



# **KJ Hippensteel, M.D., FAAOS**Sports Medicine OrthoArizona

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## ELBOW FLEXOR-PRONATOR REPAIR POST-OPERATIVE GUIDELINES

## Phase 1: Weeks 0-2

## **PRECAUTIONS**

- No elbow range of motion (ROM) beyond 90 degrees
- Protected elbow extension to 15 degrees, per surgeon discretion
- Immobilized at 90 degrees of elbow flexion
- No passive range of motion (PROM) by clinician

## TREATMENT RECOMMENDATIONS

- Gentle elbow AROM within ROM precautions
- Gentle wrist AROM
- Scapular isometrics
- Cryotherapy

## **CRITERIA FOR ADVANCEMENT**

- Elbow AROM 15-90 degrees
- Full wrist/hand/finger AROM

- · Protect surgical repair
- Reduce irritation
- · Control edema and pain
- Familiarize with post-operative plan of care





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## ELBOW FLEXOR-PRONATOR REPAIR POST-OPERATIVE GUIDELINES

## Phase 2: Weeks 3-4

## **PRECAUTIONS**

- Gradually increase elbow AROM to tolerance
- No resistive elbow and wrist strengthening
- NO PROM by clinician

## TREATMENT RECOMMENDATIONS

- Functional training
- Gentle wrist and elbow AROM/AAROM within precautions
- Shoulder AROM
- · Scapular stabilization strengthening
- · Gripping exercises
- Discharge brace/splint at 4 weeks

## **CRITERIA FOR ADVANCEMENT**

Full elbow AROM

- Functional activities
- · Reduction of tissue irritability
- Control swelling
- Protect repair





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## ELBOW FLEXOR-PRONATOR REPAIR POST-OPERATIVE GUIDELINES

## Phase 3: Weeks 5-8

## **PRECAUTIONS**

- No resistive elbow strengthening until week 8
- No resistive wrist strengthening
- Avoid any painful exercises
- · Avoid closed chain exercises
- · No PROM by clinician until 6 weeks

## TREATMENT RECOMMENDATIONS

- Functional training
- · Scar massage, as needed
- Wrist and elbow AROM
- Begin low-load, long duration stretch for elbow extension, as needed, at 6 weeks
- Scapular stabilization strengthening
- Shoulder isometrics
- Begin isotonics for shoulder and elbow at 6 weeks
- Gripping exercises
- Begin upper body ergometer (UBE) at 6 weeks

### **CRITERIA FOR DISCHARGE**

Pain-free ROM

- Functional activities
- · Reduction of tissue irritability
- Protect repair
- · Reduce shoulder/elbow atrophy





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Phase 4: Weeks 9-12

### **PRECAUTIONS**

- Avoid any painful exercises
- Avoid closed chain exercises until week 10

### TREATMENT RECOMMENDATIONS

- Scar massage, as needed
- Scapular stabilization strengthening
- Advance isotonics for shoulder and elbow
- Begin shoulder external rotation (ER)/internal rotation (IR) strength at 0 degrees and 45 degrees of shoulder abduction
- · Begin wrist/forearm strengthening
- Proprioceptive neuromuscular facilitation (PNF) patterns with monitoring for compensatory movements
- May begin eccentrics at 10 weeks
- May begin closed-chain progression at 10 weeks (wall to table to floor)
- UBE

### **CRITERIA FOR DISCHARGE**

- · Pain-free at rest and during exercise
- All upper extremity manual muscle testing graded 5/5

- · Upper extremity strength
- Upper extremity endurance





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## ELBOW FLEXOR-PRONATOR REPAIR POST-OPERATIVE GUIDELINES

Phase 5: Weeks 13-16

## **PRECAUTIONS**

Avoid painful plyometrics

### TREATMENT RECOMMENDATIONS

- · Soft tissue mobility as needed
- Scapular stabilization strengthening
- · Advance isotonics for shoulder and elbow
- Begin shoulder ER/IR strength at 90 degrees of abduction
- Advance wrist/forearm strengthening
- Continue PNF and eccentrics
- · Advance closed-chain activities
- UBE
- Endurance progression o Double-hand overhead wall taps
  - Single-arm 90/90 wall taps
  - Single-arm 12 o'clock to 3 o'clock wall taps
  - Exercise blade in multiple positions
- Begin plyometrics (during 4-week period) o Double-hand chest pass (week 12)
  - Double-hand overhead soccer pass (week 12)
  - Double-hand chops (week 13)
  - Single-hand IR at 0 degrees shoulder abduction (week 13)
  - Eccentric catch (week 14)
- Single-hand 90/90 IR (week 14)

## **CRITERIA FOR DISCHARGE**

Pain-free plyometrics and closed-chain activities

- · Restoration of full strength and flexibility
- Restoration of normal neuromuscular function
- Preparation for return to sport specific activity





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Phase 6: Weeks 17+

### **PRECAUTIONS**

Avoid painful plyometrics

## TREATMENT RECOMMENDATIONS

- · Soft tissue mobility as needed
- · Continue upper extremity mobility/flexibility exercises
- Continue with advanced shoulder and scapular strengthening exercises
- Begin sports-specific programs o Return to golf (16 weeks)
  - Interval throwing program (16 weeks)
- Hitting program (20 weeks)

## **CRITERIA FOR RETURN TO PARTICIPATION**

- Pain-free progression through interval sports program
- · Independent with all arm care exercises

- Initiation of interval sports program
- Return to sports participation