Reviewer's report

Title: Systematic review of chronic ankle instability in children

Version: 1
Date: 2 December 2013

Reviewer: Kathy Liu

Reviewer's report:

Overall, the purpose for the systematic review is of great interest. However, there are some major changes that are needed. First (in no particular order), it is stated that 14,263 manuscripts screened with 14,044 excluded with no explanation of the reasons for exclusion. Second, the discussion is lacking substance. As it reads now, it is quite choppy, and essentially just summarizes the reviewed articles. Along with that, some of the reported numbers are inconsistent throughout the paper. Third, there are papers that were included in this review that include adults over the age of 18 as subjects. As stated, only papers with subjects under the age of 18 were to be included. Other, more detailed review comments will be added. But, as mentioned, the idea for this systematic review is of great interest. A paper such as this can definitely add to the body of existing literature. The whole paper reads quite choppy, needs a better flow to it.

1. Abstract (background): misspelled “focused”
2. Abstract (results): please be more specific on how 14,263 papers became 9
3. Abstract (results): The last sentence seems out of place with no explanation.
4. Abstract (results): 100% reinjury is not a correct #
5. Background (paragraph 1): not necessary to include the parentheses after mechanical instability unless you explain the other ones as well
6. Background (paragraph 1): change to: people may experience one, two, or all…
7. Background (paragraph 2): Not just here, but throughout the paper- you cannot start a sentence with an acronym (CAI), must be spelled out if it is the start of a sentence.
8. Background (paragraph 2): The 2nd and 3rd sentences are confusing. 32% have symptoms of CAI, but 72% are impaired. Please clarify.
9. Background (paragraph 3): misspelled “focused”
10. Background (paragraph 3): I fail to see the importance of addressing CMT as it is not mentioned at all in the rest of the manuscript. Further, CMT is a nervous disorder that is not caused by a previous injury as CAI is. Please delete or expand on its importance.
11. Methods (inclusion criteria): you stated that there were no language
restrictions and in your acknowledgements you thanked an individual for interpreting an article. Please include that information in your results.

12. Methods (inclusion criteria): under 18 yrs of age was included, however there were 2 papers that included participants over the age of 18. If the data could not be retrieved and separated out, these papers cannot be included in this review.

13. Methods (exclusion criteria): more specifics are needed here. In Figure 2, 14,044 articles were excluded. A more detailed explanation of why there were excluded is needed. Also, it should be clearly stated that studies involved participants over 18 yrs of age are excluded.

14. Methods (exclusion criteria): terminology needs to be clarified. Here, the term “children” is used. However, later on in the manuscript, the terms “children” and “adolescents” are used. Please clarify on the terms used.

15. Methods (search strategy): You highlighted all of the databases searched, but then separated out the search strategy for only Medline. Please clarify.

16. Methods (assessment for trial inclusion): why is it “trial” inclusion? What trial is being included?

17. Methods (assessment for trial inclusion): It is mentioned that 2 examiners screened titles, however there are 3 initials for the examiners. Is it 2 or 3 examiners? Please clarify. (this occurred in 2 places)

18. Results (paragraph 1): Please clarify the 14,263 papers screened. Can you honestly say that you read 14,263 abstracts? In Figure 1, you should include the # of articles found using each set of search terms. That way the reader can truly see how many relevant articles were actually found and truly screened.

19. Results (perceived instability, paragraph 1): Please state what tools or questionnaires were used to identify perceived instability in children.

20. Results (perceived instability, paragraph 1): One of the listed population group investigated were ones that experienced severe ankle trauma. Please clarify the “severe ankle trauma from that subject group.

21. Results (perceived instability, paragraph 1): How were the initial injury diagnosed?

22. Results (perceived instability, paragraph 2): This whole section read quite roughly. You interchange within the same paragraph discussing one paper to another. Maybe you should highlight each article to summarize its contents in a sub-category paragraph.

23. Results (perceived instability, paragraph 2): it is mentioned that some symptoms last up to 12 years. First, “permanent” is not a correct usage of the word here. Second, please explain these symptoms and how there were identified. Was this a part of a longitudinal project? Please clarify the details of this paper.

24. Results (perceived instability, paragraph 3): Sentences here are essential the same as the paragraph above. See comment above to organize these
paragraphs.

25. **Results (perceived instability, paragraph 3):** abnormal talar tilt should be included in the mechanical instability section, not perceived.

