Reviewer’s report

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

Version: 1 Date: 9 September 2014

Reviewer: Feng Wei

Reviewer’s report:

The manuscript described an investigation of two different external ankle supports (brace and shoes with high upper) in potentially limiting range of motion in the ankle and knee joints and possibly altering joint loading during a side step cutting task. The research topic is appropriate for the Journal and interesting to the general readership of the Journal. The manuscript was well written and the results were clearly presented.

Major Compulsory Revisions

1. The key results of the study were that the brace condition significantly reduced ankle joint ROM in dorsi-plantar flexion compared to other conditions, and no differences were observed in joint loading between conditions. My impression is that (1) the decreased ankle ROM may limit athlete performance; and (2) given that excessive joint loading (force and/or moment) is the major risk factor for joint injury, what is the benefit of using the ankle support as they do not seem to reduce joint loading? It was not clear in the manuscript why limiting joint motion is important and how reduced ROM would be associated with potential mitigation of joint injury. Please explain and clarify the importance of the study.

2. The Methods session has missed important info on the motion capture methodology. What kind of multi-segment foot model was used? In order to track the motion of the rear foot and fore foot, complex foot models (marker sets) need to be used. Please provide detailed info on the foot model and the corresponding analysis. In addition, what were the accuracy and repeatability in measuring rear foot and fore foot motion with shoes? These motions are important in calculating ankle joint moments. Please clarify and also justify the motion of the shoes, as measured with markers on the shoe, can be used to represent the motion of the foot, even the rear foot and fore foot.

Minor Essential Revisions

1. Methods, lines 140-141. Please explain the ‘landing area’ clearly – a level floor was used or subjects ran from a higher floor to a lower floor? Is it better to describe as ‘step on the force platform’ rather than ‘land on’? The authors may consider of using a picture or a schematic to show and describe the task.

Level of interest: An article of limited interest
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.