

Elbow Pain

Rehabilitation Using the Resistance Chair

General Information

Elbow pain may be due to many different conditions affecting the joint or in the surrounding muscles or tissues. Overuse or injury can predispose the elbow to inflammation and swelling leading to pain. Swelling may occur from inflammation of lubricating sacs (bursa) located between certain tissues. If elbow pain is not treated properly initially, it can become a chronically painful problem. Muscle tendons and muscle-to-bone insertion sites (epicondyles) are common areas of inflammatory processes. There are two main epicondyles in the elbow located on the outer (lateral) and inner (medial) parts. There are also multiple nerves that course around the elbow region which can become compressed contributing to pain. If the elbow is injured, disruption or damage may occur in the supporting tissues (ligaments) also causing pain. Most conditions affecting the elbow can be treated successfully with a proper exercise and stretching program.

Symptoms

People with elbow pain often report exacerbation with certain movements such as flexion or extension of the wrist. Certain activities and/or sports may also cause painful elbow flares. Swelling of the elbow region and loss of full range of motion can result in some patients. Pain on the outer portion of the elbow is most common and is often from inflammation of the lateral epicondyle, known as “lateral epicondylitis”. If weakness or sensory changes such as numbness occur in the arm or hand, it may be a sign of nerve compression or damage may be occurring.

Diagnosis

The diagnosis of elbow pain syndromes are made by a healthcare professional following a focused history and exam to identify this condition. X-Ray, MRI, or other studies may be performed for further evaluation if necessary but are usually not needed.

Management

Treatment of elbow pain involves pain relieving medications such as nonsteroidal anti-inflammatory drugs (such as Ibuprofen), therapy modalities (heat, cold, electrical stimulation), modification of exacerbating activities, and a specific rehabilitation program. Bracing may be indicated in some cases to reduce repetitive movements allowing tissues to heal. One example of a brace is the forearm band which may be helpful in some patients. Some patients who do not respond to conservative treatment may be candidates for a steroid injection (epidural) or may require surgical evaluation.

The goal of a therapy program is to reduce inflammation and restore elbow and forearm muscle strength resulting in decreased pain. A recent study demonstrated that patients with elbow pain from chronic lateral epicondylitis showed a significant decrease in pain, recovery of the muscle weakness, and improvement of the forearm tendons on imaging studies (1). It also showed improvements in the ability to perform work related tasks and increased participation in recreational activities (1). A regular exercise therapy is a vital component of elbow pain treatment and prevention.

The Resistance Chair Solution

The Resistance Chair Solution incorporates specific stretches and exercises to target and treat elbow pain from a variety of conditions. This program is designed to reduce this inflammation by improving flexibility and strength along with joint mobilization. The program also balances elbow musculature further stabilizing the joint and reducing repetitive injuries. These exercises are essential for maintaining and restoring strength in the arm and forearm muscles. Development of a regular toning program combined with activity modifications is important in preventing recurrences.

References:

1. Croisier JL, Foidart-Dessalle M, Tinant F, Crielaard JM, Forthomme B. An isokinetic eccentric programme for the management of chronic lateral epicondylar tendinopathy. *Br J Sports Med.* 2007 Apr;41 (4):269-75. Epub 2007 Jan 15.

Warm Up

Perform each of the following stretches 10 times.



Circle shoulders forward and backwards.



With palms facing forward inhale as you raise arms out to the side, continuing overhead in an arc. Exhale as you lower arms to your sides.



Alternate reaching arms overhead.



Holding arms at shoulder level, brings hands together in front and apart to sides.



Rotate wrists clockwise, then counterclockwise.



With elbows held bent to 90 degrees, rotate forearms to turn palm facing fully upward and then fully downward (pronation/supination).

Forward Raises

Goal: To increase strength of front of shoulders.

1. Sit in chair.
2. Grasp lower cables in each hand as shown. (Figure A)
3. With thumbs pointing upward, palms facing inward, raise both arms in front to shoulder level, lower slowly. (Figure B)
4. Repeat 10 times and perform 2 sets.

Technique key – Maintain shoulders relaxed down away from ears as you raise your arms. Keep wrists straight.



Figure A

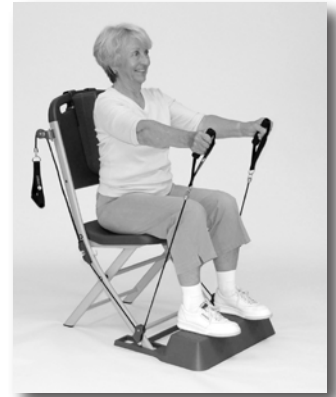


Figure B

Side Raises

Goal: To increase strength of sides of shoulders.

1. Sit in chair.
2. Grasp lower cables in each hand. (Fig. A)
3. Raise both arms out to side as shown. Lower slowly. (Fig. B)
4. Repeat 10 times and perform 2 sets.

*Caution: Do not raise higher than shoulder level.

Technique key – Maintain shoulders relaxed down away from ears as you raise your arms. Keep wrists straight.



Figure A



Figure B

Combined Forward/Side Raises

Goal: To increase strength of rotator cuff and shoulders.

1. Sit in chair.
2. Grasp lower cables in each hand. (Fig. A)
3. With thumbs pointing upward, palms facing together raise arms to shoulder level as shown. Lower slowly. (Fig. B)
3. Repeat 10 times and perform 2 sets.

Technique key – Maintain shoulders relaxed down away from ears as you raise your arms. Keep wrists straight.



Figure A



Figure B

Bicep Curl

Goal: To increase strength of front of arms.

1. Sit in chair.
2. Grasp lower cables in each hand, palms facing forward. (Fig. A)
3. Bend elbows and slowly straighten. (Fig. B)
4. Repeat 10 times and perform 2 sets.

Technique key – Keep shoulders stable as you bend elbows.



Figure A



Figure B

Tricep Pulldown

Goal: To increase strength of back of arms.

1. Sit in chair.
2. Grasp overhead cables and pull down to starting position as shown; elbows at sides and bent to 90 degrees. (Fig. A)
3. Push cables down to sides to straighten arms. (Fig. B)
4. Slowly bend elbows to 90 degrees.
5. Repeat 10 times and perform 2 sets.

Technique key: Keep elbows close to sides of ribs (or sides of body), and keep wrists straight.

Technique key – Keep elbows close to sides of body.



Figure A



Figure B

Pronation / Supination

Goal: To increase strength of pronator and supinator muscles of the arm.

1. Sit supported in chair.
2. Hold Palm Ball hand weight in your hand with elbow bent to 90 degrees and your upper arm supported against your side.
3. Keeping elbow bent to 90 degrees, slowly rotate forearm to turn palm upward and then downward.
4. Motion should be slow and controlled.
5. Repeat 10 times and perform 2 sets.

Technique key – Rotate forearm and wrist as one unit.



Figure A

Wrist Flexion

Goal: To increase strength of forearm and wrist.

1. Sit sideways in chair with your right side toward the back of the chair. Place a firm pillow on your lap.
2. Grasp the lower cable with your left hand and position your forearm on the pillow with your palm facing UP, elbow bent. (Figure A)
3. Lift your wrist upwards as far as you can and then lower. (Figure B)
4. Repeat 10 times and perform 2 sets.

Technique key – Keep your arm on the pillow near your side and only move from the wrist.



Figure A

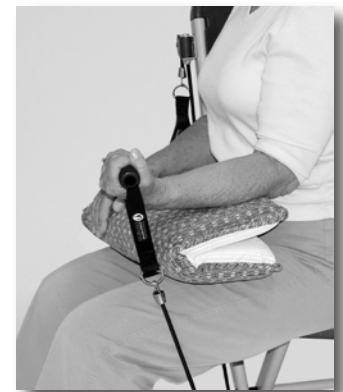


Figure B

Wrist Extension

Goal: To increase strength of forearm and wrist.

1. Sit sideways in chair with your right side towards the back of the chair. Place a firm pillow on your lap.
2. Grasp the lower cable with your left hand and position your forearm on the pillow with your palm facing DOWN, elbow bent. (Figure A)
3. Lift your wrist upwards as far as you can and then lower. (Figure B)
4. Repeat 10 times and perform 2 sets.



Figure A

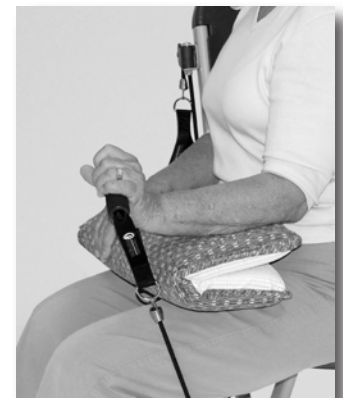


Figure B

Wrist Flexor Stretch

Goal: To increase flexibility of the front of the wrist and forearm.

1. Sit with your right arm extended straight out in front of you, palm facing upward.
2. With your left hand, pull the fingers and hand of the right hand downward until you feel a stretch in the front (top) of your right forearm (Figure A).
3. Hold stretch at least 20 seconds. Recommend holding for 60-90 seconds if possible.
4. Repeat 2 times each side.



Figure A

Wrist Extensor Stretch

Goal: To increase flexibility of the back side of the forearm and wrist.

1. Sit with your right arm extended straight out in front of you, palm facing downward.
2. With your left hand, pull your right hand and fingers downward until you feel a stretch in the back (top) of your left forearm (Figure A).
3. Hold stretch at least 20 seconds. Recommend holding for 60-90 seconds if possible.
4. Repeat 2 times each side.

Technique key – Rotate forearm and wrist as one unit.



Figure A

CAUTION: Before beginning any exercise program please consult a healthcare provider for appropriate exercise instructions and safety precautions.

ELBOW PAIN PROFESSIONAL NOTES

1. This protocol is to be used as an adjunct to physical therapy which may include modalities, bracing and manual therapy treatment.
2. Assess possible contributing factors such as proximal shoulder stability, wrist strength and stability, and body mechanics.
3. Excessive or repetitive wrist flexion/extension can be the cause of elbow pain/tendonitis. Make sure that the patient maintains neutral wrist position during all shoulder and elbow strengthening exercises.