

Exercises:
10 seconds
10 times
1 time per day



Epicondylitis, Lateral (Tennis Elbow)

DESCRIPTION

Lateral epicondylitis, or *tennis elbow*, is the most common painful condition of the elbow. Inflammation and pain occur on the outer side of the elbow, where muscles and tendons attach to the bone. The structures involved are the muscles or tendons of the forearm that bring the wrist back or extend the wrist, which is why this condition occurs not only in tennis players but also in anyone who performs repeated resisted motions of the wrist. Without proper intervention, epicondylitis may develop into a chronic, recurrent problem.

COMMON SIGNS AND SYMPTOMS

- Pain and tenderness on the outer side of the elbow
- Pain or weakness with gripping activities
- Pain with twisting motions of the wrist (playing tennis, using a screwdriver, opening a door or a jar)
- Pain with lifting objects, even a coffee cup

CAUSES

- Chronic repetitive stress and strain to the muscles and tendons that attach the forearm muscles to the elbow
- A sudden change in activity level or intensity
- Incorrect grip
- Incorrect grip size of racket (often too large)
- Incorrect hitting position or technique (usually backhand, leading with the elbow)
- Using a racket that is too heavy

FACTORS THAT INCREASE RISK

- Sports or occupations that require repetitive and strenuous forearm and wrist movements (tennis, squash, racquetball, carpentry)
- Sports that require strenuous or repetitive forearm movement (tennis, racquetball, in golf, the "lead arm")
- Poor physical conditioning (strength, flexibility)
- Inadequate warm-up before practice or play
- Resumption of activity before healing, rehabilitation, and conditioning are complete

PREVENTIVE MEASURES

- Appropriately warm up and stretch before practice or competition.
- Maintain appropriate conditioning that includes wrist and forearm flexibility, muscle strength and endurance, and cardiovascular fitness.
- Ensure proper equipment fit.

- Maintain proper technique, and have a coach correct improper technique.
- Wear a tennis (counterforce) elbow brace.

EXPECTED OUTCOME

- Acute cases, in which symptoms are present less than 4 weeks, are usually resolvable in 2 to 6 weeks.
- Chronic (repetitive) cases, in which symptoms have been present for more than 8 weeks, may require 3 to 6 months to resolve and often require referral to a physical therapist or athletic trainer.

POSSIBLE COMPLICATIONS

- Frequent recurrence of symptoms may result in a chronic problem; appropriately addressing the problem the first time decreases the frequency of recurrence.
- Chronic inflammation, scarring, tendon degeneration, and partial tendon tear may require surgery.
- Delayed healing or delayed resolution of symptoms can occur.

