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# Sport improved medium-term results in a prospective cohort of 785 adolescents with idiopathic scoliosis braced full time. SOSORT 2018 award winner

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## Abstract

**Purpose:** The association between idiopathic scoliosis (IS) and sports activities remains vague. We aimed to analyse their effect on full-time braced adolescents with IS.

**Methods:** We retrospectively recruited all the consecutive patients of a tertiary referral Institute of age ≥ 10 (adolescents), with a juvenile (JIS) or adolescent (AIS) IS diagnosis, Risser 0-2, TLSO brace prescription and self-reported adherence ≥ 20 h per day, and follow-up out-of-brace X-rays 18 months after brace prescription. We divided participants into two groups: SPORT (sport twice or more per week) and CONTROL (sport once per week or less). We calculated odds ratio (OR) to compare the outcome of subjects performing to those not performing sport. We ran a logistic regression with covariate adjustment to assess if sports frequency affected the outcomes.

**Results:** Out of 33,311 participants assessed for eligibility, 785 satisfied the inclusion criteria (693 females, age 12.7 ± 1.3 and 40 ± 11° Cobb). The SPORT group consisted of 290 participants and the CONTROL group of 495. The SPORT group showed higher odds of improvement (OR = 1.59, 95%CI = 1.17-2.16, p = 0.0018). The odds of improving increased with the frequency of sports activity (OR = 1.20, 95%CI 1.08-1.34).

**Conclusion:** This study shows that sports activities increase the odds of improvement at 18-month follow-up in adolescents with IS treated with a full-time brace. The odds of improvement increase with sports week frequency.

**Keywords:** Full-time brace; Physical activity; Sport; Idiopathic scoliosis.