Reviewer's report

Title: Static foot assessments do not predict medial longitudinal arch motion during running

Version: 1 Date: 26 April 2015

Reviewer: Andrew Buldt

Reviewer's report:

Thankyou for the opportunity to review this manuscript. The link association between static measures of foot posture and foot kinematics is one that is beginning to be understood more clearly and this work adds to the knowledge of this area. Overall, the manuscript clearly answers the question of whether some measures of foot posture are associated with change in sagittal plane position of the navicular in relation to foot length

Major revisions

1. The authors use a foot model that was described by Jenkyn and colleagues. This model is a four segment foot model consisting of a number of kinematic variables in a number of planes of motion. The methods section does not clearly state which kinematic variable is being examined. Even though the supplementary section outlines that the investigated variable is the change in medial longitudinal arch ratio, it is not clear in the manuscript what is being examined. Would it be possible to clearly define that the variable is the change in sagittal plane position and clearly outline the method for obtaining this variable.

2. Transverse and frontal plane motion may also be of relevance during running and in the development of some injuries to the foot and lower limb. Can you please address why the other two planes of motion were not examined, particularly as you have measured the FPI which takes into account all 3 planes of motion. Can you also make it clearer throughout the document that when referring to motion, the variable that is being referred to is in the sagittal plane only.

3. Would it be possible to add a description of what is meant by range of motion. Does it refer to the change in the medial arch ratio between heel contact and the peak angle, or between the peak and toe off and what this motion may represent functionally, this would add better clarity for what is attempting to be described?

4. There are a number of variable that may influence the association between static foot posture measures and kinematic variable that have not been controlled for in this study. For instance running speed, height, weight, foot length, to name some may influence the relationship. Can you please outline how these variable were controlled for in regression analysis.

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