



**PROFESSIONAL ORTHOPAEDICS**  
***SPORTS MEDICINE & ARTHROSCOPY***

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## MEDIAL EPICONDYLITIS

Many throwers, racquet sport players and golfers develop pain on the inner side of the elbow. This condition is a tendonitis called medial epicondylitis. It is caused by using a strong grip while repetitively throwing or swinging a club or racquet, or by using the wrist muscles too much when engaging in these activities. This is an overuse injury of the wrist flexor muscles that attach to the lower end of the arm bone (the humerus) in the elbow area.

The flexor muscles of the forearm that flex the wrist toward the palm of the hand originate at the medial epicondyle of the humerus. Strong and repeated use of these muscles can cause injury at the point of maximum stress where the muscles originate on the inner side of the forearm at the elbow. Many factors can contribute to this including:

- Weak muscles
- Overuse – playing or working excessively and excessive repetitive gripping while flexing and twisting the wrist
- Improper equipment – wrong grip size, strings too tight or unbalanced tools.
- Poor technique – too much wrist motion, jerky strokes, or poor ball contact.

The treatment for medial epicondylitis includes rest, ice, stretching, anti-inflammatory medication, physical therapy to build strength, and bracing. The counter-force brace is a strap that is worn 1-2 inches below the elbow. This type of brace gives compression to the muscles of the forearm and helps lessen the force transmitted to the tendon. At first the brace may be worn continuously, but as pain subsides it may be worn only during activities.

It is possible to return to playing sports after medial epicondylitis, but a few simple principles should be followed:

- Always warm up before you play. This should include a brief cardio to work up a light sweat, and stretching of the muscles.
- Your racquet may need to be adjusted. Check your grip size and the weight of your racquet. You may need to use a lighter racquet with less tension in the strings.
- Your stroke may need to be modified. Reduce wrist motion as much as possible.



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When you do return to your game, it is important to start back slowly. Avoid playing competitive games until your elbow is healed. Be sure to stretch again after playing and apply ice to your elbow for at least 20 minutes.

**REHAB FOR MEDIAL EPICONDYLITIS**

*Note: stretches and exercises that are painful should not be forced. No pain, no gain does not apply.*

**Phase I: Acute Phase**

**Goals:**

1. Decrease acute inflammation
2. Promote tissue healing
3. Retard muscular atrophy

**Modalities:**

- Cryotherapy with HVGS ESTIM (surround tendon)
- Phonophoresis
- Iontophoresis (preferably a long duration patch)

**Exercises:**

- Stretching wrist extension/flexion, elbow extension/flexion, supination/pronation
- Isometrics wrist extension/flexion, elbow extension/flexion, supination/pronation
- Progress to gentle active ROM and light strengthening with bent elbow
- May use noxious pain ESTIM prior to isotonic exercises
- Soft tissue massage to muscle belly and surrounding muscles (avoid tendon)
- Avoid painful movements (ie, gripping, etc)
- May use a counterforce distribution strap
- May continue with shoulder stretching, manual resistance shoulder exercises (no gripping), lower extremity, core, and conditioning workouts

**Criteria for progression to Phase II:**

- No pain or inflammation at rest or with ROM



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**Phase II: Intermediate Phase**

**Goals:**

1. Create a healing response
2. Improve soft-tissue flexibility
3. Increase muscular strength/endurance
4. Increase tolerance to functional activities

**Modalities:**

- Whirlpool or moist heat warm-up
- Continuous ultrasound (no phonophoresis)
- Gradually discontinue use of iontophoresis
- Gradually discontinue use of cryotherapy

**Exercises:**

- Progress above exercises
- Shoulder, scapula, elbow, wrist, and forearm isotonics, gradually increase weight
- Progress to wrist isotonics with a straight elbow
- Begin with concentric contractions and progress to include eccentrics
- Progress to elbow, wrist, and forearm manuals
- Soft tissue massage to muscle belly and surrounding muscles, progress to transvers friction massage to tendon area
- May begin light wrist flips and wall dribbles

**Criteria for progression to Phase III:**

- No pain or inflammation
- At least 4+/5 strength throughout upper extremity



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**Phase III: Advanced Phase**

**Goals:**

Improve muscular strength and endurance  
Maintain/enhance flexibility  
Gradual return to baseball activities

**Modalities:**

Whirlpool or moist heat warm-up  
Continuous ultrasound (no phonophoresis)  
Avoid use of anti-inflammatory modalities

**Exercises:**

- Continue strengthening and manual exercises (emphasize eccentric contractions)
- Continue to emphasize deficiencies in shoulder and elbow strength
- Continue flexibility exercises
- Continue soft tissue massage to muscle belly and surrounding muscles including transverse friction massage to tendon
- Continue wrist flips and wall dribbles
- Gradually decrease use of counterforce brace
- Progress to interval hitting and/or throwing program – continue above exercises throughout program, specifically warm-up of heat, ultrasound, massage, and stretch PRIOR to throwing

**Criteria to begin interval hitting and/or throwing program:**

- No pain or tenderness with palpation
- Good soft tissue flexibility
- 5/5 strength throughout upper extremity
- Satisfactory clinical examination