

The Effect of Oscillating Energy Manual Therapy on Lateral Epicondylitis: A Randomized, Placebo-control, Double-blinded Study.
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Short Description: This randomized placebo-controlled study provides evidence for use of an effective and efficient alternative treatment, oscillating energy manual therapy, for lateral epicondylitis. The results of this study show clinical and statistical significant improvement in grip strength, pain intensity, functional activity, and arm use after treatment compared with a placebo group. This abstract has been presented as a poster at the CSM-2006 in San Diego.

Abstract

Symptoms of lateral epicondylitis (LE) are attributed to degenerative changes and inflammatory reactions in the common extensor tendon induced by microscopic tear in the tissue after repetitive or overload functions of the wrist and hand extensor muscles. Conventional treatments, provided on the premise of inflammatory basis of LE, have shown 39–80% failure rate. An alternative approach suggests that symptoms of LE could be due to active tender points that develop in the origin of hand and wrist extensor muscles after overuse or repetitive movements. Oscillating energy manual therapy (OEMT), also known as V-spread, is a craniosacral manual technique that has been clinically used for treating tender points over the suture lines in the skull. Considering that symptoms of LE may result from active tender points, the purpose of this study was to investigate the effect of localized tender point treatments with OEMT on pain, grip strength, and functional abilities of subjects with chronic LE.

Subjects: Nineteen subjects between ages of 24 and 72 participated in this study. Considering the number of subjects with bilateral symptoms, a total of 24 cases of chronic LE (>3 mo) were included. Prior to their participation, all subjects were screened by an orthopedic clinical specialist to rule out cervical and other pathologies that could possibly contribute to their lateral elbow pain.

Subjects who met the inclusion criteria were randomized into treatment and placebo treatment groups by a second (treating) therapist. Subjects were blinded to their group assignment. Subjects in the treatment group received OEMT for six sessions. During each treatment session, first a tender point was located through palpation. After proper hand placement, the therapist focused the direction of the oscillating energy on the localized tender point. Subjects in the placebo group underwent the same procedure, but the oscillating energy was directed to an area above or below the tender points, not covering the affected area. A Jamar dynamometer, the Patient-specific Functional Scale, and the Numeric Rating Scale were used to measure grip strength, functional status, pain intensity and pain limitation, respectively. The screening therapist who was blinded to the subjects' group assignment performed pretest, posttest, and six-month follow-up measurements.

Results: Subjects in the treatment group showed both clinically and statistically significant improvement in grip strength ($p = 0.01$), function ($p = 0.04$), pain intensity ($p = 0.004$), and pain limitation ($p = 0.03$) compared with those in the placebo group. Follow-up data showed that 100% of the subjects maintained the improved function and 73% of them remained pain free for at least six months posttreatment.

Conclusion: OEMT seems to be a viable, safe, and effective treatment for LE.

Clinical Relevance: This study provides evidence for a safe and effective alternative treatment for symptoms of chronic LE. These findings could be generalized to other similar conditions in the hand and upper extremity.

Learning Objectives: Learning about a new approach to treat connective tissue and muscle chronic pain. This technique has not been used for somatic dysfunctions by physical therapists before.

Biography: Frank Fearon earned his doctoral degree from the Institute of Physical Therapy. He is an APTA Board Certified Clinical Specialist in Orthopedics, and a Fellow of the American Academy of Orthopedic Manipulative Physical Therapists.

He has considerable training in manual therapy and has research interests in this as well as strength assessment and clinical outcomes. Dr. Fearon currently is Professor of Physical Therapy at North Georgia College & State University.

Using the Torque–Velocity Test of the BTE-Primus to Measure Sincerity of Effort of Grip Strength.
Orit Shechtman, PhD

Short Description: This study examined if the “torque–velocity test” of the BTE-Primus could distinguish between maximal and submaximal grip-strength efforts. The torque–velocity relationships exhibited significantly greater linearity (r^2) for maximal effort. Nevertheless, the test misclassified 31% of submaximal and 28% of maximal efforts. Therefore, this test does not possess adequate sensitivity and specificity values to justify its use in the clinic.

Abstract of your presentation

Background: An inverse relationship exists between torque and velocity, with torque increasing as velocity decreases and vice versa.¹ For example, maximal torque is produced during isometric effort, when velocity equals 0. For a single joint movement, such as knee extension^{2,3} and elbow flexion,⁴ the inverse torque–velocity relationship is linear for the mid-range torques and velocities. This linear relationship is maintained when maximal effort is exerted, regardless of age, training level, and fatigue. It is hypothesized that submaximal effort does not produce a linear torque–velocity relationship because replicating a submaximal isotonic contraction requires an enormous amount of proprioceptive feedback and the nervous system may not be able to accurately replicate both force and speed of contraction. If this hypothesis is true, the torque–velocity test of the BTE-Primus may be an effective method for assessing sincerity of effort.

Purpose: The purpose of this study was to examine if differences exist in the linear torque–velocity relationship between maximal and submaximal grip-strength effort. An