Reviewer's report

Title: Interventions provided in the acute phase for mild traumatic brain injury: A systematic review

Version: 2 Date: 30 April 2013

Reviewer: Kathleen F Carlson

Reviewer's report:

Thank you for the opportunity to review this interesting manuscript. This is a well designed systematic review and meta-analysis of published randomized controlled trials testing interventions for mild TBI delivered in the acute care setting. The results are similar to other past reviews pertinent to treatment for mild TBI; however, this paper provides a unique contribution given its focus on the acute care setting.

I have no criticisms that require major compulsory revisions.

Minor essential revisions include the following:

1. My primary criticism of the paper is that the Discussion section does not do enough to push the field forward. The current focus on comparing the results of this review with detailed results of prior reviews is not all that interesting and does not do much to extend readers' knowledge. What I would rather see is a very brief comparison with past work, and then more depth into the authors' interpretation of these findings and suggestions for next-steps in the field. For example, how do the findings inform the delivery of care to patients with mTBI in the acute care setting? And, if they do not, what research should be done to inform healthcare delivery? The authors begin to do this in their final paragraph of the Conclusion section, where they introduce the concept of a composite score index, improved timing of outcomes measurements, and solicitation of 'patient-centered' outcomes. I would like to see these concepts introduced earlier in the Discussion section and expanded upon, so that the reader can follow along and understand what the authors are suggesting, and form their own conclusions.

2. Another thought regarding the Discussion section: the authors focus on the discrepancies in outcome measures and how this impedes the ability to compare or meta-analyze results of RCTs. The NIH NINDS 'Common Data Elements' effort, which addresses this, should be incorporated into this discussion. More info can be found here: http://www.commondataelements.ninds.nih.gov/#page=Default and in this paper: http://www.ncbi.nlm.nih.gov/pubmed/21044708

3. Also regarding the Discussion section, there is a lot of focus on the lack of RCTs to test new pharmacologic interventions for mTBI. Some more in-depth discussion of this would be nice. Do the authors think this is because RCTs
simply haven't been conducted? Is there reporting bias? Are there any promising interventions out there that just haven't made it to the RCT stage? Or is there perhaps a lack of early-phase proof-of-concept research for pharmacologic interventions, and therefore little on which to build future RCTs? Where do the authors think the break-down is occurring in the mTBI research life cycle?

4. In the abstract, background, and throughout the paper, the authors use language that implies that those who experience mTBI are 'suffering' from mTBI. However, we know that the vast majority of patients who experience an mTBI will fully recover. The authors cite this in their Background, but I would recommend that they also be careful with their wording throughout the paper so as to reflect this expected recovery.

5. The authors should spell out and describe what "DDAVP" is, reported in the Interventions section.

6. There is theoretical reason to stratify or exclude RCTs involving children from those involving adults. They are combined in the authors’ meta-analysis. If the RCTs involving children had been excluded, would the meta-analysis results have been any different? Suggest addressing this to some extent and considering reporting the children's studies separately.

7. Finally, the paper is well-written, but there are places where the English should be carefully edited to ensure the authors are conveying the appropriate concept and to rid the paper of small typos.

**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