

Summary of research proposal LROI



Title:

Optimizing outcome for revision hip arthroplasty patients across nations: a transoceanic approach

Authors:

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Abstract:

Gradual developments over the last decades have significantly improved the outcome for patients with a total hip replacement, reflected by increased implant survival and better functional results. National arthroplasty registers have been used to identify implant-related risk factors for (un)satisfactory outcome after total hip arthroplasty (THA). Over time, the Dutch Arthroplasty Register has evolved from merely being a device register involved with safety to a quality register with an important scientific function – linking the outcome of arthroplasty not only to the prosthesis, but also to factors influenced by the patient (case- mix) and the orthopaedic surgeon. In addition, since the registration of PROMs, the LROI can be used to evaluate functional results and health-related quality of life after THA.

Recently, there has been growing interest in comparing results of hip replacement surgery between various national arthroplasty registries, including implant survival, reasons for revision and patient reported outcome measures (PROMs). Comparing and linking international arthroplasty registry data may well be a next quality improvement step by revealing differences in daily practices and results, differences in prostheses used, patient populations and healthcare systems.

By identifying which modifiable patient-, procedure- and prosthesis-related factors influence the outcome following primary and revision THA, efforts can be undertaken to positively influence these factors in order to obtain better outcomes (both survival and functional results). As the interplay between patient, surgically modifiable factors and prosthesis is only recently becoming clearer, many issues remain to be discovered thanks to the abundance of data that LROI and other registries such as the AOANJRR are currently generating.

The first part of this thesis will examine the outcome of revision THA. First, we will assess the longevity of hip revision procedures by determining the lifetime probability of revision and subsequent re-revisions after primary THA (study 1). Hereafter, we will assess results of hip revision surgery according to the use of large femoral head components (>32mm) and dual mobility constructs (study 2), surgical approach during the index procedure (study 3), and fixation method of revision stem (study 4).

In the second part of this thesis we aim to focus on the posttraumatic group with a study assessing the outcome of THA following failed osteosynthesis of proximal femur fractures (study 5) and a study focusing on revision THA following HA for femoral neck fractures (study 6).

The ultimate goal of the project is to improve revision hip surgery outcomes, by preventing re-revision surgery and complications relevant to the orthopedic patient. To reach our goal, data from the Dutch and Australian Joint Registries will be combined.

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