Reviewer's report

Title: Responsiveness of the Shoulder Pain and Disability Index in patients with adhesive capsulitis

Version: 1 Date: 28 May 2008

Reviewer: Felix Angst

Reviewer's report:

Positive criticism

This is a short, well-written testing paper about the reliability and the effects of the SPADI in shoulder capsulitis before and after corticosteroid injections.

Special positive issues are:
1. The first report of longitudinal SPADI data in shoulder capsulitis.
2. There are many good methodologic concepts, e.g. that of the RCP.

Negative criticism

Major compulsory revisions

1. The paper claims (by the title and aim) to examine the responsiveness of the SPADI. In fact, it only shows the reliability and the effects measured by the SPADI before and after steroid injection as compared to those of ROM measurement. This is because the effects of the SPADI are compared with those of the ROMs and the SPADI and the ROM do not measure the same content / have different constructs. This is proven by the small to partly almost absent correlations of the SPADI to the ROM (Table 3). Additionally, the SPADI is self-assessed and the ROM is examiner-assessed. Imagine patients with fibrosing capsulitis who receive an anagesic: SPADI pain will show a high effect but (passive) ROM will not due to fibrosis. Thus, at the end of this study, we only know that the SPADI is more responsive than ROM measurement but not whether the SPADI is a responsive, i.e, sensitive self-assessment tool in the measurement of pain and function. For this purpose, comparison against other self-assessment instruments having the same or similar constructs would be necessary as done in (1). By that, the content of the discussion on p.13/14 is not correct (whole paragraph: “group level…”).

2. Different SRMs can/should be statistically compared by the modified Jacknife test as done in (1). Please apply this test.

3. Comparison by t-tests are more sensitive to be biased by non-normally distributed individual SRMs compared to the regression used in the modified Jacknife test. In addition, to test whether the SRMs are normally distributed, it is not sufficient to look at the plots (as stated in the paper) but to test normality by
the Kolmogoroff-Smirnoff test: Please apply that.

4. The aims and hypotheses are not well stated and not correctly placed: they should be at the end of the introduction and not in the methods on two different locations (p. 4, p. 9 “We expect…”).

5. The results are not compared to that of previous literature. This should be done in the discussion.

6. Interpretation of correlations between the SPADI and ROM (Table 3): A correlation of 0.3 means 9% (correlation squared), 0.2 means 4%, and 0.02 means 0.0004% explained variance of one variable (ROM) to the other (SPADI). Thus, the interpretation of “moderate” correlations (p. 11, Table 3) is not correct since the correlations are small to close to zero.

Minor essential revisions

7. Please shortly explain the setting, aims, and the interventions of the RCT more detailed in the introduction.

8. Where can we get the Norwegian SPADI? Give a MedLine listed reference or an URL address instead of ref. 24.

9. Translation process of the Norwegian SPADI: Stage VI “Submission of the final version and the documentation of the translation process to the developers of the SPADI” is not described or has not been done. Please explain.

10. Description of the RCP: Please clarify that the SDD is assessed in “stable” patients (i.e. without intervention) but the RCP by the effects measured in the interval before and after the intervention.

11. The SPADI pain has an SDD of 22, i.e. within standard deviation is $22/2.77=7.9$ although the difference of the means (test-retest) is only 4. Please check and discuss this astonishing result.

12. Please report all score data with 1 decimal place for reasons of mathematical precision.

Reference

**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.