

Olecranon Fracture ORIF

Physical Therapy Protocol · Early Protected AROM (Tension Band or Plate Fixation)

Based on the Twin Cities Shoulder & Elbow (Twin Cities Orthopedics, Dr. Myeroff) olecranon fracture ORIF protocol and the Brigham and Women's Hospital elbow fracture ORIF hand therapy protocol. The central tension: the triceps pulls directly through the fixation, so resisted extension is protected, while the elbow's strong propensity for stiffness demands early protected AROM. Goal is maximal ROM by 3 months without fracture displacement.



AT A GLANCE

TIMELINE	12–16+ weeks; formal therapy typically completed by weeks 8–12, ROM maximized by 3 months
IMMOBILIZATION	Posterior orthosis/splint at ~90° for days 2–3, then sling for comfort only; orthosis weaned at 4 weeks and discontinued by week 6
KEY MILESTONES	Elbow/forearm AROM initiated within the first 1–2 weeks · progressive resistance from weeks 6–8 · maximal ROM by 3 months
RETURN TO ACTIVITY	Lifting limited to a coffee cup until week 6, 5 lb by weeks 6–12; sport and work conditioning from week 12 as tolerated

KEY PRECAUTIONS

- No resisted elbow extension for 6–8 weeks — the triceps inserts on the fixed fragment and resisted extension loads the fixation directly.
- Lifting limits: nothing heavier than a coffee cup for the first 6 weeks; maximum 5 lb at the side (coffee cup overhead) weeks 6–12.
- Early motion is protective, not optional: delayed mobilization is the primary driver of elbow flexion contracture; ensure the shoulder is stabilized so motion occurs at the elbow.
- Posterior hardware prominence is common — avoid direct pressure/leaning on the point of the elbow; persistent symptomatic hardware may be removed after fracture union (surgeon decision).

PHASED REHABILITATION

PHASE 1 — EARLY PROTECTED MOTION		Weeks 0–2
GOALS	• Protect fixation • Initiate early elbow and forearm AROM to prevent stiffness • Edema and pain control	
INTERVENTIONS	• Custom posterior elbow orthosis at 90° flexion fabricated by day 2–3; sling as needed for comfort • Initiate elbow/forearm AROM in flexion/extension and pronation/supination — stabilize the shoulder so motion occurs through the elbow • Gravity-assisted elbow extension; no active extension against resistance • Finger, wrist, and forearm exercises 3 times daily; gripping • Edema management: compression (tubigrip sleeve/glove), cryotherapy, elevation above the heart • Isometric rhomboid/periscapular exercises	
CRITERIA TO ADVANCE	• Home program performed correctly and independently • Edema controlled • No lifting heavier than a coffee cup	

PHASE 2 — ROM RESTORATION		Weeks 2–6
GOALS	• Progressive AROM/AAROM toward full • Wound and scar maturation • Maintain shoulder, wrist, and hand function	
INTERVENTIONS	• Progress elbow AROM/AAROM in all planes; gentle gravity-assisted extension stretches • Scar mobilization after suture removal; scar pad if indicated • Orthosis weaned at 4 weeks (worn in crowds and at night); discontinued by week 6 • Shoulder AROM as needed; continue periscapular work • Non-weight bearing through the surgical arm; no resisted elbow extension	
CRITERIA TO ADVANCE	• Functional flexion arc improving weekly • Wound healed with mobile scar • Radiographic evidence of interval healing (surgeon review)	

PHASE 3 — STRENGTHENING		Weeks 6–12
GOALS	• Full or maximal elbow ROM by 3 months • Initiate progressive resistance • Normalize functional use	
INTERVENTIONS	• Discontinue sling and orthosis entirely • More aggressive AROM/AAROM elbow progression; low-load prolonged stretch or static progressive splinting if plateaued • Begin progressive resistive exercises to the elbow at weeks 6–8, pending radiographic healing — including graded triceps loading • Lifting limit: 5 lb at the side, coffee cup overhead, through week 12 • Grip/forearm strengthening; weight bearing progresses from week 6	
CRITERIA TO ADVANCE	• ROM approaching maximal (goal by 3 months) • Pain-free light resistance including elbow extension • Radiographic union progressing	

PHASE 4 — RETURN TO ACTIVITY		Weeks 12–16+
GOALS	• Return to work, sport, and unrestricted lifting • Resolve residual stiffness and hardware symptoms	
INTERVENTIONS	• Advance to activities as tolerated: independent gym program, work conditioning, sport-specific training • Progressive pressing and weight-bearing exercise through the arm • Address residual terminal-extension deficit with continued stretching program • Educate on posterior hardware symptoms with leaning/direct pressure; refer back to surgeon if persistent after union	
CRITERIA TO ADVANCE	• Union confirmed by surgeon • Strength adequate for job/sport demands • Discuss hardware removal with surgeon if posterior hardware remains symptomatic after union	

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. Myeroff C. Olecranon Fracture — ORIF Rehabilitation Protocol. Twin Cities Shoulder & Elbow / Twin Cities Orthopedics. <https://www.twincitiesshoulderandelbow.com/dr-myeroff-sheets/dr-myeroffs-olecranon-fracture-orif.pdf>
2. Brigham and Women's Hospital Rehabilitation Services. Elbow Fracture ORIF Hand Therapy Protocol. <https://www.brighamandwomens.org/assets/BWH/patients-and-families/rehabilitation-services/pdfs/elbow-fracture-orif-hand-therapy-protocol.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.