Scoliosis

Oral presentation

A specific scoliosis classification correlating with brace treatment: description and reliability

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Purpose
To show the intra- and inter-observer reliability of a scoliosis classification system correlating with brace treatment.

Background
Different classification systems have been used mainly correlating with surgical treatment. Few consider brace principles and design.

Methods
A new classification system was developed in order to define specific principles of correction with a brace. The classification includes clinical as well as radiological criteria. The radiological system differentiates five basic types called: imbalanced thoracic (or three curves pattern), true double double (or four curve pattern), balanced thoracic and false double (non 3 non 4), single lumbar and single thoracolumbar. The main criteria are the curve pattern according to SRS terminology, the balance/imbalance at the transitional point and the L4-5 counter-tilting. To test the intra-and inter-observer reliability of the classification, three observers (1 MD, 1 PT and 1 CPO) have measured (and one of them, the MD, re-measured) 51 AP radiographs including all the types.

Results
The intra-observer Kappa value was 0.87 (acceptance > 0.70). The inter-observer Kappa values fluctuated from 0.61 to 0.71 with an average of 0.71 (acceptance > 0.70).

Conclusion
A specific scoliosis classification system that correlates with brace treatment has been proposed with an acceptable intra- and inter-observer reliability.