Reviewer's report

Title: Biomechanical Comparison of Unilateral and Bilateral Pedicle Screws Fixation for Transforaminal Lumbar Interbody Fusion After Decompressive Surgery- A Finite Element Analysis

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Reviewer: Raghu N Natarajan

Reviewer's report:

Major:
(1) English language of the manuscript should be checked.
(2) The authors use the word "stability" loosely in the introduction and conclusion. What is done here is just analyses of various instrumentation and no attempt is made to look at the stability of the spine. Modifications of the manuscript is necessary.
(3) The validation of the model is not acceptable because, the authors studied using 3 meshes and used the finest of all. What happens if they further refine the mesh? Will the results be same as mesh 3? Also, extension motion is found to be larger than extension. In reality (based on both existing in-vitro & model studies) lumbar spine is less flexible in extension as compared to flexion. Normally it is due to in accurate modeling of facets. In figure 4 extension motion at L3/4 is nearly 4 times that of flexion. That is unacceptable.
(4) When a study is done to understand the effect of fusion, a hybrid approach is essential. The current study is load controlled. The results, thus are not very reliable.
(5) What type of condition assumed between the cage and the endplate?
(6) Results presented are expected and no new information is presented.
(7) The study ignore the effect seen at the adjacent segment, which is clinically important.

Level of interest: An article of insufficient interest to warrant publication in a scientific/medical journal

Quality of written English: Not suitable for publication unless extensively edited

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 interest.