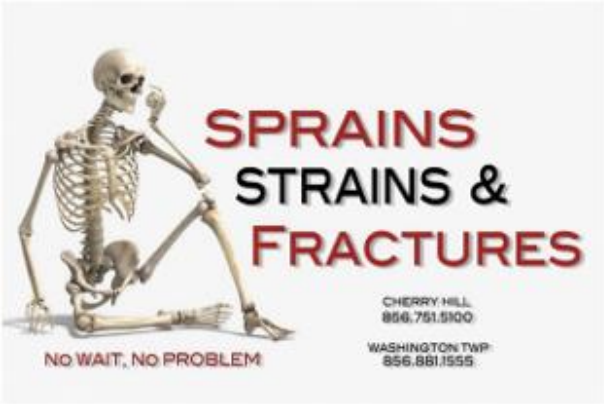

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Distal Biceps Repair Rehabilitation Protocol

Introduction

This rehabilitation protocol is designed for patients recovering from distal biceps tendon repair.

The distal biceps tendon attaches the biceps muscle to the radius bone in the forearm and plays a critical role in:

- Elbow flexion strength
- Forearm supination strength (rotating the palm upward)
- Pulling and lifting activities
- Grip performance
- Upper extremity power generation

Distal biceps ruptures commonly occur during forceful lifting, sudden eccentric loading, athletic activity, or heavy manual labor. Surgical repair restores the tendon back to bone with the goal of recovering strength, endurance, and upper extremity function.

Successful recovery requires a gradual, criterion-based rehabilitation progression that protects tendon healing while restoring mobility, strength, neuromuscular control, and functional performance.

This protocol follows a conservative progression designed to minimize stress on the healing repair while safely returning patients to higher-demand activity.

Progression should always be individualized based on:

- Surgical fixation technique

- Tissue quality
- Associated pathology
- Pain and inflammatory response
- Occupational demands
- Athletic goals
- Movement quality and strength progression

Close communication between the patient, physical therapist, athletic trainer, and surgical team is encouraged throughout recovery.

Understanding Distal Biceps Tendon Injury

What Does the Distal Biceps Tendon Do?

The distal biceps tendon connects the biceps muscle to the forearm and contributes significantly to:

- Supination strength
- Pulling power
- Grip endurance
- Lifting performance
- Rotational arm control

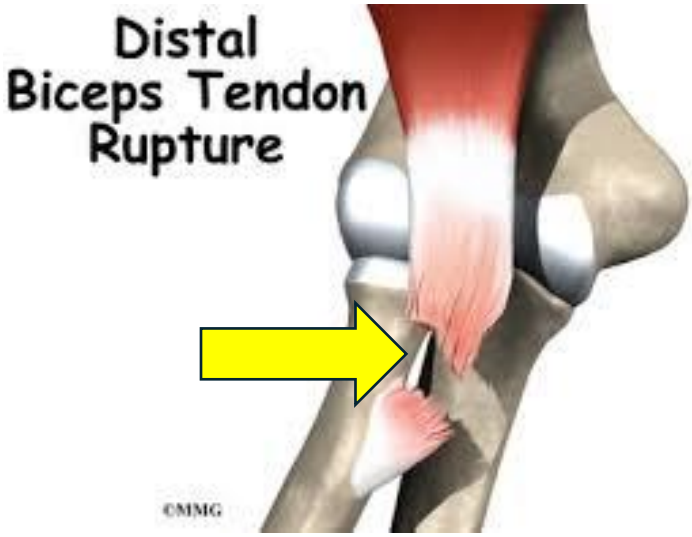
Because of its role in rotational strength and eccentric loading, injuries commonly occur during:

- Heavy lifting
- Sudden pulling motions
- Weight training
- Sports participation
- Manual labor activities

Common Symptoms of Distal Biceps Rupture

Patients commonly experience:

- Sudden pain in the front of the elbow
- A popping sensation
- Bruising and swelling
- Weakness with lifting or pulling
- Loss of forearm supination strength
- Fatigue during gripping activities

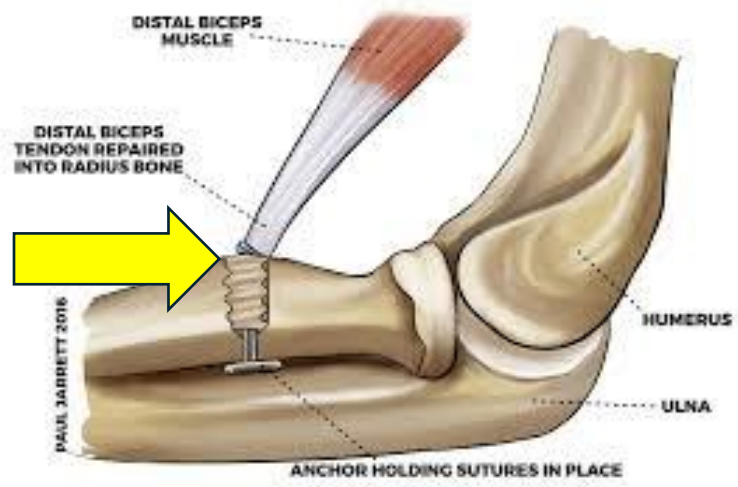


Goals of Surgical Repair

The goals of surgery are to:

- Restore tendon attachment
- Recover strength and endurance
- Improve pulling and rotational mechanics
- Restore functional arm performance
- Safely return to work and sport

Healing of the tendon into bone occurs gradually over several months. Early protection is critical to avoid excessive stress on the repair site.



General Rehabilitation Principles

Early Priorities

- Protect tendon healing
- Control swelling and pain
- Restore safe elbow mobility
- Prevent stiffness
- Maintain shoulder and wrist mobility
- Avoid excessive loading of the repair

Long-Term Priorities

- Restore full elbow and forearm motion
- Rebuild pulling and grip strength
- Improve upper extremity endurance
- Restore dynamic upper extremity control
- Safely return to lifting, work, and sport

Postoperative Expectations

Common Early Symptoms

The following symptoms are common during early recovery:

- Swelling around the elbow and forearm
- Bruising near the surgical site
- Tightness with motion
- Temporary weakness
- Mild soreness after exercises
- Fatigue with gripping or arm positioning

Contact Dr. Ford If You Experience:

- Fever greater than 101°F
- Increasing redness or drainage
- Progressive swelling
- Severe uncontrolled pain
- Numbness or weakness
- Calf pain or swelling

- Difficulty moving the hand or fingers

Rehabilitation Timeline Overview

Phase	Timeline	Primary Goals
Phase I	Weeks 1-3	Protection, controlled ROM, swelling reduction
Phase II	Weeks 3-6	Restore mobility and initiate light activation
Phase III	Weeks 6-12	Progressive strengthening and endurance
Phase IV	Months 3-6	Advanced strength and return to activity

PHASE I — PROTECTION & CONTROLLED MOBILITY

Weeks 1-3

Goals

- Protect surgical repair
- Control swelling and inflammation
- Restore protected elbow motion
- Maintain forearm mobility
- Preserve shoulder and wrist mobility

Range of Motion Guidelines

- Elbow ROM typically limited from approximately 30° extension to 120° flexion initially
- Forearm pronation and supination performed within protected tolerance
- Progression individualized based on fixation and tissue quality

Sling Use

- Sling worn as needed for comfort for approximately 2 weeks
- Encourage normal shoulder motion within tolerance
- Avoid prolonged immobilization unless otherwise directed

Precautions

- No lifting with operative arm

- No resisted elbow flexion
- No resisted forearm supination
- Avoid sudden pulling motions
- Avoid aggressive stretching
- Protect repair during transfers and daily activities
- ***You may experience some numbness along the thumb. Oftentimes during the surgery, the sensory nerve needs to be retracted to allow for the repair. This can cause the nerve to be irritated, however over time the sensation will gradually return.***

Recommended Interventions

Mobility

- Active-assisted elbow flexion
- Active elbow extension within limits
- Forearm pronation/supination drills
- Wrist and hand mobility exercises
- Shoulder ROM maintenance

Swelling Management

- Cryotherapy
- Compression if indicated
- Elevation strategies
- Soft tissue recovery education

Movement Quality Focus

- Avoid compensatory shoulder elevation
- Encourage relaxed arm positioning
- Restore normal upper extremity movement patterns

Criteria to Progress

- Pain controlled
- Minimal swelling
- Tolerates protected ROM
- Incisions healing appropriately
- No excessive inflammatory response

PHASE II — MOTION RESTORATION & EARLY STRENGTH

Weeks 3-6

Goals

- Wean out of the sling but do NOT lift anything more than a “coffee cup” in terms of weight
- Restore full elbow and forearm ROM
- Improve soft tissue mobility
- Initiate light muscular activation
- Improve grip endurance
- Restore functional arm use for light activities

Precautions

- No heavy lifting
- Avoid forceful pulling
- Avoid explosive movement
- Progress strengthening gradually

Recommended Interventions

Mobility

- Progressive elbow extension restoration
- Full flexion progression
- Forearm rotation mobility
- Soft tissue mobilization and scar management

Grip & Forearm Training

- Putty exercises
- Grip endurance progression
- Wrist flexion and extension drills
- Forearm control exercises

Early Strengthening

- Light tubing exercises
- Light dumbbell strengthening (2-3 lbs initially)
- Elbow flexion/extension activation
- Forearm pronation/supination strengthening
- Wrist strengthening progression

Cardiovascular & Lower Body Training

- Stationary bike
- Walking program
- Lower body strengthening

Return to Activity

Typically the tendon heals to the bone approximately 3 months after surgery. Return to work and function can be gradually resumed after this. It is still recommended to avoid eccentric biceps exercises for up to five months after surgery to protect the repair.