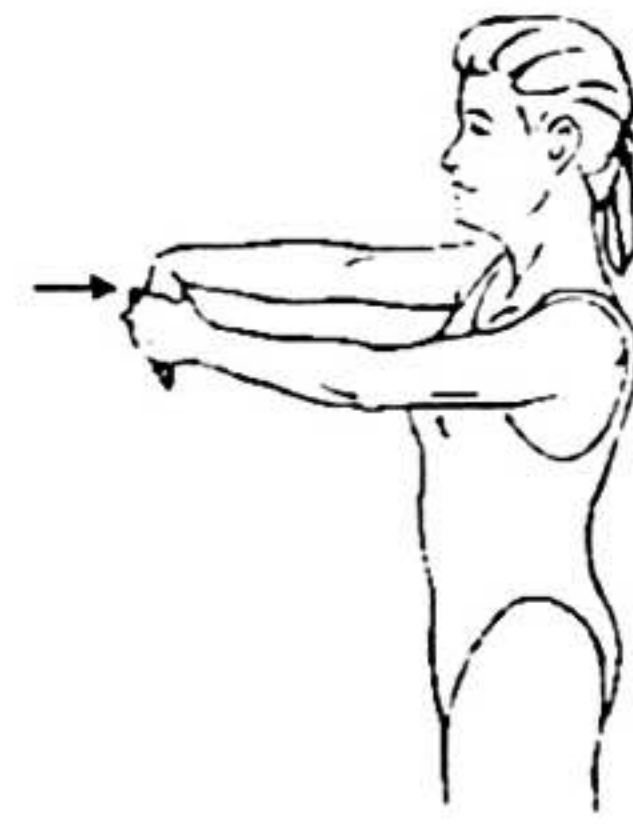
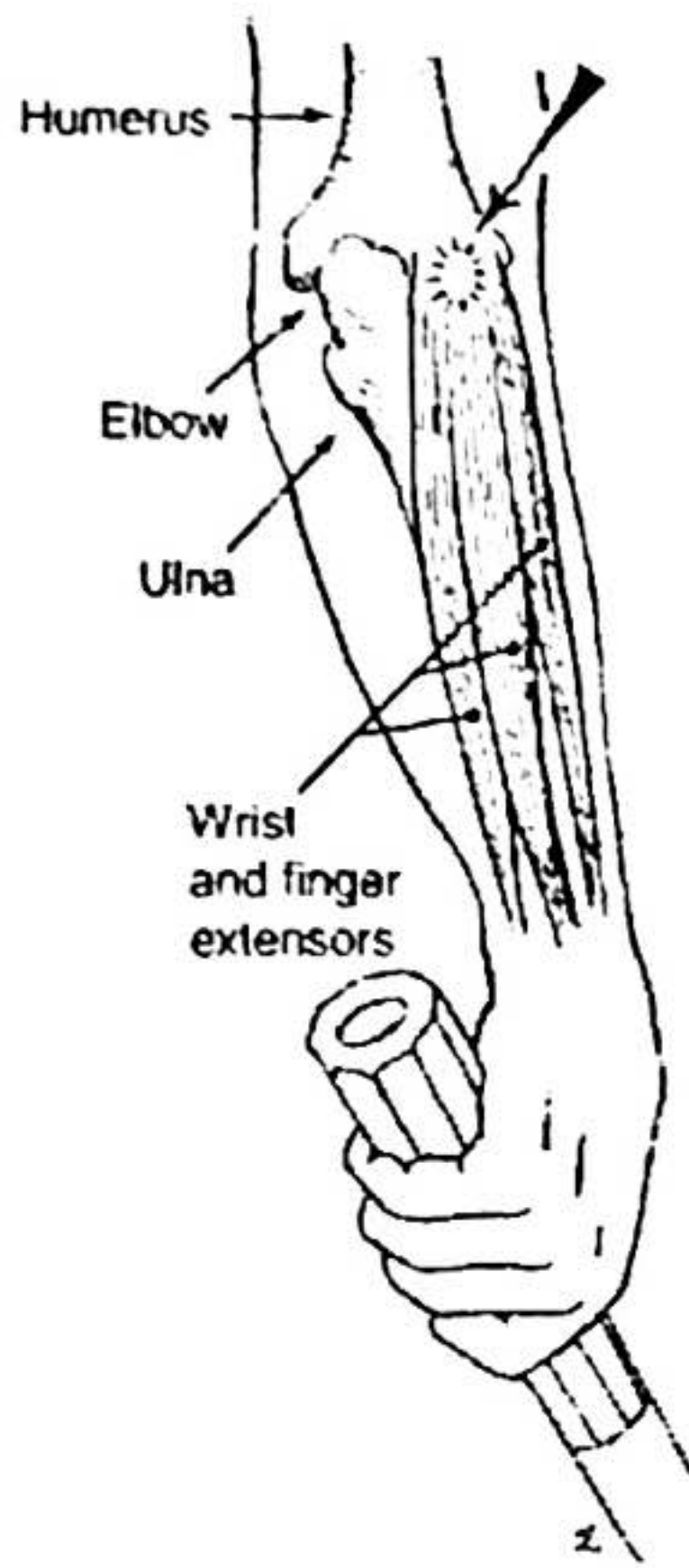
GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain, stretching and strengthening exercises, and modification of the activity that initially caused the problem. These can all be carried out at home in acute cases. Chronic cases often require referral to a physical therapist or athletic trainer for further evaluation and treatment. A counterforce (tennis elbow) brace may be recommended to reduce the forces on the damaged tendon. A splint to immobilize the wrist may be useful early; however, if symptoms persist, an injection of cortisone and anesthetics or surgical intervention may be required.

MEDICATION

- Nonsteroidal antiinflammatory medications, such as aspirin and ibuprofen (do not take for 7 days before surgery), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician, and contact your doctor immediately if any bleeding, stomach upset, or signs of an allergic reaction occur.
- Cortisone injections reduce inflammation; however, this is done only in extreme cases; there is a limit to the number of times cortisone may be given, because it weakens muscle and tendon tissue. Cortisone may also cause skin and subcutaneous fat atrophy (shrinking and thinning) and skin lightening (depigmentation). Anesthetics temporarily relieve pain.

