

Postoperative Rehabilitation for Ulnar Collateral Ligament Reconstruction Using Autogenous Palmaris Longus Graft

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Phase I- Post-Operative:0-3 weeks

Goals:

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

Week 1

1. Brace:
 - Posterior splint at 90 degrees elbow flexion
2. Range of Motion:
 - Wrist AROM ext/flexion immediately postoperative
3. Elbow postoperative compression dressing (5-7 days) Wrist (graft site) compression dressing 7-10 days as needed
4. Exercises:
 - Gripping exercises
 - Wrist ROM
 - Shoulder isometrics (No Shoulder ER)
 - Biceps isometrics
5. Cryotherapy: To elbow joint and to graft site at wrist

Week 2

1. Brace:
 - Elbow ROM 25-100 degrees
 - (Gradually increase ROM – 5 degrees Ext/10 degrees of Flex per week)
2. Exercises:
 - Continue all exercises listed above
 - Elbow Range of Motion in brace (30-105 degrees)
 - Initiate elbow extension isometrics; continue wrist ROM exercises
 - Scapular strengthening program (manual resistance)
 - Initiate light scar mobilization over distal incision (graft)
3. Cryotherapy: Continue ice to elbow and graft site

Week 3

1. Brace: Elbow

- ROM 15-115 degrees
- 2. Exercises:
 - Continue all exercises listed above
 - Elbow ROM in brace
 - Initiate active ROM Wrist and Elbow (No resistance)
 - Initiate light wrist flexion stretching
 - Initiate active ROM shoulder;
 - Full can
 - Lateral raises
 - ER/IR tubing
 - Elbow flex/extension
 - Initiate light scapular strengthening exercises
 - May incorporate bicycle for lower extremity strength & endurance

Phase II- Intermediate: 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

1. Brace:
 - Elbow ROM 0-125 degrees
2. 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
 - Initiate Thrower's Ten Program without dumbbells

Week 5

1. ROM:
 - Elbow ROM 0-135 degrees. Discontinue brace
2. Continue all Exercises:
 - Progress all shoulder and UE exercises (progress weight 1 lb.)

Week 6

1. AROM:
 - 0-145 degrees without brace or full ROM

2. Exercises:

- Initiate Thrower's Ten Program with isotonic
- Progress elbow strengthening exercises
- Initiate shoulder external rotation strengthening
- Progress shoulder program

Week 7

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

Phase III- Advanced Strengthening: Week 8-14

Goals:

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

Week 8

1. 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

1. 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

1. Initiate Advanced Thrower's Ten Program at week 12
2. Continue all exercises

3. Initiate isotonic machines strengthening exercises (if desired)
 - Bench press (seated)
 - Lat pull down
4. Initiate golf, swimming
5. Initiate interval hitting program (see program) week 12

Phase IV-Return to Activity: Week 14-32

Goals:

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

Week 14

1. 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

1. Exercises:
 - Initiate interval throwing program (Phase I) [long toss program]
 - Continue Advanced Thrower's Ten Program and plyometrics
 - Continue to stretch before and after throwing

Week 22-24

1. Exercises:
 - Progress to Phase II throwing (once successfully completed Phase I)

Week 30-32

1. Exercises:
 - Once return to sports utilize Thrower's ten program
 - Continue shoulder & elbow ROM & stretching program
 - Gradually progress to competitive throwing/sports
 - Most pitchers return to competitive game pitching at 8-9 months