



Fund “Nauka” Project № 20011 Resume – Competition-Based Session 2020:

“Study of vestibular function by the method of static and dynamic posturography in patients with craniofacial deformities”

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Posture is the result of interactions between the musculoskeletal system and the afferent and efferent pathways of the central nervous system. The full development of postural function takes place at about 11 years of age and remains stable until about 65 years of age. Maintaining the balance and equilibrium of the body when performing dynamic movements and in a static position is a key element for the performance of daily activities of each person. Postural control requires maintaining the position of body segments in relation to both other segments and the environment.

To achieve these behavioral goals, postural control system needs sensory information about the relative position of body parts and the forces acting on it to trigger muscle contractions in order to maintain or change a postural position. The sensory foundations of this perception-action relationship are complex, as information coming from the visual, vestibular, and somatosensory channels must be integrated by the higher levels of the central nervous system. On the other hand, any motor action related to maintaining or achieving a certain position of the body requires specific strategies and muscular activities to make the individual segments in the human body act as a single functional unit.

Expected results:

1. Strengthening the connection between orthodontic deformations and their influence on the correct posture and balance of the body in space, the improvement of vestibular disorders.
2. Demonstrating the need for orthodontic treatment in patients with problems of the bite.
3. Verifying the improved quality of life in these patients after treatment.
4. Through enhanced prevention and prophylaxis of craniofacial deformities, parents will be informed about the importance of the problem of oral health of their children, which affects posture and balance.
5. Increased prevention at an early age will lead to a decrease in the incidence of those disorders in adulthood.