Reviewer's report

Title: Do knee abduction kinematics and kinetics predict future anterior cruciate ligament injury risk? A systematic review and meta-analysis of prospective studies

Version: 0 Date: 09 Mar 2020

Reviewer's report:

This is a very well written and crafted manuscript that makes every effort to provide an unbiased and critical appraisal of the available literature on this topic. I really did not identify any major concerns, but do provide the following suggestions to the authors

Line 110-114 - follow up period should be added here

Line 129 - should a sensitivity analysis also be performed on follow up period given the large range?

Line 136-138 - this was already stated earlier

Line 151 - This paragraph is a bit hard to digest - consider making a table grid so that one can easily see commonalities between the different studies.

Line 166-173 - This text largely repeats Figures 2 and 3 - the only thing missing from the figures is the N of ACL injury vs controls. I would suggest adding that data to the figures and remove the text - figures are much easier to decipher.

Line 175-186 - I find these paragraphs a bit difficult to follow. Perhaps these could be placed in a separate table with their relevant findings - in text, just note 3 studies that were not included in MA = in the table provide study, reason for not included in MA, and finding. At minimum, please break up 175-181 (currently one sentence) into 2 or more sentences, and speak about each study individually (it gets confusing toggling back and forth between the two).

Discussion - Overall, the authors have done a very good job of fairly interpreting the data. A few suggestions:

Line 214 to end of paragraph - while I think the author raise a valid point here (particularly since the other studies follow 10 years later), consider comparing this change in values over time to change in injury rates. I don't believe we have seen a similar decrease in ACL injury rates over this time - which would suggest that although females may be displaying less valgus as a result of these programs, we are not seeing an overall change or decrease in injury rates.
Line 236-238 - This is a great point - we don not know at what point this may become problematic, and why it makes it challenging to simply compare mean values.

Line 236-247 - Another factor that the authors might consider highlighting is the task that has been traditionally used in these studies - a drop vertical jump (particularly Double leg) off a box while fully attending to the task really does not challenge the LE in the same way as sport - so is this task simply too controlled to adequately expose tendencies towards valgus when in more unconstrained tasks (again, a threshold concern). Is this also a direction to be considered for future research?

Line 278 - The limitations section is very thorough, critical and reasonable. I applaud the authors for their objectivity in this review.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**
Please complete a declaration of competing interests, considering the following questions:
1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal