Relative-Motion Protocol for Zone 5 Extensor Tendon Repair-- Dr. Trueblood

Indications: Sharp lacerations of extensor tendons from the middle of the proximal phalanx to the dorsal wrist benefit from exploration of the wound and restoration of continuity to the cut tendons.

Technique: The patient is taken to the operating suite after her wounds are provisionally cleaned and peripheral analgesia is performed using lidocaine with epinephrine in either the emergency room or preoperative holding. Once a surgical plane of analgesia is confirmed, the wounds are opened and the underlying wound bed is exposed. For penetrating injuries surrounding the metacarpophalangeal joint, the joint is directly inspected and thoroughly irrigated. The extensor mechanism is then repaired using 3-0 non-absorbable stitches. The patient is asked to take their hand through a full range of motion and the repair site supplemented wherever gap formation may occur. The wounds are copiously irrigated and then closed using 5-0 chromic gut stitches. Sterile dressings are then applied with a well-padded, well-molded volar splint in 20 degrees of wrist, 20 degrees of MCP, and 0 degrees of PIP/DIP extension.

The extensor digitorum communis is a single muscle belly that supplies four tendons, one slip to each index, long, ring, and small finger. So long as one of these slips remains intact, hyperextending a repaired limb’s metacarpophalangeal joint by 10-15 degrees will result in sufficient slack on the tendon that gapping will not occur even with active extension of the digit. In cases with all tendons lacerated, Dr. Trueblood will typically recommend either full-time static extension splinting or volar P1 blocked splinting for protected range of motion.

Postoperative Therapy:
- The patient is to begin postoperative therapy 3-4 days after surgery to allow the initial soft-tissue edema following injury/surgery the opportunity to begin resolving.
- Patient instructed in strict elevation above heart level and importance of adhering to activity restrictions in maintaining their surgical repairs.
- May return to work at 7-10 days. Must wear splints at all times. 5# weight lifting in splints. May type and write. No pushing/pulling. May drive when no longer taking narcotic pain medications.

Return-to-work Expectations without restrictions:
- Cognitive/Desk Work: 1-2 weeks
- Light Manual: 6 weeks
- Heavy manual: 8-10 weeks
Weeks 0-4

*Therapy 1-2x/ week x 6 weeks*

- Splinting:
  - Cockup wrist splint in 25 degrees of extension
  - Yoke splint (see below) with MCP of involved digit(s) 20-25 degrees hyperextended relative to the uninjured digits.
- Splints on at all times.
- AROM/ AAROM/ Gentle PROM of digits in splints. AROM/ PROM of wrist with the MCPs blocked in full extension.
- *If patient is developing an extensor lag, may add a nighttime/ resting pan splint with wrist extended 20 degrees, MCPs 10 degrees hyperextended, and IPs straight.*
- 5 # weight lifting in splint. Must wear splint at all times. May type and write. May drive when off all narcotic pain medications. No resisted grip. No pushing/ pulling.
- edema control
- modalities prn
- Please contact Dr. Trueblood’s office (Leslie Hedge, RN- 573-388-3026) if pain control appears to be limiting participation in therapy or if any concerns arise re: patient’s wounds.

Week 4-6

- May d/c wrist splint during ROM exercise. Continue full time use of yoke splint and use of wrist splint when using hand for functional activities of daily living.
- Start AROM and PROM of wrist in yoke splint. Achieve composite fist and full wrist flexion in yoke splint by 6 weeks post-op
- No strengthening.
- edema control
- Modalities prn

*First surgeon visit at 6 weeks postoperative--*

- Assess pain control
- Assess range of motion
- Work note:

Weeks 6-12

*Therapy 1-2x/ week x 6 weeks*

- D/c wrist splint.
- Begin AROM/ PROM out of yoke splint of elbow, wrist, and hand.
- Continue wearing yoke splint for activity until full, composite fist and wrist flexion are achieved.
- Start grip strengthening.
- Edema control
- Modalities prn
- Transition to home exercise program when full range of motion is achieved and grip strength is 80% of contralateral hand. Patients with unusually grip-intensive job descriptions may benefit from work-simulation or work-conditioning.

**Second surgeon follow-up at 10-12 weeks**
- DASH Score
- Assess ROM
- Work note.
- MMI at 6 months postoperatively.

**Return-to-work Expectations without restrictions:**
- Cognitive/Desk Work: 1-2 weeks
- Light Manual: 6 weeks
- Heavy manual: 8-10 weeks