Flexible flatfoot treatment in children with mechanical sound vibration therapy

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Introduction: The flat foot can be defined as a syndrome with multiple etiopathogenesis, characterized by an altered structure of the longitudinal arch of the plantar vault with its reduction in height.

The plantar arch collapse can be counteracted by strengthening the muscles involved; for many years, specific physical exercises have been proposed with this purpose in physical and rehabilitation medicine.

The aim of our work was to improve the plantar arch muscles’ tone using high focal vibration therapy (300Hz)

Methods: 10 children with a 4th degree flat foot (age: 8.7±2.2; height: 132±15cm; weight: 35.2±12.3Kg) underwent 10 sessions, 2days/wk, of 30 min of focused high vibratory therapy at a frequency of 300 Hz (Vissman, Italy). Before and after treatment stabilometry (StT), static and dynamic baropodometry tests were performed.

Results: Evaluation of StT showed an improvement of stability, a decrease of sway area and ellipse area. Baropodometry tests showed a decrease in foot surface. Also dynamic tests showed a decrease in both foot surfaces.

Discussion: The results lead us to consider this method as a method of first choice to a conservative approach in the rehabilitation of flat foot syndrome also for the 4th grade in children

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