Reviewer's report

Title: Handwriting performance in the absence of visual control in writer's cramp patients

Version: 2 Date: 18 July 2005

Reviewer: Thomas Schenk

Reviewer's report:

General

Summary: The aim of this study was to test the hypothesis that writer’s cramp patients are impaired in using visual feedback for the control of writing movements. It was therefore predicted that their movement performance improves when visual feedback is withdrawn. The handwriting movements of eight patients with writer’s cramp and eight healthy control subjects were examined. The writer’s cramp patients took longer to complete the test sentence and used less pen-pressure than the healthy subjects. However, in contrast to earlier studies no abnormalities in the velocity profiles were detected. It was concluded that writing performance of patients with writer’s cramp is better in the absence of visual feedback. This is taken as further evidence for the hypothesis that patients with focal dystonia suffer from a deficit of sensorimotor integration. The study addresses an interesting and relevant question. The manuscript is well written and the results are clearly presented. My main concern is the lack of a control condition. I think this problem needs to be addressed before the manuscript is published (see below).

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

The main problem of this study is the lack of a control condition, i.e. we do not know how this sample of patients would have performed in the presence of visual feedback. In the absence of such within-subject control data, the findings are inconclusive. It is well-known that the movement characteristics of patients with writer’s cramp are varied. This problem is compounded by the fairly small sample size. It is therefore possible that the patients in this sample just do not show velocity abnormalities regardless of the availability of visual feedback. I think a direct comparison of the patients’ performance in a condition with and without visual feedback is required to support the authors’ claim.

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

There are a number of more recent behavioural studies on writer’s cramp some using considerable bigger samples which could be taken into account. It is also worth pointing out that the findings from the Odergren’s study which has been cited in this manuscript have been refuted by a recent study (Schenk et al., 2001).

On page 12, it is said that "These authors found that in writer's cramp patients a lower attention to the details...". It should be made clear whether "these authors" refer to the authors of the current study or the authors of some of the previously cited articles.
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: No

Declaration of competing interests:
I declare that I have no competing interests