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Spin in Meta-Analyses and Systematic Reviews: Hip Labrum Reconstruction

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Disclosures:

Joseph Liu - AAOS: Board or committee member

American Shoulder and Elbow Surgeons: Board or committee member

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Introduction

- Spin is a recent concept that is defined as a reporting bias that misrepresents research and can impact clinical decision making and patient care.
- Hip labral reconstruction is an evolving technique to treat labral pathology.
- There continues to be debate of the short-term and long-term outcomes of acetabular labral reconstruction.

Objective

- The purpose of this study is to identify the prevalence of spin in meta-analyses and systematic reviews regarding the efficacy of acetabular labral reconstruction.

Materials and Methods

- Electronic libraries were searched for meta-analyses and systematic reviews regarding hip labrum reconstruction.
- The nine most severe types of spin commonly found in abstracts[1] were used as an evaluation tool.
- Other variables evaluated included number of citations, journal impact factor, reported conflicts of interest, adherence to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines, and methodologic quality according to A Measurement Tool to Assess Systematic Reviews (AMSTAR-2).

Results

- Ten articles met our inclusion criteria and 70% (7/10) were found to have at least one form of spin present.
- The most prevalent types of spin were type 5 (6/10, 60%), type 3 (4/10, 40%), and type 8 (3/10, 30%).
- No significant associations were found between the presence of spin and other variables evaluated.

Nine Most Severe Types of Spin	Articles With Spin
1. Conclusion contains recommendations for clinical practice not supported by the findings	0 (0%)
2. Title claims or suggests a beneficial effect of the experimental intervention not supported by the findings	0 (0%)
3. Selective reporting of or overemphasis on efficacy outcomes or analysis favoring the beneficial effect of the experimental intervention	4 (40%)
4. Conclusion claims safety based on non-statistically significant results with a wide confidence interval	0 (0%)
5. Conclusion claims the beneficial effect of the experimental treatment despite high risk of bias in the primary studies	6 (60%)
6. Selective reporting of or overemphasis on harm outcomes or analysis favoring the safety of the experimental intervention	0 (0%)
7. Conclusion extrapolates the review's findings to a different intervention	1 (10%)
8. Conclusion extrapolates the review's findings from a surrogate marker of a specific outcome to the global improvement of the disease	3 (30%)
9. Conclusion claims the beneficial effects of the experimental treatment despite reporting bias	0 (0%)

Table 1: The Nine Most Severe Types of Spin per Yavchitz et al[1]

Limitations

- Although clearly defined, determining spin has a subjective aspect which the authors attempted to mitigate via independent assessment and predetermined protocol for disagreements.
- Due to the small sample size of 10 studies, the results may underestimate or overestimate the true prevalence.

Conclusion

- Spin was present in the majority of meta-analyses and systematic reviews pertaining to hip labrum reconstruction.
- Education and recognition of spin is crucial for orthopedic surgeons when making clinical decisions based on review of literature.
- Improved guidelines should be considered to reduce the prevalence of spin in orthopedic literature.

References

1. Yavchitz, A., Ravaud, P., Altman, D. G., Moher, D., Hrobjartsson, A., Lasserson, T., & Boutron, I. (2016). A new classification of spin in systematic reviews and meta-analyses was developed and ranked according to the severity. *Journal of clinical epidemiology*, 75, 56–65. https://doi.org/10.1016/j.jclinepi.2016.01.020