

Distal Biceps Repair

Clinic Practice Guideline

Background

Distal biceps tendon ruptures occur primarily in males and risk factors include smoking, corticosteroid use, and anabolic steroid use. Tears occur secondary to unexpected extension forces and are typically associated with a "pop". Diagnosis and determination of a plan of care is important early on if surgical treatment is necessary. 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.

Disclaimer

Progression is time and criterion-based, dependent on soft tissue healing, patient demographics and clinician evaluation. If you are working with an Ohio State Sports Medicine patient and questions arise, please contact the author by calling our office at (614) 293-2385.

***For other surgeons, consult with them regarding specific restrictions for post-operative care.**

Summary of Guideline

Dr. Jones and Cvetanovich	Patient to be immobilized in 90 degrees flexion with forearm supinated for 2 weeks post-op. After 2 weeks until 5-6 weeks, patient is allowed to unlock hinged brace three times a day for PROM exercises. PROM can be increased by 20 degrees extension every 4-5 days until full 0 degree extension is gained.
Dr. Bishop	Patient is to perform no PROM until after first post-op visit. No bracing is used subsequently, so only PROM is to be performed until 6 weeks postop Patient can perform ball squeezes for edema control
Outcome Tools	<ul style="list-style-type: none"> • Quick DASH • KJOC
Strength Testing	<ul style="list-style-type: none"> • Hand Held Dynamometry for scapular, rotator cuff musculature no earlier than 12 weeks (>80% compared to contralateral shoulder) • Hand Held Dynamometry for elbow flexors and extensors no earlier than 16 weeks (>80% compared to contralateral shoulder)
Range of Motion	<ul style="list-style-type: none"> • Full, pain-free elbow ROM
Criteria to initiate plyometrics	<ul style="list-style-type: none"> • Time: no earlier than 16 weeks • Pain-free ADL's and strengthening interventions • Strength \geq 4/5 MMT OR \geq 80% of uninvolved shoulder • ROM as noted above • Proper scapular control during interventions
Criteria for return to sport	<ul style="list-style-type: none"> • Clearance from physician • Completion of strengthening and plyometrics



- Successful completion of throwing program
- Time: no earlier than 12 months

RED/YELLOW FLAGS

Red flags are signs/symptoms that require immediate referral for re-evaluation. Yellow flags are signs/symptoms that require modification to plan of care.

Red Flags	<ul style="list-style-type: none"> • Infection • Traumatic event (i.e. fall) • Heterotopic Ossificans
Yellow Flags	<ul style="list-style-type: none"> • Pain following increase in rehab intensity • <i>Decrease intensity of therapy interventions, manage pain, education for patient on activity modification, monitor during next visit</i> • Persistent pinching in the elbow with ROM

Phase 1 – Immediate Post-Op Phase

Goals

- 1) Protect healing tissue
- 2) Decrease pain/inflammation

Weeks 1-4	Brace	<ul style="list-style-type: none"> • Per physician guidelines
	ROM	<ul style="list-style-type: none"> • Per physician guidelines for elbow • PROM for shoulder- avoid extension
	Strength	<ul style="list-style-type: none"> • Maintain scapular retraction/protraction • Shoulder isometrics
	Modalities	<ul style="list-style-type: none"> • Cryotherapy and light compression

Phase 2 – Intermediate Phase

WEEKS
4-6

Brace	<ul style="list-style-type: none"> • Refer to physician guidelines
Interventions	<ul style="list-style-type: none"> • Putty for finger/grip strength • Wrist flexion/extension (in neutral)
Manual Therapy	<ul style="list-style-type: none"> • Initiate scar massage, cupping as appropriate



Phase 3- Strengthening Phase

Weeks 6-8	ROM	<ul style="list-style-type: none"> Discharge brace at 6 weeks Joint mobilizations as needed at end range with distraction Continue to gain elbow extension ROM AAROM progressing to AROM elbow flexion, supination in pain-free range (gravity reduced progressing to against gravity) AAROM- AROM shoulder flexion (unloaded)
	Interventions	<ul style="list-style-type: none"> Initiate UBE forward direction, using vertical handholds Prone scapular stabilizing exercises- retraction, ext, rows, Ts Avoid loading the biceps with a weight during rows Initiate sub-maximal elbow flexion and supination isometrics at 6 weeks Rhythmic stabilization- supine, multiangle Side Ivind or Theraband ER/IR strenthening

Phase 4 – Advanced Strengthening Phase

Weeks 8-12	Interventions	<ul style="list-style-type: none"> AROM elbow flexion, supination Consult surgeon if considering BFR in this phase AROM shoulder flexion If lacking extension range, begin to push stretching into extension Biceps isotonics initiated submaximally at 10-12 weeks Shoulder flexion PRE's initiated Progress scapular stability UE weight shifts on table
	Goals	<ul style="list-style-type: none"> 5/5 shoulder flexion, abduction, ER, IR strength Full ROM of elbow in supination and extension No reactive effusion/exacerbation with biceps PRE's



Phase 5 – Functional Activity Phase

3 months+	Interventions	<ul style="list-style-type: none">• Continue to strengthen biceps and surrounding musculature• Progress both WB and NWB strengthening activities• Integrate functional strengthening• Initiate light plyometrics at 16 weeks
RTS Criteria (5-6 mo)	Goals	<ul style="list-style-type: none">• Clearance from physician• Completion of strengthening and plyometrics• Successful completion of throwing program• < 10% strength deficit of affected side (HHD)

Authors: Greg Hock, PT, DPT; Marcin Szczyglowski, PT, DPT

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References:

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