

Summary of research proposal LROI



Title:

External validation of orthopaedic clinical prediction models for patients after total hip arthroplasty using registry data

Authors:

G Hannink, M Belt, BW Schreurs, K Smulders

Abstract:

Over the last decades, there has been an increasing interest in prediction models in the field of Orthopaedics. Several prediction models have been developed to predict the risk of revision surgery or mortality for patients after total hip arthroplasty (THA)(1-4). Well-developed prediction models can support clinical decision making. However, a crucial next step after developing a prediction model, external validation of the model, is often not performed. An interesting option can be to use registry data for external validation of clinical prediction models, which allows researchers to externally validate a model's predictive performance across all clinical settings, populations, and subgroups of interest(5). If a model has poor predictive performance, registry data may help identify if and how updating or tailoring strategies (such as recalibration) can improve performance for particular settings, clusters or subgroups (rather than simply discarding the model). The aim is to externally validate four previously developed and published prediction models for patients after THA using Dutch Arthroplasty Registry data. We will assess the predictive performance, update these models if necessary, and evaluate the clinical benefit of the models. Our findings may provide insight in the opportunities and challenges of using registry data for external validation in orthopaedic research.

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