ASPEN Policy on Publishing Ethics

ASPEN's primary goal is to safeguard the science of nutrition research and to ensure that all ASPEN publications reflect the best quality research available. The policy presented here addresses how to respond to a variety of ethical issues related to publishing. The Society and all academic publishers are faced with an increasingly complex set of issues regarding research integrity, ethics, standards, and copyright. The ASPEN Board of Directors has adopted *Wiley Best Practice Guidelines on Publishing Ethics*¹ as the foundation of the ASPEN Policy on Publishing Ethics. For those issues not addressed by the Wiley best practices, ASPEN policy will go beyond and address ethical situations faced by the society, journal editors, and authors.

Wiley Best Practice Guidelines on Publishing Ethics

The Wiley guidelines were developed by a multidisciplinary group of experts from within and outside of John Wiley & Sons, Inc., publisher of ASPEN journals, and a global publishing company that specializes in academic publishing. The Wiley guidelines use resources from the Committee on Publication Ethics (COPE) and the International Committee of Medical Journal Editors. Topics covered in the document include:

Research integrity

- Data fabrication, falsification, image manipulation
- Plagiarism, including use of software screening
- Duplicate and redundant publication
- Text recycling
- Duplicate submission
- Duplicate information published in translations
- Guidance on possible sanctions for the above violations

Research ethics

- Human rights, privacy, and confidentiality
- Institutional review boards of culturally sensitive materials
- Registering clinical trials
- Animals in research
- Biosecurity
- Reporting guidelines

Editorial standards and processes

- Authorship
- Authorship disputes
- Funding
- Peer review
- Timing of publication
- Editors and journal staff as authors
- Conflicts of interest
- Libel and defamation
- Editorial independence and commercial issues
- Academic debate
- Appeals
- Corrections
- Retractions and expressions of concern
- Withdrawal of articles
- Copyright and intellectual property

Flow Charts, Sample Letters, Resources Directory

The Wiley Best Practice Guidelines feature flow charts from the Committee on Publication Ethics (COPE) with guidance on what to do with suspected redundant publication, fabricated data, suspected plagiarism, changes in authorship, ghost authorship, undisclosed conflicts of interest, misappropriation of an idea or data, etc. Sample letters to corresponding authors suspected of wrongdoing are available in the document. An extensive directory of *Resources for Responsible Publication Policies and Procedures* is also included.

A.S.P.E.N. Policy on Academic Misconduct

ASPEN's earlier document on ethics 'A.S.P.E.N. Policy on Academic Misconduct'², published in 2013, covered the following areas: intentionally erroneous information; plagiarism; duplicate or self-publication; misappropriation of authorship; regulatory compliance of research.

Development of the ASPEN Policy on Publishing Ethics was necessary to deal with new situations not addressed by this earlier document.

Additional Policies

ASPEN has adopted the Wiley best practice guidelines as the foundation of its own policy but the Wiley document does not address all possible ethical dilemmas. For those situations not addressed by the Wiley document, the ASPEN policy will offer additional guidance.

ASPEN Policy on Notices of Retraction, Expressions of Concern, Corrections

According to COPE *Retraction Guidelines*³, a notice of retraction must be published 'promptly to minimize harmful effects from misleading publications'. When a situation arises that requires a retraction, an expression of concern, or a correction to a journal manuscript in order to safeguard the science of nutrition research, ASPEN policy will be that the editor is responsible for establishing a timeline and providing the timeline to all parties involved, the Board of Directors, and ASPEN staff. The resulting notice of retraction, expression of concern, or other correction will be published promptly in Early View. Print publication will follow in the next available issue.

With the increased pace of online publication and the ever-evolving need for ethical guidelines, this document will be updated to meet those concerns. The ASPEN policy is intended for use by authors, editors, students, librarians, and the society.

References

- 1. Wiley's Best Practice Guidelines on Publishing Ethics: A Publisher's Perspective, Second Edition, https://authorservices.wiley.com/editors/ethical-guidelines/index.html
- 2. ASPEN policy on academic misconduct. Nutr Clin Pract. 2013; 28:260-262
- Retraction Guidelines. 2009. Committee on Publication Ethics, www.publicationsethics.org

Best Practice Guidelines on Publishing Ethics

A Publisher's Perspective

SECOND EDITION



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Best Practice Guidelines on Publishing Ethics

INTRODUCTION

If you are reading a printed version of this document, you will not have access to embedded urls as reference points. To access these, please visit the HTML version of the document online at http://exchanges.wiley.com/ethicsguidelines.

Aims and scope

These guidelines present a comprehensive update to the Wiley publication ethics guidelines first published in 2006.

Our aim for these guidelines remains to support all those involved in scholarly publishing with a summary of best practice guidance from leading organizations around the world. Our guidelines are written for societies, editors, authors, librarians, students, funders, corporations, and journalists.

To write this new edition, we recruited contributions from a multidisciplinary and regionally diverse group of experts within and outside Wiley. We hope that our multidisciplinary approach has made these guidelines unique and useful to many. We recognize that different disciplines have different practices and traditions and that one size does not necessarily fit all. Where guidelines have particular application to one discipline or group of disciplines, we have aimed to identify this clearly in the text.

Committee on Publication Ethics (COPE)

Wiley provides membership of the Committee on Publication Ethics (COPE) as an option for all of its journal editors. At the time of writing COPE serves more than 8500 members around the world with practical tools, e-learning, seminars, and much more. Many editors and publishers find COPE's tools indispensable. We have listed specific COPE tools amongst the many ethics resources that are available to editors wherever relevant throughout our guidelines. We have reproduced the COPE flowcharts and sample letters with permission from COPE in full in the print version of these guidelines.

COPE has published two codes of conduct, one for publishers and one for editors:

- Code of Conduct for Editors
- Code of Conduct for Publishers

Ethics Helpdesk at Wiley

If you are a Wiley editor or author looking for help then please make your first port of call your Wiley publisher or journal publishing manager. Otherwise, and if your query relates to matters addressed by or related to these guidelines, please contact the Wiley Ethics Helpdesk. The Helpdesk is an email address from which we direct incoming queries to the person at Wiley who has the most appropriate expertise: publication.ethics@wiley.com.

WILEY / BEST PRACTICE GUIDELINES ON PUBLISHING ETHICS

First: Speak with your publisher

Journal publishing is, at its best, a team effort. Handling ethical problems relating to journals is no exception, and publication ethics issues often give rise to or involve legal issues. We suggest that journals use these guidelines to establish clear policies and procedures, and as an initial point of reference when issues arise.

As a first step to addressing any potentially serious problem we suggest that editors, publishers, and other journal team members discuss the issues they are facing. We suggest that these discussions happen before taking any further action, and that legal advice is sought where needed and in particular where issues involve potential defamation, breach of contract, or copyright infringement.

Initial conversations may indicate the need to carry out further investigation or to widen discussions to:

- Involve relevant institutions, employers, or funders (which are the appropriate bodies to conduct most investigations of serious misconduct).
- Consult with other journal editors who are involved (in cases where coordinated efforts may be useful, being mindful of sensitivities around confidentiality).
- Seek advice from other editors via a COPE Forum (COPE maintains a record of cases discussed at the COPE Forum since 1997).

Research integrity

MISCONDUCT

Research misconduct is defined in the US Federal Policy on Research Misconduct:

"Research misconduct is defined as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results"

The international models for responding to misconduct are discussed by the Council of Science Editors in their recommendations for identification of misconduct and guidelines for action. The World Association of Medical Editors makes suggestions about responding to allegations of misconduct. The Singapore Statement on Research Integrity, written during the Second World Congress on Research Integrity, presents "principles and professional responsibilities that are fundamental to the integrity of research wherever it is undertaken".

Members of journal publishing teams have an important role to play in addressing potential cases of data fabrication, falsification, plagiarism, image manipulation, unethical research, biased reporting, authorship abuse, redundant or duplicate publication, and undeclared conflicts of interest.

In most instances journals should request investigations by research institutions, employers, funders, or the relevant national statutory body (for example, the Austrian Agency for Research Integrity) rather than conducting investigations themselves. However, it can be appropriate for some cases of misconduct (for example, plagiarism or image manipulation) to be investigated and acted upon by a journal publishing team, but even then the journal publishing team should inform the relevant parties.

Editors should work with their publisher to consider relevant regulations, and to decide whether and how to refer cases of suspected misconduct, and what action to take.

- Cases of suspected misconduct should be handled following established processes, for example, those presented in the COPE Flowcharts.
- Sample letters from COPE (login required) and Sample Correspondence for Editors from Council of Science Editors may be useful
- Cases should be handled at a speed that allows appropriate care to be taken.
- Investigations may lead to retractions, expressions of concern, or other sanctions. These are discussed in the sections that follow.

Editors looking for advice about suspected misconduct should first speak with their publisher, and revisit the relevant employer and funder policies regarding the reporting and investigation of research misconduct.

There are many sources of high-quality information available to support investigations. For example COPE provides editors with independent advice from other editors about difficult cases via the COPE Forum. Through its case archive COPE enables editors to learn from previous cases. The US Office of Research Integrity has published "Managing Allegations of Scientific Misconduct: A Guidance Document for Editors". The European Association for Chemical and Molecular Sciences (EuCheMS) has published "Ethical Guidelines for Publications in Journals and Reviews."

WHISTLE BLOWING

Allegations of suspected misconduct that have specific, detailed evidence to support the claim should be investigated appropriately, whether they are raised anonymously or by named "whistle-blowers."

More information about how editors can respond to communications from whistle-blowers is available from COPE.

FABRICATION, FALSIFICATION, AND IMAGE MANIPULATION

Changes to images can create misleading results when research data are collected as images. Thus inappropriate image manipulation is one form of fabrication or falsification that journals can identify.

It may, however, be legitimate and even necessary to edit images. For example, the selective enlargement of part of an artwork may be needed to reveal features that would not otherwise be visible, and editing of video data may be needed to protect the privacy of participants.

The six CLIP (Clinical and Laboratory Images in Publications) principles present guidance for documenting and publishing clinical and laboratory images. The Council of Science Editors discusses image manipulation in its white paper on research integrity. The Office of Research Integrity provides forensic tools for quick examination of scientific images and samples.

Journals can help educate about image manipulation and, where appropriate, might check images. We suggest that journals ask authors to declare where manipulations have been made. We suggest that journals explain in their instructions for authors that:

- Specific features within an image should not be enhanced, obscured, removed, moved, or introduced.
- Original unprocessed images must be provided by authors should any indication of enhancement be identified. It may be helpful for journals to suggest that original unprocessed images should be submitted alongside any images that have been processed.
- Adjustments to brightness or contrast are only acceptable
 if they apply equally across the entire image and are
 applied equally to controls, and as long as they do
 not obscure, eliminate, or misrepresent any information
 present in the information originally captured.
- Excessive manipulations, such as processing to emphasize one region in the image at the expense of others, are inappropriate, as is emphasizing experimental data relative to the control.
- Nonlinear adjustments or deleting portions of a recording must be disclosed in a figure legend.
- Constructing figures from different gels, fields, exposures, and experimental series is discouraged. When this is necessary the component parts of composite images should be indicated by dividing lines clearly demarcated in the figure, and described in the legend.

These recommendations are based on guidance developed at the Journal of Cell Biology and Rossner and Yamada's discussion. Cromey discusses image manipulation in "Avoiding twisted pixels: ethical guidelines for the appropriate use and manipulation of scientific

digital images".

PLAGIARISM

A discussion of plagiarism is provided by the US Office of Research Integrity in its policy on plagiarism. Included in this discussion is the general working definition:

"ORI considers plagiarism to include both the theft or misappropriation of intellectual property and the substantial unattributed textual copying of another's work. It does not include authorship or credit disputes."

Editors can help educate about and prevent plagiarism (as well as redundant or duplicate publication) by screening submitted manuscripts. Journals should explain in their instructions to authors how submitted manuscripts are screened for duplicated text and possible plagiarism. CrossCheck is one of the screening services available for this purpose. Journals may consider the following text, adapted from the CrossCheck website:

"CrossCheck is a multi-publisher initiative to screen published and submitted content for originality. This journal uses the iThenticate software to detect instances of overlapping and similar text in submitted manuscripts. The 'CrossCheck Deposited' or 'CrossCheck Depositor' logos indicate that this journal has committed to actively combating plagiarism. To find out more about CrossCheck visit http://www.crossref.org/crosscheck.html." The sample text is here.

DUPLICATE AND REDUNDANT PUBLICATION

The Council of Science Editors incorporates a definition of duplicate or redundant publication into its White Paper on Promoting Integrity in Scientific Journal Publications:

"[A]uthors must avoid duplicate publication, which is reproducing verbatim content from their other publications."

Wiley has also published information about duplicate publication.

Journals should establish processes to help them avoid duplicate and redundant publication. The Copyright Transfer Agreement, Exclusive License Agreement or the Open Access Agreement, one of which must be submitted before publication in any Wiley journal, requires signature from the corresponding author to warrant that the article is an original work, has not been published before, and is not being considered for publication elsewhere in its final form.

- Journals should remind authors that duplicate publication is not acceptable.
- Journals should require that any previously published results, including numerical information and figures or images, are labeled to make it clear where they were

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previously reported.

 Papers, particularly medical research papers, that present new analyses of results that have already been published (for example, subgroup analyses) should identify the primary data source, and include a full reference to the related primary publications.

Journals from different disciplines vary in their approach to pre-print servers. Many biomedical journals would consider posting an article to a pre-print server to render any subsequent journal publication redundant. Thus an article submitted for consideration after having been posted to a pre-print server would be rejected. However, many researchers working in physics, mathematics, computer science, quantitative biology, quantitative finance and statistics post their articles to arXiv before submitting an article successfully to a journal for peer review and publication. Journals should establish a policy about pre-print servers and declare this in their instructions for authors. Any previous publication should be disclosed in the paper.

The following types of "prior publication" do not present cause for concerns about duplicate or redundant publication:

- Abstracts and posters presented during sessions at conferences.
- Results presented at meetings (for example, to inform investigators or participants about findings).
- Results in databases and clinical trials registries (data without interpretation, discussion, context or conclusions in the form of tables and text to describe data/ information).
- Dissertations and theses in university archives.

If a paper is published and later found to be redundant, the editor should refer to the COPE Flowcharts and should consider working with their publisher to retract the duplicate paper.

Text recycling

COPE hosted a discussion about text recycling. The US Office of Research Integrity has also published on this topic in its document "Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing."

Journals may find it useful to establish a policy about how much, if any, and under what circumstances they consider it acceptable to recycle text and results between articles. This may be important, for example, for authors who wish to communicate results from a research project to multiple audiences. In this instance, full or partial results might be recycled for legitimate reasons, although the discussion and conclusions would be different.

Duplicate submission

Journals should consider how they might detect concurrent

or multiple submissions. For example, in cases where journals are part of an editorial group or portfolio with access to internal information for the whole journal family, detection aids or mechanisms should be put in place for editors to use as part of their editorial office system.

If concurrent or multiple submissions are detected, the editor should work with their publisher and refer to the COPE flowchart on redundant publication in a submitted manuscript.

Duplicate information published in translations

Journals may choose to publish materials that have been accurately translated from an original publication in a different language. Journals that translate and publish material that has been published elsewhere should ensure that they have appropriate permission. They should indicate clearly that the material has been translated and republished, and should identify the original source of the material.

SANCTIONS

Wiley has published advice about sanctions in which we refer to the COPE guidelines. Journals may, for example, publish a retraction, may inform the author's institution, and may refuse for a time to consider future work from the authors

- Before considering sanctions editors must consult with their publisher, particularly for legal advice, and also with the journal owner (for example, a scholarly society).
- Sanctions should be applied consistently and only after careful consideration.
- Before imposing sanctions, journals should formally define the conditions in which they will apply (and remove) sanctions, and the processes they will use to do this.

Research ethics in journal articles

It is good practice for journals to adopt publication policies to ensure that ethical and responsible research is published, and that all necessary consents and approvals have been obtained from authors to publish their work. These publication policies might include the items presented in the sections below.

HUMAN RIGHTS, PRIVACY, AND CONFIDENTIALITY

For manuscripts reporting medical studies involving human participants, it is suggested that journals require authors to provide a statement identifying the ethics committee that approved the study, and that the study conforms to recognized standards, for example:

- Declaration of Helsinki
- US Federal Policy for the Protection of Human Subjects
- European Medicines Agency Guidelines for Good Clinical Practice

These standards encourage authors to conduct studies in a way that ensures adequate steps have been taken to minimize harm to participants, to avoid coercion or exploitation, to protect confidentiality, and to minimize the risk of physical and psychological harm.

Across the scholarly disciplines there are variations in practice around privacy and confidentiality, relative to the risks of participation and the reasonable expectations of participants.

In the biomedical sciences, editors should consider only publishing information and images from individual participants where the authors have obtained the individual's free prior informed consent. International Committee of Medical Journal Editors guidance says:

"Non-essential identifying details should be omitted. Informed consent should be obtained if there is any doubt that anonymity can be maintained. For example, masking the eye region in photographs of patients is inadequate protection of anonymity."

The best policy is for journals to require that authors confirm whether explicit written consent to publish has been received from any people described (for example, in case reports), shown in still or moving images, or whose voices are recorded. In the case of technical images (for example, radiographs or micrographs), editors should also ensure that all information that could identify the subject has been removed from the image. For voices or images of any human subject, permission according to applicable national laws must be sought from research participants before recording. In many jurisdictions it is a requirement that formal copyright clearance is obtained to publish any video or audio recordings. When publishing genetic

sequences or family genograms editors may need consent from more than just the index case; see "Deal done over HeLa cell Line." The CARE guidelines are useful for editors who publish case reports.

In the social sciences and humanities, there are numerous ethical guidelines for researchers working with human participants. Social science and humanities researchers regularly work with audio and video materials gathered in public places where there is no reasonable expectation of privacy. They also use materials derived from broadcast sources, as in some political science or cultural studies work, where copyright must be addressed but where consent issues do not arise. However, wherever appropriate, social scientists are also responsible for protecting the confidentiality of human participants, and obtaining informed consent from all participants by openly communicating any and all information that is likely to influence their willingness to participate (for example, sponsorship, purpose and anticipated outcomes, and possible consequences that publication of the research may have for participants). Guidelines include those from the American Sociological Association, International Society of Ethnobiology, and American Anthropological Association.

For social research data the Association of Social Anthropologists of the UK and the Commonwealth suggests in its "Ethical Guidelines for Good Research Practice" that it is not always possible or necessary to gain written consent to publish, particularly when researchers are working with people with limited literacy or in cultures where formal bureaucratic procedures are problematic. However, it remains prudent for journals to ask authors to provide evidence that they have obtained informed consent. The American Anthropological Association's statement recommends that:

"Informed consent does not necessarily imply or require a particular written or signed form. It is the quality of the consent, not its format, which is relevant."

Exceptional cases might arise where gaining an individual's free prior informed consent is not possible but where publishing an individual's information or image can be demonstrated to have a genuine public health interest or to serve an important public need. In cases like this, before taking any action editors should seek and follow counsel from the journal owner, the publisher, and/or legal professionals.

CULTURES AND HERITAGE

US Office for Human Research Protection has a searchable database of independent community institutional review boards that approve research and publication of culturally sensitive materials. More information is provided in "Principles and Procedures: Conducting Research in a

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Maori Context" from Waikato Institute of Technology and "Community IRBs and Research Review Boards: Shaping the Future of Community-Engaged Research" from Albert Einstein College of Medicine.

There is recognition of increasing innovation in the management of joint copyright in relation to intercultural research, to enable appropriate legal acknowledgment of intellectual property in attribution and acknowledgment. This is presented in the section on authorship which follows.

Editors should consider any sensitivities when publishing images of objects that might have cultural significance or cause offence (for example, religious texts or historical events). In addition:

- Editors should be conscious of the ethics surrounding publication of images of human remains, and should recognize that human remains are perceived differently in different cultures. Images of human remains should not be published without consideration of the views of any demonstrated genealogical descendants or affiliated cultural communities, if feasible. In cases where descendants or affiliated cultural communities cannot be contacted, images of human remains should not be published without consultation with and permission from the curating institution or relevant stakeholder. For more information refer to the British Association of Biological Anthropology and Osteoarchaeology Code of Ethics.
- Cultural restrictions do exist in some cultures that prevent publication of the names of deceased people. In Aboriginal Australian culture, this often extends to publication of photographs or film footage of deceased persons. Editors are encouraged to consider any sensitivities and, if necessary, confer with the author about appropriate representation of subjects in published work.

REGISTERING CLINICAL TRIALS

The World Health Organization and Declaration of Helsinki both suggest that clinical trials should be registered prospectively, before participants are enrolled. The International Federation of Pharmaceutical Manufacturers and Associations also requires its members to register trials. Legislation varies. For example, the US Food and Drug Administration Amendments Act of 2007 does not require registration for Phase 1 studies.

Medical journals that publish clinical trials should make prospective registration a requirement for publication of such trials. Clinical trial registration numbers should be included in all papers that report their results. A suitable statement about this in journal instructions for authors might read: "We require that clinical trials are prospectively registered in a publicly accessible database. Please include the name of the trial register and your clinical trial registration number at the end of your abstract. If your trial is not registered, or was registered retrospectively, please

explain the reasons for this."

ANIMALS IN RESEARCH

Research involving animals should be conducted with the same rigor as research in humans. Journals can encourage authors to implement the 3Rs principles:

"The 3Rs are a widely accepted ethical framework for conducting scientific experiments using animals humanely: Replacement – use of non-animal methods; Reduction – methods which reduce the number of animals used; Refinement – methods which improve animal welfare."

-National Centre for the Replacement, Refinement & Reduction of Animals in Research

The International Council for Laboratory Animal Science has published ethical guidelines for editors and reviewers.

Journals should encourage authors to adhere to animal research reporting standards, for example the ARRIVE reporting guidelines, which describe the details journals should require from authors regarding:

- Study design and statistical analysis.
- Experimental procedures.
- Experimental animals.
- Housing and husbandry.

Journals should ask authors to confirm that ethical and legal approval was obtained prior to the start of the study, and state the name of the body giving the approval. Authors should also state whether experiments were performed in accordance with relevant institutional and national quidelines and regulations.

- US authors should cite compliance with the US National Research Council's "Guide for the Care and Use of Laboratory Animals," the US Public Health Service's "Policy on Humane Care and Use of Laboratory Animals," and "Guide for the Care and Use of Laboratory Animals."
- UK authors should conform to UK legislation under the Animals (Scientific Procedures) Act 1986 Amendment Regulations (SI 2012/3039).
- European authors outside the UK should conform to Directive 2010/63/EU.

Editors may ask authors to describe in their articles how discomfort, distress, and pain were avoided and minimized, and to confirm that animals did not suffer unnecessarily at any stage of an experiment.

Editors may request that reviewers comment on the standard of experimental reporting, experimental design, or any other aspects of the study reported that may cause concern. If concerns are raised or clarifications are needed, they may need to request evidence of ethical research approval or question authors.

BIOSECURITY

Journals should ask authors to inform them at the time of manuscript submission if their study has potential for both benevolent and malevolent application. This is often referred to as "dual use research."

Journals should ask these authors to conform to the National Science Advisory Board for Biosecurity (NSABB) guidelines for Dual Use Life Sciences Research. The June 2007 NSABB report presents a useful description and discussion of "dual use research of concern."

REPORTING GUIDELINES

Accurate and complete reporting enables readers to fully appraise research, replicate it, and use it. Editors should encourage authors to follow their discipline's guidelines for accurate and complete reporting of research. Editors, working with peer reviewers, should ensure that authors provide the information readers need to evaluate the methods and results, so that readers can reach their own conclusions.

- In health research, the EQUATOR Network promotes useful reporting tools.
- In life sciences, useful reporting guidelines are promoted by Future of Research Communications and e-Scholarship (FORCE11). Specific reporting guidance that editors can recommend for animal experiments include the ARRIVE guidelines, the National Research Council's Institute for Laboratory Animal Research guidelines, and the Gold Standard Publication Checklist from Hooijmans and colleagues.
- Standards for reporting animal studies are discussed in more detail by Landis and colleagues.
- Further guidelines and standards in bioscience are promoted on the Minimum Information Guidelines from Diverse Bioscience Communities (MIBBI) website and by the Biosharing website.
- Livestock reporting guidelines are provided by the REFLECT statement

Editorial standards and processes

AUTHORSHIP

The list of authors should accurately illustrate who contributed to the work and how. All published work should be attributed to one or more authors. All those listed as authors should qualify for authorship by standards that are appropriate for the scholarly community that the journal serves. We suggest using the criteria developed by the International Committee of Medical Journal Editors, which are presented below and can be found online.

