

# Rehabilitation Programs for ORIF Humeral Fractures with Locking Plate

## **General Principles of Rehabilitation for Fractures**

- Treat the patient not the fracture
- Move all joints that are not immobilized
- Prevent disuse atrophy
- Use gravity to assist in mobilizing a joint
- Be aware of peripheral nerve palsies
- Avoid exercises which reproduce the mechanism of injury
- Early intervention is the key to a successful recovery

## **Rehabilitation Program for ORIF Humeral Fractures with Locking Plate**

- Phase I- Early Mobility
- Phase II- AROM
- Phase III- Strength and Function
- Phase IV- Return to Normal Function

### **PHASE I Weeks 1-6**

- Sling worn during the day and night for 6 weeks, except for HEP
- Begin immediate Pendulum exercises
- Neck ROM exercises
- Elbow, wrist, and hand ROM exercises
- Scapular exercises- shrugs, squeezes, and PNF
- Immediate PROM in supine if fixation is secure
- Pulleys
- Modalities for pain and swelling

### **PHASE II Week 6**

- Wean from sling usually at 6 weeks and discontinue if physician allows
- AROM, sub-maximal isometrics, and scapular PRE's < 5 lbs at 6 weeks
- AROM based on radiographic evidence of healing
- Active shoulder ROM exercises in supine and progress to standing or sitting
- Sub-maximal isometric exercises of the deltoid and rotator cuff muscles
- Continue passive ROM and scapular exercises

### **PHASE III Weeks 7-11**

- Continue AROM, PROM, shoulder isometrics and scapular PRE's

### **PHASE IV Week 12+**

- Initiate isotonic exercises starting with the rub bands and progressing to weights after week 12
- Upper extremity PNF
- Concentrate on RTC and scapular strength
- Advanced progressive resistance exercises
- Progress to overhead exercises
- Plyometrics and muscle coordination exercises
- Push end range of motion
- Glenohumeral joint mobilizations

## **Rehabilitation Programs for ORIF of Greater Tuberosity Fracture with Sutures or Screws**

### **Rehabilitation Program for ORIF of Greater Tuberosity Fracture with Sutures or Screws**

- Phase I- Early Mobility
- Phase II- AROM
- Phase III- Strength and Function
- Phase IV- Return to Normal Function

#### **PHASE I Weeks 1-6**

- Abduction Sling worn during the day and night for 4-6 weeks, except for HEP
- Begin immediate Pendulum exercises
- Neck ROM exercises
- Elbow, wrist, and hand ROM exercises
- Scapular exercises- shrugs, squeezes, and PNF
- Immediate PROM in supine if MD is confident in stability- gentle IR
- Pulleys
- Modalities for pain and swelling

#### **PHASE II Week 6**

- Wean from sling usually at 6 weeks and discontinue if physician allows
- AROM, sub-maximal isometrics, and scapular PRE's < 5lbs at 6 weeks
- AROM based on radiographic evidence of healing
- Active shoulder ROM exercises in supine and progress to standing or sitting
- Sub-maximal isometric exercises of the deltoid and rotator cuff muscles
- Continue passive ROM and scapular exercises

#### **PHASE III Weeks 7-11**

- Continue AROM, PROM, shoulder isometrics and scapular PRE's

#### **PHASE IV Week 12+**

- Initiate isotonic exercises starting with the rub bands and progressing to weights after week 12
- Upper extremity PNF
- Concentrate on RTC and scapular strength
- Advanced progressive resistance exercises
- Progress to overhead exercises
- Plyometrics and muscle coordination exercises
- Push end range of motion
- Glenohumeral joint mobilizations