Reviewer's report

Title: Mild (not severe) disc degeneration is implicated in the progression of bilateral L5 spondylolysis to spondylolisthesis

Version: 1 Date: 09 Feb 2018

Reviewer: Xiaoju Zhang

Reviewer's report:

This is an interesting computational simulation study to investigate the causation of Spondylolytic (or lytic) spondylolisthesis with disc degeneration. In general, the findings of the study bear clinical interests. The experiment of this study is well designed, and the methods are clearly described.

However, the results can be presented with more details. Since five different spondylolytic models were constructed, it would be more informative if the results are reported for all models, instead of only reporting M-DEG LYTIC model for several cases, such as Range of Motion (RoM) and Interpedicular Kinematics.

Other minors:

Line 180 to 181. "(Fx: 7.2° to 12.4°; Ex: 7.0° to 9.5°)." The two numbers reported for Fx/Ex are ambiguous. Do they mean changed "from 7.2 to 12.4°" or the change values are in the range of "minimum 7.2 to maximum 12.4°"? For both cases, is statistical summary available, as the results shown in Table 2?

Line 190. Same as above.

Line 209-212. May report standard deviation with the average numbers.

Fig 2, 3, 5, 7. The bars might need to have standard errors.

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.
Yes

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.
I am able to assess the statistics

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Please indicate the quality of language in the manuscript:
Acceptable

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