

<b>Elbow UCL Reconstruction Physical Therapy Protocol</b>
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**Week 0-2 Primary goal: Allow incision healing**

- Splint until first post-operative visit (7-10 days)
- Transition to hinged brace
- Elevate on pillows to heart level or above
- Ball squeezes and frequent grip with arm elevated, edema massage if needed

**Week 2-6 Primary goal: Initial light ROM, protect graft**

- Brace set at 30-90 degrees with neutral rotation (thumb pointing up)
  - Locked at 90 degrees when in public
  - Increase motion by 10 degrees each week
  - Goal to be 0-130 by week 6
- Frequent active and active-assist elbow flexion/extension
- Ball squeezes and grip training
- May incorporate Blood Flow Restriction
- Scapular stabilization (shoulder shrugs and shoulder blade pro/retraction)
  - Isometrics and manual exercises with proximal resistance
- Total Body Conditioning program begun once wound healed (3 weeks)

**Week 6-12 Primary goal: Full elbow ROM, early strengthening**

- Discontinue brace but avoid valgus stress at elbow
- Continue active and active-assisted elbow flexion/extension, pronation/supination
- Isotonic strengthening of scapula, shoulder, elbow, forearm, wrist, I's, Y's, T's
- Begin IR/ER by 8-9 weeks
- Begin Thrower's ten program
- Neuromuscular drills, kettle bell walks
- PNF patterns and eccentric strengthening once strength adequate
- Stationary bike without resistance to handles
- Continue Blood Flow Restriction

**Week 12-16 Primary goal: increase strength and endurance, prepare for throwing**

- Full UE flexibility program
- IR/ER strengthening in 90/90 position
- Machine strengthening (lat pull downs, chest press)
- Closed kinetic chain modalities (wobble board, UE walks)
- Increase endurance and plyometric training
- Continue to emphasize core and lower body stability
- Continue Blood Flow Restriction (BFR)

## **THROWING PROGRAM**

The throwing programs takes at least 6-8 months to fully complete

\*Program performed 3-4x per week and ice after each session\*

\*Soreness is to be expected but no medial elbow pain. If this is painful, please contact physician\*

### **Weeks 16-20**

- 20 throws at 20 ft (warm up)
- 25-40 throws at 30-40 ft
- 10 throws at 20 ft (cool down)

### **Weeks 21-24**

**May use an easy wind-up delivery on alternate days**

- 10 throws at 20 ft (warmup)
- 10 throws at 30-40 ft
- 30-40 throws at 50 ft
- 10 throws at 20-30 ft (cool down)

### **Weeks 25-28 (5-6 months)**

**Do not throw with more than 50% max effort and no more than 60 ft**

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

### **Weeks 29-32 (7-8 months)**

**Primary goal: Gradual increase to maximum of 150 ft toss**

#### PHASE 1 of Ramp up

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

#### PHASE 2 of Ramp up

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

#### PHASE 3 of Ramp up

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

#### PHASE 4 of Ramp up

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

#### **Weeks 33-36 (8-9 months)**

**Primary goal: Progress to throwing off mound with no more than 50-75% max effort.**

**Use proper mechanics: Stay on top of ball, throw over the top with elbow up, follow through with arm and trunk**

#### PHASE 1

- 10 throws at 60 ft (warm up)
- 10 throws at 120-150 ft (lobs)
- 30 throws at 45 ft (off mound)
- 10 throws at 60 ft (off mound)
- 10 throws at 40 ft (cool down)

#### PHASE 2

- 10 throws at 50 ft (warm up)
- 10 throws at 120-150 ft (lobs)
- 20 throws at 45 ft (off mound)

- 30 throws at 60 ft (off mound)
- 10 throws at 40 ft (cool down)

### PHASE 3

- 10 throws at 50 ft (warm up)
- 10 throws at 60 ft
- 10 throws at 120-150 ft (lobs)
- 10 throws at 45 ft (off mound)
- 30 throws at 60 ft (off mound)
- 10 throws at 40 ft (cool down)

### PHASE 4

- 10 throws at 50 ft (warm up)
- 10 throws at 120-150 ft (lobs)
- 10 throws at 45 ft (off mound)
- 40-50 throws at 60 ft (off mound)
- 10 throws at 40 ft (cool down)

### **Weeks 37-42 (9-10 months)**

**Primary goal: Simulation games at near maximum effort**

**At this time, if throwing without medial elbow pain at 75% effort, begin throwing simulation games at near max effort, every other day.**

### DAY 1

- 10 throws at 120-150 ft (lobs)
- 10 throws at 60 ft (off mound)
- 40 pitches at 60 ft (off mound)
- Rest period
- 20 pitches at 60 ft (off mound)

### DAY 2 OFF

### DAY 3

- 10 throws at 120-150 ft (lobs)
- 10 throws at 60 ft (warm ups off mound)
- 30 pitches at 60 ft (off mound)
- Rest period
- 10 throws at 60 ft (warm ups off mound)
- 20 pitches at 60 ft (off mound)
- Rest period
- 10 throws at 60 ft (warm ups off mound)
- 20 pitches at 60 ft (off mound)

### DAY 4 OFF

## DAY 5

- 10 throws at 120-150 ft (lobs)
- 10 throws at 60 ft (warm ups off mound)
- 30 pitches at 60 ft (off mound)
- Rest period
- 20 pitches at 60ft (off mound)
- Rest period
- 20 pitches at 60ft (off mound)
- Rest period
- 20 pitches at 60ft (off mound)

## **Weeks 43-52 (10-12 months)**

**Primary goal: Throwing batting practice and bullpens.**

**Begin normal routine of throwing batting practice to pitching in bullpen.  
Program will be adjusted as needed by physician, ATC or physical therapist.**

## **Weeks 53+ (12-14 months)**

**Primary goal: full return to pitching**

- Readiness for full return will be made by physician and therapist/ATC based on overall conditioning and throwing mechanics