



# The Phenomena of Retraction in Biomedical Literature

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## Introduction

These are the preliminary results of a study that examines the impact of retracted articles in biomedical literature. The study is a continuation of Budd JM, Sievert ME, Schultz TR, JAMA. 1998;280(3): 296-7, which focused on retractions in the biomedical literature from 1966 to 1997 and found that “retracted articles continue to be cited as valid work...after publication of the retraction.”

## Objective

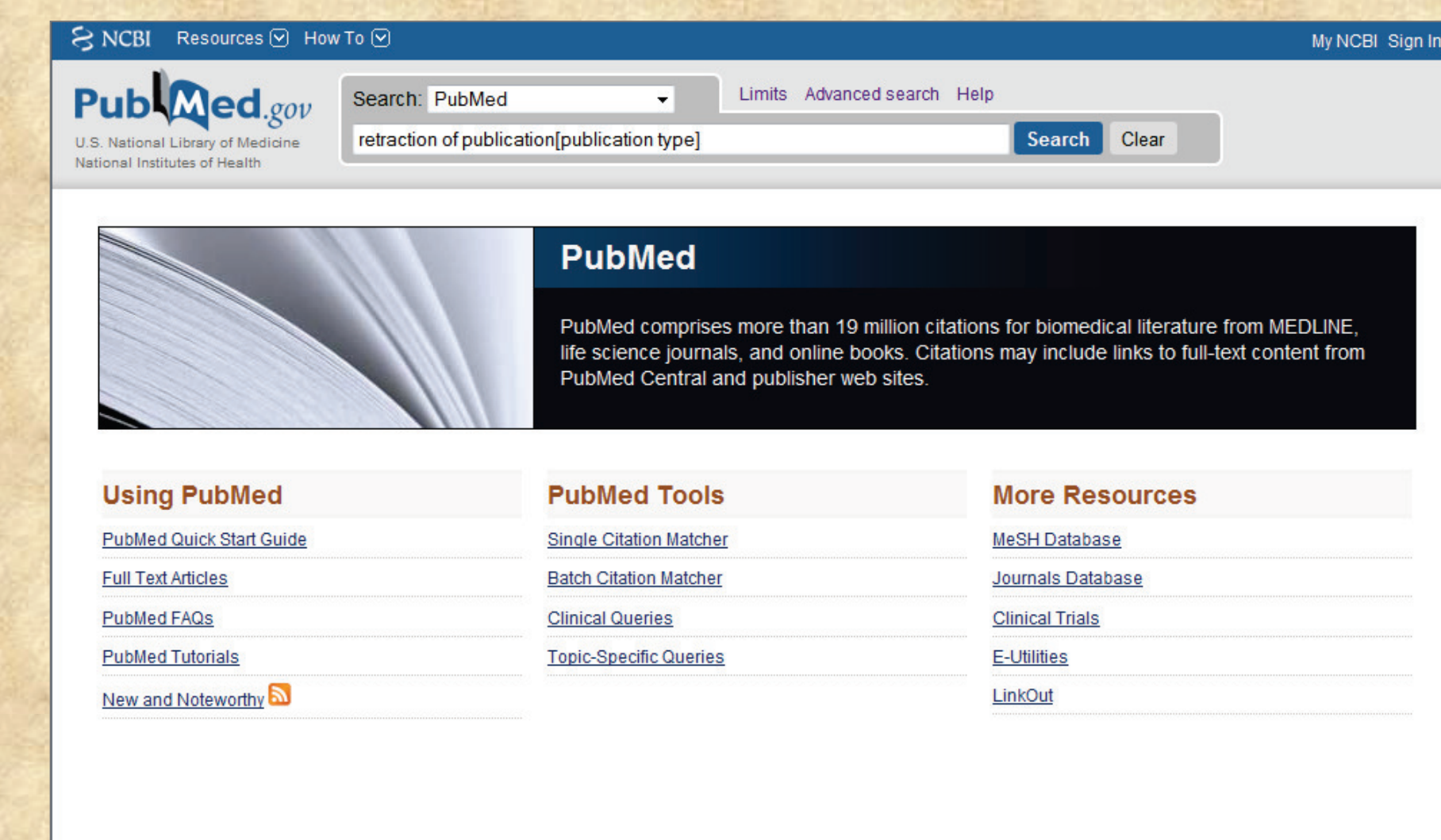
To study articles that have been retracted in the biomedical literature, and to ascertain why and by whom the publications were retracted.

## Method

The data for this analysis came from a PubMed search of the publication type “retraction of publication.” Results were limited to 1997-2008.

The search yielded **782 results**.

Retractions were then classified according to who retracted the publication and why the publication was retracted.

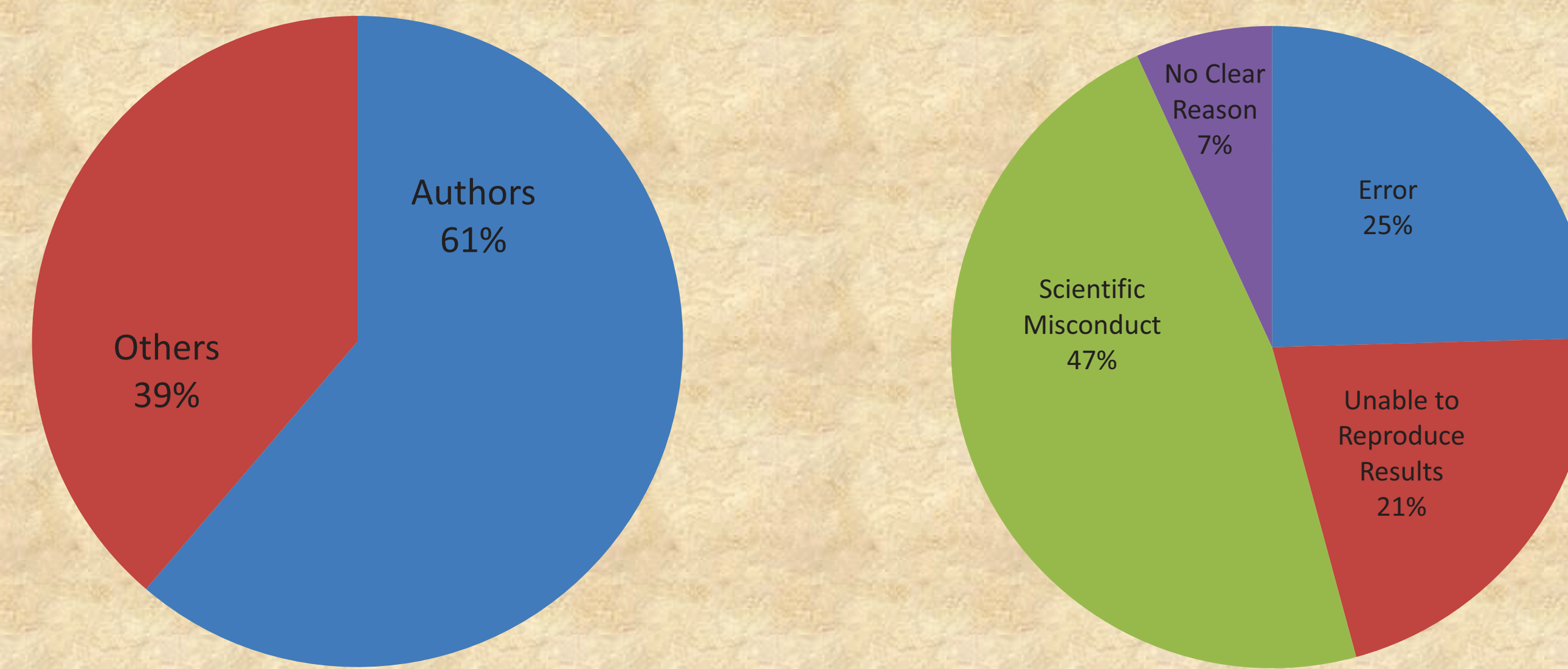


**PubMed:** The premier biomedical literature database from the National Library of Medicine

## Results: Who Retracted the Articles?

One or more of the **authors** retracted 479 (61%) of the 782 articles.

The remaining 479 articles (39%) were retracted by others, including **institutional investigating committees, journal editors, and publishers**.



## Results: Why Were the Articles Retracted?

**Error** accounted for 192 retractions (25%). A total of 370 articles (47%) were retracted because of **misconduct or presumed misconduct**. An additional 166 articles (21%) were retracted because the author(s) **could not replicate the results**. The remaining 54 articles (7%) were retracted for other **unclassifiable** reasons.

## Conclusions

From 1966-August 1997, 235 articles were retracted in the biomedical literature (Budd et al.). From 1997-2008, 782 articles were retracted, revealing a **more than doubling of retractions in a compressed time period**. These preliminary findings indicate that:

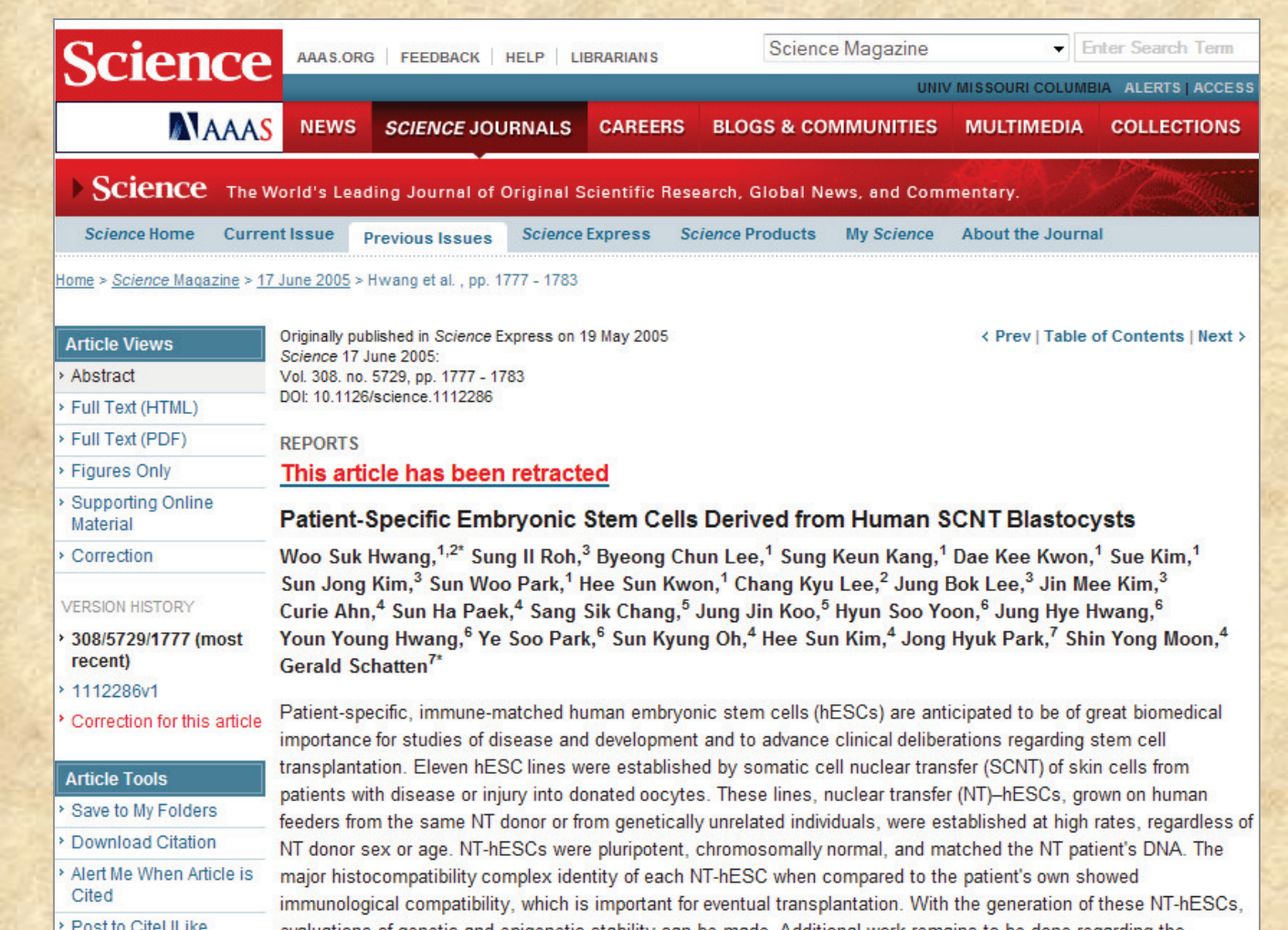
- ❖ There have been **dramatic increases** in the instances of the need for retraction
- ❖ There is considerably greater attention being paid to the **integrity of research**
- ❖ There is an **increased sensitivity** to potential impact of problematic research results and reporting

## Further Research

The next step is to investigate post-retraction citation activity and discover to what extent citations of retracted articles continue to be incorporated in subsequent work. The count of citations to retracted articles will begin one year after the retraction statement appears in print to allow for indexing of the retraction to be in place.

The post-retraction citations will be divided into three categories:

1. Citing article acknowledges the retracted nature of the article
2. Citing article explicitly cites the retracted article as presenting valid research
3. Citing article implicitly cites the retracted article as presenting valid research



**One of the most famous retractions in recent memory: Hwang et al. Science, 2005.**