International Clinical Case Reports and Reviews
2025 Volume 3, Issue 3
DOI: 10.59657/2993-0855.brs.25.039

BioRes Scientia
Value your Research

Review Article

Open Access

The Role of Post-Surgical OMT: Identifying Eligibility and Patient Outcomes

Rebekah Feinberg, James Keane, Leonard B. Goldstein*

Assistant Vice President for Clinical Education Development, Department of Osteopathic Manipulative Medicine, A.T. Still University, USA.

**Corresponding author: Leonard B. Goldstein.*

Abstract

A basic tenet of Osteopathic Medicine is that the musculoskeletal system plays a key role in optimal health because it is a direct interface between the patient and the world in which they live. Osteopathic Manipulative Treatment (OMT), when utilized in the context of total patient care, along with other accepted approaches to care, is part of a systematic approach to healthcare referred to as Osteopathic Manipulative Medicine (OMM).

Keywords: osteopathic medicine; musculoskeletal systems; post-surgical; parasympathetic nervous

Introduction

A basic tenet of Osteopathic Medicine is that the musculoskeletal system plays a key role in optimal health because it is a direct interface between the patient and the world in which they live [1,2]. Osteopathic Manipulative Treatment (OMT), when utilized in the context of total patient care, along with other accepted approaches to care, is part of a systematic approach to healthcare referred to as Osteopathic Manipulative Medicine (OMM) [3]. The utilization of OMT for postoperative care has been observed. Researchers have found that OMT rehabilitation is a feasible approach to improving physical function and pain management after knee and hip arthroplasty [4]. Studies have also shown the beneficial effects of OMT in the post-surgical recovery of patients who have undergone coronary artery bypass graft (CABG) operations [5,6]. Due to the interdependence of the cardiovascular and musculoskeletal systems, OMT is believed to provide practitioners with a means to augment initial patient care, facilitate shorter postoperative recovery times, decrease postoperative morbidity, and return patients to greater functional independence and resultant safety for routine activities in the shortest time possible. This article will describe the role of post-surgical OMT, identify eligibility, and discuss patient outcomes.

Overview of OMT

History of OMT in Postoperative Care

The use of OMT in postoperative care can be dated back to 1911, when Dr. George Still, DO, MD, first documented it [7]. Initially, Dr. Still intended to utilize OMT in postoperative care to prevent blood stasis and hasten the lymphatic absorption process, supporting one of the tenets of osteopathic medicine that establishes the innate healing process of the human body [7]. In the patients who received postoperative OMT, Dr. Still noted a decline in postsurgical pneumonia and significantly more stable vitals than in those who did not receive postoperative OMT [7]. Since Dr. Still's revelations, other osteopathic physicians have adopted the addition of osteopathic manipulative treatment into postoperative care to assist the healing processes of their patients.

Osteopathic Manipulation

Osteopathic manipulation is primarily directed toward optimizing the innate structure-function relationships within the body to augment homeostatic mechanisms such as lymphatic flow [8]. The majority of osteopathic manipulative treatments are categorized as direct or indirect techniques, with very few incorporating elements of both.

Direct Techniques

Direct techniques engage the restrictive barrier, a functional limitation that abnormally restricts the normal physiological barrier of movement. These techniques apply direct forces such as thrusts to achieve a tissue response. These tissue responses may include temperature change, relaxation of target

muscles, fascial release, or increased range of motion. Positioning of targeted areas toward the restrictive barrier has been proven to stimulate joint receptors for reflexive relaxation and reduce paraspinal muscle electrical activity [8].

Indirect Techniques

Indirect techniques do not engage the restrictive barrier and instead follow the direction of ease, the motion in which the targeted areas prefer to move. These techniques focus on postural adjustments and utilizing phases of respiration [8]. Positioning targeted areas toward the direction of ease has been proven to reduce the sympathetic nervous system while simultaneously enhancing the parasympathetic nervous system, thus relaxing muscles and regaining normal range of motion [8].

Predominant OMT Techniques in Postoperative Care

Given the vulnerability of postoperative patients, indirect techniques are more widely documented in postoperative care due to the use of gentler forces and reducing tension. Studies have shown that standard rib raising and paraspinal muscle stretching of the spine are commonly used indirect techniques in cardiac-related postoperative care [5,6,13]. Indirect techniques often used in gastrointestinal postoperative care are mesenteric lift and thoracic inlet myofascial release [11,14]. Following knee and hip arthroplasty, direct techniques such as thoracic lymphatic pump, when combined with indirect techniques have proven effective in improving peripheral circulation [4].

Identifying Patient Eligibility

When identifying eligible patients for the utilization of OMT in postoperative care, there are a myriad of aspects that need to be considered. Although the risk-to-benefit ratio of OMT is low, awareness of the inherent risks is necessary to assess the efficacy of anticipatory benefits compared to not providing treatment [8]. In relation to this, all osteopathic manipulation techniques hold absolute and relative contraindications. However, these contraindications are often difficult to generalize due to the variability of techniques available.

Other elements to consider include the practitioner's familiarity with OMT approaches, individual patient circumstances, and site-specific limitations [9]. Therefore, eligible patients can be loosely defined as those in postoperative care without absolute or relative contraindications for a given technique. With patient consent, these individuals may benefit from osteopathic manipulation treatment under the five osteopathic models of care–the biomechanical model, the respiratory-circulatory model, the metabolic-energy model, the neurologic model, and the behavioral model–as it aligns with patient recovery goals [9].

Absolute Contraindications

In the context of OMT, absolute contraindications refer to conditions where techniques should not be used due to the high risk of harm or deterioration of a patient's condition [9]. The only absolute contraindication that spans across all osteopathic manipulation techniques is patient refusal. For direct techniques, frequently encountered absolute contraindications include fracture, dislocation, open wound, and connective tissue disorders [9]. For indirect techniques, absolute contraindications may include suspected cerebral arteriovenous malformation, and stroke [9]. Often, conditions contraindicated for direct techniques may be safely addressed with indirect techniques.

Relative Contraindications

Relative contraindications in OMT refer to conditions where techniques can be used with caution due to the low potential of creating harm [9]. In these circumstances, techniques that utilize different mechanisms may be more appropriate. For direct techniques, conditions such as osteoporosis, osteopenia, and whiplash are common relative contraindications [9]. For indirect techniques, relative contraindications may include metastatic disease, neoplasm, and closed head injury [9].

Patient Outcomes

Pain Relief and Improved Functional Recovery

The most notable benefits of OMT in postoperative care are the significant reductions in perceived postoperative pain and improved functional recovery. In cardiac-related postoperative care, OMT aims to reduce post-surgical sternal pain, improve rib cage motility, and optimize autonomic functions [5,6,10]. These goals align with broader rehabilitation objectives for patients with advanced coronary artery disease, specifically those undergoing CABG surgery [5,6]. For CABG patients, OMT can enhance lymphatic flow, improve gastrointestinal motility, and hasten the return to daily activities [5,6].

As a result, the use of OMT in postoperative care has been shown to improve outcomes such as higher mean inspiratory volumes, shorter hospitalization length of stay, and reduced subjective pain in sternotomy patients [10]. Additionally, in gastrointestinal-related postoperative care, OMT focuses on improving post-surgical bowel movements to prevent postoperative ileus [11]. This approach has been associated with decreased time to flatus as well as decreased hospitalized length of stay in patients following major gastrointestinal surgery [11].

Beyond cardiac and gastrointestinal surgeries, the utilization of OMT has also proven to be effective as a complementary modality in the postoperative rehabilitation of patients following joint replacements, such as knee and hip arthroplasty. Research has demonstrated that these patients ambulated farther on postoperative days, experienced less postoperative pain, and averaged shorter hospital stays [4]. It can be deduced that OMT is a feasible approach to improving physical function and pain management in these patients [4].

Reduction in the Use of Analgesics

As an additive benefit, OMT has been proven to reduce the need for analgesics in postoperative patients. For instance, opioid use in patients following a laparotomy for gynecologic malignancy was significantly decreased after administration of OMT [12]. An isolated case of unrelenting upper thoracic pain following a percutaneous coronary intervention of the right coronary artery particularly highlights the impact OMT has on reducing analgesic use in postoperative care. In this case study, OMT, such as rib raising and myofascial release, was administered after pharmacologic therapy proved ineffective for pain relief [13]. With OMT, there was immediate and complete pain elimination with no adverse effects, as confirmed by a 1.5-year follow-up with the patient [13].

Safety and Tolerability

The integration of OMT in postoperative care has also shown to be well-tolerated by patients with minimal risk of adverse reactions. For instance, the OMANT Pilot Trial demonstrated lowered postoperative morbidity by paralytic ileus in elective bowel resection patients who received postoperative OMT (14). Another study noted that 90% of patients in postoperative care receiving OMT recommended this treatment due to the subjective reduction in pain and its tolerability [12].

