>Criteria for discharge</b>      | <ul style="list-style-type: none"><li>• &gt;90% with patient-reported outcome</li><li>• Full AROM, strength, and able to demonstrate pain-free, sports specific movements without compensatory movements</li></ul>  |



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## Phase I: Protection to PROM (0-2 weeks)

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|---|---|
| <b>Pain and Edema Management</b>              | <ul style="list-style-type: none"> <li>• Education: No elbow AROM, incisions clean and dry, hinged brace per physician instructions</li> <li>• Vaso and E-stim for pain and edema control</li> <li>• No soft tissue mobilization or cross friction massage directly on the scar</li> <li>• No weight bearing through surgical extremity for <b>12 weeks</b></li> </ul>  |
| <b>Restore Passive Shoulder and Elbow ROM</b> | <ul style="list-style-type: none"> <li>• Limit shoulder flexion to 90° for <b>4 weeks</b></li> <li>• Elbow flexion limited to 20 degrees in brace</li> <li>• Gentle shoulder PROM (pulleys, self-passive ranging with uninvolved extremity, table slides)</li> <li>• Gentle elbow PROM (therapist guided ranging, self-passive ranging with uninvolved extremity)</li> </ul>  |
| <b>Home Exercise Program</b>                  | <ul style="list-style-type: none"> <li>• Posture education</li> <li>• Arm immobilized per physician instructions</li> <li>• Scapular control exercises (sidelying clocks, seated retractions, scapular PNF)</li> <li>• PROM elbow flexion locked at 20 degrees in hinged brace</li> <li>• Able to progress elbow flexion <b>15 degrees every 5 days (3 sets of 30 minutes per day)</b></li> <li>• No active elbow extension</li> <li>• AROM wrist/ hand (gripping, wrist curl, pronation/supination)</li> </ul> |
| <b>Criterion to Progress to Phase II</b>      | <ul style="list-style-type: none"> <li>• Protect the repair</li> <li>• Minimal to no edema</li> </ul>   |

## Phase II: PROM progression to AROM (2-6 weeks)

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|---|---|
| <b>Pain and Edema Management</b>          | <ul style="list-style-type: none"> <li>• No soft tissue mobilization or cross friction massage directly on the scar for <b>6 weeks</b></li> <li>• No active elbow extension for <b>6 weeks</b></li> <li>• Vaso and E-stim for pain and edema control</li> </ul>   |
| <b>Post-op Weeks 2-4</b>                  | <ul style="list-style-type: none"> <li>• No shoulder flexion &gt;90 degrees for <b>4 weeks</b></li> <li>• Do not PUSH elbow flexion ROM until <b>6 weeks</b></li> <li>• PROM-AAROM within limits at shoulder and elbow (therapist guided ranging, self-passive ranging with uninvolved extremity)</li> <li>• Gentle soft tissue mobilization, <b>not on the surgical scar</b>, for improved blood flow and reduced edema</li> </ul> |
| <b>Post-op Weeks 4-6</b>                  | <ul style="list-style-type: none"> <li>• Do not PUSH elbow flexion ROM until <b>6 weeks</b></li> <li>• Initiation of shoulder submaximal-isometrics (initiate at 25%-50% effort, pain-free): <b>except shoulder extension</b></li> <li>• Progress shoulder AAROM-AROM (Pulleys, wand, self-passive ranging with uninvolved extremity)</li> </ul>  |
| <b>Criterion to Progress to Phase III</b> | <ul style="list-style-type: none"> <li>• Pain-free, full shoulder AROM with good scapular control</li> <li>• Pain-free, full PROM elbow flexion (do not push ROM)</li> <li>• Minimal to no edema</li> </ul>   |



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## Phase III: Initiation of Elbow AROM and Strength (6-12 weeks)

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| <b>Introduction to AROM</b>              | <ul style="list-style-type: none"> <li>No pain or reactive edema with initiation of active elbow extension</li> <li>Avoid resisted elbow extension and shoulder extensions/rows for <b>12 weeks</b></li> </ul>   |
| <b>Post-op Weeks 6-8</b>                 | <ul style="list-style-type: none"> <li>Continue progressing AROM of shoulder, gaining muscle endurance with high reps, low resistance</li> <li>Initiate active, concentric elbow extension (no resistance)</li> <li>NO eccentric triceps activity (use uninvolved extremity to aid in eccentric phase of triceps activity)</li> <li>Isotonic IR and ER light resistance resisted movement (at neutral)</li> <li>Supine ABC &amp; SA punches with high reps, low resistance</li> <li>Gentle soft tissue mobilization (<b>light scar massage of hypomobile</b>)</li> </ul> |
| <b>Post-op Weeks 8-12</b>                | <ul style="list-style-type: none"> <li>Initiate prone scapular series at <b>week 8</b></li> <li>Initiate light, sub-maximal triceps isometrics (25%-50% effort, pain-free) at <b>week 9</b></li> <li>Gradual progression of biceps strengthening</li> <li>Resisted IR and ER at 30° ABD progressing to 90° abduction</li> <li>Resisted SA punch &amp; bear hugs, standing</li> <li>Rhythmic stabilization for shoulder (supine progressing to various positions)</li> <li>No pressing activity (bench press, overhead press) for <b>12 weeks</b></li> </ul>              |
| <b>Return to Activity After Week 10</b>  | Stationary bike and light jogging  |
| <b>Criterion to Progress to Phase IV</b> | <ul style="list-style-type: none"> <li>Pain-free, full AROM of shoulder and elbow</li> <li>5/5 MMT for shoulder /rotator cuff strength</li> <li>5/5 MMT for scapulothoracic musculature</li> </ul>   |

## Phase IV: Return to Sport/Recreational Activity (weeks 12-16)

- Goal: Return to sport at 5-6 months at earliest

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| <b>Goals</b>  | <ul style="list-style-type: none"> <li>Maintain full, non-painful AROM</li> <li>Progress isotonic strength of the triceps (including eccentrics) and surrounding musculature</li> <li>Introduce light pressing activity (pushups progression, bench press, overhead press)</li> <li>Return to sports progression: throwing/ swimming/lifting</li> <li>Analysis of sports specific movements</li> </ul>   |
| <b>Exercises 12+</b>                                    | <ul style="list-style-type: none"> <li>Progress triceps strengthening (concentric) with light resistance</li> <li>CKC UE weight bearing (start with 25% weight bearing, wide hand position, 0-10 degrees of elbow flexion to limit stress on triceps): wall weight shifts, quadruped rocking at <b>week 12</b></li> <li>Gentle, short duration UBE (2-3 minutes initially, progressing as pain allows)</li> <li>Introduce pushup progression (limiting amount of elbow flexion to 45 degrees initially) at <b>week 14</b></li> <li>Initiate plyometric training below shoulder height with progressing to overhead: begin with both arms and progress to a single arm (<b>16 weeks</b>)</li> <li>PNF/Diagonal pattern strengthening</li> </ul> |
| <b>Criterion to Return to Sport Activity, Weeks 12+</b> | <ul style="list-style-type: none"> <li>5/5 MMT for triceps strength</li> <li>Pain-free, stability &amp; control with higher velocity movements including sports 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>  |



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