

ULNAR COLLATERAL LIGAMENT INJURY OF THE ELBOW



■ ■ ■ Description

Ulnar collateral ligament injury of the elbow is a sprain (tear) of one of the ligaments on the inner side of the elbow. The ulnar collateral ligament (UCL) is a structure that helps keep the normal relationship of the humerus (arm bone) and the ulna (one of the forearm bones). This ligament is injured in throwing types of sports or after elbow dislocation or surgery. It may occur as a sudden tear or may gradually stretch out over time with repetitive injury. This ligament is rarely stressed in daily activities. It prevents the elbow from gapping apart on the inner side. When torn, this ligament usually does not heal or may heal in a lengthened position (loose). Sprains are classified into three grades. In a *first-degree* sprain, the ligament is not lengthened but is painful. With a *second-degree* sprain, the ligament is stretched but still functions. With a *third-degree* sprain, the ligament is torn and does not function.

■ ■ ■ Common Signs and Symptoms

- Pain and tenderness on the inner side of the elbow, especially when trying to throw
- A pop, tearing, or pulling sensation noted at the time of injury
- Swelling and bruising (after 24 hours) at the site of injury at the inner elbow and upper forearm if there is an acute tear
- Inability to throw at full speed; loss of ball control
- Elbow stiffness; inability to straighten the elbow
- Numbness or tingling in the ring and little fingers and hand
- Clumsiness and weakness of hand grip

■ ■ ■ Causes

Ulnar collateral ligament injury is caused by a force that exceeds the strength to the ligament. This injury usually is the result of throwing repetitively or particularly hard. It may occur with an elbow dislocation or as a result of surgery.

■ ■ ■ Risk Increases With

- Contact sports (football, rugby) and sports in which falling on an outstretched hand results in an elbow dislocation
- Throwing sports, such as baseball and javelin
- Overhead sports, such as volleyball and tennis
- Poor physical conditioning (strength and flexibility)
- Improper throwing mechanics

■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice and competition.
- Maintain appropriate conditioning:
 - Arm, forearm, and wrist flexibility
 - Muscle strength and endurance

- Use proper protective technique when falling and throwing.
- Functional braces may be effective in preventing injury, especially re-injury, in contact sports.

■ ■ ■ Expected Outcome

The UCL usually does not heal sufficiently on its own with nonoperative treatment. To return to throwing, surgery is often necessary.

■ ■ ■ Possible Complications

- Frequent recurrence of symptoms, such as an inability to throw at full speed or distance, pain with throwing, and loss of ball control, especially if activity is resumed too soon after injury
- Injury to other structures of the elbow, including the cartilage of the outer elbow; loose body formation; injury to the ulnar nerve of the hand; medial epicondylitis and strain of the muscle-tendon of the muscles that bend the wrist
- Injury to articular cartilage, resulting in arthritis of the elbow
- Elbow stiffness (loss of elbow motion)

■ ■ ■ General Treatment Considerations

Initial treatment consists of medications and ice to relieve pain and reduce the swelling of the elbow. You must stop participating in the sport that caused the injury. Occasionally a splint, brace or cast may be recommended while the acute phase subsides. Later, rehabilitation to improve strength endurance and proper throwing mechanics is initiated. This may be carried out at home, although usually referral to a physical therapist or athletic trainer is recommended.

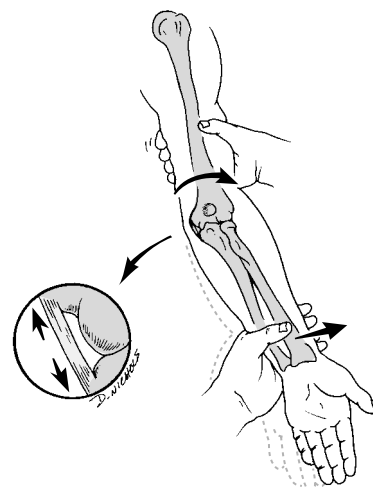


Figure 1

From Shankman GA: Fundamental Orthopaedic Management for the Physical Therapy Assistant. St. Louis, Mosby Year Book, 1997, p. 274.

A gradual return to throwing is attempted. For those who have an acute rupture of the ligament or those who have failed therapy and wish to continue throwing competitively, surgical reconstruction (rebuilding the ligament using other tissue) is usually recommended. Return to sports after injury without surgery may take 3 to 6 months and may take 6 to 18 months following surgery.

■ ■ ■ Medication

- Nonsteroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take within 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact your physician immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Stronger pain relievers may be prescribed as necessary by your physician. Use only as directed.

