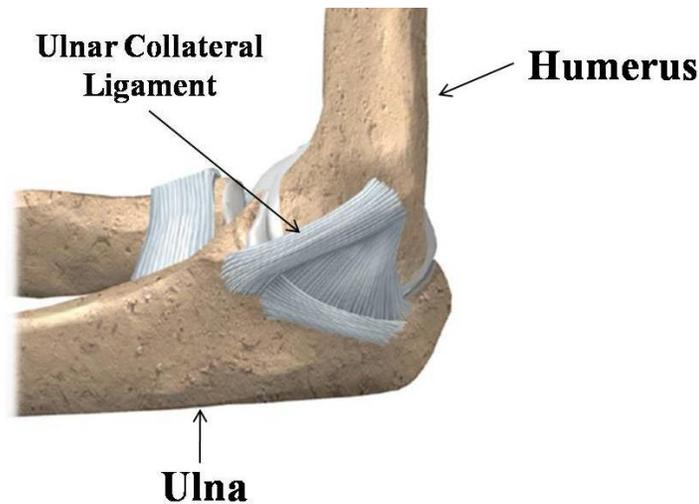


## Understanding Your Condition:

### Ulnar Collateral Ligament Tear



#### What is the Ulnar Collateral Ligament?

- The ulnar collateral ligament (UCL) is an important static stabilizer of the elbow. The UCL connects the humerus (upper arm bone) to the ulna (forearm bone) on the side of the elbow closest to the body. It is comprised of three separate portions: the anterior bundle, posterior bundle, and transverse ligament. The anterior bundle is the primary stabilizer of the three. Forming a triangle, this ligament aids in preventing valgus forces (moving in toward the body) at the elbow. Injury to the UCL can leave the elbow feeling loose and unstable.

#### Facts:

- The anterior bundle of the UCL is responsible for 54 percent of elbow stability during throwing
- The first UCL reconstruction was performed by Frank Jobe M.D. in 1974
- The Palmaris longus tendon, taken from the patient's forearm, is the most commonly used tendon in reconstructing the UCL
- 90 percent of athletes who had Tommy John (UCL reconstruction) surgery returned to or exceeded his previous level of competition
- Contrary to popular belief, reconstruction of the UCL alone will not increase a pitcher's velocity
- 20 percent of patients will experience ulnar nerve complications after surgery

#### Culprits & causes:

- Repetitive throwing motions (baseball, softball, football, javelin, tennis)
- Ligamentous laxity



- Improper throwing mechanics
- Secondary to trauma such as an elbow dislocation
- Hypermobility of the joint (looseness)
- Poor posture

### **Signs & symptoms of a possible UCL tear:**

- A popping or tearing sensation in the elbow at the time of the injury
- Pain along inside of the elbow (especially during the acceleration phase of throwing), increasing over time
- Swelling over the inside portion of the elbow
- “Looseness” or instability of the elbow
- Numbness or tingling of the ring and/or little finger
  - Indicating ulnar nerve involvement
- Weakness or “dead arm” feeling when throwing
- Decreased range of motion (ROM)
  - Inability to straighten the elbow
- Decrease in accuracy when throwing

### **How are UCL tears diagnosed?**

- History of injury including trauma or repetitive activities such as throwing
- Physical examination should include palpation of the medial aspect of the elbow, assessment of posture, range of motion (see how the joint moves with and without the help of a therapist), strength, swelling, and functional activity tolerance
- MRI with contrast dye may be performed to detect any disruption of the ligamentous complex
- Ultrasound may be beneficial in conjunction with an MRI at diagnosing a tear
- X-ray to determine bone involvement
- A number of special tests may be performed by the clinician to determine the presence of instability

### **How do I fix a UCL tear?**

#### **Non-operative management:**

- Rest from overhead activities with use of ice and non-steroidal anti-inflammatory drugs (NSAIDs) as needed
- Contact an orthopaedic surgeon or sports medicine doctor
- Work with a physical therapist to help address any issues with range of motion, strength, pain, posture, flexibility, and overall function
- A physical therapist may use modalities (ice, heat, e-stim, and ultrasound), manual techniques, joint mobilizations, postural/flexibility/strengthening exercises and retrain sport specific movements



- The athlete will be allowed to begin a conservative throwing program after 6 weeks to 3 months if full range of motion and a pain-free state are achieved
- If pain does not subside after conservative treatment, surgery may be recommended
- Conservative treatment for a UCL injury is successful about 50 percent of the time

#### **Operative management:**

- Operative treatment may be needed if non-operative treatment fails or due to the type or location of tear as well as complications with the joint (such as bony or nerve involvement)
- The procedure involves the surgeon making an incision on the inside of the elbow. The damaged ligament is replaced with a tendon (typically from the patient's forearm) which is secured to the ulna (forearm bone) and the humerus (upper arm bone)
- "Tommy John" surgery has a success rate of 90 percent, with success begin described as returning to pre-injury competition level
- After surgery the arm is immobilized in a long arm splint for 10-14 days. Following that the elbow will be placed in a functional brace to allow for gradual range of motion and light resistance exercises
- Physical Therapy will begin 4 weeks after surgery

#### **General management recommendations:**

- Avoid poor posture (especially while driving, sitting, using a computer, and lifting)
- Rest from activities will be necessary (if you are a pitcher, observe rest between pitching days)
- Keep track of the number of pitches you are throwing per session and per week
- Address poor hip control
- Strengthen weak muscles (serratus anterior, rhomboids, middle/lower trapezius) to improve posture
- Strengthen weak core muscles to help maintain proper posture and control during throwing movements
- Strengthen weak hip stabilizing muscles to maintain balance during overhead tasks
- For pitchers: proper throwing mechanics, scapular/elbow position upon release, modify your pitch types
- Improve dynamic balance/control during athletic activities to decrease force applied to the medial elbow

#### **How long will the pain last?**

- Symptom duration depends on the severity of injury, amount of time since onset of pain/injury, and frequency of participation in overhead activities
- Conservative treatment including physical therapy may reduce symptoms and pain

#### **When can I return to sports?**

- Your return to sports may be dependent upon the severity of the symptoms
- You may be able to participate in activities that do not position your arm overhead
- Overhead activities can be resumed when awareness, range of motion, strength, and pain with typical activities are normal (including light overhead activities)



- If you are a post-operative patient, you must be cleared by your surgeon and PT for return to sport activities which may include passing necessary functional tests and completing a return to sport program
- A year or more may be necessary for a full return to pitching following a UCL reconstruction

**How can UCL tears be prevented?**

- Maintain proper posture with everyday activities and while playing sports
- Complete a dynamic warm-up before participating in sports
- Complete your rotator cuff and shoulder blade strengthening exercises at least 2-3x/week
- Complete an off-season strength and conditioning program to help with fatigue issues
- Maintain proper core strength
- Perform a preseason interval throwing program to prepare your arm for bullpen and pitching situations
- Continue working on maintaining proper mechanics during throwing, hitting, swimming, etc.
- Play different sports throughout the year
- Use video footage to help analyze any problems/dysfunctions with your movement patterns
- Monitor the number of pitches thrown per session and per week

**Complete the following injury prevention exercises:**



Sleeper stretch:  
Hold 30 seconds x 3



Tubing ER at 90°:  
3 sets of 15-20



Blackburns:  
6 second holds x 6



Planks with reaches:  
3 sets of 20



Overhead press against wall

Perform 2 sets of 15