

# ULNAR NERVE CONTUSION



## ■ ■ ■ Description

Ulnar nerve contusion is a bruising injury to the ulnar nerve from a direct blow where it lies close to the skin surface at the elbow. Contusions cause bleeding from ruptured capillaries that allow blood to infiltrate the nerve. Direct injury to the nerve causes damage even if bleeding of capillaries is not a factor. This causes pain, hand weakness, and loss of feeling, often in the ring and little fingers. Ulnar nerve dysfunction or inflammation may greatly decrease athletic performance in sports that require strong hand or wrist action.

## ■ ■ ■ Common Signs and Symptoms

- Tingling, numbness, or burning in part of the hand or fingers
- Sharp pains that may shoot from the elbow to the wrist and hand
- Hand weakness, clumsiness, and heaviness
- Poor dexterity (fine hand function)
- Weak grip, especially power grip, and weak pinch
- Swelling in the elbow
- Tenderness of the inner elbow
- Atrophy of muscles of the hand
- Reduced performance in any sport requiring a strong grip

## ■ ■ ■ Causes

- Direct blow to the nerve at the elbow or falling on the elbow

## ■ ■ ■ Risk Increases With

- Contact sports such as football, soccer, and rugby
- Bleeding disorder or medications that thin the blood (such as warfarin [Coumadin], aspirin, and nonsteroidal anti-inflammatory medications)
- Diabetes mellitus
- Hypothyroidism (underactive thyroid gland)

## ■ ■ ■ Preventive Measures

Wear proper protective equipment, including elbow pads.

## ■ ■ ■ Expected Outcome

This condition is usually curable with appropriate treatment and often heals spontaneously. Complete healing may take up to 6 weeks, depending on the extent of injury. Rarely, symptoms may be permanent.

## ■ ■ ■ Possible Complications

- Permanent numbness and weakness of the ring and little fingers
- Weak grip
- Permanent paralysis of some of the hand and finger muscles
- Prolonged healing time if usual activities are resumed too soon

## ■ ■ ■ General Treatment Considerations

Initial treatment consists of rest from the offending activity and medications and ice to help reduce pain and inflammation. Elbow splinting (usually only at night) may be recommended. Stretching and strengthening exercises of the muscles of the forearm and elbow are important. Referral to physical therapy or an athletic trainer may be recommended for treatment. If this treatment is not successful, surgery may be necessary to free the pinched nerve, but this is rare.

## ■ ■ ■ 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.
- Pain relievers may be prescribed as necessary by your physician. Use only as directed and only as much as you need.

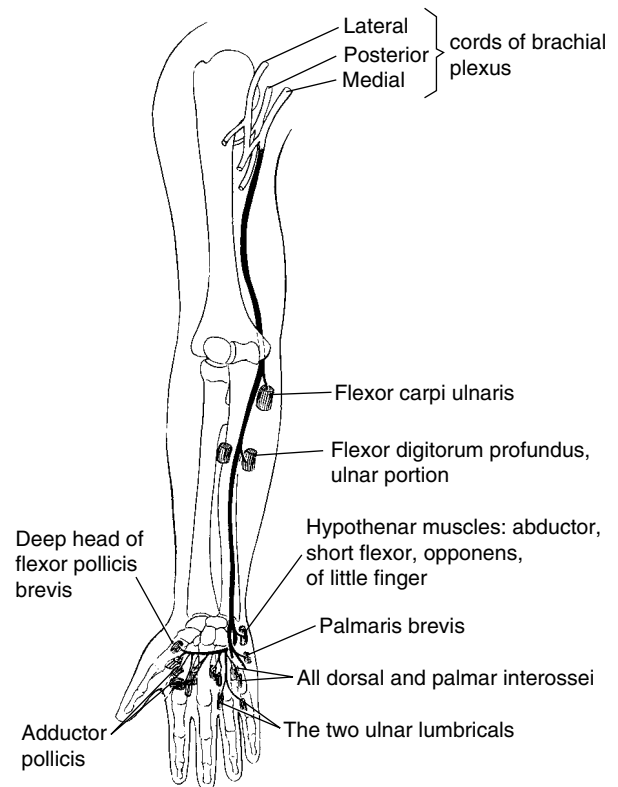


Figure 1

From Jenkins DB: Hollinshead's Functional Anatomy of the Limbs and Back, 6th ed. Philadelphia, WB Saunders, 1991, p. 135.

### ■ ■ ■ Cold Therapy

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. Place a towel between the ice and the elbow to reduce further injury (cold injury) to the nerve.

### ■ ■ ■ Notify Our Office If

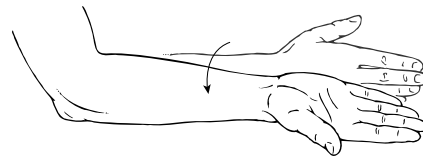
- Symptoms get worse or do not improve in 2 weeks despite treatment
- You experience pain, numbness, or coldness in the hand
- Blue, gray, or dusky color appears in the fingernails
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)

## EXERCISES

### > RANGE OF MOTION AND STRETCHING EXERCISES • Ulnar Nerve Contusion

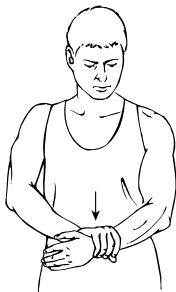
Start these exercises only when cleared by your physician, physical therapist, or athletic trainer. These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. *If any of these exercises provoke your symptoms, stop them immediately and consult your physician.* 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.



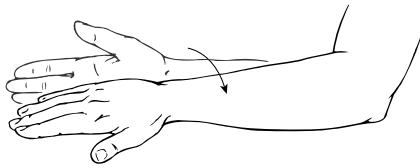
### RANGE OF MOTION • Extension

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.



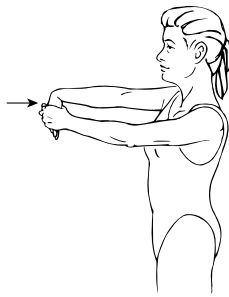
### RANGE OF MOTION • Flexion

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 • 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 • Wrist Flexion**

1. Hold your \_\_\_\_\_ wrist as shown with the fingers pointing down toward the floor.
2. Pull down on the wrist until you feel a stretch.
3. Hold this position for \_\_\_\_\_ seconds. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.
4. This exercise should be done with the elbow ***bent to 90 degrees / straight.*** (Physician, physical therapist, or athletic trainer should circle one of these.)



**RANGE OF MOTION • Wrist Extension**

1. Hold your \_\_\_\_\_ wrist as shown with the fingers pointing away from the floor.
2. Pull up on the wrist until you feel a stretch.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.
5. This exercise should be done with the elbow ***bent to 90 degrees / straight.*** (Physician, physical therapist, or athletic trainer should circle one of these.)



**RANGE OF MOTION • Wrist Extension**

1. Place the palm of your \_\_\_\_\_ hand flat on the top of a table as shown. Your fingers should be pointing backward.
2. Press down, bending your wrist and straightening your elbow until you feel a stretch.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



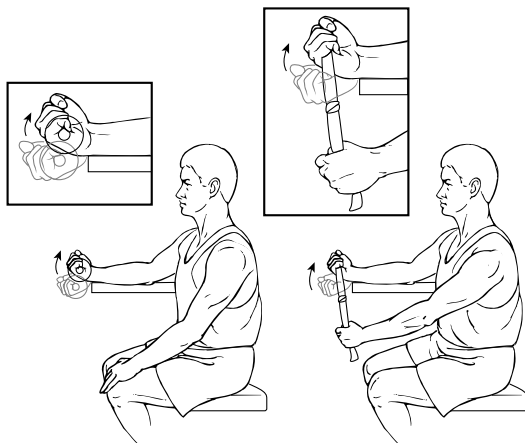
**RANGE OF MOTION • Wrist Flexion**

1. Place the back of your \_\_\_\_\_ hand flat on the top of a table as shown. Your shoulder should be turned in and your fingers facing away from your body.
2. Press down, bending your wrist and straightening your elbow until your feel a stretch.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

### > STRENGTHENING EXERCISES • Ulnar Nerve Contusion

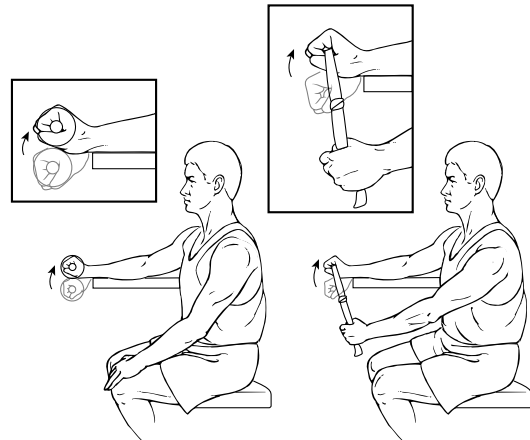
Start these exercises only when cleared by your physician, physical therapist, or athletic trainer. These are some of the **initial** exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. If any of these exercises provoke your symptoms, stop them immediately and consult your physician. 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.



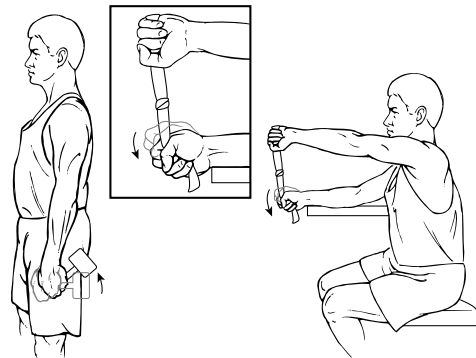
### STRENGTH • Wrist Flexors

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.



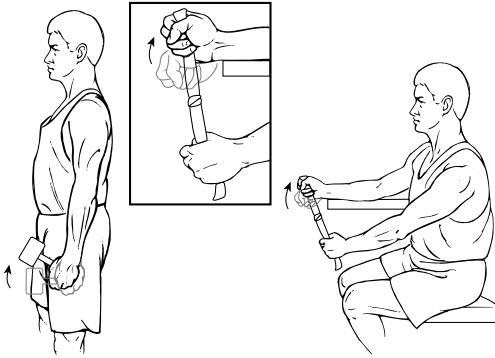
### STRENGTH • Wrist Extensors

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.



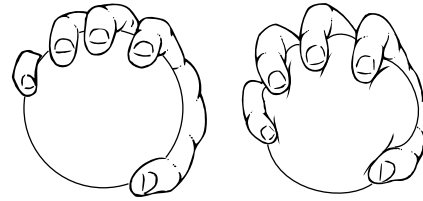
### STRENGTH • Wrist, Ulnar Deviation

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.



**STRENGTH • Grip**

1. Hold a wad of putty, soft modeling clay, a large sponge, a soft rubber ball, or a soft tennis ball in your hand as shown.
2. Squeeze as hard as you can.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.

Notes:

(Up to 4400 characters only)

Notes and suggestions