Reviewer's report

Title: Inter-tester reproducibility and inter-method agreement of Beighton tests and criteria for Generalised Joint Hypermobility in primary school children

Version: 2 Date: 8 August 2013

Reviewer: Marietta van der Linden

Reviewer's report:

General comments

This is an interesting manuscript on a clinically important issue with an appropriate study design and analysis. The main issue I have with this manuscript is its clarity. For example, as it describes a rather complicated study design, a diagram with the different phases and comparisons would be useful, especially which children took part in which study. Although this has been explained, a diagram would be helpful.

Another issue is the choice for the cut-off of #5. In the methods it is stated that there is a lack of international consensus, but no rationale is given for 5. In the Discussion however, the authors write that ‘in order to follow the cohort over time, a higher cut-off level is needed…as recommended by other authors. So why was no higher cut-off chosen for this study? Can the analysis be repeated using a higher cut-off?

Detailed comments

Discretionary Revisions and minor essential revisions

Minor essential revisions are indicated by **

Abstract

Background

**Please describe briefly methods A and B (consider removing the second sentence, as this on its own does not explain the need for the study.

Methods

‘***three phase protocol’?: the three phases are not described. Also, phase 1, did not include children but 10 physiotherapy students?

Results ‘overall agreement’, agreement of what? Are these numbers given kappa values?

.. in the study phase…” this is not clear

Background

First sentence, ‘+2SD (1)’, should that not be ‘± 2SD of a normal age matched population?
**Please add whether the same (four) raters involved in all three phases?**

Page 4, ‘almost 20 with ′, please state the exact number: 19?

‘Participants’
Any particular reason why none of the second grade pupils took part/were not invited?

The inter-method agreement study involved …’
For clarity, consider -adding 103 out of the 110 children who had taken part in the inter-tester reproducibility study’ (What happened to (the results of the) remaining 7 children)
Did these 103 children come back for further testing or were their results used for the inter-method agreement?

** for clarity please add diagram with study flow/participants

Page 6, line 4: The tests..
Consider adding ‘methods’

**Please add a rationale for choosing 5 as a cut-off value

Results
For clarity please add the table number at the start of the paragraph.

**Please also check your table numbering. The text refers to mean kappa values in table 3 which I can’t find. Table 4 is referred to in the text but doesn’t exist. Table 3 includes the results for BT#4 which is not referred to in the text.

Discussion
First sentence: The inter-tester reproducibility of the test items of Methods A and B…..
Consider adding ‘of the test items’

Second paragraph;
‘Only two studies…….Method A
This paragraph is not clear; which study found which results?

Third paragraph
The forward …but only moderate kappa values (0.64 and 0.84).. due to low prevalence.

**A kappa of 0.84 is actually classified as ‘substantial’ ?

Page 9, Third paragraph
‘With standardised and detailed test protocols…. is likely to be attainable.[9]
But could you say that this was not confirmed for all test items by the current study?

Page 9/10
‘deceptively’ high.

**Please add a possible explanation why the prevalence so high in this study compared to others using the same cut-off value?**

Last paragraph
Line 4 onwards
‘Small differences ..the total BT score.
**This cannot be concluded from the results of this study.

**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