Reviewer’s report

Title: Angle-specific analysis of isokinetic quadriiceps and hamstring torques and ratios in patients after ACL-reconstruction

Version: 0 Date: 27 Sep 2018

Reviewer: Reviewer 2

Reviewer's report:

PEER REVIEWER COMMENTS: To view the full report from the academic peer reviewer, please see the attached file.

REVIEWER COMMENTS FROM REPORT: Overall impression:

This manuscript has sound design and analytical approach. Figures represent an organized and valid statistical approach. However the text in result section is not well organized. Discussion section is superficial which requires significant rewriting.

What the authors done well

* Clearly stated objectives
* Sound study design
* Detailed and sufficient description of data processing

Not meeting best practice

* SPM (Statistical parameter mapping) is not explained in layman's language so it is difficult for readers to quickly comprehend figure 2. For example: SPM(F) at y-axis, what does it mean to have higher SPM (F)?

* Result section was not presented in a logical order, making it difficult to follow. Adding number to subplots of Figure 2, and referring to the subplot number in the result section will make this section more readable.

* Discussion section has too many repetition of results.
* Discussion section does not include comparison with two studies using SPM analysis (Hiemstra et al., 2004; Hiemstra et al., 2000)

* Authors kept stating the newly gained information from SPM analysis is beneficial for clinical practice. No specific example is given.

* Need language editing. Many sentences are too long and too complex.

REQUESTED REVISIONS:

Abstract:

* Add SPM abbreviation.

* Add some layman's explanations about SPM.

* Angle-specific torques and angle-specific H/Q ratio → very wordy, why not just call them torque curve, H/Q curve

* Please present results in a logical order. Suggest focusing on main leg effect and leg*velocity interaction only. I don't think it is necessary to present main velocity, or main range effect in the abstract (p 2, line 59 to page 3, line 2)

* Main leg effect for flexor torque curve is not presented in the abstract.

* The velocity influenced the location of the maximum torques during flexion and the amount of the maximum torques during extension → Suggested rewrite: Flexion torque reaches it maximal value at different angle when tested at different speed. Extension torque maximum differs mainly by testing speed but occurs at similar joint angle.

* The relationships between conventional and angle-specific HQ-ratios → do you mean correlation coefficient, if so, just use the term correlation coefficient

Key words

Team sport, speed are not necessary
Introduction

After you review that SPM has been applied in post-ACL analysis, the reviewer immediately asked "so what is new about your study?" You did not mention this knowledge gap after several sentences. Suggest moving this paragraph (from page 5, line 6 to end of paragraph) at the end of 2nd paragraph of introduction. State explicitly why including acceleration and deceleration range may be a problem (e.g., at 180 deg/sec, the participant won't be able to reach that speed at early and late range).

Method

Page 6, last line → after stating that data is extract for speed between 50 to 150 deg/sec, state that ROM for available data may differ for each trial → therefore you also need to specify ROM range to extract data (i.e., 19 to 81 degrees, page 7, line 54).

Results

* Add number to subplot, and refer to subplot number in the result section.

* Move page 9, line 25 to 39 to page 8, right after ############### Figure 1 near here ###############

* The following statement is out of place → The mean angle-specific HQ-ratios ranged over the entire ROM from 0.43 to 1.89 (see Figure 2 - top right). Better placed at page 8, line 53.

Discussion

* Avoid repeating results extensively (page 11, last paragraph).

* Please compare your results with two studies using SPM analysis (Hiemstra et al., 2004; Hiemstra et al., 2000)

* Give concrete suggestions for clinical application

I don't understand why correlation between H/Q curve and traditional H/Q varies by range. Traditional H/Q is a fixed number and does not vary by range.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?
If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

This reviewer has been recruited by a partner organization, Research Square. Reviewers with declared or apparent competing interests are not utilized for these reviews. This reviewer has agreed to publication of their comments online under a Creative Commons Attribution License attributed to Research Square and was paid a small honorarium for completing the review within a specified timeframe. Honoraria for reviews such as this are paid regardless of the reviewer recommendation.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal.