

Revision rates of a new and two established hemiarthroplasty heads – a comparative cohort study from the Swedish Arthroplasty Register

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Background:

The Lubinus SPII-stem is common in hemiarthroplasties, combined with either bipolar Variocup, Unipolar Head (UH) or a newly introduced unipolar Modular Trauma Head (MTH). Despite reports on risk of corrosion and wear for similar constructs, there are no publications evaluating the MTH, yet it is used in European countries.

Aim:

To describe the 2-year-revision rate of the Lubinus SPII-stems divided into head groups.

Methods:

This observational cohort study based on Swedish Arthroplasty Register, included 33,059 patients with hemiarthroplasty 2005-2021. Only Lubinus SPII combined with Variocup (n=7,281), UH (n=23,980), MTH (n=1,798) was included. The follow-up ended at 10 years for Variocup and UH, for MTH at 2 years. Kaplan-Meier survival analyses was used, 95% confidence interval.

Results

The 2-year-revision rate regardless of cause was similar between the 3 groups: After Variocup 3.5% (CI 3.1-4.0), UH 3.1% (2.9-3.4), MTH 3.5% (2.6-4.5).

At 10 years, the Variocup and UH had a similar revision rate; 4.6% (4.0-5.2) and 5.0% (4.4-5.6).

For revision due to dislocation at 2 years Variocup 2.3% (1.9-2.7) had an inferior outcome compared to UH 1.5% (1.3-1.7). The MTH had an intermediate outcome, 1.7% (1.0-2.3). Variocup had a higher dislocation related revision rate, until the 10th year.

The 2-year-mortality was 36% after Variocup, 43% after UH and 44% after MTH. At 10 years, 90% after Variocup and 92% after UH were deceased.

Conclusion

The different hemi-heads have comparable revision rates. The new MTH performs similar to the standard UH. The bipolar Variocup is associated with more revisions due to dislocation.