

Appendix

Table 1. Falls Efficacy Scale Scores

Activity	Score		
	1/26/11	2/14/2011	3/4/2011
Take a bath or shower	3	5	5
Reach into cabinets or closets	3	5	3
Walk around the house	3	4	5
Prepare meals not requiring carrying heavy or hot objects	2	3	5
Get in and out of bed	2	1	1
Answer the door or telephone	3	4	3
Get in and out of a chair	2	4	2
Getting dressed and undressed	2	3	5
Personal grooming (ie. Washing your face)	1	1	1
Getting on and off the toilet	2	2	4
TOTAL SCORE	23	32	34

Key: 1= very confident, 10= not confident at all. A score greater than 70 indicates a fear of falling.

Table 2. Activities-specific Balance Confidence Scale Scores

How confident are you that you will not lose your balance or become unsteady when you...	1/26/2011	2/14/2011	3/4/2011
1. ...walk around the house?	90%	50%	75%
2. ...walk up or down the stairs?	0%	0%	50%
3. ...bend over and pick up a slipper from the front of a closet floor?	0%	0%	50%
4. ...reach for a small can off a shelf at eye level?	100%	75%	75%
5. ...stand on your tiptoes and reach for something above your head?	0%	0%	0%
6. ...stand on a chair and reach for something?	0%	0%	0%
7. ...sweep the floor?	10%	0%	0%
8. ...walk outside the house to a car parked in the driveway?	80%	50%	80%
9. ...get into or out of a car?	0%	75%	75%
10. ...walk across a parking lot to the mall?	0%	25%	75%
11. ...walk up or down a ramp?	10%	25%	75%
12. ...walk in a crowded mall where people rapidly walk past you?	70%	15%	50%
13. ...are bumped into by people as you walk through the mall?	80%	10%	50%
14. ...step onto or off an escalator while holding onto a railing?	0%	0%	0%
15. ...step onto or off an escalator while holding onto parcels such that you cannot hold onto the railing?	0%	0%	0%
16. ...walk outside on icy sidewalks?	50%	10%	50%
TOTAL SCORE	26.3%	20.9%	44.1%

Key: 0% indicates no confidence in successful completion of the activity, 100% indicates complete confidence. Scores < 50 indicate a low level of functioning, scores between 50 and 80 indicate a medium level, and > 80 indicate a high level of functioning.

Table 3. Manual Muscle Testing of the Lower Extremity

	LEFT		RIGHT	
	Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
HIP				
Flexion	4+/5	4-/5	4+/5	4+/5
Extension	2/5	2/5 (3° of ext noted)	2/5	2/5 (5° of ext noted)
Abduction	2/5	2/5 (-3° from neutral)	2/5	2/5 (-5° from neutral)
KNEE				
Flexion	4+/5	4+/5	4+/5	4+/5
Extension	5-/5	4+/5	5-/5	5/5
ANKLE				
Dorsiflexion	NA	NA	4/5	4+/5
ABDOMINALS	2/5		3/5	

Table 4: Range of Motion values

Date	Bridging	L SL hip ABD	R SL hip ABD
2/11/2011	-31.5°	-18°	-5°
2/14/2011	-18°	-10°	-3°
2/18/2011	-18°	-----	-----
2/23/2011	-12°	-----	-----
2/28/2011	-15°	-10°	-8°
3/3/2011	-18°	-3°	-5°

Key: Negative numbers indicate that the patient was not able to achieve neutral.

Table 5. Weekly Exercise List

	Gait Training	NU step	Progressive resistive Exercises	Balance and Core
Week 1	Gait training with parallel bars and LBQC, Side stepping, SLS stepping	Not performed	Abdominal isometric bracing 10x, 2 reps Bridging, Hip ABD and clamshells, standing hip extension 10x/leg, 3 sets	Not performed
Week 2	Gait training with wheeled walker and LBQC and parallel bars,	10 min, level 4	Abdominal isometric bracing 10 x, 2 reps Bridging, Hip ABD and clamshells, standing hip extension 10x/leg, 2 sets	Theraball exercises, 10x in each direction
Week 3	Gait training in parallel bars and wheeled walker	10-15 min, workload 5-6	Abdominal isometric bracing 10 x, 2 reps Bridging, Hip ABD and clamshells, standing hip extension 10x/leg, 2 sets	Theraball exercises, 10x in each direction and Concentric abdominal rotations

