ORTHOPEDICS & SPORTS MEDICINE
BAYCARE CLINIC

DR. BRIAN KLIKA & DR. ANDREW KIRKPATRICK
RADIAL HEAD ORIF AND ARTHROPLASTY POST-OP THERAPY PROTOCOL

Phase 1 – Early Protection of Repair (0-4 weeks)

Goals for Phase 1	Precautions for Phase 1
• Protect radial head arthroplasty and healing structures • Minimize pain and edema • Initiate gentle active pain-free range of motion • Educate patient in home program	• Associated injuries are common with radial head fractures, so it is important to always check specific physician orders and operative notes for variations in the orthosis and protocol • Initial assessment should include sensory testing as radial and ulnar nerve injuries can be common

Orthosis
- The patient is fitted with a hinged elbow orthosis with forearm neutral
  - **0-2 weeks**: locked at 90 degrees of flexion
  - **3 weeks**: allow 30-120 degrees of motion
- Patient is fitted with a wrist hand orthosis if extensor mechanism was violated; see physician orders or surgical report
- In cases of associated injuries or if the patient is too large or small to achieve a good fit in the prefabricated hinged elbow orthosis, the patient may be fitted with a long arm orthosis with elbow at 90 degrees of flexion and forearm in neutral

Edema Management
- Light compressive dressing or sleeve may be applied to elbow, forearm, and wrist
- Manual Edema Mobilization (MEM) as needed

Scar Management
- Scar mobilization may be initiated two days following suture removal as long as incision is well-healed with no open areas and no drainage; apply scar remodeling products as needed

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

ROM
- Begin gentle active/active assistive elbow flexion and extension with the forearm in neutral at 2 weeks unless there is medial or lateral instability. Begin with patient in supine and progress to seated position to pain tolerance or unrestricted outside of brace.
- To protect the lateral collateral ligament the forearm is pronated during elbow extension
- To protect the medial collateral ligament the forearm is supinated during elbow extension
- Begin gentle active/active-assistive forearm rotation at 2 weeks with elbow at 90 degrees of flexion and forearm supported on a table
- No composite elbow and forearm motion at this time
- A/PROM to wrist, digits and shoulder as needed to prevent and resolve stiffness
- Patient is issued a home program for gentle active exercises outside orthosis 5-6x/day for 10 min sessions
- Avoid end-range wrist motion if extensor tendon was violated until 6 weeks postoperatively

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Phase 2 – Progress to full ROM (4-6 weeks)

Goals for Phase 2	Precautions for Phase 2
• Continue pain and edema control • Continue scar management • Restore full A and passive ROM	• The supinated forearm with full elbow extension places the most stress on the radial head and should be avoided with early shoulder, wrist, and hand strengthening and functional activities

Orthosis
- **Radial Head Arthroplasty**: at 4 weeks discontinue hinged elbow orthosis
- **Radial Head ORIF**: at 4 weeks continue hinged elbow orthosis but orthosis is unlocked to allow full elbow motion
- Continue wrist hand orthosis if applicable
- If the patient is in a long arm orthosis, follow specific physician orders

Manual Therapy
- Continue phase 1 scar and edema management as needed

ROM
- Continue phase 1 A/AAROM elbow, forearm, and wrist exercises
- Initiate unrestricted passive ROM and stretching to elbow and forearm
- Slowly progress to composite active and passive elbow and forearm motion
- Avoid early aggressive passive stretching which may increase risk of repair failure and heterotopic ossification (HO)

Modalities
- Fluidotherapy for heat, ROM, and desensitization
- Paraffin may be used for deep heat prior to ROM

Strengthening
- Initiate submaximal pain-free elbow and forearm isometrics
- Submaximal shoulder, wrist, and hand strengthening avoiding stress on repair
- Prone scapular stabilization exercises
- Avoid prone shoulder external rotation with lateral elbow instability

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Phase 3 – Strengthening and Return to Full Function (6+ weeks)

Goals for Phase 3
- Restore full active and passive ROM
- Gradually discontinue splint and return to functional activity
- Restore strength
- Return to work

Orthosis
- ORIF: discontinue hinged elbow orthosis
- Wrist hand orthosis is discontinued
- After fracture healing has been confirmed, a static progressive elbow extension orthosis may be considered if a patient continues with limitations

ROM
- Continue with A/AA/PROM of elbow and forearm to maximize end range motion
- If applicable, initiate unrestricted PROM to wrist

Manual Therapy
- Gentle grade 1 & 2 joint mobilizations may be initiated as long as the fracture/implant is healed and there is no instability present at 6 weeks

Modalities
- Continue heat modalities as needed to improve range of motion and tissue mobility

Strengthening
- **8 weeks**: initiate isotonic strengthening for elbow, forearm, and wrist starting with 1 pound weight. Emphasis initially should be on low weight and high repetitions to increase endurance.
- Continue shoulder, wrist, and hand strengthening
- **10 weeks**: initiate functional strengthening and work simulation as tolerated

Functional Activity
- **6-8 weeks**: gradually return to all activities of daily living emphasizing pain-free use of the involved arm
- **8-10 weeks**: gradually return to home management and work activities including functional lifting with physician consent

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

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