
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