Over ground walking and body weight supported walking improve mobility equally in cerebral palsy: a randomised controlled trial.

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Abstract

OBJECTIVE: To assess partial body weight supported treadmill training versus over ground training for walking ability in children with mild to moderate cerebral palsy.

DESIGN: Randomised controlled trial.

SETTING: A Special Needs school in Singapore.

SUBJECTS: Thirty children with cerebral palsy, aged 6-18, with a Gross Motor Function Classification System score of II-III.

INTERVENTIONS: Two times 30 minute sessions of walking training per week for 8 weeks, progressed as tolerated, either over ground (control) or using partial body weight supported treadmill training (intervention).

MAIN MEASURES: The 10 metre walk test, and the 6 minute walk test. Secondary measures were sub-sections D and E on the Gross Motor Function Measure. Outcomes were assessed at baseline, and after 4 and 8 weeks of training.

RESULTS: There was no effect of group allocation on any outcome measure, while time was a significant factor for all outcomes. Walking speed improved significantly more in the intervention group by week 4 (0.109 (0.067)m/s vs 0.048 (0.071)m/s, P=0.024) however by week 8 the change from baseline was similar (intervention 0.0160 (0.069)m/s vs control 0.173 (0.109)m/s, P=0.697). All gains made by week 4 were significantly improved on by week 8 for the 10 metre walk test, 6 minute walk test, and the gross motor function measure.

CONCLUSIONS: Partial body weight supported treadmill training is no more effective than over ground walking at improving aspects of walking and function in children with mild to moderate cerebral palsy. Gains seen in 4 weeks can be furthered by 8 weeks.

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KEYWORDS: Cerebral palsy; body weight supported treadmill training; walking