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A half-century of the *Journal of Endodontics* — Part 3: an evidence-based appraisal of author guidelines based on international standards and benchmark journals

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Abstract

Objective: As the *Journal of Endodontics* (JOE) marks its fiftieth anniversary, a valuable opportunity arises to evaluate and modernize its author guidelines in alignment with contemporary standards for transparency, reproducibility, and editorial integrity.

Methods: This study built on previous bibliometric and scientometric analyses of the JOE and provided a structured assessment of its 2024–2025 author guidelines. Comparative benchmarking was performed against three leading journals, including The Lancet, Periodontology 2000, and International Endodontic Journal. The guidelines were assessed for alignment with nine internationally recognized editorial frameworks: EQUATOR Network, COPE, ICMJE, CRediT, FAIR Principles, the AMA Manual of Style, Vancouver/NLM Standards, ORCID, and TOP Guidelines.

Results: The JOE demonstrates several editorial strengths, including detailed formatting instructions, a clearly structured manuscript framework, and explicit policies regarding the use of generative artificial intelligence (AI). It also offers optional support for CRediT. Nevertheless, the author guidelines should be regularly reviewed and updated to remain current, clear, and concise. Consideration is also suggested for adopting the report of ethical standards (as outlined by COPE or the ICMJE), the application of EQUATOR Network guidelines, the mandatory requirements for ORCID iDs, data availability statements, and standardized contributor role disclosures.

Conclusions: JOE would benefit from a review and revision of author guidelines based on evidence-based recommendations informed by global standards and frameworks to strengthen editorial integrity, improve submission quality, and support compliance with indexing requirements.

Keywords: Author guidelines, Authorship, Editorial policies, Endodontics, Ethics, ICMJE

Introduction

As the *Journal of Endodontics* (JOE) reaches its fiftieth anniversary, a valuable opportunity arises to review its author guidelines and assess their alignment with contemporary standards for transparency, reproducibility, and editorial integrity. In today's publishing environment, author guidelines serve not only as submission checklists but also as instruments of editorial transparency, methodological rigor, and ethical accountability. When clearly written and aligned with international frameworks, such guidelines can enhance submission quality, promote consistency in peer review, and support compliance with indexing and funding requirements. Conversely, unclear or outdated instructions may hinder reproducibility, compromise research integrity, and diminish a journal's credibility (1).

Studies have shown that many biomedical journals fall short in adopting and enforcing clear, structured author guidelines. Hoffmann et al. (2) found that only 14% of journals provided adequate information on reporting clinical interventions, and fewer than 5% supported the submission of supplementary materials such as protocols. Simera et al. (1) similarly noted limited use of standardized reporting tools, including those promoted by the EQUATOR (Enhancing the QUAlity and Transparency Of Health Research) Network. More recently, Ganjavi et al. (3) observed inconsistencies in journal policies on generative artificial intelligence (AI), with many failing to follow guidance from the

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Committee on Publication Ethics (COPE). These findings reflect a widespread gap between editorial expectations and actual policy implementation. This gap could have important implications for specialty journals like JOE. As the official publication of the American Association of Endodontists (AAE), the JOE plays a critical role in shaping research dissemination and informing clinical guidelines in the field (4).

This study aimed to evaluate the JOE's 2025 author guidelines through a structured content analysis, identify areas for improvement, and propose evidence-based revisions. The appraisal incorporates two complementary strategies. First, it benchmarks the JOE author guidelines against those of three leading journals representing medicine, dentistry, and endodontics. Second, the JOE's policies are assessed for alignment with nine internationally recognized editorial frameworks.

Currently, the JOE author guidelines available on the journal's website contain some inconsistencies and redundancies that hinder their usability (5). Furthermore, the presence of two separate links to author guidelines, one hosted by JOE and another on the AAE website, may cause confusion for authors, as the instructions differ between the two sources (4, 5). This paper therefore proposes a more concise, consistent, and user-friendly revision of the JOE author guidelines to enhance clarity, accessibility, and alignment with international standards.

Materials and methods

Ethical approval

This structured comparative content analysis study was approved as Non-Human Subject Research (NHSR) by the Institutional Review Board (IRB) / Ethics Committee of West Virginia University, Morgantown, WV, USA (Protocol #0887).

Data sources and selection

The appraisal evaluated the 2024–2025 author guidelines published by the JOE (5). To benchmark these guidelines, three exemplary journals were selected based primarily on their high 2025 impact factors (IF), along with their recognized editorial leadership and disciplinary relevance (6). The Lancet (IF: 109; Medicine, General & Internal) was chosen as one of the world's most prestigious and influential medical journals (7). Periodontology 2000 (IF: 17.8; Dentistry, Oral Surgery & Medicine) was included as the highest-impact journal in the field of dentistry (8). *The International Endodontic Journal* (IF: 6.4; Dentistry, Oral Surgery & Medicine, with a specific focus on endodontics) was included because it holds the highest IF among endodontic journals (9). These three journals serve as benchmark references for evaluating the JOE's alignment with current best practices in scholarly publishing (7-9).

In addition, the JOE's policies are assessed for alignment with nine internationally recognized editorial frameworks: the EQUATOR Network (10), COPE guidelines (11), ICMJE (International Committee of Medical Journal Editors) recommendations (12), CRediT (Contributor Roles Taxonomy) (13), FAIR (Findability, Accessibility, Interoperability, Reusability) Principles (14), the AMA Manual of Style, 11th edition (American Medical Association) (15), Vancouver/NLM (National Library of Medicine) Standards (16), ORCID (Open Researcher and Contributor ID) (17), and the TOP (Transparency and Openness Promotion) Guidelines (18). Table 1 provides a summary of the key characteristics and objectives of these frameworks.

The appraisal focused on seven thematic domains derived from these frameworks, including ethics and editorial integrity, authorship and contributor roles, reporting standards and transparency, data availability and reusability, AI tool use and digital ethics, reference style and citation formatting, and author identification and metadata standards.

Results

Ethics and editorial integrity (compared with COPE Core Practices and ICMJE Editorial Ethics)

The JOE provides general ethical guidance on conflicts of interest and scientific misconduct and plagiarism (5). The formal standards for ethics are set by the COPE or the ICMJE (11, 12). The COPE Core Practices consist of ten foundational principles that address key areas of editorial responsibility, including misconduct, authorship and contribution, data transparency, ethical oversight, and post-publication corrections (11). It is recommended that JOE include in the guidelines a link to COPE guidance or outline formal procedures for managing ethical concerns such as image manipulation, redundant publication, data falsification, authorship disputes, editorial misconduct, or post-publication actions such as corrections and retractions, as well as procedures for handling duplicate submission and protecting research participants (5, 11).

The JOE also refers to the ICMJE's uniform manuscript requirements (5, 12). This reference could be more clearly highlighted in a revised version of the guidelines. Indexing services such as PubMed Central, Scopus, and DOAJ (Directory of Open Access Journals) increasingly

Table 1. Key characteristics of major international editorial frameworks

Framework	Full Name	Scope	Year Introduced	Key Founders/Sponsoring Institutions
ICMJE	International Committee of Medical Journal Editors	Recommendations for authorship, disclosures, trial registration, and ethical manuscript preparation.	1978 (Renamed 2008)	Editors from Annals of Internal Medicine, BMJ, JAMA, NEJM, and The Lancet
COPE	Committee on Publication Ethics	Provide guidance on best practices in publication ethics.	1997	Michael Farthing, Richard Smith, and Liz Wager (Founding editors)
EQUATOR Network	Enhancing the QUAlity and Transparency Of health Research	Promote transparent and accurate reporting of health research to enhance reliability and value.	2006	Doug Altman, David Moher, UK NHS, and University of Oxford
TOP Guidelines	Transparency and Openness Promotion Guidelines	Promote transparency in research.	2015	Brian Nosek, Center for Open Science
CRediT	Contributor Roles Taxonomy	Standardize definitions of author contributions to improve transparency in collaboration.	2014 (Pilot in 2012)	NISO, CASRAI, and Elsevier
ORCID	Open Researcher and Contributor ID	Unique identifier for researchers.	2012	ORCID Inc. (Consortium including Nature Publishing Group, Thomson Reuters)
AMA Manual of Style	American Medical Association Manual of Style	Consistent format for references in biomedical journals.	1962 (First edition)	American Medical Association
Vancouver/NLM Standards	Vancouver Referencing Style and National Library of Medicine Standards	Provide a consistent format for references in biomedical journals, especially in PubMed-indexed publications.	1978 (Formalized 1979)	ICMJE (Originated at 1978) and NLM (Later refinements)
FAIR Principles	Findable, Accessible, Interoperable, Reusable Principles	Guidelines for data management and sharing.	2016	Mark Wilkinson, Susanna-Assunta Sansone, and FORCE11 Community

UK NHS: UK's public health system; supports health research initiatives.
Center for Open Science: Nonprofit advancing research transparency and reproducibility.
NISO: U.S. nonprofit developing publishing and library standards.
CASRAI: Former nonprofit for research data standards; work now maintained by NISO.
FORCE11: Community promoting better scholarly communication and data sharing.

require compliance with ethical standards and policies in their evaluation criteria. Including ethical requirements, in particular, could benefit JOE's long-term indexing eligibility, institutional credibility, and attractiveness to prospective authors.

While COPE and ICMJE both emphasize the need for transparency regarding embargoes and prepublication communication, they do not prescribe specific durations (11, 12). Recommending that JOE articulate a clear embargo policy would be ethically consistent with these frameworks. Doing so would enhance policy transparency, support funder compliance, facilitate archiving, and promote fair access to endodontic research.

In comparison, The Lancet (7), Periodontology 2000 (8), and *the International Endodontic Journal* (9) explicitly endorse COPE and ICMJE standards and provide detailed procedures for handling ethical violations, issuing corrections, and managing appeals. Notably, The Lancet identifies itself as a signatory to the ICMJE Recommendations (7).

Recommendations

The JOE should review the guidelines with a view to adopting COPE's Core Practices, integrating ICMJE's misconduct flowchart, and clarifying retraction/correction protocols (e.g., COPE's 'Retraction Guidelines') (11).

Authorship and contributor roles (compared with ICMJE authorship criteria and CRediT)

The ICMJE defines authorship eligibility based on four specific criteria: (i) substantial contributions to the conception or design of the work, or the acquisition, analysis, or interpretation of data; (ii) drafting or critically revising the manuscript for important intellectual content; (iii) final approval of the version to be published; and (iv) accountability for all aspects of the work (12). These criteria are widely used in biomedical publishing to ensure responsible and transparent authorship and to help prevent practices such as ghost-writing, a growing concern in research. The JOE references these principles and directs authors via a link to the ICMJE website to confirm that all listed authors meet the full set of criteria (5).

In addition, JOE encourages corresponding authors to report each contributor's role using the 14 standardized CRediT categories, including conceptualization, data curation, formal analysis, funding acquisition, investigation, methodology, project administration, resources, software, supervision, validation, visualization, writing – original draft, and writing – review & editing (13). However, completion of the CRediT taxonomy is not mandatory in the JOE's online submission system (19). To improve transparency and accountability, especially in multicenter and interdisciplinary studies, the use of CRediT should be required rather than optional. The current voluntary approach may obscure the nature and extent of individual contributions.

In comparison, The Lancet does not mention ICMJE authorship criteria or CRediT roles (7). Periodontology 2000 requires compliance with ICMJE authorship criteria but does not address CRediT roles (8). In contrast, *the International Endodontic Journal* clearly endorses both ICMJE authorship requirements and the use of the CRediT taxonomy (9).

Recommendations

The JOE should integrate the CRediT taxonomy into its online submission platform (e.g., via the Editorial Manager system) (19).

Reporting standards and transparency (comparison with EQUATOR Network and TOP guidelines)

The EQUATOR Network provides internationally recognized reporting guidelines tailored to study design. It includes CONSORT (Consolidated Standards of Reporting Trials), STROBE (Strengthening the Reporting of Observational Studies in Epidemiology), PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses), CARE (CAse REport), SRQR (Standards for Reporting Qualitative Research), COREQ (Consolidated Criteria for Reporting Qualitative Research), TREND (Transparent Reporting of Evaluations with Nonrandomized Designs), STARD (Standards for Reporting Diagnostic Accuracy Studies), SQUIRE (Standards for Quality Improvement Reporting Excellence), MOOSE (Meta-analysis Of Observational Studies in Epidemiology), CHEERS (Consolidated Health Economic Evaluation Reporting Standards), TIDieR (Template for Intervention Description and Replication), RIGHT (Reporting Items for Practice Guidelines in Healthcare), SPIRIT (Standard Protocol Items: Recommendations for Interventional Trials), AGREE (Appraisal of Guidelines for Research and Evaluation), RECORD (Reporting of studies Conducted using Observational Routinely-collected Data), RATS (Relevance, Appropriateness, Transparency, Soundness), TRIPOD (Transparent Reporting of a multivariable prediction model for Individual Prognosis Or Diagnosis), and ARRIVE (Animal Research: Reporting of In Vivo Experiments) (10). These guidelines are widely adopted by leading journals to improve reporting completeness, reproducibility, and peer review quality.

The JOE author guidelines require alignment with CONSORT (5). In comparison, The Lancet endorses many study-specific reporting guidelines in the EQUATOR Network (7). Periodontology 2000 mentions a few major EQUATOR Network guidelines (8). *The International Endodontic Journal* cites PRISMA and STARD and relies primarily on the PRIDE (The Preferred Reporting Items for Study Designs in Endodontology) resource for other study types (9, 20).

Alongside the EQUATOR Network, the TOP Guidelines provide a complementary framework for improving research transparency and reproducibility (18). As identified in this review, consideration should be given to including structured policies for code sharing, preregistration, and replication studies, disclosure of the availability of datasets, analysis scripts, and research materials, and links to repositories or persistent identifiers.

Recommendations

The JOE should review the guidelines with consideration of the recommendations in the EQUATOR Network's Reporting Guideline Manual—often referred

to as the "Guideline for Guidelines"—to promote the consistent and appropriate use of reporting checklists tailored to specific study designs. The revised guidelines should also address the availability of underlying protocols, analysis plans, preregistration of research, registries, underlying data, analytic code, and study materials, along with information on where these resources are hosted. These aspects should be considered during the revision of author guidelines, regardless of whether they are adopted as formal requirements.

Data availability and reusability (compared with FAIR Principles and ICMJE data sharing policies)

The FAIR Principles have become a global standard for open science, emphasizing data archiving, discoverability, and reusability (14). The JOE does not reference the FAIR Principles, require data deposition in trusted repositories (e.g., Dryad, Zenodo, Figshare), or guide dataset citation, metadata standards, or licensing terms.

The ICMJE recommends that clinical trial reports include data sharing statements specifying whether data will be shared, under what conditions, and where it will be available (12). JOE currently does not require such disclosures (5).

In comparison, The Lancet has data sharing policies and shows partial alignment with FAIR Principles (7). It requires data sharing statements for clinical trials, in line with ICMJE guidelines, and encourages data deposition in repositories such as Mendeley Data with DOI (Digital Object Identifier); it does not mandate data sharing citation (21), but it does not explicitly reference the FAIR Principles or provide detailed guidance on metadata standards or licensing. *The International Endodontic Journal* similarly complies with ICMJE data sharing policies by requiring trial authors to provide information on data availability, but its alignment with the FAIR Principles is limited, as it lacks explicit guidance on data archiving, persistent identifiers, or reuse licensing (9). Periodontology 2000 shows no clear alignment with either the FAIR Principles or ICMJE data sharing recommendationsstatements or provide instructions for data citation, licensing, or repository use (8).

Recommendations

The JOE editors should consider the implications for mandating Data Availability Statements to specify what data will be shared, where, and under what conditions. Authors may be reluctant to publish if their data is widely available, if it may be used inappropriately, and if there is a potential for disclosure. These aspects need to be considered. If data sharing is to be mandated, many options should be available for the author to safeguard the data in addition to FAIR-compliant repositories (e.g., Zenodo, Dryad) that support DOI, standardized metadata, and open licenses (e.g., CC-BY). Providing guidance on data citation, basic metadata standards, and licensing options would enhance transparency, reproducibility, and alignment with funder and institutional mandates.

AI tool use and digital ethics (compared with COPE and ICMJE AI guidance)

The JOE has implemented clear policies on the use of AI in scientific writing. JOE permits the use of generative AI and AI-assisted tools solely for enhancing the readability and language of manuscripts, provided that human oversight is maintained and authors retain final responsibility for the content. AI tools must not be listed as authors or cited as such, and their use must be disclosed in a dedicated "Declaration of Generative AI and AI-assisted Technologies" section before the References. Use of AI for figure or image generation is prohibited unless explicitly part of the research design, in which case detailed documentation is required. These policies align with Elsevier's guidelines and aim to ensure transparency, authorship integrity, and scientific accountability (5).

Periodontology 2000 and International Endodontic Journal, as benchmark journals, do not appear to have publicly stated policies regarding the use of generative AI tools in manuscript preparation(8, 9). However, The Lancet has established clear policies regarding the use of generative AI in manuscript preparation (7). Authors are permitted to use AI tools solely to enhance the readability and language of their manuscripts, with the stipulation that human oversight and final responsibility for the content remain with the authors. The use of AI must be transparently disclosed in the manuscript, and AI tools cannot be listed as authors or coauthors.

Recommendations

The JOE should consider expanding its AI policy to prohibit AI-generated peer review reports and require validation of AI-assisted analyses (e.g., code auditing).

Reference style and citation formatting (compared with Vancouver/NLM Standards and AMA manual of style)

The JOE employs a numbered referencing system with superscript in-text citations and a reference list ordered by appearance (5). While it does not explicitly cite a governing style manual such as the Vancouver system or the AMA Manual of Style, its current formatting closely follows standard Vancouver/NLM Standards, including the use of Index Medicus journal abbreviations and structured bibliographic entries (5). This consistency supports clarity and facilitates reference tracking, in line with common biomedical publishing practices.

Among the benchmark journals, The Lancet and Periodontology 2000 also use the Vancouver referencing style, with The Lancet demonstrating strong alignment with ICMJE standards (7, 8). However, Periodontology 2000 occasionally displays minor inconsistencies in abbreviation and punctuation (8). *The International Endodontic Journal*, by contrast, defaults to a Harvard (author–date) format but allows flexible referencing during initial submission (9).

Recommendations

To further strengthen JOE's editorial clarity and alignment with international standards, it is recommended that the journal explicitly state its adherence to the Vancouver/NLM Standards (e.g., Citing Medicine), provide more detailed formatting examples in its author guidelines, and require DOIs for all cited articles when available. These enhancements would improve uniformity, support automated reference checking, and facilitate integration with bibliographic databases.

Author identification and metadata standards (comparison with ORCID policies)

The JOE currently does not reference ORCID iDs in its official author guidelines (5). Authors are neither prompted nor required to register for, provide, or authenticate ORCID identifiers during submission, and there is no indication that such information is incorporated into article metadata or displayed in published content. This addition would be helpful for author identification with key scholarly infrastructure platforms such as Crossref, Scopus, and PubMed Central (17). While the JOE online submission system includes an optional field for ORCID iDs, completion is not mandatory and is not enforced during the submission process (19).

In comparison, The Lancet requires corresponding authors to provide an ORCID iD at the time of submission, ensuring accurate attribution and metadata compatibility (7). *The International Endodontic Journal* encourages—but does not require—authors to include an ORCID, supporting optional engagement with persistent identifiers (9). Periodontology 2000 does not explicitly state an ORCID policy, but as a Wiley journal, it may follow publisher-level practices that recommend ORCID use (8).

Recommendations

To align with widely adopted scholarly communication standards and address variations in author names and the different ways they are presented in journals (e.g., first names, initials, initials with periods), it is recommended that at least corresponding authors provide a verified ORCID iD through the submission system, and it should be included in article metadata. These changes would improve author traceability, support funder and indexer requirements, and enhance the discoverability and impact of JOE's published research.

Discussion

This structured appraisal of the JOE author guidelines reveals a nuanced picture. The journal demonstrates commendable editorial practices. However, ongoing developments in scholarly publishing, including AI, the internet, and DOI systems, highlight the need for further revisions to strengthen transparency, data availability, authorship, and the verification of the ethical treatment of human participants in research. As JOE enters its sixth decade, enhancing its editorial framework presents a timely opportunity to improve transparency, usability, and global credibility.

JOE provides detailed formatting instructions tailored to endodontic research, supports structured abstracts, and includes a clear policy regarding the use of generative AI tools. It references the ICMJE authorship criteria and encourages contributor role disclosures via the CRediT taxonomy. The JOE editors and AAE members should consider whether to formally endorse key editorial frameworks such as the EQUATOR Network, COPE, TOP Guidelines, and FAIR Principles. Additionally, the absence of mandatory ORCID identifiers and the optional nature of CRediT reporting may limit transparency and accountability, particularly in collaborative or interdisciplinary research. The Lancet mandates ORCID iDs, adheres to EQUATOR guidelines, and requires structured reporting for different study designs. *The International Endodontic Journal* integrates CRediT taxonomy and study-specific reporting tools like PRISMA and STARD (9).

A revision of the guidelines is needed. Currently, the guidelines on the JOE and AAE websites differ in several areas, including figure and table limits, the number of keywords, and citation formatting (4, 5).

The proposed updates could be implemented with limited operational difficulty. For example, author-facing resources such as submission templates, integrated ORCID and CRediT forms, and example-compliant submissions can significantly ease the transition. Reviewer checklists aligned with EQUATOR Network reporting guidelines and the FAIR Principles would further enhance consistency and support rigorous peer review. With Elsevier's infrastructure already in place, JOE is well positioned to implement these enhancements while minimizing disruption to the submission and review processes.

Clear, standards-aligned guidelines also serve an educational function. Early-career researchers and authors from under-resourced regions often rely on journal instructions for informal training in research ethics, methodology, and responsible authorship. By modeling good editorial practices, the JOE can contribute to capacity building within the global endodontic community.

Furthermore, transparency policies tied to data availability, authorship roles, and metadata standards promote equitable participation in scholarly publishing. Researchers without institutional support may benefit from standardized expectations and improved access to open science infrastructure. By increasing clarity and accountability, these policies can enhance reproducibility, foster trust, and expand the journal's impact across diverse research settings.

However, strategic challenges remain. One pressing concern is the journal's limited open-access availability. With only 6.6% of articles available without a paywall, access to content remains restricted, especially for readers in low-income regions. Expanding open science compliance, particularly through FAIR data sharing protocols and transparent metadata practices, could enhance article visibility and citation performance. This appraisal contributes to the broader body of meta-research.

To address these concerns, a revised and consolidated version of the author guidelines is proposed (see Supplementary Material S1). The updated format adopts the structure of the AMA Manual of Style while retaining JOE's traditional use of the Vancouver Referencing Style. Superscript citation numbering, Index Medicus abbreviations, structured abstracts, and SI unit standards are preserved, with improvements in clarity, consistency, and availability through downloadable resources. These updates aim to enhance author compliance, streamline submissions, and improve the overall presentation and professionalism of the journal. The proposed revisions are intended as recommendations to support the journal's ongoing development and competitiveness among specialized endodontic publications. The editorial board may modify any of these recommendations as needed to ensure consistency with the journal's policies and editorial priorities.

As the JOE commemorates its fiftieth anniversary, this study serves not only as a retrospective but as a forward-looking proposal for improvement. By embracing international standards and fostering a culture of open science, the journal can strengthen its leadership in endodontic publishing and contribute to the ongoing development of scholarly communication in dental research.

Conclusions

As the JOE reaches its fiftieth anniversary, this evaluation highlights both its editorial strengths, such as field-specific formatting, support for AI disclosures, and structured abstracts, and opportunities for further improvement, including greater alignment of its policies with key international standards, such as those of the EQUATOR Network, COPE, ICMJE, FAIR Principles, ORCID, and CRediT, to further enhance transparency, usability, and global credibility.

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The thesis will be archived under embargo in the West Virginia University institutional repository and the ProQuest database, in accordance with the prior publication policies of the *Journal of Endodontics*.

Conflict of interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Author contributions

H.J. conceptualized and designed the study. H.J., M.A.B. contributed to the methodology. H.J. and S.B.W. contributed to software and data curation. H.J. and R.C.W. performed the formal analysis and investigation. H.J. contributed to the original draft preparation. M.A.B., S.B.W., and R.C.W. contributed to the review and editing of the manuscript. All authors approved the final version of the manuscript.

Ethical considerations

This study was conducted in strict adherence to publication ethics guidelines and was formally approved as Non-Human Subject Research (NHSR) by the Institutional Review Board (IRB) / Ethics Committee of West Virginia University, Morgantown, WV, USA (Certificate #0887).

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