Reviewer’s report

Title: A radiological severity scale to measure the impact of Charcot’s Neuroarthropathy: an observational study.

Version: 0 Date: 28 Dec 2019

Reviewer: Jackie Locke

Reviewer's report:

This is a very interesting and informative article, outlining the early stages of research, which could in the fullness of time be clinically significant. The article is well written, easy to follow, with appropriate tables and figures to support the text.

The introduction is concise, but given the research is based on interpretation of radiographs, wonder if a little more detail of the bony changes, (such as fragmentation of bone, dislocation and subluxation, bony shape changes etc,) could be included. This would perhaps link better to the questions asked in examination of each of the images, and be helpful to the reader less experienced in dealing with Charcot (minor revision, but no essential). That said, if the introduction is left unchanged, there is still adequate information for the inquisitive readers to develop for themselves in more detail.

The methods section is clear and well explained. The Delphi process is slightly complex, but is easily understood in the way it is written. I do not have enough expertise in the process to comment on the percentages used for consensus of agreement, but the numbers laid out seem very logical and are consistent with kappa coefficient. Use of power calculation indicates sufficient sample size, even though the sample appears small.

The results section is clear and easy to understand but there are two points that are worthy of note. Page 11 lines 22-27 state that the three podiatrists had recognised expertise in diagnosis and/ or management of Charcot, and this is contradictory to what is stated in page 9 lines 44-51 in which Rater 3 has 20 years of clinical experience utilising plain filling during the treatment of general podiatry patients (excluding patients with Charcot), and is referred to as a novice. I think this needs to be a minor revision.

The second point of note relates to page 12 lines 29-54, where one person was removed from the study because of disparity between the novice rater's scores and the experienced podiatrist and radiologist scores, and this notably skews Cronbach's alpha. Surely the point of testing intra and inter rater reliability is to look at the whole overview, including the results that don't suit the outcomes.

Notwithstanding, the discussion is very balanced and recognises the complexities and shortfalls within the study; it doesn't make any unreasonable claims and the statement that the tool shows promise for future research, despite a number of key limitations, is entirely accurate and appropriate in the context of this study, and would do well to be part of a concluding statement.

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field
Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal