Reviewer's report

Title: Lumbar proprioception and the risk of low back injuries in college athletes: a prospective cohort study

Version: 1 Date: 26 July 2007

Reviewer: Kornelia Kulig

Reviewer's report:

General
This is a well-conceived study and a nicely written manuscript of clinical relevance. I have few comments to the authors, some of which may require modification in the manuscript.

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

Title page:
Is the name of you laboratory “Rehabilitations ….. “?
Is Dr. Greene still missing in action?

Page 3, line 3: Regarding the statement “interaction between afferent and efferent loops”, doesn’t a single loop consist of both an afferent and efferent neuron?

Page 5 You have carefully mentioned more than once that you have aligned the vertical pivot axis though L4-L5. I am curious, what were your landmarks?

Page 6, line 3: Cutaneous input during the testing procedure would seemingly be an additional cue to the athlete that the trunk was moving. A stronger argument is needed here or in the discussion to convince the reader that the athletes were sensing positional changes primarily through proprioception, rather than through their cutaneous receptors.

Page 6, line 6: Delete the words “the use of”.

Page 8, even though you have not conducted repeated measures, it would have been more reassuring if you would have collected the test-retest measurements on separate days. Can you really call the comparison of the first 5 and last 5 measures ‘test-retest’

Page 8, line 13: The term “reliably” suggests statistically determined. Please reword.

Page 8, 1st line 17-18: Remove the statement “according to our criteria”.
Page 8, lines 18-22: Statements regarding variables not included in the primary analysis should be omitted and can be included in the discussion.

Page 9, line 2: Before the statement: “trunk repositioning error”, insert the phrase: “axial plane”.

Page 10, You are very careful about not overstating the role of the unique characteristics of the athletic and young population you have studied. Is the proprioceptive literature on athletes limited to the single study on gymnasts?

Page 12, second paragraph, You may want to add that the repositioning error is within the SEM, and therefore negligible

Page 19, paragraph 4: Perhaps training by the athlete minimizes the effect of injury on proprioception, or assists in the recovery of proprioception after injury. Consequently, the findings of your study should only be generalized to an athletic population.

Table 1: Rather than NA, a line through the cell is recommended (###).

Table 2: Remove “*” before “Repeatability”.

Add P-values to figures 2 and 3.

Figure 1. Review, there seems to be a shift in the descriptive text

Check the spelling of your references

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

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Discretionary Revisions (which the author can choose to ignore)

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**What next?:** Accept after minor essential revisions

**Level of interest:** An article of importance in its field

**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'