

## Comments on Smith et al.: Minimally invasive versus conventional exposure for total hip arthroplasty: a systematic review and meta-analysis of clinical and radiological outcomes

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Dear Editor,

I read, initially with interest and then disappointment, the review article on minimally invasive (MIS) hip replacements by Smith et al. [1]. There are a number of methodological flaws that are irksome, and two duplications of studies that are not acceptable.

First, to group all MIS approaches together in order to pool data and make comparisons is unsound. Differences in technique (e.g. between the mini-anterior, mini-posterior, mini-anterolateral and two-incision approaches) are significant. Pooling data is therefore not appropriate.

Second, to include non-randomised studies may outwardly increase power, but simply dilutes the results.

Finally, the authors have taken inadequate care in researching their included studies, and duplicated the results of two studies: the group of Bennett et al. [2] is a cohort of Ogonda's group [3], and Sculco et al. (second study) [4] is a description of Chimento's group [5].

Meta-analyses are important ways of pooling data to increase power, especially in orthopaedics where all too often studies are underpowered. But, they are not as robust a tool as might be anticipated, and data entry must be

handled with care and respect. The old adage of "garbage in, garbage out" springs to mind [6].

### References

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