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## **OPEN DISTAL CLAVICLE RESECTION (MUMFORD) POST-OPERATIVE REHABILITATION PROGRAM**

### **Phase One – Maximum Protection Phase (week 0-4)**

#### **Phase One Goals:**

- Protect the anatomic healing of procedure**
- Promote early ROM**
- Promote dynamic stability**
- Diminish pain and inflammation**

#### Post-Op 0-2 weeks

- 1) Brace or Sling as needed with activity and sleeping (1-2 weeks)
- 2) Pendulum Exercises (Gentle)
- 3) PROM to tolerance in all shoulder motions
- 4) Grade I-II glenohumeral/scapulothoracic joint mobilizations
- 5) Initiate gentle scapular stabilization exercises
- 6) Active elbow ROM
- 7) Hand Gripping Exercises
- 8) Sub-maximal Isometrics at neutral (resting) position of shoulder on all planes except flexion
- 9) Initiate T-band exercises for internal/external rotation (2-4 weeks)
- 10) AAROM
  - a. Flexion to tolerance
  - b. ER/IR to tolerance
- 11) Ice and pain modalities as tolerated

#### Post-Op 2-4 weeks

- 1) Discontinue brace or sling (2 weeks)
- 2) Continue PROM as tolerated all planes
- 3) Grade II-III glenohumeral/scapulothoracic joint mobilizations
- 4) Continue AAROM exercises
  - a. Shoulder flexion to tolerance
  - b. ER/IR range to tolerance
- 6) Continue scapular/core stabilization
- 7) Continue ice and pain modalities as tolerated

## **Phase Two – Minimum Protection/Intermediate Phase (week 4-8)**

### **Phase Two Goals:**

- Gradually restore full ROM (week 8)**
- Preserve the integrity of the surgical procedure**
- Restore muscular strength and balance**
- Reduce compensatory movements**

### Post-Op 4-8 weeks

- 1) Continue with AAROM and AROM exercises
  - Flexion to tolerance
  - ER/IR/Abd to tolerance (should be performed at 45-90° passive abduction)
- 2) Continue T-band exercises as tolerated (scapular plane)
- 3) Begin light shoulder flexion exercise with low weight to 90° with focus on quality of movement
- 4) Elbow flexion/extension as tolerated
- 5) Scapula stabilization exercises as tolerated
- 6) Begin PNF diagonal patterns with light to moderate weight as tolerated

### Post-Op 8-12 weeks

- 1) Continue with all exercises above
- 2) Initiate isokinetic strengthening in the scapular plane with Biodex
- 3) Initiate rotator cuff strengthening outside of scapular plane (45°/90° abduction)
- 4) Initiate neuromuscular control exercises for scapular
- 5) Initiate plyometric strengthening
- 6) Isokinetic testing (week 12)

## **Phase Three – Advance Strengthening Phase (Week 12-15)**

### **Phase Three Goals:**

- Establish and maintain full ROM**
- Improve muscular strength, power, and endurance**
- Gradually initiate functional activities**

Post-Op 12-15 weeks

- 1) Aggressive strengthening program as tolerated by patient
  - Shoulder flexion
  - Shoulder abduction to 90°
  - ER/IR
  - Elbow flexors/extensor
  - Scapula muscles
- 2) Shoulder stabilization exercises below or at shoulder height
- 3) Dynamic open and closed-chain stabilization exercises for the scapula and shoulder

**Phase Four – Return to Activity Phase (Week 15-20)**

**Phase Four Goals:**

- Enhance muscular strength, power and endurance**
- Progress functional activities**
- Maintain shoulder mobility**

Post-Op 15-20 weeks

- 1) Continue with aggressive strengthening
  - Progression abduction strengthening to 120-140°
- 2) Initiate sport specific activity

**Phase Five: Return to Sports/Activity Phase (week 20)**

**Phase Five Goals:**

- Gradual return to sport activities**
- Maintain strength, mobility and stability**

Post-Op 20+ weeks

- 1) Continue with all strengthening exercises
- 2) Patient may start independent resistive exercise program at gym
- 3) Continue with sport specific activity
- 4) Return to work/sports activity