Reviewer's report

Title: Muscle recruitment patterns during the prone leg extension test.

Version: 1 Date: 29 December 2003

Reviewer: Ville Leinonen

Reviewer's report:

General

The reviewed report has clinical relevance, however, there are number of issues which should be taken into consideration prior to possible publication.

Discretionary Revisions (which the author can choose to ignore)

1) A describing image of the test procedure would be helpful.

2) a) A sample image of typical muscle activation patterns would be helpful in judging the muscle activation onsets.

b) Did the authors determine the muscle activation onsets in blinded fashion (i.e. not knowing the activation patterns of other muscles at the same time)?

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

Table 1: error in muscle recruitment order column in subjects 5, 6 and 13.

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

1) Ethics: was there any approval of e.g. local ethics board? I recommend to cite this issue or optionally give same explanation (e.g. a preliminary study) if there is no approval applied.

2) A use of statistical analysis should be attempted (perhaps a non-parametric test) or if the authors are still not willing the use statistical tests, at least that decision should be discussed (justified) more extensively (and include a consultation of statistician). A believe that it would not change the result (i.e. will lead probably to the identical conclusion) but it deserves more reliable and objective justification for the conclusions.

3) I disagree partly the form of the conclusion "a delay in GM firing and inconsistent firing patterns during the prone leg raise are not sufficient conditions to suggest musculoskeletal functioning abnormalities."

A would prefer the following form: "...prone leg raise is not a sufficient for diagnostic test (due to notable physiological variation (and probably therefore expected notable overlapping between normal (physiological) and potentially abnormal activation patterns)

It could be discussed that despite the limited clinical value of the test, the differences between group
of patients and controls may still indicate impairment in motor control/muscle function. The current study do not have any group of patients, therefore, it may conclude only issues relating to e.g. repeatability of the test and thus should be critical in placing conclusions on abnormal functioning.

**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:** Yes

**Declaration of competing interests:**

None.