

### **Ulnar Collateral Ligament Reconstruction**

This rehabilitation protocol has been developed for the patient following an ulnar collateral ligament reconstruction surgical procedure. This procedure is normally performed on the overhead athlete or throwing athlete with severe instability or acute trauma to the UCL. The most frequently utilized tissue is a palmaris longus autograft tendon. The protocol is divided into phases. Each phase is adaptable based on the individual and special circumstances.

The overall goals of the surgical procedure and rehabilitation are to:

- Control pain and inflammation
- Regain normal upper extremity strength and endurance
- Regain normal elbow range of motion
- Achieve the level of function based on the orthopedic and patient goals

The physical therapy should be initiated 10 to 14 days post-op, to be decided by Dr. Shybut. The supervised rehabilitation is to be supplemented by a home fitness program where the patient performs the given exercises at home or at a gym facility.

Important post-operative signs to monitor include:

- Swelling of the elbow and surrounding soft tissue
- Abnormal pain, hypersensitive-an increase in night pain
- Severe range of motion limitations
- Weakness in the upper extremity musculature

Return to activity requires both time and clinical evaluation. To most safely and efficiently return to normal or high level functional activity, the patient requires adequate strength, flexibility, and endurance. Functional evaluation including strength and range of motion testing is one method of evaluating a patient's readiness to return to activity. Return to intense activities following an ulnar collateral ligament reconstruction requires both a strenuous strengthening and range of motion program along with a period of time to allow for tissue healing. Symptoms such as pain, swelling, or instability should be closely monitored by the patient.

## UCL Protocol Phase 1:

Week 1-4

### WEEK EXERCISE GOAL

- 1-3 ROM 0-90° day 10
- AROM
- Wrist flexion/extension
- Finger flexion/extension
- Passive range of motion
- Elbow flexion/extension wk 2
- NO FULL EXTENSION UNTIL WEEK 3 TO 4

### STRENGTH

- Grip strengthening with putty or ball
- Initiate shoulder isometrics-NO ER
- Initiate submaximal bicep isometrics wk 1
- Initiate submaximal wrist isometrics wk 2
- Initiate submaximal elbow flex/ext isometrics wk 2

### BRACE

- Elbow immobilizer with arm sling b 0-90° wk 1
- Functional brace 30-100° wk 2
- 15-110° wk 3

### MODALITIES

- E-stim as needed
- Ice 15-20 minutes

### GOALS OF PHASE:

- Promote healing of tissue
- Control pain and inflammation
- Initiate light muscle contraction
- Independent in HEP

## Phase 2:

Week 4-8

### WEEK EXERCISE GOAL

- 4-8 ROM 0-145° wk 6
- Continue ROM activities from previous phase, initiate elbow AROM week 6

### STRENGTH

- Continue to progress strength from Phase 1
- Initiate light resistance exercises
- Initiate light wrist flexion and extension
- Initiate forearm pronation and supination
- Initiate light elbow extension and flexion
- Progress shoulder strengthening program
- Progress rotator cuff program, avoid resisted IR until wk 6
- Add closed chain rotator cuff exercise

### BRACE

- Functional brace 10-120° wk 4
- 0-130° wk 6

### MODALITIES

- Ice 15-20 minutes

### GOALS OF PHASE:

- Gradual increase of ROM
- Control pain and inflammation
- Progressive strength and endurance training

### Phase 3:

Week 8-12

#### WEEK EXERCISE GOAL

- 8-12 ROM Full ROM
- Continue all ROM activities from
- previous phases

#### STRENGTH

- Initiate eccentric elbow flexion/extension
- Progress elbow flexion/extension isotonic
- Progress shoulder isotonic
- Progress closed chain rotator cuff exercises
- Initiate manual resistance PNF patterns
- Initiate light bilateral plyometric program
- Initiate light sports specific training week 11

#### BRACE D/C wk 6

- Functional brace discharged week 6 or as noted by Dr. Shybut

#### MODALITIES

- Ice 15-20 minutes

#### GOALS OF PHASE:

- Full elbow ROM
- Maximize strength and endurance
- Minimize pain and inflammation
- Initiate return to sports/functional training program
- Enhance proprioception and arthrokinematics

## Phase 4:

Week 12-24

### WEEK EXERCISE

- 12-24
- 12-24 ROM
- Continue all stretching and ROM activities from previous phases

### STRENGTH

- Continue with all strengthening activities increasing
- weight and repetitions
- Initiate interval throwing program wk 20-24+
- Initiate single arm eccentric activities
- Return to competitive throwing 9+ months

### MODALITIES

- Ice 15-20 minutes as needed

### GOALS OF PHASE:

- Maximize power, strength, and endurance of upper extremity
- Return to sports specific activity/functional activity
- Maximize proprioception and arthrokinematics