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GUIDELINES:  
**RETRACTION GUIDELINES**

# GUIDELINES

# PROMOTING INTEGRITY IN RESEARCH AND ITS PUBLICATION

*COPE provides leadership in thinking on publication ethics and practical resources to educate and support members, and offers a professional voice in current debates.*

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## RETRACTION GUIDELINES

### Summary

Editors should consider retracting a publication<sup>1</sup> if:

- They have clear evidence that the findings are unreliable, either as a result of major error (eg, miscalculation or experimental error), or as a result of fabrication (eg, of data) or falsification (eg, image manipulation)
- It constitutes plagiarism
- The findings have previously been published elsewhere without proper attribution to previous sources or disclosure to the editor, permission to republish, or justification (ie, cases of redundant publication)
- It contains material or data without authorisation for use
- Copyright has been infringed or there is some other serious legal issue (eg, libel, privacy)
- It reports unethical research
- It has been published solely on the basis of a compromised or manipulated peer review process
- The author(s) failed to disclose a major competing interest (a.k.a. conflict of interest) that, in the view of the editor, would have unduly affected interpretations of the work or recommendations by editors and peer reviewers.

Notices of retraction should:

- Be linked to the retracted article wherever possible (ie, in all online versions)
- Clearly identify the retracted article (eg, by including the title and authors in the retraction heading or citing the retracted article)
- Be clearly identified as a retraction (ie, distinct from other types of correction or comment)
- Be published promptly to minimise harmful effects
- Be freely available to all readers (ie, not behind access barriers or available only to subscribers)
- State who is retracting the article
- State the reason(s) for retraction
- Be objective, factual and avoid inflammatory language.

<sup>1</sup> These guidelines are intended to apply primarily to journal articles but may be applicable to book chapters, abstracts, preprints and other published documents.

**Retractions are not usually appropriate if:**

- The authorship is disputed but there is no reason to doubt the validity of the findings
- The main findings of the work are still reliable and correction could sufficiently address errors or concerns
- An editor has inconclusive evidence to support retraction, or is awaiting additional information such as from an institutional investigation (for information about Expressions of Concern see <https://publicationethics.org/expressions-of-concern-forum-discussion>)
- Author conflicts of interest have been reported to the journal after publication, but in the editor's view these are not likely to have influenced interpretations or recommendations or the conclusions of the article.

## THE PURPOSE OF RETRACTION

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

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

Retractions may be used to alert readers to cases of redundant publication, plagiarism, peer review manipulation, reuse of material or data without authorisation, copyright infringement or some other legal issue (eg, libel, privacy, illegality), unethical research, and/or a failure to disclose a major competing interest that would have unduly influenced interpretations or recommendations.

## WHICH PUBLICATIONS SHOULD BE RETRACTED?

If only a small part of an article reports flawed data or content, this may be best rectified by a correction. Partial retractions are not helpful because they make it difficult to determine the status of the article and which parts may be relied upon. Similarly, if only a small section of an article (eg, a few sentences in the discussion) is plagiarised, editors should consider a correction (which could note that text was used without appropriate acknowledgement and cite the source) rather than retracting the entire article, which may contain sound, original data.

If redundant publication occurs, the journal that published first may issue a Notice of Redundant Publication but should not retract the article unless there are other concerns such as the reliability of the data. Any journals that subsequently publish a redundant article should retract it and state the reason for the retraction. If an article is published in more than one journal (either online or in print) around the same time, precedence may be determined by the publication dates or the dates on which a licence to publish or copyright transfer agreement was signed by the authors.

Journals that publish an article that synthesises or aggregates data from redundant publications may consider issuing a correction; duplicate counting of the same data can cause meta-analyses and systematic reviews to overestimate effect sizes and benefits of interventions.

In cases of partial overlap (ie, when authors present new findings in an article that contains a substantial amount of previously published information) editors should consider whether the entire article is retracted or whether to issue a correction clarifying which aspects had been published previously and providing appropriate attribution to the earlier work. This will depend on the amount and nature of overlap – in some cases (eg, description of a standard method), a limited degree of *Text recycling* (<https://bit.ly/2qSK0Xz>) may be permissible.

Guidelines on dealing with redundant publications identified in submitted manuscripts or published articles can be found in the relevant *COPE Flowcharts* (<https://bit.ly/2rtSl4m>).

Posting an “*in press*” or final version of an article online usually constitutes publication even if the article has not appeared (or will not appear) in print. If an article is retracted before it appears in the print or online version of a journal, or if the journal does not publish in print, the online version of the article should be retained with a clear Notice of Retraction and it should be included in bibliographic databases (eg, with a digital object identifier (DOI) or other permanent citation). Retaining the original work ensures transparency of the published record, as online versions may have been accessed and cited by researchers prior to retraction.

Articles that relied on subsequently retracted articles in reaching their own conclusions, such as systematic reviews or meta-analyses, may themselves need to be corrected or retracted.

Retractions may be requested by an article’s author(s), by an institution, by readers, or by the editor.

## WHAT FORM SHOULD A RETRACTION TAKE?

In general, a retraction notice should cover a single retracted article.

Retraction notices should mention the reasons and basis for the retraction to enable readers to understand why the article is unreliable and should also specify who is retracting the article and possibly how the matter came to the journal’s attention (claimants may be named only when they have given permission).

Whenever possible, editors should negotiate with authors and attempt to agree on a form of wording that is clear and informative to readers and acceptable to all parties. However, prolonged negotiations should not unreasonably delay retraction and editors should publish retractions even if consensus cannot be reached. Retraction notices should be published in all versions of the journal (ie, print and/or online). It is helpful to include the authors and title of the retracted article in the retraction heading. A form from the **European Association of Science Editors** for checking details of the retraction is available at (<https://bit.ly/2kqAo3O>).

Retracted articles should be unmistakably identified as such in all online sources (eg, on the journal website, on the original article, and any bibliographic databases). Journals are responsible for ensuring that retractions are labelled in such a way that they are identified by bibliographic databases and should also include a link to the retracted article. The retraction should appear on all online searches for the retracted publication.

In extremely limited cases it may be necessary to remove an article from online publication, such as when the article is clearly defamatory, violates personal privacy, is the subject of a court order or might pose a serious health risk to the general public. In these circumstances, the metadata (title and authors) should be retained and the retraction notice should clearly state why the full article has been removed.

## WHO SHOULD ISSUE THE RETRACTION?

In some cases, retractions are issued jointly or on behalf of the journal's owner (eg, a learned society or publisher). However, since responsibility for the journal's content rests with the editor, they should always have the final decision about retracting material. Editors may retract publications (or issue Expressions of Concern) even if all or some of the authors do not agree. Who is retracting the article should be clearly identified within the retraction notice.

## HOW QUICKLY SHOULD AN ARTICLE BE RETRACTED?

Publications should be retracted as soon as possible after the editor is convinced that the publication is seriously flawed, misleading, or falls into any of the categories described above. Prompt retraction should minimise 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 an editor has 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 may be appropriate to wait for the outcome before issuing a retraction (but an Expression of Concern may be published in the interim).

If a letter or commentary that has been submitted for publication raises serious concerns about an article, an editor should not wait for a decision on publication of the letter or commentary to consider whether the article may also need to be retracted (or whether an Expression of Concern is needed).

When editors or journals have credible grounds to suspect misconduct, this should be brought to the attention of the authors' institutions as early as possible, but the decision to correct or retract an article should be made by the journal and does not necessarily depend on an institutional finding of misconduct. Journals should in principle raise concerns with an author before contacting institutions, but when evidence of serious misconduct is well-founded then in rare cases they may contact institutions without first informing the authors: editors should use the *COPE Guidelines: Cooperation between research institutions and journals on research integrity cases* (<https://doi.org/10.24318/cope.2018.1.3>) and the *CLUE Guidelines: Wager E et al., Cooperation and liaison between universities and editors (CLUE): Recommendations on best practice*, *bioRxiv* 139170; DOI: (<https://doi.org/10.1101/139170>).

If necessary, a previously corrected article may be further corrected or a previously corrected article may be retracted following the outcome of an institutional investigation. When possible, the outcome of institutional investigations should be quoted from and cited in the notice, and any findings of misconduct should be appropriately attributed to the institution who made the finding.

## 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, or will not be obtained for a significant period of time, retraction may not be appropriate, but an editor could consider publishing an Expression of Concern.

## 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 editor should inform those involved in the dispute that they 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* <https://bit.ly/34TQkNu>).

## 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 when possible. However, authorship entails some degree of joint responsibility for the integrity of the reported research so it is not appropriate for authors names to be removed from a publication even if they were not directly culpable for the errors or actions that led to retraction.

## 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 journals and their 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 journal's policies on publication ethics and describe the circumstances under which articles might be retracted. This information should be incorporated into author agreements and brought to the authors' attention. It is common for author agreements to contain commitments from authors confirming compliance with the journal's policies. 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 retraction or an Expression of Concern if it follows a suitable investigation and proper procedures (see for example **Mario Saad vs. American Diabetes Association** <https://www.leagle.com/decision/infdco20150306891>).

Legal advice may be helpful to determine appropriate wording for a retraction notice to ensure that the text is not considered defamatory. As much as possible, wording of retractions should be limited to proven facts. Retraction notices should not engage in speculation (such as about motives or elements that are unproven) and should avoid *ad hominem* or other personal attacks. Nevertheless, retraction notices should always mention the reason(s) for retraction, and a statement about misconduct findings may be included if they are properly attributed to the finding body (eg, following an institutional or funder investigation). If authors consent to the wording of a retraction statement, this may provide a defence against a libel claim.



## REPUBLISHING RETRACTED CONTENT

An author may republish some of the work if not all of the content was found to be unreliable. In order to do so transparently, authors should notify the editors of the new journal of the prior retraction and it is likely appropriate to cite the retraction, indicating why the work was flawed and what has been corrected in the new article. Permission to republish also needs to be agreed with the copyright holder of the retracted work.

In some instances, journals may wish to work with authors to concurrently retract an article that was found to be fundamentally flawed while simultaneously publishing a linked and corrected version of the work. This strategy of “*retract and republish*” is not commonly used, but may provide an opportunity for journals and authors to transparently correct the literature when a simple correction cannot sufficiently address the flaws of the original article (eg, see *Cagney et al., Retraction and republication – a new tool for correcting the scientific record? European Science Editing*, February 2016; 42(1) (<https://bit.ly/2m03tTQ>). In this instance, the original article should not be completely removed or “*replaced*”, but should be retained and linked to.

## FURTHER READING

1. <https://doi.org/10.12688/f1000research.13060.1>
2. <https://doi.org/10.1001/jama.280.3.296>
3. <https://bit.ly/2IEJ86h>
4. <https://doi.org/10.1186/s13104-018-3576-2>
5. <https://doi.org/10.1111/eci.12898>
6. <https://doi.org/10.1371/journal.pone.0044118>
7. <https://bit.ly/2m7hKOF>
8. <https://bit.ly/2ksqgrg>
9. <https://doi.org/10.5694/j.1326-5377.2006.tb00504.x>

- 10: <https://bit.ly/2CEP5pn>
- 11: <https://bit.ly/2IHOR06>
- 12: <https://retractionwatch.com>
- 13: <https://retractiondatabase.org>
- 14: <https://doi.org/10.1128/jmbe.v15i2.855>
- 15: <https://doi.org/10.7326/0003-4819-144-8-200604180-00123>
- 16: <https://doi.org/10.1371/journal.pone.0068397>
- 17: <https://doi.org/10.1038/478026a>

## AUTHOR CONTRIBUTIONS

### Conceptualisation:

2009 version conceptualised and written by Elizabeth Wager, Virginia Barbour, Steven Yentis and Sabine Kleinert on behalf of COPE Council.

### 2019 Version:

#### Writing – original draft preparation:

Howard Browman

#### Writing – review and editing:

Jessica Alexander,  
Catriona Fennell,  
Matt Hodgkinson,  
Heather Tierney

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