



## **Ulnar Collateral Ligament Reconstruction Post-Operative Protocol**

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### **Phase 0 and Precautions (starts PT 7-10 days post-op)**

1. Check for clean and dry incisions
2. Graft sites: palmaris longus, gracilis and semi-t tendon
3. Educate patient on posterior splint and brace wear
4. Protect graft: **NO Extreme Flexion, Extension, and/or Valgus**

### **Phase 1- immediate postoperative phase (0-3 weeks)**

*Goals: Protect healing tissue, Decrease pain/inflammation, Retard muscle atrophy, initiate elbow ROM*

#### **1) Postoperative week 1**

- a) Posterior splint with elbow immobilized at 90 degrees elbow flexion
- b) Wrist AROM extension/flexion
- c) Elbow compression dressing (2-3days)
- d) Exercises:
  - i) Gripping
  - ii) Wrist ROM
- e) Cryotherapy
- f) May initiate shoulder dumping in splint
- g) Knee ROM (w/gracilis or semi-tendinosus Passive-to-active pain-free)

#### **2) Postoperative week 2**

- a) Application of functional hinged brace 30 to 100 degrees
- b) Gentle active and active assistive range of motion for elbow and wrist following ROM guidelines
- c) Gentle and gradual overpressure to meet range of motion guidelines – be sure to avoid valgus force or positioning during ROM exercises
- d) Initiate wrist isometrics, submaximal isometrics
- e) Initiate elbow flexion/extension submaximal isometrics
- f) Sub-maximal isometrics for shoulder abduction, biceps, wrist flexors/extensors
- g) Cervical and scapular active range of motion
- h) Stationary bike for ROM
- i) Continue all prior exercises

#### **3) Postoperative week 3**

- a) Functional hinged brace with ROM from 15 to 110 degrees (then gradually increase ROM, 5 degrees of extension/ 10 degrees of flexion per week)
- b) Isometric ham set and SLR (pain-free)
- c) Scar mobilization at graft site.

**Phase 2- Intermediate phase (weeks 4-8)**

*Goals: Gradual increase in ROM with goal of full elbow extension by 6 weeks,  
Promote healing of repaired tissue  
Regain and improve muscular strength*

**1) Week 4**

- a) Functional brace set (10 to 120)
  - i) Gentle active and active assistive ROM for elbow and wrist within ROM guidelines
- b) Begin light resistance exercises for arm:
  - i) 1-lb wrist curls, (extension, flexion, pronation/supination, and elbow flexion and extension)
- c) Progress shoulder program:
  - i) Emphasize RTC strengthening, (avoid ER until 6th post-op week)
  - ii) Active prone/quadruped flexion
  - iii) Active prone/quadruped horizontal abduction
  - iv) Standing active Scaption
  - v) Active Shoulder IR strengthening permitted through full ROM
  - vi) Active Shoulder ER strengthening permitted through limited arc of motion – limit the amount of ER ROM to neutral until 6 weeks
  - vii) Progress shoulder ROM and stretching exercises to normalize motion

**2) Week 6**

- a) Functional brace set (0 to 130)
  - i) Gentle active and active assistive ROM for elbow and wrist within ROM guidelines, AROM 0-140 degrees (without brace)
- b) Discontinue brace week 6 except in unsafe environments
- c) Avoid all valgus positions and minimize valgus stress to the elbow during all rehab exercises
- d) Initiate isotonic light resistance:
  - i) Shoulder internal rotation/external rotation (no ER past neutral)
  - ii) Shoulder abduction/scaption
  - iii) Quadruped flexion/horizontal abduction
  - iv) Elbow flexion/extension
  - v) Pronation/supination
  - vi) Wrist flexion/extension
- e) Progress core and LE strengthening – hip, knee, ankle-foot
- f) Stationary bike

**Phase 3- Advanced strengthening phase (weeks 9-13)**

*Goals: Increase strength, power, and endurance, Maintain full elbow ROM, There should be no pain with strengthening exercises*

- a) Initiate eccentric elbow flexion strengthening
- b) Continue isotonic program; forearm and wrist
- c) Continue shoulder program (see pre- and post-thrower's exercises)
  - i) With arm < 45 degree abduction postures
  - ii) Control speed of motion and valgus force at elbow
- d) Assess shoulder mobility and address any imbalances (such as posterior capsule tightness)
- e) Manual resistance diagonal patterns
- f) Continue hip, knee, ankle-foot, core strengthening
- g) *Full elbow ROM by week 10*

**Phase 4- Return to Activity phase (weeks 14-36)**

*Goals: Continue to increase strength, power, and endurance, Gradual return to sport activities, transition plyometrics*

**1) Week 14**

- a) Continue strengthening program
  - i) Maximize rotator cuff and scapular strength in throwing positions and postures > 45 degrees (90/90 medial rotation and external rotation)
  - ii) Scapular strengthening and stabilization
  - iii) May begin step ups with hands
  - iv) Wall push ups
- b) Emphasis on elbow and wrist strengthening and flexibility exercises
- c) Initiate rhythmic stabilization drills in protected positions (at athlete's side)
- d) Begin throwing mechanics education – including slow motion “air throws”, posture and position check points
- e) Hip, knee, core strengthening

**2) Week 16**

- a) May begin running and sprinting at 75% speed
- b) May begin heavier resistance arms: biceps curls, bench press, rowing
- c) Counter push ups
- d) Initiate plyometrics – 2 hand drills only
  - i) 2 hand chest pass starting light
- e) May begin light golf
  - i) Start with chipping, putting, 9-7 iron – gradually progress to woods over next two weeks

**3) Week 18**

- a) 2 hand overhead med ball throws
- b) Floor push ups
- c) Golf – may play a round

**4) Week 21-36 (Rehab appointments once every 2-3 weeks)**

- a) Multi-joint, multi-planar strengthening program
- b) Shoulder and elbow stabilization and proprioceptive drills
- c) 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
  - i) Week 21 = 1 arm put
- d) Initiate interval throwing program week 24
- e) Initiate sport specific return program for golf, tennis, basketball or volleyball
- f) Hip, lower extremity and core strengthening

**5) Months 9-12**

- a) Progress to Phase II throwing program (off the mound)
- b) Continue all exercises listed above
- c) Gradual return to competitive throw (9-12 months post-op) per physician approval

*DC Criteria: Full ROM, good to normal strength, and return to ADL's*