Reviewer's report

Title: A protocol for classifying normal- and flat-arched foot posture for research studies using clinical and radiographic measurements

Version: 1 Date: 11 May 2009

Reviewer: Jill Halstead

Reviewer's report:

This is an interesting paper that presents a detailed protocol using clinical and radiographic measures. The paper is well written and I feel it will appeal to clinicians and researchers. I have a few comments and queries.

- Minor Essential Revisions

1) Table 3 typo - Anterior-posterior view TSMA. Do you mean T2MA?

2) The secondary aim of the study was “to explore relationships between clinical and radiographic measures of foot posture”. I feel this was not clearly represented in the results section “Scatter plots showing the distribution of all participants’ clinical and radiological measurements are shown in figure 5”.

The graphs in figure 5 are not referred to in the results and I am unsure why the authors chose to illustrate the association between radiographic outcomes 5b 5c and between clinical outcomes 5a, rather than between the clinical and radiographic outcomes as stated in the aim. Whereas, the results in table 3 shows some interesting associations between the clinical and radiographic outcomes that if graphical may be more relevant to the reader and more applicable to the secondary aim.

3) The association between clinical and radiographic outcomes in Table 3 and are discussed in the results section but the authors have highlighted data that is inconsistent with table 3:

"The strongest association between clinical and radiological measures occurred for the normalised navicular height and calcaneal inclination angle." - In table 3 this is 0.60**, however NNHt and C1MA is 0.70** Please can you clarify which is the strongest association?

4) Can the authors be clear about the inclusion of this association: “For the clinical measures, arch index and normalised navicular height displayed a significant negative correlation to each other (r = -0.58).” The authors have not referred to these results in the discussion I am unsure of it’s value to the paper. Particularly as in the graph 5a these 2 clinical measures appear to have no relationship in the normal group.

5) Can the authors add in a little more information about the sample used to test the relationship between clinical and radiographic measure in paragraph 3 page
The relationships among clinical and radiographic measures (for the entire group n=91) are shown in table 3.

6) The data is well controlled; however the reporting of one statistical measure is of some concern. Pearson’s correlation was applied as a test of association between clinical and radiographic measures, however, an association of 0.24 and 0.25 although significant are not substantive and could be handled in a more balanced manner.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

'I declare that I have no competing interests'