

Navigating the Impact of AI in Research Manuscript Creation

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A recent webinar hosted by the International Microsurgery Club highlighted the significance of integrating artificial intelligence (AI) into our academic activities, particularly on the influence it may have on the creation and publication of research manuscripts.¹

Generative AI, exemplified by Chat Generative Pre-training Transformer (ChatGPT), has proliferated across various domains in a very short time. Despite its ordinary chat interface, this tool offers remarkable capabilities to generate content based on text instructions, referred to as prompts. When we consider the various activities that AI can achieve, we see that they can impact the entire workflow of preparing a research paper. From preparing the manuscript, outlining, and summarizing information to overcoming language barriers and aiding journal submissions, the spectrum of its utility is vast (► **Fig. 1**).^{2,3}

In the preproduction phase, ChatGPT serves as a valuable companion, assisting in brainstorming research topics, outlining manuscripts, explaining complex concepts, and summarizing extensive information from multiple sources.^{4,5} However, dedicated platforms such as R-Discovery and ResearchRabbit can be explored for more refined outputs and accurate citations.

The writing process itself can benefit substantially from AI integration by assisting with spelling and grammar checks, paraphrasing, tone setting, and adjusting the document length. Tools such as Grammarly offer enhanced features for extensive proofreading and style adjustments. Moreover, AI simplifies time-consuming tasks such as abstract writing, keyword identification, and title selection. Its role in translation services significantly lowers the language barrier for non-native English-speaking researchers, diminishing rejections due to language proficiency issues.⁶

As we embrace these AI tools, it is imperative to exercise caution. Human oversight remains crucial due to occasional inaccuracies and the potential for misrepresentation of information. Transparency in AI processes, adherence to professional guidelines, and ethical considerations on plagiarism, data privacy, biases, and job security are pivotal.⁷

We are living through an exciting moment of technological breakthroughs advancing at immense speeds. AI will undoubtedly permeate the entire spectrum of our specialty,

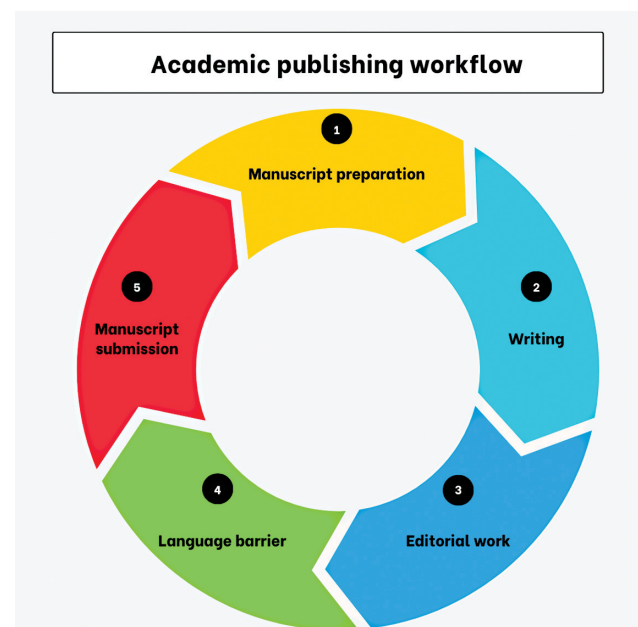


Fig. 1 Areas in which artificial intelligence impacts the workflow of a research manuscript.

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and we should be ready to learn how to apply it judiciously to effectively harness its potential to advance our surgical knowledge and practice while limiting or solving the ethical dilemmas it generates.

EBM Rating

Level 5.

Conflict of Interest

None declared.

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