

The Importance of Headrests for Function and Transportation: A Retrospective and Prospective Study

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Background: Independent sitting is a major milestone in a child's development. Sitting is a complex skill that includes core and dynamic stability. If achieved, children can then free the use of their hands for daily functioning. Some children can sit independently but do not have the ability to transfer balance from side to side, forward to backward and have to rely on external supports. Children with complex physical disabilities often need to use special external supports- headrests, side supports, chest harnesses, belts, knee abductors, thigh supports, back and sitting cushions, arm and leg supports. The headrest is essential when used on a wheelchair for transportation in protecting neck excursion. Headrests are also used for support when in tilt and recline and for some children in an upright position, to allow feeding, breathing, swallowing, communication, rest, eye-gaze systems and more. Cushions have been studied extensively, due to their importance in preventing pressure sores. Few studies have looked at headrests and their importance in function and participation. The goal of this study was to assess the use of headrests and their impact on function.

Methods: This study has two stages; 1) A retrospective study of 45 children (ages 2-18 years) with physical disabilities that participated in a lending program for headrests; 2) A prospective study of up to 30 children with physical disabilities (2-18 years) that borrowed a headrest from the program for two weeks according to a specific protocol. Outcome measures included user experience, user satisfaction, mealtime duration and sitting endurance.

Results from the retrospective study:

	N=45	%		N=45	%
Age (M=7.65y; SD=6.05y)			Manual Wheelchair		
Gender			Cannot propel at all	39	87%
Male	31	68%	Can propel indoor for short distances indoors	6	13%
Female	14	32%	LSS		
School			Support from head down	32	71%
Special Education	33	73%	Support from shoulders down	2	4%
Other	12	17%	Support trunk and below	11	25%
Main Diagnosis			GMFCS		
Cerebral Palsy	21	46%	4	3	14%
Neuromuscular	7	15%	5	18	86%
TBI	4	8%	Ventilator dependent	12	27%
Other	13	28%			

Headrests- 40% of the participants were lent a Headovations headrest, 36% were lent a Savant headrest and 24% were lent another headrest. In general 87% of the participants found that the headrest that they were lent was easy to use, 84% found that it improved their head position, 76% found that it improved eye contact, 74% found that it improved their head control in transportation, 73% felt confident using the headrest and 66% wanted to use it.

Significant associations were found between the Headovations headrests and others specifically when comparing head control during transportation (0.03) and wanting to use it (0.05) in favor of the Headovations headrest.

Although not significant, additional associations were found in favor of Headovations:



The prospective study is ongoing. Results will be shared soon.

Conclusion: A headrest is an essential support and it is important to examine its contribution to function and transportation in a reliable and valid study.

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References:

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