Reviewer’s report

Title: Increased Rod Stiffness Improves the Degree of Deformity Correction by Segmental Pedicle Screw Fixation in Adolescent Idiopathic Scoliosis

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Reviewer: Wai Yuen Cheung

Reviewer’s report:

This is a retrospective review of a mixed group of idiopathic scoliosis patient treated with posterior spinal fusion and instrumentation. I would suggest major compulsory revisions as follow:

1) The authors compared first 17 patients and second 17 patients in the group 1 and commented that experience does not affect correction of sagittal alignmen. The evidence to support this is weak in view of the very small sample size. A power analysis should be done to avoid type two error.

2) Scoliosis is a 3-D coupled deformity. Correction of scoliosis deformity has been shown to spontaneously correct the sagittal deformity. The authors should explain why there is no correction of sagittal alignment in the group 1 patients.

3) When we compare spinal deformity correction, flexibility of the deformity should be considered. The authors should show the flexibility of the deformity in each group of the patients and take this into consideration when making comparisons.

4) The authors should clarify whether the same surgical techniques were applied to all groups of patients.

Level of interest: An article of limited interest

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