26. **Results (mechanical instability, paragraph 1):** Again, see comment from above. This paper would read much smoother if it was reorganized into sub-categories summarizing each paper included in the review.

27. **Results (mechanical instability, paragraph 1):** if 2 studies identified mechanical instability, the prevalence cannot “range” from 18-47%. Please reword.

28. **Results (mechanical instability, paragraph 1):** see previous comment regarding the terminology of children vs adolescents.

29. **Results (recurrent sprain, paragraph 1):** Again, see comment from above. This paper would read much smoother if it was reorganized into sub-categories summarizing each paper included in the review. It is especially confusing when new articles are people included.

30. **Results (recurrent sprain, paragraph 1):** reporting a 100% reinjury is incorrect. According to your Table 1, in Weir & Watson’s paper, 230 injuries occurred while, most of them were ankle injuries (though the actual number of ankle injuries was not reported in Table 1). And there were 7 ankle reinjuries. Unless there were only 7 ankle injuries out of the 230, the reinjury rate is not 100%. Please clarify or fix in all of the manuscript where you report 100% reinjury rate.

31. **Results (recurrent sprain, paragraph 2):** It is stated that incidence of reinjury is self-reported, but then also say it was documented by a healthcare practitioner. Which is it? Please clarify.

32. **Discussion:** much of the discussion is repeating the findings of the reviewed articles—which, if organized correctly, should be included in the results section. Thus, the discussion section should be left for the interpretation of what was found in the current body of literature and what should happen from here. Therefore, the whole discussion section needs to be revamped to discuss the findings, not summarize the findings.

33. **Discussion (paragraph 2):** please explain how prevalence of perceived instability is greater in children than adults (perfect for the discussion section of the paper)

34. **Discussion (paragraph 2):** you report a range of 7-53% of perceived instability in adults but only provide 1 citation. Please clarify.

35. **Discussion (paragraph 3):** write out “AP” it hasn’t been defined

36. **Discussion (paragraph 3):** please cite the statement that dancers are more lax

37. **Discussion (paragraph 4):** Why was 100% previously reported as the reinjury rate, but here it is 56%?
38. Discussion (paragraph 4): If there is a 56% reinjury rate in children, then why is there only a 34% reinjury rate as an adult. Shouldn’t this number only increase, not decrease? Please explain.

39. Discussion (paragraph 5): again, from previous comment, define “children” and “adolescents”

40. Discussion (paragraph 5): many stats from this paragraph was already stated in the introduction, therefore, unnecessary to repeat it again.

41. Discussion (paragraph 6): It is unnecessary to “define” CAI again.


43. Discussion (paragraph 6): Last sentence of this paragraph seems to include the discussion of FAI. Please expand.

44. Discussion (paragraph 7): The CAIT and FAOS are questionnaires for perceived functional instability. They do not measure mechanical instability. Please revise the first half of this paragraph.

45. Discussion (paragraph 7): Please cite the CAITY.

46. Discussion (paragraph 8): limited number of existing papers that fit the inclusion and exclusion criteria of the systematic review is not a limitation, it is the nature of a systematic review

47. Discussion (paragraph 9): I can agree that future research in CAI of the general pediatric population is needed, but why exclude the specific populations? That’s necessary as well. Please revise the paragraph.

48. Conclusion: first sentence in unnecessary. The point of a systematic review is to systematically identify articles of interest and review the existing literature. The point of a SR is not to point out the lack of existing articles.

49. Conclusion: the stated purpose of the SR was to examine the incidence of CAI in children, however, much of your conclusion talks about CAI in adults. Please revise the conclusion to fit your manuscript.

50. Table 1: a lot of information is lacking in this table. Some of the available information is confusing. Please organize the columns giving all of the same information. For example, under participants, start with type of participants, age (mean and SD), range of age. As it is organized now, some information is missing, some numbers are included that don’t make sense to what it means. The table needs a little more organization to provide the necessary information.

51. Table 1: Soderman et al and Hollwarth et al articles need to be excluded due to the age.

52. Table 1: please explain the scored for the Steffen et al article

53. Table 1: please provide actual number of ankle injuries for Weir & Watson article
54. Figure 1: please report the number of articles found per search term, or at least how the search term was paired to find the relevant 9 articles.

55. Figure 2: please specify how and why the 14,044 were excluded

56. Figure 2: please specify the “other reasons, n=17” that those articles were excluded

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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