

## **Effects of Hippotherapy on Balance and Gait in Ambulatory Children with Spastic Cerebral Palsy**

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Cerebral palsy is a condition that affects a child's ability to move and play like other children. Even those who are able to walk independently may trip and fall frequently, particularly on uneven ground. This awkwardness affects their quality of life because they have difficulty with games and play activities such as hopping, jumping, running, and ball handling. These problems with balance and walking are the focus of this study.

The purpose of this study is to determine if children with cerebral palsy will be able to balance and walk better if hippotherapy is added to their normal therapy program. Thirty children who have a diagnosis of spastic cerebral palsy and who are between the ages of 3 years and 6 years will be recruited to participate.

*Method:* This study will use two different hippotherapy sites in order to find and treat the required number of children. Once the children are recruited, based on specific criteria, they will be matched by age, severity of their cerebral palsy, and a balance score based on a standardized test called the Pediatric Balance Scale. They will then be randomly assigned to one of two groups. Group 1 will continue with their regular therapy during the 12-week study period. Group 2 will receive 12 weeks of 45-minute weekly hippotherapy sessions in addition to their regular therapy program.

All children will be tested before and after the 12 weeks using standardized tests. The pediatric balance scale (PBS) will be used to measure balance. The standardized walking obstacle course (SWOC) will measure walking ability. The Activities Scale for Kids (ASK) will be used for the 5-6 yr children to measure how well the child is able to perform daily tasks such as getting out of bed, getting dressed, and playing sports. A similar test called the Children's

Assessment of Participation and Enjoyment-preschool version will be used for the 3-4 yr olds. The Beery Test of Visual-Motor Integration (VMI) will measure the child's ability to recognize and copy shapes such as triangles and squares. This tests the ability to use visual information for guiding movement, an important requirement for balance in different environments. A questionnaire called the PedsQL will be used to measure health-related quality of life. These tests have been specially chosen because they are suitable for 3-6 year old children and provide information on many different but important aspects of a child's life.

At the end of the 12-week study period, Groups 1 and 2 will be compared to see if the children who received hippotherapy made greater gains on the tests than those who did not receive hippotherapy. We will also assess whether there is a relationship between any of the measurements. For example if the child has better balance are they able to participate in more age appropriate activities?