ValleyOrtho Rehabilitation Playbook Series

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Diagnosis: Distal Radius Fracture

The intent of this information is to inform the treating clinician on the evidence-based considerations to be used as a guideline regarding the injury noted above. This is not a substitute for appropriate clinical decision making, but a supplement to that effect. If at any time a clinician feels uncertain about a given phase discrepancy or patient presentation they are strongly encouraged to discuss this with the referring physician and his/her team before alarming the patient. The goal of this rehabilitation guideline IS NOT to be used to motivate patients through fear and discouragement if they are not attaining goals in the described timeframes but to increase physician-therapist communication around established principles. It is the responsibility of the therapist to read the operative report before providing care to the patient to improve treatment communication.

Therapeutic Activity and Phase Progression Disclaimer: Progression to the next phase should be strongly based on meeting clinical criteria and goals of the previous phase (not solely based on the post-operative timeframes) as appropriate and in collaboration with the referring surgeon. Exercise prescription should be clinically directed by pain and performance absent of detrimental compensation with respect to proper biomechanics of the entire upper extremity.

Communication from Therapist to Surgical Team: When a treating therapist feels the need to reach out to Dr. Potter, or a member of his team, at any point for any reason, they are strongly encouraged to do so. All concerns are not explicitly written and clinical judgement is paramount. Below is a handful of reasons and suggested methods of contact to promote communication:

Urgent Red Flag Communication

- Uncontrollable and unremitting pain
- Signs of infection at incision or treated limb
- Signs of Complex Regional Pain Syndrome
- Signs of compartment syndrome
- Severe palpation tenderness, swelling, tachycardia (UE or LE DVT)
- Labored breathing (PE)
- After a fall/trauma, or near fall/trauma, resulting in a clinical change

Preferred Contact Method: **#1:** Immediate cell phone call or text to MD/MA until answer **#2:** Athena Text to the entire team until response

Administrative Issues

- Appointment needed with the physician office, or medication refill

Preferred Contact Method: **#1:** Athena Text or **#2:** phone call to MA

Other Patient Concerns

- Abnormal pain, comorbidities or complications that may prevent attainment of established discharge criteria
- Patient is noncompliant with rehabilitation process
- Excessive muscle guarding/motion phobia after 1-2 outpatient visits
- Adverse work or home practices negatively impacting recovery
- Patient expresses discontent or concerns with the current POC established by PT/OT and/or by MD/PA

Preferred Contact Method: Phone call or text to MD &/or PA

Preferred Updates before checkup visits with MD

- Information regarding adherence/participation in rehabilitation process
- Comments on progress and trending nature of the patient's rehab course

Preferred Contact Method: **#1:** Athena Text MD &/or PA. **#2:** Fax update

Phase 1: Initial Post-Stabilization Care (*Weeks 0 to 2*)

Goals:
- Reduce swelling and pain
- Maintain or improve uninvolved UE joint mobility
- Prevent tendon adherence

Precautions:
- NO pushing, pulling, lifting or bearing weight (>5 pounds) through the involved joint until week 6 or as directed by physician
- Incisions should not be submerged until full closure without scabbing (typically 2-3 weeks)

Non-Operative and ORIF Splinting/Bracing:
- Remove post-op bandage at 1st visit
- Fabricate wrist splint with fingers/thumb free and re-bandage
- Call the physician to verify splinting position as necessary

Phase 1 Therapeutic Activities:
- Edema control- may include gentle massage and compression glove or wrapping
- AROM initiated for the uninvolved joints (thumb, fingers, and shoulder)
  - ☐ Elbow and forearm included only with short arm casts
- PROM may also be initiated at the digits
- Pin and incisional care education
- Postural issues and guarding should also be assessed/addressed
- Additional ORIF Activities:
  - ☐ Gentle wrist/forearm AROM as tolerated
- Scar management as wound allows

Criteria for Progression to Phase 2:
- Patient reports appropriate pain management
- Patient demonstrates adherence to HEP and initial precautions

Phase 2: Wrist Protection & Healing (*Weeks 2 to 6)*

Goals:
- Reduce swelling and pain
- Maintain or improve uninvolved UE joint mobility
- Prevent tendon adherence

