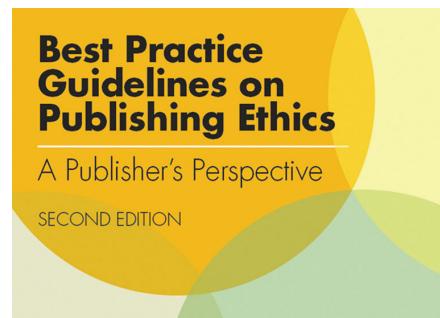


# Best Practice Guidelines on Publishing Ethics: A Publisher's Perspective, 2nd Edition

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Wiley has updated its publishing ethics guidelines, first published in 2006. These new guidelines provide guidance, resources, and practical advice on ethical concerns that arise in academic publishing for editors, authors, and researchers, among other audiences. New guidance is included about whistle blowers, animal research, clinical research, and clinical trial registration, addressing cultural differences, human rights, and confidentiality. The guidelines are uniquely interdisciplinary, and were reviewed by 24 editors and experts chosen from the wide range of communities that Wiley serves. These guidelines are also published in: *Headache*, *International Journal of Clinical Practice*, *Annals of the New York Academy of Sciences*, *Social Science Quarterly*, and on the website <http://exchanges.wiley.com/ethicsguidelines>.



## 1. Introduction

### 1.1. Aims and Scope

These "Best Practice Guidelines on Publishing Ethics" present a comprehensive update to the "Wiley Publication Ethics Guidelines" first published in 2006.<sup>[1]</sup>

In these guidelines our aim remains to support all those involved in scholarly publishing by providing 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 produce 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, because 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.

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### 1.2. Committee on Publication Ethics (COPE)

Wiley provides membership of the Committee on Publication Ethics (COPE)<sup>[2]</sup> as an option for all of its journal editors. At the time of writing the COPE serves more than 8500 members around the world, providing practical tools, e-learning, seminars, and much more. Many editors and publishers find COPE's tools indispensable. Amongst the many ethics resources that are available to editors, specific COPE tools have been listed wherever relevant throughout our guidelines. With permission from the COPE we have reproduced COPE flowcharts and sample letters in full in the print version of these guidelines.

The COPE has published two codes of conduct, one for editors<sup>[3]</sup> and one for publishers.<sup>[4]</sup>

### 1.3. 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](mailto:publication.ethics@wiley.com)

## 2. 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 these guidelines are used to establish clear policies and procedures for journals, 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 (the COPE maintains a record of cases<sup>[5]</sup> discussed at the COPE Forum since 1997).

## 3. Research Integrity

Research misconduct is defined in the US Federal Policy on Research Misconduct:<sup>[6]</sup>

“as fabrication, falsification, or plagiarism in proposing, performing, or reviewing research, or in reporting research results.” (p. 1)

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.<sup>[7]</sup> The World Association of Medical Editors makes suggestions about responding to allegations of misconduct.<sup>[8]</sup> The Singapore Statement on Research Integrity,<sup>[9]</sup> 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 the journal publishing team should request investigations by research institutions, employers, funders, or the relevant national statutory body (e.g., the Aus-

tralian Agency for Research Integrity<sup>[10]</sup>) rather than conducting investigations themselves. However, it can be appropriate for some cases of misconduct (e.g., plagiarism or image manipulation) to be investigated and acted upon by a journal publishing team, but even then they 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, as well as what action to take.

- Cases of suspected misconduct should be handled following established processes, for example, those presented in the COPE Flowcharts.<sup>[11]</sup>
- Sample letters from COPE<sup>[12]</sup> (login required) and Sample Correspondence for Editors from the Council of Science Editors<sup>[13]</sup> 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 seeking 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, the COPE provides editors with independent advice from other editors about difficult cases via the COPE Forum. Through its case archive<sup>[5]</sup> the 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”.<sup>[14]</sup> The European Association for Chemical and Molecular Sciences (EuCheMS) has published “Ethical Guidelines for Publications in Journals and Reviews”,<sup>[15]</sup> which are available from EuCheMS publications.<sup>[16]</sup>

### 3.1. 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 the COPE.<sup>[17]</sup>

### 3.2. 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<sup>[18]</sup> 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.<sup>[19]</sup> The US Office of Research Integrity provides forensic tools<sup>[20]</sup> for quick examination of scientific images and samples.<sup>[21]</sup>

Journal publishing teams can help educate about image manipulation and, where appropriate, could check images. We suggest that authors are asked to declare where manipulations have been made and that journal information includes instructions for authors explaining 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 to suggest that original unprocessed images should be submitted alongside any images that have been processed;
- adjustments to brightness or contrast are acceptable only 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<sup>[22]</sup> and Rossner and Yamada's<sup>[23]</sup> earlier discussion on the subject. Image manipulation is also discussed by Cromey in "Avoiding twisted pixels: ethical guidelines for the appropriate use and manipulation of scientific digital images".<sup>[24]</sup>

### 3.3. Plagiarism

A discussion of plagiarism is provided by the US Office of Research Integrity<sup>[25]</sup> 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. Journal information for authors should explain 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>."

Sample copy for participants of the service to display is included on the website.<sup>[26]</sup>

### 3.4. Duplicate and Redundant Publication

The Council of Science Editors incorporated a definition of duplicate or redundant publication in its white paper on promoting integrity in scientific journal publications.<sup>[19]</sup>

"[A]uthors must avoid duplicate publication, which is reproducing verbatim content from their other publications." (p. 25)

Wiley has also published information about duplicate publication.<sup>[27]</sup>

Journal publishing teams 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.

- Journal information to authors should include a reminder that duplicate publication is not acceptable.
- Journal requirements should indicate that any previously published results, including numerical information and figures or images, are labeled to make it clear where they were previously reported.
- Papers, particularly medical research papers, that present new analyses of results that have already been published (e.g., subgroup analyses) should identify the primary data source and include a full reference to the related primary publications.

Journal publishing teams from different disciplines vary in their approach to pre-print servers. Many biomedical journals consider that posting an article to a pre-print server would 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<sup>[28]</sup> before submitting an article successfully to a journal for peer review and publication. Journal publishing teams 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 (e.g., 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<sup>[11]</sup> and consider working with their publisher to retract the duplicate paper.

#### 3.4.1. Text Recycling

The COPE have hosted a discussion about text recycling<sup>[29]</sup> and 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”<sup>[30]</sup>

Journal publishing teams may find it useful to establish a policy about how much textual or results overlap, if any, they would consider acceptable, and under which circumstances. 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.

#### 3.4.2. Duplicate Submission

Journal publishing teams 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<sup>[11]</sup> on redundant publication in a submitted manuscript.

#### 3.4.3. Duplicate Information Published in Translation

Journals may choose to publish materials that have been accurately translated from an original publication in a different language. Journals that publish translated material that has been published elsewhere in its original form should ensure that they have appropriate permission, provided a clear indication that the material has been translated and republished, and identified the original source of the material.

### 3.5. Sanctions

Wiley has published advice about sanctions<sup>[31]</sup> 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 author(s).

- Before considering sanctions editors must consult with their publisher, particularly for legal advice, and also with the journal owner (e.g., a scholarly society).
- Sanctions should be applied consistently and only after careful consideration.

- Before imposing sanctions, journal publishing teams should formally define the conditions in which they will apply (and remove) sanctions, and the processes they will use to do this.

## 4. Research Ethics in Journal Articles

It is good practice for journal publishing teams 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 could include the items presented in the sections below.

#### 4.1. 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.<sup>[32]</sup>
- US Federal Policy for the Protection of Human Subjects.<sup>[33]</sup>
- European Medicines Agency Guidelines for Good Clinical Practice.<sup>[34]</sup>

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 publishing information and images from individual participants only where the authors have obtained the individual's free prior informed consent. The International Committee of Medical Journal Editors guidance says:<sup>[35]</sup>

“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.” (p. 7)

The best policy is for journals to require that authors confirm whether explicit written consent to publish has been received from any people described (e.g., in case reports), shown in still or moving images, or whose voices are recorded. In the case of technical images (e.g., 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<sup>[36]</sup> from more than just the index case. The CARE guidelines<sup>[37]</sup> 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 (e.g., 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,<sup>[38]</sup> International Society of Ethnobiology,<sup>[39]</sup> and American Anthropological Association.<sup>[40]</sup>

For social research data the Association of Social Anthropologists of the UK and the Commonwealth suggests in its "Ethical Guidelines for Good Research Practice"<sup>[41]</sup> 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<sup>[40]</sup> 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.

## 4.2. Cultures and Heritage

The US Office for Human Research Protection has a searchable database<sup>[42]</sup> 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 Maori Context"<sup>[43]</sup> from the Waikato Institute of Technology and "Community IRBs and Research Review Boards: Shaping the Future of Community-Engaged Research"<sup>[44]</sup> 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 that follows.

Editors should consider any sensitivities when publishing images of objects that might have cultural significance or cause offence (e.g., religious texts or historical events), as well as the following.

- 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.<sup>[45]</sup>
- Cultural restrictions do exist in some cultures that prevent publication of the names of deceased people.<sup>[46]</sup> 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.

## 4.3. Registering Clinical Trials

The World Health Organization<sup>[47]</sup> and Declaration of Helsinki<sup>[32]</sup> both suggest that clinical trials should be registered prospectively, before participants are enrolled. The International Federation of Pharmaceutical Manufacturers and Associations<sup>[48]</sup> also requires its members to register trials. Legislation varies, however, 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."

## 4.4. Animals in Research

Research involving animals should be conducted with the same rigor as research in humans. Journal publication teams can encourage authors to implement the 3Rs principles<sup>[49]</sup>:

"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."

The International Council for Laboratory Animal Science has published ethical guidelines<sup>[50]</sup> for editors and reviewers.

Journal publication teams should encourage authors to adhere to animal research reporting standards, for example

the ARRIVE reporting guidelines,<sup>[51]</sup> which describe the details journals should require from authors regarding:

- study design and statistical analysis;
- experimental procedures;
- experimental animals;
- housing and husbandry.

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

- US authors should cite compliance with the US National Research Council's "Guide for the Care and Use of Laboratory Animals"<sup>[52,53]</sup> and the US Public Health Service's "Policy on Humane Care and Use of Laboratory Animals".<sup>[54]</sup>
- UK authors should conform to legislation under the Animals (Scientific Procedures) Act 1986 Amendment Regulations (SI 2012/3039).<sup>[55]</sup>
- European authors outside the UK should conform to Directive 2010/63/EU.<sup>[56]</sup>

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.

#### 4.5. Biosecurity

Journal publication teams 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."

Journal requirements should include asking authors to conform to the National Science Advisory Board for Biosecurity (NSABB) guidelines<sup>[57]</sup> for dual use life sciences research. The June 2007 NSABB report<sup>[58]</sup> presents a useful description and discussion of "dual use research of concern."

#### 4.6. 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<sup>[59]</sup> promotes useful reporting tools.

- In life sciences, useful reporting guidelines are promoted by Future of Research Communications and e-Scholarship (FORCE11).<sup>[60]</sup> Specific reporting guidance that editors can recommend for animal experiments include the ARRIVE guidelines,<sup>[51]</sup> the National Research Council's Institute for Laboratory Animal Research guidelines,<sup>[61]</sup> and the Gold Standard Publication Checklist from Hooijmans and colleagues.<sup>[62]</sup>
- Standards for reporting animal studies are discussed in more detail by Landis and colleagues.<sup>[63]</sup>
- Further guidelines and standards in bioscience are promoted on the Minimum Information Guidelines from Diverse Bioscience Communities (MIBBI) website<sup>[64]</sup> and by the Biosharing website.<sup>[65]</sup>
- Livestock reporting guidelines are provided by the REFLECT statement.<sup>[66]</sup>

### 5. Editorial Standards and Processes

#### 5.1. 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.<sup>[67]</sup>

- 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 (e.g., 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.<sup>[68]</sup>

### 5.1.1. Criteria for Authorship

The International Committee of Medical Journal Editors provides definitions of authors<sup>[69]</sup> and contributors that are applicable in many instances beyond medical publishing. It recommends that authorship should be based on the following four criteria:

- substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- drafting the work or revising it critically for important intellectual content; AND
- final approval of the version to be published; AND
- 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 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 guidance.<sup>[69]</sup>

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 website.<sup>[70]</sup>

### 5.2. Authorship Disputes

To manage authorship disputes, editors should refer to the flowcharts from the COPE<sup>[11]</sup> and “How to spot authorship problems”.<sup>[71]</sup>

### 5.3. Funding

Journals should request that authors list all funding sources in an Acknowledgments section. If there is no specific funding, then 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.

### 5.4. Peer Review

The merits of different peer-review systems (e.g., 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<sup>[72]</sup> and Sense About Science.<sup>[73]</sup> 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 peer-review system that best suits their journal.

The COPE has developed Ethical Guidelines for Peer Reviewers<sup>[74]</sup> to which Editors and their editorial board can refer for guidance.

Further guidance on the ethics of peer review is available from many sources, for example, Rockwell presents guidance<sup>[75]</sup> and EuCheMS provides guidelines.<sup>[16]</sup> Hames’s book “Peer Review and Manuscript Management in Scientific Journals: Guidelines for Good Practice”<sup>[76]</sup> 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 post-publication.
- 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 a guest editor has managed peer review.
- 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 (e.g., 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 be identified only 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 should undertake the following.

- 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.
- 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;

- agree only 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.

## 5.5. 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.

## 5.6. Editors and Journal Staff as Authors

Editors or board members should not be involved in editorial decisions about their own scholarly work. Journal publication teams 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.

## 5.7. 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 (e.g., 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<sup>[77]</sup> 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 (e.g., 3 years). Editors should ask authors to describe relevant funding, including the purpose of the funding (e.g., 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.

The COPE has published flowcharts<sup>[11]</sup> 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 (e.g., Figure 1). The International Committee of Medical Journal Editors has created a uniform disclosure form<sup>[77]</sup> for conflicts of interest.

### 5.8. Libel and Defamation

Wiley has published some overview guidance about libel and defamation.<sup>[78]</sup>

Editors should be alert to language in both submitted manuscripts and also in peer review reports or correspondence that 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.

Conflict of Interest	
<p>This publication requires that all authors disclose any potential sources of conflict of interest. Any interest or relationship, financial or otherwise, that might be perceived as influencing an author's objectivity is considered a potential source of conflict of interest. These must be disclosed when directly relevant or indirectly related to the work that the authors describe in their manuscript. Potential sources of conflict of interest include but are not limited to patent or stock ownership, membership of a company board of directors, membership of an advisory board or committee for a company, and consultancy for or receipt of speaker's fees from a company. The existence of a conflict of interest does not preclude publication in this journal.</p>	
<p>If the authors have no conflict of interest to declare, they must also state this at submission. It is the responsibility of the corresponding author to review this policy with all authors and to collectively list in the cover letter (if applicable) to the Editor-in-Chief, in the manuscript (in the footnotes, Conflict of Interest or Acknowledgments section), and in the online submission system ALL pertinent commercial and other relationships.</p>	
<p>req Do you or any of your co-authors have a conflict of interest to declare?</p>	
<p><input checked="" type="radio"/> Yes</p>	
<p><input type="radio"/> No</p>	
<p>Confirm that you have stated this conflict of interest in the footnotes, Conflict of Interest or Acknowledgments section of your manuscript as required by the Journal (see the Instructions to Authors).</p>	
<p><input type="checkbox"/> (Confirmed)</p>	
<p>Provide details and include this information below.</p> <div style="border: 1px solid #ccc; height: 100px; margin-top: 5px;"></div>	

Figure 1. Typical form to capture conflicts of interest during manuscript submission.

## 5.9. Editorial Independence and Commercial Issues

The Council of Science Editors presents discussion of editorial independence.<sup>[79]</sup> 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 (e.g., 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<sup>[19]</sup> on integrity and in the COPE Code of Conduct for Publishers.<sup>[4]</sup>

### 5.9.1. 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 (e.g., 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).

Journal publication teams may choose to publish supplements, special issues, or similar publications that are funded by a third party (e.g., 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 implementation by those external editors.

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

## 5.10. Academic Debate

- Journal publication teams should facilitate debate<sup>[35]</sup>
- Journal publication teams 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.

## 5.11. 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 (e.g., 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.
- Journal guidelines should state that the editor's decision following an appeal is final.

Journal publishing teams 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.

### 5.12. Corrections

Journal publication teams 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 below.

### 5.13. Retractions and Expressions of Concern

Wiley has published general advice on publishing retractions<sup>[80]</sup> and answers to frequently asked questions.<sup>[80]</sup> All Retraction statements published by Wiley are reviewed and approved by Wiley lawyers.

- The COPE has also published guidelines for retracting articles.<sup>[81]</sup>
- 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 (e.g., 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.

### 5.14. 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.<sup>[82]</sup>

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 these guidelines that discuss Retractions and Expressions of Concern.

### 5.14.1. How to Publish Retractions and Expressions of Concern

Guidelines on retracting articles,<sup>[83]</sup> written by the COPE, are available. 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.

### 5.15. 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.

## 6. Copyright and Intellectual Property

Wiley has published separate guidance about copyright.<sup>[27]</sup>

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.

### 6.1. 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.

#### 6.1.1. Copyright Transfer Agreement (CTA)

Under this form of agreement, the author retains broad re-use 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.

### 6.1.2. 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.

## 6.2. 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<sup>[84]</sup> explains how these licenses work. At the time of writing these guidelines, Wiley uses three Creative Commons Licenses<sup>[85]</sup>: CC-BY, CC-BY-NC, and CC-BY-NC-ND.

## 7. 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.

## 8. Contributors

These guidelines were written by: Chris Graf, BSc (Hons) – New Business Director, Professional Innovations, Treasurer of COPE, Wiley, Oxford, UK; Lisa Deakin, BSc (Hons) – Journal Publishing Manager, Wiley, Oxford, UK; Martine Docking, BSc, MCom – Commercial Director, Wiley (Asia Pacific), Singapore; Jackie Jones, BA (Hons) – Executive Editor, Life Sciences, Wiley, Oxford, UK; Sue Joshua – Legal Director, Wiley, Chichester, UK; Tiffany McKerahan, BA – Editor, Life Sciences,

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

Organization/publication details	
AAA	American Anthropological Association <sup>[86]</sup>
ABPI	Association of the British Pharmaceutical Industry: clinical trial disclosure toolkit <sup>[87]</sup>
ACJS	Academy of Criminal Justice Sciences <sup>[88]</sup>
ACS	American Chemical Society: Ethical Guidelines <sup>[89]</sup>
AFS	American Folklore Society <sup>[90]</sup>
AIATIS	Australian Institute of Aboriginal and Torres Strait Islander Studies: Guidelines for Ethical Research in Indigenous Studies 2011 <sup>[91]</sup>
Albert Einstein College of Medicine	Community IRBs and Research Review Boards: Shaping the Future of Community-Engaged Research <sup>[44]</sup>
AMWA	American Medical Writers Association: Code of Ethics <sup>[92]</sup>
APA	American Psychological Association: Ethical Principles of Psychologists and Code of Conduct, Standard 8 – Research and Publication <sup>[93]</sup> Ethics Office <sup>[94]</sup>
APS	Australian Psychological Society: Code of Ethics <sup>[95]</sup>
APS	American Physical Society: Guidelines for Professional Conduct <sup>[96]</sup>
APSA	American Political Science Association <sup>[97]</sup>
ARRIVE	Animals in Research: Reporting <i>In Vivo</i> Experiments: Guidelines and checklist for reporting research involving animals <sup>[51]</sup>
ASA	American Sociological Association <sup>[98]</sup>
ASA	American Statistical Association: Ethical Guidelines for Statistical Practice <sup>[99]</sup>
ASA	Association of Social Anthropologists of the UK and the Commonwealth: Ethical Guidelines for Good Research Practice 2011 <sup>[41]</sup>
ASC	American Society of Criminology <sup>[100]</sup>
ASPA	Animals (Scientific Procedures) Act 1986 Amendment Regulations <sup>[55]</sup>
BABAO	British Association of Biological Anthropology and Osteoarchaeology: Code of Ethics <sup>[45]</sup>
Biosharing	Community developed standards in the life sciences, broadly covering biological, natural, and biomedical sciences <sup>[65]</sup>
Callaway E.	Deal done over HeLa cell line <sup>[36]</sup>
CARE	The CARE guidelines for Case Reports <sup>[37]</sup>
CLIP	Lang <i>et al.</i> Documenting clinical and laboratory images in publications: the CLIP principles <sup>[18]</sup>
CONSORT	Consolidated Standards of Reporting Trials <sup>[101]</sup>
COPE	Committee on Publication Ethics: Audit tool: Audit your journal (requires membership to access) <sup>[102]</sup>

Table 1. (Continued)

## Organization/publication details

	Code of Conduct for Editors, Code of Conduct for Publishers <sup>[103]</sup>
	Flowcharts "to help editors follow COPE's Code of Conduct and implement its advice when faced with cases of suspected misconduct" <sup>[11]</sup>
	Guidelines <sup>[83]</sup>
	Sample letters for editors (requires membership to access) <sup>[12]</sup>
Cromey D.W.	Avoiding twisted pixels: ethical guidelines for the appropriate use and manipulation of scientific digital images <sup>[24]</sup>
CSE	Council of Science Editors: White paper on Promoting Integrity in Scientific Journal Publications, 2012 Update <sup>[19]</sup>
DHHS	Sample correspondence for editors <sup>[13]</sup> US Department of Health and Human Services: Office of Research Integrity <sup>[104]</sup> US Federal Policy for the Protection of Human Subjects <sup>[33]</sup> US National Institutes of Health Belmont Report <sup>[105]</sup> US Public Health Service's Policy on Humane Care and Use of Laboratory Animals <sup>[54]</sup> Guide for the Care and Use of Laboratory Animals <sup>[53]</sup>
DORA	The San Francisco Declaration on Research Assessment <sup>[106]</sup>
DPG	Deutsche Physikalische Gesellschaft: Code of Conduct for Members of the German Physical Society <sup>[107]</sup>
EMA	European Medicines Agency Guidelines for Good Clinical Practice <sup>[108]</sup>
EMWA	European Medical Writers Association: Guidelines on the role of medical writers in the development of peer-reviewed publications <sup>[109]</sup>
EQUATOR	Enhancing the Quality and Transparency of Health Research: Resources for good publication of health research studies <sup>[59]</sup> Transparency declaration <sup>[110]</sup>
EU	European Union: Directive 2010/63/EU. Legislation for the protection of animals used for scientific purposes <sup>[56]</sup>
EuCheMS	European Association for Chemical and Molecular Sciences: Ethical Guidelines for Publications in Journals and Reviews <sup>[15]</sup>
FDAAA	US Food and Drug Administration Amendments Act of 2007 <sup>[111]</sup>
FORCE11	The Future of Research Communications and e-Scholarship. Recommended reporting guidelines for life science resources <sup>[60]</sup>
FSHI	Foundation for the Sociology of Health and Illness: Approach to misconduct <sup>[112]</sup>
Harnes I.	Peer Review and Manuscript Management in Scientific Journals: Guidelines for Good Practice <sup>[76]</sup>
ICLAS	International Council for Laboratory Animal Science: Ethical Guidelines for editors and reviewers <sup>[50]</sup>
ICMJE	International Committee of Medical Journal Editors: Conflicts of Interest Form <sup>[77]</sup> Recommendations <sup>[113]</sup>
IFPMA, EFPIA, JPMA, PhRMA	International Federation of Pharmaceutical Manufacturers and Associations, European Federation of Pharmaceutical Industries and Associations, Japan Pharmaceutical Manufacturers Association, Pharmaceutical Research and Manufacturers of America: Joint Position on the Disclosure of Clinical Trial Information via Clinical Trial Registries and Databases <sup>[48]</sup> Joint Position on the Publication of Clinical Trial Results in the Scientific Literature <sup>[114]</sup>
ISE	International Society of Ethnobiology: Code of Ethics <sup>[115]</sup>
ISMPP	International Society for Medical Publication Professionals: Good publication practice for communicating company sponsored medical research: the GPP2 guidelines <sup>[116]</sup> Code of ethics <sup>[117]</sup>
IUPAP	International Union of Pure and Applied Physics: International Guidelines for Ethical Conduct in Scientific Publishing adopted by IUPAP <sup>[118]</sup>
JCB	Image manipulation recommendations from Journal of Cell Biology <sup>[22]</sup>
JP	The Journal of Physiology series on statistical reporting <sup>[119]</sup>
Landis S.C. <i>et al.</i>	A call for transparent reporting to optimize the predictive value of preclinical research <sup>[63]</sup>
MCP	Molecular and Cellular Proteomics: Peptide and protein identification analysis and documentation publication guidelines <sup>[120]</sup>
McShane L.M. <i>et al.</i>	Reporting recommendations for tumor marker prognostic studies (REMARK) <sup>[121]</sup>

**Table 1. (Continued)**

Organization/publication details	
MIAPE	Minimum Information About a Proteomics Experiment: Proteomics reporting guidelines <sup>[122]</sup>
MIBBI	Minimum Information for Biological and Medical Investigations: Minimum Information guidelines from diverse bioscience communities <sup>[64]</sup>
MPIP	Medical Publishing Insights and Practices initiative <sup>[124]</sup>
	Chipperfield L. <i>et al.</i> Authors' Submission Toolkit: A practical guide to getting your research published <sup>[123]</sup>
MRC	UK Medical Research Council: Good Research Practice <sup>[125]</sup>
NC3Rs	National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) ethical framework for conducting scientific experiments using animals humanely <sup>[51]</sup>
Noonan B.M., Parish D.	Expressions of concern and their uses. <i>Learned Publishing</i> . 2008;21(3):209–213(5) <sup>[126]</sup>
NSABB	US National Science Advisory Board for Biosecurity: Statements and recommendations on biosecurity <sup>[127]</sup>
OHRP	US Office for Human Research Protection: Database of independent community institutional review boards <sup>[42]</sup>
ORCID	A registry of unique researcher identifiers and a method of linking research activities and outputs to these identifiers <sup>[68]</sup>
ORI	US Office of Research Integrity: Ethics of Peer Review: A Guide for Manuscript Reviewers <sup>[128]</sup> Forensic tools and samples for quick examination of scientific images <sup>[20,21]</sup> Guidelines “Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing” <sup>[129]</sup> Policy on Plagiarism <sup>[25]</sup>
PhRMA	Pharmaceutical Research and Manufacturers of America: Principles on Conduct of Clinical Trials and Communication of Clinical Trial Results <sup>[130]</sup>
RCUK	Research Councils UK: Policies and Guidelines on the Governance of Good Research Conduct <sup>[131]</sup>
REFLECT	The REFLECT Statement: Reporting Guidelines for Randomized Controlled Trials in Livestock and Food Safety <sup>[66]</sup>
Rossner M., Yamada K.M.	What's in a picture? The temptation of image manipulation <sup>[23]</sup>
RSPCA	Royal Society for the Prevention of Cruelty to Animals: Editorial policies of scientific journals regarding the use of animals, includes publication policy principles and a good practice model “instructions for authors” <sup>[132]</sup>
Russell W.M.S., Burch R.L.	<i>The Principles of Humane Experimental Technique</i> . 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) <sup>[133]</sup>
SAP	US Federal Select Agent Program overseeing possession, use and transfer of biological select agents and toxins <sup>[134]</sup>
SHI	Sociology of Health and Illness: Guidelines for Referees and statement on publication ethics <sup>[135]</sup>
STARD	Standards for Reporting of Diagnostic Accuracy <sup>[136]</sup>
STRENDA	Standards for Reporting Enzymology Data: Commission Guidelines <sup>[137]</sup>
Tonzani S., Crichton H.	Scientific ethics <sup>[138]</sup>
UKRIO	UK Research Integrity Office: Code of practice for research, promoting good practice and preventing misconduct <sup>[139]</sup> Guidance on retractions <sup>[140]</sup> Misconduct investigation procedure <sup>[141]</sup>
UUK	Universities UK: Concordat to support research integrity <sup>[142]</sup>
Waikato Institute of Technology	Principles and Procedures: Conducting Research in a Maori Context from Waikato Institute of Technology <sup>[43]</sup>
WAME	World Association of Medical Editors Policy statements <sup>[143]</sup>
	Responding to Allegations of Possible Misconduct <sup>[8]</sup>
WCRI	World Conference on Research Integrity: International standards for editors and authors, from the Second World Conference on Research Integrity, Singapore, 2010 published in <i>Promoting Research Integrity in a Global Environment</i> <sup>[144,145]</sup>
	Montreal Statement on Responsibilities of Individual and Institutional Partners in Cross-Boundary Research Collaborations <sup>[146]</sup>
	Singapore Statement on Research Integrity <sup>[9]</sup>
Wiley	Graf C. <i>et al.</i> Best Practice Guidelines on Publication Ethics: A Publisher's Perspective <sup>[147]</sup> Wiley Copyright FAQs <sup>[27]</sup>
WMA	World Medical Association: Declaration of Helsinki <sup>[32]</sup>

Wiley, Hoboken, New Jersey, USA; Martin Ottmar, Dr. rer. nat. – Deputy Editor, Advanced Materials and Editor-in-Chief, Advanced Energy Materials, Wiley-VCH, Weinheim, Germany; Allen Stevens, MA, DPhil – Journal Editorial Director, Health Sciences, Wiley, Oxford, UK; Edward Wates – Vice President and Director, Global Journal Content Management, Wiley Oxford, UK; Deborah Wyatt, BA (Hons) – Editorial Director, Wiley, Richmond, Victoria, Australia.

## 9. Provenance and Publication Details

These guidelines were not peer reviewed by this journal. They were peer reviewed by 24 reviewers selected by the team of authors prior to submission to this journal. These guidelines are also published in: *Headache*, *International Journal of Clinical Practice*, *Annals of the New York Academy of Sciences*, *Social Science Quarterly*, and on the website <http://exchanges.wiley.com/ethicsguidelines>.

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- [1] Wiley Publication Ethics Guidelines, 1st ed., 2006. <http://onlinelibrary.wiley.com/doi/10.1111/j.1742-1241.2006.01230.x/abstract>
- [2] Committee on Publication Ethics (COPE). <http://publicationethics.org/>
- [3] Committee on Publication Ethics (COPE), *Code of Conduct for Editors*. <http://publicationethics.org/files/Code%20of%20Conduct.pdf>
- [4] Committee on Publication Ethics (COPE), *Code of Conduct for Publishers*. [http://publicationethics.org/files/Code%20of%20conduct%20for%20publishers%20FINAL\\_1\\_0.pdf](http://publicationethics.org/files/Code%20of%20conduct%20for%20publishers%20FINAL_1_0.pdf)
- [5] Committee on Publication Ethics (COPE), *Record of Cases*. <http://publicationethics.org/cases>
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