

Distal Biceps Repair

Physical Therapy Protocol · Hinged-Brace Extension-Block Progression

Based on the Ohio State University Wexner Medical Center clinical practice guideline for distal biceps repair and the Brigham and Women's Hospital accelerated distal biceps protocol. Modern fixation permits earlier protected motion; surgeon preference dictates brace settings and progression speed, so confirm the referring surgeon's limits before advancing.



AT A GLANCE

TIMELINE	6 months; brace weaned by week 6, resisted biceps loading from weeks 6–8
IMMOBILIZATION	Posterior splint at 90° flexion (forearm neutral/supinated) 1–2 weeks, then hinged elbow brace with progressive extension block
KEY MILESTONES	Full extension in brace by weeks 3–6 · full AROM by weeks 6–8 · light weight training weeks 12–14
RETURN TO ACTIVITY	Activity as tolerated ~3 months; unrestricted lifting and full activity ~6 months

KEY PRECAUTIONS

- No resisted elbow flexion or forearm supination for 6–8 weeks; biceps loading before repair maturation risks re-rupture.
- Respect the hinged-brace extension block — advance extension gradually (~20° every 4–5 days, or 30°-to-full by week 3 on an accelerated track) per surgeon.
- No lifting with the surgical arm beyond ADL-level loads until progressive resistance is initiated at 6–8 weeks; no heavy or ballistic lifting until cleared (~6 months).
- Avoid loading the biceps during pulling/rowing exercises in the early phases.

PHASED REHABILITATION

PHASE 1 — PROTECTION & EARLY MOTION		Weeks 0–2
GOALS	• Protect the repair • Control pain and edema • Maintain shoulder, wrist, and hand function	
INTERVENTIONS	• Posterior splint with elbow at 90° flexion, forearm neutral-to-supinated, for 5–7 days up to 2 weeks • Transition to hinged elbow brace; unlock 3 times daily for PROM per surgeon • PROM elbow flexion and supination; gentle assisted extension/pronation within the block • AROM wrist and hand; gripping exercises; edema management and cryotherapy • Shoulder PROM/AROM (flexion, abduction) and scapular stabilizers; submaximal triceps and shoulder isometrics	
CRITERIA TO ADVANCE	• Minimal-to-no edema • Incision healed/healing without drainage • Brace fitted and patient independent with precautions	

PHASE 2 — PROGRESSIVE ROM (EXTENSION-BLOCK ADVANCEMENT)		Weeks 2–6
GOALS	• Restore elbow extension gradually to 0° • Achieve at least 75% elbow PROM by weeks 4–6 • Initiate protected biceps activation	
INTERVENTIONS	• Advance brace extension block ~20° every 4–5 days (accelerated protocols: 30° to full flexion at week 1, full extension by week 3) • PROM to AAROM elbow flexion and supination; passive extension and pronation • AROM elbow flexion/extension within brace from ~week 4 • Submaximal pain-free biceps isometrics with forearm neutral (accelerated track, from ~week 2) • Progress shoulder AAROM in all planes; continue scapular stabilization • Avoid biceps loading with rowing or carrying	
CRITERIA TO ADVANCE	• Full extension in brace by weeks 3–6 • At least 75% elbow PROM • No repair-site pain with isometrics	

PHASE 3 — RESTORATION OF ACTIVE MOTION		Weeks 6–8
GOALS	- Discontinue brace - Full AROM elbow and forearm - Tolerate dependent-arm positioning	
INTERVENTIONS	- Discontinue brace at 6 weeks with adequate motor control - AROM elbow flexion/extension and pronation/supination to full; combined motions (extension with pronation) - Initiate light progressive resisted exercise for all elbow motions per surgeon (weeks 6–8) - UBE (forward), rhythmic stabilization, triceps and posterior deltoid strengthening	
CRITERIA TO ADVANCE	- Full pain-free AROM - No reactive effusion - Comfortable dependent-arm ADL use	

PHASE 4 — PROGRESSIVE STRENGTHENING		Weeks 8–14
GOALS	- Restore biceps and shoulder girdle strength - Return to light weight training	
INTERVENTIONS	- Submaximal biceps PREs (curls, supination with light resistance), progressing gradually - Shoulder flexion/abduction/ER/IR resistance exercises to 5/5 strength - Grip and forearm strengthening - Light upper-extremity weight training permitted weeks 12–14	
CRITERIA TO ADVANCE	5/5 shoulder strength - Full elbow ROM without effusion after biceps exercise - Pain-free light weight training	

PHASE 5 — RETURN TO ACTIVITY		Weeks 14–24
GOALS	- Restore full biceps strength and endurance - Unrestricted lifting and return to sport/manual work	
INTERVENTIONS	- Progressive biceps loading in weight-bearing and non-weight-bearing positions - Light plyometrics (chest pass to rebounder) progressing to ballistic activity - Advance curls, supination, and carrying loads toward unrestricted lifting - Work- or sport-specific conditioning; activity as tolerated from ~3 months	
CRITERIA TO ADVANCE	5/5 biceps strength testing - No effusion with unrestricted ADLs - Functional testing within 15% of the uninvolved extremity - Full unrestricted activity ~6 months with surgeon clearance	

GUIDING PRINCIPLES

This protocol follows criterion-based progression over rigid time-based advancement; phased rehabilitation balancing tissue healing with controlled stress application; objective milestones (ROM, strength LSI, functional testing) to guide phase transitions; individualization based on surgical findings, tissue quality, and patient factors; and ongoing surgeon–therapist communication throughout recovery.

REFERENCES

1. Ohio State University Wexner Medical Center Sports Medicine. Distal Biceps Repair Clinical Practice Guideline. <https://wexnermedical.osu.edu/-/media/files/wexnermedical/patient-care/healthcare-services/sports-medicine/education/medical-professionals/shoulder-and-elbow/distalbicepsrepair.pdf>
2. Brigham and Women's Hospital Rehabilitation Services. Distal Biceps Tendon Repair Protocol — Accelerated. <https://www.brighamandwomens.org/assets/BWH/patients-and-families/rehabilitation-services/pdfs/elbow-accelerated-distal-biceps-repair-protocol-bwh.pdf>

For clinical use by licensed physical therapists treating patients of Robert Pettit, MD. This document is a rehabilitation guideline, not a substitute for clinical judgment. Progression must be individualized based on intraoperative findings, tissue quality, and patient response. Scan the QR code for the current version of this protocol.