Reviewer's report

Title: A review of the trunk surface metrics used as Scoliosis and other deformities evaluation indices

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Reviewer: Hans-Rudolf Weiss

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The paper is a timely issue and deserves publication. It is a good synopsis of indices used today, some of them as to my opinion not necessary or too complicated. Therefore we are far from a standardization. This is why the suggestions made in this paper are very precious.

There are some minor essential revisions to be made:

1. Correction:

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2. It would be good to demonstrate in the Background section on a figure, how different curve patterns influence trunk surface differently. This picture is available here:

"Similar Cobb angles clinically may look different depending on curve pattern. All patients on this figure have a Cobb angle of 40 degrees. As can be seen, the more decompensated a curve, the more visible the deformation. Double major curvatures are compensated; the most stable curves present after the end of growth [4] and therefore rarely requiring surgical treatment.

Weiss and Goodall Scoliosis 2008 3:9 doi:10.1186/1748-7161-3-9 Download authors' original image"

3. The Cobb angle is well described, but I feel the paper is incomplete with respect to missing descriptions and discussions of radiographic measurements of rotation, e.g. Nash & Moe, Perdriolle, Raimondi.


4. As to my opinion the Formetric system deserves a short description:

In the Formetric™ videorasterstereography system besides many other parameters, which can be used for the description of all possible trunk deviations, mean surface rotation, maximum surface rotation (°), mean lateral
deviation and maximum lateral deviation (mm), fleché cervicale and lombair, 
kyphosis angle, lordosis angle and the curves showing the characteristics of 
lateral deviation, surface rotation and sagittal profile are provided. More 
information can be found at www.diers.de.

So I would suggest also to describe this system a bit more....

H R Weiss, C Verres, K Steffan, I Heckel (1999) Outcome Measurement of 
Scoliosis Rehabilitation by Use of Surface Topography. In: Research into Spinal 
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Breathing. A Comparative Analysis with the Formetric System. In: Research into 
Spinal Deformities I Edited by:J.A. Sevastik and K.M. Diab. 323 - 326 IOS Press, 
Amsterdam

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H R Weiss, J Dieckmann, H J Gerner (2002) Outcome of In-patient Rehabilitation 
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Research into Spinal Deformities III Edited by:A. Tanguy and B. Peuchot. 
246-249 IOS Press, Amsterdam

use of surface topography: following up patients with Scheuermann’s disease. 
Pediatr Rehabil 6: 1. 39-45 Jan/Mar

5. There is a good case report to show that surface rotation and ATR can be 
improved significantly while the Cobb angle progresses

**Level of interest:** An article of importance in its field

**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’