

Provisional Outcomes of Affordable Custom Wheelchair Seating for an Individual with Cerebral Palsy: Case Report

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ABSTRACT

The person with cerebral palsy has a range of functional limitations which can restrict activities of daily living. Sitting for extended periods is a pertinent issue to address. Custom seating orthosis combined with a wheelchair could reduce issues associated with long-term sitting in this population. The custom seating system for a child with cerebral palsy GMFCS Level IV was provided and outcome measures which measured functional grasping and seat pressure distribution was evaluated while the patient was seated in a traditional wheelchair as well as the custom seating wheelchair. Time to complete tasks while seated in the custom seating wheelchair was longer in duration than when seated in the traditional wheelchair, however, pressure was reduced in pressure prone areas and distributed more across pressure tolerant areas. The custom seating system provided to this patient evidences the utility and usefulness of a customized orthotic intervention for the wheelchair intervention. Additional accommodation to the custom seating could posit differences in outcomes as would an increase in study participants.

Keywords: Orthosis, Cerebral palsy, Custom seating, Wheelchair, Assistive technology, Pressure distribution