**Indications:** Open fractures and fractures that are unstable by pattern (> 2 of the following: age >60, initial angulation >20°, >50% dorsal comminution, intra-articular displacement >2mm, shortening greater than 3mm, and involvement of ulnar head) benefit from immediate operative management. Other fractures may be reduced and monitored closely. If the fracture displaces again, then operative management is indicated. Many of these fractures are favorably treated with limited internal fixation with percutaneously placed, smooth steel wires.

**Technique:** The patient’s index and long fingers are placed in 10# of fingertrap traction with a sterile bump below the wrist. A closed reduction is then performed with traction assistance under fluoroscopic guidance. Fine-tuning of the reduction may then be performed by indirect means, such as using steel wires to lever the fracture fragment(s) into position, or direct means (inserting steel pins into fragments and using these as joysticks for manipulation). Small incisions are then made radially and dorsally and blunt dissection is used to clear the underlying bone of tendon, nerve, and blood vessels. Definitive, bicortical pins are then placed in at least 2 planes and the wounds closed loosely with absorbable stitches around the pin sites. The wrist is then taken through a full range of motion under x-ray and the stability of the reduction assessed. A limited, dorsal approach may be used to access the fracture site if inadequate stability is noted and the dorsally comminuted segment will be supplemented with bone-graft substitute to improve stability to bending forces. Stability of the reduction is again tested and, once adequate, the wounds are irrigated and closed. Stability of the DRUJ is now assessed and, if within normal limits, the pins are bent, cut, and then dressed with sterile, bolster dressings. The patient is placed in a sugar tong splint and transferred to the recovery room. They will almost invariably be discharged to home with plans to follow-up in 10-14 days.

**Post-Op-Days 0-13:**

**Goals:**

- Protect the surgical repair
  - Postop, sugar-tong splint.
  - Non-weight bearing to operative extremity
- Minimize swelling and digital stiffness
  - Elevation and ice encouraged for edema control.
  - Patient encouraged to move elbow and fingers through full range of motion 10x/ hour.
- Optimize patient pain control and independence within reasonable limits
  - May type, write, and use hands for limited assistance in daily activity. No lifting more than ¼ pound.
  - May not operate a motor vehicle or heavy machinery.
--1st PO visit 10-14 days--

- Neutral PA/ lat/ oblique (20° elevated lateral) of wrist.
- Redress pins with sterile technique and apply short arm cast.
- Assess pain control. Rx refills/ adjustments to dosing as needed.
- Fracture and cast precaution handout.
- Therapy parameters:
  - Full composite fist: no therapy
  - 2cm TTP: HEP for edema control and AROM/ AAROM of digits. Encourage ROM.
  - >2cm TTP: 1-2 visits/ week x 4 weeks. AROM/ PROM of digits. Modalities prn. HEP
  - >2cm TTP with disproportionate pain/ swelling: therapy for volar resting splint (full time use), AROM/ PROM of digits, edema control, pin care protocol, and desensitization protocol. Dr. Trueblood needs to see this patient at next available appointment.
- **Work Restrictions**: May type and write. No lifting, pushing, pulling, or driving/ operating heavy machinery. No lifting > 1/4 pound.
- Expected Return to Unrestricted Work:
  - Cognitive Work: 1-2 weeks
  - Light Manual Work: 8 weeks
  - Heavy Manual Labor: 12 weeks

--2nd postop visit at week 6—

- Neutral PA/ lat/ oblique (20° elevated lateral) of wrist.
- Assess pain control and ROM.
- Pins out if patient: a. nontender at fracture site, b. shows bridging callus at 3+/ 4 cortices on AP and Lat films.
- Cockup wrist splint provided to patient. Patient to wean from splint over course of 1-2 weeks as they increase in confidence with the use of their injured extremity.
- Work restrictions: 10# 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:
- 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

- 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 static wrist splint as tolerated. If ROM < 40° in any direction at 8 weeks, add static progressive splint to address that 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.

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3rd follow-up visit at 12 weeks—

☐ Neutral PA/ Lat/ oblique views of operative wrist.

☐ 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.