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EDITORIAL

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Reporting bias in orthopaedic science—Are we telling the whole story?

Abstract

Orthopaedic congresses and journals are dominated by positive results, creating the impression that modern surgical techniques yield uniformly excellent outcomes. In reality, complications, suboptimal results, and abandoned techniques remain underreported—a reflection of outcome reporting bias (ORB) and publication bias. Professional incentives, reputational concerns, and competitive pressures favour success stories while discouraging the publication of negative findings. Yet, these data are crucial for scientific progress and patient care, offering lessons that help avoid repeated mistakes. This editorial calls on authors, reviewers and editors to actively promote transparency and give equal opportunity to rigorously conducted studies with poor or negative outcomes. Key measures include prospective trial registration, adherence to preregistered protocols, and use of tools such as ROB, ROBINS-I, ORBIT and funnel plots to detect and mitigate bias. True progress in orthopaedic surgery requires an honest, balanced narrative—one that values both success and failure. Only by addressing ORB and publication bias can we restore trust in the scientific record and fulfil our ethical obligation to patients.

KEYWORDS

negative results, orthopaedic surgery, outcome reporting bias, publication bias, research transparency

Orthopaedic congresses and meetings are filled with podium and poster presentations showcasing promising, good or even excellent results. Scientific journals likewise brim with articles reporting overwhelmingly positive outcomes. One could easily be led to believe that, in 2025, everything in knee, shoulder, hip, and ankle surgery works perfectly, producing only satisfied patients. Phrases such as 'no complications in my hands', 'no exceptions', or 'all patients were satisfied with excellent functional results' are still commonly heard in presentations and seen in publications.

As surgeons, we tend to celebrate success. We are naturally drawn to stories that work, that inspire, that motivate us to pursue innovation and to strengthen our own careers. This is not unique to medicine. In professional sports—whether football, basketball, tennis or rugby—the winner takes it all. Few people care about the losers. Psychologically, it is clear: we embrace success and often ignore failure.

But in real clinical life, do we truly achieve such overwhelmingly good results? Or are we, as a scientific community, prone to a significant reporting bias?

The reality is that the path to success is often paved with complications, setbacks, and failures. Some techniques that initially look promising may prove unreliable over time. Many patients do not achieve 'excellent' outcomes, despite careful surgery and rehabilitation. Yet these less favourable results are underreported.

WHY IS THIS SO?

One reason is that academic careers are often built on presenting innovation and positive results. At conferences and in peer-reviewed journals, being associated with a novel, well-performing technique creates visibility, builds networks and strengthens professional reputation. Failures, on the other hand, are feared to reflect poorly on the surgeon. Admitting to complications or poor outcomes is often equated with weakness or incompetence, when in truth it reflects honesty and scientific maturity.

Competition among peers and institutions only fuels this bias. Success stories are more likely to be cited, shared and remembered, while negative results are sidelined—even if they may be equally, or even more, important for advancing our field.

Yet as orthopaedic scientists, we have an ethical responsibility to report not only our successes but also our failures. Poor outcomes, complications, and abandoned techniques contain vital lessons. By sharing them openly, we allow others to learn, to

Abbreviations: KSSTA, Knee Surger Sports Traumatology Arthroscopy; ORBIT, outcome reporting bias in trials; ROB, risk of bias.

avoid repeating the same mistakes, and ultimately to improve patient care. To suppress these findings is not only scientifically flawed but also ethically questionable.

Another issue is the choice of the right outcome instruments, which has been previously highlighted, and recommendations were given [4, 8].

WHERE DO JOURNALS STAND IN THIS?

Peer-reviewed journals carry a special responsibility. Editorial boards, reviewers and editors must remain aware of the strong reporting bias present in our field given [2, 3]. Studies with negative or poor outcomes must be given equal opportunity for publication—provided they are conducted with sound methodology and rigour. They may be less frequently cited, but their value for the scientific and surgical community is undeniable.

Nevertheless, outcome reporting bias (ORB) should not be viewed in isolation. It is often intertwined with another pervasive issue—publication bias—for which journal editors and publishers bear significant responsibility [10].

While both are often driven by the factors mentioned above, we must also consider broader influences at play. Hidden conflicts of interest and, in some cases, even scientific misconduct by individuals or medical device companies can contribute to selective reporting practices. This often results in the preferential publication of results that align with dominant scientific narratives or market expectations—realities that are increasingly difficult to disentangle.

As a high-reputation journal, we must commit to proactive measures to detect and prevent these biases. Systematic reviews offer a key opportunity for such efforts, and we should promote the use of tools like the JBI Critical Appraisal tools, Cochrane Risk of Bias (ROB) assessments and the ROBINS-I tool (for non-randomized studies), which include specific items designed to evaluate ORB. Likewise, the ORBIT (Outcome Reporting Bias in Trials) system provides a structured framework to assess the risk of bias based on missing or selectively reported outcomes [1, 5, 7, 9].

In parallel, the use of funnel plots in meta-analyses should be encouraged to help detect publication bias. And most importantly, research protocols and the adherence to those preregistered plans for clinical trials or systematic reviews must be mandatory [6]. This allows for a transparent comparison between prespecified outcomes and those ultimately reported in published manuscripts, significantly mitigating the risk of outcome distortion.

Another aspect of improving the reported outcomes is the adherences to Core Outcome Sets. While Outcomes are often chosen by the individual research group, generalizable recommendations for mandatory outcomes have been by several method groups like OMERACT (Outcome Measures in Rheumatology Clinical Trials) or COMET (Core Outcome Measures in Effectiveness Trials). If studies report the same relevant outcomes, evidence on any procedures becomes more resilient.

CONCLUSION

Improving research transparency requires a shared commitment—from authors, reviewers, editors, and sponsors alike—to uphold the integrity of the scientific record. Recognizing and addressing these biases is not only an ethical imperative but also a necessary step toward restoring trust in scientific evidence.

Orthopaedic surgery thrives on innovation, but true progress requires balance and honesty. Success stories inspire us, but failures teach us. Both need to be heard. As a scientific community—and especially as journals like KSSTA—we must actively counteract reporting and publication bias and ensure that well-designed studies with negative or poor outcomes are published and valued. This is not only a scientific necessity but above all, an ethical obligation to our patients.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflicts of interest.

ETHICS STATEMENT

Not applicable.

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