Sample Original Research Abstract

TITLE: New Wheelie Aid for Wheelchairs: Controlled Trial of Safety and Efficacy
AUTHORS: Jane Doe
Disclosure: None
INSTITUTIONS: Amazing Academic Medical Center
CATEGORY: General Rehabilitation

Background and/or Objective: To test hypotheses that people learning to perform aided wheelies (AW) with a new self-deploying wheelie aid (WA) are safer than those using the conventional wheelie (CW), are more successful at learning the skills, learn more quickly, and find such skills less difficult.

Design: Randomized, controlled study.

Setting: Wheelchair obstacle course

Participants: 42 subjects randomly assigned to the CW (n=23) or AW (n=19) groups. Interventions: We performed static tests on a WA -modified wheelchair occupied by a test dummy, and attempted to teach each subject to perform a set of 14 wheelie-related skills.

Main Outcome Measures: Visual analog scale (VAS) of safety, percentage of subjects able to learn the skills, the time required, and subjective difficulty scores (from 1 for "very easy" to 5 for "very difficult").

Results: Up to 11° of antitip-device stability was available without the WA extending beyond the rearmost aspect of the rear wheel in the resting position. For the CW and AW groups, the mean ± standard deviation VAS safety scores were 43%±27% and 98%±2% (P

Conclusions: The WA provides stability and wheelie-like function without interfering with maneuverability. Although both groups were equally successful, learning to perform AW is safer, fast, and less difficult than learning CWs

Level of Evidence: Level II

Sample Case Report Abstract

TITLE: Systemic Weakness After Botulinum Toxin Type A Injections in a Child With Cerebral Palsy: A Case Report.
AUTHORS: Mary A. McMahon, MD ().
DISCLOSURE: None
INSTITUTIONS: Cincinnati Child Hosp Med Ctr/Univ Cincinnati Coll Med, Cincinnati, OH
CATEGORY: General Rehabilitation

Case Diagnosis: A 15-month-old boy with spastic quadriplegic cerebral palsy (CP).

Case Description: The patient received botulinum toxin type A (Botox) injections secondary to increasing plantarflexion tone and an inability to tolerate ankle-foot orthoses. The botulinum toxin was reconstituted with 0.9% normal saline to a concentration of 10U/0.1cc. A total of 100U (11.5U/kg) were equally divided among 4 sites in each gastrocnemius muscle. Aspiration was done prior to each injection. On days 2 and 3 postinjection, he had decreasing tone in his upper extremities. On day 4, he presented with diffuse weakness, including loss of head control and poor feeding. His history was otherwise unremarkable, and his exam was notable only for diffusely decreased tone and weakness with tachypnea. Lung exam and chest x-ray were within normal limits and his oxygen saturation was 100%. He was admitted for intravenous fluids and close observation. He was observed for 48 hours, during which his strength and tone had a fluctuating pattern of improvement. At discharge, he had regained head control and his oral intake was at baseline.

Setting: Tertiary care pediatric hospital.

Assessment/Results: At 6 weeks postinjections, the patient continued to demonstrate decreased tone in all 4 extremities. His therapist noted improved postural control and use of his upper extremities after the injections. His sleeping and eating both significantly improved. Further developments will be discussed.

Discussion: This is the first reported case, to our knowledge, of generalized weakness following botulinum toxin injections given at what is commonly considered to be a standard dose for children with CP.

Conclusion: Serious idiosyncratic reactions to botulinum toxin type A are possible despite using doses that are considered safe in children.