- Journals should adopt clear authorship criteria, and explain these criteria in their instructions to authors.
- Journals should require authors to confirm that they and their co-authors all meet the journal's criteria for authorship, and that nobody who meets these criteria has been omitted from the list.
- Journals should consider requesting that authors provide a short description of each author's contribution in an Acknowledgment.
- Journals should request that contributions from anyone who does not meet the criteria for authorship are listed, with permission from the contributor, in an Acknowledgments section (for example, to recognize contributions from people who provided technical help, writing assistance, or a department chairperson who provided general support).
- Journals should ask corresponding authors to confirm they have received written authorization from all their co-authors for publication of the article. The Copyright Transfer Agreements and Exclusive Licence Agreements used by Wiley incorporate this.
- Journals should require that, prior to submitting their article, all authors agree the order in which their names will be listed in their manuscript.
- Journals should ask the corresponding author to ensure that all the journal's administrative requirements, such as providing details of authorship, ethics committee approval, clinical trial registration documentation, and gathering conflict of interest forms and statements, are properly completed.
- Journals should consider sending copies of all correspondence with the corresponding author to all listed authors. They should ensure as far as possible that emails are not returned because of invalid email addresses
- Journals should encourage authors to use tools that remove potential ambiguity around author names, such as the unique persistent digital identifiers provided by ORCID.

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Criteria for authorship

The International Committee of Medical Journal Editors provides definitions of authors and contributors that are applicable in many instances beyond medical publishing. It recommends that authorship should be based on the following four criteria:

- 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.

All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors. Those who do not meet all four criteria should be acknowledged.

Authors collaborating on multidisciplinary and interdisciplinary work may have different and perhaps nonoverlapping areas of expertise. However, authors should still be able to stand "accountable" for ensuring investigation and resolution of "questions related to the accuracy or integrity of any part of the work."

By these criteria, acquisition of funding alone, collection of data alone, or general supervision of the research group alone does not constitute authorship. Also, each author should have participated sufficiently in the work to take public responsibility for appropriate portions of the content. This also applies to all authors designated within large multi-author groups and for on those occasions when authors report work on behalf of a larger group of investigators, upon which the International Committee of Medical Journal Editors provides auidance.

Journals should encourage authors of intercultural research to consider appropriate attribution for traditional knowledge, to the extent that this attribution does not compromise any agreed assurances of anonymity. This may include "traditional knowledge" notices, or citation of indigenous sources (such as people or community groups) or other cultural sources of knowledge by name within the text. In some fields, such as anthropology, appropriate attribution may require sharing authorship with intercultural collaborators and this may differ from the approach recommended by the International Committee of Medical Journal Editors. More information is at the Australian Institute of Aboriginal and Torres Strait Islander Studies web site.

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AUTHORSHIP DISPUTES

To manage authorship disputes, editors should refer to the flowcharts from COPE and "Advice on how to spot authorship problems"

FUNDING

lournals should request that authors list all funding sources in an Acknowledgments section. If there is no specific funding this should be stated. The role of the research funder beyond providing funding itself should also be described. It may be important to disclose, for example, if a commercial organization funded the study, designed the study, and also recruited the investigators.

Other sources of support should be clearly identified in the Acknowledgments section of the manuscript. For example, these might include funding for open access publication, or funding for writing or editorial assistance, or provision of experimental materials.

PEER REVIEW

The merits of different peer-review systems (for example, revealing peer reviewers' identities to authors and/or attempting to mask authors' identities from peer reviewers) have been the subject of considerable debate and study, for example, as conducted by the Publishing Research Consortium

and Sense About Science. However, there is no clear evidence of the superiority of any one system over another. The benefits and feasibility of different systems probably vary between disciplines. Editors should choose a peerreview system that best suits their journal.

COPE has developed Ethical Guidelines for Peer Reviewers, to which Editors and their editorial board can refer for auidance.

Further guidance on the ethics of peer review is available from many sources. For example, Rockwell presents guidance and EuCheMS provides guidelines. Hames's book "Peer Review and Manuscript Management in Scientific Journals: Guidelines for Good Practice" presents useful recommendations and checklists

- Journals should have clearly defined and communicated policies on the type of peer review used, for example, single-blinded, double-blinded, "open," or postpublication.
- Journals should make it clear to readers whether peer review varies between types of article. For example, readers need to know if editorials and letters are not peer reviewed but original articles and reviews always are
- Journals should also be clear if they operate a triage process in which submissions that are out of scope or otherwise inappropriate may be rejected or returned to the author without external peer review.

- Editors should apply consistent standards in their peer review processes, including for special issues or supplements, and where peer review has been managed by a quest editor.
- Editors should ensure confidential handling of manuscripts, with no details being disclosed to anyone except the peer reviewers without the permission of the author. If discussions between an author, editor, and peer reviewer have taken place in confidence they should remain in confidence unless explicit consent has been given by all parties, or unless there are exceptional circumstances (for example, when they might help substantiate claims of intellectual property theft during peer review).
- Editors should ensure that all those who carry out peer review on behalf of the journal understand and adhere to the need for confidentiality relating to the peer-review process.
- Editors should ask peer reviewers to disclose any conflicts of interest when they respond to an invitation to review and also when they submit their review (since conflicts may only be identified after reading the manuscript). Editors should ask that reviewers decline invitations where circumstances might prevent them writing an unbiased review. Examples of potential conflicts of interest include when they have collaborated with the authors recently, when they are based in the same institution as the authors, when they are in direct competition with the authors, when they have personal conflict or close personal relationship or association with the authors, or when they have a financial interest in the manuscript.
- Editors should request that invited peer reviewers inform them if they delegate peer review.
- Editors should only ask authors to add citations to their papers when there is a strong scholarly rationale for this.

To create an efficient, effective peer-review process, editors

- Establish and maintain a secure database of suitably qualified peer reviewers that is compliant with data protection legislation.
- Monitor the performance of peer reviewers for quality and timeliness. Peer reviewers who repeatedly produce poor quality, tardy, abusive, or unconstructive reviews should not be used again.
- Consider giving authors the option to nominate peer reviewers or to request that particular individuals do not peer review their paper. Editors should remind authors that they should avoid nominating peer reviewers who have a conflict of interest. Editors are under no obligation to accept the authors' nominations and should validate nominations carefully.

WILEY / BEST PRACTICE GUIDELINES ON PUBLISHING ETHICS PAGE Q Give peer reviewers explicit guidance on their role and responsibilities, and consider encouraging the use of reporting guidelines to check completeness of reporting in a systematic way.

Peer reviewers can play an important role in identifying misconduct such as possible data fabrication, falsification, plagiarism, image manipulation, unethical research, biased reporting, authorship abuse, redundant or duplicate publication, and undeclared conflicts of interest. Editors should remind peer reviewers of this role, and of their requirement to:

- Respect the confidentiality of peer review, and not discuss the manuscript or contact the authors or any other people about the manuscript.
- Declare any conflicts of interest.
- Provide an objective and constructive explanation for their recommendation.
- Not allow their decision on a manuscript to be influenced by its origin or authorship.
- Avoid requesting that the author cites the peer reviewer's own papers, unless there is a strong scholarly rationale for this.
- Not reproduce information or any part of the manuscript under review in any of their own work prior to publication by the authors.
- Only agree to peer review manuscripts within their expertise and within a reasonable timeframe.
- Not delay publication.
- Not use insulting, hostile, or defamatory language.
- Destroy submitted manuscripts and all related material after they have reviewed them.

TIMING OF PUBLICATION

Editors should aim to ensure timely peer review and publication and should avoid unnecessary delays. Editors should consider how best to share information with authors about any delays that occur. Online publication can provide the fastest route to publication and, therefore, to placing peer reviewed research (and other) information in the public domain.

EDITORS AND JOURNAL STAFF AS AUTHORS

Editors or board members should not be involved in editorial decisions about their own scholarly work. Journals should establish and publish mechanisms and clearly defined policies for handling submissions from editors, members of their editorial boards, and employees. We recommend that:

- Editors and editorial team members are excluded from publication decisions when they are authors or have contributed to a manuscript.
- A short statement may be useful for any published article that lists editors or board members as authors to explain the process used to make the editorial decision.

Some journals will not consider original research papers from editors or employees of the journal. Others have procedures in place for ensuring fair peer review in these instances.

CONFLICTS OF INTEREST

Editors, authors, and peer reviewers should disclose interests that might appear to affect their ability to present or review work objectively. These might include relevant financial interests (for example, patent ownership, stock ownership, consultancies, or speaker's fees), or personal, political, or religious interests.

The International Committee of Medical Journal Editors definition of conflicts of interest is as follows:

"A conflict of interest exists when professional judgment concerning a primary interest (such as patients' welfare or the validity of research) may be influenced by a secondary interest (such as financial gain). Perceptions of conflict of interest are as important as actual conflicts of interest."

Strict policies preventing people with conflicts of interest from publishing might encourage authors to conceal relevant interests, and might therefore be counterproductive.

- Journal editors, board members, and staff who are involved with decisions about publication should declare their interests. Journals should consider publishing these on their website and updating them as required, as well as disclosing how conflicts of interest were managed for specific papers.
- Editors should clearly explain what should be disclosed, including the period that these statements should cover (for example, 3 years). Editors should ask authors to describe relevant funding, including the purpose of the funding (for example, travel grant and speaker's fees), and to describe relevant patents, stocks, and shares that they own.
- Editors should publish authors' conflicts of interest whenever they are relevant, or a statement of their absence. If there is doubt editors should opt in favor of greater disclosure.
- If authors state that there are no conflicts of interest, editors should publish a confirmation to this effect.
- Editors should manage peer reviewers' conflicts of interest. An invitation to review a manuscript should be accompanied by a request for the reviewer to reveal any

potential conflicts of interest and a request for the peer reviewer to disqualify or recuse themselves when these are relevant

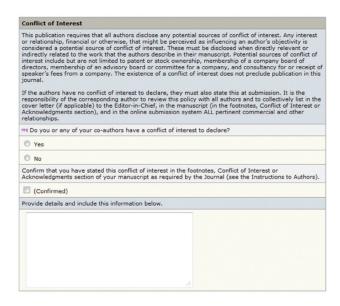
When editors, members of editorial boards, and other
editorial staff are presented with papers where their own
interests may be perceived to impair their ability to make
an unbiased editorial decision, they should withdraw
from discussions, deputize decisions, or suggest that
authors seek publication in a different journal.

COPE has published flowcharts that illustrate a suitable process for investigations of suspected undisclosed conflicts of interest.

Wiley uses a number of forms to capture conflicts of interest statements in online submission and peer review systems (for example, figure 1). The International Committee of Medical Journal Editors has created a uniform disclosure form for conflicts of interest.

Figure 1

Typical form to capture conflicts of interest during manuscript submission



LIBEL AND DEFAMATION

Wiley has published some overview guidance about libel and defamation.

Editors should be alert to language in both submitted manuscripts and also in peer review reports or correspondence which could give rise to legal action for defamation or negligent misstatement. Such language, which can be directed at corporate entities and associations as well as individuals, should not appear within published articles and should be removed from any peer review report or correspondence that is passed on to the author. If in doubt, editors who work with Wiley should seek advice from Wiley.

EDITORIAL INDEPENDENCE AND COMMERCIAL ISSUES

The Council of Science Editors presents discussion of editorial independence in its White Paper on "Promoting Integrity in Scientific Journal Publications."

The relationship between the editor and the journal owner and publisher should be set out in a formal contract. It may be useful to establish a mechanism to resolve disputes before one is needed in order to help resolve any disagreements speedily.

Journal owners (whether learned societies or publishers) should avoid influencing editorial decisions.

- Editors' decisions about whether to publish individual manuscripts submitted to their journal should not be influenced by pressure from the editor's employer, the journal owner, or the publisher. Ideally, the principles of editorial independence should be set out in the editor's contract.
- It is appropriate for journal owners/publishers to discuss general editorial processes and policies with journal editors (for example, whether or not a journal should publish a particular type of article), but they should not get involved in decisions made by the editor about individual articles
- It is impossible to completely insulate editorial decisions from issues that may influence them, such as commercial considerations. For example, editors will know which articles are likely to attract offprint or reprint sales. Even so, we suggest that editors, journal owners, and publishers establish processes that minimize the risk of editorial decisions being influenced by commercial, personal, or political factors.
- Editors should be free to judge all submissions on their scholarly merit and on their potential importance to the community that the journal serves.
- Editorial decisions about individual papers should remain separate from the sale of advertising.
- Journals that publish special issues, supplements, or similar material that is funded by third-party organizations should establish policies for how these are handled. The funding organization should not be allowed to influence the selection or editing of submissions, and all funded items should be clearly identified.
- Journals should establish policies so that editorial decisions cannot be influenced by payment of an open-access-article publication charge or other type of payment made by authors.

Further discussion of editorial independence is presented by the Council of Science Editors in their white paper on integrity and in the COPE Code of Conduct for Journal Publishers.

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Commercial issues, supplements, and other funded publications

Wiley sales teams are not permitted to become involved with peer review and the editorial decision-making process. Our sales teams use editorial information only after editorial decisions are finalized. The extent of editorial information available and the timing of its disclosure are agreed for each journal in consultation with the journal owner and editor. Decisions about what can be sold are also agreed in consultation with the journal owner and editor (for example, the positions available for journal advertising within or adjacent to an article, collected in specific positions within the journal, and online, and whether it is permissible to sell reprints of papers published online prior to print).

Journals may choose to publish supplements, special issues, or similar publications that are funded by a third party (for example, a company, society, or charity). Journals should present readers with the names of the organizations that provided funding, and any conflict of interest statements.

Journals should not permit funding organizations to make decisions beyond which publications they choose to fund. Decisions about the selection and editing of contents to be published should be made by the editor (or co-editors) of the funded publication.

A journal editor may elect to use "guest" or external editors to support the publishing of supplements, special issues, or similar publications. In this case, it is the journal editor's responsibility to disclose the journal policy and ensure it is implemented by those external editors.

Journals should reserve the right not to publish any funded publication that does not comply with their requirements.

ACADEMIC DEBATE

lournals should facilitate debate.

- Journals should encourage correspondence and constructive criticism of the work they publish.
- If an item of correspondence discusses a specific article, the journal should invite the authors of the work to respond before the correspondence is published. When possible, the correspondence and the authors' response should be published at the same time.

Authors may choose not to respond to this invitation.
They do not have a right to veto comments about their
work that the editor judges to be constructive. They
may advise editors accordingly about unconstructive
comments.

APPEALS

Journals should consider establishing and publishing a mechanism for authors to appeal editorial decisions, to facilitate genuine appeals, and to discourage repeated or unfounded appeals.

- Editors should allow appeals to override earlier decisions only when new information becomes available (for example, additional factual input by the authors, revisions, extra material in the manuscript, or appeals about conflicts of interest and concerns about biased peer review). Author protest alone should not affect decisions. Reversals of decisions without new evidence should be avoided.
- Editors should mediate all exchanges between authors and peer reviewers during the peer-review process.
 Editors may seek comments from additional peer reviewers to help them make their final decision.
- Journals should state in their guidelines that the editor's decision following an appeal is final.

Journals should consider establishing a mechanism for authors and others to comment on aspects of the journal's editorial management, perhaps via the publisher or a third-party.

CORRECTIONS

Journals should encourage readers and authors to notify them if they find errors, especially errors that could affect the interpretation of data or information presented in an article. When an error is identified:

- Journals should work with authors and their publisher to correct important published errors.
- Journals should publish corrections when important errors are found, and should consider retraction when errors are so fundamental that they invalidate the work.
- Corrections arising from errors within an article should be distinguishable from retractions and statements of concern relating to misconduct.
- Corrections should be included in indexing systems and linked to the original article.
- Corrections should be free to access.

Retractions and Expressions of Concern are discussed in other sections of these guidelines.

RETRACTIONS AND EXPRESSIONS OF CONCERN

Wiley has published general advice on publishing retractions and answers to frequently asked questions. All Retraction statements published by Wiley are reviewed and approved by Wiley lawyers.

COPE has also published guidelines for retracting articles.

- Retractions should be published when errors could affect
 the interpretation of data or information, or if work is
 proven to be fraudulent, or in other cases of serious
 ethical misconduct (for example, duplicate or redundant
 publication, failure of all authors to agree to publication,
 or plagiarism).
- Expressions of concern may be published if editors have well-founded concerns or suspicions and feel that readers should be made aware of potentially misleading information. Editors should do so with caution: an expression of concern carries the same risks to a researcher's reputation as a retraction, and it is often preferable to wait to publish a retraction when a definitive judgment has been made by an independent investigation.

WITHDRAWAL OF ARTICLES

Withdrawal or removal of articles is strongly discouraged. This policy is standard industry practice as described by the International Association of Scientific, Technical and Medical Publishers Guidelines on Preserving the Record of Science.

The practice of removal, deletion, or obscuring of an article or part of an article should be limited to circumstances such as:

- Legal infringements, defamation, or other legal limitations; or
- False or inaccurate data, especially those that if acted upon could pose a serious health risk.

Even in these circumstances, a retraction statement must still be published to ensure that bibliographic information about the removed article is retained for the scientific record, and an explanation must be given about the circumstances of removal or withdrawal.

Readers are also directed to the sections in this article which discuss Retractions and Expressions of Concern.

How to publish Retractions and Expressions of Concern

Guidelines on retracting articles, written by COPE, can be downloaded from their website. Similar to a Correction or an Erratum the title of a Retraction or Expression of Concern should include the words "Retraction" or "Expression of Concern" as well as information to identify the article that it refers to. It should be published on a numbered page (print and electronic) and should be listed in the journal's table of contents. It should cite the original article and link electronically with the original electronic publication wherever possible. It should enable the reader to identify and understand why the article is being retracted, or should explain the editor's concerns about the contents of the article. It should be in a form that enables indexing and abstracting services to identify and link to original publications. Finally, it should be free to access.

DATA PROTECTION LEGISLATION

Journals should comply with data protection legislation. Editors who work with Wiley that have any concerns about data protection should seek advice from Wiley.

Copyright and intellectual property

Wiley has published separate guidance about copyright.

It is a legal requirement for an author to sign a copyright agreement of some kind before publication. Some journals ask authors to transfer their copyright to the journal. Others accept an Exclusive License from authors. Wiley authors wishing to make their article open access must sign an Open Access Agreement.

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Protecting intellectual property

Publishers are legally required to have explicit authority from an author to publish any article. The societies Wiley partners with decide which copyright arrangement they require from the range of options we provide, a brief and abridged description of which is provided below.

Copyright Transfer Agreement (CTA). Under this form of agreement, the author retains broad reuse rights in their article, but transfers copyright to the journal, society, or publisher. Signing a CTA ensures maximum protection against copyright infringement with the publisher acting on behalf of the author.

Exclusive License Agreement (ELA). This form of copyright agreement is similar to the CTA but allows authors to retain copyright in their article. Wiley or the journal owner retains the commercial publishing and journal compilation rights.

OnlineOpen and Open Access Agreements. Wiley requires authors wishing to make their article open access to sign an Open Access Agreement providing for the article to be made available under one of the Creative Commons Licenses in order to meet the terms of open access publication and ensure the widest possible dissemination. The Creative Commons website explains how these licenses work. At the time of writing these guidelines, Wiley uses three Creative Commons Licenses: CC-BY, CC-BY-NC, and CC-BY-NC-ND.

Resources for responsible publication policies and procedures

Journals should promote relevant best practice in their instructions for authors. Table 1 presents a range of useful information from across many disciplines, indexed by organization acronym or first author name.*

Table 1. Resources, guidelines, and references for responsible publication practices.

- AAA. American Anthropological Association
 http://www.aaanet.org/cmtes/ethics/Ethics-Resources.cfm
- ABPI. Association of the British Pharmaceutical Industry (ABPI) clinical trial disclosure toolkit http://www.abpi.org.uk/our-work/library/guidelines/Pages/ABPI-disclosure-toolkit.aspx
- ACJS. Academy of Criminal Justice Sciences http://www.acjs.org/?page=code_of_ethics&terms=%22ethics%22
- ACS. American Chemical Society Ethical Guidelines http://pubs.acs.org/instruct/ethic.html
- AFS. American Folklore Society
 http://www.afsnet.org/?page=Ethics
- AIATSIS. Guidelines for Ethical Research in Indigenous Studies 2011, Australian Institute of Aboriginal and Torres Strait Islander Studies http://aiatsis.gov.au/research/ethical-research/guidelines-ethical-research-australian-indigenous-studies
- Albert Einstein College of Medicine.

Community IRBs and Research Review Boards: Shaping the Future of Community-Engaged Research http://ccph.memberclicks.net/assets/Documents/FocusAreas/shaping the future of cenr.pdf

- AMWA. American Medical Writers Association (AMWA) Code of Ethics http://www.amwa.org/?page=Code_of_Ethics
- APA. American Psychological Association Ethical Principles of Psychologists and Code of Conduct, Section 8
 Research and Publication
 http://www.apa.org/ethics/code2002.html#8
- APA. American Psychological Association http://www.apa.org/ethics/
- APS. Australian Psychological Society code of ethics: http://www.psychology.org.au/Assets/Files/APS-Code-of-Ethics.pdf
- APS. Guidelines for Professional Conduct of the American Physical Society http://www.aps.org/policy/statements/02_2.cfm
- APSA. American Political Science Association http://www.apsanet.org/RESOURCES/For-Faculty/Ethics
- ARRIVE. Animals in Research: Reporting In Vivo Experiments Guidelines and checklist for reporting research involving animals http://www.nc3rs.org.uk/page.asp?id=1357
- ASA. American Sociological Association http://www.asanet.org/about/ethics.cfm

http://www.asc41.com/ethicspg.html

- ASA. American Statistical Association (ASA) Ethical Guidelines for Statistical Practice http://www.amstat.org/about/ethicalguidelines.cfm
- ASA. Association of Social Anthropologists of the UK and the Commonwealth (ASA). 2011. Ethical guidelines Guidelines for Good Research Practice
 http://www.theasa.org/downloads/ASA%20ethics%20guidelines%202011.pdf
- ASC. American Society of Criminology

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Animals (Scientific Procedures) Act 1986 Amendment Regulations ASPA. https://www.gov.uk/government/publications/animals-scientific-procedures-act-1986-amendment-regulations British Association of Biological Anthropology and Osteoarchaeology Code of Ethics BABAO. http://www.babao.org.uk/index/ethics-and-standards Biosharing Community developed standards in the life sciences, broadly covering biological, natural, and biomedical sciences http://www.biosharing.org/ Callaway E. Deal done over HeLa cell line. Nature 2013;500:132-133. doi:10.1038/500132a. http://www.nature.com/news/deal-done-over-hela-cell-line-1.13511 The CARE guidelines for Case Reports. CARE. http://www.care-statement.org/ Lang TA, Lalerico C, Siontis GC. Documenting clinical and laboratory images in publications:the CLIP principles. CLIP. Chest 2012;141(6):1626-32.doi: 10.1378/chest.11-1800. http://journal.publications.chestnet.org/article.aspx?articleid=1186950 CONSORT. Consolidated Standards of Reporting Trials (CONSORT) http://www.consort-statement.org/ COPE. Committee on Publication Ethics (COPE) audit tool: Audit your journal (requires membership to access) http://publicationethics.org/resources/audit COPE. Committee on Publication Ethics (COPE) Code of Conduct for Editors, Code of Conduct for Publishers http://publicationethics.org/resources/code-conduct Committee on Publication Ethics (COPE) flowcharts 'to help editors follow COPE's Code of Conduct and COPE. implement its advice when faced with cases of suspected misconduct' http://publicationethics.org/resources/flowcharts COPE. Committee on Publication Ethics (COPE) guidelines http://publicationethics.org/resources/guidelines Committee on Publication Ethics (COPE) sample letters for editors (requires membership to access) COPE. http://publicationethics.org/resources/sample-letters Avoiding twisted pixels: ethical guidelines for the appropriate use and manipulation of scientific Cromey. digital images. Sci Eng Ethics. 2010;16(4):639-67.doi: 10.1007/s11948-010-9201-y. http://scienceimageintegrity.org/wp-content/uploads/2010/05/TwistedPixils-Cromey-SEE-Dec2010.pdf Council of Science Editors (CSE) http://www.councilscienceeditors.org/white paper on Promoting Integrity in CSE. Scientific Journal Publications, 2012 Update http://www.councilscienceeditors.org/i4a/pages/index.cfm?pageid=3313 Council of Science Editors (CSE). Sample Correspondence for Editors CSE. https://www.councilscienceeditors.org/resource-library/editorial-policies/sample-correspondence-for-aneditorial-office/ US Department of Health and Human Services Office of Research Integrity DHHS. http://ori.dhhs.gov DHHS. US Federal Policy for the Protection of Human Subjects https://www.hhs.gov/ohrp/regulations-and-policy/regulations/common-rule/ US National Institutes of Health Belmont Report DHHS. http://www.hhs.gov/ohrp/humansubjects/guidance/belmont.html DHHS. US Public Health Service's Policy on Humane Care and Use of Laboratory Animals http://grants.nih.gov/grants/olaw/references/phspol.htm The San Francisco Declaration on Research Assessment (DORA) DORA. http://www.ascb.org/dora/ Code of Conduct for Members of the German Physical Society DPG. http://www.dpg-physik.de/dpg/statuten/kodex_english.html

European Medicines Agency Guidelines for Good Clinical Practice EMA. http://www.ema.europa.eu/ema/index.jsp?curl=pages/regulation/general/general_content_000072.jsp EMWA. European Medical Writers Association (http://www.emwa.org/) guidelines on the role of medical writers in the development of peer-reviewed publications http://www.emwa.org/Mum/EMWAguidelines.pdf EQUATOR (Enhancing the Quality and Transparency of Health Research): resources for good publication of EQUATOR. health research studies. www.equator-network.org/ EQUATOR. Transparency declaration. http://www.equator-network.org/2014/08/12/declaration-of-transparency/ Legislation for the protection of animals used for scientific purposes **EU Directive** http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32010L0063 2010/63/EU. EuCheMS. EuCheMS: European Association for Chemical and Molecular Sciences: Ethical Guidelines for Publications in Journals and Reviews. http://www.euchems.eu/policy-and-communication/policy-positions/ethical-guidelines-for-publications-in-journal-and-reviews/ US Food and Drug Administration Amendments Act of 2007 FDAAA. https://www.fda.gov/OHRMS/DOCKETS/98fr/FDA-2008-D-0224-GDL.pdf The Future of Research Communications and e-Scholarship (FORCE11) 'Recommended reporting guidelines for Act of 2007 FORCE11. life science resources' http://www.forcell.org/node/4433. Sociology of Health and Illness and Foundation for the Sociology of Health & Illness approach to misconduct FSHI. http://onlinelibrary.wiley.com/journal/10.1111/(ISSN)1467-9566/homepage/shi_approach_to_misconduct.pdf Peer Review and Manuscript Management in Scientific Journals: Guidelines for Good Practice Hames, I. Hames, I. (ed) (2007) Blackwell Publishing, Malden, Massachusetts, USA. doi: 10.1002/9780470750803 http://onlinelibrary.wiley.com/book/10.1002/9780470750803 International Council for Laboratory Animal Science (ICLAS). Ethical Guidelines for editors and reviewers ICLAS. http://iclas.org/committees/ethics-and-animal-welfare-committee International Committee of Medical Journal Editors (ICMJE) Conflicts of Interest Form. ICMJE. http://www.icmje.org/coi_instructions.html International Committee of Medical Journal Editors Recommendations ICMJE. http://www.icmje.org/ IFPMA, EFPIA, Joint Position on the Disclosure of Clinical Trial Information via Clinical Trial Registries and Databases, JPMA, PhRMA. International Federation of Pharmaceutical Manufacturers and Associations (IFPMA), European Federation of Pharmaceutical Industries and Associations (EFPIA), Japan Pharmaceutical Manufacturers Association (JPMA), Pharmaceutical Research and Manufacturers of America (PhRMA) http://www.jpma.or.jp/event_media/release/pdf/090416_shishin_e.pdf IFPMA, EFPIA, Joint Position on the Publication of Clinical Trial Results in the Scientific Literature, International JPMA, PhRMA. Federation of Pharmaceutical Manufacturers and Associations (IFPMA), European Federation of Pharmaceutical Industries and Associations (EFPIA), Japan Pharmaceutical Manufacturers Association (JPMA), Pharmaceutical Research and Manufacturers of America (PhRMA) http://clinicaltrials.ifpma.org/clinicaltrials/fileadmin/files/pdfs/20100610_Joint_Position_PublicatioP_10Jun2010.pdf International Society of Ethnobiology (ISE) Code of Ethics ISE. http://www.ethnobiology.net/global_coalition/CoE-Eng.php Good publication practice for communicating company sponsored medical research: the GPP2 guidelines ISMPP. http://www.ismpp.org/gpp2, http://www.bmj.com/content/339/bmj.b4330.long

International Society for Medical Publication Professionals code of ethics

http://www.ismpp.org/ethics

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ISMPP.

IUPAP. International Guidelines for Ethical Conduct in Scientific Publishing adopted by the International Union of Pure and Applied Physics http://www.iupap.org/wg/communications/ethics/outcomes.pdf Image manipulation recommendations from Journal of Cell Biology JCB. http://jcb.rupress.org/site/misc/print.xhtml The Journal of Physiology series on statistical reporting http://jp.physoc.org/cgi/collection/stats_reporting A call for transparent reporting to optimize the predictive value of preclinical research. Landis et al. Nature. 2012;490:187-191. doi:10.1038/nature11556 http://www.nature.com/nature/journal/v490/n7419/full/nature11556.html MCP. Peptide and protein identification analysis and documentation publication guidelines http://www.mcponline.org/misc/ParisReport Final.dtl McShane et al. Reporting recommendations for tumor marker prognostic studies (REMARK). JNCI J Natl Cancer Inst. 2005;97(16):1180-1184. Doi: 10.1093/jnci/dji237 http://jnci.oxfordjournals.org/content/97/16/1180.long MIAPE. Proteomics reporting guidelines: Minimum Information About a Proteomics Experiment (MIAPE) http://www.psidev.info/node/91 Minimum Information guidelines from diverse bioscience communities (MIBBI). MIBBI. http://mibbi.sourceforge.net/portal.shtml MPIP. Chipperfield L, Citrome L, Clark J et al. Authors' Submission Toolkit: A practical guide to getting your research published. Curr Med Res Opin 2010;26:1967-82. http://www.mpip-initiative.org/uploads/pdf/authorstoolkitPDF.pdf MPIP. Medical Publishing Insights and Practices initiative (MPIP). http://www.mpip-initiative.org/ MRC. UK Medical Research Council Good Research Practice http://www.mrc.ac.uk/publications/browse/good-research-practice-principles-and-guidelines/ UK Medical Research Council legislation for the study and the acquisition and care of the animals concerned MRC. https://www.mrc.ac.uk/publications/browse/responsibility-in-the-use-of-animals-in-research/ UK Medical Research Council legislation in the use of animals in medical research MRC. https://www.mrc.ac.uk/research/research-involving-animals/regulation-and-policy/ National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) ethical NC3Rs. framework for conducting scientific experiments using animals humanely http://www.nc3rs.org.uk/page.asp?id=7 Expressions of concern and their uses. Learned Publishing 2008;21(3):209-213(5). Noonan BM, http://www.ingentaconnect.com/content/alpsp/lp/2008/0000021/0000003/art00007 Parish D. US National Science Advisory Board for Biosecurity (NSABB) statements and recommendations on biosecurity NSABB. http://osp.od.nih.gov/office-biotechnology-activities/biosecurity/nsabb/reports-and-recommendations US Office for Human Research Protection database of independent community institutional review boards OHRP. http://ohrp.cit.nih.gov/search/irbsearch.aspx?styp=bsc ORCID. A registry of unique researcher identifiers and a method of linking research activities and outputs to these identifiers http://orcid.org/ ORI. Ethics of Peer Review: A Guide for Manuscript Reviewers, from the US Office of Research Integrity (http://ori.dhhs. gov/)http://ori.hhs.gov/education/products/yale/ Office of Research Integrity (ORI) forensic tools and samples for quick examination of scientific images ORI. https://ori.hhs.gov/forensic-tools Office of Research Integrity (ORI) guidelines 'Avoiding plagiarism, self-plagiarism, and other questionable ORI. writing practices: A guide to ethical writing' https://ori.hhs.gov/avoiding-plagiarism-self-plagiarism-and-other-questionable-writing-practices-guide-ethical-writing

Office of Research Integrity (ORI) Policy on Plagiarism ORI. https://ori.hhs.gov/ori-policy-plagiarism PhRMA. Pharmaceutical Research and Manufacturers of America (PhRMA) Principles on Conduct of Clinical Trials and Communication of Clinical Trial Results http://phrma-docs.phrma.org/sites/default/files/pdf/042009_clinical_trial_principles_final_0.pdf Research Councils UK. Policies and guidelines on the Governance of Good Research Conduct RCUK. http://www.rcuk.ac.uk/documents/reviews/grc/rcukpolicyguidelinesgovernancegoodresearchconduct-pdf/ The REFLECT Statement: Reporting Guidelines for Randomized Controlled Trials in Livestock and Food Safety. REFLECT. http://www.reflect-statement.org/statement/ What's in a picture? The temptation of image manipulation. 2004;66(1):11-15. doi: 10.1083/jcb.200406019 Rossner M, Yamada KM. http://jcb.rupress.org/content/166/1/11.full Royal Society for the Prevention of Cruelty to Animals (RSPCA). 'instructions for authors' RSPCA. https://science.rspca.org.uk/ImageLocator/LocateAsset?asset=document&assetId=1232713609897&mode=prd Russell & Burch The Principles of Humane Experimental Technique. Russell, W.M.S. and Burch, R.L. London, Methuen, 1959. The 3Rs are: replacement (methods which avoid or replace the use of animals), reduction (minimizing the numbers of animals used), and refinement (reducing suffering and improving welfare). http://altweb.jhsph.edu/pubs/books/humane_exp/het-toc SAP. US Federal Select Agent Program overseeing possession, use and transfer of biological select agents and toxins http://www.selectagents.gov/ SHI. Sociology of Health and Illness Guidelines http://onlinelibrary.wiley.com/store/10.1111/%28ISSN%291467-9566/asset/homepages/shi_guidelines_ for_referees.pdf?v=1&s=c4b2637c2297f6d801e6451920287f758ab6f39b&isAguDoi=false SHI. Sociology of Health and Illness statement on publication ethics http://onlinelibrary.wiley.com/stoshi guidelines for re/10.1111/%28ISSN%291467-9566/asset/ homepages/referees.pdf?v=1&s=c4b2637c2297f6d801e6451920287f758ab6f39b&isAguDoi=false Standards for Reporting of Diagnostic Accuracy (STARD) STARD. http://stard-statement.org/ STRENDA. Standards for Reporting Enzymology Data (STRENDA) Commission guidelines http://www.beilstein-institut.de/en/projects/strenda/guidelines Scientific ethics. J Appl Polym Sci. 2012; Crichton H. 127:1455-1457. doi: 10.1002/app.38427. Tonzani S. http://onlinelibrary.wiley.com/doi/10.1002/app.38427/full UK Research Integrity Office (UKRIO). Code of practice for research, promoting good practice and preventing UKRIO. http://www.ukrio.org/publications/code-of-practice-for-research/ UK Research Integrity Office (UKRIO). Guidance on retractions. UKRIO. http://www.ukrio.org/publications/guidance-on-retractions/ UKRIO. UK Research Integrity Office (UKRIO). Misconduct Investigation Procedure http://ukrio.org/publications/misconduct-investigation-procedure/ US Department of Health and Human Services Guide for the Care and Use of Laboratory Animals US DHHS. http://grants.nih.gov/grants/olaw/Guide-for-the-Care-and-Use-of-Laboratory-Animals.pdf UUK. Universities UK Concordat to support research integrity. http://www.universitiesuk.ac.uk/highereducation/Documents/2012/TheConcordatToSupportResearchIntegrity.pdf

Principles and Procedures: Conducting Research in a Maori Context from Waikato Institute of Technology

https://wintecac-public.sharepoint.com/postgraduate/files/ResearchMaoriContext PartA.pdf

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Waikato

Institute

of Technology.

WAME. World Association of Medical Editors (WAME) policy statements

http://www.wame.org/

WAME. World Association of Medical Editors (WAME) Responding to Allegations of Possible Misconduct

http://www.wame.org/about/recommendations-on-publication-ethics-policie

WCRI. International standards for editors and authors, from the Second World Conference on Research

Integrity, Singapore, 2010. http://publicationethics.org/resources/international-standards-for-editors-and-authors

published in 'Promoting Research Integrity in a Global Environment' Mayer, Steneck (Eds).

ISBN: 978-981-4397-02-5

http://www.worldscientific.com/worldscibooks/10.1142/8102

WCRI. World Congress on Research Integrity, Montreal Statement on Responsibilities of Individual and Institutional Partners in

Cross-Boundary Research Collaborations

http://publicationethics.org/international-standards-editors-and-authors

WCRI. World Congress on Research Integrity, Singapore Statement on Research Integrity

http://www.singaporestatement.org/

Wiley. Graf C, Wager E, Bowman A et al. Best Practice Guidelines on Publication Ethics: A Publisher's Perspective.

Int J Clin Pract 2007; 61 (s152):1-26.

http://onlinelibrary.wiley.com/doi/10.1111/j.1742-1241.2006.01230.x/full

Wiley. Wiley Copyright FAQs

https://authorservices.wiley.com/author-resources/Journal-Authors/licensing-open-access/licensing/licensing-info-faqs.html

WMA. World Medical Association Declaration of Helsinki

https://www.wma.net/what-we-do/medical-ethics/declaration-of-helsinki/

Contributors

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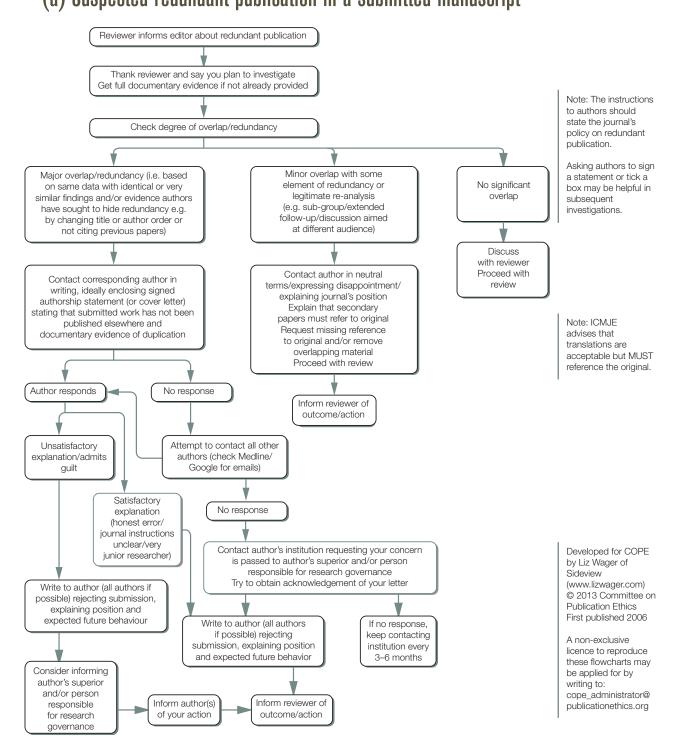
Flow Charts

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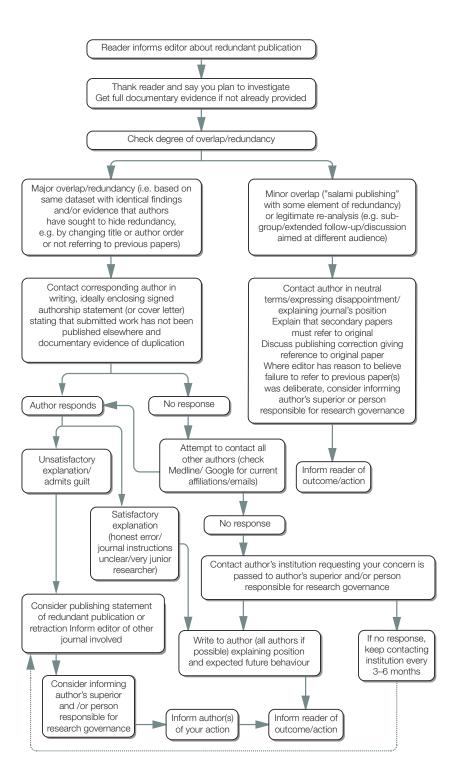
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^{*}These links were last confirmed in June 2017 and are regularly updated to account for website changes.

What to do if you suspect redundant (duplicate) publication (a) Suspected redundant publication in a submitted manuscript



What to do if you suspect redundant (duplicate) publication (b) Suspected redundant publication in a published manuscript



Note: The instructions to authors should state the journal's policy on redundant publication.

Asking authors to sign a statement or tick a box may be helpful in subsequent investigations.

Note: ICMJE advises that translations are acceptable but MUST reference the original Editors may consider publishing a correction (i.e. the link to the original article) rather than a retraction/notice of duplicate publication in such cases

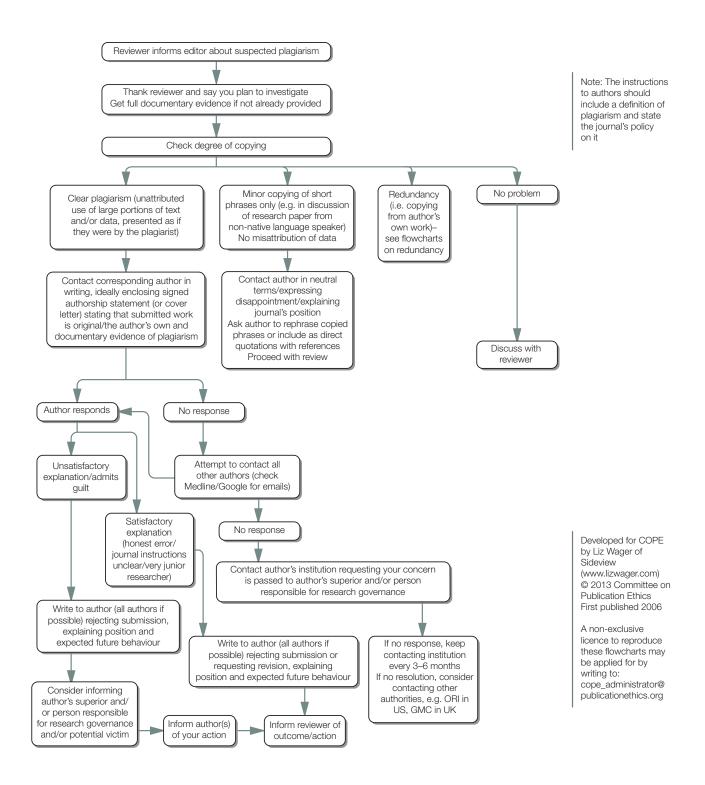
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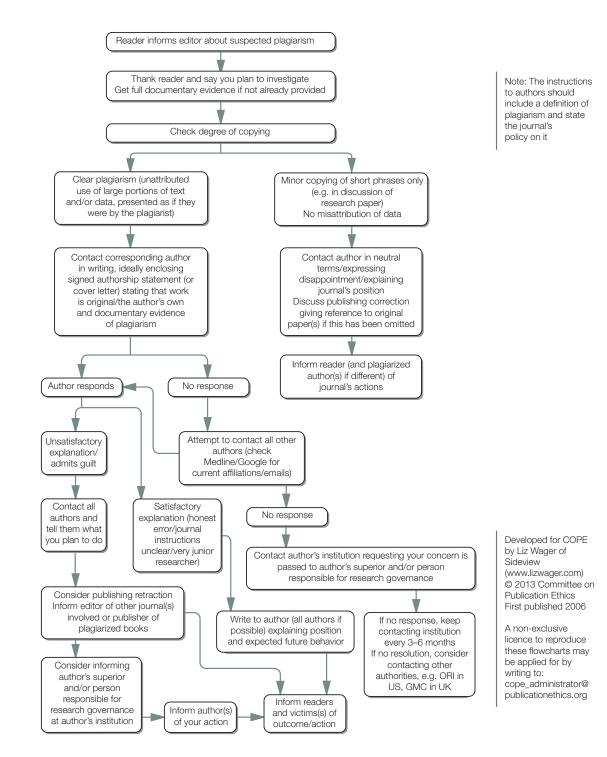
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What to do if you suspect plagiarism

(a) Suspected plagiarism in a submitted manuscript

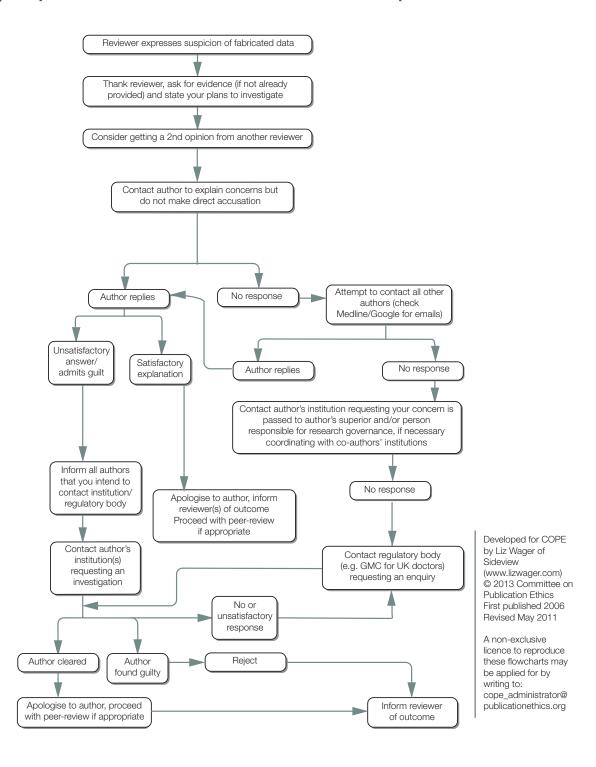


What to do if you suspect plagiarism (b) Suspected plagiarism in a published manuscript

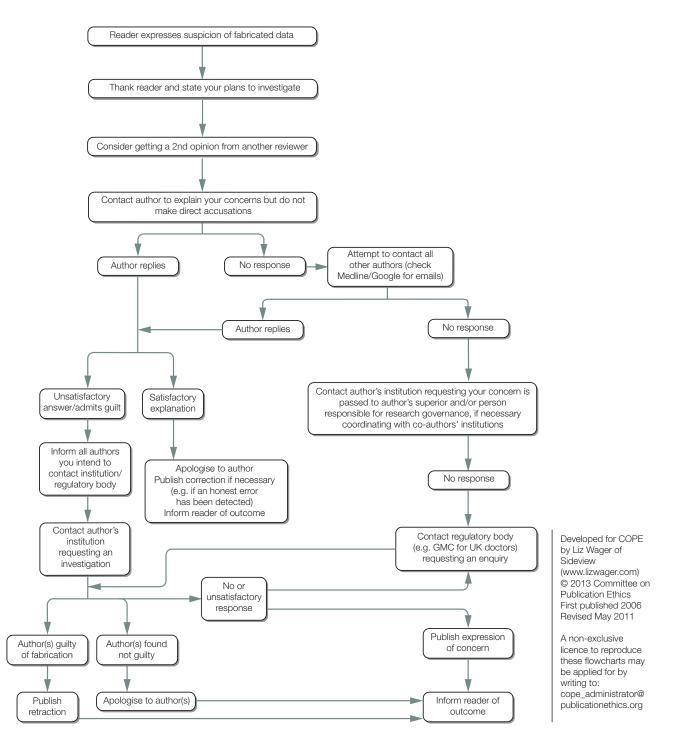


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What to do if you suspect fabricated data (a) Suspected fabricated data in a submitted manuscript



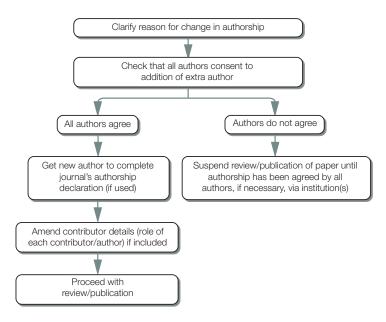
What to do if you suspect fabricated data (b) Suspected fabricated data in a published manuscript



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Changes in authorship

(a) Corresponding author requests addition of extra author before publication



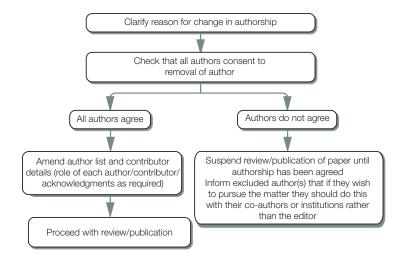
Note: Major changes in response to reviewer comments, e.g. adding new data might justify the inclusion of a new author

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Changes in authorship

(b) Corresponding author requests removal of author before publication



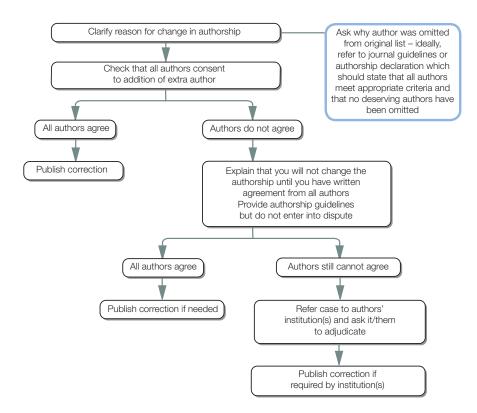
Note: Most important to check with the author(s) whose name(s) is/are being removed from the paper and get their agreement in writing

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Changes in authorship (c) Request for addition of extra author after publication

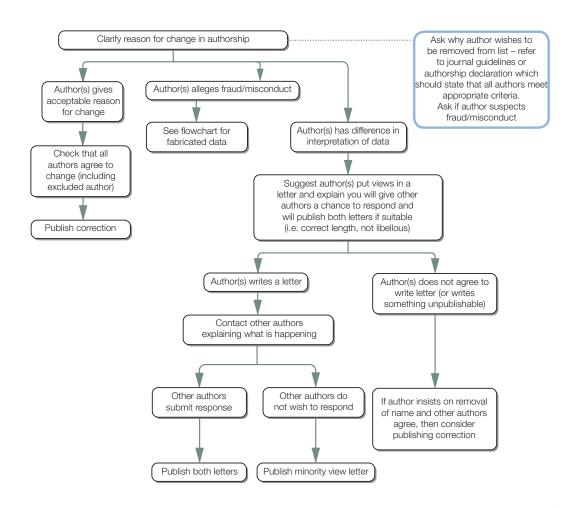


To prevent future problems:
(1) Before publication, get authors to sign statement that all listed authorship criteria and that no others meeting the criteria have been omitted
(2) Publish details of each person's contribution to the research and publication

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Changes in authorship (d) Request for removal of author after publication



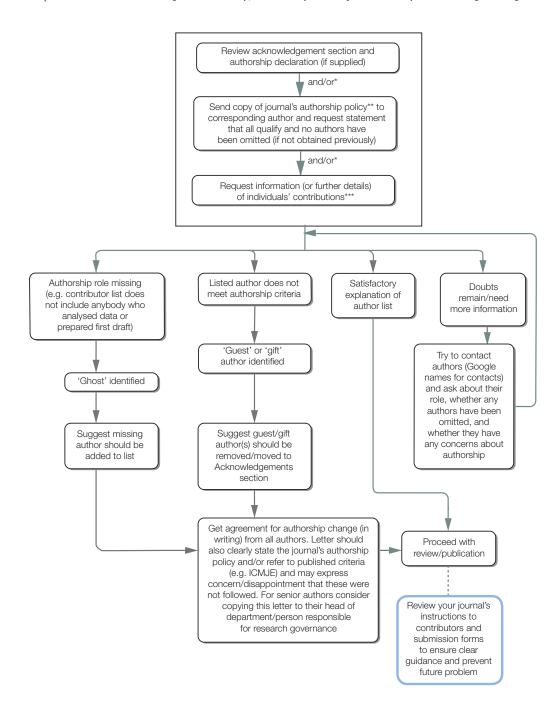
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What to do if you suspect ghost, guest or gift authorship

(see also flowcharts on Changes in authorship, as such requests may indicate the presence of a ghost or gift author)



*Note: initial action will depend on journal's normal method of collecting author/contributor info

**Note: including clear guidance/criteria for authorship in journal instructions makes it easier to handle such issues

***Note: Marusic et al. have shown that the method of collecting such data (e.g. free text or check boxes) can influence the response. Letting authors describe their own contributions probably results in the most truthful and informative answers.

Reference
Marusic A, Bates T, Anic A et al. How the structure of contribution disclosure statement affects validity of authorship:
a randomised study in a general medical journal. Curr
Med Res Opin 2006;22:1035-44

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How to spot authorship problems

Editors cannot police author or contributor listing for every submission but may sometimes have suspicions that an author list is incomplete or includes undeserving (guest or gift) authors. The COPE flowchart on 'What to do if you suspect ghost, guest or gift authorship suggests actions for these situations. The following points are designed to help editors be alert for inappropriate authorship and spot warning signs which may indicate problems.

Type of authorship problems

A ghost author is someone who is omitted from an authorship list despite qualifying for authorship. This is not necessarily the same as a ghost writer, since omitted authors often perform other roles, in particular data analysis. (Gotzsche et al. have shown that statisticians involved with study design are frequently omitted from papers reporting industry-funded trials.) If a professional writer has been involved with a publication it will depend on the authorship criteria being used whether s/he fulfils the criteria to be listed as an author. Using the ICMJE criteria for research papers, medical writers usually do not qualify as authors, but their involvement and funding source should be acknowledged.

A guest or gift author is someone who is listed as an author despite not qualifying for authorship. Guests are generally people brought in to make the list look more impressive (despite having little or no involvement with the research or publication). Gift authorship often involves mutual CV enhancement (i.e. including colleagues on papers in return for being listed on theirs).

Signs that might indicate authorship problems

- Corresponding author seems unable to respond to reviewers' comments
- Changes are made by somebody not on the author list (check Word document properties to see who made the changes but bear in mind there may be an innocent explanation for this, e.g. using a shared computer, or a secretary making changes)
- Document properties show the manuscript was drafted by someone not on the author list or properly acknowledged (but see above)
- Impossibly prolific author e.g. of review articles/opinion pieces (check also for redundant/overlapping publication) (this may be detected by a Medline or Google search using the author's name)
- Several similar review articles/editorials/opinion pieces have been published under different author names (this may be detected by a Medline or Google search using the article title or key words)
- Role missing from list of contributors (e.g. it appears that none of the named authors were responsible for analysing the data or drafting the paper)
- Unfeasibly long or short author list (e.g. a simple case report with a dozen authors or a randomised trial with a single author)
- Industry-funded study with no authors from sponsor company (this may be legitimate, but may also mean deserving authors have been omitted; reviewing the protocol may help determine the role of employees - see Gotzsche et al. and commentary by Wager)

References
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A, Johansen HK, Haar MT,
Altman DG et al. Ghost
authorship in industryintiated randomised trials.
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doi:10.1371/journal.
pmed.00440019

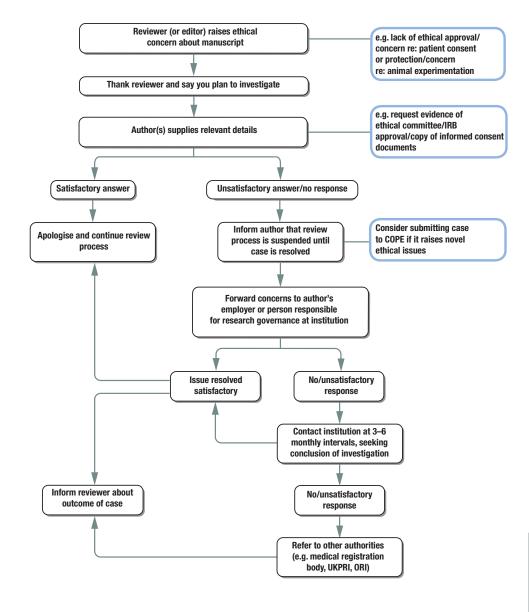
Wager E (2007) Authors, Ghosts, Damned Lies, and Statisticians. PLoS Med 2007;4(1):e34. doi:10.1371/journal. pmed.0040034

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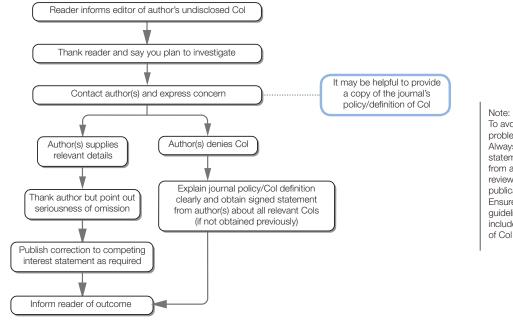
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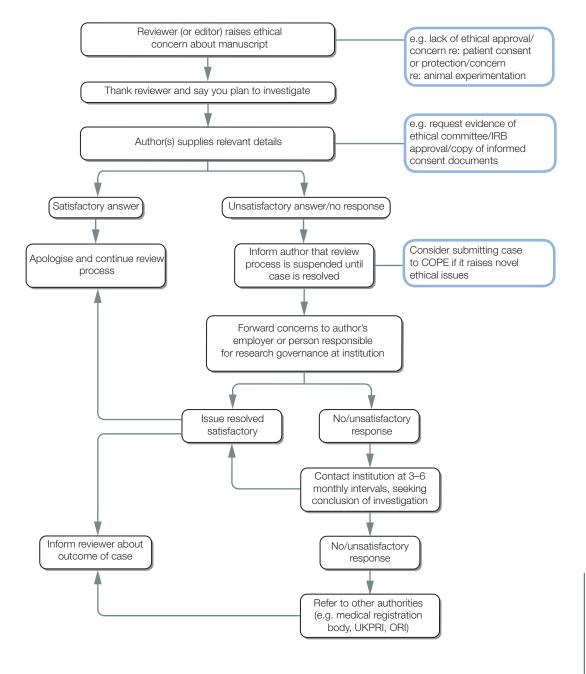
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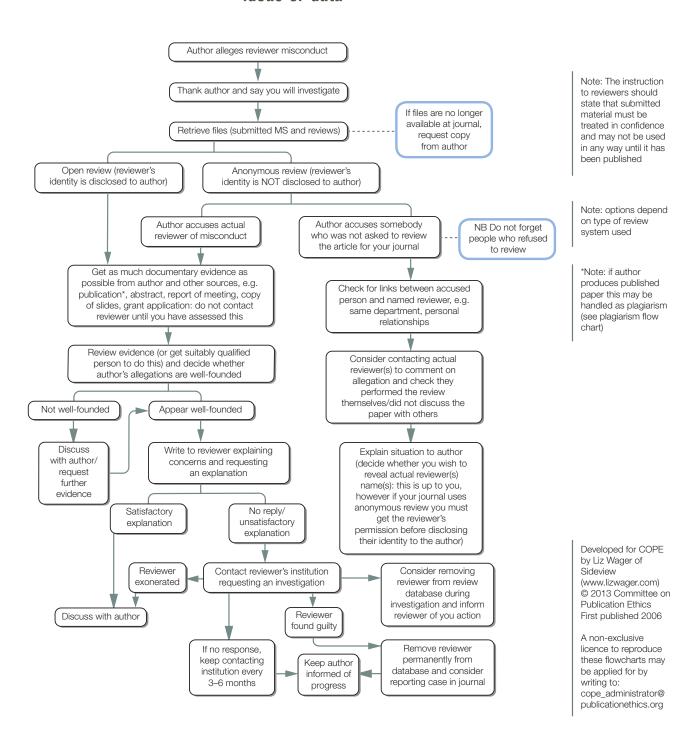
What to do if you suspect an ethical problem with a submitted manuscript



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What to do if you suspect a reviewer has appropriated an author's ideas or data



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COPE Sample Letters

Dear Corresponding author RE: Your manuscript number xxx, name yyy, submitted to journal zzz We understand that that you wish to have author aaa added/removed from the authorship of this paper. Please note that we require written confirmation that all of the original authors agree with this change in authorship. Refer to your guidelines on authorship. If author(s) are added you will want to ask about the contributions and competing interests of the new author(s) Once we have this consent we will then publish a formal correction to the paper. We look forward to hearing from you by... Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz

We have noticed that you have added/removed xxx from the authorship of this paper. Please can you explain this change of authorship?

Refer to your guidelines on authorship. If author(s) are added you will want to ask about the contributions and competing interests of the new author(s)

Please note that we require written confirmation that all of the original authors agree with this change in authorship. Until we have heard from you we cannot proceed further with the review/publication of your paper. We look forward to hearing from you by...

Yours sincerely

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RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation)

It has been brought to our attention/we have noticed that not all the competing interests that are relevant to this manuscript may have been declared.

If necessary elaborate here on the competing interests and add link to the journal's policy.

We would be grateful for an explanation. (*If paper is not published add this text*: Until we have heard from you we cannot proceed further with the review/publication of your paper.) We look forward to hearing from you by...

Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation)

It has been brought to our attention/we have noticed that this manuscript does not provide sufficient information for us to judge whether the study you describe in this manuscript was conducted according to accepted ethical guidelines for the treatment of humans/animals.

If necessary elaborate here – e.g. lack of evidence of informed consent and add link to appropriate author guidelines.

I would be grateful if you could clarify how this research was carried out, specifically....

We look forward to hearing from you by...

Yours sincerely

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RE: Your manuscript number xxx, name yyy, submitted to journal zzz

It has been brought to our attention/we have noticed that one of the figures in the above manuscript may have been manipulated inappropriately.

If necessary elaborate here – e.g. evidence of splicing of lanes on a gel.

Refer authors to any guidelines you have on figure preparation

We would be grateful for any explanation you can provide and look forward to hearing from you by... (*If paper is not published add this text*: Until we have heard from you we cannot proceed further with the review/publication of your paper)

Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz, published on 123

It has been brought to our attention/we have noticed that the above manuscript contains substantial overlap with a manuscript entitled aaa, published by journal b – give full citation.

If necessary elaborate here – e.g. same figures/ overlap of text.

We would be grateful for any explanation that you can provide and look forward to hearing from you by...

Yours sincerely

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RE: Your manuscript number xxx, name yyy, submitted to journal zzz

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Refer authors to any guidelines you have on figure preparation

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Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz

It has been brought to our attention that the above manuscript contains substantial overlap with a manuscript entitled aaa, submitted to/published by journal b (give full citation for published paper; for unpublished papers only attach paper if the other journal has specifically agreed and the authors on both papers are the same or overlapping).

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Dear Reviewer RE: Manuscript number xxx, name yyy, submitted to journal zzz (if published give citation) It has been brought to our attention that you may have shared this manuscript while it was under review at this journal. Give details As you know, in our reviewer guidelines (give link) we do ask reviewers to maintain confidentiality at all times during the review process. Could you explain what happened? We look forward to hearing from you by... Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation)

Many thanks for your letter. We appreciate your explanation; however we feel that in accordance with the guidelines of the Committee on Publication Ethics, of which this journal is a member, we will need to investigate this matter further.

Give further details

Until this matter is resolved we cannot proceed further with the review/publication of your paper.

Yours sincerely

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Dear Corresponding author RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation) Thank you for your further correspondence about this paper. We have investigated the matter thoroughly and we are happy that figure b is not the same as in paper x. We will therefore be proceeding with peer review/publication of this paper Yours sincerely

Dear Corresponding author

RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation)

Thank you for your further correspondence about this paper.

We have investigated the matter as far as we are able and have not been able to resolve it satisfactorily.

In accordance with the guidelines of the Committee on Publication Ethics, of which this journal is a member, we are therefore asking your institution to investigate this matter further.

I am sending this letter to all the authors listed on the manuscript.

Until the investigation of this matter is concluded we will not be able to proceed further with review/publication of this paper

Yours sincerely

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RE: Your manuscript number xxx, name yyy, submitted to journal zzz (if published give citation)

Thank you for your further correspondence about this paper.

We have investigated the matter thoroughly. In our opinion there is clear evidence that figure a was manipulated inappropriately/the degree of overlap with paper b would constitute duplicate publication, etc...

In accordance with the guidelines of the Committee on Publication Ethics, of which this journal is a member, we are therefore rejecting this paper.

I am sending this letter to all the authors listed on the manuscript. *Next sentence depends on how severe you feel the offence is.* I will also be informing your institution of the outcome.

Yours sincerely

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Summary

Journal editors should consider retracting a publication if:

- they have clear evidence that the findings are unreliable, either as a result of misconduct (e.g. data fabrication) or honest error (e.g. miscalculation or experimental error)
- the findings have previously been published elsewhere without proper crossreferencing, permission or justification (i.e. cases of redundant publication)
- it constitutes plagiarism
- it reports unethical research

Journal editors should consider issuing an expression of concern if:

- they receive inconclusive evidence of research or publication misconduct by the authors
- there is evidence that the findings are unreliable but the authors' institution will not investigate the case
- they believe that an investigation into alleged misconduct related to the publication either has not been, or would not be, fair and impartial or conclusive
- an investigation is underway but a judgement will not be available for a considerable time

Journal editors should consider issuing a correction if:

- a small portion of an otherwise reliable publication proves to be misleading (especially because of honest error)
- the author / contributor list is incorrect (i.e. a deserving author has been omitted or somebody who does not meet authorship criteria has been included)

Retractions are not usually appropriate if:

a change of authorship is required but there is no reason to doubt the validity of the findings

Notices of retraction should:

- be linked to the retracted article wherever possible (i.e. in all electronic versions)
- clearly identify the retracted article (e.g. by including the title and authors in the retraction heading)
- be clearly identified as a retraction (i.e. distinct from other types of correction or comment)
- be published promptly to minimize harmful effects from misleading publications

- be freely available to all readers (i.e. not behind access barriers or available only to subscribers)
- state who is retracting the article
- state the reason(s) for retraction (to distinguish misconduct from honest error)
- avoid statements that are potentially defamatory or libellous

The purpose of retraction

Retraction is a mechanism for correcting the literature and alerting readers to publications that contain such seriously flawed or erroneous data that their findings and conclusions cannot be relied upon. Unreliable data may result from honest error or from research misconduct.

Retractions are also used to alert readers to cases of redundant publication (i.e. when authors present the same data in several publications), plagiarism, and failure to disclose a major competing interest likely to influence interpretations or recommendations.

The main purpose of retractions is to correct the literature and ensure its integrity rather than to punish authors who misbehave.

What form should a retraction take?

Notices of retraction should mention the reasons and basis for the retraction, to distinguish cases of misconduct from those of honest error; they should also specify who is retracting the article. They should be published in all versions of the journal (i.e. print and/or electronic). It is helpful to include the authors and title of the retracted article in the retraction heading.

Retracted articles should be clearly identified as such in all electronic sources (e.g. on the journal website and any bibliographic databases). Editors are responsible for ensuring that retractions are labelled in such a way that they are identified by bibliographic databases (which should also include a link to the retracted article). The retraction should appear on all electronic searches for the retracted publication.

Retracted articles should not be removed from printed copies of the journal (e.g. in libraries) nor from electronic archives but their retracted status should be indicated as clearly as possible.



Which publications should be retracted?

If only a small part of an article reports flawed data, and especially if this is the result of genuine error, then the problem is best rectified by a correction or erratum. (The term erratum usually refers to a production error, caused by the journal. The term corrigendum (or correction) usually refers to an author error.) Partial retractions are not helpful because they make it difficult for readers to determine the status of the article and which parts may be relied upon.

Similarly, if only a small section of an article (e.g. a few sentences in the discussion) is plagiarised, editors should consider whether readers (and the plagiarised author) would be best served by a correction (which could note the fact that text was used without appropriate acknowledgement) rather than retracting the entire article which may contain sound, original data in other parts.

Retraction should usually be reserved for publications that are so seriously flawed (for whatever reason) that their findings or conclusions should not be relied upon.

If redundant publication has occurred (i.e. authors have published the same data or article in more than one journal without appropriate justification, permission or crossreferencing) the journal that first published the article may issue a notice of redundant publication but should not retract the article unless the findings are unreliable. Any journals that subsequently publish a redundant article should retract it and state the reason for the retraction.

If an article is submitted to more than one journal simultaneously, and is accepted and published in both journals (either electronically or in print) at the same time, precedence may be determined by the date on which a licence to publish or a copyright transfer agreement was signed by the authors.

In cases of partial overlap (i.e. when authors present some new findings in an article that also contains a substantial amount of previously published information) editors need to consider whether readers are best served if the entire article is retracted or whether it would be best to issue a notice of redundant publication clarifying which aspects had been published previously and providing appropriate cross-references to the earlier work. This will depend on the amount of overlap. Editors should bear in mind that the main purpose of retractions is to correct the literature and ensure its integrity rather than to punish authors who misbehave.

Only published items can be retracted. Guidelines on dealing with redundant publications identified in submitted manuscripts can be found in the relevant COPE flowchart [http://publicationethics.org/files/u2/01A_Redundant_Submitted.pdf]. Posting a final version on a website constitutes publication even if an article has not appeared (or will not appear) in print. If an article is retracted before it appears in the print version of a journal, the electronic version should be retained on the journal's website with a clear notice of retraction and it should be included on bibliographic databases (e.g. with a digital object identifier [doi] or other permanent citation that will locate it) even if it does not appear in the printed journal and therefore does not receive a page allocation. This is because electronic versions may already have been accessed and cited by researchers who need to be alerted to the fact that the article has been retracted.



Who should issue the retraction?

Articles may be retracted by their author(s) or by the journal editor. In some cases, retractions are issued jointly or on behalf of the journal's owner (e.g. a learned society or publisher). However, since responsibility for the journal's content rests with the editor s/he should always have the final decision about retracting material. Journal editors may retract publications (or issue expressions of concern) even if all or some of the authors refuse to retract the publication themselves.

When should a publication be retracted?

Publications should be retracted as soon as possible after the journal editor is convinced that the publication is seriously flawed and misleading (or is redundant or plagiarised). Prompt retraction should minimize the number of researchers who cite the erroneous work, act on its findings or draw incorrect conclusions, such as from 'double counting' redundant publications in meta-analyses or similar instances.

If editors have convincing evidence that a retraction is required they should not delay retraction simply because the authors are not cooperative. However, if an allegation of misconduct related to a potential retraction results in a disciplinary hearing or institutional investigation, it is normally appropriate to wait for the outcome of this before issuing a retraction (but an expression of concern may be published to alert readers in the interim – see below).

What should editors do in the face of inconclusive evidence about a publication's reliability?

If conclusive evidence about the reliability of a publication cannot be obtained (e.g. if authors produce conflicting accounts of the case, authors' institutions refuse to investigate alleged misconduct or to release the findings of such investigations, or if investigations appear not to have been carried out fairly or are taking an unreasonably long time to reach a conclusion) editors should issue an expression of concern rather than retracting the publication immediately.

Such expressions of concern, like retraction notices, should be clearly linked to the original publication (i.e. in electronic databases and by including the author and title of the original publication as a heading) and should state the reasons for the concern. If more conclusive evidence about the publication's reliability becomes available later, the expression of concern should be replaced by a notice of retraction (if the article is shown to be unreliable) or by an exonerating statement linked to the expression of concern (if the article is shown to be reliable and the author exonerated).

Should retraction be applied in cases of disputed authorship?

Authors sometimes request that articles are retracted when authorship is disputed after publication. If there is no reason to doubt the validity of the findings or the reliability of the data it is not appropriate to retract a publication solely on the grounds of an authorship dispute. In such cases, the journal editor should inform those involved in the dispute that s/he cannot adjudicate in such cases but will be willing to publish a correction to the author/contributor list if the authors/contributors (or their institutions) provide appropriate proof that such a change is justified.

(For authorship disputes occurring before publication, see the relevant COPE flowcharts. http://publicationethics.org/files/u2/04A_Author_Add_Submitted.pdf and http://publicationethics.org/files/u2/04B_Author_Remove_Submitted.pdf)

Can authors dissociate themselves from a retracted publication?

If retraction is due to the actions of some, but not all, authors of a publication, the notice of retraction should mention this. However, most editors consider that authorship entails some degree of joint responsibility for the integrity of the reported research so it is not appropriate for authors to dissociate themselves from a retracted publication even if they were not directly culpable of any misconduct.

Are there grounds for legal proceedings if an author sues a journal for retracting, or refusing to retract, a publication?

Authors who disagree with a retraction (or whose request to retract a publication is refused) sometimes threaten journal editors with legal action. Concern over litigation can make editors reluctant to retract articles, especially in the face of opposition from authors.

Journals' instructions for authors should explain the retraction procedure and describe the circumstances under which articles might be retracted. This information should be incorporated (e.g. by references) into any publishing agreements and brought to the authors' attention. However, even if the publishing agreement or journal instructions do not set out specific conditions for retraction, authors usually would not have grounds for taking legal action against a journal over the act of retraction if it follows a suitable investigation and proper procedures.

However, legal advice may be helpful to determine appropriate wording for a notice of retraction or expression of concern to ensure that these are not defamatory or libellous. Nevertheless, retraction notices should always mention the reason(s) for retraction to distinguish honest error from misconduct.

Whenever possible, editors should negotiate with authors and attempt to agree a form of wording that is clear and informative to readers and acceptable to all parties. If authors consent to the wording of a retraction statement, this provides defence against a libel claim. However, prolonged negotiations about wording should not be allowed to delay the publication of a retraction unreasonably and editors should publish retractions even if consensus cannot be reached.

Further reading

ICMJE guidelines: http://www.icmje.org/publishing_2corrections.html

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September 2009 Elizabeth Wager, Virginia Barbour, Steven Yentis, Sabine Kleinert on behalf of COPE Council