

Oral presentation

Clinical and postural behaviour of scoliosis patients during daily brace weaning hours

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Background

What happens to scoliosis when the brace is weaned is not described, even if this has a clinical impact.

Aim

To evaluate the postural and clinical changes which occur during brace weaning.

Design

Pre-post trial.

Population

Ten adolescent idiopathic scoliosis female patients 12.6 years old, with $42.8 \pm 7.4^\circ$ Cobb curves. Inclusion criteria: more than 30° Cobb; TLSO worn at least 20 hours/day. Patients have been divided according to the hours of brace wearing per day: group A (6 patients, 23 hours per day) and B.

Methods

We evaluated patients at brace weaning and every hour per 4 hours, clinically (Bunnell degrees, hump and plumbline distances through usual clinical instruments) and posturally, by means of GOALS (Global Optoelectronic Approach for Locomotion and Spine), a non-ionising instrument that allow a 3D reconstruction of the spine. Paired ANOVA and t-test were used for statistical analysis.

Results

Almost all clinical data showed a worsening in 4 hours: this was statistically significant in the total of data and in A, not in B; in A, Bunnell and hump were already statistically changed after 2 hours. Although not statistically significant, GOALS suggest an immediate postural collapse (1st hour), followed by a positive postural reaction (2nd–3rd hour), and a possible final decline (from the 4th hour).

Conclusion

This data demonstrates the importance of performing the clinical examination at the end of the daily brace weaning hours. Moreover, it suggests an interesting and specific postural behaviour during brace weaning.

References

1. Negrini S, Fusco C, Romano M, Zaina F, Atanasio S: **Clinical and postural behaviour of scoliosis during daily brace weaning hours.** *Stud Health Technol Inform* 2008, **140**:303-6.