Reviewer's report

Title: Multi-segmental Foot Motion during Gait in Children

Version: 2 Date: 1 May 2014

Reviewer: Dominic Thewlis

Reviewer's report:

- Major Compulsory Revisions

1) There appears to be some degree of incongruity between the title of the paper and the topic discussed. The title suggests that the paper will investigate the kinematics of the feet of children. However, the paper is much more focused on the modifications made to the IOR model than the output of the model. I suggest that the authors clarify if the manuscript is one focused on the kinematics with mention of the modifications made to the model or focus on the modifications made. If the latter were the case then it would be preferable for the authors to demonstrate that the modifications made to the model do not alter the output.

2) The aim states that the study was set to look at how the modifications to the model affected the kinematics of young health participants. I am unclear why children were selected, if the study was just investigating the modifications. I appreciate that this has some degree of repetition from point 1, but I think that it further emphasizes my point.

3) The authors state that calcaneal and forefoot markers were used to identify the gait cycle events. Could the authors provide more detail? Has the method been shown to be accurate and reliable?

4) The order of the methods seems a little odd. I would suggest that the modifications made to the model are first described before then going on to state what parameters were extracted for analysis.

5) Throughout the results, the authors suggest that the data are 'consistent'. How was this quantified? At this stage it appears as though this was simply a visual inspection of the data.

- Minor Essential Revisions

1) The order of the sub-figures in figure one appears to be counterintuitive. Please work left to right.

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

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.