

Manual Therapy in Post-Operative Knee Management:

A Review of its Effects on Pain in Total Knee Replacement (TKR) Patients

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INTRODUCTION

Manual therapy is a hands on technique used by a range of healthcare professionals to manage musculoskeletal pain and support recovery. Although commonly applied across many conditions, its role in rehabilitation following total knee replacement remains underexplored. This study reviews randomized controlled trials to evaluate the effectiveness of manual therapy in reducing postoperative pain and enhancing functional outcomes, aiming to inform inclusive evidence-based approaches to care following knee replacement surgery.

MATERIALS & METHODS

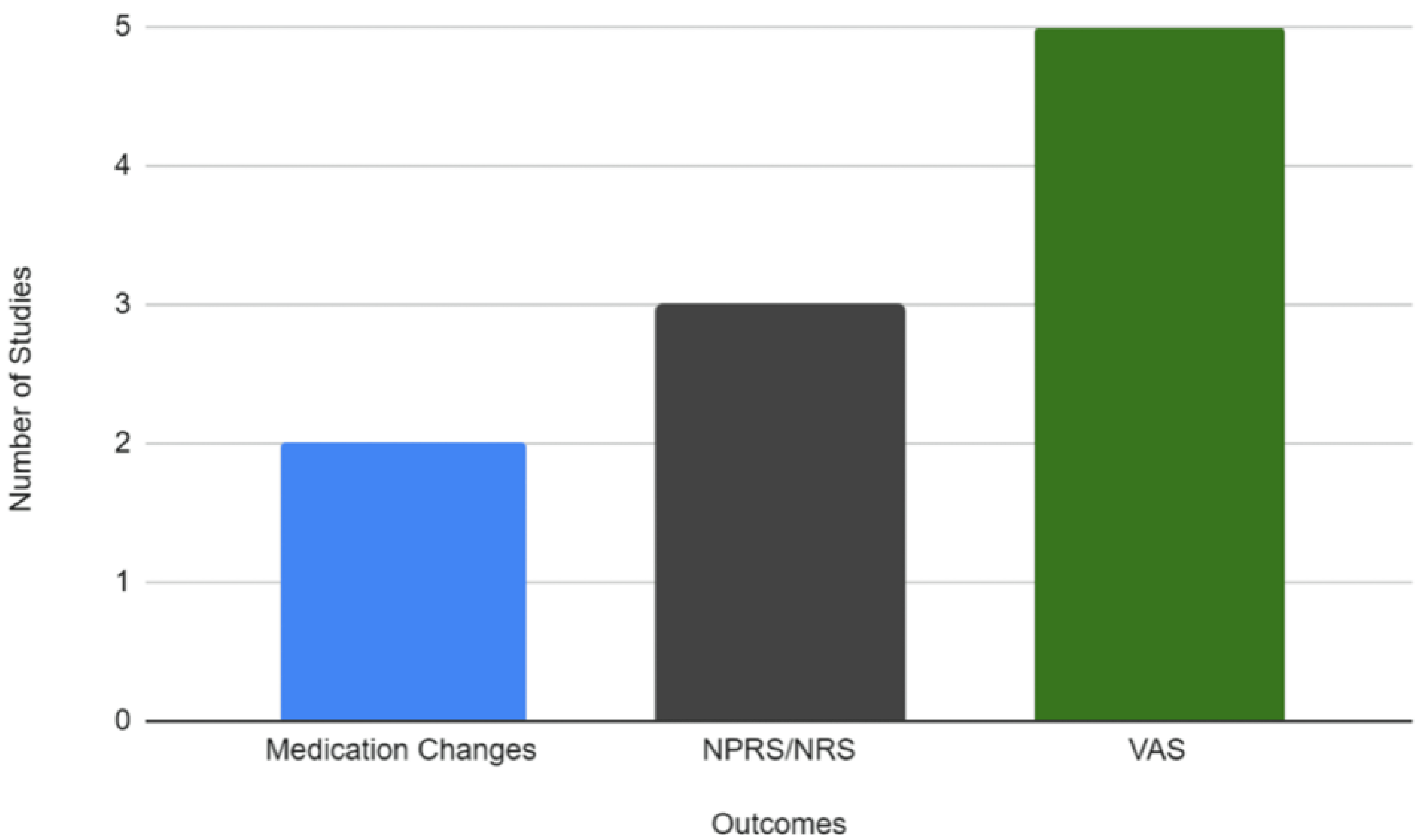
A comprehensive literature search was conducted using multiple databases including PubMed, CINAHL, Cochrane, and Ovid Medline. The initial search yielded 332 articles, which were screened against predefined inclusion and exclusion criteria. After screening, ten randomized controlled trials focusing on manual therapy as the primary intervention in postoperative knee patients were selected for detailed review. The interventions studied included osteopathic manipulative treatment, manual lymphatic drainage, kinesiotaping, and multimodal manual therapy techniques. Data regarding pain outcomes, treatment protocols, and follow up durations were extracted and analyzed.

