

“The Effect of Therapeutic Tricycle Riding on Upper Extremity Function in Children with Unilateral Neglect”

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Play is an important occupation in child development, preparing a child for cognitive tasks, emotional stability, and interpersonal skills. A common play occupation of children is bicycle riding. Children with disabilities desire to participate in the same play occupations as their peers. Often children with disabilities experience internal and external barriers in participating in play. Regardless of barriers play is a vital occupation to children, because of the variety of benefits play has to offer to all children. Purpose: The purpose of this study was to measure the functional changes of children with unilateral neglect from using therapeutic AmTryke® tricycles.

Methods: Five children receiving occupational therapy services at Kalamazoo Area Rehabilitation Services, Inc. were volunteered by their parents to participate in the study. Changes in the children’s function was measured using a variety of assessment tools such as: the two-handed catch from the Bruininks-Oseretsky Test of Motor Proficiency (test 5, subtest 3), grip strength using a pediatric sized bulb dynamometer, distance “walked” and “wheelbarrow walk stance” using the wheelbarrow walk test, oxygen saturation levels from an Oximeter, heart rate, and qualitative demeanor of the children through parental journals from use of therapeutic AmTryke® tricycles. The children participated in scheduled AmTryke® riding and were assessed 3 times a week over a 9 week period during occupational therapy services.

Results: Significant positive change was present in the distance “walked.” Positive change was present in the “wheelbarrow walk stance.” Qualitatively all the children demonstrated an increase in functional use of the affected extremity. Also the children expressed desire to ride the AmTryke® tricycles prior to assessment and outside of assessment.

Conclusion: Positive significant changes in function were limited due to the number of child participants. Overall positive individual results were present from the assessments and qualitative observations. Use of the AmTryke® tricycles was shown to significantly improve function positively in the children participating with unilateral neglect in increasing the distance, duration, and number of steps taken. AmTryke® tricycles were also qualitatively documented to increase independence at home in activities such as in dressing, personal hygiene, and mobility. Also from use of the AmTryke® tricycles, parents documented increase use of their child’s affected hand and desire to explore physically challenging play occupations, such as swimming, jumping, and running. Implications of this study can be used to further explore the therapeutic effect of AmTryke® tricycles on bilateral integration for unilateral neglect children.