

U.S. OSTEOPATHIC MEDICAL REGULATORY SUMMIT

Research Compendium

September 2019

Table of Contents

Introduction	3
General Commentary on Osteopathic Distinction	4
Distinctive Osteopathic Education	6
Empathy and Practice and Outcome Differences	9
OMT/OMM Efficacy, Safety, Cost Savings and Satisfaction	15
Infants and Children	23
Neurological Disorders	25
Pain / Lower Back Pain	26
Licensure	39
Continuing Medical Education	41

Introduction

On February 28–March 1, 2019, key stakeholders from across the osteopathic medical profession convened at the 2019 United States Osteopathic Medical Regulatory Summit. The primary goal of the Summit was to attempt to achieve consensus and identify steps toward more clearly defining and advancing osteopathic distinction, particularly in professional self-regulation to secure the future for patients and the profession.

Leaders from the American Osteopathic Association, the American Association of Colleges of Osteopathic Medicine and the National Board of Osteopathic Medical Examiners determined that the 2019 Summit should focus on an evidence-based approach and include osteopathic students, residents, and other key stakeholders in osteopathic medical regulation (ACGME, FSMB, and public members/patients.)

In addition to support from Summit sponsors, (AOA, AACOM, NBOME), the Summit received grants from the Osteopathic Heritage Foundations and the Osteopathic Founders Foundation. Throughout the Summit, participants engaged in facilitator-led cogitative exercises and small and large group discussions.

In advance of the Summit, and to aid the speakers in preparing their presentations, this compendium of scholarly works highlighting the distinction of osteopathic medical practice across a variety of areas (osteopathic medical education, empathy in osteopathic medical practice, OMT/OMM, licensure, continuing medical education) was compiled and distributed to all Summit attendees for preparatory reading.

General Commentary on Osteopathic Distinction

Parker JD. Reversing the Paradox: Evidence-Based Medicine and Osteopathic Medicine. *J Am Osteopath Assoc* 2014;114(11):826-827. [doi:10.7556/jaoa.2014.166](https://doi.org/10.7556/jaoa.2014.166)

Summary: This article argues that perhaps evidence-based medicine and osteopathic medicine are at odds. It is time for the osteopathic medical profession to use research and data in a way that does not compromise the focus on the individual patient. One must not make the mistake of equating EBM to all forms of research and data use in clinical decision making.

Findings: In conclusion, we must reexamine the embrace of EBM given our proud history of patient-centered care, hands-on treatment, and distinctive philosophy.

Campbell SM, Sammons DL, Sarsama-Nixon RM, Holsinger JM, Stephenson, S, Walkowski S. Dermatology: A Specialty that Exemplifies the Osteopathic Medical Profession. *J Am Osteopath Assoc*. 2011;111(5):325-338. <http://jaoa.org/article.aspx?articleid=2094156>.

Summary: In the present article, we elucidate how dermatology is a complex specialty that incorporates osteopathic principles into its approach to patients and exemplifies the legacy of osteopathic medicine.

Findings: As more osteopathic physicians choose to specialize, some fear that this trend may compromise osteopathic principles and practice. However, the evolution of the osteopathic profession into dermatology has not been at the expense of the osteopathic philosophy but rather to its benefit.

Snow RJ, Seffinger MA, McGill SL, Vincent RA. DOs Need to Define Value of Osteopathic Medicine. *J Am Osteopath Assoc*. 2008;108(7):319-321. <http://jaoa.org/article.aspx?articleid=2093541>.

Summary: Research has shown a distinctive osteopathic approach when it comes to treatment for musculoskeletal disorders. However, there is little evidence to support a distinction between osteopathic and allopathic physicians in regard to other medical conditions.

Findings: This editorial argues that it's time to define the value of the contribution of osteopathic medical care in the U.S.

Osborn GG. Taking Osteopathic Distinctiveness Seriously: Historical and Philosophical Perspectives. *J Am Osteopath Assoc.* 2005;105(5):241-244. <http://jaoa.org/article.aspx?articleid=2093124>.

Summary: Editorial summarizing three articles in this JAOA issue (Rogers, above, Calabrese, and Orenstein) that discuss what makes osteopathic medicine distinct, identify common themes, and suggest solutions.

Findings: All three articles propose a way to achieve osteopathic medicine's "distinctiveness." All three authors conclude that the profession's ability to establish its distinctiveness is dependent on the ability of its members to develop a culture of research and scholarly endeavor.

Rogers FJ. Advancing a Traditional View of Osteopathic Medicine through Clinical Practice. *J Am Osteopath Assoc.* 2005;105(5):255-59. <http://jaoa.org/article.aspx?articleid=2093171>.

Summary: In a 1999 NEJM editorial, Joel D. Howell, MD, PhD, challenged the osteopathic medical profession to define its reputed "distinctiveness." Howell asserted that a complete defense of the uniqueness of osteopathic medicine should "be articulated not in theoretical terms, but through treatment outcomes data."

Findings: This article summarizes subsequent efforts to define osteopathic tenets and group discussion on the defining features of osteopathic medicine into three schools of thought:

1. Fundamentalist: OMT is necessary and sufficient to define osteopathic medicine.
2. Traditional: The tenets of OM are built on practice patterns and are updated to represent current practice, publications, and medical school curricula.
3. Progressive: proposals for the future direction based on theoretical concerns (e.g., unified field theory for healthcare, the "divisions of man" rather than the history of the profession or practice patterns).

Sun C, Desai G, Pucci DS, Jew S. Musculoskeletal Disorders: Does the Osteopathic Medical Profession Demonstrate its Unique and Distinctive Characteristics? *J Am Osteopath Assoc.* 2004;104(4):149-155. <http://jaoa.org/article.aspx?articleid=2092932>.

Summary: The authors used the National Ambulatory Medical Care Survey: 1999 Summary to compare the practice patterns of osteopathic and allopathic physicians in the management of musculoskeletal disorders in family practice settings.

Findings: Osteopathic physicians used physiotherapy (including osteopathic manipulative treatment and physical modes of therapy) and complementary treatments to a greater degree in their physician-patient contacts. In contrast, allopathic physicians spent more resources on diagnosis versus treatment (e.g., physiotherapy) and seemed to focus on the search for a nonstructural medical cause.

Distinctive Osteopathic Education

Clearfield M. Moving Down the Road Less Traveled: The GROUPIE Program at Touro California. *J Am Osteopath Assoc.* 2018;118(11):696-699. [doi:10.7556/jaoa.2018.153](https://doi.org/10.7556/jaoa.2018.153)

Summary: In this article, 3 additional components of GROUPIE (ultrasonography, public health, and interprofessionalism) are highlighted and 1 (obesity) is revisited.

Findings: When added to the previously published articles, the content collectively further sets the foundation elucidating a possible direction to consider as the osteopathic medical profession moves into the next 125 years.

Obadia S. Osteopathic Distinction, One Student at a Time. *J Am Osteopath Assoc.* 2018;118(9):607–609. [doi:10.7556/jaoa.2018.134](https://doi.org/10.7556/jaoa.2018.134).

Summary: This study explores the increasingly competitive environment for residency program positions, and how osteopathic medical students may wonder how they can stand out during their core, elective, and audition clinical rotations so that residency program directors will view them as desirable candidates and want them to rank their program first in their chosen specialty.

Findings: In this increasingly competitive era of graduate medical education, teachers of osteopathic medical students are strongly urged, through emphasis on the osteopathic considerations for core EPAs, to encourage and empower students to be osteopathically distinct on every clinical rotation.

Clearfield M. A Path to Osteopathic Distinction: The Touro California GROUPIE Program. *J Am Osteopath Assoc.* 2017;117(8):488-494. [doi:10.7556/jaoa.2017.098](https://doi.org/10.7556/jaoa.2017.098).

Summary: A literature survey shows fewer than 15 citations published between 1978 and 2016 presenting evidence-based outcomes demonstrating osteopathic medicine’s unique contributions. This article details how one college of osteopathic medicine, TUCOM, defined its distinctive elements and is studying the impact.

Findings: This brief overview of the GROUPIE program at TUCOM and the 3 articles in this issue of the JAOA related to the school's research only scratch the surface in identifying what makes osteopathic medicine distinct. As the GROUPIE program matures, TUCOM will collect additional data that it hopes will further distinguish its students as distinctive DOs.

Ching LM, Burke WJ. Osteopathic Distinctiveness in Osteopathic Predoctoral Education and its Effect on Osteopathic Graduate Medical Education. *J Am Osteopath Assoc.* 2011;111(10):581–584. <http://jaoa.org/article.aspx?articleid=2094138>.

Summary: In the present article, we review the history and current state of COM accreditation, osteopathic Predoctoral education, and osteopathic postdoctoral training programs.

Findings: The ability of the AOA to accredit COMs and to make osteopathic residencies appealing is crucial to the cohesiveness of the profession. Making osteopathic residencies more attractive to COM graduates is a way that the profession can fulfill its obligation to its most vital resource, its future.

Chen C, Mullan, Fitzhugh. The Separate Osteopathic Medical Education Pathway: Uniquely Addressing National Needs. *Acad Med.* 2009;84(6):695. doi: [10.1097/ACM.0b013e3181a3dd28](https://doi.org/10.1097/ACM.0b013e3181a3dd28).

Summary: This study aims to explore the differences between osteopathic and allopathic medical education, as osteopathic medical schools are held to accreditation standards similar to those of allopathic schools, and increasing numbers of osteopathic graduates enter ACGME residency and fellowship programs.

Findings: The structure of today's osteopathic medical schools may be hard to distinguish from that of their allopathic counterparts, but the output of osteopathic schools remains clearly distinctive, and the nation's health care system benefits as a result.

Cohen JJ. The Separate Osteopathic Medical Education Pathway: Isn't it Time We Got Our Acts Together? *Acad Med.* 2009;84(6):696. doi: [10.1097/ACM.0b013e3181a3ddaa](https://doi.org/10.1097/ACM.0b013e3181a3ddaa).

Summary: This review explores the educational practices of osteopathic and allopathic medical schools, and questions the benefits of sustaining two separate educational pathways.

Findings: The author concludes that rather than remaining disengaged from our academic counterparts in schools of osteopathic medicine and sustaining separate educational pathways, a more certain path to improving the education of all students would be to break down the remaining barriers and learn from each other.

Licciardone JC, Clearfield, M, Guillory VJ. Clinical Practice Characteristics of Osteopathic and Allopathic Primary Care Physicians at Academic Health Centers: Results from the National Ambulatory Medical Care Survey. *Acad Med*. 2009;84(6):744-470. doi: [10.1097/ACM.0b013e3181a424fc](https://doi.org/10.1097/ACM.0b013e3181a424fc).

Summary: The purpose of this study is to explore characteristics of patient visits to osteopathic physicians (DOs) and allopathic physicians (MDs) in the provision of ambulatory primary care services at academic health centers (AHCs) relative to non-AHC sites.

