



# ORTHOPEDICS & SPORTS MEDICINE

BAYCARE CLINIC®

## Dr. Klika & Dr. Kirkpatrick Extensor Tendon Repair Zones 5 & 6

### Phase 1- Early Protective Phase 3 days – 4 weeks

#### Goals for phase 1

- Immobilize and protect repair
- Initiate ROM of uninvolved joints while protecting repair
- Minimize risk of scar adhesions
- Pain and edema control

#### Splint

- **A volar-based splint is fabricated with wrist in 20-30 degrees of extension and ALL MP joints at 0 degrees of extension and IP joints free**
  - If it can be verified by the surgeon or surgical report that the EDC was repaired distal to the juncturae tendinum, only the metacarpal of the repaired tendon can be splinted in extension, and the adjacent MP's can either be splinted in slight flexion or left free
  - **If unsure of the specific tendon repaired or location of repair relative to the juncturae tendinum, splint all MPs in 0 degrees of extension**
  - If there is notable extensor lag at the IP joints, it may be necessary to splint digits in full extension until extensor lag resolves
- Repair of only the EIP or EDM requires immobilization of only the index finger or small finger metacarpal respectively

#### Edema Management

Light compression with Coban, elevation and Manual Edema Mobilization (MEM) as needed

#### Wound Care

Educate patient in dressing changes while adhering to surgical precautions

#### ROM

- Initiate AROM to IP joints of splinted digits as needed within constraints of the splint
- Allow unrestricted A/PROM to digits which are not splinted

#### Scar Management

- Two days after suture removal, initiate scar mobilization and educate patient in scar management
- Apply scar remodeling products as needed



## Phase 2 – Initiate ROM while Protecting Repair 4-6 weeks

### Goals for phase 2

- Continue to protect healing repair while initiating gentle ROM
- Continue scar and edema management

### Splint

Continue splint at all times except for home exercise program and hand hygiene

### ROM

Initiate AROM to wrist and digits 10 minutes each hour:

- AROM to wrist in all planes of motion
- AROM to digits including flexor tendon glides, extension, abduction/adduction, intrinsic plus and opposition exercises
- Isolated EDC exercises taping IP joints in flexion as needed to isolate MP flexion/extension. Isolated EIP and EDM exercises when these digits are involved.
- Simultaneous wrist and digit flexion/extension to stretch extrinsics

### Scar Management

- Aggressive scar mobilizations may be necessary to stretch adhesions including scar retraction with Dycem
- Continue with scar remodeling products as needed

### Edema Management

- Edema glove may be issued for persistent edema
- Manual Edema Mobilization (MEM) and elevation as needed

### Modalities

- Heat modalities may facilitate tendon excursion and joint mobility
- Ultrasound may be initiated to improve effects of scar mobilization, minimize adherence, and facilitate tendon excursion
- NMES may be used to enhance tendon excursion (especially useful to isolate EDC while taping IP joints in flexion)



## Phase 3 – Restore ROM and Strength 6-10+ weeks

### Goals for phase 3

- Restore full active range of motion while protecting the healing repair
- Prevent and reduce extensor lags if present
- Wean from splint and return to functional use of involved hand

### Splint

- Continue splint between exercise sessions and at night until week 7.
- At 7 weeks, begin to gradually wean from splint so it is completely discontinued by week 8.
- If there is an extensor lag, continue splint at night. If the lag is greater than 15 degrees, continue splint during the day between exercise sessions until resolved.
- May consider taping or dynamic flexion splint to increase passive flexion if there is no extensor lag

### ROM

- Initiate PROM to wrist and digits to resolve any extrinsic extensor tightness
- If there is an extensor lag, modify exercise program to emphasize active extension

### Functional Activity

- At 7 weeks, begin light use of hand and return to all functional activity by 8-10 weeks

### Strengthening

- Week 8 –Initiate wrist and hand strengthening

### Work Conditioning

- After 10 weeks a comprehensive work conditioning program for patients with work duties that require repetitive gripping or heavy manual labor is sometimes necessary

## References

Cannon, Nancy M. et. al. Diagnosis and Treatment Manual for Physicians and Therapists, 5<sup>th</sup> Ed. The Hand Rehabilitation Center of Indiana. Indianapolis, Indiana. 2021.

Skirven ,T. M.,Ostermans, A. L., Fedorczyk, J . M., & Amadio, P. C. (2011). *Rehabilitation of the Hand and Upper Extremity* (Vol. 1 ). Philadelphia, PA: Elsevier.

This protocol was reviewed and updated by Brian Klika, MD, Lacey Jandrin, PA, Andrew Kirkpatrick, MD, Tiffany Terp, PA, and the Hand Therapy Committee 8/9/2021.