FIGURE 1. Summary of Manual Therapy Interventions and Corresponding Studies Included in the Review

Interventions	Articles
<u>Osteopathic Manipulative Treatment</u>	Licciardone et al. (2004); Jarski et al. (2000)
<u>Manual Lymphatic Drainage</u>	Cihan et al. (2021); Ebert et al. (2013); *Fujiura et al. 2020; **Guney-Deniz et al. (2023); Pichonnaz et al. (2016); ***Tornatore et al. (2020); Vergili et al. (2022)
<u>Physical Therapy Multimodal Manual Treatment</u>	*Fujiura et al. (2020); Karaborklu Argut et al. (2021)
<u>Kinesio Taping</u>	**Guney-Deniz et al. (2023); ***Tornatore et al. (2020)

*Fujiura et al. (2020) compared multimodal manual treatment alone to multimodal manual treatment combined with manual lymphatic drainage (MLD), and is therefore listed under both intervention categories. **Guney-Deniz et al. (2023) assigned participants to one of three groups: standard exercise alone, exercise with MLD, or exercise with MLD and Kinesio Taping (n = 15). ***Tornatore et al. (2020) included three intervention groups: MLD with Kinesio Taping, MLD alone, and Kinesio Taping alone. All participants underwent standard rehabilitation protocols, and assessments were conducted on postoperative days 2 through 4.

FIGURE 2. Outcome Measures Used to Assess Pain in Following TKR



RESULTS

The reviewed studies suggest that manual therapy can effectively reduce pain, improve joint mobility, and decrease the use of pain medications during the early postoperative period. Manual lymphatic drainage and kinesiotaping showed particular promise in providing short term pain relief and reducing swelling when applied soon after surgery. Some studies also reported improved patient satisfaction and faster functional recovery with manual therapy. However, findings were inconsistent across studies due to differences in treatment timing, methodologies, and patient populations. Long term benefits of manual therapy remain unclear, emphasizing the need for further research.

DISCUSSION

Manual therapy appears to be a viable complementary treatment option for managing pain and improving functional recovery after total knee replacement surgery. Its hands on nature, lack of specialized equipment requirements, and adaptability to individual patient needs make it an attractive rehabilitation approach. Despite encouraging preliminary evidence, more rigorous research with larger sample sizes and standardized protocols is necessary to definitively establish the effectiveness of manual therapy and to guide clinical practice.

REFERENCES

- 1.Bishop, M. D., Torres-Cueco, R. 2015: [What effect can manual therapy have on a patient's pain experience?. Pain management \(opens new window\)](#). 5: 455-64,
- 2.Solecki, T. J., & Herbst, E: [M. \(2011: Chiropractic management of a postoperative complete anterior cruciate ligament rupture using a multimodal approach: a case report \(opens new window\)](#). Journal of chiropractic medicine. 10:47-53.
- 3.Cademartiri, C., & Soncini, G: [\(2004: Total knee replacement. Postacute phase in rehabilitation: objectives and strategies in postacute treatment \(opens new window\)](#). Acta bio-medica : Atenei Parmensis. 75:56-62.
- 4.Johnson, M: [W \(opens new window\)](#). 2000. [http://www.aafp.org/pubs/afp/issues/2000/0415/p2391.html \(opens new window\)](#).
- 5.Al-Dadah O, Hing C: [Advancing indications for total knee arthroplasty \(opens new window\)](#). Knee. 2024, 50:1-2. [10.1016/j.knee.2024.09.001](#)



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