CORR Insights™: Is Limited Incision Better Than Standard Total Hip Arthroplasty? A Meta-analysis

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Abstract This CORR Insights™ is a commentary on the article “Is Limited Incision Better Than Standard Total Hip Arthroplasty? A Meta-analysis” by Joseph T. Moskal MD and Susan G. Capps PhD available at DOI [10.1007/s11999-012-2717-5](https://doi.org/10.1007/s11999-012-2717-5).

Where Are We Now?

Limited-incision THA reflects the current trend in orthopaedic surgery and other specialties toward smaller-incision procedures. THAs with shorter incisions are being used worldwide and appear to be increasing in popularity. However, there is little evidence that surgical efforts to minimize soft tissue trauma around the hip during exposure are worthwhile. In addition, there is confusion regarding the terminology of smaller-incision THA and the procedures

themselves. Some techniques are traditional THAs performed through smaller incisions [2, 3], whereas others appear to be fundamentally new operative techniques [6, 10]. Some techniques appear safe while others have been largely abandoned owing to unsatisfactory results [4, 8]. Some authors state that despite early reports of high failure rates, the number of orthopaedic surgeons performing minimally invasive THAs is steadily increasing [1, 9]. I do not subscribe to this point of view. The New Zealand Joint Registry states that the minimally invasive approach for THA has waned after a peak in 2008 in New Zealand [7]. It seems that an increasing number of orthopaedic surgeons are performing standard THAs using conventional surgical approaches, but avoiding the wide exposure of the joint as originally was propagated by the hip arthroplasty masters of the 1960s and 1970s.

Where Do We Need to Go?

The meta-analysis by Moskal and Capps shows that limited-incision THA is not harmful when performed in high-volume specialized institutions. It also shows that a limited-incision approach can improve some aspects of short-term recovery after THA but the clinical benefit appears rather marginal when compared with standard-incision THA.

Currently, only seven randomized clinical trials have been conducted and published in English. The results of these trials leave us with considerable uncertainty. In particular, the lack of consistent reporting for surgical outcomes and complications limits the comparison of intervention and control subjects. Although there were small short-term advantages and disadvantages for each of the surgical techniques, there is no strong evidence either for or against limited-incision compared with

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standard-incision THA. Importantly, evidence pertaining to longer-term implant durability, pain, or function is lacking.

Not all patients undergoing THA are appropriate candidates for limited-incision surgery. Hips with preexisting deformities and/or multiple previous surgical procedures may benefit from more generous exposures. In addition, low-volume surgeons should not put their patients at peril for unnecessary complications related to insufficient observation and exposure (periprosthetic fractures, implant malpositioning, instability) for the sake of a shorter skin incision.

How Do We Get There?

To clarify the issue of efficiency and efficacy of limited-incision THA, we need double-blind (that is, blinded to the assessor, and if possible, to the patient), randomized clinical trials with standardized reporting. In particular, since “minimally invasive hip arthroplasty” can mean almost anything, it will be important to adopt universally recognized definitions of the various THA techniques in question. Randomized clinical trials are time-consuming and expensive, and can be performed only in specialized, high-volume institutions. I suspect that recruitment of patients for THAs in cohorts large enough to overcome all independent variables related to the surgical and functional outcomes will be difficult, but not impossible.

However, I believe that the law of diminishing returns applies also in limited-incision THA: Once the most effective intervention (standard-incision THA) has been instituted, any further effort to improve outcomes (such as with limited-incision THA) will probably be of little benefit and may increase costs and/or cause harm. Despite this, researchers, orthopaedic surgeons, and the industry will not

stand still. I expect that progress will slowly continue but only with exponentially greater time-consuming dedication and investment [5].

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