Reviewer's report

Title: Lower extremity kinematics in children with and without flexible flatfoot: a comparative study

Version: 1 Date: 15 August 2011

Reviewer: Pazit Levinger

Reviewer's report:

This study compared lower extremity kinematics between children with flexible flatfoot and normal feet.

The paper is written well however I have listed below some comments that should be addressed.

In the background, 2nd paragraph - please consider using more recent papers based on experimental studies rather than review. There are now several studies that have investigated flatfoot kinematics and kinetics which may help with the argument about abnormal foot pronation and lower limb injuries.

Line 16, page 4: it is inaccurate that prolonged pronation is over 25% of the stance phase. Please use experimental evidence for that as Donatelli paper is more like a review. Peak eversion can even occur around 30% and over without being abnormal.

Method – please explain Feiss line method in details. Given that the study relies on the classification of flat vs normal for the comparison between the groups the definition of flatfeet needs to be clear.

I would also recommend to add a picture for the sensor placement/location on landmarks.

Explanation of the static measurements of the foot and lower limb (Q angle, calcaneal everion angle etc ) must be explained in the method. The authors first mentioned it in the results (1st paragraph in page 9). Please also include the spatio-temporal gait measures of the two groups.

In the discussion – the authors need to be aware of the differences between the studies with regards to the definition and classification of flatfeet. That should be discussed. It seems that the authors have not included some more recent papers investigating flatfoot kinematics and kinetics.


Levinger P, Murley G, Barton C, Cotchett M, McSweeney S, Menz H. A
The findings of the study are overpowered by the limitations of the study (page 13-14)-the way it is currently written in the discussion.

The authors have indicated in the abstract about the importance of the study with regards to practical information for treatment of children with flatfeet. Please elaborate in the discussion how the findings of the study provide practical information for decision making when treating children with flexible foot.

**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