DR. KAISEN YAO, MD

ORTHOPEDIC SPORTS MEDICINE SURGEON

Post-Operative Physical Therapy Protocol

Humerus Fracture Fixation

Northwell Health • Department of Orthopedic Surgery & Sports Medicine • Dr. Kaisen Yao, MD

Patient Name	Date of Surgery	Prescribing Surgeon
		Dr. Kaisen Yao, MD

General Guidelines & Precautions

- Non-weight bearing through the operative arm for the first 6 weeks — the arm may be used for light daily activity, but should lift nothing heavier than a cup of coffee.
- Passive elbow range of motion and Codman pendulum exercises for the shoulder begin at 2 weeks; there is no active shoulder elevation before 6 weeks.
- Beginning at 6 weeks, weight bearing through the arm is advanced progressively as healing allows and as directed by Dr. Yao.
- Keep the fingers, wrist, and hand moving from the first week, and prioritize swelling control with ice and elevation.
- Contact the surgeon for fever, excessive drainage, increasing redness, uncontrolled pain, or new numbness, tingling, or weakness in the arm or hand.

PHASE I

Protected Immobilization

TIMEFRAME

WEEKS 0–2

Goals:
Protect the fixation, control pain and swelling, and maintain motion at the fingers, hand, and wrist.

Precautions:
Non-weight bearing through the operative arm; sling or immobilizer as directed; no shoulder or elbow range of motion; no lifting, pushing, or pulling. Monitor for new numbness, tingling, or difficulty extending the wrist or fingers.

Interventions:
Cryotherapy and elevation, active range of motion of the fingers and wrist with gentle grip, and cervical and scapular mobility as tolerated.

Criteria to Progress:
Incision healing without drainage and pain controlled with oral medication.

PHASE II

Early Protected Motion

TIMEFRAME

WEEKS 2–6

Goals:
Restore elbow and forearm motion and introduce gentle shoulder motion while the fracture consolidates.

Precautions:
The arm remains non-weight bearing — light daily activity only, nothing heavier than a cup of coffee. No active shoulder elevation, no resisted shoulder or elbow strengthening, and no rotational or torsional loading through the humerus.

Interventions:
Passive elbow flexion and extension with gentle forearm pronation and supination; Codman pendulum exercises for the shoulder; continued digital, wrist, and scapular motion; edema control; sling weaning for comfort as directed by Dr. Yao.

Criteria to Progress:
Comfortable passive elbow motion, minimal pain at the fracture site, and radiographic evidence of early healing at the 6-week visit.

PHASE III

Progressive Weight Bearing

TIMEFRAME

WEEKS 6–12

Goals:
Advance weight bearing through the arm, restore active shoulder and elbow range of motion, and begin low-load strengthening.

Restrictions:
Weight bearing through the arm advances progressively as tolerated beginning at 6 weeks. Active shoulder range of motion begins at 8 weeks. Avoid sudden torsional loads and impact through the arm.

Interventions:
Shoulder active-assisted range of motion in all planes at 6 weeks, progressing to active range of motion at 8 weeks; active elbow and forearm motion; graded progression from partial to full weight bearing through the arm; scapular stabilization and periscapular isometrics at 8 weeks; joint mobilization and soft tissue work for residual stiffness.

Criteria to Progress:
Full weight bearing through the arm without pain, near-full active shoulder and elbow motion, and radiographic union.

PHASE IV

Strengthening & Return to Activity

TIMEFRAME

MONTHS 3–6

Goals:

Restore full motion and symmetrical strength, and return to unrestricted work, recreation, or sport.

Interventions:

Progressive resisted strengthening of the rotator cuff, deltoid, periscapular muscles, and elbow beginning at 12 weeks once union is evident; endurance and task-specific loading; gradual reintroduction of overhead and impact activity.

Return to Work/Sport:

Return to contact sports, heavy manual labor, or overhead throwing requires confirmed union, full pain-free motion, and clearance from Dr. Yao — typically 4 to 6 months.

Discharge Criteria:

Full pain-free range of motion, strength symmetrical to the uninvolved side, and safe mechanics with functional and sport-specific tasks.

This protocol is a general guideline. Because timelines depend heavily on fracture pattern and fixation stability, progression must be individualized by the treating physical therapist in coordination with Dr. Yao's office and confirmed against follow-up radiographs.