



Walk it like you talk it, like a champ with some amp

Sam Chukwuma SPT, Anne H. Boddy PT, DPT, NCS

BACKGROUND and PURPOSE:

Every year over 795,000 people in the United States have a stroke.¹ With such a large patient population, there is always a need for effective interventions.

Large amplitude movement in therapy is defined as “bigger movements in the limb motor system focused on sensory recalibration to help patients recognize that movements with increased amplitude are within normal limits.”² Large amplitude exercise programs are geared to facilitate neuroplastic changes resulting in a long-term effect on functional ability.³

The purpose of this case report is to measure the effectiveness of amplified movement therapy to improve functional balance and gait in a post-stroke patient.

CASE DESCRIPTION:

The patient is a 60-year-old male who presents to an outpatient rehabilitation facility s/p ischemic cerebrovascular accident (CVA), with bilateral vestibular hypofunction.

The patient’s vestibular dysfunction was assessed using:

- Head impulse test (HIT)
- Dizziness Handicap Inventory (DHI)

The patient’s Fall Risk was assessed using:

- Timed up and go test (TUG)

The patient’s balance and functional gait abilities was assessed using:

- Dynamic Gait Index (DGI)

METHODS:

Seated Exercise



Steps 1-4



Steps 5-6



Steps 7-8

Gait Intervention



Steps 1-2



Steps 3-4

RESULTS:

Outcome Measure Relevance	Outcome Measure	Initial Evaluation	8 week Assessment
Assess Patient’s Fall risk	Timed UP and Go (TUG)	30 SECONDS	22 SECONDS*
Individual’s ability to modify balance while walking in the presence of external demands.	Dynamic Gait Index (DGI)	10/24	14/24**
Evaluate the self-perceived handicapping effects imposed by dizziness.	Dizziness Handicap Inventory (DHI)	48	42

*Met MDC for TUG 2.9 sec
**Met MDC for DGI 4 points

CONCLUSION:

Following large amplitude movement exercises, participant was able to attain MDC for both TUG⁴ and DGI⁵ which shows effectiveness in producing progressive improvements in ambulation quality and distance as well as functional balance in the patient.

Although the MCID and MDC for the DHI were not met, the participant’s perception of handicap effects imposed by dizziness did improve.



CLINICAL RELEVANCE:

Implementation of large amplitude movement therapy during ambulation and functional activities was effective in yielding progressive improvements in ambulation quality, distance, and functional balance.

References:

