Nonoperative Treatment of Radial Head or Neck Fractures-- Dr. Trueblood

**Indications:** Radial head and neck fractures are common injuries of the upper extremity following falls and other impact injuries to the arm. They are generally nondisplaced fractures that do not produce mechanical blocks to motion and are not associated with elbow dislocations. In these cases, nonoperative management of these injuries is urged.

**Presenting office visit:**
- X-ray: Review x-rays of elbow from outside hospital/ clinic. Obtain AP/ lat/ oblique of wrist if x-rays are not available, outside x-rays are nonstandard/ poor-quality, or if it has been more than 48 hours since their last study.
- Remove splint/ dressing from outside facility.
- Assess pain control- prescriptions for narcotic pain medications as needed.
  - Instruct patient to take vitamin C 500mg po bid for one month to decrease risk of chronic regional pain syndrome.
- Immobilization:
  - Skeletally immature patients: Long-arm cast
  - Skeletally mature patients: Sling
- Review fracture precautions.
- If patient unable to make a full, composite fist refer to hand therapy for HEP-- Digital AROM/ AAROM/ PROM and edema control.
- Work note: No driving, lifting, pushing, or pulling. My type, write, and feed self with lightly loaded fork.
- Expected return to work
  - Sedentary/ Cognitive-- 3-4 days
  - Light Manual-- 6 weeks
  - Heavy Manual-- 10-12 weeks
- Schedule follow-up for 7-10 days to assess for maintenance of reduction.

**1st maintenance of reduction visit, post-injury day 7-10**
- X-ray of wrist in plaster-- 3 views of wrist
- Assess pain control/ pain medication
- Assess ROM of shoulder, elbow, and digits.
  - Refer to hand therapy if >1cm tip-to-palm distance or if flexion arc is less than 30-130 in either direction. 
    - 1-2x week x 6 weeks.
    - AROM/ gentle PROM of digits, wrist, and elbow. Gravity assisted extension of elbow. 
    - Add dynamic flexion splinting for digital flexion if tip-to-palm distance is
greater than 5cm.

- Edema control
- Desensitization exercises as needed.

- Work note: No driving, lifting, pushing, or pulling. My type, write, and feed self with lightly loaded fork.
  - Expected return to work
    - Sedentary/Cognitive-- 3-4 days
    - Light Manual-- 6 weeks
    - Heavy Manual-- 10-12 weeks
- Schedule follow-up at 3 weeks from injury to assess for maintenance of reduction.

**2nd maintenance of reduction visit, postinjury day 18-21.**

- X-ray of elbow-- 3 views of elbow
  - In plaster for skeletally immature patients.
- Assess pain control/ pain medication needs and check adherence to vitamin C recommendation.
- Assess ROM of shoulder, elbow, and digits.
  - Refer to hand therapy if >1cm tip-to-palm distance.
    - 1-2x week x 6 weeks.
    - AROM/ PROM of digits.
    - Add dynamic flexion splinting for digital flexion if tip-to-palm distance is greater than 5cm.
    - Edema control
    - Desensitization exercises as needed.
- Work note: No driving, lifting, pushing, or pulling. My type, write, and feed self with lightly loaded fork.
  - Expected return to work
- Schedule follow-up at 6 weeks from injury to assess for union

**Follow up 6 weeks from day of injury**

- AP, lat, and oblique views of injured elbow.
- Assess pain control and ROM.
- Activity
  - If patient is still tender to palpation:
    - then continue in sling full time.
    - Continue ROM exercises, but return to office in two weeks. Continue fracture precautions.
  - Patient is no longer tender & 3+ cortices bridged with callus on plain films.
    - Patient to wean from sling over course of 1-2 weeks as they increase in
confidence with the use of their injured extremity. Usually, they just take the sling off.

- Advance activity.

- Work restrictions: 20# weight lifting. No pushing/pulling. May operate motor vehicle/light machinery. Must be able to attend physical therapy and wear splint on work site, as needed.

- Therapy consult order: 1-2x/week for 6 weeks or until milestones are met.

- NB: If patient’s pain is out of proportion to expectation or swelling unusually pronounced at 6 week follow-up, they need to see Dr. Trueblood at his next available office visit.

6-12 weeks Therapy

Therapy 1-2x/week x 4 weeks

- Weight bearing: WBAT
- ROM: Aggressive AROM/PROM
- Strengthening: Start light grip strengthening at 6 weeks. Start wrist extension/flexion/pronation/supination strengthening at 8 weeks.
- Splinting: Wean from sling as tolerated. If ROM is < 30-130° at 8 weeks, add static progressive splint to address the deficit.
- When Strength= 80% of contralateral side in grip and lifting from the floor, may consider transitioning to work hardening program in patients with heavy manual labor job descriptions.

--3rd follow-up visit at 12 weeks——

- Neutral PA/Lat/oblique views of elbow.
- ROM and Strength Assessment
- Pain Score, Quick-DASH Score
- Review Job Description to confirm appropriate return to full duty work.
- Expectations: Patients should be independently using the injured extremity for all activities of daily living. Heavy laborers should be ready to return to work without restrictions at this point. For unusually high demand activities, work hardening may be used to transition the patient back to full duty. Maximum Medical Improvement is 1 year from the day of surgery.