

# Utilization of Osteopathic Manipulative Medicine by 3rd Year Medical Students: A Quality Improvement Study

Eric Khurana OMS-III, Eric Palmer OMS-IV, Sean Ronan OMS-III, Jennifer Burlingame D.O. Medical Education

Henry Ford Warren, Detroit, Michigan

## Abstract

Eric Khurana MS, Eric Palmer MS, Sean Ronan MS, Jennifer Burlingame D.O.

**Introduction/Background:** Osteopathic Manipulative Medicine (OMM) is a fundamental component of osteopathic medical education, providing hands-on techniques to enhance musculoskeletal function and promote self-healing. Despite its clinical value, the frequency of OMM utilization by medical students during clinical rotations varies widely. Understanding these usage patterns can help optimize training and integration into routine patient care. This study aims to assess the application of OMM by third-year medical students at Henry Ford Health Madison Heights & Warren campuses and develop strategies to enhance its clinical implementation.

**Aims/Objectives:** The primary objective is to evaluate the frequency and distribution of OMM utilization across different clinical rotations. Additionally, we aim to identify barriers to OMM application and develop an educational intervention to increase its use in underutilized specialties.

**Methods:** A cross-sectional survey was distributed to third-year osteopathic medical students rotating at Henry Ford Health Madison Heights & Warren. Data collection occurred over one month, with reminders at the two-week mark. Survey responses assess rotation type, frequency of OMM use, techniques applied, body regions treated, preceptor credentials (DO vs. MD), and perceived barriers to OMM implementation. Descriptive statistics will be used to analyze utilization patterns. Following data analysis, a targeted educational pamphlet will be developed to encourage increased OMM use in rotations with lower reported application.

**Results:** We had a response rate of 33/51 students (64.71%). Preliminary findings suggest variability in OMM utilization, with higher usage in primary care and musculoskeletal rotations and lower usage in surgical and hospital-based specialties. Identified barriers may include time constraints, preceptor preference, and clinical setting limitations.

**Discussion/Conclusions:** Understanding the factors influencing OMM use during clinical rotations will provide valuable insights for curriculum development and clinical training. By implementing an educational intervention, we aim to enhance the integration of OMM into patient care, reinforcing its role in osteopathic medical practice. Future studies should explore longitudinal changes in OMM utilization and the impact of targeted educational resources on student engagement and patient outcomes.

## Introduction

Osteopathic Manipulative Medicine (OMM) is a distinctive and essential component of osteopathic medical education, offering hands-on techniques to improve musculoskeletal function and support the body’s innate healing processes. Despite its foundational role in osteopathic training, the application of OMM by medical students during clinical rotations is inconsistent. Contributing factors may include limited time, variation in preceptor support, and differences across clinical specialties. These inconsistencies may limit students' confidence and clinical integration of OMM skills.

This quality improvement study aims to evaluate the frequency and distribution of OMM utilization by third-year osteopathic medical students across various clinical rotations at Henry Ford Health—Madison Heights and Warren campuses. It also seeks to identify common barriers to OMM application and develop a rotation-specific educational pamphlet to promote more consistent and effective use of OMM in patient care.

Inclusion Criteria:

- Third-year osteopathic medical students completing clinical rotations at Henry Ford Health – Madison Heights or Warren
- Students who have completed at least one core rotation at these sites

Exclusion Criteria:

- Students not trained in OMM
- Rotations outside of the Henry Ford Health – Madison Heights or Warren campuses
- Non-core or elective rotations not applicable to general OMM usage

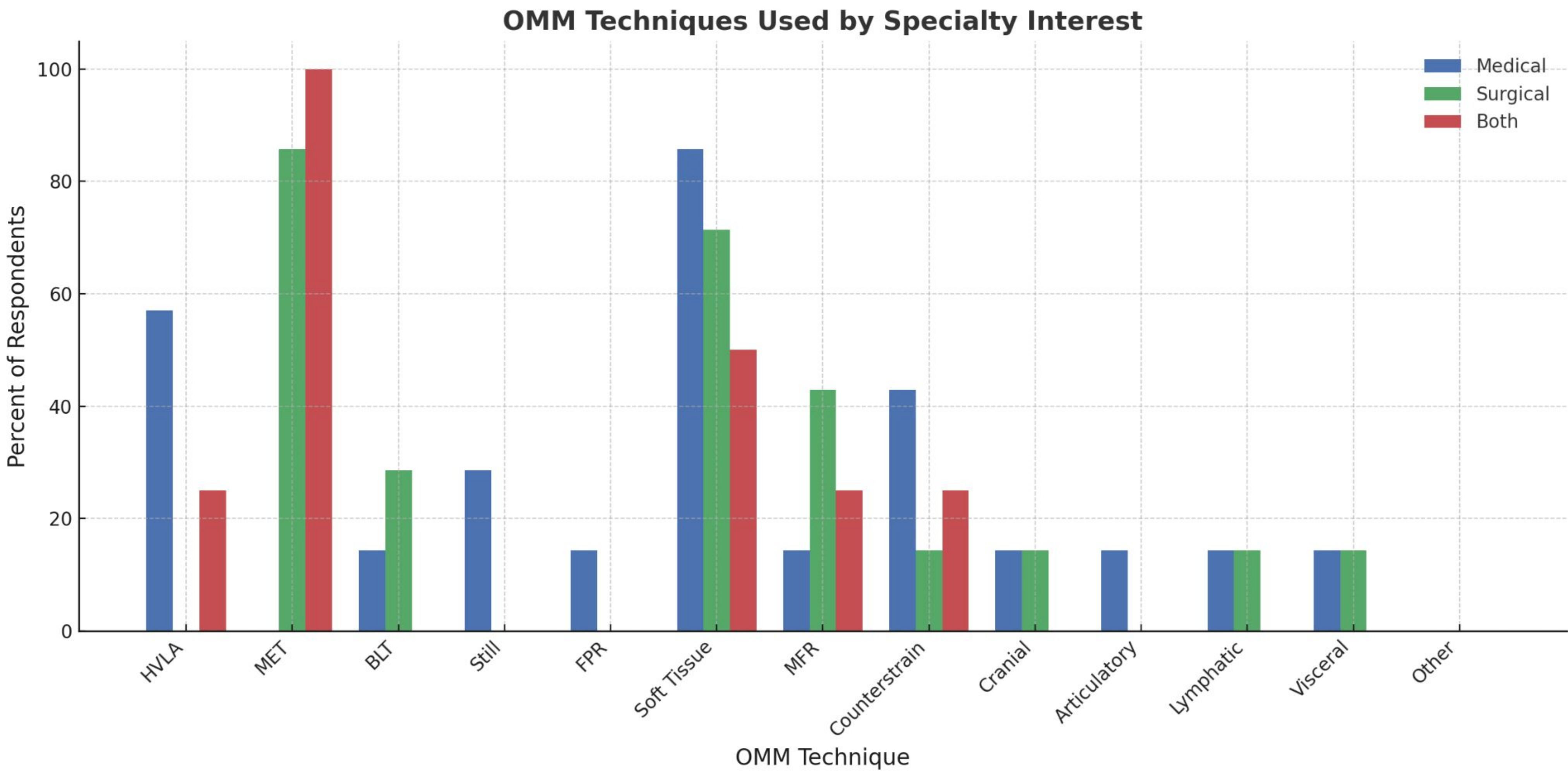
## Methods

A cross-sectional survey was conducted among third-year Osteopathic Medical Students rotating at Henry Ford Health – Madison Heights and Warren campuses. Over a one-month period, students were invited to complete an online, multiple-choice survey conducted through a third-party service. A reminder email was sent at the two-week mark to encourage participation.

The survey collected data on:

- Clinical rotation type
- Frequency of OMM use
- Techniques applied
- Body regions treated
- Preceptor credentials (DO vs. MD)
- Perceived barriers to OMM implementation

Descriptive statistics were used to analyze trends in OMM utilization. Based on the findings, a targeted educational pamphlet will be developed and distributed to promote increased OMM use in rotations with lower reported application rates.



## OMM Survey Questions

OMM Survey Questions
Have you been taught to use/used OMM in one or more of your rotations?
What is your school affiliation?
What is your current rotation?
What is your sex?
How many CORE rotations have you completed
What is your specialty of interest
Which rotations have you conducted OMM on, and with which type of preceptor (you can answer more than one)
What is your attitude towards using OMM in clinical practice
How likely are you to use OMM in your clinical practice in the future?
How many patients have you used OMM on during your rotations
What areas of the body have you treated using OMM (you may check more than one)
What techniques have you used? (you may answer more than one)
Were there any barriers to using OMM techniques in your CORE rotation?

## Results

- Students interested in Medical specialties were more likely to report using OMM on lower extremities compared to Surgical or Mixed groups ( $p < 0.05$ ).
- The Still technique was reported more frequently by Medical students than those in Surgical or Mixed specialtiesdf. Although not statistically significant, this trend approached significance and may warrant further investigation ( $p \approx 0.06$ ).
- Use of OMM for muscle energy and myofascial release was consistently reported across all specialty types, with no group-specific preference.
- In multi-select questions (e.g., “Have you used OMM on X region”), there were no significant differences, but Medical students more commonly selected "yes" for areas such as the lumbar spine and pelvis.

For quantitative comparisons (e.g., number of body areas treated, techniques used, and rotations where OMM was applied):

- Median values and interquartile ranges were computed for each group.
- A Kruskal-Wallis test found no significant differences among groups for:
  - Total number of body regions where OMM was used
  - Number of techniques used
  - Number of rotations where students performed OMM

## Conclusions

This study explored the use of Osteopathic Manipulative Medicine (OMM) among third-year medical students, stratified by specialty interest: Medical, Surgical, or Mixed. While most results did not reach statistical significance, several noteworthy patterns emerged that may inform both osteopathic education and clinical integration.

Students pursuing medical specialties demonstrated a statistically significant higher use of OMM on lower extremities, suggesting greater clinical application in primary care or internal medicine settings where musculoskeletal complaints are common. Additionally, these students reported more frequent use of the Still technique, a trend that approached significance, indicating a potential preference or familiarity with certain modalities within this group.

Though no significant differences were found in the total number of OMM techniques used, body areas treated, or rotations where OMM was performed, median values were consistently higher among Medical students compared to their Surgical and Mixed peers. This suggests that while overall usage may be comparable, Medical-oriented students might be more comfortable incorporating OMM more broadly in practice.

These findings may reflect variation in perceived utility, specialty culture, or preceptor encouragement. For example, students rotating in specialties with fewer hands-on musculoskeletal complaints or time-limited procedures (e.g., surgery) may encounter fewer opportunities or feel less empowered to perform OMM.

Importantly, the lack of statistical significance in many areas highlights the need for larger sample sizes and qualitative data to better understand student experiences, perceived barriers, and motivations. Future studies should also examine institutional support, rotation-specific culture, and faculty modeling as factors influencing OMM integration.