Interobserver and intraobserver reliability of Lenke's new scoliosis classification system


STUDY DESIGN
The assignment of idiopathic scoliosis curves to the curve types, 1-6 to the lumbar spine modifier (A, B, or C), and to the sagittal thoracic modifier (-, N, +), as recently described by Lenke et al, was evaluated by five observers on two occasions.

OBJECTIVE
To determine the intraobserver and interobserver reliabilities of Lenke's new system for classifying idiopathic scoliosis.

SUMMARY OF BACKGROUND DATA
Lenke et al recently introduced a new system for classifying idiopathic scoliosis.

METHODS
Preoperative standing long cassette coronal and sagittal radiographs as well as side-bending radiographs of 51 consecutive patients who underwent surgery for idiopathic scoliosis were labeled with the Cobb angles for all the curves. The center sacral vertical line was marked as the bisection of the proximal sacrum perpendicular to the true horizontal line. Five observers independently assigned a curve type, a lumbar spine modifier, and a sagittal thoracic modifier to each curve following the guidelines as described by Lenke et al. Assignment of the curves was repeated 3 weeks later, with the curves presented in a different order. Kappa coefficients were used to determine the interobserver and intraobserver reliabilities.

RESULTS
All five reviewers agreed on the overall classification in 21 (41%) of the 51 patients. A mean kappa value of 0.62 was determined for interobserver reliability, and a mean kappa of 0.73 for intraobserver reliability. Determination of an upper thoracic curve as structural or nonstructural and assignment of a lumbar spine modifier were the main reasons for disagreement.

CONCLUSIONS
Lenke's new classification system is more reliable than the older King classification, but proper classification of high thoracic and lumbar curves seems to be difficult.

type: journal paper/review (English)
date of publishing: 15-4-2002
journal title: Spine (27/8)
ISSN electronic: 1528-1159
pages: 858-62