ORTHOPEDICS & SPORTS MEDICINE
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Distal Radius Fracture Post-Surgical Volar Plating

Phase 1- Early Protective Phase (2 - 4 weeks post-op)

Goals for phase 1

- Protect and immobilize fracture repair
- Edema and pain control
- Promote scar tissue mobility to decrease scar adherence after incision healing

Other considerations

Care should be taken to position the wrist in neutral for volar displaced fractures and 20-30 degrees of extension for dorsally displaced traditional Colle's fractures to prevent stress over the fracture site during the healing phase. If unsure, splint in neutral to be safe.

Splint

- Patient is usually casted until 2 weeks post-op
- At 2 weeks, a volar thermoplastic wrist hand orthosis (WHO) with wrist in neutral position or the same as the post-operative mold.

Modalities

- Icing to reduce pain and swelling
- Heat modalities to promote flexibility of tissues
- Ultrasound as needed for scar (beginning 3 weeks post op)

Manual Therapy

- Manual Edema Mobilization (MEM) to promote edema reduction
- Issue Compressive stocking and/or glove for edema management
- Begin scar massage no sooner than 2 days after suture removal and after scar is fully closed with no scabbing present. Begin with light massage using lotion. Apply scar remodeling products as needed.

AROM

- Initiate gentle active motion to wrist and forearm gradually advancing to AAROM as tolerated unless MD orders or progress notes state otherwise
- AROM of uninvolved joints: shoulder, elbow, digits/thumb

PROM

- PROM of digits if needed

Phase 2 – Progressive Range of Motion (4-6 weeks post op)

Goals for phase 2

- Restore flexibility
- AROM improving
- Improvement in functional abilities

Criteria for progression to Phase 3

- AROM in pain free range

Splint

- Continue splint at all times between exercise sessions
- Begin weaning from splint at 6 weeks post op for non-resistive and limited-resistive activities

Modalities

- Icing to reduce pain and swelling
- Heat modalities to promote flexibility of tissues
- Other modalities as needed

Manual Therapy

- Continue MEM to promote edema reduction
- Continue Edema garments as needed
- Kinesiotaping for edema as needed
- Continue scar management

AROM

- AROM of uninvolved joints as needed
- AROM of wrist & forearm

ROM

- Gradually advance to gentle PROM wrist & forearm

PROM

- PROM of digits as needed

Phase 3 – Progressive Stretching & Strengthening (6-12+ weeks post op)

Goals for phase 3

- Maximum ROM pain free wrist and forearm; full motion uninvolved joints
- Increase strength while not increasing pain level
- Full use of extremity by 3 months, depending on work demands or sports

Criteria for return to work, function, sport

- Return to heavy work or sports as per MD approval

Splint

- Discontinue except for activities involving resistance; discontinue after 12 weeks unless wrist support needed for heavy activities & sports activities
- Transition to wrist widget if patient has ulnar-sided wrist pain (obtain MD approval if patient has an associated distal ulna fracture)
- Initiate progressive splinting if needed (6 weeks)

Modalities

- Ice as needed to reduce pain/inflammation
- Heat modalities as needed to promote flexibility of tissues
- Other modalities as needed

Manual Therapy

- MEM as needed
- Scar massage/mobilization as needed
- Joint mobilizations for wrist and forearm to promote maximal motion, if needed

A/AAROM

- Continue A/AAROM of wrist, forearm, digits, AROM of uninvolved joints as needed

PROM

- PROM of wrist/forearm to promote maximum end range motion

Strengthening (7-8 weeks post op)

- Grip and pinch strengthening with putty
- Progressive strengthening of wrist ,forearm, elbow & shoulder
  - Isometrics to Isotonics
- Stabilization and proprioception activities: flexbar for wrist strength and oscillations, weighted alphabet, gyroball, smart phone games, tilt maze game, progress to rebounder ball throwing

Work Conditioning (Initiate 12 weeks post op)

- Initiate a comprehensive work conditioning program for patients with high-demand, heavy manual labor occupations

References

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Valdes, K. A retrospective pilot study comparing the number of therapy visits required to regain functional wrist and forearm range of motion following volar plating of a distal radius fracture. Journal of Hand Therapy (2009); 22:312-318.

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.