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Feasibility of a powered mobility intervention for young children with cerebral palsy, gross motor function classification system level V

Bethany M. Sloane, PT, DPT, PhD candidate*, Melanie Fried-Oken, PhD, CCC-SLP.*, Sam Logan, PhD

*Oregon Health & Science University; Oregon State University

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Abstract

Cerebral palsy (CP) is the most common childhood disability. Children with cerebral palsy have variability in motor disability involvement categorized on the Gross Motor Function Classification System (GMFCS). The GMFCS consists of 5 levels, where children at level I have less significant mobility impairments and children at level V are mostly dependent for mobility. Children with CP, categorized at GMFCS level V have minimal independent movement, limited postural control, motor control, and require extensive assistive technology and physical assistance. In early childhood, these children generally experience their environment passively, by being carried or pushed in a stroller from place to place, which can be detrimental to their overall development. Their only option for independent and self-initiated mobility is through powered mobility (using a powered wheelchair or ride-on toys). Powered mobility intervention research for young children (under 5 years of age) with disabilities have resulted in improvements in cognition, communication, motor skills, socialization, and participation. Yet, children with significant motor limitations have historically been excluded from powered mobility interventions clinically and in research. Reasons for exclusion include limitations in device options, funding, safety concerns, stigma, lack of clinical standards, and lack of rigorous research including this population. There remains a critical need for powered mobility interventions in early childhood to be designed specifically for children with CP, GMFCS level V. This proposal will describe the protocol for a powered mobility intervention that aims to examine feasibility. Feasibility will be assessed through implementation using a mixed-methods approach to examine the child's demonstration of powered mobility use and caregivers' experiences with the powered mobility intervention. This poster presentation will describe the need for inclusion of this population in powered mobility research, the gap in research this study will fill, and outline a detailed intervention protocol.