

# Clavicle Fracture – Open Reduction Internal Fixation

## Post-Operative Protocol

### Phase I – Maximum Protection – PROM (Week 0 to 4)

#### Goals

- Reduce inflammation.
- Decrease pain.
- Postural education.

#### Restrictions/Exercise Progression

- Sling x4 weeks.
- No ROM x4 weeks.
- Ice and modalities to reduce pain and inflammation.
- Cervical ROM and basic deep neck flexor activation (chin tucks).
- Active hand and wrist range of motion.
- Passive biceps x6 weeks.
- Encourage walks and low intensity cardiovascular exercise to promote healing.

#### Manual Intervention

- STM – effleurage to forearm and upper arm as needed.

### Phase II – Progressive Stretching and Active Motion (Weeks 4 to 6)

#### Goals

- Discontinue sling as instructed.
- Postural education.
- Begin AROM – full all planes.

#### Exercise Progression

- Progress to full range of motion flexion and external rotation as tolerated. Use a combination of wand, pulleys, wall walks or table slides to ensure compliance.
  - Gradual introduction to internal rotation shoulder extensions (stick off back).
  - Serratus activation; Ceiling punch (weight of arm) may initially need assistance.
  - Sub-maximal rotator cuff isometrics.
  - Scapular strengthening – prone scapular series (rows and l's). Emphasize scapular strengthening under 90°.
  - External rotation on side (no resistance).
  - Sub-maximal isometrics.
  - Cervical ROM as needed to maintain full mobility.
  - DNF and proper postural positioning with all RC/SS exercises.
  - Low to moderate cardiovascular work. May add elliptical but no running until 6 weeks.

#### Manual Intervention

- STM – global shoulder and CT junction.
- Scar tissue mobilization.
- Graded GH mobilizations.
- ST mobilizations.
- Gentle CR/RS for ROM and RC-SS activation.

### Phase III – Strengthening Phase (Weeks 6 to 12)

#### Goals

- Full AROM
- Normalize GH/ST arthrokinematics.
- Activate RC/SS with isometric and isotonic progression.

## **Exercise Progression**

- Continue with combined passive and active program to push full ROM.
- Internal rotation with thumb up back and sleeper stretch.
- Continue with ceiling punch adding weight as tolerated.
- RC isotonic at 0 and 90° as strength permits.
- Advance prone series to include T's and Y's as tolerated.
- Add seated rows and front lat pulls.
- Biceps and triceps PRE.
- Scaption; normalize ST arthrokinematics.
- CKC progression – Quadruped, ball compression, counterweight shift, knee scapular push-ups, knee push-ups; all as tolerated. Therapist directed RS and perturbations in quadruped – bilateral progressing to unilateral tripod position.
- 8-10 weeks – gym strengthening program to include chest fly and pressing motions.
- Supine progressing to standing PNF patterns, with resistance as appropriate.

## **Manual Intervention**

- STM and joint mobilization to CT junction, GHJ and STJ as needed.
- CR/RS to gain ROM while respecting repaired tissue.
- Manual perturbations.
- PNF patterns.

## **Phase IV – Advanced Strengthening and Plyometric Drills (12 to 16 weeks)**

### **PRE/PSE**

- Full range of motion all planes – emphasize terminal stretching.
- Advance strengthening at or above 90° with prone or standing Y's and 90/90 as scapular control and ROM permit. Patient health, physical condition and goals/objectives determine.
- Gym strengthening program; gradual progression with pressing and overhead activity.
- Progress closed kinetic chain program to include push-up progression beginning with counter, knee, then gradual progression to full as appropriate.
- Initiate plyometric and rebounder drills as appropriate.

### **RTS program**

- Continue to progress RC and scapular strengthening program.
- Continue with closed chain quadruped perturbations; add open chain as strength permits.
- Advance gym strengthening program.
- RTS testing for interval programs using microfet dynamometer.
- Follow-up examination with the physician (3-4 months) for release to full activity.

## **Manual Intervention**

- STM and joint mobilization to CT junction, CHJ and STJ as needed.
- CR/RS to gain ROM while respecting repaired tissue.
- Manual perturbations.
- PNF patterns.