Reviewer’s report

Title: Knee arthrodesis versus above-the-knee amputation after septic failure of revision total knee arthroplasty: comparison of functional outcome and complication rates.

Version: 0 Date: 16 Jun 2017

Reviewer: ND Clement

Reviewer’s report:

I would like to thank the authors for allowing me to review their work.

The authors address a complex area and their data will help clinical decision making. The paper is well written and the data is presented well.

Please remove: These patients can reach a better quality of life after an amputation with proper orthotics in contrast to a modular knee arthrodesis, from the conclusion in the abstract as not fully supported. The prior sentence indicates this point.

Please have: Therefore the central aims of our study was to analyse the clinical course, complications, functionality and quality of life of AKA and MKA after septic failure of TKA. We hypothesize that neither AKA nor MKA after septic failure of TKA is superior in terms of functional outcome and complication rates and that the treatment decision process should be judged individually according to the patients’ overall condition and the local bone and soft-tissue status.” as a separate paragraph. Please defined primary AIM and secondary AIMS. This will allow a post hoc power calculation to be performed according to primary aim.

I suspect the trend towards significance observed in the LEFS and PCS for the AKA group is due to the study being under powered. This is okay, and supports the paper - a post hoc power calculation should be presented. In addition it should be clearly stated that the choice to go forward with a AKA will likely be skewed towards those patients who can tolerate it and have the physical reserve to mobilise. The last sentence of the discussion summarises this point very well.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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