The Effect of Hippotherapy on Gait in Children with Cerebral Palsy

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What is Hippotherapy?

- Hippotherapy is a course of physical therapy intervention utilizing equine motion to improve function in patients seeking treatment for movement-related disorders.5
- The animals used in hippotherapy must pass strict parameters in order to be used as a tool for treatment.

Effect on Gait Parameters

- Children included in this research had a diagnosis of spastic cerebral palsy with one child having a diagnosis of athetoid cerebral palsy.
- The research is representative of a pediatric CP population functioning at a GMFCS level I or II.
- Long Term Hippotherapy Intervention (2 x 8 weeks)
  - Increase in stride length
  - Increase in gait velocity
  - No change in walking cadence
  - Decrease anterior pelvic tilt
  - Decrease energy expenditure (CP usually 3-4 times a normal child)
  - Increase muscle symmetry
- Short Term Hippotherapy Intervention (3 x 3 weeks)
  - Increase in stride length
  - Increase in gait velocity
  - No change in cadence
  - Decrease toe-in
  - Decrease IR of hip

Clinical Relevance

- Hippotherapy is effective for improving gait parameters in children with higher functioning forms of CP.
- This intervention shows significant benefits in functional gait parameters of children living with CP.
- Hippotherapy allows for treatment of multiple impairments through one method of intervention.
- Hippotherapy provides children, particularly those with chronic diagnoses like CP, with an alternative to conventional therapy.
- Using equines as a tool to improve gait parameters, particularly muscle symmetry, can result in decreased utilization of more invasive treatments for CP.

How is Hippotherapy utilized?

- Equine movements patterns are very closely related to normal human gait.1,2,3
- Commonly used with diagnosis in which ambulation is difficult such as cerebral palsy or genetic disorders.5
- Used as an adjunct to conventional physical therapy; this is not a treatment to be used alone.
- Most often focuses on aspects of trunk stability, posture, and pelvic motion for improving balance and gait.1

References