■ ■ ■ Heat and Cold

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10 to 15 minutes every 2 to 3 hours for inflammation and pain and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage. Use a towel between the ice and your elbow to reduce the chance of injury to the ulnar nerve at the inner elbow.
- Heat may be used before performing stretching and strengthening activities prescribed by your physician, physical therapist, or athletic trainer. Use a heat pack or a warm soak.

■ ■ ■ Notify Our Office If

- Symptoms get worse or do not improve in 4 to 6 weeks despite treatment

- You experience pain, numbness, or coldness in the hand
- Blue, gray, or dusky color appears in the fingernails
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

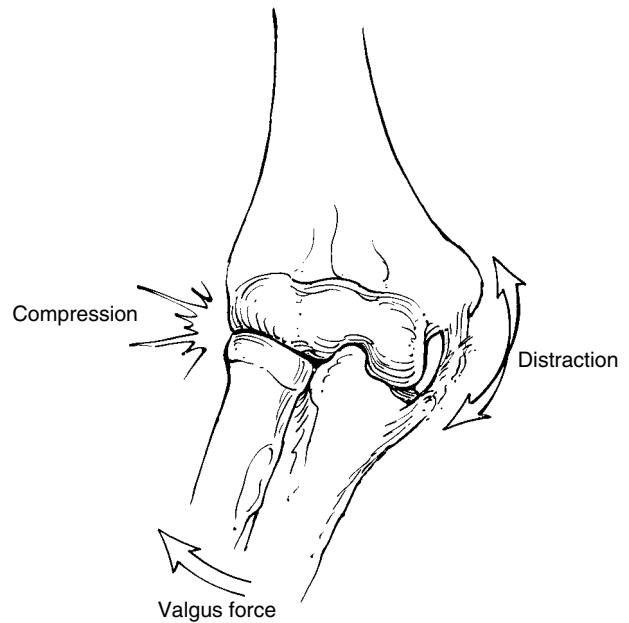


Figure 2

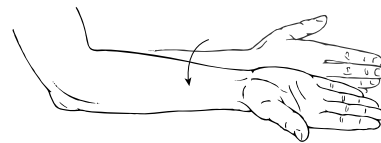
From Jobe FW: Operative Techniques in Upper Extremity Sports Injuries. St. Louis, Mosby Year Book, 1996, p. 394.

EXERCISES

> RANGE OF MOTION AND STRETCHING EXERCISES • Ulnar Collateral Ligament Injury of the Elbow

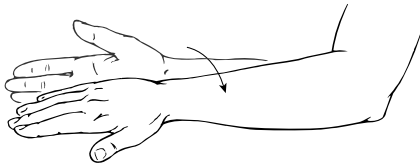
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Flexible tissue is more tolerant of the stresses placed on it during activities.
- Each stretch should be held for 20 to 30 seconds.
- A *gentle* stretching sensation should be felt.



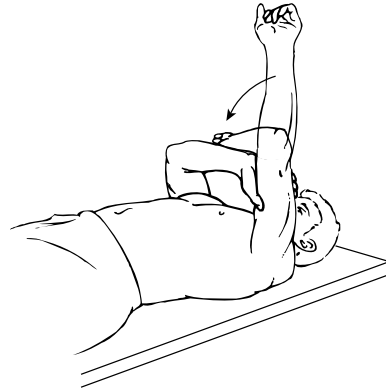
RANGE OF MOTION • Supination

1. Stand or sit with your elbow bent to 90 degrees.
2. Turn your palm upward as far as possible.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



RANGE OF MOTION • Pronation

1. Stand or sit with your elbow bent to 90 degrees.
2. Turn your palm down toward the floor as far as possible.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



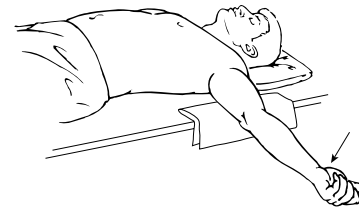
RANGE OF MOTION • Flexion

1. Lie on your back with your _____ arm straight up in the air. Support your arm with the other hand as shown.
2. Let the gravity weight of your hand, wrist, and lower arm bend your elbow until you feel a slight stretch.
3. You may hold a small weight in your hand or wear a weight around your wrist (_____ lbs.) if approved by your physician, physical therapist, or athletic trainer to help stretch farther.
4. Hold this position for _____ seconds and then *slowly* return to the starting position.
5. Repeat exercise _____ times, _____ times per day.



