

Summary of research proposal LROI



Title:

Target Trial Emulation Evaluating Mortality and Revision Rates comparing different stem lengths of the Lubinus SP2 cemented hip stem

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Abstract:

The SP2 hip stem for primary hip replacement in patients with osteoarthritis is available in different lengths: 130mm and 150mm. In Sweden, the 150mm version is the most frequently used stem and is deemed the gold standard cemented hip stem since it has the lowest revision rate of all hip stems in Sweden. In The Netherlands, the 130mm version is dominant, with approximately 3545.000 130mm and 76.500 150mm implants registered in the Dutch Arthroplasty Register (LROI).

In Sweden, the manufacturer advises under-sizing the stem one size resulting in a thicker cement mantle and less intramedullary pressure while inserting the stem. In The Netherlands, a line-to-line fixation technique is advised: using the same size implant as the largest possible broach. While beneficial for stem fixation, the line-to-line fixation technique may result in higher pressurization of the intramedullary canal when inserting the stem, since the cement has a narrow escape route.

The practice variation between Sweden and The Netherlands raises the opportunity to compare groups with the same stem length. The practice variation within The Netherlands raises the opportunity to compare length of the SP2 hip stem. Since information about mortality and revision rates are already recorded in the LROI, we aim to emulate a target trial comparing 150mm and 130mm stem lengths.

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