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Is there a correlation between Pediatric Berg Balance Scale and Centre of Pressure Excursion measured through Dual Axis Static Force Plate™ to assess Balance in Children with Spastic Cerebral Palsy and Typically Developing?

Niharika Joshi

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1. **Title:** Is there a correlation between Pediatric Berg Balance Scale and Centre of Pressure Excursion measured through Dual Axis Static Force Plate™ to assess Balance in Children with Spastic Cerebral Palsy and Typically Developing?

Authors: Niharika Joshi, Amitesh Narayan, Gopal Krishna Alaparthi.

KEY WORDS: Pediatric Berg Balance Scale (PBS), Centre of Pressure Excursion (CoPE), Cerebral Palsy, Typically Developing.

Abstract:

Objective: To identify correlation between Pediatric Berg Balance Scale (PBS) and Centre of Pressure Excursion (CoPE) measured through Biometrics dual axis static force plate™ to assess functional balance in children with spastic cerebral palsy (CP) as compared to typically developing (TD). **Methods**: Functional balance of 24 ambulatory children with spastic CP (GMFCS level I and II) and equal number of TD children in age groups of 4-12 years (8.2 ± 0.9) were assessed on PBS and CoPE through Biometrics dual axis static force plate™. **Results:** There is a negative correlation between PBS and CoPE (Biometrics dual axis static force plate™) measures for assessment of functional balance both in children with spastic CP ($r= -0.553$, $p < 0.005$) and TD ($r= -0.653$, $p< 0.001$). However, CoPE through Biometrics dual axis static force plate™ ($x^2=5.72$, $p=0.001$) is an efficient measure to assess functional balance as compared to PBS ($x^2=6.36$, $p=0.002$). **Conclusion**: The correlation between PBS and CoPE measure is negative for the assessment of functional balance in children with spastic CP and TD; and, CoPE through Biometrics dual axis static force plate™ is an efficient measure for functional balance compared to PBS.