Zone III: Central Slip Repair

This protocol is intended to provide the clinician with a guideline for the postoperative rehabilitation course of a patient who has sustained a **central slip with or without lateral band injury / Zone III extensor tendon injury**. General time frames are given for reference to the average, but individual patients will progress at different rates depending on their age, comorbidities, pre-surgical range of motion, strength, health/functional status, rehabilitation compliance, learning barriers and complications. Specific time frames, restrictions and precautions are given to protect healing tissues and surgical reconstruction.

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Postoperative Guidelines

Surgical Indication

Acute central Slip and lateral band injuries

Return to Work

The timeline for returning to work can vary depending on the type of work performed, various accommodations that may be available within your work environment, and any postoperative complications. Your surgeon will discuss the timeline for returning to work after consideration of these factors.

Terminology:

SAM refers to Short Arc of Motion

Zone III: Central Slip Repair

Surgeon

Conservative: Salyapongse

SAM central slip only: Michelotti, Gander, Salyapongse

SAM central slip and lateral band: Michelotti, Gander, Salyapongse

Phase I (day 2-5 days postop – 2 weeks)

Rehabilitation appointments	• Weekly per therapist discretion
Rehabilitation goals and priorities	• Protection of repair-full PIP extension (and DIP if lateral bands involved) • Activities of daily living within restrictions • Edema management • Wound/scar management

Orthosis management	• **Conservative** = Volar gutter: PIP in full extension DIP free
	• **Conservative central slip and lateral band involvement =** Volar gutter with PIP and DIP in full extension
	• **SAM central slip only** = Volar gutter: PIP in full extension DIP free
	  ○ PLUS volar exercise splint with wrist in 30 degrees flexion, PIP and DIP in 20° flexion block.
	• **SAM central slip and lateral band repair =** Volar gutter with PIP and DIP in full extension –
	  ○ PLUS volar exercise splint with wrist in 30 degrees flexion, PIP flexion block and DIP in extension.

Suggested therapeutic exercises	• **Conservative:** blocked DIP AROM X 10 reps of flexion every hour. • **SAM central slip/ slip and lateral bands;** while holding template in place, perform 20 repetitions each hour of flexion to touch template splint and extension to neutral using “minimal active tension.”

Precautions	• Wound precautions • Orthosis 24/7-remove for hand hygiene only (and exercises if using SAM protocol). • No lifting, pushing, or pulling more than 2 pounds with involved upper extremity • No weightbearing of involved upper extremity

Zone III: Central Slip Repair

Phase II (2 – 4 weeks)

Rehabilitation appointments	• Weekly per therapist's discretion
Rehabilitation goals and priorities	• Protection of repair • Excursion of the lateral bands • Activities of daily living per restrictions • Edema management • Scar management
Orthosis/ exercise	• **Conservative** : Full extension o may transition to cast once edema subsides. o A/PROM to all joints except for splinted PIP o Monitor every other week for full PIP extension as edema decreases • **SAM central slip only** : Volar gutter: PIP in full extension DIP free – o Progress exercise template of the PIP/ DIP by 10° flexion weekly o If extension lag develops, hold on exercises for one week, then reassess • **SAM central slip and lateral band repair:** Volar gutter with PIP and DIP in full extension o Progress volar template splint of the PIP/ DIP by 10° flexion weekly o If extension lag develops, hold on exercises for one week, then reassess
Precautions	• Monitor extension lag • Orthosis 24/7-remove for hand hygiene only (and exercises if using SAM protocol). • No lifting, pushing, or pulling more than 2 pounds with involved upper extremity

	• No weightbearing of involved upper extremity
Progression criteria	• Progress if extension lag is not present • Hold exercises if extension lag develops

Zone III: Central Slip Repair

Phase III (4 – 5 weeks)

Rehabilitation appointments	• Weekly per therapist discretion
Rehabilitation goals and priorities	• Protection of repair • Activities of daily living per restrictions • Edema and scar management as needed • Progress ROM without extension lag
Orthotic and exercises	• **<u>Conservative:</u>** ○ Begin to wean from day splinting during sedentary activities/ light ADL tasks for short time periods ○ Continue to splint at night and during high-risk ADL ○ Begin gentle AROM for the MP/PIP/ DIP ○ Continue extension splint at night ○ If > 10° extensor lag develops, resume static splinting in full PIP extension • **<u>SAM central slip only:</u>** ○ Begin to wean from day splinting during sedentary activities/ light ADL tasks for short time periods ○ Continue to splint at night and during high-risk ADL ○ Begin gentle AROM for the MP/PIP/ DIP ○ Continue extension splint at night ○ If > 10° extensor lag develops, consider spring extension splint during the day. ○ At 5 weeks, if no extension lag, initiate composite flexion • **<u>SAM central slip and lateral band repair:</u>** ○ Same as SAM central slip
Precautions	• No forceful gripping

	• No lifting, pushing, or pulling more than 2 pounds with involved upper extremity • No weightbearing of involved upper extremity
Progression criteria	• Progress if no extensor lag present

Zone III: Central Slip Repair

Phase IV (6 – 8 weeks)

Rehabilitation appointments	• Weekly per therapist's discretion
Rehabilitation goals and priorities	• Full AROM • Functional ADL
Orthotic and therapeutic exercises	• **<u>All protocols:</u>** ○ At 6 weeks night extension splint for additional 2 weeks then discontinue if no extension lag is present ○ At 8 weeks, if persistent stiffness or weakness persists, PROM may begin if no extension lag is present.
Precautions	• Observe for lag

ADDITIONAL NOTES

- A balanced exercise and splinting program is essential for optimal outcome.
- Splinting must maintain 0 ° of extension at the PIP
- Strengthening may be initiated at 10 weeks if needed: DO NOT assess grip strength
- Resistant cases can require attention and supervision for 6 – 9 months after injury. Tissue maturation with realization of the full potential function of the finger may not be achieve for a full year.
- Those who smoke and/ or have diabetes or other medical conditions have slow healing which may need extended splinting/ casting time to achieve a satisfactory outcome.

References:

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These rehabilitation guidelines were developed collaboratively between UW Health and UnityPoint Health - Meriter Rehabilitation and the UW Health Orthopedic Surgeons.

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