



Orthopedic Surgery, Sports Medicine & Arthroscopy Specialists

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REHABILITATION PROTOCOL- Ulnar collateral ligament reconstruction

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 repair2. Avoid contracture3. Minimize swelling, pain & inflammation
PRECAUTIONS	<ol style="list-style-type: none">1. Posterior mold splint until first postoperative visit.2. Hinge elbow brace after splint removed. ROM 25-100. Wear brace during sleep as well.3. Cryocuff 3-5 times per day for 20 minutes and ice after every therapy session once splint removed4. If hamstring graft used avoid leg exercises for one week, can use one crutch if needed.
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none">○ Passive elbow ROM 20-100 for first 2 weeks○ Shoulder ROM○ Elbow active ROM and active assist ROM, no passive
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none">○ As above○ Select core, hip, LE exercises○ Gripping, active wrist ROM○ Shoulder isometrics except ER○ Biceps, triceps isometrics○ Light muscle activation for intrinsics, wrist, elbow, shoulder

	<ul style="list-style-type: none"> ○ Scapular neuromuscular control seated & side lying, rhythmic stabilization for shoulder, elbow, wrist
CARDIOVASCULAR EXERCISE	Stationary bike at 10 days with brace on. No gripping of handle with operative arm
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Minimal effusion ○ Elbow passive ROM 30-100 ○ No marked pain or sign of infection ○ No neurologic symptoms ○ Wound healed

PHASE 2- 2-6weeks

REHAB GOALS	<ol style="list-style-type: none"> 1. Protection of the post-surgical repair 2. Obtain full ROM of elbow 3. Minimize pain and swelling 4. Progress with scapular strengthening, thrower's exercises
PRECAUTIONS	<ol style="list-style-type: none"> 1. Avoid gripping, lifting, carrying items with operative arm 2. Hinge elbow brace- week 3: 10-110, week 4: 0-120, week 5: 0-130. Week 6 d/c elbow brace 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"> ○ Passive ROM of elbow, progress as above ○ Elbow extension isometrics-week 2 ○ Week 3- light stretching for wrist (palmaris graft) & hamstring (gracilis) ○
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Week 3- elbow isometrics, progressive resistance with shoulder scaption, abduction, ER/IR, scapular retraction, horizontal abduction ○ Machine based LE strength training (palmaris graft). Gracilis graft-isometric hamstring & gastroc at week 4, isotonic at week 6 ○ Week 4- Wrist progressive resistance exercises ○ Joint repositioning drills for shoulder & elbow ○ Balance- single leg balance, BOSU squats, star excursion ○ Core- side lying planks, rhythmic stabilization of trunk ○ Thrower's exercises: ER/IR at 0 abduction (progress to IR/ER at 90 if no pain), scaption ER full can, rows into ER at 90 abduction seated on stability ball, lower trap seated on stability ball, elbow flexion, elbow extension/triceps, wrist extension, wrist flexion, supination, pronation, sleeper stretch, supine horizontal adduction stretch into IR, Prone horizontal abduction neutral/full ER at 100, prone row, Diagonal pattern (D2) flexion/extension
CARDIOVASCULAR EXERCISE	Stationary bike without gripping of handle with operative arm

PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Full pain free elbow ROM ○ Symptom free wrist, elbow, shoulder, scapular active movements ○ Good scar mobility along surgical incisions ○ Minimal/no joint & distal upper extremity edema ○ No medial elbow pain
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PHASE 3- 7-10 weeks postop

