

## Postoperative Rehabilitation Protocol Following UCL Reconstruction Using Autogenous Gracilis Graft

### I. IMMEDIATE POST-OPERATIVE PHASE (0-3 weeks)

Goals: Protect healing tissue  
Decrease pain/inflammation  
Retard muscular atrophy  
Protect graft site – allow healing

#### Post-Operative Week 1

**Brace:** Posterior splint at 90 degrees elbow flexion

**Range of Motion:** Wrist AROM ext/flexion immediately postoperative  
Knee ROM day 1

Elbow postoperative compression dressing (5-7 days)  
Calf (graft site) compression dressing 7-10 days

**Exercises:** Gripping exercises  
Wrist ROM  
Shoulder isometrics (No Shoulder ER)  
Biceps isometrics  
No involved leg exercises first week

**Cryotherapy:** To elbow joint and to graft site below knee

**Crutch:** Use one crutch as needed for 3-5 days

#### Post-Operative Week 2

**Brace:** Elbow ROM 25-100 degrees  
(Gradually increase ROM – 5 degrees Ext/10 degrees of Flex per week)

**Exercises:** Continue all exercises listed above  
Elbow Range of Motion in brace (30-105 degrees)  
Initiate elbow extension isometrics  
Continue knee ROM exercises  
Initiate light scar mobilization over distal incision (graft)

**Cryotherapy:** Continue ice to elbow and graft site

#### Post-Operative Week 3

**Brace:** Elbow ROM 15-115 degrees

**Exercises:** Continue all exercises listed above  
Elbow ROM in brace  
Initiate active ROM Wrist and Elbow (No resistance)  
Initiate light hamstring stretching  
Initiate active ROM shoulder;  
-Full can  
-Lateral raises  
-ER/IR tubing

-Elbow flex/extension  
Initiate light scapular strengthening exercises  
Initiate bicycle for lower extremity ROM and strength  
May initiate light hamstring isometrics

## II. INTERMEDIATE PHASE (Week 4-7)

Goals: Gradual increase to full ROM  
Promote healing of repaired tissue  
Regain and improve muscular strength  
Restore full function of graft site

### Week 4

**Brace:** Elbow ROM 0-125 degrees

**Exercises:** Begin light resistance exercises for arm (1 lb)  
- Wrist curls, extensions, pronation, supination  
- Elbow extension/flexion  
Progress shoulder program emphasize rotator cuff and scapular strengthening  
Initiate shoulder strengthening with light dumbbells  
Isometrics for hamstrings and calf muscles

### Week 5

**ROM:** Elbow ROM 0-135 degrees  
Discontinue brace

**Continue all Exercises:** Progress all shoulder and UE exercises (progress weight 1 lb.)

### Week 6

**AROM:** 0-145 degrees without brace or full ROM

**Exercises:** Initiate Thrower's Ten Program  
Progress elbow strengthening exercises  
Initiate shoulder external rotation strengthening  
Progress shoulder program  
Initiate isotonic strengthening for graft site hamstrings/calf

### Week 7

Progress Thrower's Ten Program (progress weights)  
Initiate PNF diagonal patterns (light)

## III. ADVANCED STRENGTHENING PHASE (Week 8-14)

Goals: Increase strength, power, endurance  
Maintain full elbow ROM  
Gradually initiate sporting activities

**Week 8**

**Exercises:** Initiate eccentric elbow flexion/extension  
 Continue isotonic program: forearm & wrist  
 Continue shoulder program – Thrower’s Ten Program  
 Manual resistance diagonal patterns  
 Initiate plyometric exercise program  
     (2 hand plyos close to body only)  
     -Chest pass  
     -Side throw close to body  
 Continue stretching calf and hamstrings

**Week 10**

**Exercises:** Continue all exercises listed above  
 Program plyometrics to 2 hand drills away from body  
     -Side to side throws  
     -Soccer throws  
     -Side throws

**Week 12-14**

Continue all exercises  
 Initiate isotonic machines strengthening exercises (if desired)  
     -Bench press (seated)  
     -Lat pull down  
 Initiate golf, swimming  
 Initiate interval hitting program

**IV. RETURN TO ACTIVITY PHASE (Week 14-32)**

**Goals:** Continue to increase strength, power, and endurance of upper extremity musculature  
 Gradual return to sport activities

**Week 14**

**Exercises:** Continue strengthening program  
 Emphasis on elbow and wrist strengthening and flexibility exercises  
 Maintain full elbow ROM  
 Initiate one hand plyometric throwing (stationary throws)  
 Initiate one hand wall dribble  
 Initiate one hand baseball throws into wall

**Week 16**

**Exercises:** Initiate interval throwing program (Phase I) [long toss program]  
 Continue Thrower’s Ten Program and plyos  
 Continue to stretch before and after throwing

**Week 22-24**

**Exercises:** Progress to Phase II throwing (once successfully completed Phase I)

**D. Week 30-32**

**Exercises:** Gradually progress to competitive throwing/sports