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## Phys Ed: An Easy Fix for Tennis Elbow?

By [Gretchen Reynolds](#)



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In a medical advance inspired by recessionary thinking, researchers from the Nicholas Institute of Sports Medicine and Athletic Trauma at Lenox Hill Hospital in New York City announced last month that they've developed an effective and supremely cheap treatment for chronic tennis elbow. Huddling a while back to brainstorm about inexpensive methods for combating the injury, the scientists glanced around their offices and noticed a homely, low-tech rubber bar, about 8 inches long, which, at the time, was being used for general physical therapy programs. The researchers wondered whether the ribbed, pliable bars, available for less than \$20, might be re-purposed to treat tennis elbow. The answer, it soon became clear, was a resounding yes.



To arrive at that conclusion, the researchers recruited 21 people with chronic, debilitating elbow pain. Ten of them were assigned to standard physical therapy treatment for tennis elbow; this was the control group. The other 11 also received physical therapy, but in addition were taught a choreographed exercise using the rubber bar that they practiced at home. After less than two months of treatment, the researchers terminated the experiment. The early results had been too unfair. The control group had showed little or

no improvement. But the rubber-bar-using group effectively had been cured. Those patients reported an 81 percent improvement in their elbow pain and a 72 percent improvement in strength.

“We couldn’t believe” how fast and well the therapy worked, says Timothy Tyler, PT, ATC, a clinical research associate at the Nicholas Institute and one of the authors of the study. “We were seeing improvements in five weeks, even three. It was crazy.”

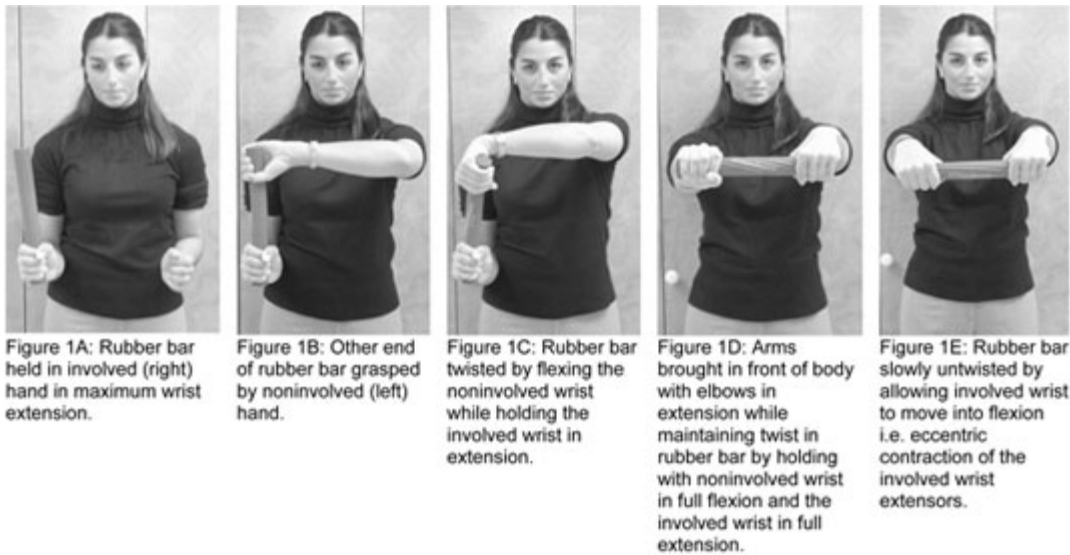
Tennis elbow, characterized by pain, weakness and inflammation or degeneration of the wrist-extensor tendon that connects to the elbow, is one of those intractable overuse injuries that, until recently, yielded very reluctantly to treatment. By most estimates, about half of all competitive tennis players will be afflicted, a statistic that must resonate, painfully, with the pros gathering for next week’s US Open. Tennis isn’t the only predisposing activity, either. Golfers get tennis elbow, as do plumbers, painters, gardeners and accountants. (Heavy briefcases can strain the tendon.)

Treatments range from acupuncture to corticosteroids to surgery, usually with limited — if any — long-term success. But in the past two or three years, doctors and researchers have begun focusing on a particular kind of exercise that has shown promise against other achy tendons, especially the Achilles. The program involves eccentric exercises, which aren’t oddball moves but those in which the muscle lengthens as it tenses. Think of a biceps curl. When you raise the dumbbell, your bicep shortens and tightens. That’s a concentric contraction. When you lower the weight, the muscle lengthens, straining against the force of the weight. That’s eccentric.

“There’s a growing body of research showing that eccentric exercises are quite effective in treating Achilles tendonitis” and other tendon problems, Tyler says.

One of those studies was a well-designed 2007 experiment centered on tennis elbow. Conducted in Belgium, it found that eccentric exercises provided considerable relief. But the exercises had to be performed on expensive machines under medical supervision during repeated office visits. “We looked at those results and thought, there has to be an easier, more cost-effective way,” Tyler says.

Which is how they arrived at the rubber bar technique. He and his colleagues realized that a single, unhurried exercise using a tensile bar that looks like an oversized licorice stick could create an eccentric contraction all along the forearm. In the exercise, a person holds the bar upright at his or her side using the hand connected to the sore elbow, then grasps it near the top with the good hand. The top hand twists as the bar is brought around in front of the body and positioned perpendicular to the ground; the sore hand then takes over, slowly untwisting the bar by flexing the wrist. “Afterward, you should be sore,” Tyler says. “That’s how we know it’s effective.”



Timothy Tyler Dr. Timothy Tyler’s method for doing the exercise with the rubber bar.

Eccentric contractions require the muscle to work against a force, in this case the coiled bar. “You can load a tendon so much more eccentrically” than with concentric exercises, Tyler says. “So we think the process may be remodeling the tendon.” Ultrasound studies by other researchers, including the group in Belgium, have shown that damaged tendons typically become less thick, indicating they are less damaged, after a course of strenuous eccentric exercise.

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Tyler reported his findings at the July annual meeting of the American Orthopedic Society for Sports Medicine and has been deluged ever since with requests from doctors, physical therapists and patients for more information about how to perform the exercise and where to buy the bar. (Called the Thera-Band Flexbar, it’s available on Amazon.com; the manufacturer donated products for the study, but didn’t otherwise fund it; Tyler is not affiliated with the company.) “It’s not a difficult exercise but it is unique, so I would advise people to be taught by a physical therapist, if possible,” Tyler says. If not, proceed on your own — after, of course, an examination by a doctor; elbow pain can have many causes, not just tennis elbow. “In my opinion, you’re not going to hurt yourself,” Tyler continues, although you should be prepared for a commitment. His patients did three sets of fifteen repetitions every day. Beginners should start with three sets of five repetitions, adding more as the repetitions get easier, Tyler says.

After his study was halted, the members of the control group, still ailing, were offered rubber bars and training. Most of the people in both groups continue to use the bars whenever their elbows twinge, Tyler has heard. Meanwhile, they’ve returned to tennis

(or, golf or weight training, which several blamed for their tennis elbow). “I feel strongly that this is making people better,” Tyler says.