

Dr. Schmidt
Carpal Tunnel Release
Open, Endoscopic and Thread Technique

Phase 1: Early Protective Phase 0-3 weeks

Goals for Phase 1:

- Immobilize and protect surgical site
- Restore full wrist and hand ROM
- Minimize risk of scar adhesions
- Pain and edema control

Other considerations

Pillar pain along the thenar or hypothenar area may be present during initial 3 months following surgery. Gripping, and firm pressure along the palm can cause pain. As post-operative edema subsides, typically pillar pain will also subside.

Wound care

- Light dressing applied as needed

Edema Management

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

ROM

AROM 4-6x/day including flexor tendon glides, isolated blocking to the FDS and FDP, thumb opposition and wrist all planes of motion

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 as needed

Manual Therapy

- Desensitization – begin with light pressure and soft fabrics and progress to deeper pressure and coarse textures
- Median nerve glides

Modalities

- Ultrasound for scar management
- Heat modalities to progress ROM

Phase 2: Intermediate / Late Phase 3+ weeks

Goals for phase 2:

- Initiate progressive strengthening
- Develop home exercise program
- Educate patient to prevent recurrence of symptoms
- Gradually return to full functional use of involved arm

Other considerations

- Strengthening is not initiated if significant pain or moderate amounts of edema persist.
- Educate patient in reducing risk of recurrence.

Ways to reduce chance of recurrence:

- avoid repetitive use of wrist
- avoid using high-frequency vibration tools
- ergonomic education and workplace modification
- AE training such as anti-vibration gloves may be necessary
- frequent stretching and breaking up repetitive tasks

ROM

- Continue phase 1 ROM exercises until WNL
- Gentle intrinsic stretching as needed
- Median nerve glides as needed

Manual Therapy

- Continue scar management techniques
- Continue desensitization as needed
- Median nerve glides

Strengthening

- Initiate strengthening initiated with foam blocks or putty no more than 5 minute sessions 3-5x/day. Educate patient in slow, sub-maximal pain-free gripping and pinching exercises.
- 4-6 Weeks –
 - If strength is severely limited and/or patient requires significant strength in their job, progress to stronger putty or an exerciser with extra padding to avoid discomfort.
 - Initiate forearm and wrist isotonic strengthening
 - Postural strengthening

Modalities

Continue with ultrasound for scar management and heat modalities to progress ROM if it has not progressed to WNL for patient

Functional Activity

- **6 weeks** -- Patient education completed to reduce chance of recurrence of symptoms. Education on proper body mechanics and ergonomics should be vended to patient.
- **8 weeks** – gradually return to functional use of the involved hand for higher level work and home management tasks.
- **10 weeks** – patient may return to unrestricted use of the hand with MD permission.

Work Conditioning

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

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 Hand and Upper Extremity* (Vol. 1). Philadelphia, PA: Elsevier.