

# Authorship

Recommendations for authorship have been provided by two international bodies, the [International Council of Journal Medical Editors \(ICJME\)](#) and the [Council of Science Editors \(CSE\)](#). Additional guidance for group authorship can be found at the [BMJ](#) and [National Library of Medicine](#).

## ICJME

ICJME recommends that authors should meet all of the following four criteria. Those who do not meet all criteria should be acknowledged.

1. Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
2. Drafting the work or revising it critically for important intellectual content; AND
3. Final approval of the version to be published; AND
4. Agreement 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.

[ICJME Authorship Standard](#)

## CSE

CSE recommends that the contributions of all individuals associated with a manuscript should be published. Listing in the authorship by-line requires contributions in two or three of the following areas, the appropriate minimum depending on individual circumstances, including the number of authors. Some contributions formerly properly relegated to the acknowledgments section are included, whereas participation in only one category would mean that a contributor was acknowledged but not listed in the authors' byline. Additional advice is provided on group authorship.

1. CONCEPT the idea for the research or article, framing the hypothesis
2. DESIGN planning the methods to generate results
3. SUPERVISION oversight and responsibility for the organization and course of the project and the manuscript
4. RESOURCES dollars, equipment, space, personnel vital to the project
5. MATERIAL biological materials, reagents, referred patients
6. DATA COLLECTION &/or PROCESSING responsibility for doing experiments, managing patients, organizing and reporting data
7. ANALYSIS &/or INTERPRETATION responsibility for making sense of and presenting the results
8. LITERATURE SEARCH responsibility for this necessary function
9. WRITING responsibility for creating all or a substantive part of the manuscript
10. CRITICAL REVIEW reworking the manuscript for intellectual content before submission, not just spelling and grammar checking
11. OTHER for novel contributions

[CSE Authorship Standard](#)