Reviewer’s report

Title: The effects of scoliosis and subsequent surgery on the shape of the torso

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Reviewer: Jean Claude De Mauroy

Reviewer’s report:

Thanks to the authors for this work which allows to better understand the relations existing between the spine and the torso.

Unlike bracing, surgery acts only indirectly on the torso, adds a scar and the cosmetic effect is not always obvious for the surgeon, but also for the patient and Buchanan insists that patient satisfaction ratings were unrelated to orthopedists' ratings of scar appearance, cosmetic deformity, and preoperative to postoperative cosmetic change.

In addition, measurements are performed less than one year after surgery, but the trunk deformation is not stable over time. Surgical correction is not completely maintained during adulthood.

Table 4: "ShDiffHt (mm)  -6.1 (13.5)  -14.3 (13.8)  <0.001" As for the height of the shoulders, the difference is significant, but seems to go in the sense of worsening asymmetry after surgery. Can you explain how to interpret the table.

Table 5: "curve size (°)  -28.0 (-38.0 to 32.8)  8.0 (-12.8 to 14.5)  0.148" The lack of significance after surgery is not easy to understand. Do you mean that for thoraco-lumbar curve, there is no significative change after surgery?

"The compensatory curves had no significant difference" Are compensatory curves included in the arthrodesis? Is there a difference between thoracolumbar and lumbar curves, included or excluded pelvis? - Can you refer to the corresponding figures?

"Figures 2-6 show the data ellipses for the main thoracic curve with compensatory thoracolumbar curve" For 5 & 6 can you repeat on the figure and legend compensatory thoraco-lumbar curve and explain why the ellipse is more vertical (no significance)?

and "Figures 7-11 show the data for main thoracolumbar curve with compensatory thoracic curve" For 7-8-9 can you repeat on the figure and legend compensatory thoracic curve

In the discussion, Can you also refer to the corresponding figures?
For future directions a suggestion might be to compare the initial results after surgery to new measures 2 or 5 years after surgery, to see if the results are maintained.

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