Precautions:
- Continue with Phase 1 precautions

Phase 2 Therapeutic Activities:
- Begin wrist and forearm AROM
- Continue edema control
- Continue scar management as wound allows
- Continue splint use
- Continue uninvolved UE joint A/PROM
- Additional Non-Operative, External Fixator or Percutaneous Pins Activities:
  - ☐ Fit for custom splint for use between exercise sessions after cast / fixator / pin removal
  - ☐ AROM to wrist/forearm after cast / fixator / pin removal
- Additional ORIF Activities:
  - ☐ Begin gentle PROM to wrist/forearm as directed by MD
  - ☐ Can begin weaning patient from splint after 5 weeks as patient tolerates

Physician Alert at 2-4 Weeks
- If the patient is still unable to make a full fist at 4 weeks call the physician to discuss treatment options then immediately communicate proposed plan of care to the patient.

Criteria for Progression to Phase 3:
- Minimal to no swelling present

Phase 3: Wrist Mobility & Early Strengthening (*Wks 6 to 8*)

Goals:
- Gradually improve functional use of injured hand/wrist
- Progress appropriate wrist ROM and activities when fracture is clinically stable as directed by physician

Precautions:
- X-ray clearance for progression of activity and stretching as directed by MD

Phase 3 Therapeutic Activities:
- Begin Wrist and forearm PROM and strengthening as tolerated
- Continue edema control as needed
- Continue scar management as needed
- Continue splint weaning as tolerated
- Continue uninvolved UE joint A/PROM as needed
- Additional Non-Operative, External Fixator or Percutaneous Pins Activities:
    - ☐ Fit for custom splint for use between exercise sessions after cast / fixator / pin removal
    - ☐ AROM to wrist/forearm after cast / fixator / pin removal
- Additional ORIF Activities:
    - ☐ Progress A/PROM exercises as tolerated

Physician Alert at 8 Weeks
- If the patient has not regained 50% of their wrist/forearm motion, call the physician to discuss treatment options then immediately communicate proposed plan of care to the patient

Criteria for Progression to Phase 4:
- Patient is tolerating ROM and activity progressions without undue soreness

Phase 4: Advanced Strength and Final HEP (*Wks 8 to 12+*)

Goals:
- Gradual return to prior level of strength and function
- Return to full wrist and hand ROM

Precautions:
- X-ray clearance for progression of A/PROM and strengthening activity as directed by MD

Phase 4 Therapeutic Activities:
- Progress A/PROM as necessary for patient's goals
- Progressive hand and wrist strengthening weeks 6-8; contact MD with any strengthening questions/concerns
- Initiate dynamic/static progressive splinting if necessary
- Wean completely from splint as tolerated
- Prepare and educate final HEP

Minimum D/C Criteria:
- Grip strength ≥ 50% of uninvolved hand
- A/PROM ≥ 80% of uninvolved UE
- 0-2/10 Pain level with return to normal activity

Abbreviation List:

ADL: Activity of daily Living
AROM: Active range of motion
BW: Body Weight
CKC: Closed kinetic chain
DVT: Deep vein thrombosis
D/C: Discharge
FWB: Full weight bearing
F/U: Follow up
HEP: Home exercise program
LE: Lower extremity
MA: Medical assistant
MD: Medical doctor
NWB: Non weight bearing
OKC: Open kinetic chain
PA: Physician assistant
PE: Pulmonary embolism
PROM: Passive range of motion
ROM: Range of motion
RROM: Resisted range of motion
UE: Upper extremity
WB: Weight bearing
YO: Years old
≈: Approximate
#: Pounds
≥: Equal to or greater than

References

1. Skirven T, Osterman L, Fedorczyk J, Amadio P. REHABILITATION OF THE HAND AND UPPER EXTREMITY. 6th EDITION. Philadelphia, PA : Elsevier/Mosby. 2011.
2. Indiana Hand to Shoulder Center. DIAGNOSIS & TREATMENT MANUAL FOR PHYSICIANS AND THERAPISTS: UPPER EXTREMITY REHABILITATION.

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