UNIVERSITY OF ST. AUGUSTINE
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Application of Forced Use in a Traditional Acute Hospital Setting with a 77-year-old Female Post Left CVA

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BACKGROUND & PURPOSE:

Every year in America more than 795,000 people have a Cerebral vascular accident (CVA), commonly known as Stroke.[1] On average, someone dies of a stroke every 3 minutes 45 seconds, and it accounts for approximately 1 of every 19 deaths in the United States.[2,3] Along with significant mortality rates, research indicates the mean expense of a CVA is estimated at $6,574.345 per patient.[4] The permanent impairments this condition can leave are often treated by physical therapists.

The purpose of this case report is to look at the positive outcomes following the application of forced use physical therapy techniques in the traditional acute hospital setting with a 77-year-old female post left CVA.

CASE DESCRIPTION:

Patient presentation in emergency department (ED) :	• 77-year old female • R facial droop • change in ambulation • slurred speech and worsened cognition
Significant past medical history of:	• hypertension, thyroid disorder, breast cancer, and mild dementia.
Patient's MRI report stated:	• positive for an acute infarct involving the left basal ganglia, left deep central white matter and left occipital lobe.
During the initial examination, patient presented with:	• expressive aphasia • balance deficits • right sided neglect/inattention • gait abnormities.

METHODS:

Forced Use Sit to Stand Exercise

Forced-use training/therapy (FUT) is a treatment strategy intended to force use of the more affected limb for better performance of functional tasks.[14] Since forced-use therapy requires the patient to increase use of the affected limb through rigorous practice of task-oriented activities, it can prevent future functional deficits and dysfunctions in the post-stroke population.[14]

RESULTS:

Functional Impairment	Tests and Measures	Initial Examination Findings	Discharge Findings
Sit to stand transfer	Transitional mobility assessment[22]	Severe (L) lateral lean upon standing, (R) sided inattention/Neglect MIN Assist x1 required	Mild (L) lateral lean upon standing, (R) sided inattention/Neglect Supervision assist
Impaired Balance	Balance assessment[22]	Static sitting: Fair Dynamic sitting: Fair Static standing: Fair Dynamic standing: Poor (LOB without fall during mobility)	Static sitting: Normal Dynamic sitting: Good Static standing: Good Dynamic standing : Fair (No LOB during mobility)
Gait	Rancho Los Amigos Observational Gait Analysis[22]	Severe (R) sided inattention/Neglect NBOS ↓ Initial contact ↓ Mid-swing Significantly decreased cadence	Moderate (R) sided inattention/Neglect NBOS ↓ Initial contact ↓ Mid-swing Moderately decreased cadence

OUTCOME MEASURES:

Outcome Measure	Initial Examination/Treatment Session	Last Treatment Session
Acute Care Index of Function (Overall)	0.2433	0.3863
Acute Care Index of Function (Transfer subtest)	0.5	0.875

CONCLUSION:

A primary difference between previous studies on forced-use training and this case report is the amount of time elapsed before initiation of forced use. Previous studies, did not implemented forced use training until between 3-70 months post CVA.[12,15,16] The outcomes noted in this case report display objective success when applying forced-use techniques within 48 hours post-stroke. The patient in this case report showed improvement in her Acute Care Index of Function (ACIF) score. Additionally, improvements were noted in gait, balance, and transfers leading her to progress toward returning to her role as a mother.

CLINICAL APPLICATION:

This case report demonstrates that forced-use therapy can be successfully applied in the traditional acute hospital setting for patients immediately post CVA.

RESOURCES: