Reviewer’s report

Title: Systematic review and meta-analysis comparing land and aquatic exercise for people with hip or knee arthritis on function, mobility and other health outcomes

Version: 3 Date: 31 December 2010

Reviewer: Steven Kamper

Reviewer’s report:

The manuscript reviews RCTs that compare land and water-based exercise programs for people with arthritis. The paper is well-written and provides a high-quality synthesis of the available evidence on the topic. I have no substantial issues with the way the study is conducted or presented and my comments are mostly of a minor nature only and should be easily dealt with.

Major compulsory revisions

Background
1. The authors should state in the Background why pain was omitted as an outcome in this study. Pain is surely a cardinal symptom in this population.
2. I miss a strong statement of justification for the comparison chosen in this study. Why is it so important that researchers and/or clinicians know whether land based or aquatic exercises are superior?

Minor essential revisions

Background
3. I do not think quoting SMDs from previous studies in the Background section is useful, if the measurement instruments are not reported an SMD is not readily interpretable.

Methods
4. Was medication usage part of the exclusion criteria? Was it recorded? Is there some justification for believing that differential usage across the studies could influence the findings?
5. The authors extracted data regarding home exercise programs, presumably these were on land in most cases? Did they look at whether this factor had an influence on the results? Discussion of home programs seems to be largely absent from the results.
6. See above (Point 3) with regard to adherence/compliance.
7. I assume that post-treatment means were used for calculation of the SMDs rather than change scores because SDs for change scores were rarely reported in the source studies. This could be clarified in the text.

Results
8. In the ‘Search yield’ paragraph it would make sense to state that 10 studies were finally included in the review.

9. How were the quality assessment ratings incorporated into the Results/Conclusions from the review? This should also be addressed in the Discussion section.

Conclusion

10. The authors state that ‘high quality trial design, with clear allocation...’ etc is necessary immediately after reporting that three high quality studies each found no significant difference. On what basis do you believe that more/better studies would show a different result?

Discretionary revisions

Results

11. Pg. 9, is 50 feet really equivalent to 10 metres?

Clinical Applications

12. ‘Pooled indices’ is not a term that fits well with the concept of clinical applicability, suggest you rephrase.

13. Addition of ‘patient preferences’ to the final sentence before ‘Competing Interests’ would seem appropriate.

Level of interest: An article whose findings are important to those with closely related research interests

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