**Reviewer’s report**

**Title:** The impact of shoe flexibility on gait, pressure and muscle activity of young children. A systematic review

**Version:** 0  **Date:** 28 Oct 2019

**Reviewer:** Kelly Gray

**Reviewer's report:**

Thank you for the opportunity to review this manuscript. I would like to start by commending the authors on a very clear and very well written piece. Indeed, the purpose was outlined well, the methodology was sound and the conclusions were easy to interpret. In addition it is very obvious from this body of work where the direction of research is likely to be required. Below are minor comments.

Line 82 - in this paragraph the final line states 'again a study undertaken with children aged above six years'. I was unable to ascertain whether the first reference in this paragraph (reference 6) was also undertaken in those above 6 years. Suggest revising for greater clarity.

Line 84 - consider changing 'shoes was also' to 'shoes were also'

Line 101 - states Databases included.... consider revising the term 'included' as all the databases have been stated here (rather than some of the databases). Included here, implies to me that not all databases are listed.

Line 150 - consider changing 1 to 'one'

Line 198 - findings for increased velocity (SMD=1.65, 95%CI=0.74, 2.56). As the 95% CI crosses no difference (i.e. is less than 1 in some cases) consider revising 'increased velocity' - for example - may increase velocity.
Line 206 - In the plantar pressures paragraph it states 'Peak Plantar pressure as generally lowest in the stiff shoe design'. Consider whether this could be quantified with some data.

Line 269- states 'It is unknown if the lack of studies is correlated to the challenges that present while testing this age group of children, or if there is a lack if interest in researching this age group'. In the prior paragraph it was outlined well the limitations to researching this population. It may be worth considering moving the above paragraph to this spot to link better with this limitation. The comment about lack of interest is a challenge, as I am not aware of supporting data which could quantify this. I would recommend to consider removing this part of the sentence or adding in a reference to support this statement.

Consider the limitation that all full text articles were limited to English.

Consider the limitation that Kennedy reference has a very small sample size of 4.

Table 4 has some formatting errors - the 13 is justified to the top and the Lythgo reference 12 is also justified to the top.

Overall this is a very well written piece and I wish the authors the best moving forward.

**Level of interest**

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- An exceptional article

**Quality of written English**

Please indicate the quality of language in the manuscript:

- Acceptable
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