

Myofascial Release for Post-Thyroidectomy Cervical Pain: A Review of Evidence and Clinical Applications

Waseem Syed^{1,*}, Saher Sayed¹, Erin Walsh¹, Nawfal Saleem¹, Benjamin Kelley²

¹Medical Student, Lake Erie College of Osteopathic Medicine, Bradenton, FL, USA

²Otolaryngologist, ENT Associates of Manatee, Bradenton, FL, USA

ABSTRACT

Post-thyroidectomy cervical pain is a frequent but underrecognized complication, largely attributed to prolonged intraoperative neck hyperextension. This review examines whether myofascial release (MFR), an osteopathic manipulative medicine (OMM) technique, may offer clinical benefit in reducing postoperative pain and improving recovery. A comprehensive PubMed search was conducted to identify studies evaluating neck pain following thyroidectomy, as well as trials assessing MFR in cervical dysfunction. Evidence from prospective and randomized trials confirms a significant correlation between intraoperative hyperextension and postoperative neck pain, with over half of patients reporting discomfort within 24 hours of surgery. While direct data on MFR in thyroidectomy patients remain limited, studies in nonsurgical populations demonstrate reductions in pain intensity and improvements in range of motion with MFR compared to standard therapy. These findings suggest a strong physiological rationale for applying MFR post-thyroidectomy. In conclusion, MFR represents a promising adjunct to conventional care, potentially reducing pain and expediting recovery; however, high-quality randomized controlled trials in thyroidectomy patients are urgently needed to validate its clinical role.

Keywords: Osteopathic Manipulative Medicine, Otolaryngology, Thyroidectomy, Cervical Pain, Pinched Nerves, Reduced Range of Motion, Thyroid Cancer, Myofascial Release.

INTRODUCTION

Osteopathic Manipulative Medicine (OMM) has been widely regarded as an adjunct to normal medicine, performed by Doctors of Osteopathic Medicine (DO). This form of medicine dates back to the 1800s and was created by its founder, Dr. Andrew Taylor Still, who emphasized the importance of treating the body as a whole rather than a collection of separate systems. His philosophy was centered on the idea that the body had an inherent capability to heal itself, and that by targeting the musculoskeletal system, physicians could support this natural healing process [1].

Through the use of carefully applied techniques, OMM aims to improve

Vol No: 04, Issue: 01

Received Date: September 22, 2025

Published Date: October 13, 2025

*Corresponding Author

Mr. Waseem Syed, BS

Medical Student, Lake Erie College of Osteopathic Medicine, Bradenton, FL, USA, Tel: 4088056950; Email: waseemsyed3534@gmail.com

Citation: Syed W, et al. (2025). Myofascial Release for Post-Thyroidectomy Cervical Pain: A Review of Evidence and Clinical Applications. Mathews J Otolaryngol. 4(1):11.

Copyright: Syed W. © (2025). This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

motion, reduce pain, enhance circulation, and optimize the function of nerves, muscles, and joints. Certain examples of what OMM can accomplish include reducing back pain, addressing torticollis in infants, improving breathing habits by assessing rib motion, and treating cervical spasms. Although those with an osteopathic medical background claim that it is not a replacement to conventional medicine, it presents itself as an additional tool that can enhance patient outcomes.

This integrative potential is especially relevant in the field of otolaryngology (ENT), where surgical procedures often have patients maintain their necks in uncomfortable positions such as hyperextension or rotation for extended periods of time. One classic example is total thyroidectomy in patients with known thyroid issues, such as cancer [2]. For the surgeon to access the area, the neck is often hyperextended for the duration of the surgery. Although these positions are necessary for the otolaryngologist to correctly perform the surgery and minimize risks and consequences, post-operatively these patients complain of paresthesias, muscle tightness, and restricted mobility especially pronounced in the cervical and upper thoracic regions. Here, OMM provides an excellent opportunity to be used as an adjunctive option for conventional treatment. It can be used to improve recovery time and enhance patient outcomes specifically by helping to reduce muscle strain and improve range of motion. In this way, OMM serves not only as a tool for pain relief but also as a supportive therapy that aligns with the broader osteopathic philosophy of restoring balance and function to the whole patient.

By combining both modern medicine with the teachings of Dr. Still, OMM continues to hold a special role in healthcare today. While its applications are limited, it reflects the broader osteopathic philosophy of treating not only the disease, but also the person as a whole. This paper shifts focus to provide a comprehensive review of how patients are benefiting from OMM post thyroidectomy.

METHODS

A comprehensive literature search was conducted in PubMed to find studies that confirm the impact of surgical related neck positioning and the cervical pain that follows, specifically in thyroidectomy. The key search words include “thyroidectomy” “neck hyperextension” and “post-operative

cervical pain”. Only studies published in English involving human subjects were considered. Studies were included if there were reported outcomes related to postoperative neck pain within 24 hours of thyroidectomy. Exclusion criteria consisted of case reports, animal studies, conference abstracts without full text, and studies with fewer than 20 patients.

All titles and abstracts were screened by reviewers to see if the papers align with this article’s goals and the full texts were reviewed. From each study, data was extracted to include study design, sample size, patient demographics, subtype of thyroidectomy, specific intraoperative neck positioning, and pain assessments.

The data was synthesized both qualitatively and quantitatively and used to provide a comprehensive summary of the current evidence on the relationship between neck hyperextension during thyroidectomy and early postoperative cervical pain. This approach allows for identification of patterns across studies, as well as allowing for identification of gaps in existing literature.

RESULTS

In a prospective observational study recruiting 195 thyroidectomy patients, researchers have found strong correlations between the degree of neck hyperextension on the operating table and postoperative posterior neck pain ($p < 0.001$; $B = 0.270$) [3]. The study also confirms that the physiological explanation behind this is due to hyperextension over prolonged periods of time under anesthesia. This relaxes the muscles and nerves and when combined with surgical equipment like surgical retractors and pressure on tissues, postoperative discomfort in the cervical area is common. Another study used a randomized clinical trial of $n=180$ that compared thyroidectomy with vs without neck hyperextension. The results concluded that greater neck discomfort was present when procedures required more extreme neck extension, such as seen with thyroidectomy [4]. The results of these two studies are summarized in figure 1, which shows a graphical analysis of the two studies comparing mean neck pain levels in patients with no extension during surgery, and those that have extension during surgery. The results support a statistically different mean neck pain level with no extension (2.38) vs with neck extension (3.08).

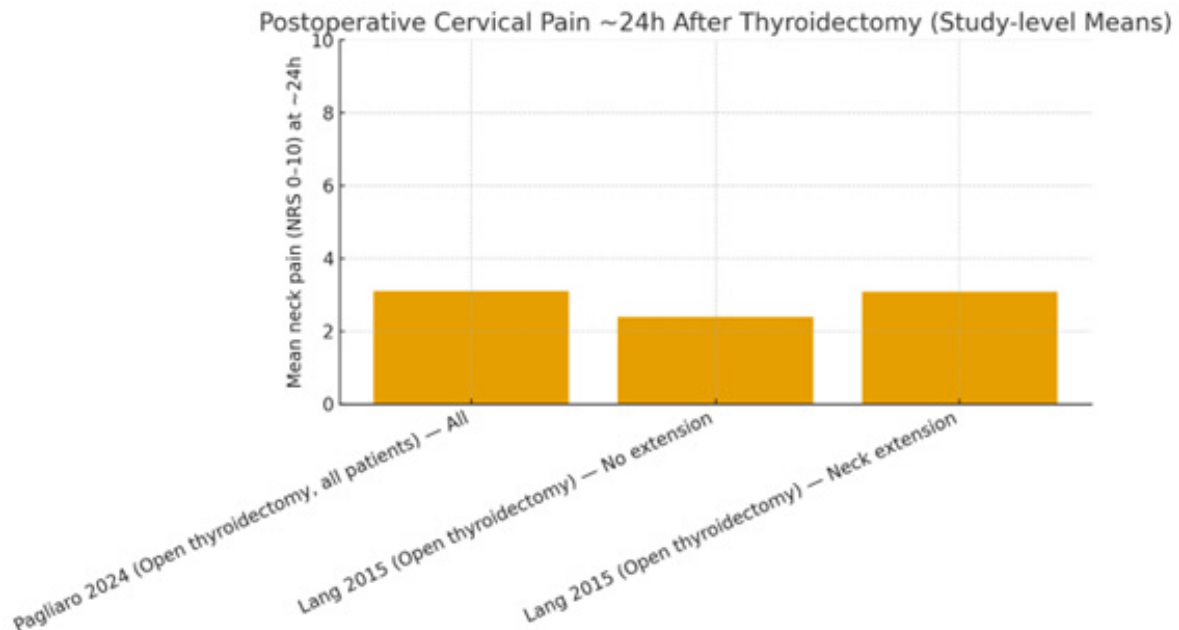


Figure 1. Mean postoperative cervical pain scores ~24 hours after thyroidectomy, reported as Numeric Rating Scale (NRS, 0–10). Image Source: Waseem Syed (Original Author).

Data from Pagliaro et al. (2024) show overall mean pain in 195 patients undergoing open thyroidectomy. Lang et al. (2015) compared patients undergoing thyroidectomy without neck extension versus those positioned with neck hyperextension; patients in the extension group reported higher mean pain scores on postoperative day 1. These findings highlight the impact of intraoperative cervical positioning on early postoperative musculoskeletal discomfort [3,4].

Figure 2 highlights a similar approach to Figure 1, analyzing the prevalence of neck pain within 24 hours post-thyroidectomy. The results show that in a n=151 study, 52.3% of patients reported postoperative neck pain within the first 24 hours after surgery [5].

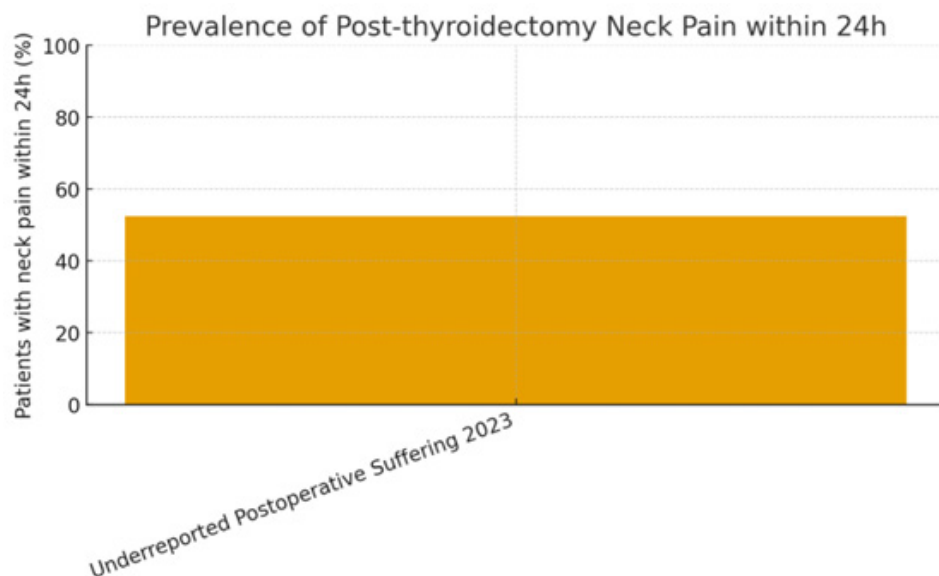


Figure 2. Prevalence of post-thyroidectomy neck pain within 24 hours. Image Source: Waseem Syed (Original Author).

This bar graph illustrates the proportion of patients reporting neck pain within 24 hours after thyroidectomy, based on data from the study *Underreported Postoperative Suffering 2023*. Approximately 52% of patients experienced postoperative neck pain shortly after surgery, highlighting the frequency of this common postoperative complaint.

Garnering the use of OMM

Myofascial release (MFR) is an osteopathic manual therapy technique used to help restore normal range of motion and reduce pain in the fascia, which is the connective tissue surrounding muscles and bones. Fascia can become restricted from trauma, prolonged abnormal positioning, and surgery. MFR involves using gentle sustained pressure and stretching the restricted fascial tissues to allow the fascia to return to normal position [6]. By improving circulation, reducing muscle tension, and enhancing balance, MFR constitutes the important osteopathic principle of supporting the body's natural healing process [7]. In the context of post-thyroidectomy care, MFR can be relevant for addressing cervical tension from prolonged hyperextension during surgery. This makes MFR a valuable adjunct to traditional

care that can be performed by osteopathic otolaryngologists.

Although research directly examining MFR for post-thyroidectomy patients is limited, evidence from studies on cervical pain and dysfunction suggests its potential application in this subset of the population. These results can be generalized to patients post-thyroidectomy. A randomized controlled trial of 54 subjects compared myofascial release therapy with standard physical therapy in patients with generalized neck pain. The study found that myofascial release was more effective than physical therapy in improving pain and pressure thresholds in patients with neck pain [8]. A meta-analysis published in the *Physiotherapy Journal* assessed the effectiveness of MFR in adults with chronic neck pain. The findings of the study indicated that MFR found modest effects in pain reduction, suggesting potential benefits of MFR in managing chronic neck pain. [9]. A study from the *Journal of Manipulative and Physiological Therapeutics* examined the efficacy of MFR in patients with cervical radiculopathy. The findings of the study concluded that MFR significantly improved pain severity in these patients, suggesting it as a potential means for combating cervical radiculopathy and is highlighted in Figure 3.

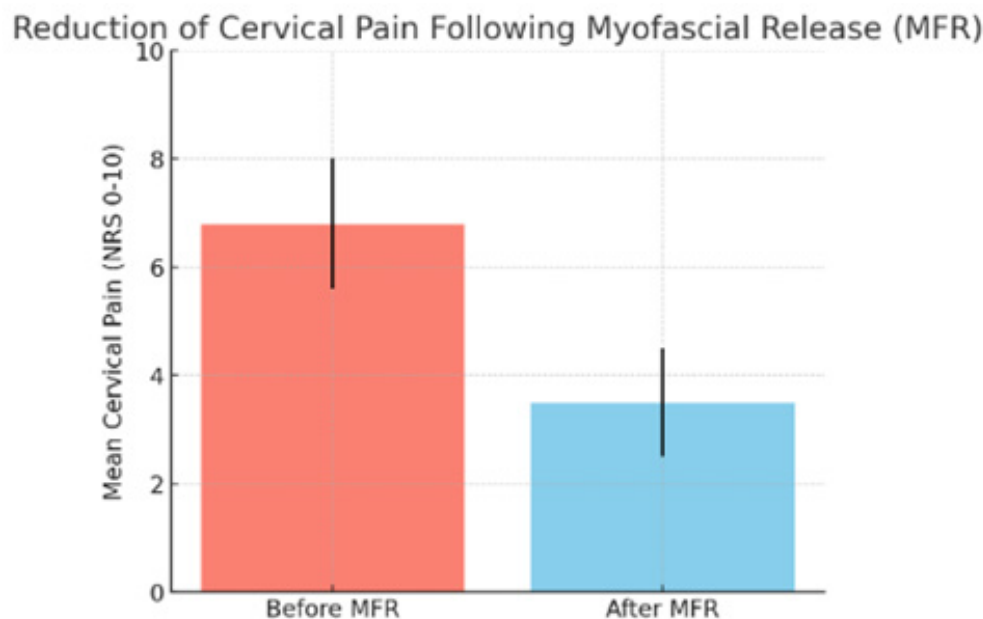


Figure 3. Reduction of cervical pain following myofascial release (MFR). Image Source: Waseem Syed (Original Author).

Mean cervical pain scores, measured using the Numeric Rating Scale (NRS 0-10), are shown before and after MFR intervention. Pain intensity was significantly reduced following MFR, demonstrating its effectiveness in alleviating cervical discomfort. Error bars represent standard deviation [8,9].

DISCUSSION

This review highlights a clinically significant but often underrecognized complication of thyroidectomy: postoperative cervical pain due to hyperextension during surgery. The synthesis of current literature shows a consistent relationship with the degree of neck extension and

severity of early postoperative discomfort, with prospective and randomized clinical trials showing higher mean pain scores and greater prevalence of symptoms when subjected to prolonged hyperextension. These findings reinforce the importance of intraoperative positioning as a modifiable risk factor for postoperative cervical pain.

The Myofascial Release technique from Osteopathic Manipulative Medicine shows itself as a promising adjunct to conventional postoperative care. Although evidence directly examining MFR in post-thyroidectomy is limited, related studies on chronic neck pain and cervical dysfunction suggest that this technique reduces pain, improves range of motion, and enhances patient comfort. The application of these principles to post-thyroidectomy care is therefore logical, given that fascial tension and soft tissue imbalance contributes to discomfort in this subset of patients. By addressing musculoskeletal tension at its source, OMM aligns with the ideology of the body's natural tendency to heal itself.

Importantly, the integration of OMM into postoperative thyroidectomy could have implications beyond pain reduction. Improved cervical mobility may cause an earlier return to daily activities, hence speeding up recovery times.

LIMITATIONS

Several limitations remain. First, there is a notable paucity of randomized controlled trials directly assessing myofascial release (MFR) in the post-thyroidectomy setting, limiting the ability to draw definitive conclusions. Much of the supporting evidence is drawn from studies on chronic or nonsurgical neck pain, such as cervical radiculopathy, which may not fully replicate the stressors of intraoperative positioning or the unique postoperative physiology of thyroidectomy patients. Second, pain outcomes are largely subjective and may be influenced by patient perception, analgesic use, and cultural factors, thereby limiting reproducibility across studies. Third, variability in osteopathic training and the absence of standardized postoperative protocols create challenges for consistent implementation and for comparing outcomes between providers. Finally, many of the studies included in this review had small sample sizes or limited geographic scope, which may restrict generalizability.

RECOMMENDATIONS

Clinical researchers should prioritize designing prospective, randomized controlled trials that directly investigate the role of MFR in thyroidectomy patients, with standardized protocols and clear outcome measures such as validated pain scales, functional mobility testing, and quality-of-life assessments. Multicenter collaborations may also enhance sample size, diversity, and external validity. For practicing

clinicians, integrating OMM—including MFR—should be considered cautiously, ideally as part of a multimodal postoperative strategy that includes pharmacologic and physical therapy-based interventions. Standardized training and competency development in OMM techniques could also improve consistency of care delivery.

FUTURE DIRECTIONS

Future directions should prioritize prospective trials evaluating the efficacy of myofascial release (MFR) specifically in thyroidectomy patients, with emphasis on standardized treatment protocols and outcome measures. Comparative studies of osteopathic manipulative medicine (OMM) versus conventional physical therapy, or multimodal approaches, are needed to clarify optimal postoperative care strategies. Further exploration of the cost-effectiveness of OMM, including its potential to reduce analgesic use, hospital readmissions, and length of recovery, could strengthen the case for its integration into surgical care. Additionally, investigating the physiological mechanisms underlying fascia-related pain following thyroidectomy may provide a stronger biological rationale for MFR, while qualitative studies assessing patient perspectives and satisfaction could offer important insights into the acceptability and feasibility of OMM in real-world settings.

CONCLUSION

Post-thyroidectomy cervical pain is a common but underappreciated complication arising from the prolonged hyperextension required during surgery. Evidence from the literature confirms that neck positioning contributes significantly to postoperative discomfort, highlighting the need for adjunctive strategies to improve recovery. Osteopathic Manipulative Medicine, particularly myofascial release, offers a promising approach to reduce pain, restore mobility, and enhance patient outcomes. While current evidence is extrapolated primarily from studies on nonsurgical neck pain, the physiological rationale for its application in thyroidectomy patients is strong.

Incorporating OMM into postoperative care could reduce reliance on analgesics, improve patient satisfaction, and support faster return to normal activities. However, further prospective, controlled studies are needed to validate its role specifically in thyroidectomy recovery. Until such data are available, OMM should be considered a safe and potentially valuable adjunct to conventional management, aligning with the broader osteopathic philosophy of treating the whole patient and optimizing the healing process.

ACKNOWLEDGEMENTS

None.

CONFLICT OF INTEREST

The authors have no conflicts of interests with the article.

FUNDING

No funding received for this paper.

ETHICAL CONCERNS

No ethical concerns for this paper.

REFERENCES

1. Roberts A, Harris K, Outen B, Bukvic A, Smith B, Schultz A, et al. (2022). Osteopathic Manipulative Medicine: A Brief Review of the Hands-On Treatment Approaches and Their Therapeutic Uses. *Medicines (Basel)*. 9(5):33.
2. "Thyroidectomy." *Mayo Clinic*, Mayo Foundation for Medical Education and Research, 3 Sept. 2022. Available at: www.mayoclinic.org/tests-procedures/thyroidectomy/about/pac-20385195?utm_source=chatgpt.com
3. Pagliaro S, Rossi L, Meligeni M, Catani L, Morganti R, Materazzi G, et al. (2024). Correlation between surgical position and neck pain in patients undergoing thyroidectomy: a prospective observational study. *Perioper Med (Lond)*. 13(1):74.
4. Lang BH, Ng SH, Wong KP. (2015). Pain and surgical outcomes with and without neck extension in standard open thyroidectomy: a prospective randomized trial. *Head Neck*. 37(3):407-412.
5. Chawaka HJ, Teshome ZB. (2023). The Underreported Postoperative Suffering after Thyroid Surgery: Dysphagia, Dysphonia, and Neck Pain-A Cross-Sectional Study. *Anesthesiol Res Pract*. 2023:1312980.
6. Cleveland Clinic. (2022). *Myofascial release: How it helps relieve pain*. Cleveland Clinic. Available at: <https://health.clevelandclinic.org/how-your-body-can-benefit-from-myofascial-release>
7. Ajimsha MS, Al-Mudahka NR, Al-Madzhar JA. (2015). Effectiveness of myofascial release: systematic review of randomized controlled trials. *J Bodyw Mov Ther*. 19(1):102-112.
8. Rodríguez-Huguet M, Rodríguez-Almagro D, Rodríguez-Huguet P, Martín-Valero R, Lomas-Vega R. (2020). Treatment of Neck Pain With Myofascial Therapies: A Single Blind Randomized Controlled Trial. *J Manipulative Physiol Ther*. 43(2):160-170.
9. Overmann L, Schleip R, Anheyer D, Michalak J. (2024). Effectiveness of myofascial release for adults with chronic neck pain: a meta-analysis. *Physiotherapy*. 123:56-68.