

Residents and Authorship: Rights, Obligations, and Avoiding the Pitfalls

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In this issue of the *Journal of Graduate Medical Education*, we publish an erratum that corrects the list of authors for an article that appeared in the September 2010 issue of the *Journal*.¹ According to the International Committee of Medical Journal Editors' (ICMJE) requirements, an "author" is "someone who has made substantive intellectual contributions to a published study."²

*An author must take responsibility for at least one component of the work, should be able to identify who is responsible for each other component, and should ideally be confident in their co-authors' ability and integrity.*²

The ICMJE also stresses that most journals now request and publish information about the contributions of each individual that had a role in the work being submitted. Finally, ICMJE encourages journals and their editorial boards to develop and implement a contributorship policy.

The Accreditation Council for Graduate Medical Education Common Program Requirements specify that faculty should encourage and support residents in scholarly activities.³ Underlying this expectation is the observation that residents, for the most part, are advanced beginners in this area and require guidance in their development as scholars. The goal is that faculty will mentor residents in the pursuit of scholarship that will culminate in publication in peer-reviewed journals. This is one expectation of the scholarship of discovery, as defined in the Boyer⁴ and Glassick⁵ conceptualizations.

Although not explicitly articulated, implied in the expectations for faculty mentorship of residents' scholarly activity is the concurrent effort to teach learners the standards of professionalism as they relate to the process of discovery, peer-review, and dissemination. Among the areas of the mentor-mentee relationship that are most difficult to navigate is the act of formally establishing authorship: recognition of the intellectual contributions to

a work submitted for publication. This requires a careful balance, across an authority gradient, as faculty mentors and learners explore the concept of contribution, and the rights and obligations of being added to the author byline.

The need for a correction in the list of authors for a previously published article resulted from the omission of the names of 2 resident authors who had made significant contributions to an earlier version of this article.¹ These residents, students at the time the initial manuscript had been written, had left the institution where they had collaborated with the faculty author to pursue graduate medical education in other locations. The manuscript was ultimately completed with the assistance of another resident. However, large sections of text from the original contribution remained. On seeing this, the 2 earlier contributors were caught off guard by the publication of an article they believed they had contributed to in a manner that met the criteria of authorship.

The residents raised this issue with the *Journal*, in pursuit of the scholarly credit they felt was due them. Investigation by the *Journal* revealed that the senior author had tried to contact the 2 resident authors on multiple occasions, but when that proved unsuccessful, had revised and submitted the article with another coauthor. The senior author indicated this was due to discomfort at not being able to have the 2 contributors sign off on the content of the manuscript that was submitted, which included new data. He volunteered that the residents' contribution should be acknowledged by coauthorship. After careful review of the specifics in this case, the editors decided to include the original residents as coauthors. In addition, the editors thought it would be beneficial to discuss the underlying expectations for authorship and contributorship because this is highly relevant to the *Journal's* audience and its aim to promote resident and faculty scholarship and dissemination.

A critical question around authorship concerns the quantity and quality of contribution that will qualify an individual to be listed as an author, as contrasted with mention in the "Acknowledgments." To distinguish authorship from other contributions, ICMJE recommends that authorship credit should be based on 3 criteria. Ideally, each author will meet each criterion:

1. Substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data;

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2. Drafting the article or revising it critically for important intellectual content; and
3. Final approval of the version to be published.²

By this definition, “acquisition of funding facilitation or general supervision of a research group does not constitute authorship,” but warrants mention in the “Acknowledgments.”²

Important to the correction reported in this issue of *JGME* is that “all persons designated as authors should qualify for authorship, and all those who qualify for authorship should be listed.”² Equally important is the expectation that authors sign off on the final manuscript, an obstacle in the case we describe. This may be a likely scenario in other instances where students, residents, or fellows have contributed to a manuscript, given their mobility and the need to complete and submit research in a timely manner.

However, there will be special cases. Increasingly, multicenter clinical trials are done by large groups, and highly desirable, multicenter research in education could follow the same model. When a group conducts a multicenter research effort, it “should identify individuals who accept direct responsibility” for each manuscript.² These individuals should fully meet the criteria for authorship as defined above, and *Journal* editors will ask these individuals to complete the required author and conflict-of-interest disclosure forms.² These corresponding authors also should clearly identify the group’s name and the names of all other members of the group.² The scientific *Journal* publishing the article generally will “list the other members of the group in the Acknowledgments.” Indexing by the National Library of Medicine will “use the group name and the names of individuals the group has identified as being directly responsible for the manuscript; it also will list the names of the other collaborators if they are listed in the Acknowledgments.”²

The criteria for authorship are an important area of knowledge for residents as advanced beginners in their scholarly pursuits and should be explicitly discussed by their faculty mentors. Equally important for new scholars is the understanding of the concept that individuals collaborating on a research project should collectively make

decisions about authorship and contributorship “before submitting a manuscript for publication.”² Also, the corresponding author should acknowledge and “be prepared to explain the presence and order”² of the authors and the role of any other contributors. Given the mobility of trainees, this may include individuals who contributed to earlier study efforts or versions of a manuscript who cannot be reached easily to sign off on the final version that is being submitted. Faculty mentors must become role models of high standards of authorship as well as take the initiative to discuss authorship and individual responsibilities before research is underway. With the enormous power differential that exists between trainees and faculty—including the ability to affect recommendations, promotions, and other career outcomes—faculty must take the lead in these discussions.

In conclusion, we would like to acknowledge the cooperation and candor of the parties involved in the *JGME* article corrected in this issue. The parties’ acknowledgment contributed to a solution in which high ethical standards of intellectual contribution and authorship are upheld. When this happens, readers as well as authors benefit. The editors of the *Journal* are committed to promoting ethical standards of peer-reviewed publication and to serving as a resource on these matters to our community.

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