

# FLEXOR CARPI ULNARIS AND FLEXOR CARPI RADIALIS TENDINITIS



## ■ ■ ■ Description

Flexor carpi ulnaris and flexor carpi radialis tendinitis are characterized by pain on the underside of the wrist due to inflammation of one or both tendon linings (synovium) or strain of one or both tendons of the front of the wrist, the flexor carpi radialis (FCR) and flexor carpi ulnaris (FCU). The lining secretes a fluid that lubricates the tendon. When the lining becomes inflamed, the tendon cannot glide smoothly in its covering. The FCR tendon and the FCU tendon are the respective anchors of the FCR and FCU muscles, which are important for bending the wrist and gripping. There may be a grade 1 or grade 2 strain of the tendon. A *grade 1 strain* is a mild strain. There is a slight pull of the tendon without obvious tearing (it is microscopic tendon tearing). There is no loss of strength, and the tendon is the correct length. A *grade 2 strain* is a moderate strain. There is tearing of fibers within the substance of the tendon or where the tendon meets the bone or muscle. The length of the whole muscle-tendon-bone unit is increased, and there is usually decreased strength. A *grade 3 strain* is a complete rupture of the tendon.

## ■ ■ ■ Common Signs and Symptoms

- Pain, tenderness, swelling, warmth, or redness of the underside of the wrist that is worse with bending of the wrist, especially against resistance or when turning the palm down against resistance
- Pain with gripping
- Limited motion of the wrist
- Crepitation (a crackling sound) when the tendon or wrist is moved or touched
- Numbness of part of the palm of the hand

## ■ ■ ■ Causes

- Strain from unusual use, overuse, increase in activity, or change in activity of the wrist, hand, or forearm
- Repetitive motions of the hand and wrist due to friction of the tendon within the sheath (lining)

## ■ ■ ■ Risk Increases With

- Sports that involve repetitive hand and wrist motions, including golf and bowling
- Sports that require gripping (tennis, baseball, and weightlifting)
- Heavy labor
- Poor physical conditioning (strength and flexibility)
- Inadequate warm-up before practice or play

This condition is more common in women than in men.

## ■ ■ ■ Preventive Measures

- Appropriately warm up and stretch before practice or competition.

- Allow time for adequate rest and recovery between practices and competition.
- Maintain appropriate conditioning:
  - Forearm, wrist, and hand flexibility
  - Muscle strength and endurance
- Use proper technique.

## ■ ■ ■ Expected Outcome

This condition is usually curable within 6 weeks if treated appropriately with conservative treatment and resting of the affected area.

## ■ ■ ■ Possible Complications

- Prolonged healing time if not appropriately treated or if not given adequate time to heal
- Chronically inflamed tendon, causing persistent pain with activity that may progress to constant pain, restriction of motion of the tendon within the sheath, and potentially rupture of the tendon
- Recurrence of symptoms, especially if activity is resumed too soon
- Risks of surgery, including infection, bleeding, injury to nerves, continued pain, incomplete release of the tendon sheath, recurrence of symptoms, cutting of the tendon, and weakness of the wrist and grip

## ■ ■ ■ General Treatment Considerations

Initial treatment consists of medication and ice to relieve the pain and reduce the inflammation, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These all can be carried out at home, although referral to a physical therapist or athletic trainer may be recommended. Occasionally a cast, brace, or splint may be prescribed to reduce motion, helping alleviate inflammation. An injection of cortisone to the area around the tendon is often attempted. Surgery to release the inflamed tendon lining may be necessary. Calcium deposits and other irritants, including bony prominences, if present, are removed. If the tendon is torn, surgical repair or reconstruction (replacement using other tissue) is required.

## ■ ■ ■ 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 are usually not prescribed for this condition. If prescribed by your physician, use only as directed and only as much as you need.

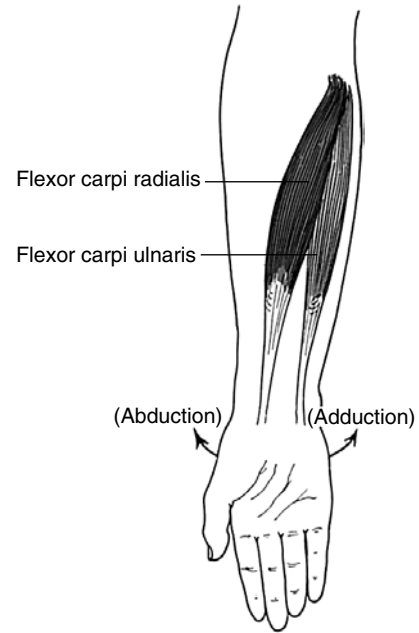
- Cortisone injections reduce inflammation. However, these are given only in extreme cases; there is a limit to the number of times cortisone may be given, because it may weaken muscle and tendon tissue. Anesthetics temporarily relieve pain.

### ■ ■ ■ 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.

### ■ ■ ■ 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
- Any of the following occur after surgery: increased pain, swelling, redness, drainage, or bleeding in the surgical area or signs of infection
- New, unexplained symptoms develop (drugs used in treatment may produce side effects)



**Figure 1**

From Jenkins DB: Hollinshead's Functional Anatomy of the Limbs and Back, 6th ed. Philadelphia, WB Saunders, 1991, p. 153.

**> RANGE OF MOTION AND STRETCHING EXERCISES • Flexor Carpi Ulnaris and Flexor Carpi Radialis Tendinitis**

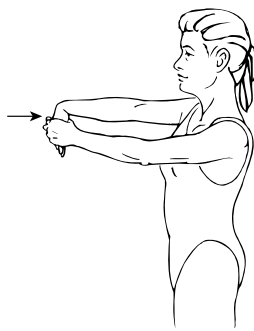
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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 • 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.)



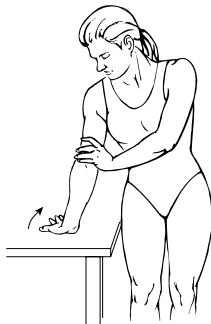
**RANGE OF MOTION • Wrist Flexion**

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 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 you feel a stretch.
3. Hold this position for \_\_\_\_\_ seconds.
4. Repeat exercise \_\_\_\_\_ times, \_\_\_\_\_ times per day.



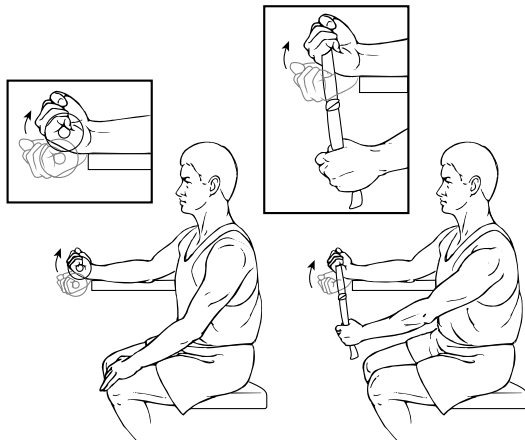
**RANGE OF MOTION • Wrist Extension**

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.

> **STRENGTHENING EXERCISES** • Flexor Carpi Ulnaris and Flexor Carpi Radialis Tendinitis

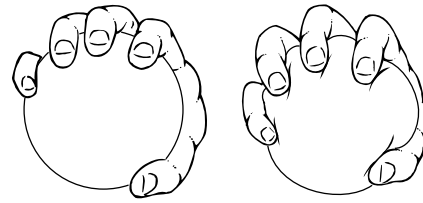
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or until your symptoms are resolved. Please remember:

- 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.



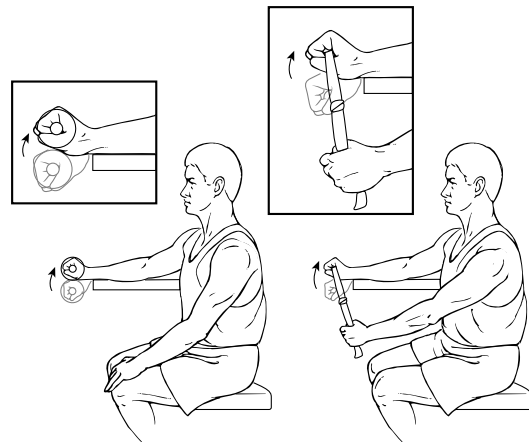
**STRENGTH** • Wrist Flexors

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.



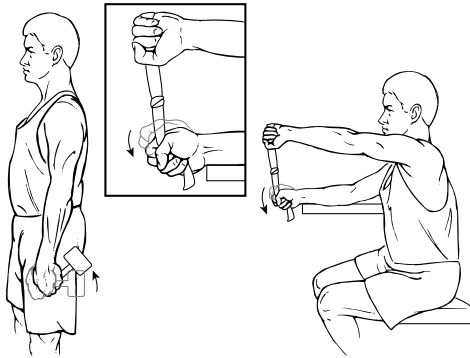
**STRENGTH** • Grip

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.

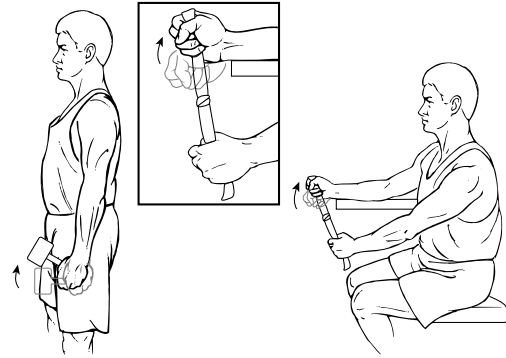


**STRENGTH** • Wrist Extensors

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