Findings: Evidence suggests that osteopathic physicians in community, non-AHC settings offer a more distinctive osteopathic approach to primary care than osteopathic physicians at AHC sites, which both indicates a need for further research to explain this phenomenon and has potentially important implications for osteopathic medical education.

Gimpel JR. Getting “Beyond the Barriers” in Reforming Osteopathic Medical Education. *J Am Osteopath Assoc*. 2007;107(7):270–275. <http://jaoa.org/article.aspx?articleid=2093507>.

Summary: Some barriers to osteopathic medical education reform are addressed in this article, which recommends allowing curricular evolution and faculty development; expanding clinical learning and teaching; breaking down departmental walls; integrating osteopathic principles and practice; reevaluating admission requirements of colleges of osteopathic medicine; and eradicating the often detrimental culture of medicine, which can be contrary to compassionate patient care and healing.

Findings: There has been some real movement in getting beyond the barriers to real quality improvement in all aspects of both osteopathic and allopathic medical education curricula and graduate medical education programs.

Empathy and Practice and Outcome Differences

Hojat M, Shannon SC, DeSantis J, Speicher MR, Bragan L, Calabrese LH. Empathy in Medicine National Norms for the Jefferson Scale of Empathy: A Nationwide Project in Osteopathic Medical Education and Empathy (POMEE). *J Am Osteopath Assoc*. 2019; 119 (8): 520-532. [doi:10.7556/jaoa.2019.091](https://doi.org/10.7556/jaoa.2019.091)

Summary: This study aims to develop national norms for the assessments of osteopathic medical students' empathy scores on the broadly used and well-validated Jefferson Scale of Empathy (JSE) at all levels of osteopathic medical school education.

Findings: National norms developed in this project, for men and women and at different levels of medical school education, can not only be used for the assessment of student's individual scores on the JSE, but can also serve as a supplementary measure for admissions to medical school and postgraduate medical education programs.

Hojat M, DeSantis J, Shannon SC, Mortensen LH, Speicher MR, Bragan L, LaNoue M, Calabrese LH. The Jefferson Scale of Empathy: A Nationwide Study of Measurement Properties, Underlying Components, Latent Variable Structure, and National Norms in Medical Students. *Adv Health Sci Educ Theory Pract*. 2018;23(5):899-920. [doi:10.1007/s10459-018-9839-9](https://doi.org/10.1007/s10459-018-9839-9)

Summary: This study was designed to examine measurement properties, underlying components, and latent variable structure of the Jefferson Scale of Empathy (JSE) in a nationwide sample of first-year matriculants at U.S. colleges of osteopathic medicine, and to develop a national norm table for the assessment of JSE scores.

Findings: Findings of this study with first-year students at U.S. colleges of osteopathic medicine provided additional evidence in support of credibility of the JSE. The norm table developed in this study can assist in assessing individuals' scores against national norms, and can potentially serve as an additional criterion for admissions decisions, or for breaking ties in applicants with similar academic qualifications.

Newton BW. Insights on the Nationwide Project in Osteopathic Medical Education and Empathy (POMEE). *J Am Osteopath Assoc*. 2018; 118 (6): 28-32. [doi:10.7556/jaoa.2018.076](https://doi.org/10.7556/jaoa.2018.076)

Summary: This study examines initial data from the first phase of a nationwide study of cognitive empathy, the Project in Osteopathic Medical Education and Empathy (POMEE). The goal of this large-scale study is to explore correlates and empathy variations in different years of medical school in a national sample of osteopathic medical students. These data will be used to develop national norm tables for the assessment of empathy scores of osteopathic medical students at different levels of medical education.

Findings: The interview responses reveal that the overarching intent of POMEE is that the results will be the nidus for educators to enhance osteopathic medical student communication abilities and resilience so that students can better form empathic bonds of trust with their patients. Concurrently, COM faculty will have the data needed to heighten student understanding of empathy and to emphasize the importance of establishing those empathic bonds of trust.

Rizkalla MN, Henderson KK. Empathy and Osteopathic Manipulative Medicine: Is it All in the Hands? *J Am Osteopath Assoc.* 2018;118(9):573–585. [doi:10.7556/jaoa.2018.131](https://doi.org/10.7556/jaoa.2018.131)

Summary: This study sought to examine whether favorable opinions of OMM are positively correlated with overall student empathy as well as the cognitive, emotional, and behavioral subcomponents of empathy.

Findings: Interest in and use of OMM are associated with higher empathy scores and empathy subcomponents. Training and use of OMM should be examined as a mechanism contributing to the durability of empathy in the osteopathic medical profession.

Calabrese LH. Empathy: A Vital Sign for the Osteopathic Medical Profession. *J Am Osteopath Assoc.* 2016;116(10):636–637. [doi:10.7556/jaoa.2016.125](https://doi.org/10.7556/jaoa.2016.125)

Summary: This editorial summarizes 3 articles indicating that empathy in osteopathic medicine is an emerging field. These studies also remind us that we have an opportunity to address—in a scientific and meaningful way—a myriad of questions pertaining to the humanistic dimension of osteopathic care.

Findings: The osteopathic medical profession is in an ideal position to take a leadership role in the academic research of empathy. Now is the clarion moment for osteopathic medicine to measure and nurture empathy in health care as a new vital sign.

Mercer SW, Higgins M, Bikker AM, Fitzpatrick B, McConnachie A, Lloyd SM, Little P, Watt GCM. General Practitioners' Empathy and Health Outcomes: A Prospective Observational Study of Consultations in Areas of High and Low Deprivation. *Ann Fam Med.* 2016;14(2):117-124. [doi:10.1370/afm.1910](https://doi.org/10.1370/afm.1910)

Summary: In this study, they set out to compare patients' expectations, consultation characteristics, and outcomes in areas of high and low socioeconomic deprivation, and to examine whether the same factors predict better outcomes in both settings.

Findings: Patients' expectations, GPs' behaviors within the consultation, and health outcomes differ substantially between high- and low-deprivation areas. In both settings, patients' perceptions of the physicians' empathy predict health outcomes. These findings are discussed in the context of inequalities and the "inverse care law."

Decety J, Fotopoulou A. Why Empathy has a Beneficial Impact on Others in Medicine: Unifying Theories. *Front Behav Neurosci*. 2015;8:457. [doi:10.3389/fnbeh.2014.00457](https://doi.org/10.3389/fnbeh.2014.00457)

Summary: In this article, we examine the current knowledge in neuroscience to offer an integrative and comprehensive perspective on the neurobiological and cognitive mechanisms that underlie the positive role of empathy in medicine.

Findings: The beneficial impact of empathy on others can be explained by neurocognitive theories that emphasize the importance of social interactions, support, relations, and cognitions in health, as well as by neurocomputational theories which conceptualize the brain as an inferential, self-organizing machine which constantly makes predictions about the world and then optimizes them based on what it senses. Empathy is just one of the elements that facilitates treatment effectiveness, but a powerful one.

Licciardone JC. A National Study of Primary Care provided by Osteopathic Physicians. *J Am Osteopath Assoc*. 2015;115(12):704–713. [doi:10.7556/jaoa.2015.145](https://doi.org/10.7556/jaoa.2015.145)

Summary: This study aims to compare the characteristics of medical care provided by osteopathic and allopathic physicians.

Findings: Practice patterns of osteopathic physicians generally mirror those of allopathic physicians except that osteopathic physicians deliver more medical care for older patients and at later stages of disease.

Nazione S, Pace K. An Experimental Study of Medical Error Explanations: Do Apology, Empathy, Corrective Action, and Compensation Alter Intentions and Attitudes? *J Health Commun*. 2015; 20(12)1422-1432. [doi: 10.1080/10810730.2015.1018646](https://doi.org/10.1080/10810730.2015.1018646)

Summary: This study explores the medical error disclosure framework and analyzes the idea of expressing empathy after a medical error improving the provider-patient relationship.

Findings: Results suggest empathy may play a large role in providing positive outcomes after a medical error.

Newdick C, Danbury C. Culture, Compassion and Clinical Neglect: Probity in the NHS after Mid Staffordshire. *J Med Ethics* 2015;41(12):956-962. [doi: 10.1136/medethics-2012-101048](https://doi.org/10.1136/medethics-2012-101048)

Summary: An inquiry into a case of dire patient neglect in the UK explores the circumstances leading to this treatment and how to prevent it.

Findings: The inquiry concluded that they need a better understanding of the circumstances that can lead to these outcomes and how best to respond to them.

Kelley JM, Kraft TG, Schapira L, Kossowsky J, Riess H. The Influence of the Patient-Clinician Relationship on Healthcare Outcomes: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *PLoS One* 2014;9:e94207. [doi:10.1371/journal.pone.0094207](https://doi.org/10.1371/journal.pone.0094207)

Summary: In this paper, the purpose is to determine whether the patient-clinician relationship has a beneficial effect on either objective or validated subjective healthcare outcomes.

Findings: This systematic review and meta-analysis of RCTs suggests that the patient-clinician relationship has a small, but statistically significant effect on healthcare outcomes. But, we conclude with a call for more research on this important topic.

Calabrese LH, Bianco JA, Mann D, Massello D, Hojat M. Correlates and Changes in Empathy and Attitudes toward Interprofessional Collaboration in Osteopathic Medical Students. *J Am Osteopath Assoc* 2013;113(12):898-907. [doi:10.7556/jaoa.2013.068](https://doi.org/10.7556/jaoa.2013.068)

Summary: This study aims to investigate correlations between empathy and interprofessional collaboration in osteopathic medical students; to examine differences in empathy and interprofessional collaboration scores by sex, class year, and specialty interest; and to compare empathy scores by class year between osteopathic and allopathic medical students.

Findings: The decline in empathy that is often reported among allopathic medical students was not observed. The present study can serve as a step toward further longitudinal research on the development of empathy and attitudes toward teamwork among osteopathic medical students.

Cross V, Leach CMJ, Fawkes CA, Moore AP. Patients' Expectations of Osteopathic Care: A Qualitative Study. *Health Expect* 2013;1114-1126. [Doi:10.1111/hex.12084](https://doi.org/10.1111/hex.12084)

Summary: The purpose of this study is to explore osteopathic patients' expectations of private sector care.

Findings: The preliminary conceptual framework describing the way the therapeutic encounter is approached in osteopathy comprised five themes: individual agency, professional expertise, customer experience, therapeutic process and interpersonal relationship. This model may add a new perspective to existing evidence on expectations.

Halpern J. Clinical Empathy in Medical Care. In *Empathy: From Bench to Bedside*, ed. J. Decety. 2012 (Cambridge: MIT Press), 229-244. [DOI: 10.7551/mitpress/9780262016612.001.0001](https://doi.org/10.7551/mitpress/9780262016612.001.0001)

Hojat M, Louis DZ, Markham FW, Wender R, Rabinowitz C, Gonnella JS. Physicians' Empathy and Clinical Outcomes for Diabetic Patients. *Acad Med* 2011;86:359–364. [doi: 10.1097/ACM.0b013e3182086fe1](https://doi.org/10.1097/ACM.0b013e3182086fe1)

Summary: The purpose of this study is to test the hypothesis that physicians' empathy is associated with positive clinical outcomes for diabetic patients.

Findings: The hypothesis of a positive relationship between physicians' empathy and patients' clinical outcomes was confirmed, suggesting that physicians' empathy is an important factor associated with clinical competence and patient outcomes.

Weng HC, Steed JF, Yu SW, Liu YT, Hsu CC, Yu TJ, Chen W. The Effect of Surgeon Empathy and Emotional Intelligence on Patient Satisfaction. *Adv Health Sci Educ Theory Pract* 2011;16(5):591-600. [doi:10.1007/s10459-011-9278-3](https://doi.org/10.1007/s10459-011-9278-3).

Summary: This study aimed to investigate the associations of surgeons' emotional intelligence and surgeons' empathy with patient-surgeon relationships, patient perceptions of their health, and patient satisfaction before and after surgical procedures.

Findings: Our study showed that long-term patient satisfaction with their surgeons is affected less by emotional intelligence than by empathy. Furthermore, empathy indirectly affects patient satisfaction through its positive effect on health outcomes, which have a direct effect on patients' satisfaction with their surgeons.

Chirayath HT, Wentworth AL. Constraints to Caring: Service to Medically Indigent Patients by Allopathic and Osteopathic Physicians. *J Health Care Poor Underserved* 2008;19(2):500-511. [doi:10.1353/hpu.0.0020](https://doi.org/10.1353/hpu.0.0020)

Summary: Using survey data from a national sample of allopathic and osteopathic physicians, this paper compares provision of care for the medically indigent and explores professional, demographic and attitudinal correlates with such care.

Findings: This study finds professional practice characteristics shape differences between MDs and DOs in providing care for indigent patients Care provided by osteopathic physicians is most significantly influenced by private practice; for allopathic physicians, medical specialty and employment in community clinics shapes indigent care.

Carey TS, Motyka TM, Garrett JM, Keller RB. Do Osteopathic Physicians Differ in Patient Interaction from Allopathic Physicians? An Empirically Derived Approach. *J Am Osteopath Assoc* 2003;103(7):313-318. <http://jaoa.org/article.aspx?articleid=2092837>

Summary: In this study, the authors examined whether osteopathic primary care physicians' interactions with patients reflect the principles of osteopathic medicine when compared with allopathic physicians' interactions.

Findings: Osteopathic physicians were more likely than allopathic physicians to use patients' first names; explain etiologic factors to patients; and discuss social, family, and emotional impact of illnesses. In this study, osteopathic physicians were easily distinguishable from allopathic physicians by their verbal interactions with patients.

OMT/OMM Efficacy, Safety, Cost Savings and Satisfaction

Degenhardt BF, Johnson JC, Gross SR, Hagan C, Lund G, Curry WJ. Preliminary Findings on the Use of Osteopathic Manipulative Treatment: Outcomes During the Formation of the Practice-Based Research Network, DO-Touch.NET. *J Am Osteopath Assoc* 2014;114(3):154-170. [doi: 10.7556/jaoa.2014.033](https://doi.org/10.7556/jaoa.2014.033).

Summary: The purpose of this study was to assess the current use of OMT and associated patient-reported outcomes.

Findings: These preliminary results suggest that for adults, OMT is predominantly used for managing musculoskeletal pain conditions and is effective for short-term symptom relief.

Licciardone JC, Kearns CM, King HH, Seffinger MA, Crow WT, Zajac P, Devine WH, Abu-Sbaih RY, Miller SJ, Berkowitz MR, Dyer R, Heath DM, Treffer KD, Nevis NA, Aryal S. Somatic Dysfunction and Use of Osteopathic Manual Treatment Techniques during Ambulatory Medical Care Visits: A CONCORD-PBRN Study. *J Am Osteopath Assoc*. 2014;114(5):344-354. [doi: 10.7556/jaoa.2014.072](https://doi.org/10.7556/jaoa.2014.072).

Summary: The purpose of this study was to measure patient characteristics and osteopathic physician practice patterns within the Consortium for Collaborative Osteopathic Research Development-Practice-Based Research Network (CONCORD-PBRN).

Findings: This study provides proof of concept of the feasibility of studying osteopathic medical practice on a national level by developing and growing the CONCORD-PBRN.

OIA Osteopathic Professions Global Status Report (OMT Evidence). <https://oialliance.org/wp-content/uploads/2014/01/OIA-Stage-2-Report.pdf>

Summary: A global view of practice, patients, education and the contribution to healthcare delivery, including evidence for OMT benefits.

Baltazar GA, Betler MP, Akella K, Khatri R, Asaro R, Chendrasekhar A. Effect of Osteopathic Manipulative Treatment on Incidence of Postoperative Ileus and Hospital Length of Stay in General Surgical Patients. *J Am Osteopath Assoc* 2013;113(3):204-209. <http://jaoa.org/article.aspx?articleid=2094531>.

Summary: This study aims to determine whether there is a relationship between postoperative use of OMT and postoperative outcomes in gastrointestinal surgical patients, including time to flatus, clear liquid diet, and bowel movement and postoperative hospital length of stay (LOS).

Findings: Osteopathic manipulative treatment applied after a major gastrointestinal operation is associated with decreased time to flatus and decreased postoperative hospital LOS.

Chaibi A, Russell MB. Manual Therapies for Cervicogenic Headache: A Systematic Review. *J Headache Pain* 2012;13(5):351-359. [doi: 10.1007/s10194-012-0436-7](https://doi.org/10.1007/s10194-012-0436-7)

Summary: This paper systematically reviewed randomized clinical trials (RCT) assessing the efficacy of manual therapies for cervicogenic headache (CEH).

Findings: Current RCTs suggest that physiotherapy and SMT might be an effective treatment in the management of CEH. However, the RCTs mostly included participant with infrequent CEH. Future challenges regarding CEH are substantial both from a diagnostic and management point of view.

Haynes MJ, Vincent K, Fischhoff C, et al. Assessing the Risk of Stroke from Neck Manipulation: A Systematic Review. *Int J Clin Pract* 2012;66(10):940-7. doi: [10.1111/j.1742-1241.2012.03004.x](https://doi.org/10.1111/j.1742-1241.2012.03004.x)

Summary: Strokes can follow cervical spinal manipulative therapy, but there is disagreement about whether a strong association between neck manipulation and stroke exists. An earlier systematic review found two relevant studies of association that used controls. Our systematic review updates the earlier review, and aims to determine whether conclusive evidence of a strong association exists.

Findings: Conclusive evidence is lacking for a strong association between neck manipulation and stroke, but is also absent for no association. Future studies of association will need to minimise potential biases and confounders, and ideally have sufficient numbers of cases to allow subgroup analysis for different types of neck manipulation and neck movement.

Heneghan NR, Adab P, Balanos GM, et al. Manual Therapy for Chronic Obstructive Airways Disease: A Systematic Review of Current Evidence. *Man Ther* 2012;17(6):507-18. doi: [10.1016/j.math.2012.05.004](https://doi.org/10.1016/j.math.2012.05.004)

Summary: Chronic obstructive pulmonary disease (COPD) is a growing global problem. Despite mounting evidence of significant co morbidity, evidenced based non pharmacological management approaches are limited to smoking cessation and pulmonary rehabilitation. Existing evidence suggests manual therapy may be beneficial in the management of COPD.

Results: Performance based measures of pulmonary function changed minimally following OMT techniques. Evidence for MT as an adjunctive management approach for COPD is lacking. More exploratory research is first required to better understand the nature and extent of changes in the musculoskeletal system in patients with COPD and their possible relationship with pulmonary function.

Jäkel A, von Hauenschild P. A Systematic Review to Evaluate the Clinical Benefits of Craniosacral Therapy. *Complement Ther Med* 2012;20(6):456-65. doi: [10.1016/j.ctim.2012.07.009](https://doi.org/10.1016/j.ctim.2012.07.009).

Summary: The aim of this review was to identify and critically evaluate the available literature regarding craniosacral therapy (CST) and to determine the clinical benefit of CST in the treatment of patients with a variety of clinical conditions.

Findings: This review revealed CST assessment is feasible in RCTs and has the potential of providing valuable outcomes to further support clinical decision making. However, due to the current moderate methodological quality of the included studies, further research is needed.

Vogel S, Mars T, Keeping S, et al. The CROaM Study: Clinical Risk Osteopathy and Management Summary Report. London: British School of Osteopathy 2012.

http://www.osteopathy.org.uk/uploads/croam_summary_report_final.pdf

Summary: "The overall purpose of the study was to document reported treatment reactions and adverse events; to provide a description of UK osteopaths' risk assessment and risk management; to describe and model osteopaths' and patients' perceptions and beliefs about adverse events and treatment reactions."

Jäkel A, von Hauenschild P. Therapeutic Effects of Cranial Osteopathic Manipulative Medicine: A Systematic Review. *J Am Osteopath Assoc* 2011;111(12):685-93.

<https://www.ncbi.nlm.nih.gov/pubmed/22182954>.

Summary: The purpose of this study is to identify and critically evaluate the literature regarding the clinical efficacy of cranial OMM.

Results: The currently available evidence on the clinical efficacy of cranial OMM is insufficient to draw definitive conclusions. Because of the moderate methodological quality of the studies and scarcity of available data, further research is needed.

Bronfort G, Haas M, Evans RL, Leiniger B, Triano J. Effectiveness of Manual Therapies: The UK Evidence Report. *Chiropr Osteopat* 2010;18:3. [doi: 10.1186/1746-1340-18-3](https://doi.org/10.1186/1746-1340-18-3).

Summary: The purpose of this report is to provide a succinct but comprehensive summary of the scientific evidence regarding the effectiveness of manual treatment for the management of a variety of musculoskeletal and non-musculoskeletal conditions.

Findings: Spinal manipulation/mobilization is effective in adults for: acute, subacute, and chronic low back pain; migraine and cervicogenic headache; cervicogenic dizziness; manipulation/mobilization is effective for several extremity joint conditions; and thoracic manipulation/mobilization is effective for acute/subacute neck pain.

Carnes D, Mars TS, Mullinger B, et al. Adverse Events and Manual Therapy: A Systematic Review. *Man Ther* 2010;15(4):355-63. [doi: 10.1016/j.math.2009.12.006](https://doi.org/10.1016/j.math.2009.12.006).

Summary: The purpose of this review is to explore the incidence and risk of adverse events with manual therapies.

Findings: The risk of major adverse events with manual therapy is low, but around half manual therapy patients may experience adverse events after treatment. The relative risk of adverse events appears greater with drug therapy but less with usual care.

Carnes D, Mars T, Mullinger B, et al. Adverse Events in Manual Therapy: A Systematic Review. London: National Council for Osteopathic Research 2009 http://www.ncor.org.uk/wp-content/uploads/2012/10/adverse-events_in_manual_therapy_a_systematic_review_full_report.pdf

Summary: "In this systematic review we focus on summarising relevant literature in relation to risk and manual therapies."

Findings: The reporting and description of adverse events is poor and better reporting is required in future studies. Major adverse events and death are rare as a direct consequence of manual therapy, however, minor adverse events are common in those receiving manual therapy.

Berkowitz MR. Application of Osteopathy in the Cranial Field to Successfully Treat Vertigo: A Case Series. *AAO Journal* 2009;19(3):27-28.

https://www.researchgate.net/publication/290552555_Application_of_osteopathy_in_the_cranial_field_to_successfully_treat_vertigoA_case_series

Summary: This case series presents the application of osteopathy in the cranial field to successfully treat vertigo.

Findings: The association of vertigo with a not previously reported cranial dysfunction is presented. The need for further large-scale, multi-center research studies is reiterated.

Department of Health (London) Musculoskeletal Services Framework. A Joint Responsibility: Doing it Differently. Musculoskeletal Services Framework 2006;270211.

https://webarchive.nationalarchives.gov.uk/20130123210325/http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4138413.

Summary: A Musculoskeletal Services Framework has been published which summarizes the current state of musculoskeletal services and makes recommendations for offering more care closer to home, with improved ways to access diagnostic tests.

Ernst E, Canter PH. A Systematic Review of Systematic Reviews of Spinal Manipulation. *J R Soc Med* 2006;99(4):192-6. DOI: [10.1258/jrsm.99.4.192](https://doi.org/10.1258/jrsm.99.4.192).

Summary: The purpose of this study is to systematically collate and evaluate the evidence from recent systematic reviews of clinical trials of spinal manipulation.

Findings: Collectively these data do not demonstrate that spinal manipulation is an effective intervention for any condition. Given the possibility of adverse effects, this review does not suggest that spinal manipulation is a recommendable treatment.

Snelling NJ. Spinal Manipulation in Patients with Disc Herniation: A Critical Review of Risk and Benefit. *Int J Osteopath Med* 2006;9(3):77-84. <https://www.ncbi.nlm.nih.gov/books/NBK72288/>.

Summary: The purpose of this review is to determine the effectiveness and safety of spinal manipulation in the management of disc herniation.

Findings: The author's conclusion appears to be that there is some suggestion of an early benefit of spinal manipulation in patients with disc herniation, but there were insufficient good-quality trials to reach definitive conclusions.

Gamber R, Holland S, Russo D, et al. Cost-effective Osteopathic Manipulative Medicine: A Literature Review of Cost-Effectiveness Analyses for Osteopathic Manipulative Treatment. *J Am Osteopath Assoc* 2005;105(8) 357-367. <https://jaoa.org/article.aspx?articleid=2093052>.

Summary: This study was a systematic review of research that has been published on the cost-effectiveness of osteopathic manipulative treatment compared with other treatment modalities.

Findings: Although there is a substantial amount of quality research published on the clinical efficacy of OMM, there is a considerable dearth of well-designed cost-effectiveness analysis.

Yurvati AH, Carnes MS, Clearfield MB, Stoll ST, McConathy WJ. Hemodynamic Effects of Osteopathic Manipulative Treatment Immediately After Coronary Artery Bypass Graft Surgery. *J Am Osteopath Assoc* 2005; 105(10):475-81. <http://jaoa.org/article.aspx?articleid=2093189>.

Summary: This study aims to determine the effects of osteopathic manipulative treatment (OMT) on cardiac hemodynamics post-coronary artery bypass graft (CABG) surgery.

Findings: The authors conclude that OMT has immediate, beneficial hemodynamic effects after CABG surgery when administered while the patient is sedated and pharmacologically paralyzed.

Licciardone JC, Stoll ST, Cardarelli KM, et al. A Randomized Controlled Trial of Osteopathic Manipulative Treatment following Knee or Hip Arthroplasty. *J Am Osteopath Assoc* 2004;104(5):193-202. <https://jaoa.org/article.aspx?articleid=2092938>.

Summary: The purpose of this study is to determine the efficacy of OMT in patients who recently underwent surgery for knee or hip osteoarthritis or for a hip fracture.

Findings: Two to three OMT sessions weekly, were not efficacious in acute rehabilitation patients who recently underwent surgery for knee or hip osteoarthritis or a hip fracture. Overall, the only significant difference between groups was decreased rehabilitation efficiency with OMT.

Williams NH, Edwards RT, Linck P, et al. Cost-Utility Analysis of Osteopathy in Primary Care: Results From a Pragmatic Randomised Controlled Trial. *Fam Pract* 2004;21(6):643-50. [Doi: 10.1093/fampra/cmh612](https://doi.org/10.1093/fampra/cmh612).

Summary: The aim of this analysis was to assess the cost–utility of a practice-based osteopathy clinic for subacute spinal pain.

Findings: "A primary care osteopathy clinic may be a cost-effective addition to usual GP care, but this conclusion was subject to considerable random error. Rigorous multi-centre studies are needed to assess the generalizability of this approach."

Mills MV, Henley CE, Barnes LL, et al. The Use of Osteopathic Manipulative Treatment as Adjuvant Therapy in Children with Recurrent Acute Otitis Media. *Arch Pediatr Adolesc Med* 2003;157(9):861-6. [DOI: 10.1001/archpedi.157.9.861](https://doi.org/10.1001/archpedi.157.9.861).

Summary: The purpose of this study was to study effects of osteopathic manipulative treatment as an adjuvant therapy to routine pediatric care in children with recurrent acute otitis media (AOM).

Findings: The results of this study suggest a potential benefit of osteopathic manipulative treatment as adjuvant therapy in children with recurrent AOM; it may prevent or decrease surgical intervention or antibiotic overuse.

Hondras MA, Linde K, Jones AP Manual Therapy for Asthma. *Cochrane Database Syst Rev* 2002;4. [DOI: 10.1002/14651858.CD001002](https://doi.org/10.1002/14651858.CD001002).

Summary: The purpose of this study is to evaluate the evidence for the effects of manual therapies for treatment of patients with bronchial asthma.

Findings: There is insufficient evidence to support the use of manual therapies for patients with asthma.

Licciardone JC, Gamber R, Cardarelli K. Patient Satisfaction and Clinical Outcomes associated with Osteopathic Manipulative Treatment. *J Am Osteopath Assoc* 2002;102(1):13-20. <http://jaoa.org/article.aspx?articleid=2092656>.

Summary: A patient survey was used to measure and explain patient satisfaction and clinical outcomes associated with osteopathic manipulative treatment (OMT).

Findings: Standardized patient satisfaction scores were greatest for overall performance and interpersonal manner. Subjects perceived OMT to be highly efficacious and reported significant relief from pain or discomfort and improvement in mobility. These findings suggest the need for greater access to OMT services.

Johnson SM, Kurtz M. Perceptions of Philosophic and Practice Differences between US Osteopathic Physicians and their Allopathic Counterparts. *Soc Sci Med* 2002;55:2141-2148. [doi: 10.1016/S0277-9536\(01\)00357-4](https://doi.org/10.1016/S0277-9536(01)00357-4).

Summary: Data was gathered through a random national mail survey of US osteopathic physicians. Through open-ended questions, osteopathic physicians identified philosophic and practice differences that distinguished them from their allopathic counterparts, and whether they believed the use of osteopathic manipulative treatment (OMT), a key identifiable feature of the osteopathic profession, was appropriate in their specialty.

Findings: All felt OMT was efficacious but 19% felt OMT was inappropriate in their specialty. Also, there was little agreement on philosophic concepts or practice behaviors that distinguished osteopathic from allopathic medicine. Rank and file osteopathic practitioners seem to be struggling for a legitimate professional identification.

Green C, Martin CW, Bassett K et al. A Systematic Review and Critical Appraisal of the Scientific Evidence on Craniosacral Therapy. *British Columbia Office of Health Technology Assessment* 1999;99:1. <https://www.ncbi.nlm.nih.gov/books/NBK67710/>.

Summary: The purpose of this review is to gather and critically appraise the scientific basis of craniosacral therapy as a therapeutic intervention.

Findings: There is insufficient scientific evidence to recommend craniosacral therapy to patients, practitioners or third party payers for any clinical condition.

Virshup BB, Oppenberg AA, Coleman MM. Strategic Risk Management: Reducing Malpractice Claims through More Effective Patient-Doctor Communication. *Am J Med Qual* 1999;14(4):153-159. [DOI: 10.1177/106286069901400402](https://doi.org/10.1177/106286069901400402).

Summary: This study explores whether malpractice suits are brought not because of malpractice nor even because of complaints about the quality of medical care but as an expression of anger about some aspect of patient-doctor relationships and communications.

Findings: Physicians who understand and can respond appropriately to the emotional needs of their patients are less likely to be sued. This may also translate into a more fulfilled practice of medicine by those physicians who are most aware of the importance of a positive relationship.

Infants and Children

Cerritelli F, Pizzolorusso G, Renzetti C, Cozzolino V, D'Orazio M, Lupacchini M, Marinelli B, Accorsi A, Lucci C, Lancellotti J, Ballabio S, Castelli C, Molteni D, Besana R, Tubaldi L, Perri FP, Fusilli P, D'Incecco C, Barlafante G. A Multicenter Randomized Controlled Trial of Osteopathic Manipulative Treatment on Preterms. *PLoS One* 2015;10(5):e0127370. <https://doi.org/10.1371/journal.pone.0127370>.

Summary: This study sought to examine whether osteopathic manipulative treatment improves preterm clinical outcomes.

Findings: Osteopathic treatment reduced significantly the number of days of hospitalization and is cost-effective on a large cohort of preterm infants.

Steele KM, Carreiro JE, Haug Viola J, Conte JA, Ridpath LC. Effect of Osteopathic Manipulative Treatment on Middle Ear Effusion following Acute Otitis Media in Young Children: A Pilot Study. *J Am Osteopath Assoc* 2014;114(6):436-447. [doi:10.7556/jaoa.2014.094](https://doi.org/10.7556/jaoa.2014.094).

Summary: The purpose of this study is to evaluate the efficacy of an osteopathic manipulative treatment (OMT) protocol on middle ear effusion (MEE) resolution following an episode of acute otitis media (AOM).

Findings: A standardized OMT protocol administered adjunctively with standard care for patients with AOM may result in faster resolution of MEE following AOM than standard treatment alone.

Cerritelli F, Pizzolorusso G, Ciardelli F, La Mola E, Cozzolino V, Renzetti C, D'Incecco C, Fusilli P, Sabatino G, Barlafante G. Effect of Osteopathic Manipulative Treatment on Length of Stay in a Population of Preterm Infants: A Randomized Controlled Trial. *BMC Pediatr* 2013;13:65.

<http://www.biomedcentral.com/1471-2431/13/65>.

Summary: The aim of the present study is to investigate the effect of OMT on LOS in premature infants.

Findings: The present study suggests that OMT may have an important role in the management of preterm infants hospitalization.

Dobson D, Lucassen PLBJ, Miller JJ, et al. Manipulative Therapies for Infantile Colic. *Cochrane Database Syst Rev* 2012;12. [Doi: 10.1002/14651858.CD004796](https://doi.org/10.1002/14651858.CD004796)

Summary: The purpose of this study is to evaluate the results of studies designed to address efficacy or effectiveness of manipulative therapies (specifically, chiropractic, osteopathy and cranial manipulation) for infantile colic in infants less than six months of age.

Findings: The studies included in this meta-analysis were generally small and methodologically prone to bias, which makes it impossible to arrive at a definitive conclusion about the effectiveness of manipulative therapies for infantile colic.

Wyatt K, Edwards V, Franck L, et al. Cranial Osteopathy for Children with Cerebral Palsy: A Randomised Controlled Trial. *Arch Dis Child* 2011;96(6):505-12. doi: [10.1136/adc.2010.199877](https://doi.org/10.1136/adc.2010.199877)

Summary: The purpose of this study is to estimate the effect of cranial osteopathy on the general health and wellbeing, including physical functioning, of children with cerebral palsy.

Findings: This trial found no statistically significant evidence that cranial osteopathy leads to sustained improvement in motor function, pain, sleep or quality of life in children aged 5-12 years with cerebral palsy nor in quality of life of their carers.

Duncan B, McDonough-Means S, Worden K, Schnyer R, Andrews J, Meaney FJ. Effectiveness of Osteopathy in the Cranial Field and Myofascial Release versus Acupuncture as Complementary Treatment for Children with Spastic Cerebral Palsy: A Pilot Study. *J Am Osteopath Assoc* 2008;108:559-570. <http://jaoa.org/article.aspx?articleid=2093549>.

Summary: This study sought to assess the effectiveness of osteopathy in the cranial field, myofascial release, or both versus acupuncture in children with moderate to severe spastic cerebral palsy, as measured by several outcomes instruments in a randomized controlled trial.

Findings: A series of treatments using osteopathy in the cranial field, myofascial release, or both improved motor function in children with moderate to severe spastic cerebral palsy. These results can be used to guide future research into the effectiveness of OMT or acupuncture in treating children with spastic cerebral palsy.

National Institute for Health and Care Excellence. Surgical Management of Children with Otitis Media with Effusion (OME). *London: NICE* 2008. <http://guidance.nice.org.uk/CG60>.

Romano M, Negrini S. Manual Therapy as a Conservative Treatment for Adolescent Idiopathic Scoliosis (Curved Spine): A Systematic Review. *Scoliosis* 2008;3:2. doi:[10.1186/1748-7161-3-2](https://doi.org/10.1186/1748-7161-3-2)

Summary: The purpose of this study is to present a systematic review of the international scientific literature in order to verify the therapeutic efficacy of manual therapy, which include all the manipulative and generally passive techniques performed by an external operator to treat idiopathic scoliosis.

Findings: "The lack of any kind of serious scientific data does not allow us to draw any conclusion on the efficacy of manual therapy as an efficacious technique for the treatment of Adolescent idiopathic scoliosis."

Neurological Disorders

Cerritelli F, Ruffini N, Lacorte E, Vanacore N. Osteopathic Manipulative Treatment in Neurological Diseases: Systematic Review of the Literature. *J Neurol Sci* 2016;369:333-341.

<https://doi.org/10.1016/j.jns.2016.08.062>.

Summary: The aim of the present systematic review is to critically evaluate the effectiveness of OMT as an adjuvant therapy in the management of patients with neurological diseases.

Findings: Results showed that studies on the efficacy and/or effectiveness of OMT treatments are scarce, heterogeneous, and of low methodological quality. Further studies should be conducted including a more pragmatic methodology, an exhaustive description of all investigated and concurrent interventions, and a systematic report of adverse events, so as to obtain robust and generalizable results.

Yao S, Hart A, Terzella M. An Evidence-Based Osteopathic Approach to Parkinson Disease. *Osteopathic Family Physician* 2013;5:96-101. DOI: [10.1016/j.osfp.2013.01.003](https://doi.org/10.1016/j.osfp.2013.01.003)

Summary: This article focuses on the treatment of musculoskeletal somatic dysfunction to optimize health measured by the biomechanical, respiratory-circulatory, neurologic, metabolic or energetic, and behavioral models for patients with PD.

Baranowsky J, Klose P, Musial F, et al. Qualitative Systemic Review of Randomized Controlled Trials on Complementary and Alternative Medicine Treatments in Fibromyalgia. *Rheumatol Int* 2009;30(1):1-21.

[doi: 10.1007/s00296-009-0977-5](https://doi.org/10.1007/s00296-009-0977-5).

Summary: The objectives of the study were identification, quality evaluation and summary of RCTs on complementary and alternative medicine as defined by the National Institute of Health with the exception of dietary and nutritional supplements.

Findings: The average methodological quality of the identified studies was fairly low. Best evidence was found for balneotherapy/hydrotherapy in multiple studies. Positive results were also noted for homeopathy and mild infrared hyperthermia in 1 RCT in each field. Mindfulness meditation showed mostly positive results in two trials and acupuncture mixed results in multiple trials with a tendency toward positive results. Tendencies for improvement were furthermore noted in single trials of the Mesendieck system, connective tissue massage and to some degree for osteopathy and magnet therapy. No positive evidence could be identified for Qi Gong, biofeedback, and body awareness therapy.

Pain / Lower Back Pain

AOA Task Force on the Low Back Pain Clinical Practice Guidelines. American Osteopathic Association Guidelines for Osteopathic Manipulative Treatment (OMT) for Patients with Low Back Pain. *J Am Osteopath Assoc* 2016;116(8):536-549. [doi:10.7556/jaoa.2016.107](https://doi.org/10.7556/jaoa.2016.107).

Summary: These guidelines update the AOA guidelines for osteopathic physicians to utilize osteopathic manipulative treatment (OMT) for patients with nonspecific acute or chronic low back pain (LBP) published in 2010 on the National Guideline Clearinghouse.

Findings: The conclusions of further strengthen the findings that OMT reduces LBP. This study stated that clinically relevant effects of OMT were found for reducing pain and improving functional status in patients with acute and chronic nonspecific LBP and for LBP in pregnant and postpartum women 3 months after treatment.

Cerritelli F, Ginevri L, Messi G, Caprari E, Di Vincenzo M, Renzetti C, Cozzolino V, Barlafante G, Foschi N, Provinciali L. Clinical Effectiveness of Osteopathic Treatment in Chronic Migraine: 3-Armed Randomized Controlled Trial. *Complement Ther Med* 2015;23:149-156. <https://doi.org/10.1016/j.ctim.2015.01.011>.

Summary: The purpose of this study is to assess the effectiveness of OMT on chronic migraineurs using HIT-6 questionnaire, drug consumption, days of migraine, pain intensity and functional disability.

Findings: These findings suggest that OMT may be considered a valid procedure for the management of migraineurs.

Franke H, Franke JD, Fryer G. Osteopathic Manipulative Treatment for Nonspecific Low Back Pain: A Systematic Review and Meta-Analysis. *BMC Musculoskelet Disord* 2014;15:286. [doi: 10.1186/1471-2474-15-286](https://doi.org/10.1186/1471-2474-15-286).

Summary: The purpose of this study is to assess the effectiveness of osteopathic manipulative treatment (OMT) in the management of nonspecific low back pain (LBP) regarding pain and functional status.

Findings: Clinically relevant effects of OMT were found for reducing pain and improving functional status in patients with acute and chronic nonspecific LBP and for LBP in pregnant and postpartum women at 3 months posttreatment. However, larger, high-quality randomized controlled trials with robust comparison groups are recommended.

Prinsen JK, Hensel KL, Snow RJ. OMT Associated with Reduced Analgesic Prescribing and Fewer Missed Work Days in Patients with Low Back Pain: An Observational Study. *J Am Osteopath Assoc* 2014; 114(2):90-98. [doi:10.7556/jaoa.2014.022](https://doi.org/10.7556/jaoa.2014.022)

Summary: The study is designed to conduct an observational study using the findings of the AOA's Clinical Assessment Program (AOA-CAP) low back pain module, and to compare these findings with those of a major back pain–related RCT to determine the validity and generalizability of this pseudoexperimental model.

Findings: The observational findings of the present study, which suggest that analgesic medication use is lower in patients who receive OMT, align with previous findings of RCTs and support the generalizability of these findings.

Rolle G, Tremolizzo L, Somalvico F, Ferrarese C, Bressan L. Pilot Trial of Osteopathic Manipulative Therapy for Patients with Frequent Episodic Tension-Type Headache. *J Am Osteopath Assoc* 2014; 114(9):678-685. [doi:10.7556/jaoa.2014.136](https://doi.org/10.7556/jaoa.2014.136).

Summary: This study sought to explore the efficacy of osteopathic manipulative therapy (OMTh) for pain management in frequent episodic tension-type headache (TTH).

Findings: This feasibility study demonstrated the efficacy of OMTh in the management of frequent episodic TTH, compared with sham therapy in a control group. Osteopathic manipulative therapy may be preferred over other treatment modalities and may benefit patients who have adverse effects to medications or who have difficulty complying with pharmacologic regimens.

Licciardone JC, Minotti, DE, Gatchel RJ, Kearns CM, Singh KP. Osteopathic Manual Treatment and Ultrasound Therapy for Chronic Low Back Pain: A Randomized Controlled Trial. *Ann Fam Med* 2013; 11(2):122-9. [doi: 10.1370/afm.1468](https://doi.org/10.1370/afm.1468)

Summary: The purpose of this study is to study the efficacy of osteopathic manual treatment (OMT) and ultrasound therapy (UST) for chronic low back pain.

Findings: The OMT regimen met or exceeded the Cochrane Back Review Group criterion for a medium effect size in relieving chronic low back pain.

Licciardone, JC, Kearns CM, Minotti DE. Outcomes of osteopathic manual treatment for chronic low back pain according to baseline pain severity: results from the OSTEOPATHIC Trial. *Man Ther* 2013;18(6):533-40. doi: [10.1016/j.math.2013.05.006](https://doi.org/10.1016/j.math.2013.05.006)

Summary: This study assesses the response to osteopathic manual treatment (OMT) according to baseline severity of chronic low back pain (LBP).

Findings: The large effect size for OMT in providing substantial pain reduction in patients with chronic LBP of high severity was associated with clinically important improvement in back-specific functioning. Thus, OMT may be an attractive option in such patients before proceeding to more invasive and costly treatments.

Furlan AD, Yazdi F, Tsertsvadze A, et al. A Systematic Review and Meta-Analysis of Efficacy, Cost-Effectiveness, and Safety of Selected Complementary and Alternative Medicine for Neck and Low-Back Pain. *Evid Based Complement Alternat Med* 2012;953139. doi: [10.1155/2012/953139](https://doi.org/10.1155/2012/953139)

Summary: The purpose of this study is to evaluate the efficacy, harms, and costs of the most common CAM treatments (acupuncture, massage, spinal manipulation, and mobilization) for neck/low-back pain.

Findings: CAM treatments were significantly more efficacious than no treatment, placebo, physical therapy, or usual care in reducing pain immediately or at short-term after treatment. CAM therapies did not significantly reduce disability compared to sham. None of the CAM treatments was shown systematically as superior to one another. More efforts are needed to improve the conduct and reporting of studies of CAM treatments.

Papa L, Mandara A, Bottali M, et al. A Randomized Control Trial on the Effectiveness of Osteopathic Manipulative Treatment in Reducing Pain and Improving the Quality of Life in Elderly Patients affected by Osteoporosis. *Clin Cases Miner Bone Metab* 2012;9(3):179-83 Epub. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3535995/pdf/0635_14_a_randomized_papa.pdf.

Summary: "The aim of this study was to investigate the effect of osteopathic manipulative treatment (OMT) on self-reported pain and quality of life (QOL) in an elderly population."

Findings: This study demonstrated that, in a group of elderly subjects affected by osteoporosis OMT was able to increase self-reported QOF while the effect on body pain perception is unclear. The lack of effect of OMT on physical function needs to be confirmed by more direct measurements of this variable.

Posadzki P, Ernst E. Spinal Manipulations for Tension-Type Headaches: A Systematic Review of Randomized Clinical Trials. *Complement Ther Med* 2012;20(4):232-239. doi: [10.1016/j.ctim.2011.12.001](https://doi.org/10.1016/j.ctim.2011.12.001)

Summary: The objective of this systematic review was to assess the effectiveness of spinal manipulations as treatment option for tension type headaches.

Findings: The evidence that spinal manipulation alleviates tension type headaches is encouraging, but inconclusive. The low quantity of the available data prevent firm conclusion.

Rubinstein SM, Terwee CB, Assendelft WJ, et al. Spinal Manipulative Therapy for Acute Low-Back Pain. *Cochrane Database Syst Rev* 2012;12;9. [doi: 10.1002/14651858.CD008880.pub2](https://doi.org/10.1002/14651858.CD008880.pub2).

Summary: The purpose of this study is to examine the effects of spinal manipulative therapy (SMT) for acute low-back pain, which is defined as pain of less than six weeks duration.

Findings: SMT is no more effective in participants with acute low-back pain than inert interventions, sham SMT, or when added to another intervention.

Vincent K, Maigne JY, Fischhoff C, et al. Systematic Review of Manual Therapies for Nonspecific Neck Pain. *Joint Bone Spine* 2012 Epub. [doi: 10.1016/j.jbspin.2012.10.006](https://doi.org/10.1016/j.jbspin.2012.10.006).

Summary: The purpose of this systematic review was to evaluate the effectiveness of manual therapies in the treatment of nonspecific neck pain.

Findings: Manual therapies contribute usefully to the management of nonspecific neck pain. The level of evidence is moderate for short-term effects of upper thoracic manipulation in acute neck pain, limited for long-term effects of neck manipulation, and limited for all techniques and follow-up durations in chronic neck pain.

Posadzki P, Ernst E. Osteopathy for Musculoskeletal Pain Patients: A Systematic Review of Randomized Controlled Trials. *Clin Rheumatol* 2011;30(2):285-91. [doi: 10.1007/s10067-010-1600-6](https://doi.org/10.1007/s10067-010-1600-6).

Summary: The objective of this systematic review was to assess the effectiveness of osteopathy as a treatment option for musculoskeletal pain.

Findings: Collectively, these data fail to produce compelling evidence for the effectiveness of osteopathy as a treatment of musculoskeletal pain.

Posadzki P, Ernst E. Spinal Manipulations for Cervicogenic Headaches: A Systematic Review of Randomized Clinical Trials. *Headache* 2011;51(7):1132-9. [doi: 10.1111/j.1526-4610.2011.01932](https://doi.org/10.1111/j.1526-4610.2011.01932).

Summary: The objective of this systematic review was to assess the effectiveness of spinal manipulations as a treatment option for cervicogenic headaches.

Findings: The results are mixed and the only trial accounting for placebo effects fails to be positive. Therefore, the therapeutic value of this approach remains uncertain.

Rubinstein SM, van Middelkoop M, Assendelft WJ, de Boer MR, van Tulder MW. Spinal Manipulative Therapy for Chronic Low-Back Pain. *Cochrane Database Syst Rev* 2011;2:CD008112. doi: [10.1002/14651858.CD008112.pub2](https://doi.org/10.1002/14651858.CD008112.pub2).

Summary: The purpose of this study is to assess the effects of spinal manipulative therapy (SMT) for chronic low-back pain.

Findings: High quality evidence suggests that there is no clinically relevant difference between SMT and other interventions for reducing pain and improving function in patients with chronic low-back pain.

Gross A, Miller J, D'Sylva J, et al. Manipulation or Mobilisation for Neck Pain: A Cochrane Review. *Man Ther* 2010;15(4):315-33. doi: [10.1016/j.math.2010.04.002](https://doi.org/10.1016/j.math.2010.04.002).

Summary: This review assesses if manipulation or mobilisation improves pain, function/disability, patient satisfaction, quality of life (QoL), and global perceived effect (GPE) in adults experiencing neck pain with or without cervicogenic headache or radicular findings.

Findings: Moderate quality evidence showed cervical manipulation and mobilisation produced similar effects on pain, function and patient satisfaction at intermediate-term follow-up. Low quality evidence suggested cervical manipulation may provide greater short-term pain relief than a control. Low quality evidence also supported thoracic manipulation for pain reduction and increased function in acute pain and immediate pain reduction in chronic neck pain. Optimal technique and dose need to be determined.

Licciardone JC, Buchanan S, Hensel KL, et al. Osteopathic Manipulative Treatment of Back Pain and Related Symptoms during Pregnancy: A Randomized Controlled Trial. *Am J Obstet Gynecol* 2010; 202(1):43.e1-8. doi: [10.1016/j.ajog.2009.07.057](https://doi.org/10.1016/j.ajog.2009.07.057).

Summary: The purpose of this review is to study osteopathic manipulative treatment of back pain and related symptoms during the third trimester of pregnancy.

Findings: Osteopathic manipulative treatment slows or halts the deterioration of back-specific functioning during the third trimester of pregnancy.

Miller J, Gross A, D'Sylva J, et al. Manual Therapy and Exercise for Neck Pain: A Systematic Review. *Man Ther* 2010;15(4): 334-354. [DOI: 10.1016/j.math.2010.02.007](https://doi.org/10.1016/j.math.2010.02.007).

Summary: This cervical overview group systematic review update assesses if manual therapy, including manipulation or mobilisation, combined with exercise improves pain, function/disability, quality of life, global perceived effect, and patient satisfaction for adults with neck pain with or without cervicogenic headache or radiculopathy.

Findings: Low quality evidence suggests clinically important long-term improvements in pain, function/disability, and global perceived effect when manual therapy and exercise are compared to no treatment. High quality evidence suggests greater short-term pain relief than exercise alone, but no long-term differences across multiple outcomes for (sub)acute/chronic neck pain with or without cervicogenic headache. Moderate quality evidence supports this treatment combination for pain reduction and improved quality of life over manual therapy alone for chronic neck pain; and suggests greater short-term pain reduction when compared to traditional care for acute whiplash. Evidence regarding radiculopathy was sparse. Specific research recommendations are made.

Noll DR, Degenhardt BF, Morley TF, Blais FX, Hortos KA, Hensel K, Johnson JC, Pasta DJ, Stoll ST. Efficacy of Osteopathic Manipulation as an Adjunctive Treatment for Hospitalized Patients with Pneumonia: A Randomized Controlled Trial. *Osteopath Med Prim Care* 2010;4:2-13. [doi: 10.1186/1750-4732-4-2](https://doi.org/10.1186/1750-4732-4-2).

Summary: The Multicenter Osteopathic Pneumonia Study in the Elderly (MOPSE) is a registered, double-blinded, randomized, controlled trial designed to assess the efficacy of osteopathic manipulative treatment (OMT) as an adjunctive treatment in elderly patients with pneumonia.

Findings: Intention-to-treat (ITT) analysis found no differences between groups. Per-protocol (PP) analysis found significant reductions in length of stay (LOS), duration of intravenous antibiotics, and respiratory failure or death when OMT was compared to conventional care only (CCO). Given the prevalence of pneumonia, adjunctive OMT merits further study.

Crow WT, Willis DR. Estimating Cost of Care for Patients with Acute Low Back Pain: A Retrospective Review of Patient Records. *J Am Osteopath Assoc* 2009;109(4):229-233. <http://jaoa.org/article.aspx?articleid=2093736>.

Summary: This study aims to estimate the cost of standard care compared to standard care plus osteopathic manipulative treatment (OMT) for acute LBP of less than 6 months' duration.

Findings: Osteopathic manipulative treatment may reduce costs for the management of acute LBP. Further research in a prospective study is needed.

Furlan AD, Imamura M, Dryden T, et al. Massage for Low Back Pain: An Updated Systematic Review within the Framework of the Cochrane Back Review Group. *Spine* 2009;15;34(16):1669-84. doi: [10.1097/BRS.0b013e3181ad7bd6](https://doi.org/10.1097/BRS.0b013e3181ad7bd6).

Summary: The purpose of this study is to assess the effects of massage therapy for nonspecific low back pain.

Findings: Massage might be beneficial for patients with subacute and chronic nonspecific low back pain, especially when combined with exercises and education. More studies are needed to confirm these conclusions, to assess the impact of massage on return-to-work, and to determine cost-effectiveness of massage as an intervention for low back pain.

Hurwitz EL, Carragee EJ, van der Velde G, et al. Treatment of Neck Pain: Noninvasive Interventions. Results of the Bone and Joint Decade 2000–2010 Task Force on Neck Pain and its Associated Disorders. *J Manipulative Physiol Ther* 2009;32(2 Suppl):S141-75. doi: [10.1016/j.jmpt.2008.11.017](https://doi.org/10.1016/j.jmpt.2008.11.017).

Summary: The purpose of this study is to identify, critically appraise, and synthesize literature from 1980 through 2006 on noninvasive interventions for neck pain and its associated disorders.

Findings: Our best evidence synthesis suggests that therapies involving manual therapy and exercise are more effective than alternative strategies for patients with neck pain; this was also true of therapies which include educational interventions addressing self-efficacy.

Savigny P, Kuntze S, Watson P, et al. Low Back Pain: Early Management of Persistent Non-Specific Low Back Pain. London: National Collaborating Centre for Primary Care and Royal College of General Practitioners 2009. <https://www.ncbi.nlm.nih.gov/pubmed/20704057>.

Summary: This guideline covers the management of persistent or recurrent low back pain defined as non-specific low back pain that has lasted for more than 6 weeks, but for less than 12 months.

Chou R, Qaseem A, Snow V, Casey D, Cross JT Jr, Shekelle P, Owens DK. Diagnosis and Treatment of Low Back Pain: A Joint Clinical Practice Guideline from the American College of Physicians and the American Pain Society. *Ann Intern Med* 2007;147(7):478-91. DOI: [10.7326/0003-4819-147-7-200710020-00006](https://doi.org/10.7326/0003-4819-147-7-200710020-00006).

Summary: The purpose of this guideline is to present the available evidence for evaluation and management of acute and chronic low back pain in primary care settings.

Findings: In general, decisions about consultation should be individualized and based on assessments of patient symptoms and response to interventions, the experience and training of the primary care clinician, and the availability of specialists with relevant expertise.

Airaksinen O, Brox JJ, Cedraschi C, Hildebrandt J, Klaber-Moffett J, Kovacs F, Mannion AF, Reis S, Staal JB, Ursin H, Zanolli G. European Guidelines for the Management of Chronic Non-Specific Low Back Pain. *Eur Spine J* 2006;15(Suppl. 2):S192-S300. [DOI 10.1007/s00586-006-1072-1](https://doi.org/10.1007/s00586-006-1072-1).

Summary: "These particular guidelines intend to foster a realistic approach to improving the treatment of common (nonspecific) chronic low back pain (CLBP) in Europe."

Anderson RE, Seniscal C. A Comparison of Selected Osteopathic Treatment and Relaxation for Tension-Type Headaches. *Headache* 2006;46(8):1273-80. [DOI: 10.1111/j.1526-4610.2006.00535.x](https://doi.org/10.1111/j.1526-4610.2006.00535.x).

Summary: The objective of this study was to compare the effects of osteopathic treatment and progressive muscular relaxation (PMR) exercises on patients with tension-type headache (TTH).

Findings: The people in this study who did relaxation exercises and received 3 osteopathy treatments had significantly more days per week without headache than those who did only relaxation exercises.

van Tulder M, Becker A, Bekkering T, Breen A, Gil del Real MT, Hutchinson A, Koes B, Laerum E, Malmivaara A. European Guidelines for the Management of Acute Nonspecific Low Back Pain in Primary Care. *Eur Spine J* 2006;15(Suppl. 2):S169-S191. [DOI 10.1007/s00586-006-1071-2](https://doi.org/10.1007/s00586-006-1071-2).

Summary: "These guidelines intend to improve the primary care management of acute nonspecific low back pain for adult patients in Europe."

Goldstein FJ, Jeck S, Nicholas AS. Preoperative Intravenous Morphine Sulfate with Postoperative Osteopathic Manipulative Treatment Reduces Patient Analgesic Use after Total Abdominal Hysterectomy. *J Am Osteopath Assoc* 2005;105(6):273-279. <http://jaoa.org/article.aspx?articleid=2093074>.

Summary: The purpose of this study is to determine whether a combination of preemptive morphine sulfate and postoperative osteopathic manipulative treatment (OMT) could provide improved analgesic effects.

Findings: Administration of postoperative OMT enhanced pre- and postoperative morphine analgesia in the immediate 48-hour period following elective total abdominal hysterectomy (TAH), demonstrating that OMT can be a therapeutic adjunct in pain management following this procedure.

Kominski GF, Heslin KC, Morgenstern H, et al. Economic Evaluation of Four Treatments for Low-Back Pain: Results from a Randomized Controlled Trial. *Medical Care* 2005;43(5):428–435. DOI: [10.1097/01.mlr.0000160379.12806.08](https://doi.org/10.1097/01.mlr.0000160379.12806.08).

Summary: The study sought to compare total outpatient costs of 4 common treatments for low-back pain (LBP) at 18-months follow-up.

Findings: Physical therapy provided in combination with medical care and physical modalities provided in combination with chiropractic care do not appear to be cost-effective strategies for treatment of LBP; they produce higher costs without clinically significant improvements in outcome.

Licciardone JC, Brimhall, AK, King LN. Osteopathic Manipulative Treatment for Low Back Pain: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *BMC Musculoskelet Disord* 2005;6:43. DOI: [10.1186/1471-2474-6-43](https://doi.org/10.1186/1471-2474-6-43).

Summary: The purpose of this study was to assess the efficacy of OMT as a complementary treatment for low back pain.

Findings: OMT significantly reduces low back pain. Additional research is warranted to elucidate mechanistically how OMT exerts its effects, to determine if OMT benefits are long lasting, and to assess the cost-effectiveness of OMT as a complementary treatment for low back pain.

Bergman GJD, Winters JC, Groenier KH, Pool JJM, Jong BM, Postema K, Heijden GJMG. Manipulative Therapy in Addition to Usual Medical Care for Patients with Shoulder Dysfunction and Pain. *Ann Intern Med* 2004;141:432-439. DOI: [10.7326/0003-4819-141-6-200409210-00008](https://doi.org/10.7326/0003-4819-141-6-200409210-00008).

Summary: This study studies the effectiveness of manipulative therapy for the shoulder girdle in addition to usual medical care for relief of shoulder pain and dysfunction.

Findings: Manipulative therapy for the shoulder girdle in addition to usual medical care accelerates recovery of shoulder symptoms.

Bronfort G, Haas M, Evans RL, Bouter LX. Efficacy of Spinal Manipulation and Mobilization for Low Back Pain and Neck Pain: A Systematic Review and Best Evidence Synthesis. *Spine J* 2004;4(3):335-356. <https://doi.org/10.1016/j.spinee.2003.06.002>.

Summary: The purpose of this study is to reassess the efficacy of spinal manipulative therapy (SMT) and mobilization (MOB) for the management of low back pain (LBP) and neck pain (NP), with special attention to applying more stringent criteria for study admissibility into evidence and for isolating the effect of SMT and/or MOB.

Findings: Our data synthesis suggests that recommendations can be made with some confidence regarding the use of SMT and/or MOB as a viable option for the treatment of both low back pain and NP. Future trials should examine well-defined subgroups of patients, further address the value of SMT and MOB for acute patients, establish optimal number of treatment visits and consider the cost-effectiveness of care.

Seffinger MA, Najm WI, Mishra SI, et al. Reliability of Spinal Palpation for Diagnosis of Back and Neck Pain: A Systematic Review of the Literature. *Spine* 2004;1;29(19):E413-25. [DOI: 10.1097/01.brs.0000141178.98157.8e](https://doi.org/10.1097/01.brs.0000141178.98157.8e).

Summary: The purpose of this review is to determine the quality of the research and assess the interexaminer and intraexaminer reliability of spinal palpatory diagnostic procedures.

Findings: The quality of the research on interreliability and intrareliability of spinal palpatory diagnostic procedures needs to be improved.

UK BEAM Trial Team. United Kingdom Back Pain Exercise and Manipulation (UK BEAM) Randomized Trial: Effectiveness of Physical Treatments for Back Pain in Primary Care. *BMJ* 2004;329:1377. <https://doi.org/10.1136/bmj.38282.669225.AE>.

Summary: This study aims to estimate the effect of adding exercise classes, spinal manipulation delivered in NHS or private premises, or manipulation followed by exercise to “best care” in general practice for patients consulting with back pain.

Findings: Relative to “best care” in general practice, manipulation followed by exercise achieved a moderate benefit at three months and a small benefit at 12 months; spinal manipulation achieved a small to moderate benefit at three months and a small benefit at 12 months; and exercise achieved a small benefit at three months but not 12 months.

UK BEAM Trial Team. United Kingdom Back Pain Exercise and Manipulation (UK BEAM) Randomised Trial: Cost Effectiveness of Physical Treatments for Back Pain in Primary Care. *BMJ* 2004;329:1381. <https://doi.org/10.1136/bmj.38282.607859.AE>.

Summary: This study aims to assess the cost effectiveness of adding spinal manipulation, exercise classes, or manipulation followed by exercise (“combined treatment”) to “best care” in general practice for patients consulting with low back pain.

Findings: Spinal manipulation is a cost effective addition to “best care” for back pain in general practice.

Korthals-de Bos IB, Hoving JL, van Tulder MW, et al. Cost Effectiveness of Physiotherapy, Manual Therapy, and General Practitioner Care for Neck Pain: Economic Evaluation Alongside a Randomised Controlled Trial. *Br Med J* 2003;326(7395):911–914. [doi: 10.1136/bmj.326.7395.911](https://doi.org/10.1136/bmj.326.7395.911).

Summary: The purpose of this study is to evaluate the cost effectiveness of physiotherapy, manual therapy, and care by a general practitioner for patients with neck pain.

Findings: Manual therapy (spinal mobilisation) is more effective and less costly for treating neck pain than physiotherapy or care by a general practitioner.

Licciardone JC, Stoll ST, Fulda KG, Russo DP, Siu J, Winn W, Swift J Jr. Osteopathic Manipulative Treatment for Chronic Low Back Pain: A Randomized Controlled Trial. *Spine* 2003;28(13):1355-62. [DOI: 10.1097/01.BRS.0000067110.61471.7D](https://doi.org/10.1097/01.BRS.0000067110.61471.7D)

Summary: The purpose of this study is to determine the efficacy of osteopathic manipulative treatment as a complementary treatment for chronic nonspecific low back pain.

Findings: It remains unclear whether the benefits of osteopathic manipulative treatment can be attributed to the manipulative techniques themselves or whether they are related to other aspects of osteopathic manipulative treatment, such as range of motion activities or time spent interacting with patients, which may represent placebo effects.

Niemistö L, Lahtinen-Suopanki T, Rissanen P, et al. A Randomized Trial of Combined Manipulation, Stabilizing Exercises, and Physician Consultation Compared to Physician Consultation Alone for Chronic Low Back Pain. *Spine* 2003;28(19):2185–2191. [DOI: 10.1097/01.BRS.0000085096.62603.61](https://doi.org/10.1097/01.BRS.0000085096.62603.61)

Summary: The purpose of this study is to examine the effectiveness of combined manipulative treatment, stabilizing exercises, and physician consultation compared with physician consultation alone for chronic low back pain.

Findings: The manipulative treatment with stabilizing exercises was more effective in reducing pain intensity and disability than the physician consultation alone. The present study showed that short, specific treatment programs with proper patient information may alter the course of chronic low back pain.

Williams NH, Wilkinson C, Russell I, et al. Randomized Osteopathic Manipulation Study (ROMANS): Pragmatic Trial for Spinal Pain in Primary Care. *Fam Pract* 2003;20(6):662-9. DOI: [10.1093/fampra/cm607](https://doi.org/10.1093/fampra/cm607).

Summary: The aim of this study is to assess the effectiveness and health care costs of a practice-based osteopathy clinic for subacute spinal pain.

Findings: A primary care osteopathy clinic improved short-term physical and longer term psychological outcomes, at little extra cost. Rigorous multicentre studies are now needed to assess the generalizability of this approach.

Burton AK, et al. *The Back Book: The Best Way to Deal with Back Pain; Get Back Active. UK Edition (2nd edition) London: The Stationery Office 2002.*

Bronfort G, Assendelft WJ, Evans R, et al. Efficacy of Spinal Manipulation for Chronic Headache: A Systematic Review. *J Manipulative Physiol Ther* 2001;24(7):457-66. [https://doi.org/10.1016/S0161-4754\(01\)99423-0](https://doi.org/10.1016/S0161-4754(01)99423-0).

Summary: The purpose of this study is to assess the efficacy/effectiveness of spinal manipulative therapy (SMT) for chronic headache through a systematic review of randomized clinical trials.

Findings: SMT appears to have a better effect than massage for cervicogenic headache. It also appears that SMT has an effect comparable to commonly used first-line prophylactic prescription medications for tension-type headache and migraine headache. Before any firm conclusions can be drawn, further testing should be done in rigorously designed, executed, and analyzed trials with follow-up periods of sufficient length.

Seferlis T, Lindholm L, Németh G. Cost-Minimisation Analysis of Three Conservative Treatment Programmes in 180 Patients Sick-Listed for Acute Low-Back Pain. *Scand J Prim Health Care* 2000; 18(1):53–57. DOI: [10.1080/02813430050202578](https://doi.org/10.1080/02813430050202578).

Summary: The purpose of this study is to perform a cost-minimization analysis of three conservative treatment regimes for acute low-back pain (LBP).

Findings: With respect to total costs, the findings were similar between the three treatment programmes. It is not possible to conclude which treatment programme is to be recommended as a least cost alternative. The strong effect of indirect costs on the total cost stresses that further studies should focus on methods of shortening sick-leave.

Andersson GB, Lucente T, Davis AM, et al. A Comparison of Osteopathic Spinal Manipulation with Standard Care for Patients with Low Back Pain. *N Engl J Med* 1999;341(19):1426-31. DOI: [10.1056/NEJM199911043411903](https://doi.org/10.1056/NEJM199911043411903).

Summary: The purpose of this study is to assess the effects of osteopathic manual therapy (i.e., spinal manipulation) in patients with chronic and subchronic back pain.

Findings: Osteopathic manual care and standard medical care had similar clinical results in patients with subacute low back pain. However, the use of medication was greater with standard care.

MacDonald RS, Bell CM. An Open Controlled Assessment of Osteopathic Manipulation in Nonspecific Low-Back Pain. *Spine* 1990;15(5):364-70. DOI: [10.1097/00007632-199005000-00005](https://doi.org/10.1097/00007632-199005000-00005).

Summary: An open controlled pilot trial on nonspecific low-back pain sufferers demonstrated responsiveness to osteopathic manipulation of some patients presenting with pain durations of 14 to 28 days.

Licensure

Dorothy T. Horber, PhD; John R. Gimpel, DO, MEd. Enhancing COMLEX-USA: Evidence-Based Redesign of the Osteopathic Medical Licensure Examination Program. *J Med Reg* 2018; 104(3)11-18.

<https://jmronline.org/doi/10.30770/2572-1852-104.3.11>.

Summary: This article summarizes the evidence-based design processes on which the new COMLEX-USA blueprint is built, how it differs from the previous blueprint, and the evidence supporting its validity for the primary and intended purpose of COMLEX-USA — osteopathic physician licensure. It concludes with the changes being implemented by the NBOME to ensure COMLEX-USA remains current and meets the needs of its stakeholders, the state licensing boards.

Findings: "Now under the governance of NBOME's COMLEX-USA Composite Examination Committee, the NBOME is continuing its ongoing efforts to ensure that COMLEX-USA remains current in meeting the needs of the state medical licensing boards and other constituents. In keeping with its mission to protect the public, and in support of the state licensing boards and other stakeholders who rely on the COMLEX-USA examination for other important secondary purposes, the NBOME remains committed to the development, administration, and continuing quality improvement of the COMLEX-USA examination program. "

Hudson KM, Feinberg G, Hempstead L, Zipp C, Gimpel JR, Wang Y. Association between Performance on COMLEX-USA and the American College of Osteopathic Family Physicians In-Service Examination. *J Grad Med Educ* 2018;10(5):543–547. <http://dx.doi.org/10.4300/JGME-D-17-00997.1>.

Summary: This study explored the relationship between performance on COMLEX-USA and the ACOFP in-service examination to offer support on the use of licensing examinations in resident selection.

Findings: The results support using COMLEX-USA as a part of resident selection in family medicine. Additionally, program directors may use performance on COMLEX-USA to predict success on the ISE-3.

Sandella JM, Gimpel JR, Larissa L, Smith LL, Boulet, JR. The Use of COMLEX-USA and USMLE for Residency Applicant Selection. *J Grad Med Educ* 2016;8(3):358–363. <http://dx.doi.org/10.4300/JGME-D-15-00246.1>.

Summary: This study investigated performance on COMLEX-USA Level 1 and USMLE Step 1 of students from colleges of osteopathic medicine where the majority of students took both examinations.

Findings: The study found a strong association between COMLEX Level 1 and USMLE Step 1 performance.

National Board of Osteopathic Medical Examiners. Fundamental Osteopathic Medicine Competency Domains. 2016. <https://www.nbome.org/docs/Flipbooks/FOMCD/index.html#p=47>.

Termuhlen PM, Yurvati AH, Stella, JJ. Requirements for Certification in Surgery: A Comparison of the American Board of Surgery and the American Osteopathic Board of Surgery. *J Am Osteopath Assoc* 2016; 116 (10) 676-682. [doi:10.7556/jaoa.2016.132](https://doi.org/10.7556/jaoa.2016.132).

Summary: In this study, the authors review the pathways to initial certification for both the American Board of Surgery and the American Osteopathic Board of Surgery and discuss recertification and maintenance of certification.

Findings: The integration of AOA-approved programs into the ACGME accreditation system over the next 5 years will provide a uniform experience for all graduates of general surgery residencies in the United States. This standardization will allow both boards to consider how they may want to uniquely define their diplomates, or it may even stimulate consideration of a single certification system.

Boulet JR, Gimpel JR, Errichetti AM, Meoli FG. Using National Medical Care Survey Data to Validate Examination Content on a Performance-Based Clinical Skills Assessment for Osteopathic Physicians. *J Am Osteopath Assoc* 2003;103(5):225–231. <http://jaoa.org/article.aspx?articleid=2092861>.

Summary: The purpose of this investigation was to explore osteopathic and allopathic medical practice patterns and to provide summary statistics that can be used to delimit potential assessment content areas for a clinical skills assessment targeted at osteopathic physicians.

Findings: These results suggest that from a content perspective, a performance-based clinical skills evaluation targeted at osteopathic physicians should be characteristically different from one designed for allopathic physicians.

NBOME Compendium of Published Research About COMLEX-USA.
<https://www.nbome.org/publications/published-research/?topic=nbome-published>.

Continuing Medical Education

National Residency Matching Program. NRMP 2018 Survey of Program Directors.

<https://www.nrmp.org/wp-content/uploads/2018/07/NRMP-2018-Program-Director-Survey-for-WWW.pdf>.

Summary: This detailed statistical summary shows how GME programs evaluate candidates and residents in program.

Loveless B. Defining Osteopathic Continuing Medical Education. *J Am Osteopath Assoc* 2017; 117(12):733–734. [doi:10.7556/jaoa.2017.144](https://doi.org/10.7556/jaoa.2017.144)

Summary: This article explore how the recent decisions by the AOA Board of Trustees will change continuing medical education (CME) requirements for membership and board certification. These changes will challenge the osteopathic medical community to answer several questions, including how osteopathic CME is defined and whether there is value to osteopathic CME that is distinct from other programs.

Findings: Continuing medical education activities that are organized around a systematic approach to osteopathic medicine, such as the 5 models of osteopathic care or the 4 tenets of osteopathic medicine, are distinct from other CME activities and can reinforce the advantages of incorporating osteopathic principles into medical practice to physicians who choose to do so.

Miller T, Jarvis J, Waterson Z, Clements D, Mitchell K. Osteopathic Recognition: When, What, How and Why? *Ann Fam Med* 2017;15(1):91. <http://www.annfammed.org/content/15/1/91.full>.

Summary: This article outlines the aims, application process and criteria for osteopathic recognition for GME programs.

Findings: Family medicine residencies possessing the necessary resources, or the ability to obtain them, can benefit from an Osteopathic Recognition designation.

Raymond R. Osteopathic Recognition is Key to GME Program’s Forward-Thinking Approach. *The DO* Oct. 11, 2016. <http://thedo.osteopathic.org/2016/10/osteopathic-recognition-is-key-to-gme-programs-forward-thinking-approach/>.

Summary: (Holistic approach) Obtaining osteopathic recognition will help the clinic ensure patients continue to receive the holistic, whole-person care they have come to expect, Dr. Braden says. “They greatly benefit from the osteopathic care our program provides,” she adds.

Findings: “There’s great value in promoting osteopathic principles and practice,” says Dr. Braden, who helped establish Parkview’s residency program in 2012. “We want candidates to see that osteopathic distinctiveness is taught, encouraged and required in this program.”

Mims LD, Wannamaker LR, Bressler LC. Approaching the Single Accreditation System: Curricular Variation in Allopathic, Osteopathic, and Dually Accredited Family Medicine Residency Programs. *J Grad Med Educ* 2015;7(3):466–469. <http://dx.doi.org/10.4300/JGME-D-14-00766.1>.

Summary: "The aim of this study was to examine variations in allopathic, osteopathic, and dually accredited FM programs, and to allow them to be addressed."

Findings: "Outpatient experiences appeared similar between all types of FM residency programs. Key differences included smaller program size and more months of surgical experience in osteopathic programs. These differences may become increasingly important as osteopathic programs strive to meet accreditation requirements."

American Osteopathic Association, American Association of Colleges of Osteopathic Medicine. Joint Statement of Principles on the Relationship between Undergraduate and Graduate Osteopathic Medical Education. 2008.

Summary: AACOM and the AOA have prepared this Joint Statement to explain and clarify the relationship between predoctoral and postdoctoral osteopathic medical education as articulated by participants in Medical Education Summit II.