



# Distal Biceps Repair

## **PHASE 1 (Immediate Post-Operative Phase): Generally 0-1 Weeks Post-Op**

### **Rehabilitation Goals**

- Reduce post-operative pain
- Reduce post-operative edema
- Protect surgical repair
- Patient education of surgical precautions and expectations of progression
- Optimize tissue healing environment

### **Precautions**

- Non-weight bearing on repaired upper extremity.
- AVOID active elbow flexion and forearm supination until Week 4
- NO LIFTING with repaired upper extremity until Week 6

### **Brace**

- Initial immobilization: posterior elbow orthosis with elbow in 90 degrees flexion with forearm in 0 degrees of pronation/supination for 5-7 days (unless otherwise indicated by surgeon)
- Hinged elbow brace: with brace set locked from 90 degrees of flexion to full flexion, initiate elbow flexion and forearm pronation/supination passive range of motion (PROM) at 5-7 days post-operative

### **Rehabilitation**

- Modalities to reduce post-operative edema and pain control
- Grip strengthening with forearm/wrist in neutral position
- Scar massage

### **Criteria to Progress**

- Adequate maintenance of post-operative pain and edema control
- Progression of elbow passive range of PROM in elbow flexion and forearm pronation/supination within confines of hinged elbow orthosis is based upon referring surgeon's assessment of surgical repair.



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## PHASE 2 (Immediate Post-Operative Phase): Generally 2-6 Weeks Post-Op

### Rehabilitation Goals

- Reduce post-operative pain
- Reduce post-operative edema
- Protect surgical repair
- Patient education of surgical precautions and expectations of progression
- Optimize tissue healing environment (avoid nicotine and caffeine)
- Improve elbow flexion and forearm pronation/supination PRRROM in hinged brace
- Initiate elbow flexion and forearm pronation/supination active-assisted range of motion (AAROM) and active range of motion (AROM) in hinged brace

### Brace

- Hinged Elbow Brace (set locked to allow restricted extension ROM):
  - 2nd week: 60 degrees to full flexion
  - 3rd week: 45 degrees to full flexion
  - 4th week: 30 degrees to full flexion
  - 5th week: 20 degrees to full flexion
  - 6th week: discharge hinged elbow brace

### Precautions

- Non-weight bearing on repaired upper extremity
- No lifting with repaired upper extremity

### Rehabilitation (Continue Phase I)

- Swelling Management
  - Ice, compression, elevation (check with MD re: cold therapy)
  - Retrograde massage
- Week 2
  - Elbow flexion/extension PROM within confines of hinged elbow brace
  - Forearm pronation/supination PROM with elbow at 90 degrees, in hinged elbow brace
  - Shoulder AROM as needed, avoiding hyper-extension
  - Wrist and hand AROM
- Week 3
  - Elbow flexion/extension PROM within confines of hinged brace
  - Forearm pronation/supination PROM with elbow at 90 degrees flexion in hinged elbow brace
- Week 4
  - Elbow flexion/extension AROM in gravity-eliminated plane in hinged elbow brace
  - Forearm pronation/supination AROM with elbow at 90 degrees flexion and forearm supported
- Week 5
  - Elbow flexion AROM in gravity-eliminated plane in hinged elbow brace, progressing to against gravity in hinged elbow brace, with removal of brace for AROM if full and painless against gravity
  - Forearm pronation/supination AROM with elbow at 90 degrees flexion without support

### Criteria to Progress

- Adequate maintenance of post-operative pain and edema control
- Full elbow flexion AROM and forearm pronation/supination AROM against gravity, without brace, and without increased pain or swelling



# Distal Biceps Repair

## **PHASE 3: Generally 7-10 Weeks Post-Op**

### **Rehabilitation Goals**

- Protect surgical repair
- Prevent muscle inhibition
- Improve cardiovascular endurance
- Maintain scapulothoracic endurance

### **PRECAUTIONS**

- Non-weight bearing to repaired upper extremity until Week 8
- Begin gradual weight bearing with elbow flexed at Week 8, progress to extended elbow by Week 10
- No lifting with repaired upper extremity until Week 8

### **Rehabilitation (Continue Phase 1-2)**

- Range of Motion:
  - Begin combined/composite motions (i.e. extension with pronation). If significant ROM deficits present at week 8, discuss progression to more aggressive PROM with referring orthopedic surgeon
- Weight-Bearing Progression:
  - Wall push ups
  - Push ups on elevated table
  - Modified forearm plank (elbows bent)
  - Quadruped progression with elbows extended:
- Scapulothoracic Strength/Endurance:
  - Prone scapular slides with shoulder extension to neutral
  - Serratus wall slides
  - Seated scapular retraction
  - Wall scapular protraction/retraction with elbows extended at Week 10
- Conditioning:
  - Treadmill walking and running
  - Stationary bike (gradually progress weight bearing on involved upper extremity over Weeks 7- 10 beginning with elbow flexed and progressing to elbow extended)

### **Criteria to Progress**

- Full, pain-free ROM of shoulder, elbow, wrist, and hand
- Proper scapulothoracic mechanics
- Full A/PROM to repaired elbow and forearm with normal grip strength



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# Distal Biceps Repair

## PHASE 4: Generally 11-15 Weeks Post-Op

### Rehabilitation Goals

- Increase functional strength of operated upper extremity
- Initiate strengthening at Week 10

### Rehabilitation (Continue Phase 1-3)

- Range of Motion:
  - Continue with combined/composite range of motion, focusing on proper mechanics of shoulder, elbow, wrist, and hand
- Strengthening:
  - At Week 10, initiate submaximal isometrics of elbow flexors, extensors, supinators, and pronators at Week 10.
  - Over Weeks 10-12, progress from submaximal isometrics to submaximal isotonic:
  - Resisted bicep curl (pronated, neutral, and supinated grip)
  - Resisted pronation and supination
  - Resisted tricep extension
  - Progress shoulder strengthening program with light upper extremity weight training:
    - Standing resisted shoulder elevation
    - Standing shoulder PNF diagonals
    - Resisted Prone I, Prone Y, Prone T
    - Rows
    - Resisted shoulder ER, Resisted shoulder IR
    - Supine shoulder protraction
    - Wall push ups
    - Quadruped stability progression

### Criteria to Progress

- Full, pain-free ROM of shoulder, elbow, wrist, and hand
- Proper scapulothoracic mechanics

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# Distal Biceps Repair

## **PHASE 5: Generally 16-24 Weeks Post-Op**

### **Rehabilitation Goals**

- Increase strength and endurance of repaired upper extremity

### **Rehabilitation (Continue Phases 1-4)**

- Advanced Strengthening:
  - Continue Phase IV exercises
  - Rhythmic stabilizations
  - High plank stability progression
  - Bilateral upper extremity plyometrics after Week 16 (based on control and response)
  - Single arm plyometrics after Week 20-22 (based on control and response)

### **Criteria to Progress**

- Full, pain-free A/ROM of shoulder, elbow, wrist, and hand
- Proper scapulothoracic mechanics
- Pain-free performance of HEP

## **PHASE 5: Generally 25+ Weeks Post-Op**

### **Rehabilitation Goals**

- Increase strength of operated upper extremity
- Return to sport

### **Rehabilitation (Continue Phases 1-4)**

- Focus on progression of sport-specific movements
- Graded participation in practice, with full, pain-free practice prior to participation in competition

### **Criteria for Discharge**

- Full, painless elbow/wrist ROM
- Shoulder total ROM within 5° of non-throwing shoulder
- > 40° horizontal adduction of throwing shoulder
- < 15° Glenohumeral IR deficit.
- Elbow, shoulder and wrist strength with MMT, HHD or isokinetic



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