



Dr. Klika & Dr. Kirkpatrick Proximal Row Carpectomy

Proximal row carpectomy is a surgical procedure of the wrist where an entire row of wrist bones is removed. These bones include the scaphoid, lunate, and triquetrum. With the removal of this row, the remaining row is adjusted so that the capitate bone fits in the newly vacated lunate fossa on the radius. With the excision of this row of bone, a patient can expect a loss of approximately 50% of pre-operative movement.

Phase 1- Early Protective Phase (0-4 weeks)

Goals for phase 1

- Immobilize wrist to ensure fusion is protected.
- Ensure patient is properly educated on importance of wound care and signs/symptoms of infection.
- Educate on importance of movement for non-involved joints
- Educate on use of modalities to alleviate pain, decrease swelling, and improve function.

Other considerations

- Educate patient to return to clinic at any time for splint adjustment if splint is not supporting fusion.

Orthosis

- A forearm-based wrist control orthosis with wrist positioned in slight extension is fabricated to protect fusion at all times. Often the patient is referred to therapy after the initial immobilization phase at 4 weeks post-op.

Wound Care

- Keep incisions clean and dry
- Educate patient in sterile dressing changes as needed

Edema Management

- Light compression with coban or compression sleeves to digits, hand and forearm as needed
- Elevation
- Manual Edema Mobilization (MEM)

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

ROM

- A/PROM to uninvolved joints: educate in digital, forearm, elbow, and shoulder ROM with orthosis on as needed to prevent stiffness

Modalities

- Ice to reduce pain and inflammation as needed

Phase 2 – Movement Phase (4-8 weeks)

Goals for phase 2

- Initiate movement within patient tolerance to achieve end-range motion.
- Reduce scar tissue presence and effect on structures.
- Reduce pain with use of modalities.

Other considerations

- Total end-range motion recovery expected is 50% of pre-operative movement.
- Movement should not come at the expense of comfort. Always work within patient's pain tolerance.

Orthosis

- Begin to wean from wrist control orthosis between 6-8 weeks based on pain level. Wean from orthosis slowly by instructing the patient to remove it for light activities such as self-cares, dishes, folding laundry or writing and progressing to more challenging tasks.

ROM

- Initiate active motion in all planes for wrist and digits within patient tolerance.
- ROM exercises to be done for 10-minute sessions every 2 hours, or 4-5 times daily in PAIN-FREE range of motion.
- Patient should return to splint between exercises if pain is present.

Continue scar and edema management as needed

Modalities

- Use of ultrasound to reduce scar tissue and improve healing.
- Use of fluidotherapy for heat application and desensitization if necessary.
- Use of Paraffin wax to apply deep heat, relax tissues, and improve blood flow and movement.

Phase 3 – Strengthening Phase (8+ weeks)

Goals for phase 3

- Achieve end-range motion (50% of pre-operative motion).
- Achieve maximal strength of wrist, thumb, and digits.
- Reduce pain to lowest amount possible.
- Improve function of extremity and return to work if applicable.

Orthosis

- Discontinue wrist control orthosis for all activities.
- Patient may wear orthosis for heavier lifting activities if needed to control pain

ROM

- Continue with active motion to achieve end-range motion.
- Gentle passive ROM can be initiated and continued until end-range is achieved.
- Dynamic splinting may be utilized to achieve end-range motion if significant stiffness is still experienced.

Manual Therapy

- Continue with scar massage to reduce effects of scar tissue on motion if necessary.
- Soft-tissue massage may be used to reduce pain and improve tissue healing.

Strengthening

- Progressive strengthening may be initiated for the forearm, wrist, and hand.
- Home exercise program should be issued and may need to be continued after discharge to ensure return of maximal function

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

Other considerations

- All ROM and strengthening should be within pain-free range. Any motion or strengthening that elevates pain should be decreased or eliminated entirely.

Modalities

- Continue with modalities from Phase 2 to improve blood flow, scar management and patient comfort as needed.

References

1. Cannon, Nancy M. et. al. Diagnosis and Treatment Manual for Physicians and Therapists, 4th Ed. The Hand Rehabilitation Center of Indiana. Indianapolis, Indiana. 2001.
2. Saunders, Rebecca., Astifidis., Romina, Burke, Susan., Higgins, James., McClinton, Michael., *Hand and Upper Extremity Rehabilitation, a Practical Guide*. St. Louis, MO: Elsevier.
3. 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.

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.