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PEER-REVIEW REPORT

Name of journal: *World Journal of Gastrointestinal Endoscopy*

Manuscript NO: 110207

Title: Impact of gut microbiome on outcomes following endoscopic interventions in gastrointestinal disease

Provenance and peer review: Invited Manuscript; Externally peer reviewed

Peer-review model: Single blind

Reviewer's code: 05770349
Position: Editorial Board
Academic degree and professional title: MD, PhD, Professor
Reviewer's Country/Territory: China
Author's Country/Territory: India

Manuscript submission date: 2025-05-31
Reviewer chosen by: AI Editor
Reviewer accepted review: 2025-06-07 14:28
Reviewer performed review: 2025-06-07 14:31
Review time: 1 Hour

Content to be reviewed	Does the manuscript's content fall within the scope of the journal? **Yes** Is there any Key Word that is not included in the manuscript title? **No** Do authors' affiliations correspond to the content of the manuscript? **Yes** Does the Abstract contain the contents of each part of the manuscript (IMRaD)? **Yes** Are the Key Words complete? **Yes**

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	Is the content of the Introduction adequate? **Yes** Is the content of the Materials and Methods complete? **Yes** Is the description of the experiments clear and complete? **Yes** Are the experimental data presented in the manuscript's biostatistics content reliable? **Yes** Are the experimental data of the Results true and reliable? **Yes** Are the quality and resolution of the images up to standard? **Yes** Do the selection and design of the figures and tables follow the principles of necessity and clarity? **Yes** Is there any duplication between various parts of the manuscript and between the main text and the content presented in the figures and tables? **No** Are the figures and tables numbered consecutively in the order in which they appear in the manuscript? **Yes** Is the content of the Discussion reasonable? **Yes** Is the Conclusion reasonable? **Yes** Are all references necessary and reasonable? **Yes** Do authors omit important references? **No** Are all references related to the topic of the manuscript? **Yes** Do authors only cite their own earlier publications? **No** Is the manuscript's text correct, concise, and clear? **Yes** Will the manuscript's content be of interest to readers? **Yes** Are additional experiments needed for the study? **Yes** Does the research scope comply with ethics? **Not**

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	Applicable
Scientific quality	Grade A (Excellent)
Novelty of this manuscript	Grade C (Good)
Creativity or innovation of this manuscript	Grade C (Good)
Scientific significance of the conclusion in this manuscript	Grade B (Very Good)
Language quality	Grade B (Very good)
Does this manuscript describe a study of the existing knowledge system?	Yes
Does this manuscript report a revolutionary innovation?	No
Does this manuscript report an unconventional innovation?	No
Conclusion	Minor revision
Re-review	No
Peer-reviewer statements	Peer-Review: Anonymous
	Conflicts-of-Interest: No
Are your review comments generated by AI tools?	

SPECIFIC COMMENTS TO AUTHORS

The authors present a well-structured, comprehensive, and timely review on the impact of the gut microbiome on outcomes after endoscopic interventions for gastrointestinal diseases. The manuscript offers valuable insights by integrating data on microbial diversity, metabolite functions, immune interactions, procedural effects, and emerging machine learning-based predictive models. The topic is of high clinical and translational relevance, especially given the increasing interest in microbiota-guided precision

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medicine.

The manuscript demonstrates several strengths:

Comprehensiveness and Structure: The review is thorough, spanning from microbial ecology and host-microbe interactions to specific outcomes after procedures such as colonoscopy, EMR, and ESD. The organization of content into logical sections (microbial diversity, immune modulation, procedure effects, prediction models, etc.) enhances readability and scholarly rigor.

Integration of Emerging Technologies: The discussion on machine learning applications and multi-omics integration reflects current trends and adds novelty. The authors successfully highlight how predictive modeling can shape post-endoscopic care.

Clinical Implications and Translational Potential: The review appropriately emphasizes microbiota-based interventions (probiotics, dietary strategies, FMT) and outlines practical pathways for clinical implementation, while acknowledging existing barriers.

Extensive Literature Support: The manuscript cites a wide range of up-to-date and relevant studies, including randomized controlled trials and translational research, providing a well-rounded evidence base.

That said, some minor revisions are needed to enhance clarity and focus:

Abstract Refinement: The abstract is informative but slightly dense. Consider condensing the results and emphasizing major takeaways more clearly (e.g., highlight the predictive power of microbiome-informed models and the potential of probiotics in reducing complications).

Overlength and Redundancy: While detail is appreciated, the manuscript may benefit from trimming repetitive content in the discussion and tables. For instance, the roles of specific bacterial genera (e.g., Faecalibacterium, Fusobacterium, Bacteroides) and their metabolites are repeated across several sections.

Figures and Tables: While the text is rich, the inclusion of a high-level summary figure or

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schematic illustrating the microbiome-endoscopy-complication axis would greatly enhance understanding for visual learners.

Terminology Consistency: Ensure consistent use of terms such as “microbiota” vs. “microbiome,” “procedures” vs. “interventions,” and “resection” vs. “removal” when describing endoscopic techniques.

Grammar and Style: A final round of proofreading to correct minor grammatical inconsistencies and streamline complex sentences is advised.

Conclusion:

This manuscript provides an insightful and well-substantiated review of how the gut microbiome influences outcomes in gastrointestinal endoscopy. With minor refinements for conciseness, visual enhancement, and stylistic polish, this work will be of high interest to clinicians and researchers in gastroenterology, surgery, and translational microbiome science. I recommend acceptance after minor revision.