

EXTENSOR TENDON REPAIR ZONE III SHORT ARC MOTION (SAM) PROTOCOL

FREQUENCY: 1-3 times / week

DURATION: 6-12 weeks

1-5 days post op (Visit 1)

- Initial evaluation of wound, clean dressing, girth measurements as appropriate, edema control.
- **3 orthotics** : For immobilization and for exercise
 1. **Immobilization orthotic:**
 - Volar static thermoplastic orthotic that immobilizes only **PIP and DIP joints at 0 degrees.**
 - Volar static thermoplastic orthotic with wrist at 30 degrees of flexion and MCP's at 0 degrees to slight flexion. **(Used only with exercise orthotic #1 and #2 below.)**
 2. **Exercise Orthotic #1:** to be used for exercise of the PIP joint:
 - 30 degree flexion angle for PIP joint and 20-25 degree flexion angle for DIP joint.
 3. **Exercise Orthotic #2:** to be used for exercise of DIP joint only
 - PIP joint at 0 degree extension and DIP joint free.
 - **If lateral bands were repaired:** PIP joint at 0 degree extension, DIP joint to 30-35 degree flexion.
- **Exercise program up to 2 weeks post op:**
 - PIP and DIP AROM using exercise orthotics while wrist is positioned at 30 degrees of flexion and MCP's at 0 degree to slight flexion.
 - Hourly Exercises with 20 reps, slow and gentle AROM
 - **If the lateral bands were repaired:**
 - DIP AROM with exercise orthotic #2 performed to 30-35 degrees DIP flexion.
 - The exercises above must be performed as above, 20 reps slow and gentle
 - The immobilization orthotic must be precisely at 0 degrees resting for PIP and DIP joints.

2 WEEKS POST OP:

- Orthotics:
 - Exercise orthotic #1 is altered to allow 40 degrees flexion at the PIP joint, if no extension lag present.
 - **If PIP extension lag develops, continue limiting PIP excursion to 30 degrees flexion and contact the referring MD to discuss progression.**
 - Continue with static immobilization orthotic in between exercise sessions and at rest
- Continue with wound care / dressing changes as appropriate.
- Initiate scar management as appropriate per wound healing
- Edema control with elevation, MEM, Coban wrap

3 WEEKS POST OP:

- Orthotics:
 - Exercise orthotic #1 is altered to 50 degrees at PIP joint.
 - Continue with immobilization orthotic in between exercise session and at rest.
- Continue with scar mobilization with scar massage, elastomer pad or gel pad
- Continue with edema management

4 WEEKS POST OP:

- Orthotics:
 - If no extension lag, exercise orthotic #1 may be advanced to 70-80 degrees of PIP flexion.
 - Continue with immobilization orthotic in between exercise sessions and at rest.
- Continue with scar mobilization
- Continue with edema management

5-6 WEEKS POST OP:

- Orthotics:
 - Discontinue exercise orthotics
- Exercises:
 - Initiate composite flexion fist AROM and or tendon glide exercises.
 - Gentle strengthening as appropriate
 - Table top activities for light functional tasks

- Continue to monitor for extension lag and adjust clinic program as needed.
- Continue with scar mobilization
- Continue with edema management

6 WEEKS POST OP AND BEYOND:

- Discontinue orthotic use
- Discharge to a HEP including: AROM, progressive strengthening, and scar management.

References:

Evans, R. OTR/L CHT; Clinical Management of Extensor Tendon Injuries: The Therapist's Perspective, in Rehabilitation of the Hand and Upper Extremity, 6 ed. Elsevier, Mosby, Philadelphia, PA 2011, pp 541-544.

Managing the Injured Tendon: Current Concepts, Evans, R. Journal of Hand Therapy, Vol 25, Issue 2, (April – June 2012).

A Case Report: Treatment of a Zone III Extensor Tendon Injury Using Single Relative Motion with Dorsal Hood Orthosis and Modified SAM Protocol. Journal of Hand Therapy, May 2019.

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