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**REHABILITATION PROTOCOL
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 counterforce 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.

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.

REHABILITATION 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

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 isotonic, gradually increase weight
- Progress to wrist isotonic with a straight elbow
- Begin with concentric contractions and progress to include eccentrics
- Progress to elbow, wrist, and forearm manual
- Soft tissue massage to muscle belly and surrounding muscles, progress to transverse
- 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

Phase III: Advanced Phase

Goals:

1. Improve muscular strength and endurance
2. Maintain/enhance flexibility
3. 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