Reviewer's report

Title: A Comparative Assessment of Alternatives to the Full-Leg Radiograph for Determining Knee Joint Alignment

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Reviewer number: 1

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This is a clinical study comparing the validity of measuring lower limb alignment using the anatomic axis of the lower extremity based on full-length standing radiographs and clinical measures such as calipers and goniometer with the gold standard of the mechanical axis of the lower extremity using 50 patients (100 knees) who complained of knee malalignment. The authors demonstrated a significant correlation between the above methods. While the study is clinically relevant, there are a few issues with the current manuscript.

1. Was this study prospective or retrospective? What was the duration between the radiographic and clinical exams?

2. Although the authors imply that the knee radiograph may be good enough to measure the lower limb alignment, it appears that they measured the anatomic axis on the full-length standing radiograph, and not the limited knee x-ray that they seem to recommend.

3. How was the goniometer measurement done, standing or supine? A clinical picture demonstrating the technique would also help.

4. How many observers measured the alignment on radiographs and clinical exam? Did they assess inter- and intra-observer variability?

5. The authors do not discuss whether the limited knee x-rays should be done standing or supine. I would assume it would be better to do these standing. This issue needs to be discussed with appropriate citations from the literature.

6. It may be more pertinent to give the 95% Confidence Intervals rather than standard deviation for various measures.

7. Did the authors do any subgroup analysis such as comparing the difference in alignment variability based on direction of deformity (varus versus valgus), gender, age etc.?

8. The authors should note the various limitations of the study as a separate paragraph in the discussion section. The fact that they excluded obese adults and did not include patients without any complaints of lower limb deformity or any children should also be stated.

Level of interest: An article whose findings are important to those with closely related research interests
**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.