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POST-OPERATIVE REHABILITATION PROTOCOL

# Humeral Shaft ORIF

- Humerus fractures generally take 6–8 weeks to heal. Severity of humerus fractures can vary and affect time to healing and stability of the repair. The rehab protocol below relates to fractures that have a strong and stable surgical repair. Less stable fractures may require more protection and a less aggressive protocol.
- The intent of this protocol is to provide the clinician with a guideline for the postoperative rehabilitation course of a patient that has undergone a surgical repair of a humerus fracture. This protocol is no means intended to be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam/findings, individual progress, and/or the presence of post-operative complications. If a clinician requires assistance in the progression of a post-operative patient they should consult with the referring surgeon

## Phase 1 (1–3 Weeks)

- Appointments
- Begin physical therapy at 1 week post op, 2 x/week Follow up with MD 10–14 days post op

### REHABILITATION GOALS

- Protect repair; minimize pain and swelling; maintain ROM of surrounding joints; prevent adhesive capsulitis
- Minimize cardiovascular deconditioning

### PRECAUTIONS

- Sling at all times or per MD; no AROM, lifting, pushing, pulling x 6 weeks
- No ER > 40° or excessive shoulder EXT x 6 weeks
- No supporting of body weight Suggested Therapeutic Exercises PROM of shoulder:
- Flexion to 90°, ER to 30°, IR to tolerance (no behind back) Scapular clocks: Elevation, depression, retraction, protraction
- Pendulums (Codman's); incision mobilization; cervical, hand, wrist, elbow
- **AROM:** thumb to shoulder, make fist Cardiovascular Exercises; stationary bike in sling

### PROGRESSION CRITERIA

- Per X-ray evidence of healing; PROM flexion to 90°, ER to 30°

**GOALS** Protect fracture

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## Phase II (WEEKS 3–6)

- Rehabilitation Goals Regain PROM; gentle functional use; no resistance precautions; sling and ROM limitations per MD
- No IR/ER; no driving; no pushing, pulling, lifting; no cuff strengthening

### SUGGESTED THERAPEUTIC EXERCISES

- PROM in scapular plane (no hand behind back IR)
- **AAROM:** - flexion to 90° - ER to 40°, Pulleys; AROM of elbow, wrist and hand; continue scapular isometrics and clocks
- Grade I-II GH and scapular mobilizations; cardiovascular exercises; cardiovascular conditioning in sling per MD
- UBE no resistance Stationary bike; ROM limits

### PROGRESSION CRITERIA

- Per X-ray evidence of healing; AAROM flexion to 90°, ER to 40°

**GOALS** Progress motion

## Phase III (WEEKS 6–12)

### REHABILITATION GOALS

- Regain full PROM Precautions; sling use per MD based on x-ray evidence of healing (DC if progressing)
- May begin driving; 20 lb weight limit; no pushing or pulling; no overhead activity

### SUGGESTED THERAPEUTIC EXERCISES

- Continue PROM/AAROM/AROM cervical, shoulder, elbow, wrist and hand
- Pec minor stretching to minimize scapular protraction with flexion; submaximal isometric RTC exercises at 6 weeks
- Progressive isotonic RTC exercises at 8 weeks, low weights, high reps
- Grade III-IV GH and scapular mobilizations at 8 weeks; posterior scapular stretching at 8 weeks if needed
- General UE strengthening at 10 weeks; cardiovascular exercises; UBE with light resistance; stationary bike
- Swimming per MD

### PROGRESSION CRITERIA

- Advance to work/sport specific conditioning once; AROM is = bilateral and strength is 4+/5 in all directions

**GOALS** Full motion

## Phase IV (WEEKS 12 +)

### REHABILITATION GOALS

- Full ROM in all planes; transition to HEP precautions
- Per MD but generally no lifting, pushing or pulling precautions at this point
- No overhead lifting until 4–6 months post op

**SUGGESTED THERAPEUTIC EXERCISES**

- AROM of cervical shoulder, elbow, wrist and hand emphasizing end ROM; GH and scapular joint mobilizations as needed
- Pec minor stretching; posterior capsule stretching; anterior deltoid strength and scapular stabilization
- General UE strengthening Cardiovascular Exercises; no restrictions progression criteria; DC to HEP

**GOALS** Return to activity

## Return to Sport & Discharge Criteria

- Healing confirmed by Dr. Kelly; full functional ROM
- Strength ≥90% of opposite side; graduated return to impact after clearance

*Time frames are guidelines — progress when phase goals are met, per Dr. Kelly and the treating therapist.*