

Dr. Schmidt
Flexor Pollicus Longus (FPL) Repair

A deep cut on the palm side of the hand, wrist, or forearm can damage the tendons that bend the thumb. Repair of the damaged tendons is necessary to restore normal movement in the thumb and hand. Successful rehabilitation following flexor tendon repair requires the guidance of a highly trained hand therapist. The therapist provides the patient with safe exercises that promote tendon gliding while avoiding risk of tendon rupture as well as other important treatment to control scarring and swelling.

Phase 1 – Maximum Protection 3 – 14 days

Goals for phase 1

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

Other considerations

Dressings to be removed for ROM exercises to ensure tight composite passive flexion to maximize tendon excursion

Splint

Dorsal thumb blocking splint is fitted for continual wear in the following position:

- Wrist neutral, thumb MP: 15° flexion, thumb IP : 30° flexion, thumb CMC joint: palmar abduction, digits free

PROM

The following PROM exercises to be performed every two hours within the constraints of the splint, 25 repetitions each:

- Passive thumb MP flexion, active extension to splint
- Passive thumb IP flexion, active extension to splint
- Passive composite thumb flexion, active extension to splint
- Passive wrist flexion (the wrist is passively flexed forward out of the splint), active wrist extension to splint

Edema Management

- Light compression with coban or edema glove
 - **Do not use tubular digital compression sleeves**
- Elevation
- Manual Edema Mobilization (MEM)

Wound Care

- Educate patient in dressing changes

Phase 2 –Protect Repair with Controlled ROM 2 - 6 weeks

Goals for phase 2

- Continue to protect healing repair while achieving adequate tendon excursion to prevent scar adhesions
- Continue scar and edema control
- Progress to full controlled active and passive ROM

Other Considerations

- In phase 2, thumb AROM exercises are initiated with the exception of thumb IP blocking exercises which should not be initiated until week 6

Splint

- Continue dorsal thumb blocking splint between exercise sessions and at night

ROM

- Continue Phase 1 Exercises
- 2 weeks - If passive motion is good and edema is well controlled, add place and hold composite thumb flexion for gentle tension
- 4 weeks – Begin AROM exercises within the constraints of the splint
 - thumb MP flexion/extension
 - composite MP and IP flexion/extension
 - thumb opposition
 - CMC palmar abduction/adduction
 - wrist flexion/extension
- 4½ weeks – dorsal blocking splint may be removed for active thumb ROM exercises allowing full composite wrist and thumb flexion/extension

Scar Management

- After 2 days of suture removal, initiate scar mobilization
- Apply scar remodeling products as needed

Continue phase 1 edema management

Phase 3 –Maximize Range of Motion and Progress to Strengthening

6 - 12 weeks

Goals for phase

- Restore full range of motion
- Progress to strengthening and return to ADL and work activities

Other considerations

Educate patient that a tight sustained pinch with or without resistance greatly increases risk of tendon rupture. The patient should be using the hand for light activity only at home until 10 weeks.

Splint

- Discontinue dorsal blocking splint
- May fabricate thumb extension splint for night wear to increase thumb extension

ROM

- Begin unrestricted active and passive ROM of the thumb
- Initiate thumb IP joint blocking exercises

Modalities

- If needed, NMES may be added to enhance tendon excursion
- Apply ultrasound as needed for dense scar and/or limited tendon excursion

Strengthening

- 8 -10weeks – Begin strengthening
- 10 -12 weeks - with MD consent a comprehensive work conditioning program for patients with high demand / heavy manual labor occupations may be appropriate

Functional Activity

- 8 -10 weeks – gradually return to functional use of the involved hand for higher level work and home management tasks
- 10-12 weeks – patient may return to unrestricted use of the hand with MD permission

References

Cannon, Nancy M. et. al. *Diagnosis and Treatment Manual for Physicians and Therapists*, 4th Ed. The Hand Rehabilitation Center of Indiana. Indianapolis, Indiana. 2001.

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