#2025 - Systematic Review

Evaluation Of Spin In Clinical Literature Of Biodegradable Balloon Spacers For Massive Rotator Cuff Tears

Orthopaedics / Shoulder & Upper Arm / Epidemiology, Prevention & Diagnosis

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Background
Clinical studies are often at risk of spin, a form of bias where beneficial claims are overstated while negative findings are minimized or dismissed. Spin may be more problematic in abstracts given their brevity and can result in the misrepresenting of a study's actual findings.

Objectives
The goal of this study is to aggregate primary and secondary studies reporting the clinical outcomes of sub-acromial balloon spacers' use in the treatment of massive irreparable rotator cuff tears (mIRCT) to identify the incidence of spin and find any significant association with study design parameters.

Study Design & Methods
This study was conducted in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. Independent searches were completed on two databases (PubMed and Embase) for primary studies, systematic and current concepts reviews, and meta-analyses and the results were compiled. Two authors independently screened the studies using a predetermined inclusion criteria and aggregated data including titles, publication journals and years, authors, study design, etc. Each study was independently assessed for the presence of 15 different types of spin. Statistical analysis was conducted to identify associations between study design and spin.

Results
29 Studies met the inclusion criteria for our analysis, of which 10 were reviews or meta-analyses and the remaining 19 being primary studies. Spin was identified in every study except for 2 (27/29, 93.1%). Type 3 spin, "Selective reporting of or overemphasis on efficacy outcomes or analysis favoring the beneficial effect of the experimental intervention" and type 9 spin, "Conclusion claims the beneficial effect of the experimental treatment despite reporting bias" were the most frequently noted spin seen in our study, both being observed in 12/29 studies (41.4%).

Conclusions
Spin is highly prevalent in the abstracts of primary studies, systematic reviews, and meta-analyses discussing the use of subacromial balloon spacer technology in the treatment of mIMT. In most cases, spin in the abstract favored the balloon spacer. In our assessment of 29 studies, type 3 spin and type 9 spin were the most prevalent forms of spin. Scopus CiteScores, date of publication, adherence to PRISMA or PROSPERO were study characteristics associated with a higher rate of certain types of spin. Further efforts are required in the future to mitigate spin within the abstracts of published manuscripts.