

## **Posturographic correlates of peripheral and central vestibular disorders, as assessed by electronystagmography (ENG) and the Tetrax Interactive Balance System**

**R. Kohen-Raz, A. Sokolov, A Kohen-Raz, M. Demmer, M. Har-El**

*Department of Otololaryngology, Wolfson Medical Center, Tel Aviv  
Department of Special Education, Hebrew University, Jerusalem*

One-hundred-and-twenty patients of the ENT outpatient clinic of the Wolfson Medical Center, Holon, Israel, all suffering from vertiginous disorders of varying etiology and symptomology, were systematically evaluated by ENG examinations, according to which they were classified as peripheral, central, mixed central-peripheral pathology or else possessing normal ENG patterns. The ENG findings were correlated with results of posturographic tests, using the innovative method of the Tetrax Interactive Balance System (IBS), based on the evaluation of postural sway on four different footplates, each measuring separately the pressure fluctuations produced by each heel and toe part. In contrast to previous studies carried out with other posturographic systems, which focus on displacement patterns at the point of gravity, results of this investigation showed that specific posturographic parameters, which can only be obtained with the IBS, differentiate significantly a) between patients with peripheral, central and normal ENG, b) between patients with normal and abnormal caloric tests, c) between left vs right peripheral disturbances. These parameters were a) synchronization of sway between heel and toe, b) the amount of evenness of weight distribution over the four footplates (weight distribution harmony), c) the intensity of low frequency sway. An unexpected and unexplained finding was significantly more severe postural aberrations in left as compared to right peripheral vestibular pathology.

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