Reviewer's report

Title: The outcome of total ankle arthroplasty and ankle fusion in rheumatoid arthritis: a systematic review.

Version: 1 Date: 17 March 2013

Reviewer: Tomohiro Onodera

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General comments:
The submitted manuscript is a systematic review comparing the clinical outcomes of ankle arthrodesis and ankle arthroplasty in Rheumatoid arthritis. The paper shows that ankle arthrodesis and ankle arthroplasty seems to be equivalent clinical outcomes and the risk of complications.

There are some remaining problems with the presentation that could be addressed to improve the quality of this manuscript.

- Major Compulsory Revisions

1. It is unclear how authors compared pre- and post-operative outcomes evaluated by various scoring systems. Please clarify the comparison method and statistical evaluations.

2. Author mentioned about correlation between study size and complications. However, there is no statement about statistical comments. Scatterplot data shows no trend for me. Please provide correlation coefficient and P value.

3. Nowadays, scopic arthrodesis procedure has been widely performed and its clinical outcomes are known to be better than conventional arthrodesis procedures. What types of arthrodesis procedures are included in this study? Please provide the information and describe about this point in conclusion section.

4. Great variation of scoring systems is one of big limitations in this study. The comparison of clinical outcomes in each scoring systems is helpful. For example, most of the scoring systems can evaluate from “Excellent” to “Poor”. This type of categorization might be useful.

5. There are a lot of statistic problems in this study. Statistical methods are very inadequate and evaluation and results are vague. Please mention about all of statistical methods performed in this study.

- Minor Essential Revisions

1. Abstract: P value is required is result section.

2. Table 1; Readers probably need the information of implants and the methods of
arthrodesis rather than author’s name and centre. Total number and mean values in both surgeries is helpful. Please state TAA or arthrodesis (Table 2, 3 and 4 as well) in tables. Comma is inadequate for decimal separator.

3.Table 2; It is confusing to show the number after each title (e.g. Eligibility criteria (10)) What is the meaning of these numbers? The all abbreviations should be described. “JAO score” should be “JOA score”. Comma is inadequate for decimal separator.

4.Table 3; there are several score systems which are not described in the text. The all abbreviations should be described in text and tables. Comma is inadequate for decimal separator.

5.Table 4; It is hard to understand the number and percentages are alternately described. Please shrink number and % for example “29%(16)”. The all abbreviations should be described.

6.Figure 1; I guess it is figure 2. Figure 1 visualizing the article selection process is required. The figure legends are also required. Symbol of “arthroplasty” is different. What is the meaning of “V13”?

7. Paragraph construction seems to be weird especially in conclusion section.
- Discretionary Revisions

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests