



Orthopedic Surgery, Sports Medicine & Arthroscopy Specialists

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REHABILITATION PROTOCOL- Distal biceps tendon repair

The rehabilitation guidelines are presented in a criterion based progression program. General time frames are given for reference to the average, but individual patients will progress at different rates depending on their age, associated injuries, pre-injury health status, rehab compliance, tissue quality and injury severity. Specific time frames, restrictions, and precautions may also be given to protect healing tissues and the surgical repair/reconstruction. It should not be a substitute for one's clinical decision making regarding the progression of a patient's post-operative course based on their physical exam findings, individual progress, and/or the presence of post-operative complications. The therapist should consult the referring physician with any questions or concerns.

Special attention must be given to impairments that caused the initial problem. For example, if the patient is s/p partial medial meniscectomy and they have a varus alignment, post-operative rehabilitation should include correcting muscle imbalances or postures that create medial compartment stress.

INDIVIDUAL CONSIDERATIONS: S/p

PHASE 1- Surgery to 2 weeks

REHAB GOALS	<ol style="list-style-type: none"> 1. Protection of the post-surgical repair 2. Avoid contracture 3. Minimize swelling, pain & inflammation
PRECAUTIONS	<ol style="list-style-type: none"> 1. Minimize activities that stress elbow flexors and supinators 2. Posterior splint with elbow immobilized at 90 degrees and neutral rotation until first postoperative visit. 3. Hinged elbow brace placed after splint removed, ROM locked 30 extension-full flexion. 4. Avoid shoulder extension beyond neutral 5. Cryocuff 3-5 times per day for 20 minutes and ice after every therapy session after splint removed
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none"> ○ Codman exercises ○ Shoulder passive ROM with elbow flexed ○ Elbow passive flexion & supination. Active/active assist elbow extension/pronation ○ Passive wrist and hand ROM
SUGGESTED THERAPEUTIC	<ul style="list-style-type: none"> ○ Sub maximal pain free shoulder & triceps isometrics ○ Week 2- sub maximal pain free biceps isometrics (forearm neutral)

EXERCISES	
CARDIOVASCULAR EXERCISE	Stationary bike when splint removed with brace on. No gripping handle with operative arm
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Minimal pain & swelling ○ Wound healing

PHASE 2- 2-6weeks

REHAB GOALS	<ol style="list-style-type: none"> 1. Protection of the post-surgical repair 2. Continue activity modification (non weight bearing operative arm) 3. Avoid painful exercises 4. Minimize pain and swelling
PRECAUTIONS	<ol style="list-style-type: none"> 1. Avoid gripping, lifting, carrying items with operative arm 2. Hinged elbow brace: Week 5-20 deg extension, week 6- 10 deg extension, week 7- allow full extension. 3. Cryocuff 3-5 times per day for 20 minutes and ice after every therapy session
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none"> ○ Week 3-Active assist elbow flexion ○ Continue active/active assist extension, progress to passive extension week 3 ○ Week 4- active elbow flexion & extension ○ AROM of shoulder
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ As above ○ Single plane active elbow flexion, extension, pronation, supination
CARDIOVASCULAR EXERCISE	Stationary bike without gripping of handle with operative arm
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Minimal pain & swelling ○ Full elbow flexion and lacking <20 deg of extension

PHASE 3- 6-10 weeks postop

REHAB GOALS	<ul style="list-style-type: none"> ○ Protect surgical repair ○ No pain with ADLs ○ Full ROM ○ Begin to restore Shoulder, scapular, elbow & forearm strength
PRECAUTIONS	<ul style="list-style-type: none"> ○ Avoid gripping, carrying items with operative arm ○ Hinge elbow brace- week 7 allow full extension, discontinue at week 8 if full ROM
RANGE OF	<ul style="list-style-type: none"> ○ Continue exercises from phase 2.

MOTION EXERCISES	<ul style="list-style-type: none"> ○ Can start combination motions (e.g. extension with pronation) ○ If patient has not achieved full ROM by week 8 discuss with surgeon
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Sport specific core & lower extremity strengthening. Avoid holding heavy weights in hands ○ Week 7-supine scapular stabilization without weight ○ Week 8- Strengthening elbow flexion, extension, forearm rotation, wrist flexion & extension with tubing/1kg weights ○ Week 8- Shoulder theraband, supine scapular stabilization with 1kg weight
CARDIOVASCULAR EXERCISE	Stationary bike, avoid gripping handle
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Full elbow ROM ○ Pain free w/exercises & ADLs ○ Shoulder ROM equal to contralateral

PHASE 4- 10-14 weeks postop

REHAB GOALS	<ul style="list-style-type: none"> ○ Begin elbow strengthening program ○ Restore shoulder & forearm flexibility ○ Minimize pain and swelling
PRECAUTIONS	Post-activity soreness should resolve within 24 hours Avoid post activity swelling
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none"> ○ Continue with flexibility exercises from previous phase ○ Forearm and shoulder stretching, avoid shoulder extension past neutral until week 12
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Progress phase 3 activities with resistance/weight ○ Progress rotator cuff strengthening to 90 deg internal & external position ○ Begin biceps specific exercises ○ Week 12- ok to start light upper extremity weight training ○ Progress core/lower extremity exercises
CARDIOVASCULAR EXERCISE	Progress to upper body ergometry at week 12
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ No pain or swelling ○ Full range of motion

PHASE 5- 14+ weeks

<p>REHAB GOALS</p>	<ul style="list-style-type: none"> ○ Restore normal neuromuscular function ○ Begin sport/work specific activities without pain ○ Restore full strength, ROM, endurance ○ Return to sport/work: may be 6-9 mos before strength returns
<p>PRECAUTIONS</p>	<ul style="list-style-type: none"> ○ Post-activity soreness should resolve within 24 hours
<p>RANGE OF MOTION EXERCISES</p>	<ul style="list-style-type: none"> ○ Continue with flexibility exercises ○ Lower extremity flexibility per sport
<p>SUGGESTED THERAPEUTIC EXERCISES</p>	<ul style="list-style-type: none"> ○ Progress strengthening from phase 4 ○ Implement sport/work specific exercises and progress as tolerated
<p>CARDIOVASCULAR EXERCISE</p>	<ul style="list-style-type: none"> ○ Continue to progress from phase 4.
<p>PROGRESSION CRITERIA- RETURN TO SPORT</p>	<ul style="list-style-type: none"> ○ Normal grip strength ○ Normal upper extremity flexibility, strength, power, endurance ○ Completion of sport specific program ○ Elbow flexion & supination 90% of contralateral side