Nonoperative Treatment for Clavicle Fractures-- Dr. Trueblood

**Indications:** Most clavicle fractures may be treated without surgery. Isolated, minimally displaced (<2cm) fractures that do not compromise the skin (tenting vs. open wound) may be treated initially with sling immobilization. Historically, there was interest in treating fractures with figure-8 braces, but these were poorly tolerated and their use has not been shown to improve upon simple immobilization either for final position at union or for function.

**Index office/hospital visit:**
- x-ray: AP clavicle and serendipity view
- Skin assessment. Is the soft-tissue envelope compromised in any way? Is the skin tenting over the patient’s fracture?
- Pain assessment. A short course of narcotic pain medications is appropriate to facilitate sleep. Patients should be encouraged to transition to oral NSAIDs as quickly as possible, though.
- Patient education: Fracture precautions. Full time use of sling. Encourage patient to sleep in a semi-seated position for comfort with a thin towel behind the elbow to minimize stress on the anterior shoulder. No driving.
- Demonstrate Codman exercises. May do these 3-4 times/day.
- Work note: No lifting, pushing, or pulling. No driving. May type and write.
- Expected return to work:
  - Sedentary/ cognitive: 3-4 days
  - Light Labor: 6 weeks
  - Heavy Labor: 10-12 weeks
- Schedule follow up visit for 3 weeks from the time of injury.

**1st follow up visit at 3 weeks from day of injury--**
- Skin assessment. Is the soft-tissue envelope compromised in any way? Is the skin tenting over the patient’s fracture?
- Pain assessment. Refill meds as necessary.
- Patient education: Fracture precautions. Full time use of sling. Encourage patient to sleep in a semi-seated position for comfort with a thin towel behind the elbow to minimize stress on the anterior shoulder. No driving.
- Work note: No lifting, pushing, or pulling. No driving. May type and write.
- Therapy prescription if callus present on x-ray.
Phase 1 therapy (Early PROM)

1 visit for HEP
- Codman’s to warm up.
- Cane exercises for forward elevation and gentle external rotation of shoulder.
- Isometric Rotator Cuff exercise.
- HEP

- Expected return to work:
  - Sedentary/cognitive: 3-4 days
  - Light Labor: 6 weeks
  - Heavy Labor: 10-12 weeks

- Schedule follow up visit for 6 weeks from the time of injury.

2nd follow up visit at 6 weeks from injury--

- x-ray: AP clavicle and serendipity view. Assess for maintenance of alignment and bridging bone at fracture site.
- Skin assessment. Is the soft-tissue envelope compromised in any way? Is the skin tenting over the patient’s fracture?
- Pain assessment. Refill pain meds as needed.

ADVANCEMENT
- If patient has bridging bone on x-ray and is not tender over the fracture site, then advance to Phase 2 therapy.
  - Work note: May lift 20# to waist height repetitively, 50# one time. No overhead lifting. May drive.
- If no bridging bone is visible, yet, or if the patient remains consistently tender over the fracture site, then continue with gentle PROM

- Expected return to work:
  - Sedentary/cognitive: 3-4 days
  - Light/Medium Labor: 6 weeks
  - Heavy Labor: 10-12 weeks

- Schedule follow up visit for 10 weeks from the time of injury.

Phase 2 Therapy (Regain Strength and Normalize Activity)

1-2 x/ week x 6 weeks

Range of Motion: AROM/ PROM of shoulder, elbow, wrist, and hand. Emphasize pec minor stretching and scapular retraction posture.

Strengthening (low resistance and high repetitions):
- Rotator Cuff and Scapular Stabilization Strengthening
  - IR/ER in scapular plane
  - Start in low dynamic positions and advance as tolerated when there are no
compensatory/ substitution patterns

- sidelying ER with towel roll
- theraband ER at 30° abduction
- theraband IR at 0, 45, and 90° of abduction
  - Full-can scapular plane raises with good mechanics
    - advance to elevation in other planes when full elevation is achieved
      - flexion/ extension/ abduction/ adduction at increasing angles of elevation
  - Prone rowing at 30/45/90 degrees of abduction to neutral arm position
  - Pushup plus (wall → counter → knees on floor → floor)
  - Forward punch
  - Cross body diagonals with theraband
  - Rhythmic stabilization drills

- Initiate biceps curls with light resistance, progress as tolerated
- Initiate resisted supination/pronation
- Modalities prn
- HEP

Advance to Phase 4 (Strengthening and Return to Vigorous Activity) when:
- All phase 3 exercises can be performed without pain and with good coordination.
- Chest height lifting, pushing, and pulling performed without limits

**Phase 3 Strengthening (usually 10-12 weeks after surgery):**
AROM/ PROM of shoulder, elbow, wrist, and hand as needed.

**Strengthening:**
- Progress isotonic strengthening as tolerated by pain and maintenance of mechanics
- Advance strengthening above 90° when strength is 5/5 below 90°
- Transition to sport/ work specific strength and conditioning program as tolerated. Add upper body weight lifting exercise as tolerated for low resistance and 20 repetitions per set.
  - Patients with heavy manual laboring jobs or jobs requiring extensive climbing or overhead lifting may benefit from formal work conditioning/ hardening at this time. Please contact Dr. Trueblood’s office via Leslie Hedge, RN at (573)388-3026 to make the appropriate arrangements.
- Reassure patient that, with consistent effort, their strength and endurance should continue to improve noticeably for the next 6-8 months.

Modalities prn
HEP
Next clinic visit at 12 weeks after surgery--

- Assess ROM and Strength
- DASH and ASES Scores
- Return to Work: No limitations.
- For patients with unusually high demand occupations, advance to work conditioning/hardening as needed. Follow-up visit in 4 weeks if this is ordered.
- Follow-up prn for majority of patients.