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RANGE OF MOTION • Wrist Flexion

1. Hold your wrist as shown, with your fingers pointing down toward the floor.
2. Pull down on the wrist until you feel a stretch, and hold this position for ___ seconds.
3. Repeat this exercise ___ times, ___ times per day.

This exercise should be done with the elbow either bent to 90 degrees or held straight, whichever is recommended.

FIGURE 1 From Economou SG, Economou TS: *Instructions for surgery patients*, Philadelphia, 1998, W.B. Saunders, p 589.

HEAT AND COLD

- Cold is used to relieve pain and reduce inflammation for acute and chronic cases. It should be applied for 10 to 15 minutes every 2 to 3 hours and immediately after any activity that aggravates your symptoms. Use ice packs or an ice massage.
- 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.

WHEN TO CALL YOUR DOCTOR

Call your doctor if symptoms get worse or do not improve in 2 weeks despite treatment.



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 this exercise ___ times, ___ times per day.



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 your symptoms resolve. 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 your fingers pointing away from the floor.
2. Pull up on your wrist until you feel a stretch.
3. Hold this position for ____ seconds.
4. Repeat this exercise ____ times, ____ times per day.

This exercise should be done with your elbow either bent to 90 degrees or held straight, whichever is recommended.



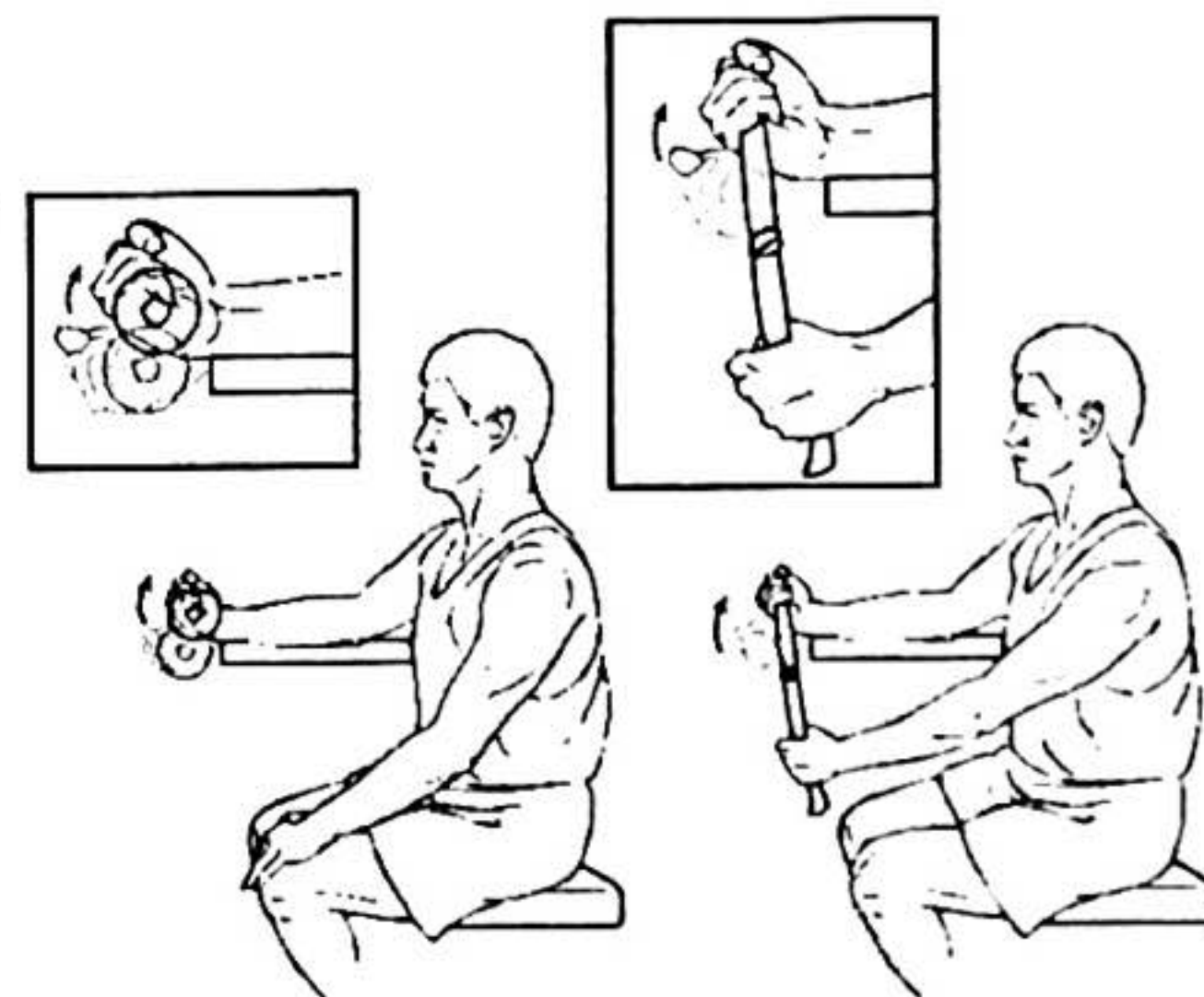
RANGE OF MOTION • Wrist Flexion

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 should face 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 this exercise ____ times, ____ times per day.

STRENGTHENING EXERCISES

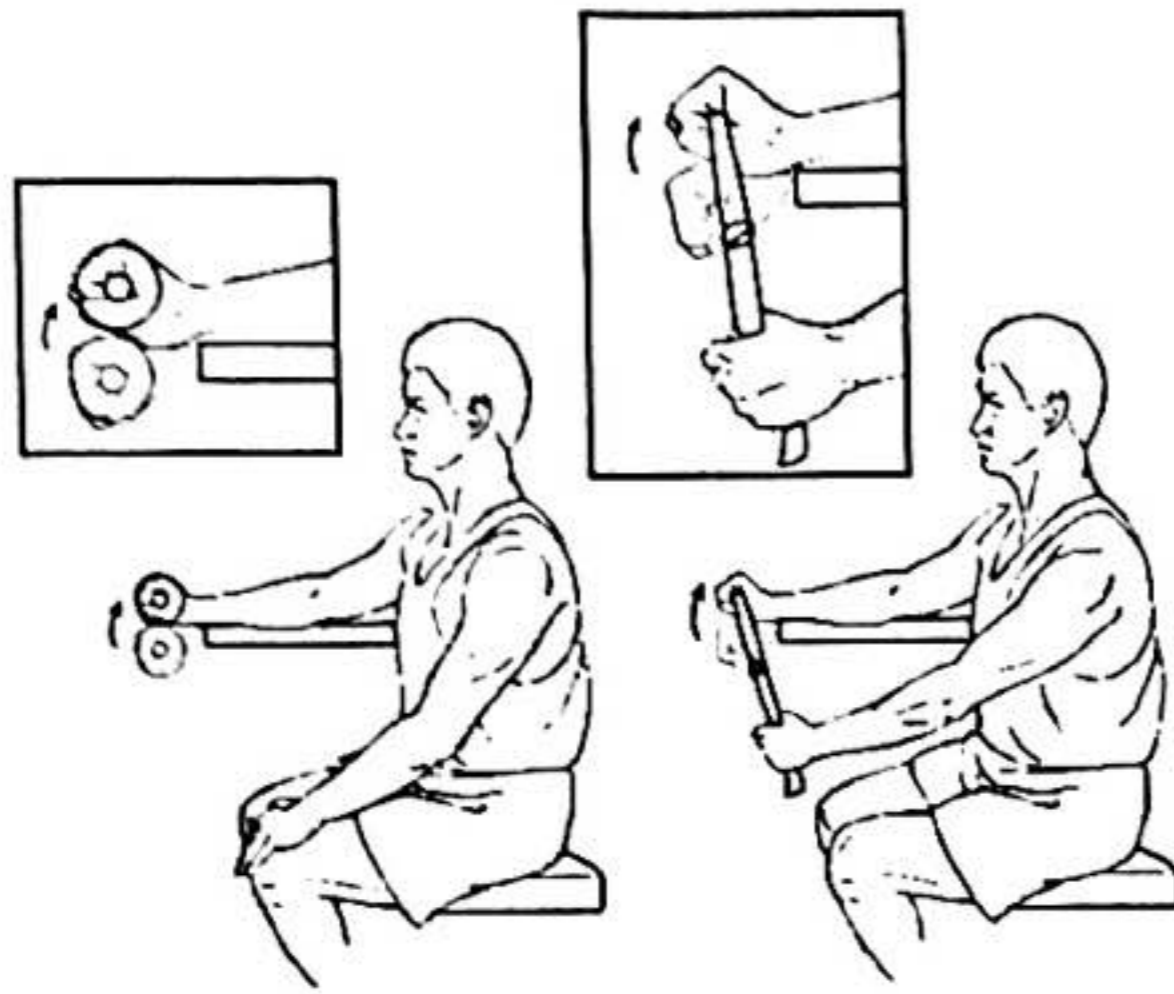
These are some of the *initial* exercises you may start your rehabilitation program with until you see your physician, physical therapist, or athletic trainer again or your symptoms resolve. Please remember:

- 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.



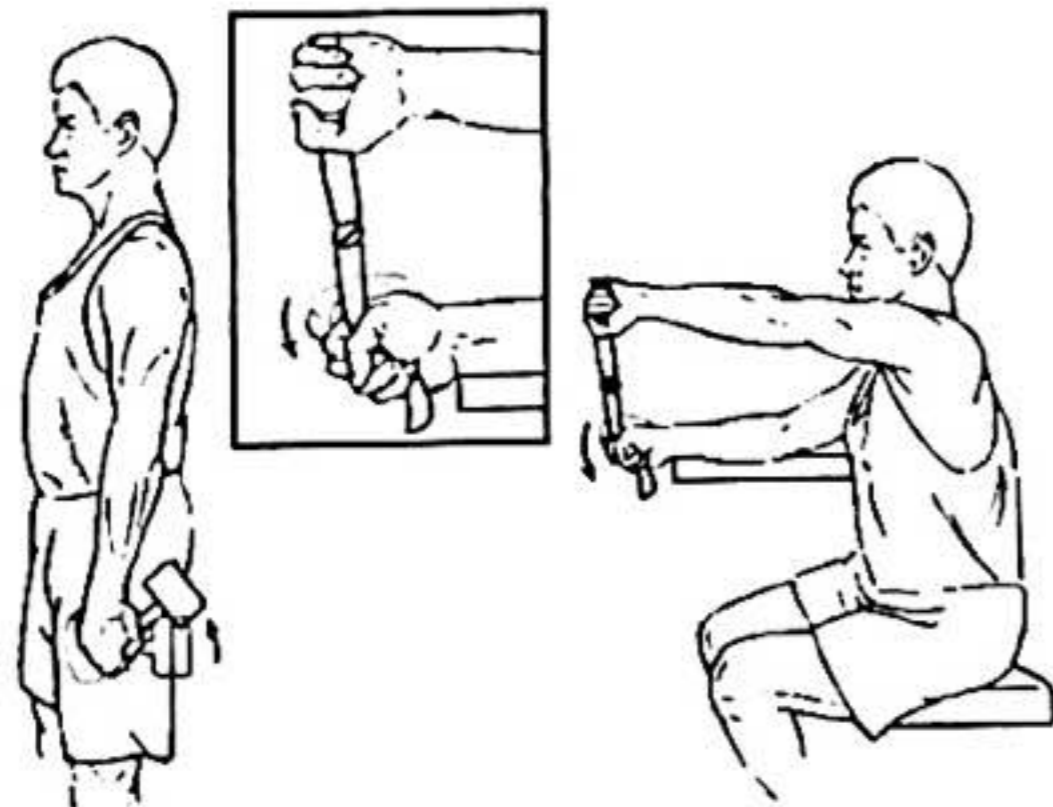
STRENGTH • Wrist Flexion

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 *slowly* lower your wrist back to the starting position.
4. Repeat this exercise ____ times, ____ times per day.



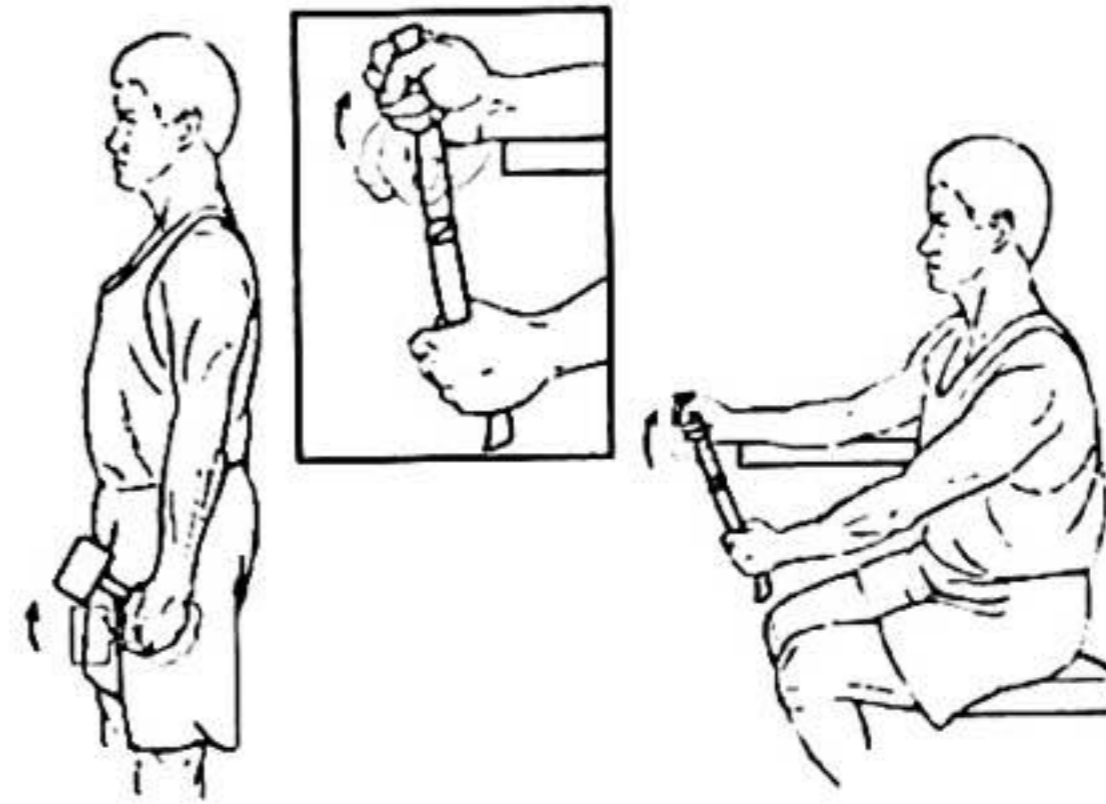
STRENGTH • Wrist Extension

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 up toward you.
3. Hold this position for ___ seconds, and *slowly* lower your wrist back to the starting position.
4. Repeat this exercise ___ times, ___ times per day.



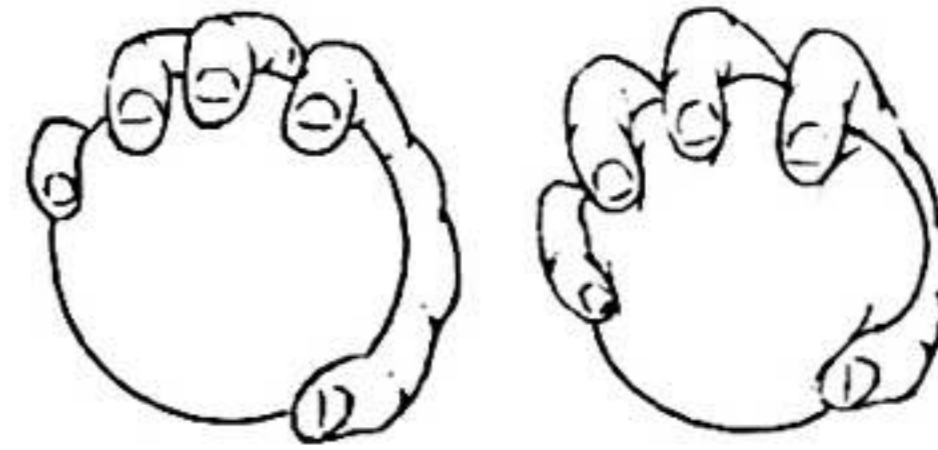
STRENGTH • Wrist, Ulnar Deviation

1. Stand with a ___ ounce 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 up behind you, or pull down on the rubber tubing.
3. Hold this position for ___ seconds, and *slowly* lower your wrist back to the starting position.
4. Repeat this exercise ___ times, ___ times per day.



STRENGTH • Wrist, Radial Deviation

1. Stand with a ___ ounce 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 up in front of you, or pull up on the rubber tubing.
3. Hold this position for ___ seconds, and *slowly* lower your wrist to the starting position.
4. Repeat this exercise ___ times, ___ times per day.



STRENGTH • Grip

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

**STRENGTH • Supination**

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

**STRENGTH • Pronation**

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