ORTHOPEDICS & SPORTS MEDICINE
BAYCARE CLINIC®

Dr. Klika & Dr. Kirkpatrick
EPL Repair

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

Other Considerations:

Slight hyperextension of the thumb IP joint is critical to preventing extensor lag.

Splint

A volar-based splint is fabricated with wrist in 20 degrees of extension, thumb midway between radial and palmar abduction and the IP joint in same degree of hyperextension as contralateral side

ROM

Active and passive ROM to digits, elbow, forearm, and shoulder as needed

Edema Management

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

Wound Care

Educate patient in dressing changes while adhering to surgical precautions

Scar Management

- Begin scar massage no sooner than 2 days after suture removal. Scar must be fully closed and have no scabbing present. Begin with light massage using lotion.
- 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
- Prevent extrinsic tightness
- Maximize EPL tendon excursion
- Continue scar and edema management

Other Considerations

As AROM is initiated, it is important to monitor IP joint for extensor lag and reduce frequency of exercises accordingly.

Splint

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

ROM

Initiate AROM to wrist and thumb 10 minutes each hour:

- Wrist and thumb all planes of motion
- Reverse blocked IP extension for maximum EPL excursion: blocked wrist and thumb MP in slight flexion while patient performs full active thumb IP extension
- Composite and simultaneous thumb and wrist flexion and extension for extrinsic stretching

Desensitization

For hypersensitivity along DRSN, educate patient in desensitization techniques 4-5x/day

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

Modalities

- Heat modalities may facilitate tendon excursion and joint mobility
- NMES may be used to enhance tendon excursion

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

Goals for phase 3
- Restore full active range of motion
- Prevent and reduce extensor lags if present
- Wean from splint and return to functional use of involved hand
- Restore strength

Other Considerations
- Taping the thumb in composite flexion effectively reduces extrinsic tightness as the patient has the freedom to simultaneously actively flex the wrist.
- Continue to monitor for extensor lag each session and modify splinting and exercise program accordingly

Splint
- Begin to gradually wean from splint by reducing wearing time by one hour each day so it is discontinued by 7 ½ weeks
- If there is an extensor lag, apply gutter splint to thumb IP joint in slight hyperextension at night and between exercise sessions as needed until resolved
- At 7 weeks, dynamic flexion or taping may be necessary to increase composite passive flexion of the thumb if there is no extensor lag

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

Modalities
- Heat modalities and NMES to facilitate tendon excursion and joint mobility
- Ultrasound may be initiated to improve effects of scar mobilization, minimize adherence, and facilitate tendon excursion. Consider ultrasound with simultaneous passive stretching to reduce extrinsic extensor tightness.

Functional Activity
- At 6 weeks, begin light use of the hand and return to all functional activity by 8-10 weeks

Strengthening
- Week 7-8 –Initiate strengthening including isotonic wrist exercises and putty for grip and pinch emphasizing FPL and EPL strength. Begin with isometrics and very light resistance and gradually work up to more advanced isotonic exercises.

Work Conditioning
- After 10 weeks a comprehensive work conditioning program for patients with work duties that require repetitive gripping, pinching or heavy manual labor may be appropriate

References

Cannon, Nancy M. et. al. Diagnosis and Treatment Manual for Physicians and Therapists, 5th Ed. The Hand Rehabilitation Center of Indiana. Indianapolis, Indiana. 2001.

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.