Reviewer's report

**Title:** Real Time Noninvasive Assessment of External Trunk Geometry during Surgical Correction of Adolescent Idiopathic Scoliosis.

**Version:** 1  **Date:** 11 December 2008

**Reviewer:** Marc Asher

**Reviewer's report:**

Minor essential revisions

1. It seems difficult for the reader to tell which numbers represent improvement and which worsening. For example, in Table 3, patient 4, the surgery seems to have resulted in substantial shoulder orientation (Z) imbalance, from 4.80 degrees to -7.83 degrees. I'd suggest that for each indice a tally be provided for the five patients. For instance shoulder Z looks to be improved in patients 1 and 2 and worse in patients 4 and 5.

2. Table 2 After displacement suggest adding units, presumably mm.

3. Reference points 4, 5, 6, and 7 do not seem to have been evaluated. Wouldn't it be helpful to know the angular change in the transverse plane of points 4 and 5? I'd suggest a comment about the lack of analysis of these points. If you have already made it and I missed it I apologize.

4. Figure 6 The numbering of the reference posts seems to be different here than in Figure 1. Please address.

5. The caption for Figure 7 says intraoperative difference between stage 1 and 2. The labeling in Figure 7 says Difference of intraoperative trunk clinical indicies during and after-----. Suggest the wording be the same; e.g. between and during seem different.

Comment: Although not within the scope of this study, it seems to me that the next step would be to find out if these finding correlate with similar measurements made from before and after clinical radiographs. I'm concerned that they will not be because of the difference gravity makes and the capacity of the shoulder girdles to compensate.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.
Declaration of competing interests:
I receive royalties related to spinal implant research and development.