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1: [Stud Health Technol Inform.](#) 2008; 140: 307-9.



Do imbalance situations stimulate a spinal straightening reflex in patient with adolescent idiopathic scoliosis?

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Correlation between balance and Adolescent Idiopathic Scoliosis (AIS) is still unclear. To identify the most useful type of physical exercises to be proposed for conservative treatment, is interesting to explore better this field. Our aim was to evaluate the changes of scoliosis curves in a group AIS patients while submitted to an unbalancing situation. We considered in a pre-post trial 14 AIS patients (46 curves), 12 to 15 years old, with 19.3+/-9.9 degrees Cobb curves. Assessment has been made using GOALS (Global Optoelectronic Approach for Locomotion and Spine), a non-ionising instrument that allow a 3D reconstruction of the spine. We evaluated the patients twice in a standardised standing position: on the floor, and on a sway bench. On the sway bench there was a statistically (but not clinically) significant reduction of the curves. This was confirmed considering the average of the curves of each patient, but not when considering the worst curve. Looking at the curves, 13% worsened and 33% improved, versus 14% and 43% respectively looking at the patients. We did not find similar reactions in all patients, but in general a spinal straightening reflex while on a sway bench appears. In any case these variations are of low degree.

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