Summary of research proposal LROI

Title:
The survival of onlay versus inlay systems in primary reverse shoulder arthroplasty in the Netherlands. Results from the Dutch National Arthroplasty Register

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Abstract:
Reverse shoulder arthroplasty (RSA) is a frequently used treatment option for cuff tear arthropathy, osteoarthritis, irreparable rotator cuff tears, posttraumatic sequaelae, proximal humeral fractures, and rheumatoid arthritis. Classically, the metaphyseal part of humeral component is 'buried' in the proximal humeral bone, flush with the bony resection level. This is called an inlay humeral design.

To minimize the likelihood of scapular notching, increase rotational range of motion and minimize instability, onlay humeral components have been implemented in recent years. Here, the metaphyseal part of the humeral component is laid directly on top op of the humeral cut surface, and is positioned in more varus relative to the stem. This creates less notching and more mediolateral tension on the deltoid and cuff muscles. However, it also creates a larger 'dead space', possibly leading to lager hematomas and more deep infections. It also potentially results in more strain on the implant and deltoid muscle4, possibly resulting in more aseptic loosening.

In a retrospective cohort study based on the National Registry's data from 2014 to 2022, we aim to compare the 2-year survival and reasons for revisions for onlay versus inlay humeral component designs of reversed shoulder arthroplasties (RSA).

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