

Rehabilitation Protocol Proximal Humerus Fracture

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PHASE I (WEEKS 1 – 4) IMMEDIATE SURGERY/INJURY

Immobilization

- **1-4 WEEKS:** Sling should be worn continuously and should only be taken off for exercises and showering.
- **4 WEEKS:** Discontinue sling. The use of the sling may be extended for up to 6 weeks in some situations such as revisions.

Goals

- Minimize pain and inflammatory response
- Protect fracture and optimize bony healing
- Maintain elbow, wrist and hand function
- Restore passive range of motion (PROM)
- Shoulder ER 0-40 degrees
- No abduction past 90 degrees

Precautions

- No submersion of incision x 2 weeks. May shower and get incision wet on post op day #3.
- No supporting body weight with involved shoulder until 6-8 weeks post op.
- Can use 1-2lbs in hand with elbow at side.
- No driving until adequate ROM, sling is discharged, and no narcotic pain medication is being used
- No pain after stretches

Therapeutic Exercise

- **Range of Motion:** PROM (ER/IR) Table slides, passive assisted external rotation. Elbow and wrist flexion/extension
- **Strengthening:** ball squeezes, scapular retraction, and mobility exercises

Cardiovascular Fitness

- Stationary Bike
- Walking

Progression to Phase II

- Patient tolerates shoulder PROM and ROM program for elbow, wrist, hand.
- Shoulder PROM flexion to 140 degrees, ER to 40 degrees, abduction to 90 degrees

- Patient demonstrates the ability to isometrically activate all components of the deltoid and periscapular musculature in the scapular plane

PHASE II (WEEKS 4 – 8) EARLY STRENGTHENING, AAROM AND AROM

Goals

- Full shoulder PROM at 4 weeks from surgery/injury
- Initiate shoulder active assisted range and active range of motion (AAROM/AROM)
- Start active range of motion at 6 weeks
- Initiate gentle elbow isotonic strengthening
- Initiate shoulder isometrics
- Minimize compensatory motion of involve upper extremity
- Encourage return to normal ADL's within lifting precautions

Precautions

- No lifting greater than 2lbs before 4 weeks
- Start shoulder AROM at 4 weeks post-op
- No forceful end range over pressure to involved shoulder
- No isotonic strengthening of the shoulder

Therapeutic Exercise

- **AAROM:** lawn chair progression, table slides, rail slides, wall slides, pulleys
- **AROM:** supine shoulder AROM flexion, side-lying shoulder ER with towel roll under arm, side-lying shoulder abduction to 90 degrees, side-lying shoulder flexion, low punch
- **Strengthening:** shoulder isometric flexion, shoulder isometric extension, shoulder isometric IR, shoulder isometric ER, biceps curls, triceps extension, prone rows

Cardiovascular Fitness

- Stationary Bike
- Walking

Progression to Phase III

- Full Shoulder PROM
- Full elbow AROM
- Adequate pain control
- Good tolerance to shoulder isometrics and elbow strengthening

PHASE III (WEEKS 8 – 12) INITIAL STRENGTHENING

Goal

- Full shoulder AROM
- Initiate shoulder strengthening
- Progress elbow and wrist strengthening
- Adequate pain control

Precautions

- No lifting objects heavier than 10-15lbs waist to shoulder level.
- No painful or forceful stretching
- No excessive weight bearing on involved extremity

Therapeutic Exercise

- **AAROM:** standing shoulder flexion with dowel, standing shoulder abduction with dowel
- **AROM:** standing shoulder elevation, standing shoulder PNF diagonals, prone I, prone Y, prone T
- **Stretching:** doorway stretch, pec/biceps stretch, cross body stretch
- **Strengthening:** rows, straight arm pull-down, resisted shoulder ER, resisted shoulder IR (neutral shoulder position), low punch with resistance, supine shoulder protraction

Cardiovascular Fitness

- PT/Patient discretion

Progression to Phase IV

- Full shoulder AROM and appropriate mechanics
- No pain or compensatory strategies with strengthening exercises

PHASE IV (12 MONTHS AFTER SURGERY/INJURY) ADVANCED STRENGTHENING

Goals

- Progress shoulder strength with heavier resistance and compound movements
- Return to normal functional activities
- Continue to improve shoulder ROM if needed

Therapeutic Exercise

- **Strengthening:** Rhythmic stabilizations, Push up progression (wall, counter top, knees, high plank), high plank stability progression, scaption raises, resisted shoulder diagonals, resisted shoulder ER at 90 degrees, resisted shoulder diagonals, resisted shoulder ER at 90 degrees, resisted shoulder IR at 90 degrees, quadruped stability progression, shoulder plyometrics, interval return to sports training if appropriate

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 outcomes measure (e.g. Quick DASH)

For further questions

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