Occupationally-Based Neurorehabilitation: A Case Study Report

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Note: This document describes a Capstone Dissemination project reflecting an individually planned experience conducted under faculty and site mentorship. The goal of the Capstone Experience is to provide occupational therapy doctoral students with unique experiences whereby they can demonstrate leadership and autonomous decision-making in preparation for enhanced future practice as occupational therapists. As such, the Capstone Dissemination is not formal research.
Abstract

According to the National Stroke Association, stroke is the third leading cause of death in the United States and the number one cause of disability in adults (Retrieved on March 27th 2008 from [http://www.stroke.org](http://www.stroke.org)). Recovery following stroke can be a life long process, with early engagement in everyday occupations leading to improved outcomes ([www.stroke.org](http://www.stroke.org)). The deficits one experiences after a stroke depends on the location of the brain that was affected, as well as the severity of the stroke. This case study describes the course of occupational therapy of a woman who experienced a stroke. Prior to her stroke, this client used excessive drinking to help cope with her depression and stress from her job. Occupational therapy services focused on improving coping strategies and integration of the hemiplegic arm and hand, into occupations requiring reach, grasp, and manipulation.

A recent case study published in the [British Journal of Occupational Therapy](http://www.stroke.org) illustrates the impact of emotional changes on the performance of occupations. The case study also illustrates that perceived competence in the performance of occupations can affect emotions, either negatively or positively. The results of the study suggest to a need for occupational therapists to consider and address the effects of emotional changes with people who have had a stroke (George, Wilcock, & Stanley, 2001). The present case study is unique in that the client had a history of relying on unhealthy coping strategies that included excessive drinking to deal with the stress that she related to her job along, with having a history of depression. Now the
client is facing additional stressors as she is faced with further exacerbation of stressors and adjustment issues resultant of her stroke.

**Introduction**

**Background Information**

The client is a 64 year old female who was found to have significant anemia with hemoglobin of 5.3 on January 14, 2008 was directly admitted to the hospital. The client reported experiencing excessive fatigue for 5-6 months prior to her stroke as a result of walking from the parking lot into the hospital, where she worked. She would become dyspneic, needing to stop to rest due to shortness of breath when walking. The client worked as a unit secretary at the hospital and described her job as “stressful.” The client reported drinking 3-4 glasses of wine daily in an attempt to relax.

The client developed a change in mental status, severe dysarthria, and left sided weakness and incoordination while being prepped for a colonoscopy. Results from the MRI revealed a diffuse abnormality in the right hemisphere and the client was diagnosed by her neurologist with right middle cerebral artery occlusion. It is unclear as to whether her anemia, the stress from her job, her unhealthy coping mechanism of drinking, or a combination of all of these could have been contributing factors leading to her stroke.

After spending 8 days in the Neurological Intensive Care Unit (NICU), the client was transferred to the acute care unit on January 22, 2008. Occupational, physical and speech therapy evaluations were completed. Results from the occupational therapy evaluation revealed left sided incoordination and weakness, decreased sensation to light touch and proprioception
throughout the left upper extremity, left sided facial weakness, flaccid left hand, left sided neglect, depressed mood, flat affect, and emotional lability. No problems were noted in the areas of cognition on the evaluation. The focus of occupational therapy intervention was on improving sensorimotor skills due to her left hemiplegia. Prior to her CVA, the client had a history of depression and drank alcohol to cope with the stress from her job. The client decided to retire following her stroke. The client has been married for 47 years and was planning a trip to Las Vegas for her wedding anniversary two weeks following the onset of her stroke. The client’s husband was concerned about the amount of alcohol the client was consuming prior to her stroke and did not want his wife to return home until she felt capable of coping with the residual effects of her stroke effectively.

On February 9, 2008, the client was discharged home from the in-patient rehabilitation hospital. The client demonstrated improvements in the areas of occupations of daily living (ODL), instrumental occupations of daily living (IODL), transfers, movement in her left upper extremity, and ambulation using a straight cane between the time of admission and time of discharge. The client demonstrated a continued need for occupational therapy upon discharge from in-patient rehabilitation and participated in home therapy services due to lack of transportation. The client’s husband and daughter-in-law play a major role in providing supportive resources for the client.

**Model of Practice**

At the center of occupational therapy is the commitment to focus on the client as an active agent seeking to accomplish important everyday occupations. Carl Rogers (1939) first described the Client Centered Model of Practice as nondirective and focused on concerns
expressed by the client. The Client Centered Model of Practice is based upon the theory that the practitioner and client engage in the therapeutic process collaboratively. Using this model, practitioners must be willing to develop a relationship with the client that encourages them to improve their life in ways that are most meaningful to them. Practitioners strive to understand the client as a person in a context consisting of family and friends, socioeconomic status, and culture. Using this model, practitioners strive to understand feelings and intentions, as well as the deeper meaning of people’s lives (Crepeau, Cohn, Boyt Schell, 2003).

There are three areas of occupational performance using the Client Centered model that relate to the Conceptual Framework of Therapeutic Occupation (Nelson, 1994). Using this framework, occupational performance is the active doing of the person in the context of the occupational form. The occupational form is the objective set of physical and sociocultural circumstances, external to the person, at a particular time. The occupational form guides, structures, or suggests what is to be done by the person (Nelson & Thomas, 1993). The client rates occupations in the areas of performance and satisfaction.

The Canadian Model of Occupational Performance which consists of three concentric rings states that occupational performance consists of self-care, productivity and leisure and depends on capabilities of the individual in the physical, mental, social and spiritual components. Occupational performance is influenced by factors beyond the individual, such as the environment, the developmental level and the roles one occupies. Occupational performance is an experienced phenomenon, rather than an observed phenomenon and is a feature of humans regardless of age, gender or disability (Law, Baptise, Carswell, McColl, Polatajko, Pollock, 1994).
The Bobath Approach to Neurodevelopmental treatment (NDT) was used as a treatment approach in conjunction with the Client Centered Model of Practice and the Canadian Model of Occupational Performance. K. Bobath and B. Bobath (1940) developed this treatment approach to normalize movement patterns in adults with acquired hemiplegia. This approach focuses on postural alignment and normalization of movement patterns based upon the normal developmental sequences as the brain recovers following stroke. A principle of the NDT approach is that the postural system works as a whole and therefore, the therapist must assess and treat the whole person. NDT techniques are intended for more than just the movements of an arm or leg. The client is encouraged to use both sides of the body and one of the central principles of NDT is alignment and asymmetry of the extremities. B. Bobath developed methods of intervention for inhibiting abnormal reflex activity and normalizing muscle tone and for facilitation of normal patterns of movement on the hemiplegic side of the body (Trombly & Radomski, 2002).

The intervention includes the gradual withdrawal of direct input by the therapist, leading to gradually increasing independence. This model includes an evaluation and interventions tailored to meet the individualized needs of the patient, family education on positioning and how to integrate the hemiplegic side into occupations, and teamwork amongst therapists. The overall goal of treatment is to enhance the individual’s capacity to regain independence in ODL’s and IODL’s (Pedretti & Early, 2001).

Scientific Evidence for MOP

Scientific evidence has been published demonstrating the effectiveness of the application on the Client Centered Model of Practice within the field of occupational therapy. Phipps &
Richardson (2007) found a statistically and clinically significant improvement in self-perceived performance and satisfaction in occupational performance upon completion of a client-centered occupational therapy program. There were no significant differences in occupational performance and satisfaction between the traumatic brain injury and stroke groups. The group with right CVA however, reported a higher level of satisfaction with performance in daily occupations of living than the group with left CVA.

The Canadian Occupational Performance Measure (COPM) is an individualized measure designed for use by occupational therapists to detect self-perceived change in occupational performance problems over time (Law, Baptise, Carswell, McColl, Polatajko, & Pollock, 1993). It was designed to be used as an outcome measure and for use with clients with a variety of disabilities, across all developmental stages. The COPM has a semi-structured interview format and structured scoring method. McColl et al. (2005) found that The Canadian Occupational Performance Measure (COPM) is an outcome measure designed to assess performance and satisfaction with occupation. The COPM can effectively assist clients with neurological impairments in identifying meaningful occupational performance goals. The COPM is a tool used to identify client goals. The occupational therapist also can use the COPM to design occupation-based, client-centered intervention programs and measure occupational therapy outcomes (Phipps et al., 2007).

The COPM was developed to coincide with the occupation-focused, client centered Canadian Model of Occupational Performance. The purpose of the study was to determine how the COPM influenced occupational therapy practice over the past 15 years and pervaded the consciousness of occupational therapists around the world (McColl et al., 2005). The authors examined the efficacy of the COPM in targeted clinical and non-clinical settings. The study
validated the central focus of the Client Centered Model of Practice, and the flexibility and adaptability of the COPM to different situations, clients, settings and purposes. The study found that the Client Centered Model of Practice ensures high quality of information about the client from the COPM in all situations (McColl et al., 2005).

**Rationale for this MOP with this Case**

From the initial evaluation, the client demonstrated good insight into her limitations, expressed what skills she wanted to address during intervention, and expressed her self-identified goals in occupational therapy. The client displayed good initiative in her participation, and expressed interest in her occupational therapy treatment. The client was willing to share her life story with the student, including what she finds meaningful in her life. Being able to perform ODL’s, IODL’s, going to the movies and church, along with babysitting her grandchildren are all aspects that the client finds meaningful to life. The student listened to the client as she told about her life experiences and expressed her feelings as she was transitioning into her life roles as homemaker, without reliance upon alcohol for coping, and retiree. The Client Centered Model of Practice is an appropriate model of practice to utilize when addressing coping skills for dealing with daily living on a day-to-day basis. The student addressed the ineffective choices that the client has made in the past with regard to her use of alcohol as an ineffective method of coping.

**Evaluation: Resumption of Occupational Therapy**

The neuropsychologist completed a neuropsychological evaluation as the client had been tearful since the onset of her stroke. The client expressed concern that she might be “going crazy.” The client’s level of anxiety decreased when the neuropsychologist educated her
regarding emotional lability as a common manifestation following stroke that lessens over time as the brain recovers. Based upon the results of this evaluation, an antidepressant medication was prescribed to help stabilize the client’s mood as she progresses through her long process of recovery.

In addition to the neuropsychological evaluation that was completed, the occupational therapy student administered the standardized COPM to the client. The client was able to select occupations in which she wants to engage, needs to master, and is expected to engage in the areas of self care, productivity, and leisure. One week later, the COPM was re-administered to the client. Scores suggested a significant increase in both performance and satisfaction scores. When the results were discussed with the client, she indicated that these improvements in her scores were pleasing to her.

The Stroke Impact Scale (SIS) (Duncan, Wallace, Lai, Johnson, Embretson, Laster, 1999) was also completed with the client. The scale is a 64-item questionnaire that is self administered, with each item scored on a 5-point Likert scale, and assesses 8 domains: strength, hand function, ODL/IODL’s, mobility, communication, emotion, memory and thinking, and participation. The Stroke Impact Scale includes a visual analog scale where the client estimates their recovery from the stroke by percentage. The SIS shows good reliability and validity. It is a good clinical measure because it is responsive to changes in patient’s ability over time (Duncan et al., 1999). When the occupational therapy student reviewed the SIS, it was noted that the client did not complete three of the pages. The impact scale pages that were not completed were returned to the client who was unaware that she had missed those pages. The client answered the remaining questions and returned the scale to the occupational therapy student when completed. The client completed two of the pages, leaving one page blank, again due to her lack of awareness. The
occupational therapy student sat down with the client and asked her the remaining questions in order to complete the entire SIS.

**Goal Setting**

**Goals Identified by the Client**

Occupational therapy goals for the client were based on the results of the Canadian Occupational Performance Measure which was administered to the client as part of the initial occupational therapy evaluation.

1. **Goals**
   a. **LTG- Independent with ODL’s**
      i. **STG- Independent with getting dressed**
      ii. **STG- Independent with bathing/showering**
   b. **LTG- Independent with IODL’s**
      i. **STG- Independent with meal preparation**
      ii. **STG- Independent with laundry tasks**
   c. **LTG- Demonstrate an understanding and application of effective coping skills in everyday life.**
      i. **STG- Demonstrate healthy coping strategies**
      ii. **STG-Demonstrate ways to cope with stress**
      iii. **STG- Demonstrate ways to cope with depression**
   d. **LTG- Community Integration**
      i. **STG- Be able to go out to eat**
ii. STG- Go to the movies

iii. STG- Go to church

e. LTG- Return to Leisure Occupations

i. STG- Be able to baby-sit grandchildren

**Occupational Therapy Goals**

The client participated in inpatient occupational therapy intervention two times a day for 45 minute treatment sessions for 3 weeks to address the following occupational therapy treatment intervention goals.

**Dressing**

1. Justification- The client demonstrated left sided hemiplegia and decreased dynamic standing balance which was affecting the client’s ability to don a pull over shirt and stand to pull her pants over her hips. It was important to the client that she get dressed in different clothing each day therefore, the client was encouraged to walk to the closet to retrieve her clothing.

2. Goals

   a. LTG- The client will independently don/doff a pullover shirt, socks, and pants using hemiplegia dressing techniques.

   b. STG- The client will don shirt with minimum assistance and minimal cues for hemiplegic dressing technique by the end of week 1 of therapy.

   c. STG- The client will don socks with SBA by the end of week 1 of therapy.

   d. STG- The client will don pants with minimum assistance to pull pants over hips and maintain balance in standing by the end of week 2 of therapy.

**Bathing/Showering**
1. Justification- The client demonstrated difficulty using her hemiplegic left upper extremity to complete bathing/showering occupation. The client had difficulty holding a bar of soap in her hands, difficulty getting the soap on the washcloth, as well as difficulty opening the shampoo bottle. The client also demonstrated decreased balance to stand to complete her lower extremity bathing. It was important for the client to be able to safely and independently take a shower so her husband did not have to help her with this personal occupation.

2. Goals
   a. LTG- The client will independently bathe/shower demonstrating compensatory bathing techniques and using appropriate adaptive equipment needed for safety.
   b. STG- The client will transfer into the shower using the tub bench with minimum assistance by the end of week 1 of therapy.
   c. STG- The client will bathe/shower with minimum assistance using adaptive equipment by the end of week 2 of therapy.

Meal Preparation

1. Justification- The client was responsible for the meal planning and preparation for her husband. The client demonstrated difficulty opening up packages, reaching items out of cupboards, and grasping/holding objects in affected arm. The client reported that she wanted to make something that she could give to her co-workers in order to show them what she is capable of doing and to give them something as an appreciation for their support. The client reported that she makes coffee everyday at home and it was important for her to be able to make a pot of coffee by discharge. The client also
reported that she wanted to be independent with cooking because she hoped to return to cooking the meals for her husband at home.

2. Goals
   a. LTG- The client will be independent with simple meal preparation by discharge from inpatient rehabilitation.
   b. STG- The client will prepare one food item in the OT kitchen with minimum assistance and minimum cues for safety by the end of week 2 of therapy.
   c. STG- The client will prepare a hot beverage in the OT kitchen with minimum cues for safety and SBA by the end of week 2 of therapy.

Laundry Management

1. Justification- The client had difficulty with bilateral upper extremity tasks and demonstrated decreased balance to stand without upper extremity support. It was also difficult for the client to reach the box of soap off the shelf with both hands due to the weight of the box. She also had some difficulty figuring out how to work the washing machine in order to complete the occupation.

