Reviewer's report

Title: Subjective and objective outcome in congenital talipes equinovarus; a comparative study of 204 children.

Version: 1 Date: 22 February 2007

Reviewer: Karl Landorf

Reviewer's report:

General

This manuscript presents results from an interesting study that attempts to correlate subjective outcomes with objective outcomes for congenital talipes equinovarus (the abbreviation ‘CTEV’ is used by the authors). The results are from a large, national study of congenital talipes equinovarus. The investigators should be congratulated for such a significant undertaking.

The results of the study are on the whole very interesting, however I think the manuscript needs more focus (i.e. the results should be presented in a more focused fashion) and some more work needs to be done to make the manuscript easier to read. While I think the results are very worthwhile for improving knowledge about this condition, the manuscript doesn’t really present a main message. For example, if the reader read the ‘Conclusion’ of the ‘Abstract’ (arguably the most important component of a paper) they would be lead to believe that the main message was that “female patients and their parents are less happy with the results of management of CTEV”. Yet, nowhere in the ‘Results’ section of the ‘Abstract’ is there any mention of the differences between male and females; instead, the focus is on the correlation between subjective and objective measures.

The above highlights that the results and the conclusion of the manuscript need more work. I think the study is of interest and deserves publication, but the authors should be encouraged to re-write some sections, particularly the ‘Conclusion’ of the ‘Abstract’, the ‘Discussion’ section, and the final ‘Conclusion’ section so a more focused and appropriate main message can be portrayed. To reiterate my concern: if you focused on the ‘Conclusion’ of the ‘Abstract’, you would think that the study was set up purely to answer the question whether there were differences in males and females subjective assessment of their management of congenital talipes equinovarus. Whereas, from my understanding, the main thrust of the paper (i.e. primary focus) is the correlation between subjective and objective measures and that they can both be used to provide a better evaluation of the management of congenital talipes equinovarus. The difference between males and females appears to be a secondary question. Apologies if I have totally mis-read this, but this is how it appears to me.

In addition to the above, there are a number of sections within the manuscript that are difficult to read. Most of these seem to relate to sentence structure and/or punctuation. The manuscript would be easier to read if the authors could address these sections.

Finally, I have concerns about the statistical analysis as outlined below in the revisions.

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Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

Page 6, 1st line: I think “maximal plantarflexion” should be “maximal dorsiflexion”, and vice versa at the end of this sentence, “maximal dorsiflexion” should be “maximal plantarflexion”. Can the authors check this carefully and change as necessary. Simply crouching down and standing on tip toes oneself should make this clear.

Page 6, last paragraph: all statistical information should be included here, not in the ‘Results’ section. For example, the authors need to include details regarding the correlation coefficients here, not in the results section.
Further to the point above: I’m unfamiliar with what a ‘Gamma correlation coefficient’ is. Is this simply a Pearson correlation coefficient, as a Pearson Correlation Coefficient should be used with continuous variables where the data is normally distributed as indicated? Or, is this a Spearman Rank Correlation Coefficient, which it probably should be given that the subjective outcomes are ordinal in nature, not continuous. The authors must clear this up so it is clear.

Page 6, last sentence: Add ‘Statistical’ before the word “Significance” and add “and set at p<0.05.” at the end of the sentence.

Page 7, ‘Results’, ‘Objective Assessment’, 1st line: as indicated above, reposition the section discussing correlation coefficients in the Methods section where the statistical analysis is positioned.

Further to the comment above: it appears that the investigators have used simple correlation coefficients to test for reproducibility (reliability). It is unclear if this means intra- or inter-tester reliability (or both)? In addition, did the investigators test for true differences in the data (i.e. agreement of measures)? For example, if testing for reliability of continuous measures, either a Pearson r and a t-test, or an ICC should be used. The authors need to provide more information regarding the statistical analysis as I cannot work out whether what they have done is correct.

Page 10, section relating to ‘Sex differences in outcome’: Remove the part of the 1st sentence where it is stated, “…, tested using the t-test for independent samples, …”. This should be included in the ‘Methods’ section where data handling and analysis is as discussed previously.

Page 16, ‘Conclusion’, last sentence: This last sentence again strikes me as being an odd way to conclude because this question (i.e. the sex differences) was never articulated as being a primary question that the researchers wanted to answer. Even in the ‘Background’ section there is no mention that the investigators wanted to investigate sex differences, so to conclude with this (as has been done in the ‘Conclusion’ of the ‘Abstract’) does not seem right. As I stated previously, I think the authors should concentrate on their primary research questions (i.e. the correlation between subjective and objective outcomes) and keep that as the main message of the paper. If this were a randomised controlled trial, for example, the manuscript would most likely be rejected because it appears that the investigators are data mining (i.e. over analysing). I know that will seem harsh as the study is largely exploratory; however this highlights my concern about clearly defined, pre-specified research questions.

Pages 18 and 19, ‘References’: The references seem quite old, but this might be the nature of the topic area. There are, for example, only two references less than 6 years old. Are there any more recent references that the authors have not included that may be appropriate?

Page 20: Was there any validation of the questionnaire? Were, for example patients included in its development? Is it reliable?

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Page 2, ‘Abstract’, ‘Background’, 1st sentence, 3rd line: add a semi-colon after the quote to add a pause between the quote and “…a purely subjective assessment”.

Page 2, ‘Abstract’, ‘Background’, 1st sentence, 4th line: remove “cosmetic acceptability” as it is not only cosmesis that the patients are evaluating, they are evaluating health status issues as well.

Page 4, ‘Background’, 2nd paragraph: I suggest adding a colon after “include” in the first line and then a semi-colon after each cited article. It took me quite some time to work out the structure of this sentence because the current punctuation did not differentiate what section of the sentence should be grouped together. I assume the authors are attempting to group the outcomes used in each of the studies cited, therefore it would be appropriate to group these using semi-colons.

Page 4, ‘Background’, 3rd paragraph: Add this one sentence paragraph to the previous paragraph as it looks odd on its own.

Page 4, ‘Background’, 4th paragraph (beginning “Comparison of objective…”): I think it would be wise to
begin this paragraph with, “As far as we are aware, ...”.

Page 5, ‘Patients and Methods’, 3rd paragraph: Add this one sentence paragraph to the previous paragraph as it looks odd on its own.

Page 7, ‘Results’, 1st paragraph, 2nd line: add the percentage to the n value, i.e. “…leaving 158 (77%) complete subjective ratings…”

Page 7, ‘Results’, ‘Objective Assessment’, 2nd paragraph, 1st line (beginning “To compare children of different ages…”): add ‘as’ between ‘used’ and ‘a’, so it reads “…heights was used as a reference.”. Further, remove the following sentence as the first sentence makes the second sentence redundant.

Page 7, ‘Results’, 2nd last line: re-phrase “…foot length and width, and height…” as it’s not clear what correlates with what.

Page 8, ‘Results’, last line: “correlates” should read “correlated”. In most of the ‘Discussion’ the authors have used past tense, which seems appropriate, so for consistency this should read ‘correlated’. In line with this, the word “correlate” in the line above this (i.e. the second last line) should be changed to ‘correlated’ as well.

Page 11, last sentence: I suggest changing the phrase “Poorly mobile ankles…” to something like “ Ankles with limited range of motion…”

Page 12, last line of 1st paragraph: remove the word “including” (i.e. “…by many authors including” as the references cited (i.e. [2,3,4,5,11]) imply this anyway.

Page 12, 2nd paragraph: similar to before, add a colon after ‘including’ and then semi-colons after each cited study so the reader can group each group of measures to the study cited. The authors may need to add further ‘commas’ or ‘ands’ to make it flow properly once the colon and semi-colons are added.

Page 16, ‘Conclusion’, 3rd sentence of 2nd paragraph: there are three ‘ands’ in this sentence: Can it be re-worded or written as two sentences?

Discretionary Revisions (which the author can choose to ignore)

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests