



**VICTORIA UNIVERSITY**  
MELBOURNE AUSTRALIA

*Systematic reviews of osteopathic care: protocol for an umbrella review*

This is the Published version of the following publication

Vaughan, Brett, Fleischmann, Michael, Cerritelli, Francesco, Draper-Rodi, Jerry, Feehan, Jack, Ferreira, Ana Paula, McLeod, Gopi, Morin, Chantal, Muddle, Lee, Sampath, Kesava, Thomson, Oliver P, Tripodi, Nicholas, Steel, Amie and Adams, Jon (2024) Systematic reviews of osteopathic care: protocol for an umbrella review. *Physical Therapy Reviews*, 29 (1-3). ISSN 1083-3196

The publisher's official version can be found at  
<https://www.tandfonline.com/doi/full/10.1080/10833196.2024.2321558>  
Note that access to this version may require subscription.

Downloaded from VU Research Repository <https://vuir.vu.edu.au/48548/>



## Systematic reviews of osteopathic care: protocol for an umbrella review

Brett Vaughan, Michael Fleischmann, Francesco Cerritelli, Jerry Draper-Rodi, Jack Feehan, Ana Paula Ferreira, Gopi McLeod, Chantal Morin, Lee Muddle, Kesava Sampath, Oliver P. Thomson, Nicholas Tripodi, Amie Steel & Jon Adams

**To cite this article:** Brett Vaughan, Michael Fleischmann, Francesco Cerritelli, Jerry Draper-Rodi, Jack Feehan, Ana Paula Ferreira, Gopi McLeod, Chantal Morin, Lee Muddle, Kesava Sampath, Oliver P. Thomson, Nicholas Tripodi, Amie Steel & Jon Adams (2024) Systematic reviews of osteopathic care: protocol for an umbrella review, *Physical Therapy Reviews*, 29:1-3, 1-4, DOI: [10.1080/10833196.2024.2321558](https://doi.org/10.1080/10833196.2024.2321558)

**To link to this article:** <https://doi.org/10.1080/10833196.2024.2321558>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



[View supplementary material](#)



Published online: 29 Feb 2024.



[Submit your article to this journal](#)



Article views: 1027




[View related articles](#)



[View Crossmark data](#)

## Systematic reviews of osteopathic care: protocol for an umbrella review

Brett Vaughan<sup>a,b,c</sup> , Michael Fleischmann<sup>a,d</sup> , Francesco Cerritelli<sup>a,e</sup> , Jerry Draper-Rodi<sup>a,f</sup> , Jack Feehan<sup>a,g</sup> , Ana Paula Ferreira<sup>a,h</sup> , Gopi McLeod<sup>a,c</sup> , Chantal Morin<sup>a,i</sup> , Lee Muddle<sup>a</sup> , Kesava Sampath<sup>a,j</sup> , Oliver P. Thomson<sup>a,f</sup> , Nicholas Tripodi<sup>a,g</sup> , Amie Steel<sup>a</sup>  and Jon Adams<sup>a</sup> 

<sup>a</sup>School of Public Health, University of Technology Sydney, Sydney, New South Wales, Australia; <sup>b</sup>Department of Medical Education, University of Melbourne, Melbourne, Victoria, Australia; <sup>c</sup>Faculty of Health, Southern Cross University, Lismore, New South Wales, Australia; <sup>d</sup>School of Health & Biomedical Sciences, RMIT University, Melbourne, Victoria, Australia; <sup>e</sup>Clinical-Based Human Research Department, Foundation C.O.M.E. Collaboration, Pescara, Italy; <sup>f</sup>University College of Osteopathy, London, UK; <sup>g</sup>Institute for Health and Sport, Victoria University, Melbourne, Victoria, Australia; <sup>h</sup>Instituto Brasileiro de Osteopatia, Rio de Janeiro, Brazil; <sup>i</sup>School of Rehabilitation, Faculty of Medicine and Health Sciences, Université de Sherbrooke, Sherbrooke, Quebec, Canada; <sup>j</sup>Centre for Health and Social Practice, Waikato Institute of Technology, Hamilton, New Zealand

### ABSTRACT

**Background:** The practice of osteopathy differs around the world. However, the dominant practice is that of manual therapy interventions guided by assessment of the neuromusculoskeletal system. Patient populations treated by osteopaths vary across the lifespan and include groups with more-nuanced care requirements such as those who are pregnant. The volume of evidence for osteopathy care is increasing.

**Objectives:** This umbrella review seeks to identify systematic reviews of osteopathic care with the purpose of highlighting current knowledge about the high-level evidence underpinning the profession.

**Methods:** The umbrella review will be conducted consistent with the Joanna Briggs Institute umbrella review methodology. Articles will be limited to those describing osteopathic care. An initial search did not identify a similar study and nor is one registered. A search of MEDLINE and CINAHL informed the search syntax. A full search will be performed across MEDLINE (PubMed), CINAHL (EBSCO), Scopus, Web of Science, PEDro, Osteopathic Research Web, AMED, Index to Chiropractic Literature, Cochrane Database of Systematic Reviews, and the Osteopathic Medicine Digital Repository (OSTMED.DR). The reference lists of included articles will be reviewed to identify potentially relevant systematic reviews. Data will be extracted from each systematic review and presented in tabular format.

**Conclusion:** The umbrella review will synthesise what is known about osteopathic care as described in systematic reviews. The review will inform stakeholders about the role of osteopathic care in the health system and provide recommendations for future research. The findings will be submitted for peer-review publication.

### ARTICLE HISTORY

Received 15 June 2021  
Accepted 2 February 2024

### KEYWORDS



Allied health;  
musculoskeletal;  
osteopathic; medicine;  
osteopathic physician


## Introduction

Osteopathy, osteopathic medicine [1] or osteopathic healthcare, is 'based on a perception of the body as an integrated whole, and it is often claimed to be a 'person-centered' rather than 'disease-centered' approach to the prevention, diagnosis and treatment of illness and injury' [2, p.5]. This broad definition of osteopathy appears to be largely consistent with many other contemporary manual healthcare disciplines that align themselves with the biopsychosocial model [e.g. 3,4], and in the case of osteopathy, is based on clinicians' conceptions of their practice

[5]. However, the definition fails to highlight the actual practices and 'illness and injury' for which osteopathic care is utilised or is beneficial. Both qualitative [5–9] and quantitative [10] research demonstrate the varied practice of osteopathy around the world, particularly how the profession is positioned in a respective countries health system, how the practice is regulated, and the conditions managed by osteopaths, may lead to such a broad definition.

Although the clinical practice of osteopathy appears to vary around the world [10], the primary intervention for most osteopaths has traditionally been hands-on manual therapy approaches to

**CONTACT** Brett Vaughan  [Brett.vaughan@unimelb.edu.au](mailto:Brett.vaughan@unimelb.edu.au)  Department of Medical Education, University of Melbourne, Parkville, VIC, 3010, Australia.

 Supplemental data for this article can be accessed online at <https://doi.org/10.1080/10833196.2024.2321558>.

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (<http://creativecommons.org/licenses/by-nc-nd/4.0/>), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

assessment and treatment. This assertion is supported by recent evidence from across the globe [11–20]. Within the broad descriptor of manual therapy, osteopaths utilise a range of individual techniques including (but not limited to): high velocity low amplitude joint manipulations, muscle energy techniques, soft tissue techniques (i.e. massage, stretching), functional techniques, myofascial techniques, techniques applied to the viscera and Osteopathy in the Cranial Field [1, 10]. The literature describing the practice of osteopaths also reports the use of other interventions including exercise rehabilitation [21], advice about nutrition and diet [14, 18], counselling [18], pain education [22, 23], and general health promotion such as the benefits of physical activity, and the negative effects of alcohol and smoking on health [11, 14, 24].

Research describing the practice of osteopaths and osteopathic physicians reports the most commonly treated conditions are those that affect the neuromusculoskeletal system [10]. Low back pain, neck pain and headaches appear to be the most common presentations to osteopaths worldwide [10], with osteopathic care for low back and neck pain reported to be cost-effective [25]. Osteopaths are also reported to manage a variety of upper and lower extremity musculoskeletal issues [10], and there is evidence of osteopaths treating non-musculoskeletal complaints albeit for a small percentage of patients [e.g. 13]. Practice profiles suggest osteopathic care is primarily sought by adults [10]. Within this adult group are subgroups who access osteopathic care including pregnancy patients [26], workers compensation patients [27], traffic accident and older patients [28], migraine patients [29] and cancer patients seeking complimentary care [30]. There is also evidence of osteopathic care for paediatric populations [e.g. 31]. The variety in patient presentations and subgroups suggests osteopaths are providing care to a cross-section of the population for predominantly musculoskeletal complaints.

The evidence base for osteopathic care continues to develop. Recently published research using various methodologies is increasing knowledge of many aspects of osteopathic care. Given the emerging evidence in support of osteopathic care for a range of health conditions, synthesis of the available high-level evidence would be timely. This umbrella review aims to synthesise the systematic reviews of osteopathic care and practice to inform future research, provide practitioners with evidence to inform their practice and highlight the role of osteopathy in the healthcare system. A preliminary search of PROSPERO, MEDLINE, the Cochrane Database of Systematic Reviews and the *JBI Evidence Synthesis* was conducted and no current or in-progress

umbrella reviews on the topic were identified. Therefore, the objective of this review is to summarise the high-level (systematic review) evidence of osteopathic care across the breadth of patient groups and conditions for which this care is sought.

## Review question

What is known about the outcomes and impact of osteopathic care described in systematic reviews?

## Inclusion criteria

This umbrella review will include only those systematic reviews (including meta-analyses where available) where the primary aim is to summarise the evidence for osteopathic care of a particular complaint, issue or in a particular population, that have been published in a peer-review journal and in which the full-text is available. Eligible articles can be published in English, Spanish, Portuguese, French, or Italian.

## Methods

The proposed umbrella review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for umbrella reviews [32]. The umbrella review has been registered with Open Science Framework (OSF) Registries [33].

The search strategy aims to locate published systematic reviews. An initial search of MEDLINE (PubMed) and CINAHL was undertaken to identify articles on the topic. The text words contained in the titles and abstracts of relevant articles, and the index terms used to describe the articles were used to develop a full search strategy for MEDLINE (see [Appendix A](#)). The search strategy, including all the identified keywords and index terms, will be adapted for each included information source. The reference lists in articles selected for full-text review will be screened for additional papers. A search of Google Scholar will also be undertaken to identify papers not obtained during database searches.

To be eligible for inclusion, the article must describe osteopathic care or practice as the primary ‘intervention’, and the intervention(s) must be performed by osteopaths. There is no limitation on the papers described or the study designs in eligible systematic reviews. Systematic reviews including osteopathic care as part of the article alongside other modalities (i.e. physiotherapy, chiropractic), will be excluded. Only those articles published in English, Spanish, Portuguese, French, and Italian will be included. Articles published from January 2000 to the present will be included to ensure the scoping review reflects contemporary evidence. The

databases to be searched include MEDLINE (PubMed), CINAHL (EBSCO), Scopus, Web of Science, PEDro, Osteopathic Research Web, AMED, Index to Chiropractic Literature, Cochrane Database of Systematic Reviews, and the Osteopathic Medicine Digital Repository (OSTMED.DR).

### Study/source of evidence selection

Following the search, all identified records will be collated and uploaded to EndNote X9 (Clarivate Analytics, USA). The EndNote library will be exported to Covidence ([www.covidence.org](http://www.covidence.org)) and duplicates removed. Following a pilot test, titles and abstracts will be screened by two independent reviewers against the eligibility criteria for the review. Potentially relevant papers will be retrieved in full. The full text of selected citations will be assessed in detail against the eligibility criteria by two independent reviewers. Reasons for exclusion of full-text papers that do not meet the inclusion criteria will be recorded and reported in the umbrella review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion with a third reviewer. The results of the search will be reported in full in the final umbrella review, and presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses guidelines (PRISMA) flow diagram [34].

### Data extraction

Data will be extracted from papers included in the umbrella review by two independent reviewers using a data extraction tool developed by the reviewers. The data extracted will include specific details about the research question, country of origin of first named author, date of publication, open access publication or subscription publication, patient population or body region, databases included, inclusion of non-English language literature, inclusion of grey literature, number of included studies, type(s) of included studies, and systematic review conclusion relevant to the review question. A draft extraction tool is provided (See [Appendix B](#)). The draft data extraction tool will be modified and revised as necessary during the process of extracting data from each included paper. Modifications will be detailed in the full umbrella review. Any disagreements that arise between the reviewers will be resolved through discussion or with a third reviewer. Authors of papers will be contacted to request missing or additional data, where required.

### Data analysis and presentation

Quality appraisal of the included systematic reviews will be conducted using the AMSTAR2 checklist

[35] available at [https://amstar.ca/Amstar\\_Checklist.php](https://amstar.ca/Amstar_Checklist.php). A total score for the AMSTAR2 will not be generated but individual items reported for each included systematic review alongside an 'rating of overall confidence in the results of the review' [35, p. 6]. Extracted data will be summarised in table form and a narrative summary of the tabulated data will be included.













### Disclosure statement

The authors report no conflict of interest.

### Funding

The author(s) reported there is no funding associated with the work featured in this article.

### ORCID

Brett Vaughan  <http://orcid.org/0000-0002-8623-4558>  
 Michael Fleischmann  <http://orcid.org/0000-0002-2152-1193>  
 Francesco Cerritelli  <http://orcid.org/0000-0002-2963-9620>  
 Jerry Draper-Rodi  <http://orcid.org/0000-0002-1900-6141>  
 Jack Feehan  <http://orcid.org/0000-0002-9627-1299>  
 Ana Paula Ferreira  <http://orcid.org/0000-0002-6464-3473>  
 Gopi McLeod  <http://orcid.org/0000-0001-7356-4569>  
 Chantal Morin  <http://orcid.org/0000-0002-0482-8513>  
 Lee Muddle  <http://orcid.org/0000-0002-8435-3721>  
 Kesava Sampath  <http://orcid.org/0000-0001-9908-3659>  
 Oliver P. Thomson  <http://orcid.org/0000-0003-3062-9056>  
 Nicholas Tripodi  <http://orcid.org/0000-0001-5062-0409>  
 Amie Steel  <http://orcid.org/0000-0001-6643-9444>  
 Jon Adams  <http://orcid.org/0000-0002-9901-5717>

### References

1. World Health Organization. Benchmarks for training in osteopathy. [Internet]. Geneva: World Health Organisation. 2010 [cited 2013 July 20]. Available from: <https://www.who.int/publications/i/item/9789241599665>
2. Osteopathic International Alliance. Osteopathic healthcare: global review of osteopathic medicine and osteopathy 2020 [Report]. Chicago, USA 2020. Available from: <https://oialliance.org/the-oia-global-report-global-review-of-osteopathic-medicine-and-osteopathy-2020/>.
3. Daluiso-King G, Hebron C. Is the biopsychosocial model in musculoskeletal physiotherapy adequate? An evolutionary concept analysis. *Physiother Theory Pract.* 2020;38(3):373–389. doi:10.1080/09593985.2020.1765440.
4. Gliedt JA, Schneider MJ, Evans MW, et al. The biopsychosocial model and chiropractic: a commentary with recommendations for the chiropractic profession. *Chiro Man Thera.* 2017;25(1)
5. Thomson OP, Petty NJ, Moore AP. Osteopaths' professional views, identities and conceptions; a qualitative grounded theory study. *Int J Osteopath Med.* 2014;17(3):146–159. doi:10.1016/j.ijosm.2013.12.002.
6. Thomson OP, Petty NJ, Moore AP. Clinical decision-making and therapeutic approaches in osteopathy—a qualitative grounded theory study. *Man*



- Ther. 2014;19(1):44–51. doi:10.1016/j.math.2013.07.008.
7. Orrock PJ. The patient experience of osteopathic healthcare. *Man Ther.* 2016;22:131–137. doi:10.1016/j.math.2015.11.003.
  8. Grace S, Orrock P, Vaughan B, et al. Understanding clinical reasoning in osteopathy: a qualitative research approach. *Chiro Man Thera.* 2016;24(6)
  9. Formica A, Thomson OP, Esteves JE. ‘I just don’t have the tools’ - Italian osteopaths’ attitudes and beliefs about the management of patients with chronic pain: a qualitative study. *Int J Osteopath Med.* 2018;27:6–13. doi:10.1016/j.ijosm.2017.11.001.
  10. Ellwood J, Carnes D. An international profile of the practice of osteopaths: a systematic review of surveys. *Int J Osteopath Med.* 2021;40:14–21. doi:10.1016/j.ijosm.2021.03.007.
  11. Adams J, Sibbritt D, Steel A, et al. A workforce survey of Australian osteopathy: analysis of a nationally-representative sample of osteopaths from the osteopathy research and innovation network (ORION) project. *BMC Health Serv Res.* 2018;18(1):352. doi:10.1186/s12913-018-3158-y.
  12. Alvarez Bustins G, López Plaza P-V, Carvajal SR. Profile of osteopathic practice in Spain: results from a standardized data collection study. *BMC Complement Altern Med.* 2018;18(1):129. doi:10.1186/s12906-018-2190-0.
  13. Alvarez G, Roura S, Cerritelli F, et al. The Spanish osteopathic practitioners estimates and RAtes (OPERA) study: a cross-sectional survey. *PLoS One.* 2020;15(6):e0234713. doi:10.1371/journal.pone.0234713.
  14. Bill A-S, Dubois J, Pasquier J, et al. Osteopathy in the French-speaking part of Switzerland: practitioners’ profile and scope of back pain management. *PLoS One.* 2020;15(5):e0232607. doi:10.1371/journal.pone.0232607.
  15. Burke SR, Myers R, Zhang AL. A profile of osteopathic practice in Australia 2010–2011: a cross sectional survey. *BMC Musculo Disorder.* 2013;14(1):227.
  16. Cerritelli F, Consorti G, van Dun PLS, et al. The Italian osteopathic practitioners estimates and RAtes (OPERA) study: how osteopaths work. *PLoS One.* 2020;15(7):e0235539. doi:10.1371/journal.pone.0235539.
  17. Morin C, Aubin A. Primary reasons for osteopathic consultation: a prospective survey in Quebec. *PLoS One.* 2014;9(9):e106259. doi:10.1371/journal.pone.0106259.
  18. Steel A, Peng W, Sibbritt D, et al. Introducing national osteopathy practice-based research networks in Australia and New Zealand: an overview to inform future osteopathic research. *Sci Rep.* 2020;10(1):846. doi:10.1038/s41598-020-57918-7.
  19. van Dun PLS, Nicolaie MA, Van Messem A. State of affairs of osteopathy in the Benelux: Benelux osteosurvey 2013. *Int J Osteopath Med.* 2016;20:3–17. doi:10.1016/j.ijosm.2016.01.003.
  20. Vaucher P, Macdonald RJD, Carnes D. The role of osteopathy in the Swiss primary health care system: a practice review. *BMJ Open.* 2018;8(8):e023770. doi:10.1136/bmjopen-2018-023770.
  21. Fleischmann M, Vaughan B, Fitzgerald K. The use of exercise prescription in Australian osteopathy practice: secondary analysis of a nationally representative sample of the profession. [Pre-print] *Authorea.* 2020. doi:10.22541/au.158259061.10113629.
  22. Fitzgerald K, Vaughan B, Fleischmann M, et al. Utilisation of pain counselling in osteopathic practice: secondary analysis of a nationally representative sample of Australian osteopaths. *Scand J Pain.* 2020;21(2):330–338. doi:10.1515/sjpain-2020-0058.
  23. Carnes D, Mars T, Plunkett A, et al. A mixed methods evaluation of a third wave cognitive behavioural therapy and osteopathic treatment programme for chronic pain in primary care (OsteoMAP). *Int J Osteopath Med.* 2017;24:12–17. doi:10.1016/j.ijosm.2017.03.005.
  24. Cerritelli F, Lunghi C, Esteves JE, et al. Osteopathy: Italian professional profile. A professional commentary by the european community of practice. *Int J Osteopath Med.* 2021;40:22–28. doi:10.1016/j.ijosm.2021.03.004.
  25. Verhaeghe N, Schepers J, van Dun P, et al. Osteopathic care for low back pain and neck pain: a cost-utility analysis. *Complement Ther Med.* 2018;40:207–213. doi:10.1016/j.ctim.2018.06.001.
  26. Frawley J, Sundberg T, Steel A, et al. Prevalence and characteristics of women who consult with osteopathic practitioners during pregnancy; a report from the Australian longitudinal study on women’s health (ALSWH). *J Bodyw Mov Ther.* 2016;20(1):168–172. doi:10.1016/j.jbmt.2015.03.004.
  27. Adams J, Peng W, Steel A, et al. Clinical characteristics of osteopaths treating work-related injuries in Australia: a cross-sectional study. *Int J Osteopath Med.* 2020;38:50–56. doi:10.1016/j.ijosm.2020.10.007.
  28. Steel A, Vaughan B, Orrock P, et al. Prevalence and profile of Australian osteopaths treating older people. *Complement Ther Med.* 2019;43:125–130. doi:10.1016/j.ctim.2019.01.013.
  29. Cerritelli F, Ginevri L, Messi G, et al. Clinical effectiveness of osteopathic treatment in chronic migraine: 3-armed randomized controlled trial. *Complement Ther Med.* 2015;23(2):149–156. Apr doi:10.1016/j.ctim.2015.01.011.
  30. Steel A, Tricou C, Monsarrat T, et al. The perceptions and experiences of osteopathic treatment among cancer patients in palliative care: a qualitative study. *Support Care Cancer.* 2018;26(10):3627–3633. doi:10.1007/s00520-018-4233-y.
  31. Castejón-Castejón M, Murcia-González MA, Martínez Gil JL, et al. Effectiveness of craniosacral therapy in the treatment of infantile colic. A randomized controlled trial. *Complement Ther Med.* 2019;47:102164. doi:10.1016/j.ctim.2019.07.023.
  32. Aromataris E, Fernandez R, Godfrey CM, et al. Chapter 10: umbrella reviews [internet]. Adelaide, Australia: Joanna Briggs Institute; 2022. Available from: <https://synthesismanual.jbi.global>
  33. Vaughan B, Fleischmann M, Cerritelli F, et al. Systematic reviews of osteopathic care: a scoping review [Internet]. 2021 [cited 2021 June 6]. Available from: <https://osf.io/sk8yv>.
  34. Aromataris E, Fernandez R, Godfrey CM, et al. Summarizing systematic reviews: methodological development, conduct and reporting of an umbrella review approach. *Int J Evid Based Healthc.* 2015;13(3):132–140. doi:10.1097/XEB.0000000000000055.
  35. Shea BJ, Reeves BC, Wells G, et al. AMSTAR 2: a critical appraisal tool for systematic reviews that include randomised or non-randomised studies of healthcare interventions, or both. *BMJ.* 2017;358:j4008. doi:10.1136/bmj.j4008.