

# When Retractions Become Weapons (And Why They're Not Always The Best Way To Clean Up The Literature)

PharmedOut 2017

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# Conflict of Interest Disclosure

- I'm paid a salary by MedPage Today, which provides health care news to health care professionals. Our work is completely editorially independent, with a rigid firewall, but I should note that we are part of Everyday Health, which is considered for CME purposes as a commercial entity.
- I am executive director of The Center For Scientific Integrity, the parent non-profit organization of Retraction Watch. The Center has received grants from the MacArthur Foundation, Arnold Foundation, and Helmsley Trust.

# 20 Years Ago

## *Drug Firm, Relenting, Allows Unflattering Study to Appear*

By LAWRENCE K. ALTMAN APRIL 16, 1997



The journal also published a letter from Carter H. Eckert, the president of Knoll, who apologized for blocking publication of Dr. Dong's paper, saying it was "contrary to our normal practice." He expressed "regret that our decision was interpreted as lack of support for academic freedom."

*New York Times*

## Last Week

# Gene Editing Companies Hit Back at Paper That Criticized CRISPR

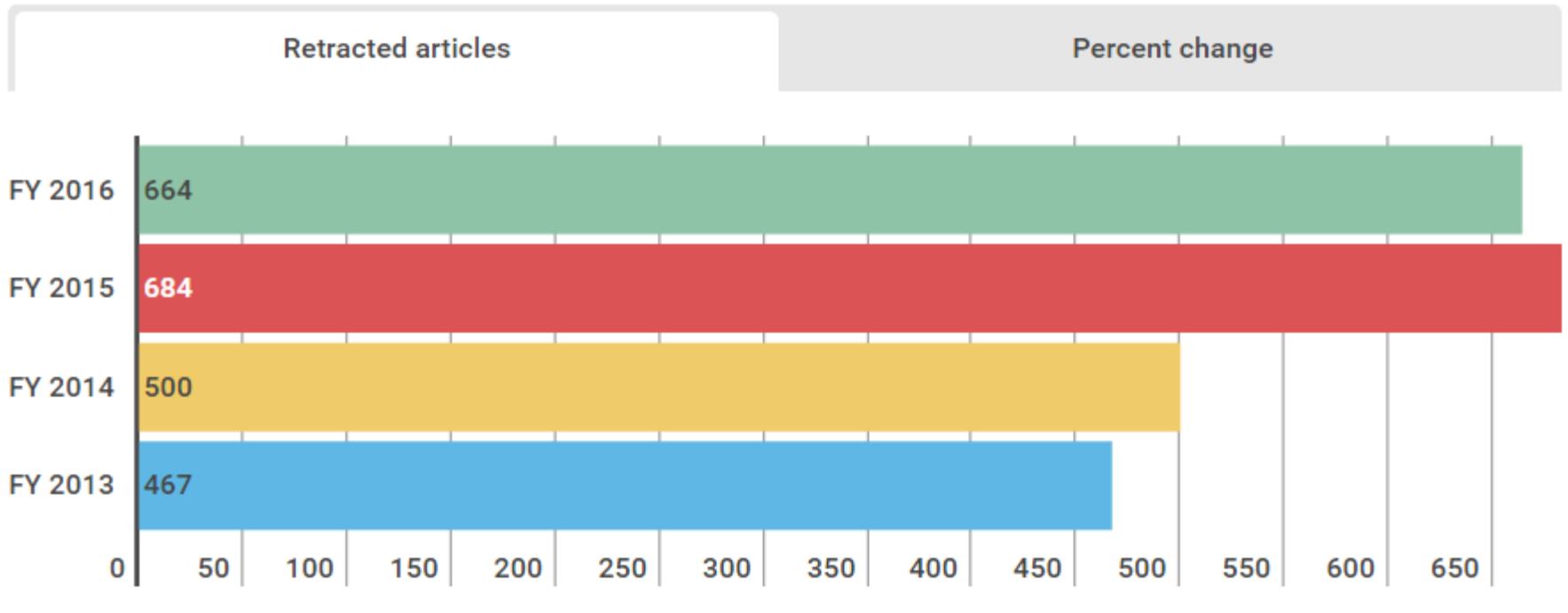
Report that suggested CRISPR is too dangerous to use as a drug was wrong, say biotech companies.

by Antonio Regalado June 9, 2017

<https://www.technologyreview.com/s/608073/gene-editing-companies-hit-back-at-paper-that-criticized-crispr/>

# Retractions on the Rise

## Retractions per year



# Most Retractions Due to Misconduct

## Misconduct accounts for the majority of retracted scientific publications

Ferric C. Fang<sup>a,b,1</sup>, R. Grant Steen<sup>c,1</sup>, and Arturo Casadevall<sup>d,1,2</sup>

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Edited by Thomas Shenk, Princeton University, Princeton, NJ, and approved September 6, 2012 (received for review July 18, 2012)

**A detailed review of all 2,047 biomedical and life-science research articles indexed by PubMed as retracted on May 3, 2012 revealed that only 21.3% of retractions were attributable to error. In contrast, 67.4% of retractions were attributable to misconduct, including fraud or suspected fraud (43.4%), duplicate publication (14.2%), and plagiarism (9.8%). Incomplete, uninformative or misleading retraction announcements have led to a previous underestimation of the role of fraud in the ongoing retraction epidemic. The percentage of scientific articles retracted because of fraud has increased ~10-fold since 1975. Retractions exhibit distinctive temporal and geographic patterns that may reveal underlying causes.**

bibliometric analysis | biomedical publishing | ethics | research misconduct

**T**he number and frequency of retracted publications are important indicators of the health of the scientific enterprise, because retracted articles represent unequivocal evidence of project failure, irrespective of the cause. Hence, retractions are worthy of rigorous and systematic study. The retraction of flawed publications corrects the scientific literature and also provides insights into the scientific process. However, the rising frequency of retractions has recently elicited concern (1, 2). Studies of selected retracted articles have suggested that error is more common than fraud as a cause of retraction (3–5) and that rates of retraction correlate with journal-impact factor (6). We undertook

published by the authors of a manuscript in the *Journal of Cell Biology* stated that “In follow-up experiments . . . we have shown that the lack of FOXO1a expression reported in figure 1 is not correct” (11). A subsequent report from the Office of Research Integrity states that the first author committed “research misconduct by knowingly and intentionally falsely reporting . . . that FOXO1a was not expressed . . . by selecting a specific FOXO1a immunoblot to show the desired result” (12). In contrast to earlier studies, we found that the majority of retracted articles were retracted because of some form of misconduct, with only 21.3% retracted because of error. The most common reason for retraction was fraud or suspected fraud (43.4%), with additional articles retracted because of duplicate publication (14.2%) or plagiarism (9.8%). Miscellaneous reasons or unknown causes accounted for the remainder. Thus, for articles in which the reason for retraction is known, three-quarters were retracted because of misconduct or suspected misconduct, and only one-quarter was retracted for error.

**Temporal Trends.** A marked recent rise in the frequency of retraction was confirmed (2, 13), but was not uniform among the various causes of retraction (Fig. 1A). A discernible rise in retractions because of fraud or error was first evident in the 1990s, with a subsequent dramatic rise in retractions attributable to fraud occurring during the last decade. A more modest increase

PNAS PNAS PNAS

MEDICAL SCIENCES

# Guidelines Say...



## RETRACTION GUIDELINES

### Summary

**Journal editors should consider retracting a publication if:**

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

**Journal editors should consider issuing an expression of concern if:**

- **they receive inconclusive evidence of research or publication misconduct by the authors**

# E-Cigarettes vs. NEJM

## Retraction Watch

### Researchers call for retraction of NEJM paper showing dangers of e-cigarettes

with 19 comments

Researchers and advocates are calling for the retraction of a [2015 letter in the \*New England Journal of Medicine\*](#) that suggested that e-cigarettes are as harmful – if not more than – traditional cigarettes.



The NEW ENGLAND  
JOURNAL of MEDICINE

[David H. Peyton](#), professor of chemistry at Portland State University and one of authors on the original *NEJM* letter, told Retraction Watch:



Bates & Farsalinos requested a retraction after their *NEJM* correspondence and our reply, and since that quickly failed they got *Addiction* to accept their request.

No one seems to be arguing with the science; they just seem very much to want the shading of the interpretation to match certain agendas.



# Walter Willett vs. Annals of Internal Medicine

## Scientists Fix Errors in Controversial Paper About Saturated Fats

By Kai Kupferschmidt | Mar. 24, 2014, 3:15 PM

"They have done a huge amount of damage," says Walter Willett, chair of the nutrition department at the Harvard School of Public Health in Boston. "I think a retraction with similar press promotion should be considered."

*Science*

# Testosterone Researchers vs. JAMA

## World Experts and Androgen Study Group Petition JAMA to Retract Misleading Article on Testosterone Therapy

"Gross data mismanagement" led to unreliable results that contradicted 30+ years of medical literature, producing a media frenzy that misled consumers and compromised public health

25 Mar, 2014, 08:00 ET from [The Androgen Study Group](#)

# DGAC/CSPI vs. The BMJ

**November 5, 2015**

Dear Editor:

A recent article by journalist Nina Teicholz, which was published as a “BMJ Investigation” of the Scientific Report of the 2015 Dietary Guidelines Advisory Committee (DGAC), included numerous errors and misrepresentations. Below we have summarized only factual errors, excluding incorrect or biased interpretations of research. The mistakes are bolded.

Because the “investigation” as a whole is so riddled with errors, we urge the BMJ to retract it, not only to inform your readers, but also to protect the BMJ’s credibility.

CSPI

# The Seralini Affair

## Retraction Watch

### Journal editor defends retraction of GMO–rats study while authors reveal some of paper’s history

The COPE guidelines were consulted when making this decision. According to the COPE guidelines, “Journal editors should consider retracting a publication if ... they have clear evidence that the findings are unreliable, either as a result of misconduct (e.g. data fabrication) or honest error (e.g. miscalculation or experimental error).” (COPE, 2009). The [retraction statement](#) could have been clearer, and should have referred to the relevant COPE guidelines. The data are inconclusive, therefore the claim (i.e., conclusion) that Roundup Ready maize NK603 and/or the Roundup herbicide have a link to cancer is unreliable. Dr. Séralini deserves the benefit of the doubt that this unreliable conclusion was reached in honest error. The review of the data made it clear that there was no misconduct. However, to be very clear, it is the entire paper, with the claim that there is a definitive link between GMO and cancer that is being retracted. Dr. Séralini has been very vocal that he believes his conclusions are correct. In our analysis, his conclusions cannot be claimed from the data presented in this article.

*Food and Chemical Toxicology*

# The Sun vs. CMAJ

**OPINION** COLUMNISTS

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LILLEY

**CMAJ should retract their flawed report on firearms injuries**



BY BRIAN LILLEY

# Sometimes, They're Right

## Retraction Watch

Tracking retractions as

### Journal retracts Ohio State CrossFit study at center of lawsuits

with one comment

The fallout continues for a study conducted at a local CrossFit gym by researchers at The Ohio State University. First [it was corrected](#), now it's been retracted, and it continues to be the basis of litigation against both the authors and the publisher.



# Retractions As An Indictment Of Science

In many ways, the strengths of science—its self-criticism, transparency, and self-correction—lend themselves to exploitation in a partisan public sphere. When instances of willful or inadvertent error in published work draw media attention, opponents can cast the retracted paper as a failure of pre-publication peer review, ignoring that the retraction of the flawed work also represents success of post-publication peer review.

*Hilgard & Jamieson, Oxford Handbook of the Science of  
Science Communication, 2017*

# Why Is This Happening?

- Increased attention to retractions (sorry!)
- Failure of other mechanisms of punishment, leaving retractions as the only game in town



# But Are Retractions Fit For Purpose?

Discuss!