

Oral presentation

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The clinical validation of a specific (HDSS) scale: a measurement of harmonic/disharmonic within the geometry of the spine in the saggittal plane

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Background

Using the Formetric® system, we have observed a high incidence of abnormal sagittal configurations in scoliotic as well as in non scoliotic patients. Those abnormal configurations could be described by using terms like Hyper- or Hypo- but not all of them. Changes in the location of the thoracic apex, lordotic apex, transitional point as well as segmental rectifications of the profile were observed with the formetric. This data is used to define a specific scale to measure harmony of the spine.

Materials and methods

This scale, a simplified version of the 2007 original presented at the SOSORT meeting, uses four items: kyphosis apex, lordotic apex, transitional point and number of rectified segments. The HDSS ranges from 0 (harmonic) to 16 (disharmonic). The scale has been clinically validated in 157 scoliotic patients. These groups are divided into four groups according to their visual harmonic or disharmonic profile as determined by an expert clinician.

Results

The HDSS took a significant different value in the four groups. First the groups are divided in two main groups: those with more harmonic profiles ($N = 77$, $HDSS = 2.9 \pm 1.1$) and those with more disharmonic profiles ($N = 80$, $HDSS = 8.2 \pm 2.4$). The differences of the two main groups are highly significant ($p > .001$). The system and the scale were reliable.

Conclusion

The HDSS is a useful tool to measure how harmonic/disharmonic the geometry of the spine is in the sagittal plane.

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