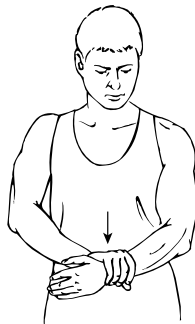
RANGE OF MOTION • Flexion

1. Bend your _____ elbow as far as you can actively.
2. Try to bend it a little farther with the other hand as shown until you feel a gentle stretch.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



RANGE OF MOTION • Extension

1. Lie on your back and rest your elbow off the edge of the bed as shown. You may also sit at a table with the upper arm supported in a similar manner.
2. Let the gravity weight of your hand, wrist, and lower arm straighten your elbow until you feel a slight stretch.
3. You may hold a small weight in your hand or wear a weight around your wrist (_____ lbs.) if approved by your physician, physical therapist, or athletic trainer to help stretch farther.
4. Hold this position for _____ seconds and then *slowly* return to the starting position.
5. Repeat exercise _____ times, _____ times per day.



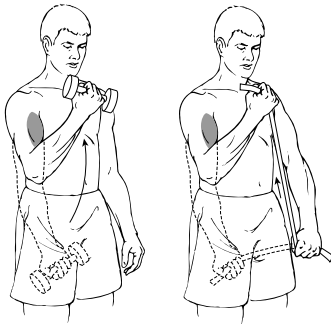
RANGE OF MOTION • Extension

1. Straighten your _____ elbow as far as you can actively.
2. Try to straighten it a little farther with the other hand as shown until you feel a gentle stretch.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.

> **STRENGTHENING EXERCISES • Ulnar Collateral Ligament Injury of the Elbow**

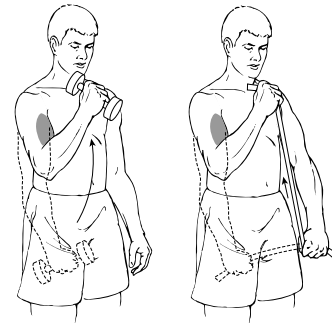
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- Strong muscles with good endurance tolerate stress better.
- Do the exercises as *initially* prescribed by your physician, physical therapist, or athletic trainer. Progress slowly with each exercise, gradually increasing the number of repetitions and weight used under their guidance.



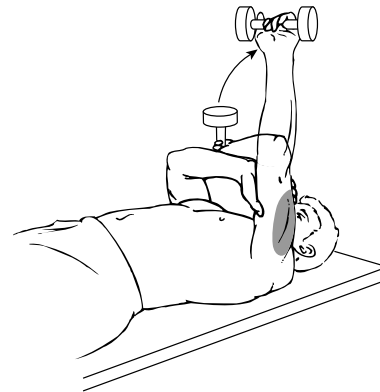
STRENGTH • Elbow Flexion

1. Stand with your arm straight and your *palm* facing forward.
2. Bend the elbow as shown using a _____ pound weight or rubber band/tubing as shown.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



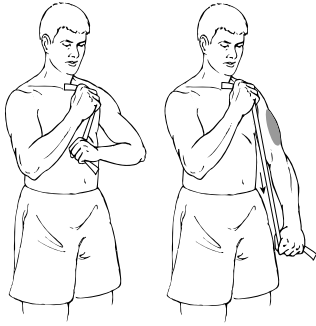
STRENGTH • Elbow Flexion

1. Stand with your arm straight and your *thumb* facing forward.
2. Bend the elbow as shown using a _____ pound weight or rubber band/tubing as shown.
3. Hold this position for _____ seconds and then *slowly* return to the starting position.
4. Repeat exercise _____ times, _____ times per day.



STRENGTH • Elbow Extension

1. Lie on your back with your _____ elbow bent and pointing directly at the ceiling as shown. (You may also do this exercise standing with the arm pointed overhead.)
2. Hold a _____ pound weight in your hand.
3. Straighten the elbow.
4. Hold this position for _____ seconds and then *slowly* return to the starting position.
5. Repeat exercise _____ times, _____ times per day.

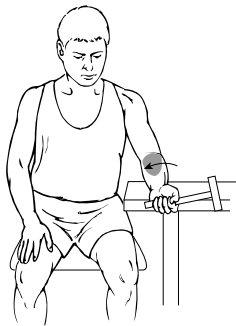
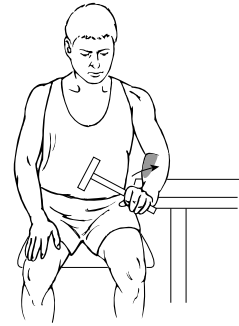


STRENGTH • Elbow Extension

1. Hold the rubber band/tubing with your ____ hand on the bottom as shown.
2. Straighten out your elbow, stretching the rubber band/tubing for resistance.
3. Hold this position for ____ seconds and then *slowly* return to the starting position.
4. Repeat exercise ____ times, ____ times per day.

