

A Task Oriented Approach for a Patient with Chronic Effects of Stroke: A Case Report

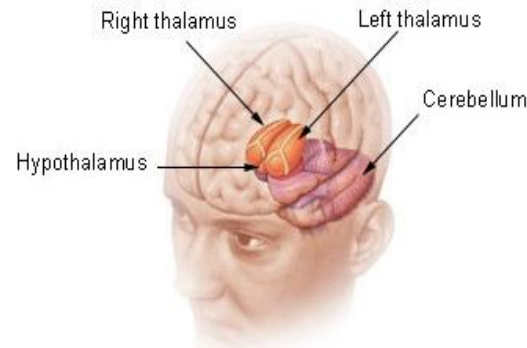
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Unique

Stroke is the leading cause of serious long-term disability for American adults.¹ Most stroke survivors receive physical therapy (PT) and task-oriented rehabilitation is one novel approach. This technique, which shifts the focus from the impairment level to activity level, is known to benefit stroke survivors.² However, the benefits for long-term survivors of stroke are not yet well established. PT professionals would benefit from learning about innovative interventions to improve functional mobility for long-term stroke survivors.

The rationale for this report was to document the outcomes of a task-oriented approach to rehabilitation on the late effects of stroke. The unique aims were to 1) outline possible benefits in function from repetitive task-oriented training techniques and 2) assess progress of a patient who had received continued PT services >12 months post stroke.



Source: <http://www.healthwatchcenter.com/2011/04/thalamic-stroke/>

Purpose

The purpose of this case report is to illustrate the outcomes of a task-oriented approach to PT interventions on a patient >12 months post stroke.

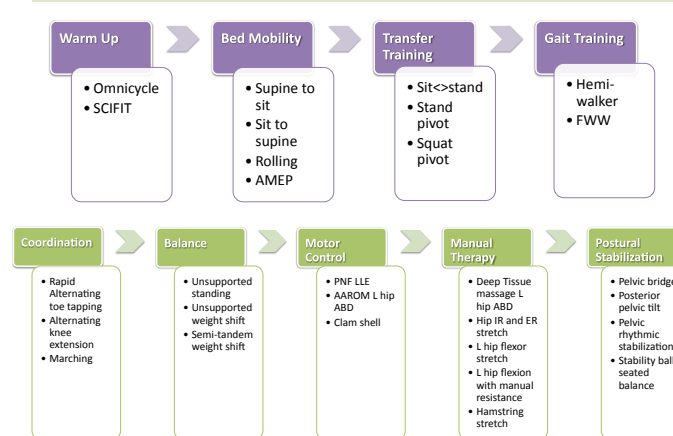
Foundation

- Normal movement emerges from the interaction of individual, task, and environment.
- This case outlines a task-oriented approach to rehabilitation designed to be meaningful to the patient and incorporate repetitive, functionally specific tasks and simultaneously treat underlying impairments negatively affecting function.
- Stroke survivors can continue to make measurable functional gains at a reduced rate for months or years after insult.³ Macko et al. suggest that task-oriented exercises have the potential to improve motor function even years after stroke.⁴

Description

- 82 years, ♀
- R thalamic hemorrhagic cerebrovascular accident (CVA) and R cerebellar hemorrhage
- **Outpatient PT** aimed to increase functional independence in activities of daily living (ADL's) and improve functional mobility and gait to decrease dependence on caregivers.
 - Outpatient PT services occurred twice weekly for 12 weeks
- **The patient's goal** was to walk five feet to access the toilet. On examination she required extensive assistance for all functional mobility and maximum assist for gait.
- **The system review** revealed left sided weakness, sensory deficits, and impaired coordination and balance.
- **Procedural interventions** included therapeutic exercise, manual therapy techniques, functional training, gait training, assistive device training, and electrotherapeutic modalities.
- **The progression of interventions** initially included a strong focus on task specific training for function with bed mobility and transfers and evolved to include interventions to address underlying impairments.
- **Therapeutic exercises** addressed coordination, postural stabilization, balance, and motor control.

Interventions



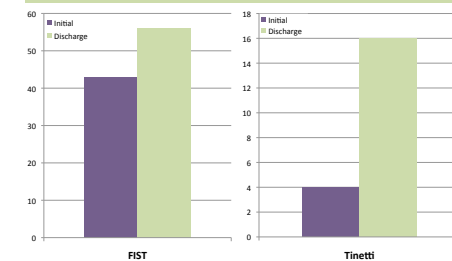
Objective Measures

| | Initial | Discharge |
|---------------------------|--------------------------------------|--------------------------------------|
| Right Hamstring Strength | 4/5 | 4+/5 |
| Left Hamstring Strength | 3+/5 | 3+/5 |
| Right Quadriceps Strength | 4/5 | 5/5 |
| Left Quadriceps Strength | 3+/5 | 4/5 |
| modified Gait Speed | .12 ft/s mod A with hemi-walker | .16 ft/s CGA with hemi-walker |
| Modified Ashworth Scale | 1+ Quadriceps, gastroc/soleus | 1+ Quadriceps, gastroc/soleus |
| Brunnstrom | Stage V LLE extensor synergy pattern | Stage V LLE extensor synergy pattern |

Observations

- Improvements in balance and functional mobility on the Tinetti (4/28 to 16/28), Function in Sitting Test (43/56 to 56/56), and reduced level of assistance for mobility were noted.
- Most of the short and long-term goals were achieved and the family reported significant improvement in her ADL's.
- Based on the time since onset, she was unlikely to experience restoration of function at the physiological level.
- According to Lee et al. on the effects of hemorrhagic stroke lesions on motor recovery, progress was noted for up to six months before plateauing.⁵
- However, this patient was able to achieve independent bed mobility, improve sitting and standing balance, increase her walking distance and decrease the level of assistance needed (from max to contact guard) with improved quality of gait.

Functional Outcome Measures



Conclusion

This case challenges the idea that significant benefits in chronic stroke related deficits are not possible and highlights how PT can potentially improve function for an individual who had not yet achieved functional gait. Research is needed on the outcomes of PT on the chronic effects of stroke in randomized, controlled trials.

Acknowledgements

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