



Ethical Use of AI in Abstract Writing:

*Best Practices and
Pitfalls to Avoid*

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Integrated Diagnostics for Health Security:
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Presentation Outline



The Rise of AI in Biomedical Communication



Publisher & Regulatory Frameworks



AI Tools for Abstract Writing



Common Pitfalls to Avoid



Ethical Principles & Authorship



Best Practices & Recommendations

01

The Rise of AI in Biomedical Communication



Transforming how researchers write, review, and publish scientific findings

The Rise of AI in Biomedical Communication



Artificial intelligence is poised to fundamentally reshape how biomedical research is conceptualised, conducted, and communicated.

— *Nature Medicine*, 2023

38%

Annual growth in AI-assisted publications (2020–2024).

60%

Researchers now use AI tools for literature review.

3×

Faster abstract drafting with AI assistance.



AI is not replacing the researcher it is amplifying human intellectual capacity. The researcher's scientific judgement and ethical compass must always lead.

02

AI Tools for Abstract Writing



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From literature synthesis to structured IMRAD drafts

AI Tools for Abstract & Manuscript Writing

General Writing

ChatGPT / GPT-4

- › Abstract drafting
- › Language editing
- › Reviewer responses
- › Discussion structuring

Writing & Analysis

Claude (Anthropic)

- › Long-form manuscript
- › Literature synthesis
- › Precise medical writing
- › Complex reasoning

Literature Review

Elicit

- › Semantic paper search
- › PICO extraction
- › Automated data tables
- › Evidence synthesis

Evidence Mining

Consensus

- › Research Q&A
- › Consensus meter
- › Citation export
- › Claim verification

Citation Mapping

Research Rabbit

- › Reference networks
- › Seminal paper discovery
- › Co-author maps
- › Zotero integration

Citation Analysis

Scite.ai

- › Supporting/contrasting cites
- › Journal compliance
- › Retraction alerts
- › Reference audits

Language Tools

Grammarly / DeepL

- › Grammar & clarity
- › Tone adjustment
- › Academic register
- › Multi-language translation

Integrity Check

iThenticate / Turnitin

- › Plagiarism detection
- › AI-content flagging
- › Similarity reporting
- › Pre-submission check

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Ethical Principles & Authorship



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Core responsibilities of the AI-assisted researcher

Ethical Use of AI Core Principles



Authorship Integrity

AI cannot be listed as an author. ICMJE criteria require human accountability for all content. Authors bear full responsibility for AI-assisted text.



Data Privacy

Patient data, unpublished findings, and proprietary information must never be entered into public AI systems without institutional data governance approval.



Transparency & Disclosure

Mandatory declaration of AI tool usage in Methods/Acknowledgements per ICMJE, COPE, and individual journal guidelines.



Avoiding Plagiarism & Fabrication

AI-generated text must not misrepresent sources. Pre-submission similarity checks (iThenticate) and AI-content screening are strongly recommended.



Accuracy & Verification

AI is prone to hallucination. Every factual claim, citation, and statistic must be independently verified against primary sources before submission.



Equity & Bias Awareness

AI tools may reflect training data biases. Ensure AI-assisted research does not inadvertently perpetuate healthcare inequities or misrepresent underserved populations.

04 Publisher & Regulatory Frameworks



What ICMJE, COPE, and major journals require

Regulatory & Publisher Frameworks for AI Use

Organization / Journal Policy	Key Policy Position
ICMJE (2023)	AI cannot be listed as an author; use of AI must be disclosed in the manuscript.
COPE	Authors remain responsible for the content and should disclose AI tools used.
Nature Portfolio	All AI tools must be declared; LLMs cannot be cited as references.
The Lancet	Explicit disclosure of AI use in the Methods section is required.
NEJM	AI use is permitted, but not for generating original ideas or research data.
Elsevier / Springer	AI use should be disclosed in the cover letter; authors retain full responsibility for the manuscript.
JAMA Network	Full disclosure of AI use and verification of AI-generated content are required before submission.



DO

- ✓ Disclose AI tools in Methods/Acknowledgements
- ✓ Verify every fact, statistic, and citation
- ✓ Maintain human oversight throughout
- ✓ Use AI for polishing, not inventing data
- ✓ Follow the specific journal's AI policy



DO NOT

- ✗ List AI as an author
- ✗ Input confidential patient data into AI
- ✗ Submit without critical review
- ✗ Fabricate results or references

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Common Pitfalls to Avoid



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Recognising and preventing the most frequent AI-related academic errors

Common Pitfalls in AI-Assisted Abstract Writing



AI Hallucination

AI may generate plausible-sounding but entirely fabricated citations, statistics, or clinical data. All references must be independently verified.



Undisclosed AI Authorship

Submitting AI-generated text without disclosure constitutes an ethical breach and potentially research misconduct at most journals.



Data Privacy Violations

Inputting patient-identifiable information, unpublished results, or proprietary data into commercial AI systems violates confidentiality and data governance policies.



Citation Fabrication

AI systems frequently generate non-existent references with real-sounding author names, journals, and DOIs. Never cite without accessing the original source.



Over-reliance on AI

Using AI to generate research hypotheses, interpret results, or draw clinical conclusions without human expertise undermines scientific validity and integrity.



Incomplete Verification

Accepting AI output at face value without triangulating against primary literature. AI does not reason it predicts text. Critical appraisal is non-negotiable.

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Best Practices & Recommendations



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A framework for responsible, rigorous AI-assisted academic writing

Best Practices for Responsible AI-Assisted Abstract Writing



Define Question First

Frame your PICO/research question before engaging AI. AI output is only as good as the question you ask: precise queries yield reliable results.



Verify Against Primary Sources

Cross-reference every AI-generated claim with original literature. Never cite a paper you have not personally read and assessed.



Maintain an AI Use Log

Document which tools were used, for which sections, and what prompts were employed. This ensures transparency and supports reproducibility.



Human-AI Collaboration

Use AI for structure and polish; use your expertise for interpretation and critical appraisal. The intellectual product must be entirely yours.



Master Prompt Engineering

Precise, well-scoped prompts produce substantially more accurate and contextually appropriate academic outputs from AI systems.



Institutional Compliance

Follow institutional policies on AI use. Obtain ethics/IRB approval where applicable, especially for research involving patient data or sensitive findings.

Key Takeaways Ethical AI in Abstract Writing



AI Amplifies, Not Replaces

The researcher's scientific judgement, critical appraisal, and ethical accountability are irreplaceable. AI is a tool, not an author.



Disclosure is Mandatory

All major journals (ICMJE, COPE, Nature, Lancet, JAMA) require transparent disclosure of AI tool use. Non-disclosure may constitute misconduct.



Verify Everything

AI hallucinations are real and dangerous. Every citation, fact, and statistic must be independently verified against primary sources.



Ethics is Non-Negotiable

Protect patient data, avoid fabrication, acknowledge limitations, and follow institutional and journal-specific AI policies rigorously.

“AI is a powerful tool in the hands of a rigorous scientist, but it is the scientist's integrity, expertise, and ethical responsibility that defines the quality of the science”.

Thank You

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