Distal Biceps Tendon Repair Rehabilitation Program

This program is an evidence-based and soft tissue healing dependent program allowing patients to progress to vocational and sports-related activities as quickly and safely as possible. Individual variations will occur depending on surgical technique and the patient's response to treatment.
Please contact us at 1-800-362-9567 ext. 58600 if you have questions or concerns.

<table>
<tr><td>Phase I: 0-6 wks</td><td>Immediate post operative maximum protection phase</td></tr>
<tr><td>Goals</td><td>

Protect anatomical repair
Decrease joint effusion and soft tissue edema
Decrease pain
Gentle ROM based on guidelines. Goal of full AROM by wk 8
Increase scar mobility after incision is closed

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<tr><td>Precautions</td><td>No lifting or carrying of objects on injured side</td></tr>
<tr><td>Brace</td><td>

Wk 0-1: Posterior elbow splint at 90 deg.
Wk 1: Patient will be fitted with a Bledsoe Telescoping Brace to be used at all times except for bathing, during home exercises, and PT.

<table>
<tr><td colspan="3">ROM settings</td></tr>
<tr><td></td><td>Extension</td><td>Flexion</td></tr>
<tr><td>Wk 1-2</td><td>60 deg</td><td>100 deg</td></tr>
<tr><td>Wk 2-3</td><td>40 deg</td><td>110 deg</td></tr>
<tr><td>Wk 3-4</td><td>30 deg</td><td>110 deg</td></tr>
<tr><td>Wk 4-5</td><td>20 deg</td><td>110 deg</td></tr>
<tr><td>Wk 5-6</td><td>10 deg</td><td>110 deg</td></tr>
<tr><td>Wk 6+</td><td>0 deg</td><td>110 deg</td></tr>
</table>

Wk 5-6: Can wean out of brace when in a controlled environment, educate patient on continued protection and precautions.
Wk 7: Discontinue brace

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<tr><td>PROM / AAROM</td><td>

<u>Flexion/ Extension:</u> Progress based on patient tolerance, even if greater than brace ROM setting. Emphasis on gradual increase in extension to avoid residual stiffness and/or an elbow flexion contracture.
<u>Supination / Pronation:</u> Progress per tolerance, no aggressive stretching into pronation to prevent excessive traction forces on the repair

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<tr><td>AROM</td><td>

<u>Extension:</u> per tolerance
<u>Flexion:</u> in protected, mid-range of motion based on brace settings
<u>Pronation / supination</u>: add at wk 4.

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<tr><td>Strengthening</td><td>Contra-indicated based on healing</td></tr>
<tr><td>Treatment interventions</td><td>Anticipate 1x/wk visits unless patient is not progressing adequately.
1. Warm-up: Hot pack in protective range. At wk 4 add in low-load-long duration stretch for extension (TERT=Total End Range Time) if needed.
2. Elbow ROM based on above recommendations
3. Manual therapy: soft tissue mobilization, joint mobilization, gentle stretching
4. Scapula, shoulder, wrist AROM. Grip strengthening
5. Postural education
6. Apply ice 3x/day 3/2010</td></tr>
</table>

Phase II: 6-12 wks	Moderate protective phase
Goals	• Protect anatomic repair • Full ROM by wk 8 • Gradual implementation of shoulder, scapular, wrist strengthening • Implement low load biceps strengthening at wk 8.
Brace	• Wk 6: Set for full ROM • Wk 7: Discontinue brace. Provide ace wrap or neoprene sleeve for ADLS (activities of daily living)
ROM	No limitations. Goal is full ROM in all planes by wk 8.
Precautions	No lifting or carrying of heavy objects on injured side
Strengthening	No resisted isotonic bicep-intensive exercises (elbow flexion or forearm supination until wk 8.
Treatment interventions	Anticipate 1-2x/wk unless patient not progressing adequately. 1. Emphasize regaining full ROM if not already achieved. Add active warm-up. Continue with low load long duration stretching (TERT), manual therapy, stretching as needed. 2. Gradual implement therapeautic exercises for elbow strengthening: Wk 6: Elbow flexion, supination, pronation isometrics Elbow extension isotonics: triceps extensions supine, standing Wk 8: Progress elbow flexion, supination, pronation to isotonics with sets of 20 reps with light resistance. 3. Gradually implement upper extremity strengthening exercises. Scapular strengthening: Mosley, AJSM, 1992: Protraction, rows to neutral, press down, scaption prone horizontal abduction with neutral rotation, prone horizontal abduction with ER, prone ext with ER Gleno-humeral strengthening: Townsend, AJSM, 1991: shld flexion, scaption, press down, prone horizontal abduction with ER Rotator cuff strengthening: sidelying ER, isotonic ER/IR Wrist strengthening: isotonic wrist flexion, extension Grip strengthening 4. Apply ice 1x/day
Phase 12 wks +	Strengthening and Return to activity phase
Goals	• Progress muscular strength, power, and endurance • Initiate higher activities depending on functional demands and MD approval
Recommendations	• Full return to activity occurs 3-6 months depending on vocational and recreational activities. • No maximum lifting until 6 months based on MD approval
Strengthening	Progress elbow flexion, supination, pronation isotonics to sets of 10 with higher loads
Treatment interventions	• Emphasize progressing upper extremity strengthening and endurance. • Implement gradual progression for closed chain strengthening.

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Distal Biceps Tendon References

Azur, Repair of acute distal biceps tendon ruptures in operative techniques. Sports Med. Jan 2003.

Bell R, Wiley W, Noble J, Kuczynski D. Repair of distal biceps brachii tendon ruptures. *J Shoulder Elbow Surg.* 2000;9(3):223-226.

Blackmore S, Jander R, Culp R. Management of Distal Biceps and Triceps Ruptures. *J Hand Ther.* 2006;19:154-169.

Cheung E, Lazarus M, Taranta M. Immediate range of motion after distal biceps tendon repair. *J Shoulder Elbow Surg.* 2005;14(5):516-518.

Curl, LA Return to sport following elbow surgery. Clin Sports Med. 23 (353-366), 2004.

Weinstein D, Ciccone W, Buckler M, Balthrop P, Busey T, Elias J. Elbow function after repair of the distal biceps brachii tendon with a two-incision approach. *J Shoulder Elbow Surg.* 2007;17(15):82S-86S.