Reviewer's report

Title: Bilaterality can be ignored when analysing the revision risk of knee prostheses: A frailty analysis of 55,298 knee prostheses on 44,590 patients in the national Swedish Knee Arthroplasty Register

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Reviewer: Ove Furnes

Level of interest: not specified

Advice on publication: Other (see below)

Discretionary revisions.
The authors only include age and sex in their Cox model. It would strengthen the results if diagnoses were also included in the Cox model since OA and RA are unevenly distributed between TKA and UKA. An adjustment for time period could also be included or mentioned as could the type of fixation of the implants.

On page 2 the number of patients with revisions of one or two prostheses have been given, but distribution between TKA and UKA should also have been given. If these numbers are evenly distributed between TKA and UKA one would not expect bilaterality to influence the comparison between TKA and UKA. This should also be incorporated in the discussion on page 4.

In the discussion the authors could possibly include a couple of other studies such as the study by Visuri et al "Survivorship of hip prostheses in primary arthrosis" Acta Orthopaedica Scandinavica 2002; 73 (3): 287-290. The conclusion in this paper is that better survivorship of second bilateral hip prosthesis can cause bias in per hip survivorship analyses. Their conclusion contradicts the conclusion in the paper under review. It is also recommended that the paper by Havelin et al "The effect of the type of cement on early revision of Charnley total hip prostheses" JBJS Volum 77A 1995: 1543-1550 be included. In that publication from the Norwegian Arthroplasty Register bilaterality was assessed using a control group of only unilateral hip replacements and it was found that this did not alter the results which agrees with the conclusion in the paper under review.

Compulsory revisions.
If the statistical review of the paper is satisfying I do not have any compulsory revisions.

Competing interests:
None declared.