Improved Gait After Repetitive Locomotor Training in Children with Cerebral Palsy

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Abstract - The aim of this study was to evaluate the effectiveness of repetitive locomotor training with an electromechanical gait trainer in children with cerebral palsy.

In this randomized controlled trial, 18 ambulatory children with diplegic or tetraplegic cerebral palsy were randomly assigned to an experimental group or a control group. The experimental group received 30 mins of repetitive locomotor training with an applied technology (Gait Trainer GT I) plus 10 mins of passive joint mobilization and stretching exercises. The control group received 40 mins of conventional physiotherapy. Each subject underwent a total of 10 treatment sessions over a 2-wk period. Performance on the 10-m walk test, 6-min walk test, WeeFIM scale, and gait analysis was evaluated by a blinded rater before and after treatment and at 1-mo follow-up.

The experimental group showed significant posttreatment improvement on the 10-m walk test, 6-min walk test, hip kinematics, gait speed, and step length, all of which were maintained at the 1-mo follow-up assessment. No significant changes in performance parameters were observed in the control group.

Repetitive locomotor training with an electromechanical gait trainer may improve gait velocity, endurance, spatiotemporal, and kinematic gait parameters in patients with cerebral palsy.

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