Reviewer's report

Title: Head Eye Movement Control Tests in Patients with Chronic Neck Pain Inter-observer Reliability and Discriminative Validity

Version: 2 Date: 28 August 2013

Reviewer: Harry von Piekartz

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Changes which has to be made

Background

• Two experienced (OMT IFOMPT) blinded physiotherapists independently rated the randomized videos once: Which experience do they have is this specific domain, did they get a training for how long?
• NDI: 10/100 and associated symptoms with eye-head movement control impairment like dizziness, light-headedness and visual disorders. A cut off score of 10 is for the NDI relative small. What was the reason of this choice? How did the authors assess dizziness, light-headedness and visual disorders?? What was the cut-off point for this inclusion criteria??
• Patients had to have 45° active range of motion rotation to both sides and be able to stand freely, with feet closed without risk of falling. Do the Authors mean exactly 45° or minimal!!

Inclusion Exclusion

• Who excluded the volunteers which were excluded neurologist or questionnaire etc.
• Tabel 1: In Tabel 1: 2/17 in the control had a trauma. It is not mentioned where. Please add in the text Was there a significant (p) difference in Age and the NDI (p value)

Measurements

• Each test was videotaped during 10 seconds Which Camera is used.
• The standardized measurement position which is used is a standardized position which is used in research or is it a self created position? Is it a Measurement which already exist what is the reliably of this test position measuring eye movements?

Eye movements
• Eye movements, to the right and left side, maintaining the head in neutral position. How many times?? Was the markers adapted on the eye-level of the patient ??
• The gaze stability test: Standard test. Describe shortly the standardization
• Tjell et al: He reported significant differences in this two positions in patients after whiplash-trauma compared to patients with vestibular pathology. Which difference are found here ??
• In Tabel 2,3 and 4 (Rating scales ): Are judged in quality of movement but nothing is written down about the quantity Ex. Table 2 Moderate: Slightly irregular head movements What is slight and is only one slight irregular head movement also a positive test here or after 5 times it will be judged as “moderate”

Test video rating
• Two experienced (OMT IFOMPT) blinded physiotherapists independently rated the randomized videos once: Which experience do they have is this specific domain, did they get a training for how long
• Raters were allowed to view the videos more than once if needed. Why motivation? So how experience were the therapists really ??
• Each test was rated following the criteria described above (table 2-4). Did they get an education, how long, did you do a pilot before you started ?? Did the volunteers rest between the test of the two incisors (How many time was between the two test and why ?? How reliable is eye movement testing after repetitive eyemovement ? This has to be described!

Statistics
• The DOR is the factor by which the chance of impairment is increased with a positive compared to a negative test result. (Reference here )

Discussion
Next fact has to be discussed
• Can the sequence of eye testing the 3-5 test better or worse ?? Influence on the reliability
• Not homogeneous groups Female IG 100 % and in the control 40 % male .Has to discussed
• An external fixation was not necessary why not !!!
• In our opinion this has no impact on head-eye-movement control tests and any
following interventions, because there is always an involvement of all three systems (vestibular, ocular and proprioception of the cervical spine) and their convergence. This has to be supported by literature!