Review Article Template

We offer this template to assist all authors of Review Articles (both systematic and narrative) being submitted to the Journal of Osteopathic Medicine *in preparing their work for efficient peer review.*

If any of the information outlined in this template is missing from your submission, your manuscript may be returned to you for resolution prior to peer review.

Systematic reviews (including metaanalyses) are strongly preferred and will receive a higher publication priority than other reviews. *Narrative reviews should be reserved for expert leaders in the field; students should avoid composing and submitting narrative reviews that lack a systematic approach to the literature search.*

We also very strongly encourage you to review our videos on [Designing and Executing a High-Quality Systematic Review](#) and [The Academic Research Cycle](#) before submitting in this category.

Review articles are highly desirable for* JOM*, but they must be undertaken to address a veritable knowledge gap that has not been covered in the existing literature and must have proper methodology.

Please refer to our [Instructions for Authors](#) for more information about various technical criteria and a more general overview of each article type.

Please also take great care to ensure that your research, data analysis, and language conform adequately to our requirements for racial and ethnic categorization of patients.

As a reminder, every Review Article must contain:
- *A separate [title page](#) with full disclosure information, as outlined below*
- *A blinded main manuscript file without identifying information for the authors and/or their institutions, to include:*
  - *A structured [Abstract](#)*
  - *An [Introduction](#) section*
  - *A [Methods](#) section*
  - *A [Results](#) section*
  - *A [Discussion](#) section, including limitations*
  - *A [Conclusions](#) section*
  - *A [References](#) section in strict AMA format with 75 or fewer references*
- *Any relevant high-quality [Figures, Tables, and Appendices](#) as separate files; [PRISMA flow diagrams](#) required*

TITLE PAGE

Article Domain Category [CHOOSE ONE]: Behavioral Health, Cardiopulmonary Medicine, General, Innovations, Medical Education, Musculoskeletal Medicine, Neuromusculoskeletal Medicine/ Osteopathic Manipulative Treatment (OMT), Obstetrics/Gynecology, Pediatrics, Public Health and Primary Care

Article Type: Review Article
\# Tables/# Figures/# Appendices

Article Title
- Each word capitalized, except prepositions

(Running Title)
- In parentheses and italicized under the main title
- A shortened version of your title that would appear in the header on a published manuscript
- No more than 50 words
    - *eg*, *(Running Title: ….)*

Author Bylines
- Periods after middle initials, comma before degrees, each author separated by semicolon
- No Fellowship credentials are permitted.
- Authors should be listed with the credentials that were valid at the time the study was completed, even if they have graduated.
    - *eg, Jane A. Johnson, MA; Janet B. Jones, DO*

Author Affiliations
- Each author should be listed with her/his affiliations on a separate line.
- The listing should include division, department, institution, city, and state where applicable.
    - *eg, Dr. Janet B. Jones, DO, A.T. Still Research Institute and the Department of Osteopathic Manipulative Medicine at the A.T. Still University Kirksville College of Osteopathic Medicine in Missouri.*
- Please add the ORCID ID for each author to her/his affiliation line and provide the Twitter handle of any authors/institutions who would like to be tagged in social media efforts to promote your work.

Financial Disclosures
- List "None reported." or detail those of each individual author.
- Payment alone is not a criterion for disclosure, nor is relevance to the study subject. All affiliations outside of regular employment disclosed in the affiliations section listed above must be disclosed here. We follow AMA guidelines for this category, which state:

    "Authors are expected to provide detailed information about all relevant financial interests, activities, relationships, and affiliations (other than those affiliations listed in the title page of the manuscript) including, but not limited to, employment, affiliation, funding and grants received or pending, consultancies, honoraria or payment, speakers' bureaus, stock ownership or options, expert testimony, royalties, donation of medical equipment, or patents planned, pending, or issued. Following the guidelines of the ICMJE, the definitions and terms of such disclosures include: (1) Any potential conflicts of interest 'involving the work under consideration for publication' (during the time involving the work, from initial conception and planning to present); (2) Any 'relevant financial activities outside the submitted work' (over the 3 years prior to submission); and (3) Any 'other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing' what is written in the submitted work (based on all relationships that were present during the 3 years prior to submission)."

Support
- List "None reported." or detail those of each individual author.
- Support includes both grants and provision of any material used in the study.
- You must provide qualitative (but not quantitative or accounting) details about how your funding was distributed for the study. This can include things like faculty protected time or patient compensation.
  - Of note, patient compensation must also be disclosed clearly in your Methods section.
  - We follow AMA guidelines for this category, which state:
    "All financial and material support for the research and the work should be clearly and completely identified in…the manuscript. At the time of submission, information on the funding source (including grant identification) must also be completed via the online manuscript submission and review system. The specific role of the funding organization or sponsor in each of the following should be specified: design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication."
  - *eg, The current study was funded by a grant from the American Osteopathic Association (grant No. ___).*

Ethical Approval
- Institutional Review Board review is unlikely to have occurred for your review article, but please disclose any oversight or approval process you used (if any).
  - This information should also be stated at the beginning of your Methods section. You may choose to blind the statement (removing the name of the institution) in that area to assure double-blinded peer review.

Informed Consent
- Your Review Article research likely did not include any informed consent for patients, and this section can be omitted unless there is an unusual/extenuating reason that informed consent pertains to your study.

Correspondence Address
- Include institution and street address with full 10-digit zip code, as well as email.
  - *eg, Address correspondence to Jane A. Johnson, MA, A.T. Still Research Institute, A.T. Still University, 800 W Jefferson St, Kirksville, MO, 63501-1443. Email: jjohnson@XX.edu*

Author Contributions
- Please provide author contributions in this exact format, adding author names where indicated by XX. All authors are required to affirm the final statement.
  - XX provided substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data; XX drafted the article or revised it critically for important intellectual content; XX gave final approval of the version of the article to be published; and ***all authors*** agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Acknowledgments
- If you are thanking anyone for contributions to your study that do not rise to the level of authorship, include the person's name, degree, and department/role, and specify what you are thanking them for.

Below: ABSTRACT

MAIN MANUSCRIPT: ABSTRACT

Review Articles must* contain a structured Abstract with the following categories. The Abstract should contain 500 words or fewer.

Context: 3-5 brief sentences providing background information about why your study was undertaken, including conflicts or gaps in the existing literature and/or standards of patient care that made it important and necessary.

Objective: Preferably 1 sentence (no more than 2) succinctly stating your goals or outcomes measures for this review. Should begin, "To…" An example: "To systematically evaluate the quality of evidence documenting the effectiveness of OMTh for patients with CNCP using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach, and to evaluate the efficacy of OMTh in patients with CNCP through a meta-analysis of pooled data from previous studies."

Methods: This section should succinctly but _fully_ describe your literature search Methods. Please take care not to include Results here. A full description would include the date you undertook the search and the date it was completed, the number and initials of authors who participated in the search, the search terms used and how they were identified (ie, MeSH), the databases (or "gray literature"/supplemental material/references) where the search terms were applied, inclusion and exclusion criteria, the screening process to select full-text articles for review, and how any disagreements among authors (about which articles should be included) were adjudicated. This section should also include a brief description of your data analysis or statistical analysis methods.

Results: This section should succinctly but _fully_ describe your Results, including a general overview of the number/type of articles included in your review, as well as the data generated from them (especially if a metaanalysis was performed). The narrative of this section should follow the pattern of a PRISMA diagram, stating the number of records identified, the number of duplicates removed, the number of records screened, the number of articles assessed in full text for eligibility, and the final number of studies included. While summary data is acceptable, numbers must be provided, and percentages must be cited to the first decimal. For meta-analysis, you must give comparative values addressing your outcomes measure(s), _P_ values where applicable, and more. Data may also include patient ages, sexes, or races/ethnicities, if that information is relevant to your study. Please take great care to ensure that your data points and language (both here and in the main text Results) conform adequately to our requirements for racial and ethnic categorization of patients.

Conclusion: 2-3 brief sentences stating the conclusions supported by your data. Please take great care not to overstate your conclusions or overreach the scope of your study.

*Narrative review articles, which are not preferred except in specific cases (and should be written by specialty experts), generally contain an unstructured Abstract. The unstructured Abstract should summarize the same items and must include at least a general description of the search methodology used to supplement and support research for the article, but will not have formal results._

BELOW: INTRODUCTION

MAIN MANUSCRIPT: INTRODUCTION

This section begins the main text of your manuscript. It is generally the portion that contains the **highest number of references to existing literature**, because it is the section used to "set the stage" for your study and **provide all background and context.** This is particularly crucial for a Review Article, because your Introduction will establish the reasons your review is necessary rather than duplicative. *Review Articles are meant to assist readers by gathering knowledge in a single place; they are not meant to repeat previous work.*

Of note, throughout your manuscript, **references must appear in chronological order** – the order in which the information they support appears in the text - beginning with 1. No reference may be skipped; references should not be listed in alphabetical order and then supplanted into the text.

Every statement in the manuscript that contains factual information must be supported by an appropriate reference. You may be asked by reviewers or the Editorial Office to support your claims/statements if references are missing; this may require adding new references and subsequently renumbering the existing list.

Review articles naturally demand a deep knowledge of prior research in your study sphere. **This section should be comprehensively referenced, as stated above, preferably with literature published within the last 10 years unless your specific topic demands historical references.**

- When you reference prior study results, you must include the population *n* for the study and any other relevant data (usually percentages) to add context. You must also take care not to present previous study results as universal, which would overstate their conclusions.
  - As an example, a sentence reading *"For instance, older nursing home residents who receive regular OMT have reduced hospitalizations and medication usage.[14]"* should become, *"For instance, in a previous study of 152 nursing home residents age 65 and older, weekly OMT sessions reduced hospitalizations and medication usage by 54% and 57%, respectively.[14]"*

- Please also take care when you are citing multiple references to ensure that the reference appears immediately next to the data it supports.
  - For example, rather than, *"This finding is consistent with existing data showing that that shows healthcare costs and utilization increase with increasing age and that women tend to have higher utilization of healthcare than men.[25-27]"* your sentence should say, *"This finding is consistent with existing data showing that healthcare costs[25] and utilization[26] increase with increasing age and that women tend to have higher utilization of healthcare than men.[27]"*

- On a similar note, there should be number agreement between your verbiage and the references.
  - If your sentence says, "In prior studies…" there should be multiple references within the sentence; otherwise, the language should be revised to the singular "study."

After reading your Introduction, reviewers (and readers, if your paper is published) should clearly understand *at least* the following:
- How your manuscript contributes to or fills a knowledge gap in the existing literature; specifically, why another article on this topic is helpful/needed
- Which studies came before that had a direct influence or impact on your study
- Whether there is 'disagreement' or controversy in the existing literature on your topic
- Which clinical observations in your own practice, if any, led to the idea for this study
- How you selected this topic

BELOW: METHODS

MAIN MANUSCRIPT: METHODS

Your Methods section should begin with basic ethical approval descriptions, if any. This may include the following aspects, although in many cases, Review Articles will not contain this information.

- A sentence or 2 about **study funding**, including grant numbers, if any.
- A sentence or 2 about **Institutional Review Board evaluation and approval**, if it was undertaken. This is unlikely with a Review Article and may be omitted if it doesn't apply.
- 2-3 sentences about **informed consent**. This is unlikely to be relevant for a Review Article and may be omitted if it doesn't apply.

You may then elect to include or forego other subcategories in this section, including things like Search Protocol, Inclusion/Exclusion Criteria, Statistical Analysis, and more. Again, these are not required, but if it makes sense to divide your Methods section into a few subcategories, please feel free to include them.

Regardless of whether subcategories are specified, your Methods section must contain (but not be limited to) the following information:

- The date you undertook the search and the date it was completed
- The number and initials of authors who participated in the search (note that you may elect to redact the initials for peer review)
- The search terms you used and how they were identified (ie, MeSH)
- The databases (or "gray literature"/supplemental material/references) where the search terms were applied
- Inclusion and exclusion criteria
- The screening process you applied to titles or abstracts to determine which would be selected for full-text review, and how many authors participated in the screening process
- How any disagreements among authors about which articles should be included were adjudicated
- A brief description of your data analysis or statistical analysis methods, if you are conducting a meta-analysis; this should include descriptions of your statistical software, each statistical analysis test, and any other relevant information

As a reminder, your PRISMA chart should be referenced in this portion of the text (although the Figure itself should not appear until the end). It should demonstrate the flow of articles through your study and can be a good guide to ensuring you've adequately described each step in the process in your narrative Methods section.

A word on ethical reporting: please take care to ensure that any demographic information you report in your literature review or analyze in your meta-analysis relevant as it pertains to race and ethnicity. While you will not have control over whether the original authors of studies included in your literature review adhered to these requirements, we encourage you to consider them critically when discussing the results; be clear in your text about areas where you were not able to adhere to them yourself because data was unavailable. Our requirements are as follows:

- "Because many individuals may have mixed heritage, a racial or ethnic distinction should not be considered absolute, and ideally it should be based on a person's self-designation." [AMA]
- Authors must disclose who classified participants' race/ethnicity, which categories or classifications were used, and whether the options were predetermined (and by whom).
- "Non-" convenience categories will not be used when discussing race or reporting results, in both text and Tables/Figures.
- "The reasons that race/ethnicity were assessed in the study also should be described (eg, in the Methods section and/or in table footnotes)." [AMA] It is no longer adequate to assess or report participant race and ethnicity without a burden of proof as to its necessity.

When preparing your manuscript, please consider the following guidelines from the AMA:
- Rather than say a patient has a complaint, describe the patient's primary concern.
- Do not use shorthand (eg, exam for examination, preemie for premature infant, prepped for prepared).
- Patients aren't "put on" medication, they're managed with medication. Further, conditions are treated, but patients are managed.

In short, your Methods should fully describe your literature review such that a reader could entirely reproduce it.

Common mistakes in the Methods section include:
- Neglecting to include full information about your search databases, search terms, suitability assessment protocols (and who participated; may be redacted during peer review), inclusion/exclusion criteria, and a PRISMA diagram
- Omitting a description of your data analysis methods, including which authors participated (by initials; may be concealed during peer review)
- Omitting a description of your statistical analysis (including power analysis) methods if you are conducting a meta-analysis
- Including Results (or referencing Figures/Tables that present Results); for a literature review, the error would involve describing the findings of studies you've included, rather than describing your own search methods

BELOW: RESULTS

MAIN MANUSCRIPT: RESULTS

Narrative review articles, which are not preferred except in specific cases (and should be written by specialty experts), will not have formal results. Narrative review articles should contain a Methods section as described above, but then be divided into topic/discussion areas. The description below pertains to systematic literature reviews, which are strongly preferred.

The Results section is, of course, where you fully present your summary of your review findings.

This section can take 1 of 2 forms:
- Results can be grouped by topic area (eg, all the results from 8 studies grouped into OMT Safety and OMT Efficacy, or something similar)
- More commonly, results are grouped by study (eg, describe study no. 1's findings on safety and efficacy; then describe study no. 2's findings on safety and efficacy; and so on)

Neither is more strongly preferred than the other, but the higher the number of studies you include in your review, the more likely it is that you'll need (or want) to group results by topic rather than fully describing each study.

It is essential to include all major information about each study, such that a reader can place the results in context. For example, it is unacceptable to describe the results of a prior study without reporting the overall study population. Likewise, it is unacceptable to report efficacy (or any other outcome) without providing comparative statistics to support any conclusive statement.

The "job" of a literature review is not to give an overview or general report; rather, it is to gather the existing data in a single place and report comprehensively on the ways the data is definitive, the ways it is controversial, where the gaps exist, what research is currently needed, and more. It should represent, as fully as possible, the "state of the science" in your particular topic area.

As noted elsewhere in this document, we strongly encourage the inclusion of a table showing all relevant data points and outcomes measures for each study included in your review.

This narrative presentation must:
- Include full and transparent reporting of *all* data, not just percentage or n values – both must be given. Means, medians, ranges, standard deviations, *P* values, and confidence intervals should all be reported consistently and transparently where available. *Please carefully review this example.*
  - eg, *"Notably, neonates in the OMT group were never intubated, but about half (53%) of historical controls had been intubated for a median of 2 days (P=.01)."* This sentence is missing an n value to correlate with 53%, and it does not include a range or mean alongside the median. It does not include the number of neonates in the OMT group. Further, the percentage is rounded without the first decimal (see below). Finally, it includes "notably" in the sentence, which strays into the area of context and importance, both of which should be reserved for the Discussion (see below). Revised appropriately, the sentence would read, *"None of the 9 neonates (0%) in the OMT group were intubated, but 19 of 36 (52.8%) of historical controls had been intubated for a median of 2 days (mean, 1.8 days; range, 1-5 days; P=.01)."*
- Not solely rely on Figures or Tables, which are meant to succinctly summarize and support data already presented in the narrative section. *If you present it in a Figure or Table, it must also be presented in the narrative form.*
- Include "call-outs" to Figures and Tables where appropriate.
- Contain values carried through to the first decimal point (eg, 1.1, not 1 or 1.06).
- Include all relevant data and articles, not just "positive" results (ie, those that supported your hypothesis or have statistical significance).
- Include quantitative support (ie, data) for any claim of significance.
- Include data for both groups when a comparison is made, especially for gender and racial/ethnic comparisons.

- Please use an equitable approach in reporting data. It is no longer sufficient to report only majorities and leave readers to calculate minority data, since this presupposes the majority (whether race or sex) as the default. Where the number of White participants is reported, so must the number of other participants be reported with equal clarity. If the original study does not contain this information, note that in the narrative description.
- "Non-" convenience categories should not be used when discussing race or reporting results, in both text and Tables/Figures. If the original study relied on convenience categories, note that in the narrative description.
- Black and African American are not equivalent, nor are Hispanic and Latino or similar racial categories. African American and Hispanic designations relate to countries of origin, and unless patients are specifically queried about country of birth, these categorizations are potentially inaccurate. However, you must also accurately report the data as it was originally presented. Therefore, in your Results section, you must note in the narrative whether the racial/ethnic categories used by the authors were clear, accurate, and consistent across studies, especially if you are performing a meta-analysis where race demographics play a role.

Common mistakes in the Results section of a literature review include:
- Giving a "book report" of previous research
- Making summary statements about outcomes measures without providing data from the original studies
- Beginning discussion of the importance of certain results or providing context for them, which should happen in the Discussion only
- Neglecting to present data in the narrative text, referring readers solely to Figures or Tables to find the data you reference

BELOW: DISCUSSION

MAIN MANUSCRIPT: DISCUSSION

*Narrative review articles, which are not preferred except in specific cases (and should be written by specialty experts), will not have formal results; therefore, they are often divided into larger sections where basic concepts and ideas are described with supporting references. Often, this overarching discussion renders a formal Discussion section somewhat extraneous. That being said, we do encourage inclusion of at least a brief Discussion section to put the information in context.

While your Introduction provides an opportunity to present the background of your research, your Discussion provides an opportunity give context to your literature review Results, explain their significance, highlight unique or unusual aspects of what you found, and showcase the similarities and differences among previous research.

In essence, your Discussion tells your reader why collecting this data in a single place was important – and where further research is needed.

There is no firm guideline about the length of a Discussion in any paper. You may use as much space as you need, within overall word count constraints for your article type, to discuss and contextualize your study. However, the Discussion should not be redundant. Please refrain from restating (other than to briefly call readers' attention to it if you need to explain a specific aspect) information that has been presented elsewhere in the manuscript. The Discussion is not a place to "rehash" Results without context.

<u>Your Discussion is also a good place to highlight the ways you think your literature review is clinically applicable – and to specify the type of osteopathic physicians who might use it.</u>

You must also forthrightly discuss your study's limitations in your Discussion section, preferably with a subsection labeled "Limitations."

Common mistakes in the Discussion section include:
- Claiming primacy ("first," "only," etc.)
- Overstating the significance of the results
- Restating information you've already shared, most commonly in the Introduction or the Results
- Neglecting to adequately outline the ways the articles you reviewed are similar to or different from one another, and where future research is needed
- Neglecting to adequately outline your review's natural biases or limitations

BELOW: CONCLUSIONS

MAIN MANUSCRIPT: CONCLUSIONS

Your Conclusions section should be brief – usually no more than 7 sentences long.

It should contain no new information: no new results, no new references, no new items for context or discussion.

It should be an efficient statement of what you found in your review, what the significance of these collective findings is, and how your study might benefit osteopathic medical practice.

Common mistakes in the Conclusions section include:
- Including new data
- Including references
- Overstating the significance of your results
- Restating information you've already shared, most commonly in the Discussion or Results

REFERENCES

References must be supplied in strict AMA format and must contain a DOI link at the end of the reference (where available).

This link should assist you in formatting your references properly before submission. Note that there are separate tabs available at the link for each type of reference source.

References *must be* numbered in the order in which they appear in the text. They *must be* consecutive, with no missing references. Your article may be returned to you before peer review if the references are numbered improperly.

BELOW: FIGURES, TABLES, AND APPENDICES

FIGURES, TABLES, AND APPENDICES

Appropriate Figures and Tables are encouraged to support (but not replace) your text.

For Review Articles, we *require* a PRISMA chart demonstrating the flow of articles through your study. This diagram includes the number of records identified and the number included and excluded after application of your preselected criteria at each phase.

If you are conducting a meta-analysis, you should also provide a detailed table with relevant population, methods, and outcomes information from each study you are including in the analysis.

All Figures must be supplied in a high-quality format; please see the Figures and Tables section on our main Instructions for Authors page for details.

Tables can be submitted in a single, separate Word document (utilizing the "Tables" feature in your Microsoft Word document).

Figures should be submitted individually as image files.

Every Table should have a title; every Figure should have a descriptive Legend that can be clearly understood by the reader without referencing the main text of the document.

Tables should include all pertinent data (eg, n, *P* value, percentage, standard deviation, etc.) carried through to the first decimal.

If any portion of a Figure or Table has been previously published, you must obtain permission to reprint before submission, and include the form as part of your submission to *JOM*. You must also disclose this in your Figure or Table legend.

You are permitted to include Appendices of any variety – article review/rating forms, tables showing extended descriptions of the study content and outcomes of the articles included in your review, and more. These will be published online alongside your main article but will not be copyedited for content.