

Post-Operative Rehabilitation Guidelines for Proximal Humeral Fracture ORIF

These guidelines aim to assist clinicians in managing the recovery process following Proximal Humeral Fracture Open Reduction Internal Fixation (ORIF) surgery. The protocol is structured around both time (dependent on tissue healing) and specific criteria. Treatment should be tailored to meet the individual needs of each patient, taking into account examination findings and clinical judgment. Expected outcomes may vary based on the surgeon's preferences, additional procedures performed, and any complications. Clinicians should consult with the referring surgeon if there are any uncertainties about patient progression.

The interventions outlined in this protocol are not exhaustive. Therapeutic strategies should be adapted based on the patient's progress and the clinician's discretion.

Considerations for Post-Operative Proximal Humeral Fracture ORIF Rehabilitation

Several factors influence rehabilitation outcomes after proximal humeral fracture ORIF, including preoperative bone health, blood supply, shoulder range of motion (ROM), strength, and function. Additional considerations include patient age and comorbidities such as increased BMI, smoking, and diabetes. Close collaboration with the referring physician is recommended to tailor ROM or loading guidelines for each case.

Post-Operative Complications

If you experience any of the following symptoms; fever, unresolving numbness/tingling, excessive drainage from the incision, uncontrolled pain, or any other symptoms please contact your referring physician.

PHASE I: IMMEDIATE POST-OP: Initial ROM (WEEKS 1-4 AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> • Minimize pain and inflammatory response • Protect fracture and optimize bony healing • Restore shoulder passive range of motion (PROM) • Maintain elbow, wrist and hand function
Sling	<ul style="list-style-type: none"> • Wear sling for at least 3 weeks. Sling should be taken off at least four times per day to perform exercises and daily activities such as eating, dressing, and bathing
Precautions	<ul style="list-style-type: none"> • No abduction past 90 degrees • Shoulder ER 0-40 degrees • No lifting greater than 1lb • No driving until adequate ROM, sling is discharged, and no narcotic pain medication is being used • No motions into painful ranges
Interventions	<p><i>Pain/Swelling management</i></p> <ul style="list-style-type: none"> • Cryotherapy and Modalities as indicated <p><i>Range of motion/Mobility</i></p> <ul style="list-style-type: none"> • Shoulder PROM • Shoulder Pendulums • Elbow, wrist and hand AROM <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Ball squeezes • Scapular retraction and mobility exercises

PHASE I: IMMEDIATE POST-OP: Initial ROM
 (WEEKS 1-4 AFTER SURGERY CONTINUED)

Criteria to Progress	<ul style="list-style-type: none"> • Wean from sling at 4 weeks • Adequate pain control • Full elbow AROM • Shoulder PROM flexion to 140 degrees, ER to 40 degrees, abduction to 90 degrees
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PHASE II: INTERMEDIATE POST-OP: AAROM and AROM
 (WEEKS 4-8 AFTER SURGERY)

Rehabilitation Goals	<ul style="list-style-type: none"> • Full shoulder PROM • Initiate shoulder active assisted range and active range of motion (AAROM/AROM) • Start active range of motion at 6weeks • Initiate gentle elbow isotonic strengthening • Initiate shoulder isometrics • Minimize compensatory motions of involved upper extremity • Encourage return to normal ADL's within lifting precautions
Precautions	<ul style="list-style-type: none"> • No lifting greater than 2lbs before 6 weeks • Start shoulder AROM at 6 weeks post-op • No forceful end range over pressure to involved shoulder • No isotonic strengthening of the shoulder
Additional Intervention *Continue with Phase I interventions	<p><i>Range of motion/Mobility</i></p> <p>AAROM</p> <ul style="list-style-type: none"> • Lawn chair progression • Table slides, rail slides, wall slides • Pulleys <p>AROM</p> <ul style="list-style-type: none"> • Supine shoulder AROM flexion • Side-lying shoulder ER with towel roll under arm • Side-lying shoulder abduction to 90o • Side-lying shoulder flexion • Low punch <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Shoulder isometric flexion, Shoulder isometric extension, Shoulder isometric IR, Shoulder isometric ER • Biceps curls • Triceps extension • Prone Rows
Criteria to Progress	<ul style="list-style-type: none"> • Full Shoulder PROM • Full elbow AROM • Adequate pain control • Good tolerance to shoulder isometrics and elbow strengthening

PHASE III: LATE POST-OP: Initial Strengthening
(WEEKS 8-12 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Full shoulder AROM • Initiate shoulder strengthening • Progress elbow and wrist strengthening • Adequate pain control
<p>Precautions</p>	<ul style="list-style-type: none"> • No lifting greater than 10lbs • No painful or forceful stretching • No excessive weight bearing on involved extremity
<p>Additional Intervention *Continue with Phase I-II interventions</p>	<p><i>Range of motion/Mobility</i></p> <p>AAROM</p> <ul style="list-style-type: none"> • Standing shoulder flexion with dowel • Standing shoulder abduction with dowel <p>AROM</p> <ul style="list-style-type: none"> • Standing shoulder elevation • Standing shoulder PNF diagonals • Prone I, Prone Y, Prone T <p><i>Stretching</i></p> <ul style="list-style-type: none"> • Doorway Stretch • Pec/biceps stretch • Cross body stretch <p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Rows • Straight arm pull-down • Resisted shoulder ER, Resisted shoulder IR: neutral shoulder position • Low punch with resistance • Supine shoulder protraction
<p>Criteria to Progress</p>	<ul style="list-style-type: none"> • Full shoulder AROM with appropriate mechanics • No pain or compensatory strategies with strengthening exercises

PHASE IV: Advanced Strengthening
(WEEKS 12 AFTER SURGERY)

<p>Rehabilitation Goals</p>	<ul style="list-style-type: none"> • Progress shoulder strength with heavier resistance and compound movements • Return to normal functional activities • Continue to improve shoulder ROM if needed
<p>Additional Intervention *Continue with Phase II-III interventions</p>	<p><i>Strengthening</i></p> <ul style="list-style-type: none"> • Rhythmic stabilizations • Push up progression: Wall, counter top, knees, high plank • High plank stability progression • Scaption raises • Resisted shoulder diagonals • Resisted shoulder ER @ 90 deg, Resisted shoulder IR @ 90 deg • Quadruped stability progression • Shoulder plyometrics • Interval return to sports training if appropriate

PHASE IV: Advanced Strengthening

(WEEKS 12 AFTER SURGERY) CONTINUED

Criteria to Progress

- 80% or > strength of involved upper extremity compared to uninvolved arm with dynamometry testing
- No pain with progressive strengthening exercises
- Low level to no disability score on patient reported outcome measure (e.g. Quick DASH)

For further assistance or to schedule an appointment, please contact **iOrtho - The Orthopedic Institute** at **833-464-6784** or visit our website at **iorthomd.com** to text/email us. Our team is dedicated to providing personalized care and guidance throughout your rehabilitation journey.