

Is retraction sufficient for medical papers?

Things are to be used and people are to be loved, the problem in today's world is that people are used while things are loved. Attributed to Dr. Ali Shariati

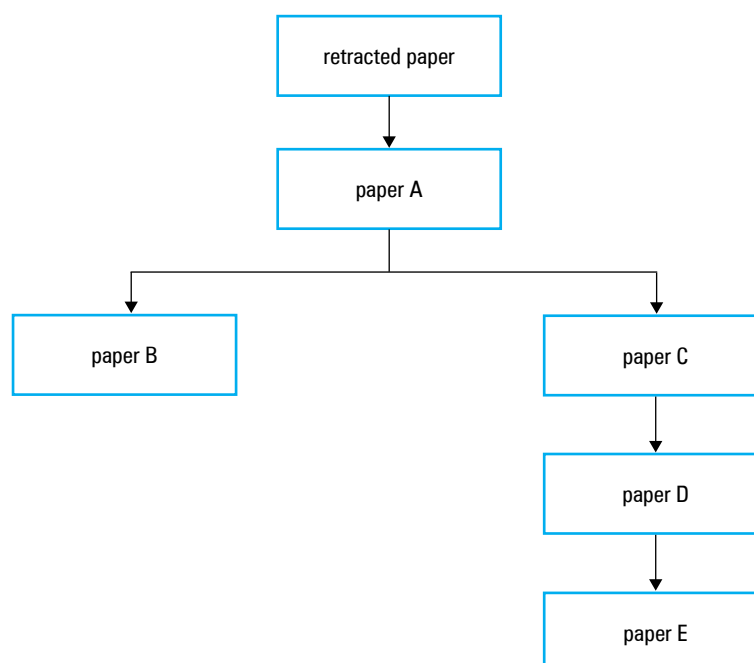
To the Editor Retraction is the term used to indicate published papers that have serious flaws in terms of being trustworthy, reliable, and correct. In other words, papers that do not present valid findings generally will be retracted to prevent the spread of erroneous conclusions and wasted effort.¹ Retraction is not a punishment for authors. Its main goal is to inform others about mistakes in published papers. In recent years, the number of paper retractions has grown due to the lowering of barriers for publishing flawed papers.² According to the Committee on Publication Ethics, papers that have one invalid and unreliable finding, cases of redundant publication, contain plagiarism, or do not respect ethical issues should be retracted.³

When a paper has been retracted (by an editor or by its authors), its retracted status is included in the title and as the water mark on the paper. Also, scientific centers will update their records to show the retracted status of the paper to prevent its use in the future. Authors citing a retracted paper are responsible for inspecting their own

paper to determine what role, if any, the retracted paper may have had in their research. If the retracted paper was the basis for their research (such as designing a hypothesis), it is their responsibility to correct their own papers (as stated in retraction watch blog <http://retractionwatch.com/2016/11/01/what-should-you-do-if-a-paper-youve-cited-is-later-retracted/>). As seen in this blog, there are retracted papers that have more than a thousand citations. For example, a retracted paper⁴ published in *Science* has received 1066 citations so far. This 2005 paper was retracted in 2007, but received about 430 citations after its retraction!

The most important aspect with regard to retraction is outright error propagation. It might follow this scenario: Paper A has a serious flaw in its conclusions and research findings. Papers B and C cite paper A and use it as the basis for their research. Paper D cites paper C and finally paper E cites paper D. Eventually, the authors or editors retract paper A due to a serious flaw in its conclusions and research findings. A question may arise here: is retraction of paper A sufficient? Certainly not. We need to correct all papers B, C, D, and E (FIGURE 1). Unfortunately, authors who cite retracted papers often do not

FIGURE 1 Citation graph for papers A, B, C, D, and E



correct their own papers, which leads to error propagation and critical mistakes in science. It is not always easy to determine whether papers selected during literature review used retracted papers. This issue is especially important in medical research or surgery. If a paper was based on unreliable evidence or literature, unreliable results will be produced and patients will be at risk.

Obviously, it is a duty of all researchers to be aware of retracted papers in their disciplines. Here are some guidelines. First, it is necessary for all researchers to retract their papers if they discover serious flaws. We emphasize again that retraction is not punishment but rather an act to protect science. As Steen reported in his paper,⁵ most retractions (about 74%) are due to error and only a few are due to fraud. Moreover, researchers must correct any papers that cite a retracted paper. Second, academic sources that publish lists of retracted papers are helpful. As mentioned, retraction watch (<http://retraction-watch.com>) is a blog that focuses on reporting retracted papers as soon as that fact becomes known. Third, set alarm for the term "Retracted:" in citation databases such as Google Scholar. When a paper has been retracted, its title should be changed from "Paper Title" to "Retracted: Paper Title." This not only alerts researchers, but is a convenient search term for monitoring the retraction process. Authors should not cite a retracted paper without mentioning its status. Citation of retracted papers is allowed in special cases such as writing about academic misconduct or discussing the impact of invalid findings. Finally, we can expose subsequent citations of retracted papers by using scientometric tools on citation databases. These tools are commonly used by librarians, although most researchers do not know about them. Most concerns about these papers will be resolved in citation databases that clearly indicate which papers have cited retracted papers.

The growth of predatory and hijacked journals⁶ also makes paper retraction an increasing necessity for scholarly research. Researchers cannot accept all published research at face value. As always, a critical view is necessary. Many invalid papers are not retracted, but should be.⁷ Many authors still cite studies that have been retracted, spreading the influence of invalid hypotheses that were based on unreliable research. Therefore, researchers need to improve their awareness of the problem and how to confront it.

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REFERENCES

- 1 Fang FC, Casadevall A. Retracted science and the retraction index. *Infect Immun.* 2011; 79: 3855-3859.
- 2 Steen RG, Casadevall A, Fang FC. Why has the number of scientific retractions increased? *PLoS One.* 2013; 8: e68397.
- 3 Committee on Publication Ethics. Retraction guidelines. <http://publicationethics.org/files/retraction%20guidelines.pdf>. Accessed November 14, 2016.
- 4 Fukuhara A, Matsuda M, Nishizawa M, et al. Visfatin: a protein secreted by visceral fat that mimics the effects of insulin. *Science.* 2005; 307: 426-430.
- 5 Steen RG. Retractions in the scientific literature: is the incidence of research fraud increasing? *J Med Ethics.* 2011; 37: 249-253.
- 6 Nahai F. The rise of predatory journals: what difference does it make? *Aesthet Surg J.* 2015; 35: 1042-1043.
- 7 Borchardt G. Einstein's most important philosophical error. *Proceedings of the Natural Philosophy Alliance.* 2011; 8: 64-68.