Week 4	Gait training with parallel bars, wheeled walker, SBQC, and cane. Side stepping and carioca in parallel bars	15 minutes, workload 6	Bridging, Hip ABD and clamshells, standing hip extension 10x/leg,	Standing abdominal crunches 20x/side
Week 5	Gait training with wheeled walker, SBQC, SLS Stepping, Stair training with rail and cane	15 minutes, workload 7	Bridging, Standing hip extension, Concentric sit-ups, Concentric sit-ups with trunk rotation	Standing diagonal orange ball lifts and Reach and pass with weighted ball and Weighted ball toss with alternating trunk rotation

Table 6. Operational definition of exercises

	Description
<i>Gait training exercises</i>	
Gait training with assistive device on static surface	Ambulation with assistive device progressing from a walker→LBQC→SBQC→single point cane. With a cane the assistive device was placed in the right hand and progressed from a 3-point to a 2-point gait pattern. Verbal and manual cues provided as necessary when compensations were present (ie. Upright posture, even step length, use of sequencing with cane, assisting with rotation at pelvis, assisting with weight shifting to left). Contact guard assist was given when progressed to a less restrictive device or when patient appeared to be unsteady.
Parallel bars SLS with continuous stepping	SLS on one LE with forward and backward stepping of swing leg. Bilateral hand use (progressed to R hand use only) on parallel bars with manual cues to lighten grasp. Manual facilitation at pelvis for symmetry and neuro red.
SLS Stepping	SLS with step up of swing leg onto a 4 inch step. Patient progressed from 2 rails to 2 fingers.
<i>Progressive Resistive Exercises</i>	
Side stepping (with squats for progression)	Performed at hemi-bar with B handhold. Patient standing and side-stepping laterally
Abdominal isometric bracing (with unilateral leg lift for progression)	Performed in hook-lying position patient performed a posterior pelvic tilt by activating abdominals with a 3 second hold.
Bridging	Performed in hook lying position. Patient extended hips to as close to neutral as possible while lifting buttocks off the table. 10x, 2 reps, 30 sec rest
Hip abduction	Performed in side lying position.
Clamshells	Performed in side lying with hips and knees flexed to 45 degrees. Patient instructed to lift top knee from bottom knee while keeping feet together.
Hip extension	Performed in standing at hemi-bar, progressing from B handhold to two-finger touch. While remaining upright, SLS on one LE with hip extension as

	far as possible without compensations in opposite leg.
Balance and strengthening exercises	
Theraball exercises	Sitting on a blue theraball with B LE on ground. Ankles and knees stable, while using abdominals to move pelvis anterior ↔ posterior, medial↔lateral, clockwise, and counterclockwise circles, and figure 8. 10x in each direction.
Concentric abdominal rotations	Sitting on a blue theraball with B LE on ground performing trunk rotations to each side against the resistance of a blue theraband. Progression to burgundy theraband. 10x/side
Carioca	Performed in standing, side stepping in parallel bars with B UE hold, alternating between crossing one LE in front of and behind the other while moving sideways.
Standing abdominal crunches	Standing with abdominal crunch and twist to alternating sides, against the resistance of a theraband from above. 20x/side
Concentric sit-ups	Hook lying position, performing situps with reach forward, forward right trunk rotation, and forward left trunk rotation. 10x to each side
Concentric sit-ups with trunk rotation	Hook lying position with trunk rotation until legs are resting on mat. Performed with legs to each side with concentric situp. 10x/ to each side
Standing diagonal orange ball lifts	B stance with passing a 4# weighted ball from high to low diagonally each side. 10x/side
Reach and pass with weighted ball	B stance with reaching and passing 4# weighted ball in all directions.
Weighted ball toss with alternating trunk rotation	B stance with 4# weighted ball catch and toss with alternating trunk rotation.