

## **Physical Therapy Protocol: Ulnar Collateral Ligament (UCL) Hybrid Reconstruction**

### **Phase 1: Weeks 0 through 4 – Pain Control and Motion Recovery**

**Physician Goals:** Decrease pain and inflammation, prevent significant stiffness, protect medial elbow, strengthen posterior superior rotator cuff and wrist flexor/pronator

**Exercises:** Passive elbow flexion/extension and forearm pronation/supination stretching with goal of painless normal motion (by end of postoperative week 6), posterior inferior shoulder capsule stretching (sleeper + cross body), periscapular stabilizer strengthening, infraspinatus strengthening, supraspinatus strengthening with palm facing floor, grip strength, wrist flexor/extensor strengthening; no elbow valgus stress (resisted IR, chest flies, planks with hands on ground, etc); aggressive core and lower body strengthening, OK for lower body cardio once incisions healed

**Comments:** Hinged elbow brace worn at all times for first 6 weeks except for hygiene, locked at 90° for first week, then open 20° in each direction weekly.

**Total Visits:** 8 – Once to twice per week with home stretching and strengthening 3-4x per week

### **Phase 2: Weeks 4 through 8 – Early Strength Recovery + Elbow Protection**

**Physician Goals:** Regain preoperative elbow range of motion, continue to emphasize shoulder mobility, strengthening the entire kinetic chain, gradually increase whole body strength training in anticipation of throwing at 4 months

**Exercises:** Continue working on grip strength, scapular stabilizers, wrist extension/flexion strength, serratus anterior strengthening with prone serratus punches, add weights as tolerated; start blood flow restriction (BFR) with 50% arterial occlusion pressure 30-15-15-15 rep scheme with 60s rest, 20-30% contralateral arm 1 rep max - wrist flexion, wrist ulnar deviation, finger flexion, forearm pronation, eccentric forearm pronation

**Comments:** Discontinue hinged elbow brace after week 6, continue to avoid elbow valgus stress until phase 3

**Total Visits:** 8 – One to two times per week strengthening 4x per week including PT

### **Phase 3: Weeks 8 through 12 – Strength Recovery**

**Physician Goals:** Re-introduce valgus stress to the medial elbow in controlled environment, continue to advance whole body strengthening, shoulder stretching, scapular stabilizers in dynamic fashion

**Exercises:** Continue BFR with same protocol as phase 2, continue strengthening scapular stabilizers, body blade, kinetic chain strengthening, shoulder capsule stretching, OK for resisted shoulder internal rotation, NIMSAT ARM care program or Advance Throwers Ten (see website for PDF); OK to work on throwing mechanics up to foot contact only

**Total Visits:** 8 – One to two times per week with strengthening 4x per week including PT

## **Phase 4: Weeks 12 through 16 – Preparing to Throw**

**Physician Goals:** Begin upper body plyometric program at the end of phase 3 (at least 12 weeks from injury) as long as elbow motion is full, no pain with plyometrics, negative milking maneuver and moving valgus stress test, interval throwing program to begin week 17

**Exercises:** Unrestricted weight room strengthening, continue strengthening scapular stabilizers, body blade, shoulder capsule stretching, continue BFR with phase 2 protocol, 2 hand plyometrics (chest pass, 2 handed overhead, diagonal chops), transition to one hand (start in neutral abduction and advance to 90°/90° position as tolerated), NIMSAT ARM care program or Advance Throwers Ten (see website for PDF); initiate full sock/towel drills

**Total Visits:** 8 – One to two times per week with strengthening 4x per week including PT

## **Phase 5: Weeks 17 through 39 – Interval Throwing Program**

**Physician Goals:** Gradually resume throwing with goal of return to live game play by 40 weeks (9 months)

**Exercises:** Continue strengthening scapular stabilizers, body blade, kinetic chain strengthening, shoulder capsule stretching, continue BFR with phase 2 protocol, resisted shoulder internal rotation, 2 hand chest level plyometrics, transition to one hand and advance to 90°/90° position as tolerated, NIMSAT ARM care program or Advance Throwers Ten (see website for PDF), shoulder and elbow exercises should only be done on throwing days

**Please see interval throwing program for details**