



Is the retraction of journal articles in electronic journals and databases consistent and timely? A case study

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Background

It is essential that the processes used for literature searching and selecting studies for inclusion in systematic reviews reliably identify retracted papers so they are not unwittingly included. There is, however, evidence that retracted papers continue to be cited without reference to the retraction.^{1,2} In 2009 multiple papers authored by Dr Scott S Reuben were retracted due to falsification of data. We used these citations to investigate whether databases and journals recorded the information on retraction appropriately.

Objectives

To investigate 1) whether three bibliographic databases recorded notices of retraction in a clear and timely way and 2) whether electronic journals displayed information about retractions in a way that prevented inadvertent use of fraudulent research data.

Methods

In the first stage of our investigation we searched MEDLINE, EMBASE and CENTRAL databases for 18 papers by Reuben that were known to have been formally retracted, based on retraction notices. We carried out this exercise 6 months after the first retraction notices were available and noted whether the database recorded that each of the articles was retracted.

In the second stage of the investigation we considered how electronic journals dealt with retractions. By that date retraction notices for 24 papers from nine journals were available. We retrieved one paper from each of the nine electronic journals and assessed whether it was possible to identify the study as being retracted by:

- scanning the contents page of the relevant issue of the online journal to establish whether the contents page indicated that it was a retracted paper
- viewing the html copy of the paper to see whether it was clear that the paper had been retracted
- viewing the PDF of the paper (if available) to see whether it was clear that the paper had been retracted

Results

In our case study, all of the retracted papers identified on MEDLINE had been annotated appropriately as compared to 6% of EMBASE records and 80% of CENTRAL records. It was easier to identify MEDLINE records as retracted as they are more consistently and clearly annotated. EMBASE records are more problematic as, even when the retraction notice is available, the original record is not annotated to indicate that the paper has been retracted.

MEDLINE note of retraction after title, statement of “retracted publication” status

Postoperative modulation of central nervous system prostaglandin E2 by cyclooxygenase inhibitors after vascular surgery.[Retraction in *Anesthesiology*. 2009 Mar;110(3):689; PMID: 19218855]

Reuben SS, Buvanendran A, Kroin JS, Steinberg RB.
Anesthesiology. 104(3):411-6, 2006 Mar.
[Journal Article. Randomized Controlled Trial. Retracted Publication]

UI: 16508386

EMBASE no note of retraction after title, no statement of “retracted publication” status

Postoperative modulation of central nervous system prostaglandin E2 by cyclooxygenase inhibitors after vascular surgery.

Reuben S.S., Buvanendran A., Kroin J.S., Steinberg R.B.
Anesthesiology. 104 (3) (pp 411-416), 2006. Date of Publication: March 2006.
[Journal: Conference Paper]

Publisher
Lippincott Williams and Wilkins (530 Walnut Street, Philadelphia PA 19106-3621, United States)

Cochrane CENTRAL Register of Controlled Trials performed reasonably well although information about retractions was not always presented consistently or clearly. There were instances of duplicate records where one record gave information about retraction and the other did not. In the example here the note of retraction can easily be overlooked.

In the recording of retractions in electronic journals there was considerable variability across journals in how clearly they annotated that a paper had been retracted. This was surprising given that electronic journals could easily and reliably annotate retracted articles compared to paper journals. Best practice was when the retraction was clearly labelled in the title of the article on the contents page, with a link to the retraction notice and “RETRACTION” had been embedded as a watermark in the PDF of the full paper.

Journal	Contents page	html	pdf	Free to access	Risk of not identifying as retracted
Acute Pain	✓	✓	✓	✓	No
Anesth Analg	X	✓	X	X	Yes
Anesthesiology	X	X	X	✓	Yes
J Arthroplasty	✓	✓	✓	✓	No
J Bone Joint Surg Am	✓	Subscription required	Subscription required	✓	No
J Clin Anesth	X	No html	No pdf	✓	Yes
J Pain	✓	✓	✓	✓	No
J Pain Symptom Manage	X	✓	X	✓	Yes
Reg Anesth & Pain Med	✓	No access	No access	✓	Unclear (no access)

Conclusions

Lack of consistency in how databases and electronic journals record retractions and the time taken to record the retractions make it difficult for researchers and information specialists to identify retracted studies and extra care is needed to ensure that they are not included in systematic reviews. To ensure that any retracted data is identified, it should be standard practice in all systematic reviews to check the final list of included studies against MEDLINE.

Although guidance exists for both publishers and authors it is not being consistently followed³⁻⁵.

References

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- Full details of the papers by Dr Scott S Reubens used in this analysis is available in the paper Wright, K and McDaid, C. Reporting of article retractions in bibliographic databases and online journals. *J Med Libr Assoc*. 2011 April; 99(2): 164–167. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3066576/?tool=pubmed>

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