Accelerated Distal Biceps Repair Clinic Care 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.

*Consult with surgeon regarding specific restrictions and clinical care guideline to follow.

Summary of Guideline

Outcome Tools	• Quick DASH • KJOC
Strength Testing	• 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 **12 weeks** (>80% compared to contralateral shoulder)
Range of Motion	Full, pain-free elbow ROM
Criteria to initiate plyometrics	Time: no earlier than **12 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	• Clearance from physician • Completion of strengthening and plyometrics • Successful completion of throwing program (if needed)

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	- Infection - Traumatic event (i.e. fall) - Heterotopic Ossificans
Yellow Flags	- Pain following increase in rehab intensity *Decrease intensity of therapy interventions, manage pain, education for patient on activity modification, monitor during next visit* - Persistent pinching in the elbow with ROM

Phase 1 – Immediate Post-Op Phase

Goals

1) Protect healing tissue
2) Decrease pain/inflammation

Weeks 1-2	**Brace**	• Per physician guidelines
	ROM	• Per phyisican guidelines for elbow • PROM for shoulder; No extension
	Strength	• Scapular retraction/protraction • Shoulder isometrics (ER/IR/ABD)
	Modalities	• Cryotherapy and light compression

Phase 2 – Initial PT/OT Phase

Goals

1) Protect healing tissue
2) Decrease pain/inflammation

Weeks 3-4	**Brace**	• Per physician guidelines
	ROM	• Progress per physician guidelines.
	Interventions	• Continue Phase 1 interventions • **4 Weeks:** Initiate sub-maximal elbow flexion and supination isometrics in brace • Rhythmic stabilization- supine, multiangle
	Modalities	• Cryotherapy and light compression

Phase 3 – Intermediate Phase

WEEKS 5-6	**Brace**	• Refer to physician guidelines
	Interventions	• Continue Phase 2 • Side lying or Theraband ER/IR strengthening
	Manual Therapy	• Initiate scar massage, cupping as appropriate

Phase 4- Strengthening Phase

Weeks 6-8	**ROM**	• **6 weeks:** Discharge brace • 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	• Initiate UBE forward direction, using vertical handholds • Prone scapular stabilizing exercises- retraction, ext, rows, Ts ○ Avoid loading the biceps with a weight during rows • Triceps and posterior deltoid strengthening

Phase 5 – Advanced Strengthening Phase

Weeks 8-12

Interventions	• AROM elbow flexion, supination • **Consult surgeon if considering BFR in this phase** AROM shoulder flexion • **Week 8:** PROM extension if still lacking • **Week 8:** Biceps isotonics initiated submaximally at shoulder flexion PRE's initiated • Progress scapular stability • UE weight shifts on table
Goals	• 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 6 – Functional Activity Phase

3+ Months	Continue to strengthen biceps and surrounding musculature Progress both WB and NWB strengthening activities Integrate functional strengthening Initiate light plyometrics no earlier than **12 weeks**
RTS Criteria	Clearance from physician Completion of strengthening and plyometrics Successful completion of throwing program < 10% strength deficit of affected side (HHD)

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