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1: [Stud Health Technol Inform.](#) 2008; 135: 395-408.  [Links](#)

End-growth results of bracing and exercises for adolescent idiopathic scoliosis. Prospective worst-case analysis.

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BACKGROUND: In the literature the rate of surgery for AIS (Adolescent Idiopathic Scoliosis) of 30 degrees ranges from 22.4% to 31% when braces are used, versus the natural history rate of 28.1%. When a complete conservative approach is used (braces and exercises), this rate decreases to the range of 3.8% to 7.3%. All these studies are retrospective. **AIM:** The aim was to evaluate the final results of a prospective set of patients treated in a center fully dedicated to a complete conservative treatment (exercises and braces) of AIS. **MATERIALS AND METHODS:** This is an everyday clinical, retrospective study on a prospective data base. The population included 112 AIS patients, 13.2+/-1.8 years old, with 23.4+/-11.5 degrees Cobb degrees at the start of treatment. All the patients had been treated with a full set of conservative treatments, including exercises, according to their individual needs. We used the SEAS (Scientific Exercises Approach to Scoliosis) protocol and the ISICO approach, while the orthosis used included: Risser cast, and the Lyon, Sforzesco-SPoRT, Sibilla-Chêneau and Lapadula braces. The patients had been followed up by the same physician, braces had been made and exercises had been applied by the same team. The outcomes were established for each single patient: The absolute aim was to avoid surgery, while the minimal and optimal outcomes were defined according to the starting curve. An efficacy analysis and worst-case analysis had been performed. **RESULTS:** The rate of surgery was 0.9% (efficacy analysis), and 4.5% (worst case); the minimal outcomes had been obtained in 99% of patients and the optimal ones in 84%. Overall, the curves over 40 degrees, which numbered eleven at the start of observation, were reduced to three. In total, eight patients exited the presumable area of risk in adulthood (final curve over 30 degrees). The treatment produced a statistically significant reduction in the worst curves, and the best results have been obtained in the curves over 40 degrees. **CONCLUSION:** Provided the use of a complete conservative approach, there is very little doubt that it is possible to reduce the rate of surgery in AIS treatment.

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