Reviewer's report

Title: Constraint-induced movement therapy: trial sequential analysis applied to Cochrane Collaboration systematic review results.

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Reviewer: Charlie Goldsmith

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The clinical examples provided here show a method that has been published already; however, is not common in Cochrane Reviews as yet and could be in the future. However, the choice of a single study to establish the MID could be enhanced by surveying more widely to see whether any other authors have used other values. The scoring done by the authors does not indicate whether the Risk of Bias rating and data extraction were done by multiple raters and what level of agreement they obtained as this would help the credibility of the data the authors use. Here are some more specific recommendations.

1. P(age) 5, p(aragraph) 1, l(ine) 8. Suggest deleting the [s] to read [error]. Also P 6, p 2, l 3. Also P 7, p 1, l 1 and 2.

2. P 5, p 2, l 1. It is common to use 8 components for specifying a sample size, and the authors have not justified why they chose fewer.

3. P 5, p 2, l 2. In many locations the apparently Greek symbols such as alpha and beta have been replaced by square boxes in the text, so it is not possible to tell if they have been done properly. Others will not be noted. None of the equations on P 10 were printed for checking.

4. P 6, p 2, l 2. Suggest adding the text [, indeed a feature of Cochrane reviews] after [data].

5. P 6, p 2, l 2. Suggest inserting [statistically] between [A] and [significant].


7. P 7, p 2, l 8. This would be a good place to mention whether the Risk of Bias as well as data extraction were done by more than one rater and a measure of their agreement. Also how was disagreement resolved.


9. P 7, p 2, l 9. Suggest deleting [valuable]. This has not yet become a common tool, and the authors have not cited a source of its value.

10. P 7, p 3. For the search example being used, was there an estimate of how complete the searches were to obtain the RCTs used? If so, report it. A reference to the original article might suffice if the articles [4, 21] contain such a statement.

11. P 8, p 2, l 1. Presumably the word [randomized] should be replaced by the phrase [Risk of Bias].

13. P 9, p 2. The articles were presumably ordered by year. What was done to ensure the order you used was indeed correct as there are certainly some duplicate years in your examples.


15. P 11, p 4, l 3. Did you consider a conversion from the Barthel to the FIM to use the trial that was excluded?

16. P 11, p 4, l 7. Were there other trials that used an MID? If so they might have been chosen as well and this might have led to other recommendations. Was a search of the literature for the FIM MID who are the impact of its choice? This should be discussed in the paper. Also for the second MID choice as well.

17. P 13, p 1, l 2. The issue of Power is not part of the Risk of Bias form. Why was it introduced here? This whole approach is one reason why Cochrane reviews are encouraged. It could rescue small sample size studies to make a proper recommendation for patients and clinicians. Indeed the examples suggest even the method you have shown leads to a cautious recommendation.

18. P 13, p 3, l 2. Suggest a rewrite as [… the null effect, while a few …].

19. P 13, p 2, l 9. Repeated trials on a topic may modify the Inclusion/Exclusion criteria for patients and this might induce a change in the effect sizes of the studies being combined. Was this checked? If so, what impact did it have? It could be a reason for the heterogeneity of the second example.

20. P 13, p 2, l 12. Suggest adding the text [and the later modest effects] after [impressive].

21. P 14, p 1, l 7. Where is the literature search to support this claim? It might be better to state something like [As far as the authors know, this study is the first …].

22. P 14, p 2, l 6. Since all bias is systematic, suggest dropping the word.

23. P 14, p 2, l 7. Suggest deleting [only] as it implies an unstated expectation.


26. P 17, R(eference) 5, l 2. Add more to the location of where the Handbook can be found.

27. P 17, R 8, l 2. Trials likes to publish the first 30 authors before using et al; so add some more authors. Also P 23, R 57, l 2.

28. A random sample of 10 Rs was checked for citation accuracy. For the most part these Rs did not have an issue number that would help any reader trying to find the R. P 18, R 10, l 4. Insert [(1)] after [38].

29. P 18, R 13, l 2. Add more to this R as to where it might be obtained in Copenhagen.

30. P 18, R 14 appears to be correct.
31. P 18, R 16, l 1. The seventh author has initials [GH]. See other Rs. Also P 20, R 28, l 1.

32. P 19, R 21, l 2. Add [(4)] after the year.

33. P 19, R 24, l 3. Add more to where this can be found.

34. P 19, R 27, l 2. Insert [(3)] after [35].

35. P 20, R 32, l 3. Insert [(1)] after [63].


37. P 22, R 51, l 3. Insert [(12) after [31].


40. P 23, R 60, l 3. Insert [(6)] after [92].

41. P 24, R 64, l 2. Insert [(1)] after the year.

42. P 25, Fig 3. The colour did not come thru on the graphs when printed in black and white, suggest using different plotting symbols. On l 4, replace [P] by the Greek [alpha] and on l 6, replace [nhil] by [null]. Also P 26, Fig 5.

43. P 25, Fig 4, l 4. Suggest adding the text [was high!] after [85%]. Most analysts would search for a reason for the heterogeneity. Did you? It should be reported as to what was tried for an explanation.

44. P 26, l 4. Rewrite [nineth] as [ninth].

45. Fig 1. Was there a way to convert the different scale for the trial excluded for ARAT? See 15.

46. Fig 2 and 4. Suggest citing RevMan for these.

47. Fig 3. The horizontal line uses [141] while the footnote to the graph uses [142]. Should these be the same?

48. Fig 4. The text below the graph for subgroups is a duplicate and could be left off.

49. Fig 3 and 5. Cite how these were drawn.