Scoliosis

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Oral presentation

The use of surface topography in the surveillance of adolescent idiopathic scoliosis: the influence of patient BMI on the reliability of curve measurement

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Background

There are several methods available using surface topography to estimate the spinal curves in adolescent scoliosis patients. One new method, using the Ortelius 800 device, has been shown to be unreliable [1]. This study will analyze whether the reliability of measurements is related to the patient's Body Mass Index (BMI).

Procedures

Adolescent patients being screened or observed for scoliosis had their curves evaluated using standard radiographs. They also underwent an evaluation using the Ortelius 800 machine, which provides curve analysis and Cobb angles of the patient's spine. Finally, height and weight were obtained and BMI was calculated.

Analysis

For each patient, the difference between the Orthoscan measurement and the x-ray measurement was calculated, and then this difference was compared to the patient's BMI. Results showed that there was a negative correlation between BMI and the reliability of the measurements made using surface topography.

Conclusion

Procedures using surface topography to predict the magnitude of the Cobb angle in adolescents may be much less effective in patients with an elevated BMI.

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