



**Article: The Benefits of Adding Manual Therapy to Exercise Therapy for Improving Pain and Function in Patients With Knee or Hip Osteoarthritis: A Systematic Review With Meta-analysis**

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**Abstract:**

**OBJECTIVE:** To evaluate if there was an additional benefit of combining manual therapy (MT) and exercise therapy over exercise therapy alone on pain and function in patients with hip or knee osteoarthritis.

**DESIGN:** Intervention systematic review

**LITERATURE SEARCH:** We (1) searched 4 databases from inception to June 20, 2021; (2) hand searched a reference list of included trials and relevant systematic reviews; and (3) contacted 2 researchers in the field.

**STUDY SELECTION CRITERIA:** We included randomized controlled trials that compared MT and exercise therapy to similar exercise therapy programs alone in patients with hip or knee osteoarthritis.

**DATA SYNTHESIS:** The data were combined using random-effects meta-analyses where appropriate. The certainty of evidence for each outcome was judged using the Grading of Recommendations, Assessment, Development, and Evaluations (GRADE) framework.

**RESULTS:** We included 19 trials. There was very low to moderate certainty of evidence that MT added benefit in the short term for pain, and combined pain, function, and stiffness (WOMAC global scale), but not for performance-based function and self-reported function. In the medium term, there was low- to very-low-certainty evidence that MT added benefit for performance-based function and WOMAC global score, but not for pain. There was high-certainty evidence that MT provided no added benefit in the long term for pain and function.

**CONCLUSION:** There was very low to moderate certainty of evidence supporting MT as an adjunct to exercise therapy for pain and WOMAC global scale, but not function in patients with knee or hip osteoarthritis in the short term. There was high certainty of evidence of no benefit for additional MT over exercise therapy alone in the long term. *J Orthop Sports Phys Ther* 2022;52(10):675–684. *Epub:* 27 July 2022. doi:10.2519/jospt.2022.11062

**Key Findings:**

- Manual therapy as an adjunct to exercise therapy has some benefits on pain and WOMAC global scale in patients with hip or knee OA pain in the short term



- Manual therapy does not offer long-term benefits when offered as an add-on to exercise therapy for patients with hip or knee OA.
- Clinicians should focus on the core interventions exercise and education first before considering MT as adjunct therapy
- Clinicians should clearly communicate the lack of long-term benefits of using MT additionally to exercise when discussing their management plan with hip or knee OA patients.
- While there were many studies available for most short-term results, many of them had small sample sizes and high risk of bias, which reduced confidence in the certainty of effect
- In the primary studies, a variety of MT techniques and MT parameters were used but we could not evaluate if there were differences between any of them.

### **Reviewer Summary:**

For patients with knee or hip OA, manual therapy in addition to exercise may provide additional benefits for pain relief and improved function per the WOMAC global score in the short-term. However, it should not be relied on for long-term benefits and the focus should be more on exercise interventions. Manual therapy techniques used in the studies included joint mobilizations with and without movement in various directions and speeds, stretching, PROM, manual resistance, and soft tissue techniques. Exercise interventions that were used were multimodal including aerobic, strength, ROM and home exercise programs. The article cannot make recommendations based on the type of MT to be used for short-term benefits, and should be based on patient presentation, preference, and the clinician's experience. Many of the studies found during the literature review were rated at high risk of bias, and there were a lot of inconsistencies between them with variable treatment times between groups, direct contact time with the PT, and different frequencies for treatment impacting the certainty of the studies conclusions. More studies with larger sample sizes, lower risk of bias, less inconsistencies between groups, and better outline of type of manual therapy used and dosage should be explored.