**Loew LM, Brosseau L, Tugwell P, and et al. Deep transverse friction massage for treating lateral elbow or lateral knee tendinitis. *Cochrane Database of Systematic Reviews* 2014; Issue 11.**

**PMID:** 25380079

**Reviewer:** Linda Metzger 9-21-15

**Design:** Cochrane Systematic Review (No meta-analysis)

**Objective:** To assess the benefits and harms of deep transverse friction massage (DTFM) for treating lateral elbow or lateral knee tendinitis.

**Summary of Results:**

* This is an update of a 2001 Cochrane review. The new search included through July 2014 and did not find any new additional studies.
* Includes one trial (Stratford 1989) with a total of 40 participants for treating extensor carpi radialis tendinitis (lateral elbow tendinitis or tennis elbow). This study included 2 separate comparisons; (1) deep transverse friction massage combined with therapeutic ultrasound and placebo ointment (n = 11) versus therapeutic ultrasound combined with placebo ointment (n = 9), and (2) deep transverse friction massage and phonophoresis (n = 10) versus phonophoresis alone (n = 10). The study consisted of 9 treatment sessions within five weeks.
* For the comparison of deep transverse friction massage, therapeutic ultrasound and placebo ointment with therapeutic ultrasound and placebo ointment only, no statistically significant differences were reported for mean change in pain (VAS) (MD -6.60, 95% CI -28.60 to 15.40), grip strength measured in kilograms of force (MD 0.10, 95% CI -0.16 to 0.36), and function on a 0 to 100 VAS (MD -1.80, 95% CI -18.64 to 15.04).
* For the comparison of deep transverse friction massage and phonophoresis with phonophoresis alone, no statistically significant differences were found for pain (MD -1.2, 95% CI -20.24 to 17.84), grip strength (MD -0.20, 95% CI -0.46 to 0.06) and function (MD 3.70, 95% CI -14.13 to 21.53).
* The authors concluded that there is insufficient evidence to determine the effects of deep transverse friction massage on pain, improvement in grip strength, and functional status for patients with lateral elbow tendinitis, as no evidence of clinically important benefits were found. The confidence intervals of the estimate of effects overlapped the null value for all comparisons in the treatment of lateral elbow tendinitis. These conclusions are limited by the small sample size of the one included randomized controlled trial.

**Reasons not to Cite as Evidence:**

* The one included study was methodologically flawed and demonstrated high risk of performance and detection bias, and the risk of selection and reporting bias was unclear. It was not possible to blind treatment providers or the patients to the interventions included. So participants and personnel were not blinded to treatment, but the outcome assessors were blinded. Allocation concealment was rated as unclear risk of bias.
* The GRADE (Grades of Recommendation, Assessment, Development and Evaluation) approach evaluated the quality of evidence for the pain outcome and gave it a score of “very low”. Because of the very low quality of the evidence, we are uncertain about the magnitude of the effects on pain and function.
* The small sample sizes of the individual comparison groups (n = 9, 10, 10, and 11) and wide confidence intervals also contribute to the very low quality rating of the body of evidence for reported outcomes.
* This study presented with baseline imbalances that were different across groups for both mean age and duration of symptoms.
* An evidence statement on lateral elbow tendinitis and DTFM cannot be derived from this one very low quality study. This Cochrane review could not even identify one marginally acceptable study done on this topic. The one included trial (Stratford 1989) does not evaluate DTFM as a stand-alone therapy, but in combination with other modalities. Therefore, there is no available evidence to support a passive treatment of DTFM as a stand-alone therapy from this one article.
* Smidt (2002) and Bisset (2006) were excluded from this Cochrane review for having co-interventions in combination with friction massage as part of a multimodal therapy intervention. Both of these studies support evidence that friction massage included in a multimodal therapy intervention does have benefits, such as decreased pain, in patients with lateral epicondylitis.

**Assessment:**

* High quality Cochrane review that shows there is an absence of evidence for the effectiveness of deep transverse friction massage (DTFM) for treating lateral elbow tendinitis.

**References:**

* Stratford PW, Levy DR, Gauldie S, and et al. The evaluation of phonophoresis and friction massage as treatments for extensor carpi radialis tendinitis: a randomized controlled trial. Physiotherapy Canada 1989; 41(2):93–9.
* Smidt N, Van der Windt DA, Assendelft WJJ, Devillé WL, Korthals-de Bos IB, Bouter LM. Corticosteroid injections, physical therapy, or a wait-and-see policy for lateral epicondylitis: a randomised controlled trial. *The Lancet* 2002; **359**:657–62.
* Bisset L, Beller E, Jull G, Brooks P, Darnell R, Vicenzino B. Mobilisation with movement and exercise, corticosteroid injection, or wait and see for tennis elbow: randomised trial. BMJ 2006;333:939.