Reviewer's report

Title: Kinematic and kinetic effects of external ankle support during a side step cutting task in netballers.

Version: 1 Date: 14 August 2014

Reviewer: Wen-Hao Hsu

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Major Compulsory Revisions
1. Lines 82-84: Is there any evidence of showing high top shoes affect lower extremity kinematics and/or kinetics during activity? If yes, it would be great to include such information in the background.

2. Lines 97-100: The high-top condition is not listed as one of the ankle support conditions in the primary objective, while the authors hypothesized that the external brace and the high-top shoes would restrict the peak ankle joint angles, range of motion (ROM) and position throughout the contact phase of the side step cut and increase the ankle joint moments (lines 100-103).

3. Lines 155-157. Internal moments were calculated in this study. The internal moments are produced by the muscles and ligaments. Therefore, extracting internal knee valgus moment may not answer the research question appropriately.

4. Lines 169-170: ‘Discrete variables were extracted from each individual trial and averaged for each player.’ What variables were extracted? Please list these variables either in the text or in a table and explain why. It will help the reader to understand what variables were analyzed.

5. Lines 174-177: There are two paired comparisons (brace & standard shoes, and high-top shoes & the standard). Was there any adjustment used to avoid Type I error? Why not use ANOVA for comparing 3 conditions?

6. Lines 265-271: There is a methodological flaw in this argument. The INTERNAL moments were calculated in this study while EXTERNAL moments were calculated in Sigward and Powers (2007) and McLean et al (2005). The valgus moment reported in this study is actually the knee abductor moment resisting the external varus moment generated by the GRFs. Because of this reason, the valgus values in this study cannot be used to compare to the valgus values in Sigward and Powers (2007) and McLean et al (2005).

Minor Essential Revisions
1. Lines 91-93: Please emphasize only the FRONTAL effect of the ankle braces on the ankle during a netball specific landing task without altering the mechanics at the knee.

2. Lines 123-126: ‘Of those players that met the inclusion criteria (25).’ (25) here is confusing. Putting 25 in front of “players” (i.e. Of those 25 players) will make
this sentence more clearer.

3. Lines 165-166: All data “were” time-normalized.

4. Lines 184-185: Why is the velocity of the sacral marker being reported here? If this velocity represents the approach velocity of the subjects, please explain it in the methods.

5. Figure 1 & 2: Why use 95% confidence for the standard deviation instead of the standard deviation to represent the shaded area?

6. Table 2: What variables were analyzed? At each plane of the joint, there could be positive and/or negative peak moment(s). Were only the positive peak moments being studied since only positive peak moments are listed in the table?

7. Table 3: Were only three peak GRFs being extracted? Why did the authors choose these peak GRFs?

8. Lines 230-234: Since there was no direct comparison between the use of external ankle brace and high top shoes, I do not think the latter is “not as effective as” the former.

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests.