



Impact of Cognitive Distraction on Six-Minute Walk Test and Gait Mechanics in a Patient With Functional Movement Disorder: A Case Report

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Introduction

- The term functional movement disorder is used to describe symptoms such as paralysis, weakness, tremor and dystonia that are not caused by a standard neurological disease and which are assumed to be due to psychological factors.^{1,2}
- Treatment is not well established and there are no established outcome measures for this condition.^{1,2,3,4,5}
- This case examines two different clinical approaches to the treatment of functional movement disorder and their effect on Six-Minute Walk Test outcomes:
 - Treatment 1: traditional gait training approach
 - Treatment 2: cognitive distraction, de-emphasis of gait mechanics

Background

- 28-year-old female who began experiencing abnormal L LE movement about 10 years ago
- Gait mechanics: Variable step length, decreased push off B/L, decreased heel strike B/L, crouched position with excessive knee flexion during mid stance, L hip internal rotation which switches at random to L hip external rotation
- Primarily uses manual wheelchair
- Ambulates short distances with forearm crutches - baseline 6MWT of 48ft.

Interventions

Traditional Treatment (months 0-8)	Use of Cognitive Distraction (month 9)
Bodyweight supported TM training	Pushing heavy (>200 lbs) cart
Dorsiflexion wrap to prevent foot drop	Removed dorsiflexion wrap
Focus on correcting gait mechanics	Walking with cognitive distraction
Mat level strengthening exercises: bridges, clamshells	Rebounder balance training
Use of FES to facilitate normalized contractions	Use of Wii for balance and endurance
No exercise bike	Exercise bike



Outcomes

Six-Minute Walk Test (Performed with Forearm Crutches)		
Baseline	Traditional Gait Training: After 8 months	Cognitive Distraction: After 1 month
46 ft	80 ft	263 ft

Discussion

- Physical therapy is often cited as an important treatment for functional movement disorders but little evidence for best practice exists
- This case study highlighted two different treatment approaches for functional movement disorder and their impact on walking endurance
- An approach de-emphasizing gait mechanics and focusing on cognitive distraction during standing/walking tasks led to improved walking endurance and standing time compared to a traditional gait training approach
- This case report suggests that cognitive distraction may be a viable form of treatment for patients with functional movement disorders

References

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