Summary of research proposal LROI

Title:
Benchmarking total hip arthroplasty and total knee arthroplasty constructs across multiple national registries

Authors: RGHH Nelissen, LA Hoogervorst, PJ Marang-van de Mheen

Abstract:
Not all total hip arthroplasties (THA) constructs and total knee arthroplasties (TKA) constructs perform equally well. In addition, there have been some incidents in the past concerning the safety of implants, with the case of the Metal-on-Metal hip implants being well-known.

Benchmarking THA and TKA implants in whether they perform equally well as other comparable implants with regard to revision risks provides important information to be used in daily clinical practice. Some registries (e.g. Australia, Denmark, Sweden and the Netherlands) already have outlier procedures on implant, hospitals and/or surgeons performance in place. For that matter all implants and performing above a certain preset benchmark (i.e. more revisions) are identified as a potential safety issue for that particular implant. The mix-match (off-label) use of primary total joint constructs (i.e. two or three different manufacturers for one total joint implant) is potentially also a risk for more revisions from an implant point of view although literature gives conflicting results, which may be due to the short follow-up of these studies. Even more complex is that data from a recent systematic review revealed that different registries identify different outlier implants across these registries, which raises questions whether the higher revision risk is due to the implant itself, a mix-match within the same total joint or the surgical expertise with that implant in the different countries or even the definition of what constitutes an outlier. Benchmarking implants with data across registries could help to provide an answer. The purpose of this multi registry-based study is to: 1) examine the performance of different types of implants (e.g. mobile / fixed bearing) with otherwise comparable design, to assess whether certain types of implants consistently have higher revision risks across registries; 2) compare the performance of specific implant constructs to comparable constructs across registries.

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