Reviewer's report

Title: Indications for CT diagnostics in proximal humeral fractures: a comparative study of plain radiography and computed tomography

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Reviewer: Karl Lunsjö

Reviewer's report:

Major Compulsory Revision
1. The content of the manuscript, to make physicians aware of the shortcomings of plain radiography in the diagnosis of shoulder fractures, is important. As the authors mention, previous authors have addressed the same issue. The present authors aim at providing "precise indications for CT diagnostics". They do not reach this goal because the developed method for assessment for image quality is based on a subjective scale of 1-4, which is not, since it is a new method, appropriately described in the method section. Fig 1, 3 and 4 are based on this scale, hence the results and the conclusions. A more detailed description of the evaluation of the radiographic modalities, grade 1-4, is required.

2. In the result section, significant differences, according to the authors, are meant to be found in osseous overlap, assessment of relevant structures and the Neer classification for fractures of the proximal humerus, but no p-values are given in the text or in the figures.

3. The authors arrive at the conclusion "CT is indicated when conventional radiological projections are not sufficient to fully appreciate the various fracture elements or the number of parts according to Neer." This guideline is difficult for the treating physician to follow because he or she might not have the experience to know when the image quality is suboptimal. In addition, the authors mention therapy regime in the conclusion, this is not an issue in this manuscript. The authors should stay focused on what can be seen, or not be seen, on the various modalities.

4. Page 6, line 172-174, the authors discuss significant differences in assessment of relevant structures. These structures have not been presented in detail in the result section. Results that have not been presented should not be discussed.

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 interest