

## Ulnar Collateral Ligament (UCL) Reconstruction Protocol

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### IMMEDIATE POSTOPERATIVE PHASE

Goals: Protect graft, Protect healing tissue, Decrease pain/inflammation, Retard muscular atrophy

#### Week 1

- Brace: Posterior splint at 90 degrees elbow flexion
- Wrist AROM ext/flex immediately postoperative
- Knee ROM day 1
- Gripping exercises
- Wrist ROM
- Cryotherapy: To elbow joint and to graft site at wrist

#### Week 2

- Brace: Elbow ROM 25-100 degrees (Gradually increase ROM – 5 degrees, Ext/10 degrees of Flex per week)
- Continue all exercises listed above
- Initiate elbow extension isometrics
- Continue wrist ROM exercises
- Initiate light scar mobilization over graft harvest incision
- Cryotherapy to both elbow and graft site

#### Week 3

- Brace: Elbow ROM 15-115 degrees
- 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:
- ER/IR tubing
- Elbow flex/extension
- Lateral raises
- Initiate light scapular strengthening exercises
- May incorporate stationary bike for lower extremity

### 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
- 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

#### **Week 5**

- ROM: Elbow ROM 0-135 degrees
- Discontinue brace
- Continue all Exercises: Progress all shoulder and UE exercises

#### **Week 6**

- AROM: 0-145 degrees without brace or full ROM
- Progress elbow strengthening exercises
- Exercises: Initiate Thrower's Ten Program
- Initiate shoulder external rotation strengthening

#### **Week 7**

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

#### **ADVANCED STRENGTHENING PHASE (Week 8-14)**

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

#### **Week 8**

- 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**

- 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

### **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**

- 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**

- Initiate interval throwing program - Phase I
- Continue Thrower's Ten Program and plyos
- Continue to stretch before and after throwing

### **Week 22-24**

- Progress to Phase II throwing (once successfully completed Phase I)

### **Week 30-32**

- Gradually progress to competitive throwing/sports

### **UCL Reconstruction Throwing Program**

3 to 4 months: # of THROWS DISTANCE (ft)

20 20 (warm-up phase)

25 - 40 30 - 40

10 20 (cool down phase)

4 - 5 months: o Continue the Throwing Program by tossing the ball with an easy wind-up on alternate days.

# of THROWS DISTANCE (ft)

10 20 (warm-up)

10 30 - 40

30 - 40 50

10 20 - 30 (cool down)

5 - 6 months: o Continue increasing the throwing distance to a maximum of 60 feet.

o Continue tossing the ball with an occasional throw at no more than half speed.

# of THROWS DISTANCE (ft)

10 30 (warm up)  
10 40 - 45  
30 - 40 60 - 70  
10 30 (cool down)

6 to 7 months: o During this step gradually increase the distance to 150 feet maximum.

Phase I: # of THROWS DISTANCE (ft)

10 40 (warm up)  
10 50 - 60  
15 - 20 70 - 80  
10 50 - 60  
10 40 (cool down)

Phase II: # of THROWS DISTANCE (ft)

10 40 (warm up)  
10 50 - 60  
20 - 30 80 - 90  
20 50 - 60  
10 40 (cool down)

Phase III: # of THROWS DISTANCE (ft)

10 40 (warm up)  
10 60  
15 - 20 100 - 110  
20 60  
10 40 (cool down)

Phase IV: # of THROWS DISTANCE (ft)

10 40 (warm up)  
10 60  
15 - 20 120 - 150  
20 60  
10 40 (cool down)

7 to 8 months: oProgress to throwing off the mound at 1/2 to 3/4 speed. Try to use proper body mechanics, especially when throwing off the mound:

- Stay on top of the ball.
- Keep the elbow up.
- Throw over the top.
- Follow through with the arm and trunk.

Phase I: # OF THROWS DISTANCE (ft)



10 60 (warm up)  
10 120 - 150 (lobbing)  
30 45 (off the mound)  
10 60 (off the mound)  
10 40 (cool down)  
Phase II: # OF THROWS DISTANCE (ft)  
10 50 (warm up)  
10 120 - 150 (lobbing)  
20 45 (off the mound)  
20 60 (off the mound)  
10 40 (cool down)  
Phase III: # OF THROWS DISTANCE (ft)  
10 50 (warm up)  
10 60  
10 120 - 150 (lobbing)  
10 45 (off the mound)  
30 60 (off the mound)  
10 40 (cool down)  
Phase IV: # OF THROWS DISTANCE (ft)  
10 50 (warm up)  
10 120 - 150 (lobbing)  
10 45 (off the mound)  
40 - 50 60 (off the mound)  
10 40 (cool down)

At this time, if the pitcher has successfully completed the above phase without pain or discomfort and is throwing approximately 3/4 speed, the pitching coach and trainer may allow the pitcher to proceed to the next step of "Up/Down Bullpens". Up/Down Bullpens is used to simulate a game situation. The pitcher rests in between a series of pitches to reproduce the rest period in between innings.

Up/Down Bullpens: (1/2 - 3/4 speed)  
Day 1: # OF THROWS DISTANCE (ft)  
10 warm-up 120 - 150 (lobbing)  
10 warm-up 60 (off the mound)  
40 pitches 60 (off the mound)  
REST 10 MINUTES  
20 pitches 60 (off the mound)  
Day 2: OFF  
Day 3: # OF THROWS DISTANCE (ft)  
10 warm-up 120 - 150 (lobbing)  
10 warm-up 60 (off the mound)  
30 pitches 60 (off the mound)  
REST 10 MINUTES



10 warm-up 60 (off the mound)

20 pitches 60 (off the mound)

REST 10 MINUTES

10 warm-up 60 (off the mound)

20 pitches 60 (off the mound)

Day 4: OFF

Day 5: # OF THROWS DISTANCE (ft)

10 warm-up 120 - 150 (lobbing)

10 warm-up 60 (off the mound)

30 pitches 60 (off the mound)

REST 8 MINUTES

20 pitches 60 (off the mound)

REST 8 MINUTES

20 pitches 60 (off the mound)

REST 8 MINUTES

20 pitches 60 (off the mound)

At this point, the pitcher is ready to begin a normal routine, from throwing batting practice to pitching in the bullpen. This program should be adjusted as needed by your physician, athletic trainer or physical therapist.