ORTHOPEDICS & SPORTS MEDICINE
BAYCARE CLINIC®

Dr. Klika & Dr. Kirkpatrick
Sagittal Band Repair / EDC Recentralization
Phase 1- Early Protective Phase (Day 1 – 2 weeks)

Goals for phase 1

- Protect sagittal band repair with constant splinting
- Minimize scar adhesions and post-operative edema

Other Considerations:
It is important to prevent full MP joint flexion of the involved digit for a full 6 weeks to allow the repair to scar in and fully heal

Orthosis

- Wrist hand orthosis with wrist at **25 degrees** of extension; yoke orthosis with the involved finger in **15-20 degrees relative extension** compared to other digits
    - Both splints worn continuously
    - Fabrication should occur with a pencil woven between the fingers to position the involved finger in relative extension compared to the others.
- Yoke fabrication:
    - Dimensions should be the width of P1 and 1.5 times the length of the hand across the MPJ level.
    - Apply the heated thermoplastic material on the volar side of the involved digit, then through the webspace, draping the material over the dorsal side of the adjacent fingers, then wrapping the remaining material volarly around the index/small finger. Ensure that the involved digit (s) is in 15-20 degrees relative extension compared to the other fingers by weaving a pencil between the fingers to keep the fingers in a position of relative extension during yoke fabrication. **See last page of protocol for details.**
- **For unreliable patients** an alternative orthosis is a wrist hand orthosis with wrist in slight extension and MPs in extension, IP joints free

Wound care

- Light sterile dressing changes as needed

Scar Management

- Begin scar massage no sooner than 2 days after suture removal after scar is fully closed with no scabbing present. Begin with light massage using lotion.
- Educate patient in scar management
- Apply scar remodeling products like elastomer putty or silicone gel as needed

AROM

- Full finger AROM within the confines of the splint– perform slowly, limited by the relative extension of the affected finger

Edema Management

- Manual edema mobilization
- Coban or compression wrapping

Phase 2 – Intermediate Phase (2 - 6 weeks)

Goals for phase 2

- Full active wrist motion
- Minimize scar adhesions and post-operative edema

Criteria for progression to Phase 3

- Full wrist AROM

Orthosis

- Wean from wrist hand orthosis
- Continue yoke orthosis at all times

AROM

- Continue full finger AROM within the confines of the yoke – perform slowly, limited by the relative extension of the affected finger
- Begin wrist AROM with yoke orthosis in place and fingers relaxed
- Full MCP flexion of uninvolved digits is okay in the controlled environment of a therapy treatment session as long as the MCP of involved digit is held passively in full extension to prevent strain through the sagittal band repair

Continue phase 1 scar and edema management

Modalities

- Ultrasound for scar
- Moist heat

Phase 3 – Intermediate Phase (6 - 8 weeks)

Goals for phase 3
- Full AROM for finger/wrist
- Light functional use outside of the orthotic

Other Considerations:
- Avoid lateral stress to involved digit to prevent straining the repair, especially when opposing to index and middle digits
- Educate patient in avoiding resistive pinching during functional activities if the index or middle finger is involved

Orthosis
- Slowly discontinue yoke orthosis as tolerated

AROM
- Remove yoke orthosis for digit motion:
    - Begin with gentle active motion, tendon glides, ab/adduction, intrinsic plus motion, and isolated EDC exercises
    - Progress to composite digit and wrist range of motion

Functional Activity
Patient to begin light functional activity without yoke splint. All activities should be pain-free.

Manual Therapy
- Continue scar management as needed

Modalities
- Ultrasound for scar management
- Moist heat

Phase 4 – Return to Function (8+ weeks)

Goals for phase 4
- Return to full functional use of hand
- Return to work activities

Criteria for return to work, function, sport:
- After week 12: no restrictions and the patient may return to heavy work/contact sports

Orthosis
All orthoses discontinued

Manual Therapy
- Continue scar management as needed

ROM
- Continue phase 2 active range of motion
- Initiate PROM especially to restore MP flexion

Strengthening
- Initiate wrist and hand strengthening being sure to avoid lateral stress to involved digit

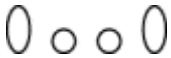
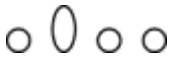
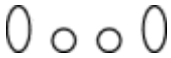
Work Conditioning
- After 10-12 weeks and with MD consent a comprehensive work conditioning program for patients with high demand / heavy manual labor occupations may be appropriate

Sport related activities
- Return to contact sports at 12 weeks or per MD order

Yoke Configuration

Configuration of the ICAM Finger Yoke When a Single Finger is Involved.

Right Hand – Reverse this for Left Hand

Index	Long	Ring	Small	Yoke Configuration
XX	O	O	X	
O	XX	O	O	
O	X	XX	O	
X	O	O	XX	

XX = finger with the tendon repair is held in a position dorsal, or in more MP joint extension by the yoke; O = finger(s) is held in a position volar, or in less MP joint extension by the finger yoke; X = additional finger held in a more dorsal position/more MP joint extension to balance the yoke. The dorsal position is defined as 15–20 degrees more MP joint (hyper-) extension than the (O) uninjured finger(s) MP joint(s).

Involved digit	Digits in relative extension
INDEX	INDEX + SMALL FINGER
LONG	LONG ONLY
RING	RING + LONG
SMALL	SMALL + INDEX

References

Howell JW, Merritt WH, Robinson SJ. Immediate controlled active motion following zone 4-7 extensor tendon repair. J Hand Ther. 2005; 18: 182-190.

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.

Svens B, Ames E, Burford K. Relative action motion programs following extensor tendon repair: A pilot study using a prospective cohort and evaluating outcomes following orthotic interventions. J Hand Ther 2015; 28: 11-19

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.