Content:

Introduction

Highly cited arthroplasty studies shape clinical practice long after publication, yet the long-term durability of their primary claims has not been evaluated systematically. This study investigated whether the primary claims of the most cited articles in *The Journal of Arthroplasty* have been replicated, refined, or contradicted by subsequent evidence.

Methods

Web of Science was used to identify the 15 most cited articles published in *The Journal of Arthroplasty* between 2000 and 2010. For each article, follow-up evidence, including systematic reviews, meta-analyses, randomized controlled trials, and large registry studies was identified through structured PubMed searches. Each index article was classified as replicated, refined, or contradicted based on the follow-up evidence. Two investigators independently reviewed all classifications, and disagreements were resolved by consensus.

Results

Median citation count of the index articles was 270. Of the 15 articles, 7 (47%) were replicated, 5 (33%) were refined, and 3 (20%) were contradicted. Replicated studies addressed narrowly defined questions with well-characterized endpoints, such as polyethylene wear, computer-navigated alignment, periarticular injections, and periprosthetic joint infection outcomes. Refined studies remained directionally valid but were narrowed by evolving clinical context, including threshold modifications, reduced reliability, and displacement by competing technologies. All three contradicted studies proposed specific numeric radiographic parameters for predicting clinical success.

Conclusion

Nearly half of the most cited Journal of Arthroplasty studies were fully replicated. Claims proposing discrete numeric safe zones for implant positioning were the most vulnerable to contradiction. Clinicians should seek more recent systematic reviews when applying findings from older landmark studies.