Conclusion

While the use of OMT in postoperative care has not been extensively studied, the existing literature suggests potential benefits in accelerating patient recovery. Future research should be dedicated to evaluating the long-term benefits of OMT integration into postoperative care. Additionally, standardization of OMT protocols in the management of postoperative care should be established to ensure consistency across all clinical settings.

References

1. Anchor KN, Felicetti TC. (1999). Disability analysis in Practice: Framework for an Interdisciplinary Science; Dubuque, IA. *Kendell/Hunt Publishing Co*, 112-113.
2. Selfinger MA, King HH, Ward RC, et.al. (2003). "Osteopathic Philosophy"; in Ward RC: Foundations for Osteopathic Medicine. 2nd Edition; Philadelphia, PA. *Lippincott Williams & Wilkins*, 3-18.
3. Jarski RW, Loniewski EG, Williams J, et.al. (2000). "The Effectiveness of Osteopathic Manipulative Treatment as Complementary Therapy Following Surgery: A Prospective, Match-Controlled Outcome Study". *Altern Ther Health Med*, 6:77-81.
4. Wieting JM, Beal C, Roth GL, et.al. (2013). "The Effect of Osteopathic Manipulative Treatment on Postoperative Medical and Functional Recovery of Coronary Bypass Graft Patients", *JAOA*, 113:384-393.
5. O-Yurvati AH, Carnes MS, Clearfield MB, et.al. (2005). "Hemodynamic Effects of Osteopathic Manipulative Treatment Immediately After Coronary Artery Bypass Graft Surgery". *JAOA*, 105:475-481.
6. Gevitz N. (2019). Expanding the Scope. In: Gevitz N. The DOs: Osteopathic Medicine in America, 3e. *John Hopkins University Press*, 80-96.
7. Kuchera ML, Seffinger MA, Boesler D, et al. (2018). Barrier Mechanics. In: Seffinger MA, Hruby R, Willard FH, et al. eds. Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e. *Lippincott Williams & Wilkins, a Wolters Kluwer business*, 813-834.
8. Kuchera ML, Seffinger MA, Boesler D, et al. (2018). Effectiveness and Safety of Osteopathic

Manipulative Treatment. In: Seffinger MA, Hruby R, Willard FH, et al. eds. Foundations of Osteopathic Medicine: Philosophy, Science, Clinical Applications, and Research, 4e. *Lippincott Williams & Wilkins, a Wolters Kluwer business*, 1531-1542.

9. Racca V, Bordoni B, Castiglioni P, et.al. (2017). "Osteopathic Manipulative Treatment Improves Heart Surgery Outcomes: A Randomized Controlled Trial". *Ann Thorac Surg*, 104:145-52.
10. Baltazar GA, Betler MP, Akella K, et.al. (2013). "Effect of Osteopathic Manipulative Treatment on Incidence of Postoperative Ileus and Hospital Length of Stay in General Surgical Patients". *JAOA*, 113(3):204-209.
11. Ettorre V, Wagreich A, Meelheim B, et.al. (2023). "Osteopathic Manipulative Therapy (OMT) as an Adjunct to Postoperative Care for Patients with Gynecologic Malignancies". *Gynecologic Oncology*, 176:S67-S67.
12. Hoffman P, Belogorodsky D, Noto-Bell L. (2021). "Single Osteopathic Manipulative Treatment Session Eliminates Percutaneous Coronary Intervention-Induced Upper Thoracic Pain in Elderly Male". *AAO Journal*, 31(3):5-8.
13. Probst P, Buchler E, Doerr-Harim C, et.al. (2016). "Randomised Controlled Pilot Trial on Feasibility, Safety and Effectiveness of Osteopathic MANipulative Treatment Following Major Abdominal Surgery (OMANT Pilot Trial)". *International JOM*, 20:31-40.

Cite this article: Feinberg R, Keane J, Leonard B. Goldstein. (2025). The Role of Post-Surgical OMT: Identifying Eligibility and Patient Outcomes, *International Clinical Case Reports and Reviews*, BioRes Scientia Publishers. 3(3):1-4. DOI: 10.59657/2993-0855.brs.25.039

Article History: **Received:** March 26, 2025 | **Accepted:** April 11, 2025 | **Published:** April 16, 2025