

ORAL PRESENTATION

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# Clinical measurement of sagittal trunk curvatures: photographic angles versus rippstein plurimeter angles in healthy school children

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From 11th International Conference on Conservative Management of Spinal Deformities - SOSORT 2014 Annual Meeting  
Wiesbaden, Germany. 8-10 May 2014

## Background

Digital photography is a simple method to calculate quantitative photographic parameters of the body posture in the frontal and sagittal plane.

## Aim

The aim of the study was to determine the correlation between the measurements of the sagittal trunk curvatures carried out with two diagnostic tools: photography and Rippstein plurimeter.

## Design

This is a reliability study.

## Methods

Sixty-one asymptomatic children (31 girls, 30 boys) aged 7-9 years (mean 7.9 ±0.8) were assessed once by one observer for the sagittal curvatures of the trunk: thoracic kyphosis (TK), lumbar lordosis (LL) and sacral slope (SS) first with digital photography and with Rippstein plurimeter. Statistical analysis was performed using paired Student t-test, Wilcoxon matched-pairs and Pearson correlation coefficient.

## Results

There was no significant difference regarding the measurement of TK performed with photography versus plurimeter (43.3° ±8.8 vs. 43.0° ±8.4, p=0.47). Differences were found for LL (39.8° ±8.2 vs. 38.3° ±8.5, p<0.0001) and SS (23.3° ±6.0 vs. 22.7° ±6.4, p=0.024). Significant correlation between measurements performed with photography

versus Rippstein plurimeter were observed: TK (r=0.949, p<0.0001), LL (r=0.951, p<0.0001) and SS (r=0.944, p<0.0001).

## Conclusions

Although significant difference for LL and SS were found, the difference between measurements is small, so it seems that photography and Rippstein plurimeter can be used for assessment of sagittal trunk curvatures in the clinical assessment.

## Competing interests

There was no conflict of interest in relation to this study.

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Published: 4 December 2014

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doi:10.1186/1748-7161-9-S1-O15

**Cite this article as:** Stoliński et al.: Clinical measurement of sagittal trunk curvatures: photographic angles versus rippstein plurimeter angles in healthy school children. *Scoliosis* 2014 **9**(Suppl 1):O15.

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