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The Order of Authorship: Who's on First?

The authorship of medical articles is under scrutiny as never before. Fraudulent work appears, then may enjoy citation in the literature long after retraction.¹ In academia, most appointment and promotion committees tally the number of publications of a candidate, a recent proposal for some limit notwithstanding.² Names of prominent, senior scientists appear in bylines, so-called honorary authorship, as a means of impressing editors and reviewers and to acknowledge moral or financial support.³

Perhaps the responsibilities of authorship come into clearest focus when investigators decide on the order in which their names will be listed on their manuscript. The designation of first author and the sequence of listing are important for several reasons. Some landmark studies are known by the name of their first author, lending support to the impression that, being listed first, he or she played a pivotal role in performing the work and writing the article. By tradition, many reserve the position of last author for the senior member of the research team or the department or division director, but this encourages honorary authorship (see below). First-listed author vs, say, sixth on a major article can carry substantial weight in the attainment of those academic rewards to which investigators rightly aspire. Finally, readers deserve articles that are clear in every respect, including a sense of the relative contribution of each author.

How then do coworkers decide among themselves on the order of authorship? The task is made difficult not only by human nature, which dictates that there be bias and jealousy, but by the complexity of scientific research: does the biochemist or the epidemiologist deserve more credit for this work?

There is no shortage of suggested solutions in the literature. These have included mathematical formulas⁴; multiple categories of authorship, denoted by "coded credits"⁵; and a worksheet assigning weight to various aspects of the investigation.⁶ The oft-heard call for alphabetical listing of authors is a cop-out and takes none of the above subtleties into account. The International Committee of Medical Journal Editors has grappled with this problem for some years but has yet to recommend a solution.

We believe, based on discussions with many persons with academic experience and editorial expertise, including the JAMA Editorial Board and staff (among whom consensus has not been achieved), that guidelines for determining the order of authorship could be straightforward:

- It is first essential to decide who is an author and who is

not. Requirements include participation in the work and the writing, assumption of public responsibility for the conclusions, and willingness to submit the data on which the study is based if so requested.⁷

- Being a laboratory or departmental sponsor and (last) author are not mutually exclusive, but should depend on contribution to the work being reported. However, the awarding of honorary authorship is intellectually dishonest, inflates bibliographies, and dilutes credit for scientific work: the practice is unacceptable. Persons who provide support and advice not consonant with authorship may, with their consent, be thanked in an acknowledgment.

- The first author is that person who contributed most to the work, including writing of the manuscript (an author is a person who writes). The sequence of author listing is determined by the relative contributions to the work.

- Decisions about authors and the order in which their names will appear should be made as early as possible, even at the outset, although relative contributions may need to be reassessed later by group consensus.

- Disagreements about these matters should be resolved by the principals, not by the editor. However, editors can request documentation in writing of authors' specific contributions to the project.

Journal editors care about accuracy and truth but are only advisers to authors, the overwhelming majority of whom are right-minded, dedicated, and very busy. Surely most misjudgments about authorship result from failure to ponder its meaning.

We welcome comments responding to these ideas.
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