

Rehabilitation guidelines post ulnar collateral ligament reconstruction

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Postoperative Phase 1: Weeks 1-4

Goals: Rehabilitation appointments begin 5-7 days after surgery and continue 1 -2 time per week

- Promote healing: reduce pain, inflammation, and swelling
- Begin to restore range of motion
 - o Week 1 = immobilized at 90° of elbow flexion in hard brace
 - o Week 2 = Functional hinged brace with range of motion from 30°-100°
 - o Week 3 = Functional hinged brace with range of motion from 15°-115°
- Prevent muscular atrophy
- Independent home exercise program

Precautions:

- Brace should be worn at all times
- No passive range of motion of the elbow
- No aggressive stretching of the wrist if palmaris longus used for first 3 weeks

Treatment strategies:

- Brace set at 30° to 100° of flexion and advanced per protocol
- Begin week 2 with sub-maximal isometrics for shoulder internal rotation, shoulder abduction, biceps, wrist flexors and extensor
- Elbow, active range of motion in brace
- Wrist, active range of motion
- Scapula isometrics
- Cervical spine
- Gripping exercises
- Cryotherapy
- Home exercise program
- NOTE: Be sure to avoid valgus force or positioning during range of motion exercises

Criteria for advancement:

- Elbow, range of motion 15°–115°
- Minimal Pain or swelling

Postoperative Phase 2: Weeks 4-6

Goals:

- Range of motion: 0°– 130°
- Minimal pain and swelling
- Protect reconstruction during continued healing
- Improve muscular strength of the arm, shoulder and trunk

Precautions:

- Continue to wear brace at all times
- Avoid passive range of motion
 - o Week 4 = Functional hinged brace with range of motion from 10° - 120°
 - o Week 5 = Functional hinged brace with range of motion from 5° - 130°
 - o Week 6 = Functional hinged brace with range of motion from 0° – 130°
 - o Discontinue brace at 6-8 weeks except in unsafe environments (this time frame may vary from patient to patient per physician recommendation)
- Avoid valgus stress

Treatment strategies:

- Continue active range of motion in brace
- Begin pain-free isometrics in brace (deltoid, wrist flexion/extension, elbow flexion/extension)
- Manual scapula stabilization exercises with proximal resistance
- Hip, lower extremity and core strengthening
- Cervical spine active range of motion/stretching
- Modalities as needed
- Modify home exercise program
- Gentle active assisted range of motion of the wrist and elbow

Criteria for advancement:

- Elbow, range of motion 0°–130°
- Minimal Pain or swelling

Postoperative Phase 3: Weeks 6-12

Goals: rehabilitation appointments 1-2 per week

- Restore full range of motion and maintain
- All upper extremity strength:5/5
- Begin to restore upper extremity endurance

Precautions:

- Minimize valgus stress
- Avoid passive range of motion by the clinician

- Avoid pain with therapeutic exercise
- There should be no pain while doing the strengthening exercises
- Post-exercise soreness, should be less than 4/10 and return to baseline within 24-36 hours

Treatment strategies:

- Continue active range of motion
- Low-intensity/long-duration stretch for extension
- Isotonics for scapula, shoulder, elbow, forearm, wrist
- Begin internal/external rotation strengthening at 8 weeks □ Begin forearm pronation/supination strengthening at 8 weeks
- Upper body ergometer (if adequate range of motion)
- Neuromuscular drills
- Proprioceptive neuromuscular facilitation patterns when strength is adequate
- Incorporate eccentric training when strength is adequate
- Manual resistance diagonal patterns
- Hip, lower extremity and core strengthening
- Scapular strengthening and stabilization
- Modalities as needed
- Modify home exercise program

Criteria for advancement:

- Pain-free
- Full elbow range of motion
- All upper extremity strength 5/5

Postoperative Phase 4: Weeks 12–20

Goals:

- Restore full strength and flexibility
- Restore normal neuromuscular function
- Prepare for return to activity

Precautions:

- Pain-free plyometrics
- There should be no pain while doing the strengthening exercises

Testament strategies:

- Advance internal/external to 90/90 position
- Full upper extremity flexibility program
- Neuromuscular drills
- Plyometric program
- Continue endurance training

- Begin throwing mechanics education – including slow motion “air throws”, posture and position check points
- Address trunk and lower extremities
- Modify home exercise program

Criteria for advancement:

- Complete plyometrics program without symptoms
- Normal upper extremity flexibility

Postoperative Phase 5: Months 4–9

Goals:

- Return to activity
- Prevent re-injury

Precautions:

- Significant pain with throwing or hitting
- Avoid loss of strength or flexibility

Treatment Strategies:

- Begin interval throwing program at 4 months
- Begin hitting program at 5 months
- Plyometric progressions (over several weeks) – transition from 2 arms in the sagittal plane, progressing to 1 arm sagittal plane, to 2 arm rotational movements, to 1 arm rotational movements
- Initiate interval throwing program, progressing to a position specific throwing program around week 28 if the athlete has had no pain or problems with the baseline throwing program
- Initiate sport specific return program for golf, tennis, basketball or volleyball
- Hip, lower extremity and core strengthening
- Continue flexibility exercises
- Continue strengthening program (incorporate training principles)

Criteria for Discharge:

- Pain-free
- Independent home exercise program
- Independent throwing/hitting program