Reviewer's report

**Title:** Validity and inter-rater reliability of an observational clinical test of assessing medio-lateral knee motion during a single-limb mini squat

**Version:** 2  **Date:** 6 September 2010

**Reviewer:** Martin van der Esch

**Reviewer's report:**

Dear Editor

Thank you for giving me the opportunity to review the manuscript "Validity and inter-rater reliability of an observational clinical test of assessing medio-lateral knee motion during a single-limb mini squat". After careful consideration, 2 major concerns were found in the manuscript. First, the introduction is somewhat confusing to me. Secondly, the results and discussion are not completely in line with aim of the study and therefore these parts of the manuscript are also confusing. These concerns are important considering the conclusion of the study that the visual inspection during the single-limb mini squat was valid in 2 D. Although the subject of the study is of interest, a number of concerns preclude a major compulsory revision. In reply to the authors these concerns are described in detail.

With kind regards.

Comments to the Authors

This study concerns an important aspect of the studies in patients with knee diseases, especially concerning the validity of clinical feasible tests.

BMC Musculoskeletal Disorders

"Validity and inter-rater reliability of an observational clinical test of assessing medio-lateral knee motion during a single-limb mini squat" by Eva Ageberg, Kim L Bennell, Michael A Hunt, Milena Simic, Ewa M Roos and Mark W Creaby

Reviewer

Reviewer Recommendation Term: Major Revision

Comments to Author: General comments

The manuscript considers interesting and novel results that will be of interest to the audience of BMC. There are however several issues requiring clarification.

**Title**

- Consider changing in “validity and reliability of the assessment of medio-lateral knee motion” to make it more concise. (Alternative: Validity and reliability of the mini-squat test).

Introduction.
The title suggests that the validity and reliability of an observational test is the main subject of the study. Therefore, it is to be expected that in the introduction the observational test is the main topic. I expected an introduction of this test and particularly the importance of the test in a clinical situation. The clinical test will be compared with a “golden standard” test in the movement laboratory under strict standardized circumstances.

Please rewrite the introduction and delete the first two paragraphs. At the end of the manuscript (page 15, middle paragraph), the important background is given why this test has to be validated.

The aim of the study is to validate the observational test. This was done by comparing the results of the observational test with the results of the 2 and 3 dimensional assessments in the movement laboratory. When this is true, the second sentence of the in description of the aim is not relevant for this study. Otherwise make clear why it is important.

Methods.

Subjects. When subjects were excluded due to extreme varus alignment, please define what “extreme” is and how this was measured.

Visual analysis: the observational test description. Would you be so kind to refer the two authors who developed the test.

Three dimensional motion analysis. Was the same mini-squat test executed during the two and three dimensional kinematic assessments? I expect that this is the case, however, it is not clear in the text. Are the angels calculated in degrees and degrees used in analyses?

Data-analysis. Please explain why 2-D motion analysis was used to evaluate the validity of the observational test and not the 3-D. When 3-D data were not used what is the importance of the 3-D data to determine the movements of the lower limb? This is not the focus of the study.

Statistical analysis. The sensitivity was calculated (see results). This should has been described in the statistical analysis.

Results.

In statistical analyses, the observational test data were compared to the 2-3D data, which seems to be logical. However, the 2-D and the 3-D were used in ROC analysis. This is confusing. Last sentence: “indicating that the observational test etc” is an interpretation and this should be part of the discussion.

Discussion.

Second paragraph: Results of the 2-D assessment are presented. A reference is made to Table 2. These are results and should be part of the results section.

Third paragraph. Results of the 3-D assessment are presented. A reference is made to Table 2. These are results and should be part of the results section.

How strong were 2D and 3D assessments correlated in this study? Why is it relevant to present this information in this study?

Why should the extrapolation of the appearance of a knee medial-to-foot position
be made with caution. This is formulated very strongly. What is the evidence to formulate it so strongly?

PFPS. Write this out.

Page 14, second paragraph: static 2-D knee valgus is not clear. The sentence “However, static 2-D valgus ….. to predict knee valgus during movement” is not clear. What is the relation with the study question?

**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