

**POST-OPERATIVE REHABILITATION PROTOCOL FOLLOWING
CHRONIC ULNAR COLLATERAL LIGAMENT RECONSTRUCTION
USING AUTOGENOUS GRAFT**

IMMEDIATE POST-OPERATIVE PHASE (0-3 WEEKS)

GOALS: Protect healing tissue
Decrease pain/inflammation
Retard muscular atrophy

A. Post-Operative Week 1 (Day 1-7)

Evaluate ulnar nerve function:

1. *Patients sensation 4th and 5th fingers, eyes open and eyes closed*
 2. *Patients ability to actively move fingers (4th and 5th) into abd/add, flexion and extension, and opposition*
- **If the patient has a deficit in above, please make MD aware!** (It is common to have a slight deficit in sensation in the first few post op days due to edema – but if this is accompanied by motor loss, if sensation is absent, or sensation does not improve daily, the surgeon needs to be informed ASAP)

- Brace at 90 degrees elbow flexion
- ROM- wrist AROM ext/flx
- Elbow Compression dressing

- Exercises : Gripping
Finger flex/ext, thumb to finger opposition, finger abd/add, intrinsic
Wrist and forearm ROM
Shoulder isometrics (light IR)
Bicep isometrics
Shoulder shrugs and shoulder blade squeezes

- PROM: 30-100 – this is a guideline – may take ROM further – especially extension if there is no pain or posterior pinching,
- Cryotherapy/Electrical Stimulation
- Remove portal staples at elbow after 7 days

If toe extensor graft is used, also add ankle aroM, stretches, exercise and ice

B. Post-Operative Week 2 (Day 8-14)

- Brace set at 30-105 degrees
- Exercises: Initiate wrist and forearm isometrics (flx, ext, rd, ud, sup., pron.)
Initiate elbow flex/ext isometrics throughout ROM

- PROM/AROM 20-110 – (again a guideline – may progress further if no pain or pinch – do not push through a posterior pinch sensation in extension, or fullness in flexion, as this is due to edema)

- Remove long incision and wrist stitches at 14 days

C. Post-operative Week 3 (Day 15-21)

- Brace set at 15-120 degrees
- PROM 10-120 (guide)
- Exercises: Initiate scapular PNF elevation/depression and protraction/retraction
Light Rhythmic Stabilization at end range ext.
Progress hand intrinsic exercises: putty, rubber band etc.
- Initiate cardiovascular conditioning (bike, EFX, stairmaster)- NO running or impact work

****Scar Massage if scar approximated

INTERMEDIATE PHASE (WEEK 4-8)

Goals: Gradual increase in range of motion
Promote Healing of repaired tissue
Regain and improve muscular strength

A. Week 4-5 (Day 22-36)

- Brace open full range week 4, discharge brace when 4 weeks post-op are complete
- PROM :progress to 0 degrees ext., 125-130 degrees flexion
- Exercises:
 - Begin light resistance exercises for arm (1 lb)
 - Wrist curls, extension, pronation, supination
 - Elbow ext/flexion *Use overpressure and RS for end range extension strength*
 - Initiate shoulder program emphasizing rotator cuff
 - TB: IR (from neutral to full IR)/ ER (from IR to 30 degrees ER)
 - Prone scapular weights: row at 30 and 70, horiz. abd., flex., ext.
 - Standing RTC PREs : flexion, scaption, abduction
 - Sidelying ER (weights and manual)
 - RS 90 flexion with proximal lever arm
 - Serratus Punch (weights and manual with proximal lever)
 - TB bicep curl, tricep extension (start with yellow TB)
 - UBE
 - Increase intensity of gripping exercises – may use gripper

**SCAR MASSAGE

**Begin light low load long duration stretching if extension is a problem (forearm pronated and neutral) – (sandbag to stabilize anterior shoulder, towel above elbow, light weight on loop over wrist – can use hot pack to bicep if needed – approx 5 minutes)

B. Week 6

- Full AROM/PROM
- Joint mobilizations as needed- begin grade 3-4 at end range with distraction
- Initiate shoulder IR stretches if needed
- Exercises:
 - Progress elbow strengthening exercises (concentric manuals/increase weight with dumbbells)
 - Progress IR/ER through full ROM
 - Add Manual D2 PNF with proximal lever arm (hold at elbow), with RS various angles

- Horizontal abd with TBand
- Prone manuals- c/e- row, horizontal abd in neutral, ER, and IR, and prone flexion at 105 with thumb up
- Push up plus on plyoballs (elbows stay straight)
- Week 6-7 :manual forearm supination/pronation, wrist flx/ext and RD/UD
- May initiate running

Week 7

- Bodyblade: 0° ER/IR, 90° flexion/scaption
- Impulse: ER/IR at 0°

Week 8

- Exercises:
 - Prone row with ER – weights and manual
 - 90/90 ER/IR with TB (slow- watch valgus stress)
 - Rows and Lat Pulldowns
 - RS 90/90, multi-D2

ADVANCED STRENGTHING PHASE (Week 9-16)

- Goals: Increase strength, endurance, and power
 Maintain Full elbow ROM
 Gradually initiate sporting activities

Week 9-10

- Assess shoulder ER ROM – progress toward functional ROM – if tight, provide pressure to stretch above elbow – turn humerus – do not press on wrist (avoid valgus stress)
- Exercises:
 - Initiate eccentric elbow flexion/ extension
 - Continue isotonic program
 - Seated press up
 - Progress manual resistance on diagonal patterns – prox hold at elbow for D2 ext
 - Progress weight lifting program week 10 (avoid flys and push ups)
 - Rhythmic stabilization – multi D2, abd/ER – can move more distally with lever arm, use TBand
 - Bodyblade: add 90/90 ER/IR and D2 through throwing motion
 - Impulse: add 90/90 ER and horizontal abduction if weak

Plyometrics

- *begin based on strength assessment
- Wk 10:
 - Chest pass
 - Rotations L/R
 - Woodchop L/R
 - Triceps standing Slam
- Wk 11:
 - Soccer style

Wall dribble - semicircle
Wk 12:
Kneeling D2 pattern
Wk 13:
90/90: wall dribble, TB ER/IR plyo
Wk 14:
15 ft baseball style throw into wall for mechanics

RETURN TO ACTIVITY PHASE (Week 16-26)

Goals: Continue to increase strength, power, and endurance of upper extremity

Week 16-18

Initiate interval throwing program/light golf swings if MD clears and Microfet/Biodex criteria are met
Continue strength program
Emphasis on elbow and wrist strengthening and flexibility exercises
**ITP 4 ½ months
No throwing > 120 ft. to avoid medial elbow stress