

# 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

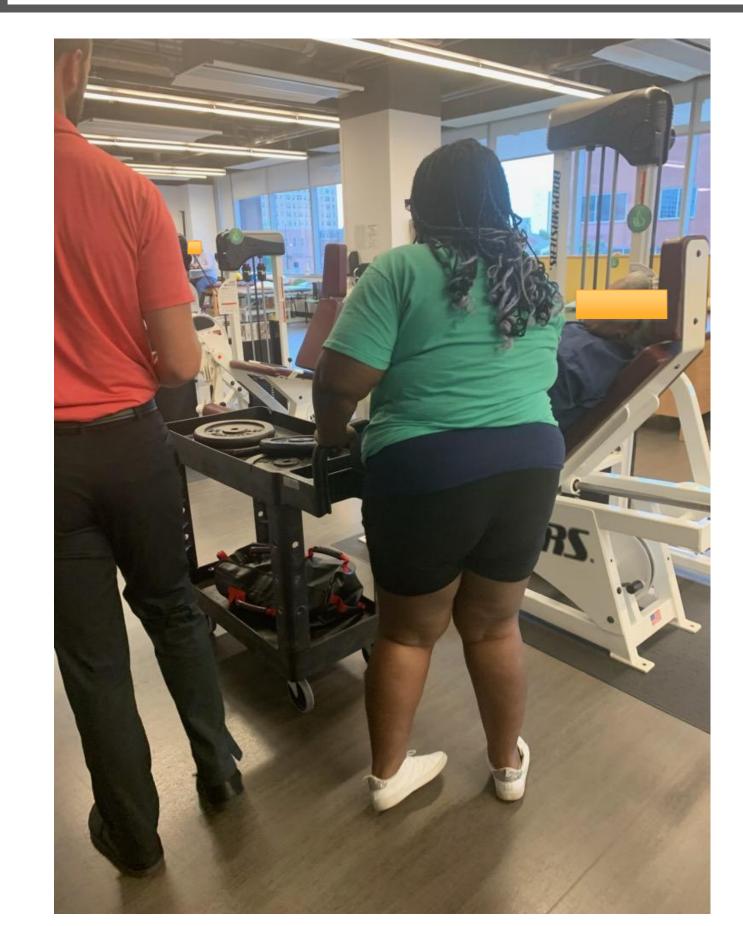
- The term functional movement disorder is used to describe symptoms such as paralysis, weakness, tremor and dystonia that are not caused by a standard neurological disease and which are assumed to be due to psychological factors.<sup>1,2</sup>
- Treatment is not well established and there are no established 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, deemphasis 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	Pushing heavy (>200 lbs)
TM training	cart
Dorsiflexion wrap to	Removed dorsiflexion
prevent foot drop	wrap
Focus on correcting gait	Walking with cognitive
mechanics	distraction
Mat level strengthening	Rebounder balance
exercises: bridges,	training
clamshells	
Use of FES to facilitate	Use of Wii for balance
normalized contractions	and endurance
No exercise bike	Exercise bike



# References

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### <u>Outcomes</u>

Six-Minute Walk Test (Performed with Forearm Crutches)		
	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