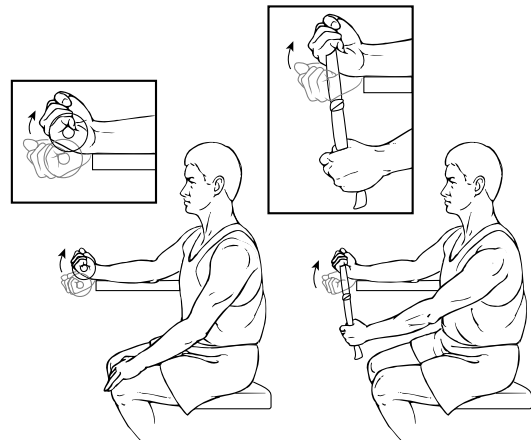
STRENGTH • Supination

1. Sit with your forearm supported on a table and the hand over the edge and your palm facing the floor.
2. Hold a ____ oz. hammer or a stick with a weight on the end in your hand as shown.
3. Turn your palm and hand toward you to a “thumbs-up” position.
4. Hold this position for ____ seconds and then *slowly* return to the starting position.
5. Repeat exercise ____ times, ____ times per day.



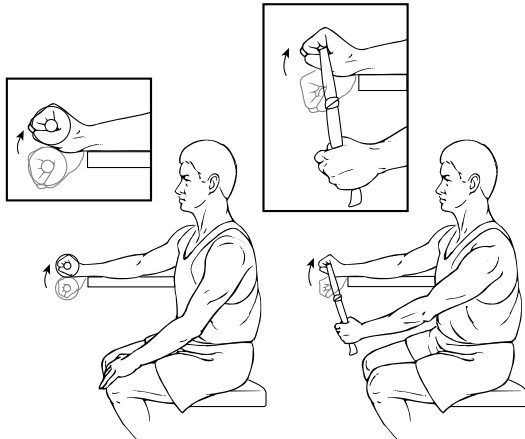
STRENGTH • Pronation

1. Sit with your forearm supported on a table and the hand over the edge and your palm facing up toward the ceiling.
2. Hold a ____ oz. hammer or a stick with a weight on the end in your hand as shown.
3. Turn your palm and hand toward you to a “thumbs-up” position.
4. Hold this position for ____ seconds and then *slowly* return to the starting position.
5. Repeat exercise ____ times, ____ times per day.



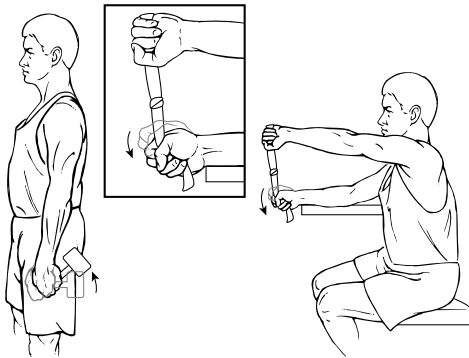
STRENGTH • Wrist Flexors

1. Sit or stand with your forearm supported as shown.
2. Using a ____ pound weight or a piece of rubber band/tubing, bend your wrist slowly upward toward you.
3. Hold this position for ____ seconds and then *slowly* lower the wrist back to the starting position.
4. Repeat exercise ____ times, ____ times per day.



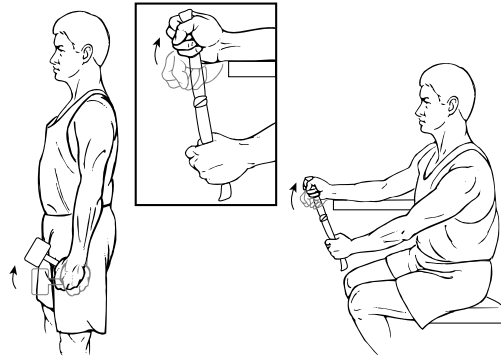
STRENGTH • Wrist Extensors

1. Sit or stand with your forearm supported as shown.
2. Using a _____ pound weight or a piece of rubber band/tubing, bend your wrist slowly upward toward you.
3. Hold this position for _____ seconds and then *slowly* lower the wrist back to the starting position.
4. Repeat exercise _____ times, _____ times per day.



STRENGTH • Wrist, Ulnar Deviation

1. Stand with a _____ oz. hammer in your hand as shown, or sit holding on to the rubber band/tubing with your arm supported as shown.
2. Raise your hand upward behind you or pull down on the rubber tubing.
3. Hold this position for _____ seconds and then *slowly* lower the wrist back to the starting position.
4. Repeat exercise _____ times, _____ times per day.



STRENGTH • Wrist, Radial Deviation

1. Stand with a _____ oz. hammer in your hand as shown, or sit holding on to the rubber band/tubing with your arm supported as shown.
2. Raise your hand upward in front of you or pull up on the rubber tubing.
3. Hold this position for _____ seconds and then *slowly* lower the wrist back to the starting position.
4. Repeat exercise _____ times, _____ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions