

What Happens to a Published Article if a Cited Article Is Corrected?



Abstract: When one considers that as many as 2.5 million scientific articles are published each year, it is likely that more than a few contain errors. Probably, most go undetected. In theory, scientific literature is self-correcting, and the truth will eventually be revealed. However, to maintain the integrity of our literature, it is best to correct errors. Fortunately, when it comes to an errant citation, most scientific citations provide background, and errors in background citations should not change the conclusion of a study. However, for systematic reviews that quantitatively synthesize published research findings in a meta-analysis, an error in (or retraction of) an included citation will affect the study results. Such errors require correction, revision of the meta-analysis, and electronic attachment of the notation to the publication.

What happens to a published article if a cited article is corrected or retracted? Guidance regarding this question is limited, but Google Search directs us to the Retraction Watch website where an article titled, “What Should You Do if a Paper You’ve Cited Is Later Retracted?”¹ shares advice from board members of the Retraction Watch parent organization, The Center for Scientific Integrity. We found this reference helpful, and because it is presented as a discussion or “blog,” it allows us to generate our own opinions.

What Happened at *Arthroscopy*?

What happened at *Arthroscopy*? Here’s the story: Your editors received a Letter to the Editor² concerning the meta-analysis, “Operative Versus Nonoperative Treatment of Femoroacetabular Impingement Syndrome” by Dwyer, Whelan, Shah, Ajrawat, Hoit, and Chahal.³ This study, which notably won the *Arthroscopy* Journal 2020 Systematic Review/Meta-analysis Research Excellence Award, showed that “patients with FAI syndrome treated with hip arthroscopy have statistically superior hip-related outcomes in the short term compared with those treated with physical therapy alone.” To be fair, in an Editorial Commentary, Kemp wrote, “Hip arthroscopy should not be a first-line treatment but can be necessary in cases in which high-quality, exercise-based nonsurgical treatment options have been exhausted.”⁴ We conclude that patients with femoroacetabular impingement should undergo a trial of

nonoperative management, and if physical therapy fails, surgical treatment is likely to result in a positive patient outcome and a better outcome than after rehabilitation.

About That Letter

Now about that letter...

Ishøi et al.,² a group of attentive Danish research scientists, discovered that one of the studies cited in Dwyer’s meta-analysis contained an error. In that study published in *BMJ*, “Arthroscopic Hip Surgery Compared With Physiotherapy and Activity Modification for the Treatment of Symptomatic Femoroacetabular Impingement: Multicentre Randomised Controlled Trial” by Palmer et al.,⁵ it happens that Palmer et al. improperly measured and reported the International Hip Outcome Tool-33 on a visual analog scale using centimeters rather than millimeters.²

One thing leads to another. Our award-winning researchers, Dwyer et al.³ not only cited Palmer et al.⁵ but quantitatively synthesized the results of the *BMJ* article in their meta-analysis. Thus, correction of the *BMJ* article changed the results of Dwyer et al.³ To paraphrase our Journal Board of Trustees Chairman, Nick Sgaglione, “You can’t make this stuff up!”

The Cited Article Was Corrected

In the end, the cited article was corrected in an Erratum in *BMJ*.⁶ This correction changed the results of Dwyer et al.’s meta-analysis.⁷ Fortunately, despite the error in the *BMJ* article, the conclusion of our award-winning meta-analysis did not change. In fact, after: (1) Palmer et al. corrected their International Hip Outcome Tool-33 visual analog scale from millimeters

to centimeters⁶; and then (2) our letter authors pointed out the error²; and then (3) our meta-analysis authors updated their quantitative synthesis using the proper data⁷; (4) it turns out that the conclusion of Dwyer et al. that the treatment effect favoring operative management over nonoperative management of FAI was even more strongly favored.⁷

Like Nick said, “You can’t make this stuff up!”

An Editorial Decision

After due diligence,¹ collaborative discussion, and thoughtful consideration, your editors decided that since the conclusion of the meta-analysis remained unchanged, a formal correction calling attention to the Dwyer et al. author reply⁷ to the Ishøi letter² was sufficient notice of the update, bearing in mind that the letter,² the author reply,⁷ Kemp’s reply,⁸ and the correction (published in this issue) will be electronically attached to the meta-analysis in perpetuity.

Good News, Bad News

It is likely, when one considers that as many as 2.5 million scientific articles are published each year,⁹ that more than a few published scientific articles contain errors. Probably, most go undetected. The good news is that in theory, scientific literature is “self-correcting.” In other words, since additional research continues to be conducted, the truth is eventually revealed.¹⁰

The bad news is that some scholars disagree with this theory.¹¹ As a result, to maintain the integrity of our literature, errors require correction.^{12,13}

More good news—most scientific reference citations provide background or context. Errors in background citations should not change the conclusion of a study.¹

More bad news—“for systematic reviews that combine study findings using meta-analysis,”¹ an error in an included citation will affect the study results. Such errors require correction, revision of the meta-analysis, and electronic attachment of the notation to the publication.

Conclusions

What happens to a published article if a cited article is corrected? To be clear, Dwyer et al.³ made no error. A study they cited⁵ was errant. The International Committee of Journal Medical Editors Recommendations¹² provide extensive guidance on how to correct errors in the primary article, but guidance regarding our specific question is limited.¹

So what happens to a published article if a cited article is corrected or retracted? As far as we’re concerned, we prefer to never again be tasked with this question.

Rather, we implore authors to do their best, and get it right the first time.

You can’t make this stuff up!

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