Reviewer's report

Title: Development of spasticity with age in a total population of children with cerebral palsy

Version: 3 Date: 18 September 2008

Reviewer: Jan Willem Gorter

Reviewer's report:

I thank the authors for the revision of their manuscript and the response to the comments of all reviewers. I really appreciate the clarification of the reviewers. It has helped me to understand the statistical analysis better.

In line with my comments on the first version I think that the research question is relevant and important to the field. I also think that a longitudinal design (i.e. multiple assessments per child) would be the best methodology to answer the question. It is clear that the authors took advantage of existing data from different cohorts and treated the data longitudinally with an advanced statistical analysis (In words of the authors: ‘it can be considered as estimates of longitudinal age effects’). This study gives us some insight in the degree of spasticity at different ages but requires further research. I strongly recommend that the authors make a comment on the limitations of the design in the discussion session and indicate that a study with a true longitudinal design and that long term follow-up is indicated to confirm their findings. It would be interesting to see how the development of spasticity is in the 86 cases with a true longitudinal follow-up.

I think, with the other reviewers, that the MAS as a measure of spasticity can be questioned with regard its validity and reliability. This is nicely discussed in the Scholtes paper (reference 1) and I would recommend to have a paragraph on measurement issues in the discussion session. On page 5 from the discussion, 4th paragraph for example, the reference to the Scholtes paper is limited to the reference to other paper is favour of the MAS. I would like to see a more balanced discussion here. In the meantime a study has been published by Mutlu et al on the moderate reliability of the Ashworth and the MAS for the gastrocnemius-soleus in children with spastic cerebral palsy (BMC musculoskeletal disorder 10 april 2008) that should be mentioned.

Minor points:

background, 1st paragraph, 1st line: replace spasticity by spastic subtype
discussion: 1st para, line 2: the study indicated an increasing degree of spasticity?
reference 1: sholtes should be Scholtes

Comments para 4: I do not agree that children classified with predominant unilateral spastic CP do not have spasticity in the contralateral leg. It would be worthwhile to look at it in the data set (if possible). Also classification of CP
subtype and its distribution can change over time.

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

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

'I declare that I have no competing interests'