

Oral presentation

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## New results for 495 patients with adolescent idiopathic scoliosis treated with the SpineCor brace

AB Circo\*, C Coillard and CH Rivard

Address: Research Center, Sainte-Justine Hospital, & University of Montreal, 3175 ch. Côte Ste-Catherine, Montréal, Québec, H3T 1C5, Canada

Email: AB Circo\* - [alin\\_circo@yahoo.ca](mailto:alin_circo@yahoo.ca)

\* Corresponding author

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### Objective

The purpose of this prospective interventional study was to confirm the effectiveness of SpineCor treatment for patients with adolescent idiopathic scoliosis and to demonstrate the stability of the spine after the end of the brace treatment.

### Study design

From 1993 to 2009, 840 AIS patients were treated using the SpineCor brace. 495 fitted patients had a definitive outcome, and 405 patients finished the treatment with the SpineCor brace. 225 patients had a follow-up period of at least 2 years, and 94 patients had 5 years or more of follow-up. The assessment of brace effectiveness included the following: percentage of patients who had a 5° or less curve progression and the percentage of patients who had 6° or more progression; percentage of patients who have been recommended for or have undergone surgery before skeletal maturity; percentage of patients with curves exceeding 45° at maturity (end of treatment); 2-years follow-up beyond maturity to determine the percentage of patients who subsequently underwent surgery; percentage of patients that corrected or stabilized their Cobb angle 5 years after the weaning point.

### Results

As demonstrated before, the SpineCor brace does alter the natural history of adolescent idiopathic scoliosis. This study showed that 71.2% of patients (353 out of 495) corrected or stabilized their initial Cobb angle, and only 52

patients (10.5%) had 6° or more progression of their initial Cobb angle without an indication for surgery. 74 immature patients out of 495 (14.9%) required surgical fusion while receiving treatment. Only 16 patients (3.2%) withdrew from the treatment.

### Conclusion

The SpineCor brace is effective for the treatment of adolescent idiopathic scoliosis. The positive outcomes are maintained even after weaning of the brace. Moreover, one third of the patients still maintained their Cobb angle correction in the five-year period after the end of the treatment.