Reviewer's report

Title: Does flip-flop style footwear modify ankle biomechanics and foot loading patterns?

Version: 1 Date: 30 April 2014

Reviewer: Katherine Burgess

Reviewer's report:

Overall this paper is well written and provides novel information of interest to the field based on sound and robust methodologies.

My recommendations for revision below are therefore to aid in the clarity of the manuscript and therefore enhance the readability; I would therefore describe them as minor essential revisions.

Abstract.

P2 Line 2: suggest changing ‘modify gait’ to ‘cause modifications in gait’ as the original sentence does not flow due to grammatical errors.

P2 Line 3: you start with ‘therefore’ but you have not introduced the fit flop and why this might be better/different, therefore the reader does not know what this is or why you would want to compare it.

P2 Line 8: you state ‘including’ but then list all the muscles, why not just state them all in the first place?

P2 Line 23: you use the phrase ‘toe-post style footwear’ but you don’t use this anywhere else, you always refer to it as flip flop style so I would suggest changing it to this for consistency.

Background.

The background presented provides a clear overview of the area and rationale for the study.

Methods

Figure 1: Please label the photos A, B & C to correspond with the legend.

I would also recommend re-taking the two photos of the fit flops with a completely white background for contrast as these pictures are unclear in black and white as they are.

In the methods you define your phases of the gate cycle for your EMG analysis but not your kinematic variables.

Results.
The way you have presented your results is confusing. You use subheadings but then present results which differ from this heading.

For example you have a subheading ankle angle in swing but then present data regarding EMG in the stance phase.

The way you have used these subheadings in the discussion makes sense and I realise they are aligned to the hypothesis but the way this is expressed in the results is not clear.

Discussion

P10 line 25: in this overview of the aim of the study you do not mention the fit flop only that flip flop was compared to barefoot.

Please ensure you accept/reject all you hypothesise, you have only done this explicitly for hypothesis 1

P14 line 23: you have reference using a superscript rather than a square bracketed number.

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