ORTHOPEDICS & SPORTS MEDICINE
BAYCARE CLINIC

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Proximal & Middle Phalanx Fracture with ORIF

Phase 1 - Early Protective Phase (0 weeks – 2-3 weeks)

Goals for Phase 1

- Protect healing fracture and surgical fixation
- Reduce pain & swelling

Other Considerations

- If multiple digits are involved, a forearm-based safe position splint including all digits may be appropriate

Orthosis

- A custom hand-based ulnar or radial gutter orthosis is fabricated with MP joints at 70° of flexion and IP joints in full extension. Orthosis should include at least one adjacent digit for continual wear.

ROM

- **1 week unless MD orders or progress notes stated otherwise:** Begin gentle active motion to MP, PIP and DIP joints. All range of motion should be pain-free with focus on tendon glides to prevent adhesions, isolated EDC, and intrinsic exercises
- Initiate gentle ROM to wrist to prevent stiffness

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.
- Silicon and/or elastomer can be applied to incision after scar is fully healed to remodel and flatten scar
- Micropore or paper tape may be applied longitudinally along scar during the day after it is fully healed to reduce and prevent the formation of hypertrophic and keloid scarring

Edema Management

- Soft tissue massage and manual edema mobilization (MEM) administered as needed to reduce pain and decrease swelling
- Digital compression sleeves, retrograde Coban wrap, or edema glove can be applied to hand and digits to reduce swelling

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Phase 2 – Restore Range of Motion (2-3 weeks - 6 weeks)

Goals for Phase 2

- Initiate gentle range of motion while protecting healing fracture
- Continue to resolve pain and edema

Other Considerations

- Education is vital to prevent patient from being too aggressive during exercises. Emphasis should be on gentle motion in pain-free range.
- It is always important to monitor for extensor lags when trying to achieve end-range motion. If an extensor lag develops, it is important to balance flexor and extensor musculature through exercises and splinting.
- It is important to view the x-rays to know the severity and location of fracture before initiating end-range motion. Always check MD orders for variations in the protocol.

Orthosis

- Continue safe position gutter orthosis at all times between exercise sessions

ROM

- Continue Phase 1 active motion exercises
- 4 weeks: Initiate gentle passive motion to achieve end-range motion, blocked IP joint flexion
- Preventing scar adhesions
- Include reverse blocking exercises for IP extension and ORL stretching to reduce PIP flexion contractures

Scar and Edema Management

- Continue with Phase 1 scar mobilization, manual edema mobilization, and soft tissue massage to reduce scar tissue formation, swelling, and pain

Modalities

- Paraffin bath and Fluidotherapy may be utilized to increase tissue elasticity to maximize motion and to desensitize incision site if hypersensitivity is present.

Phase 3 – Restore Strength and Hand Function (6-8 weeks)

Goals for Phase 3

- Achieve maximal ROM
- Restore pre-operative strength
- Progress patient toward return to work if appropriate.

Other Considerations

- Continue to monitor for extensor lags. If an extensor lag develops it may be necessary to splint the digit in extension at night. A daytime relative motion orthosis with the affected digit in relative flexion may also be helpful in strengthening the extensor mechanism. Exercises should emphasize reverse blocking. End range PIP joint flexion and aggressive grip strengthening should be avoided until extensor lag resolves.
- For PIP joint contractures, consider a nighttime extension orthosis, dynamic or static progressive PIP extension orthosis for 10-minute sessions 4-5x/day, and/or a relative motion orthosis with the affected digit in relative flexion worn with activity to strengthen the extensor mechanism. Exercises should emphasize blocked active and passive DIP flexion to stretch the ORL and facilitate migration of the lateral bands dorsal to the axis of the PIP joint and reverse blocking exercises to strengthen the digit extensor mechanism. Avoid end range PIP flexion and aggressive grip strengthening until the contracture is resolved.

Orthosis

- 6 weeks: Patient may begin weaning from orthosis decreasing 1-2 hours of wear time per day until discontinued completely.
- For head and neck fractures, the patient may require additional 2 weeks in a digit extension orthosis
- If needed, a static progressive or dynamic finger splint may be fabricated to obtain end-range motion if normal interventions are unsuccessful.

ROM

- Continue gentle passive range of motion to achieve full end range motion if fracture is healing per provider and x-rays
- Continue to emphasize tendon gliding to prevent scar adhesions, reverse blocking, and blocked DIP flexion to help reduce PIP flexion contractures

Continue scar and edema management as needed

Modalities

- Continue with modalities as needed from Phase 2

Strengthening

- 7-8 weeks: Gentle progressive strengthening can be initiated if fracture is healed, and exercises do not increase pain or swelling
- Begin with forearm, wrist and hand isometrics and progress to isotonic strengthening using free weights and resistive putty or hand exercisers and wrist/hand stabilization exercises

Functional Activity

- Slowly progress from light functional activities to normal work and home management tasks
- After 8 weeks the patient may return to weight bearing, sports and use of tools that vibrate

Work Conditioning

- After 8-10 weeks and with MD consent a comprehensive work conditioning program for patients with high demand/heavy manual labor occupations may be appropriate

This protocol was reviewed and updated by Brian Klika, MD, Andrew Kirkpatrick, MD, and the ABMC Occupational Therapy Department on December 10th, 2025.

References

1. Cannon, Nancy M. et. al. Diagnosis and Treatment Manual for Physicians and Therapists, 5th Ed. The Hand Rehabilitation Center of Indiana. Indianapolis, Indiana. 2021.
2. 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.