

ARE ASYMMETRIC OTOLITH VESTIBULO-OCULAR REPOSES A PREDICTIVE FACTOR FOR IDIOPATHIC SCOLIOSIS IN CHILDREN?

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In idiopathic scoliosis spinal deformities start to develop at the time of the initial rapid growth at the onset of puberty. A suggested cause of IS is a disequilibrium in the otolith vestibular control of the trunk muscles. Supporting this hypothesis our previous results⁽²⁾ showed that 67% of children with IS, but no other inner ear or neurological abnormalities, had an asymmetry of their otolith vestibulo-ocular reponses to the Off Vertical Axis Rotation test. These were significantly greater than in a control age-matched group of normal children. We suggested that this asymmetry was a central otolith vestibular system disorder and could lead to a vestibulospinal system imbalance, which would then provoke IS.

The goal of this study was to determine if this asymmetry exists prior to the appearance of the spinal deformities.

Our preliminary results show that the vestibulo-ocular asymmetry appears before the spine starts to show any significant clinical and radiological deformity.

In patients at risk for IS (e.g. a family with IS history) screening for otolith functional asymmetry could be used as predictive factor of scoliosis and help for earlier prescription of IS preventative treatment.

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² S.R. Wiener-Vacher, K. Mazda. Asymmetric otolith vestibulo-ocular responses in children with idiopathic scoliosis. *J. Pediatr* 1998 ;132:1028-1032.