Proximal Humerus ORIF

Physical Therapy Protocol · Fracture-Healing Timeline

Based on the Massachusetts General Hospital sports physical therapy protocol for proximal humeral fracture treated with open reduction internal fixation, with progression paced to fracture healing per Cochrane evidence. Early protected PROM is initiated per surgeon based on fixation stability and fracture pattern; all ROM limits and lifting restrictions should be confirmed against the operative note.

AT A GLANCE

TIMELINE	16+ weeks; progression paced by radiographic fracture healing and fixation stability
IMMOBILIZATION	Sling minimum 3 weeks (removed 4×/day for exercises and ADLs); weaned by ~week 4 when criteria met
KEY MILESTONES	Early protected PROM weeks 1-4 per surgeon · full PROM and start of AROM by week 6 · isometrics weeks 4-8 · isotonic strengthening from week 8
RETURN TO ACTIVITY	Sport-specific training from week 12+ once full AROM, ~80% strength symmetry, and healing confirmed

KEY PRECAUTIONS

- Phase 1 PROM limits (typical: flexion ≤140°, ER 0°-40°, abduction ≤90°) depend on fixation stability and fracture pattern - confirm with the surgeon before advancing.
- Lifting: nothing >1 lb in weeks 0-4, ≤2 lb before week 6, ≤10 lb until week 12; no isotonic shoulder strengthening before week 6.
- No driving until weaned from sling and off narcotic medication.
- Escalate to the surgeon for persistent pain, crepitus, or loss of motion that may indicate screw penetration, loss of fixation, or avascular necrosis.

PHASED REHABILITATION

PHASE 1 — IMMEDIATE POST-OP: PROTECTED PROM	Weeks 1–4
GOALS	• Protect surgical fixation while beginning early protected motion • Pain and edema control • Maintain distal function and scapular activation
INTERVENTIONS	• Sling at all times except exercises and hygiene (minimum 3 weeks) • PROM within surgeon-directed limits: flexion to 140°, ER 0°-40°, abduction to 90° • Pendulum exercises • Elbow, wrist, and hand AROM; ball squeezes • Scapular retraction/depression (shoulder blade squeezes) in sling • Cryotherapy for pain and edema control
CRITERIA TO ADVANCE	• Shoulder PROM targets met within prescribed limits • Full elbow AROM • Adequate pain control (<4/10) with home program

PHASE 2 — INTERMEDIATE: AAROM TO AROM	Weeks 4–8
GOALS	• Achieve full shoulder PROM • Initiate AROM (from week 6) with sound scapulohumeral mechanics • Begin submaximal isometric strengthening
INTERVENTIONS	• Wean from sling at ~week 4 when criteria met • Progress to full shoulder PROM in all planes • AAROM: table/rail slides, rope-and-pulley, supine flexion with dowel • AROM from week 6: supine progressing to upright flexion and scaption • Side-lying ER; submaximal shoulder isometrics in all planes • Lifting limit 2 lb before week 6; no isotonic shoulder work before week 6
CRITERIA TO ADVANCE	• Full shoulder PROM • Tolerates isometrics without pain flare • AROM progressing without hiking/substitution patterns

PHASE 3 — LATE POST-OP: INITIAL STRENGTHENING	Weeks 8–12
GOALS	• Full AROM with appropriate mechanics • Initiate progressive rotator cuff and periscapular strengthening
INTERVENTIONS	• Dowel/wand end-range stretching (non-painful) for residual deficits • Resisted ER/IR with bands; rows; PNF diagonal patterns with light resistance • Periscapular strengthening: prone scapular retraction, serratus work • Lifting limit 10 lb; avoid painful stretching or loading
CRITERIA TO ADVANCE	• Full shoulder AROM with proper mechanics • Pain-free progressive strengthening • Radiographic evidence of interval healing per surgeon

Guideline only — individualize per intraoperative findings and patient response. Questions: contact Dr. Pettit's office.

PHASE 4 — ADVANCED STRENGTHENING & RETURN TO ACTIVITY	Weeks 12+
GOALS	• Restore strength and endurance toward symmetry • Return to work, recreation, and sport-specific demands
INTERVENTIONS	• Progressive resistance training as tolerated (machines to free weights) • Rhythmic stabilization and perturbation drills • Push-up progression (wall to incline to floor) as tolerated • Plyometric and sport-specific training when appropriate
CRITERIA TO ADVANCE	• Strength ≥80% of the uninvolved arm on dynamometry • Low or no disability on patient-reported outcome measure • Surgeon confirmation of fracture healing before unrestricted activity

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. Massachusetts General Hospital Sports Physical Therapy. Rehabilitation Protocol for Proximal Humeral Fracture with ORIF. https://www.massgeneral.org/assets/MGH/pdf/orthopaedics/sports-medicine/physical-therapy/rehabilitation-protocol-for-proximal-humeral-fracture-with-ORIF.pdf

2. Handoll HH, Elliott J, Thillemann TM, Aluko P, Brorson S. Interventions for Treating Proximal Humeral Fractures in Adults. Cochrane Database Syst Rev. 2022;6:CD000434.

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.