REHAB GOALS	<ul style="list-style-type: none"> ○ Protect surgical repair ○ No pain with ADLs ○ Full ROM
PRECAUTIONS	<ul style="list-style-type: none"> ○ Discontinue use of elbow brace
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none"> ○ Continue exercises from phase 2. ○ If no full ROM, joint mobilizations, low load long duration stretches
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Continue exercises from phase 2 ○ Thrower's exercises from above performed on stability ball. ○ Well arm lifting- rows, lateral shoulder raises, biceps/triceps ○ Lower body- leg press, lunges, wall sits. If gracilis graft-light isotonic hamstring & calf strengthening at 6 weeks ○ Progress cuff & scapulothoracic strengthening ○ Prone row into ER & prone scaption ○ Week 8- Biceps/triceps eccentrics ○ Rhythmic stabilization drills seated & standing ○ Lower extremity proprioception & coordination ○ Wrestling, football, gymnastics athletes- closed chain exercises- weight shifting with hands on table, ball on wall stabilizations ○ Shoulder & scapular light manual resistance ○ Forearm, scapulohumeral, scapulothoracic PNF patterns ○ Week 8-Plyometrics: two hand drills close to body for 2 weeks, progress to two hand plyometric tosses with arms extending from body. Ball flips & reverse ball flips for forearms
CARDIOVASCULAR EXERCISE	Stationary bike, treadmill, upper body ergometer
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Full elbow ROM ○ No tenderness or pain over medial elbow ○ 4/5 upper extremity strength ○ Completion of 2 hand plyometrics

PHASE 4- 11-14 weeks postop

REHAB GOALS	<ul style="list-style-type: none"> ○ Restore normal upper extremity strength ○ Maintain full ROM ○ Initiate sports specific drills
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 ○ LE and core flexibility
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Progress phase 3 activities with resistance/weight ○ Can advance thrower's exercises on stability ball. Can add 90 degree ER/IR ○ Progress LE and core strengthening ○ Closed chain upper extremity for football, gymnastics, etc: push up progression, planks ○ PNF distal upper extremity ○ Rhythmic stabilization & manual resistance on unsupported surface ○ Two hand plyometrics – progress as tolerated, side to side, soccer, side throws ○ Hitting program (see attached) at week 12
CARDIOVASCULAR EXERCISE	UBE, bike, elliptical, jogging
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Full pain free ROM ○ No tenderness, pain or neurological symptoms ○ 5/5 strength ○ Completion of two hand plyometrics

PHASE 5- 15-26 weeks

REHAB GOALS	<ul style="list-style-type: none"> ○ Full pain free ROM ○ 5/5 strength ○ Progression of interval sports training program
PRECAUTIONS	<ul style="list-style-type: none"> ○ Post-activity soreness should resolve within 24 hours
RANGE OF MOTION EXERCISES	<ul style="list-style-type: none"> ○ Continue with flexibility exercises
SUGGESTED	<ul style="list-style-type: none"> ○ Progress strengthening from phase 4

THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Can have athlete perform one set of exercises prior to throwing as warmup and two afterwards. ○ Open chain- rows, lat pull downs, lateral raises ○ Closed chain- planks, push ups on unstable surface, slide board ○ Cuff & scapular strengthening in sport specific positions ○ Plyometrics- initiate one handed at week 14, including baseball throws ○ Flat ground interval throwing program- Phase 1 (see separate sheet). Phase 2 begin at 24 weeks
CARDIOVASCULAR EXERCISE	<ul style="list-style-type: none"> ○ Continue to progress from phase 4. Progression to running. Ok to begin swimming
PROGRESSION CRITERIA	<ul style="list-style-type: none"> ○ Completion of phase 1 throwing ○ No pain or swelling ○ 5/5 strength ○ Full range of motion of upper extremity

PHASE 6- 27+ weeks

REHAB GOALS	Return to sport
PRECAUTIONS	Post-activity soreness should resolve within 24 hours
RANGE OF MOTION EXERCISES	Continue with flexibility exercises
SUGGESTED THERAPEUTIC EXERCISES	<ul style="list-style-type: none"> ○ Progress strengthening from phase 5 ○ Interval throwing program- Phase 2
CARDIOVASCULAR EXERCISE	<ul style="list-style-type: none"> ○ Progress to baseline
PROGRESSION CRITERIA- RETURN TO SPORT	<ul style="list-style-type: none"> ○ Pain free, full ROM ○ 5/5 strength through kinetic chain ○ Normal rotator cuff ratio ○ Completion of throwing program/sport specific program