

Does Hippotherapy Improve Gross Motor Function in Children with Cerebral Palsy?

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INTRODUCTION

Cerebral palsy (CP) refers to a group of non-progressive disorders of movement and posture caused by abnormal development of, or damage to, motor control centers of the brain. CP is caused by events before, during, or after birth. The abnormalities of muscle control that define CP are often accompanied by other neurological and physical abnormalities. Hippotherapy, a physical, occupational, and speech-language therapy treatment strategy that utilizes equine movement as part of an integrated intervention program to achieve functional outcomes, has become a popular intervention for children with CP. The purpose of this study was to determine if hippotherapy improves gross motor function in children with CP.

The subject in this case study was “Beth.” Beth was a 14 year old female with a diagnosis of CP that included spastic quadriplegia. She received early intervention services, including physical, occupational, and speech therapy in the past. Beth participated in hippotherapy between August 2011 and December 2012 and demonstrated steady but slow progress.

METHODS

Beth participated in once a week sessions for 8 weeks. The sessions consisted of 20-30 minutes of work on functional positioning and attending to a task utilizing bilateral upper extremities followed by a session on a dynamic equine surface. While on the horse, Beth participated in reaching, positioning, attending to a task, and lower extremity stretching and strengthening.

The equine portion of the treatment session was based on the commonly used Silkwood-Sherer treatment protocol. Treatment consisted of 5 minutes of a warm-up session that consisted of the patient seated forward and working on relaxing the muscles and just “feeling” the movement of the horse followed by 10-15 minutes of strengthening, balance, proprioception, and motor planning through various tasks and position changes. The last 5 minutes of the session was the “cool down” portion, where the patient was encouraged to relax and feel the movement of the horse.

FINDINGS

Beth made significant but limited progress during the 8 weeks of intervention for this study. At the conclusion of this case study, Beth demonstrated an increase in core

stability and in control of her upper and lower extremities. During the last 2 sessions of treatment, Beth required minimal cueing to grab the handle of the saddle and was able to hold the handle for more than 15 minutes. This demonstrated significant progress in body awareness, motor control, and the ability to quiet her body in order to control it.

CONCLUSION

Based both on the preponderance of research that was found as well as the case study that was performed, hippotherapy improves gross motor function in children with cerebral palsy. Many positive changes were observed in Beth at the conclusion of this case study. In the future, hippotherapy may be recommended as a treatment approach to rehabilitate children with cerebral palsy.