

159 East 74 th Street, 2nd Floor New York, NY 10021	Aruna Seneviratne MD Tel: (212) 737 3301 Fax: (212) 737 4876 www.nycsportsmed.com	130 East 77 th Street, 5 th Floor New York, NY 10075
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Topical Nitric Oxide Protocol for Lateral Epicondylitis (Tennis Elbow) and Medial Epicondylitis (Golfer's Elbow) of the Elbow

The following is the best practice management of lateral epicondylitis (tennis elbow), and medial epicondylitis (golf elbow). It is based on objective scientific data that was derived from a recent double blind randomized placebo-controlled trial treating lateral epicondylitis. While only lateral epicondylitis was treated in this trial, medial epicondylitis has a very similar pathophysiological process making the protocol suitable for this process as well. Success of the treatment depends on implementing all aspects of the protocol. Favorable results can be expected as early as six weeks, but may require protracted treatment for up to six months.

The Protocol

- 1) Relative rest for a period of 6 to 8 weeks
 - i. Modify any activity that aggravates your elbow pain.
 - ii. Avoid repetitive activities (typing, tennis, golf etc).
 - iii. Avoid gripping objects strongly (carrying heavy objects such as bags).
 - iv. Avoid forceful forearm rotation (supination and pronation).

- 2) A program of stretching and strengthening
 - i. See the diagrams on how to stretch
 - ii. Eccentric strengthening with the Flexbar – see video for demo of technique
(Note: the affected elbow is the RIGHT elbow in the demos)
 1. For tennis elbow see http://youtu.be/bV-RjM_Y_hc
 2. For golfers elbow see <http://youtu.be/LtR8fYEUnXI>

- 3) Counterforce bracing (also known as a tennis elbow strap)

- 4) Topical Nitric Oxide
 - i. Your doctor has prescribed Nitrodur 0.2mg/hr patches

Instructions for applying the patch

- 1) Remove patch from pouch
- 2) Cut patch into quarters and return 3 of the ¼ patches to the pouch and seal firmly (light can alter the chemical composition of nitric oxide).
- 3) Apply ¼ patch to your elbow around the area of greatest pain.
- 4) Apply ¼ patch every 24 hours – usually to a slightly different location than the previous patch.

Possible Side Effects

- 1) Headache – take Tylenol if you develop a headache. If it does not resolve for Tylenol, remove the patch, and try again the next day.
- 2) Skin rash – apply the patch to a slightly different location each day.
- 3) Avoid if you are taking medication for erectile dysfunction such as Viagra, Levitra, Cialis, etc.

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Stretching exercises for tennis elbow

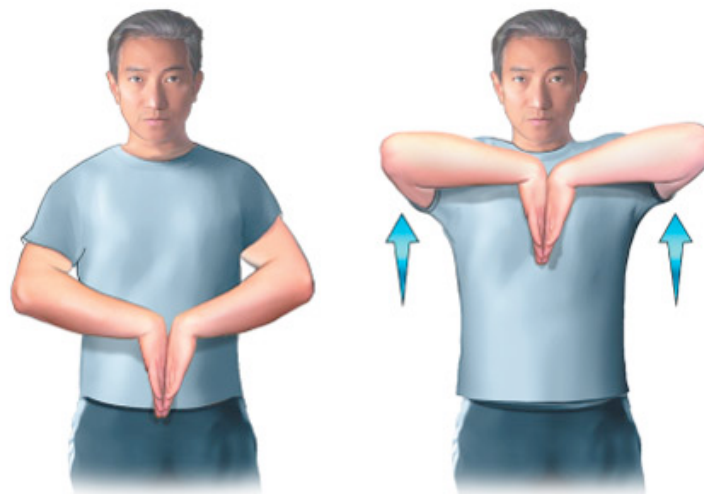
Prayer stretch

1. Start with your palms together in front of your chest, just below your chin.
2. Slowly lower your hands toward your waistline, keeping your hands close to your stomach and your palms together until you feel a mild to moderate stretch under your forearms.
3. Hold for 20 seconds. Repeat 4 times.



Reverse prayer stretch

1. Start with the backs of your hands together in front of you at your waistline, with your forearms parallel to the floor.
2. Slowly bring your wrists up toward your face by bending your elbows until you feel a mild to moderate stretch in your forearms. Keep the backs of your hands together and your hands close to your body.
3. Hold for 20 seconds. Repeat 4 times.



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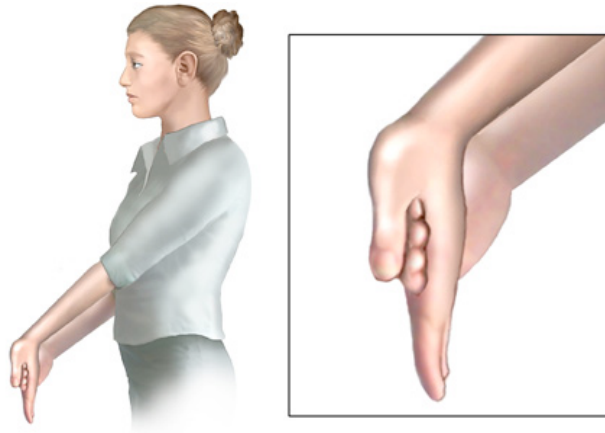
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Wrist extensor stretch

1. Extend your arm in front of you with your palm up.
2. Bend your wrist, pointing your hand toward the floor.
3. With your other hand, gently bend your wrist further until you feel a mild to moderate stretch in your forearm.
4. Hold for 20 seconds. Repeat 4 times.

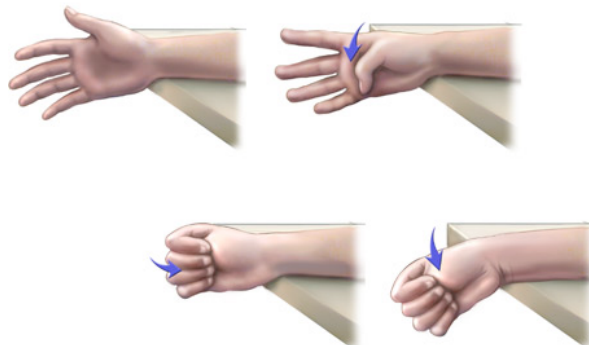


Wrist flexor stretch

1. Repeat steps 1 to 4 of the stretch above but begin with your extended hand palm down.

Thumb stretch

1. Place your forearm on a table with your thumb pointing upward and your hand hanging over the edge of the table.
2. Lower your thumb toward the base of your little finger and close your hand into a fist.
3. Slowly lower your hand so your little finger moves toward the floor (as if you're shaking hands).
4. Hold for 20 seconds. Repeat 4 times.



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