2. Goals
   a. LTG- The client will independently complete a load of laundry by the end of inpatient rehabilitation.
   b. STG- The client will load the washing machine with minimum assistance and minimum cues for adaptive techniques by the end of week 2 of therapy.
   c. STG- The client will load/unload dryer with SBA for balance by the end of week 2 of therapy.

Coping
1. Justification- The client used excessive drinking as an unhealthy coping mechanism to stress and depression prior to having a CVA. The client’s husband was concerned about the client coming home following discharge from the inpatient rehabilitation hospital due to her previous drinking problems.

2. Goals
   a. LTG- The client will be able to identify and demonstrate healthy coping strategies by the end of inpatient rehabilitation.
   b. STG- The client will be able to identify and demonstrate three ways to cope with stress by the end of week 1 of therapy.
   c. STG- The client will be able identify and demonstrate three ways to cope with depression by the end of week 2 of therapy.

Community Integration

1. Justification- The client really enjoys going out and spending time with her husband. It is important for the client to get out into the community and continue enjoying going out to dinner, going to the movies, and going to church.

2. Goals
   a. LTG- The client will be able to independently and effectively plan out the process and potential limitations of going out into the community and ways to overcome those barriers.

Return to Leisure Occupations

1. Justification- The client enjoyed spending time with her grandchildren and would assist her family by baby-sitting them frequently. The client demonstrated left sided
hemiplegia which was affecting the client’s ability to pick up her grandchildren and hold them.

2. Goals

a. LTG- The client will independently demonstrate safe and effective ways to pick up and hold heavier items by incorporating her hemiplegic side.

Interventions

NDT was the approach to treatment intervention what was used with this client. The approach is based on the development of normal alignment and mobility that gradually develops as the brain develops of recovers. The focus of treatment was increasing independence with occupational performance skills and improving movement patterns on the hemiplegic side. NDT techniques are designed to increase occupational performance while preventing unilateral neglect, postural asymmetry, and associated reactions. Re-assessment of the client’s response to treatment was on-going, with modifications made immediately according to the client’s response. Additional principles of NDT that were used with the client consists of working with the family to teach them how to handle the client during occupations through integration of hemiplegic side into occupations by inhibiting abnormal movement patterns and facilitating normal movement patterns and teamwork between disciples. NDT treatment for this higher-level client focused on improving coordination of the hemiplegic arm and hand, required for reach, grasp, and manipulation, and decreasing compensation. During treatments, the occupational therapy student always addressed the client on the affected side in order to improve her unilateral neglect.

The occupational form used in a series of therapeutic interventions consists of the occupational therapy kitchen. The client utilized the kitchen in order for her hot beverage
preparation, baking, practicing kitchen mobility reaching into cupboards and retrieving items, getting items out of the refrigerator and freezer and transporting those items to different areas of the OT kitchen. The OT shower/bathroom was another occupational form that was introduced early in therapy. This particular occupational form was used daily by the client for bathing/showering and dressing occupations.

**Occupational Analysis of One Occupational Treatment Session**

**Occupational Form**

For the occupation of “baking cookies for others,” the important occupational forms included an electric stove, a 9 x 13in. baking pan located in the kitchen cabinet above the microwave sitting on the counter, a wooden spoon located in a cluttered drawer full of cooking utensils and eating utensils, a large glass bowl located in the kitchen cabinet above the sink. One box of chocolate chip cookie mix that was located on top of the kitchen counter. A paper plate located in the cabinet above the sink, egg located in the refrigerator next to the microwave, aluminum foil in a box in a cabinet under the microwave.

**Occupational Performance**

The client looked at the oven trying to figure out how to preheat the oven and required minimum assistance from student therapist on how to turn on the oven and to watch her head for hitting the overhead part of the oven. The client retrieved the baking pan from the cabinet incorporating use of her left upper extremity and placed it on the counter with minimum assistance to get pan out and hold onto her cane with her right hand. The client walked over to the refrigerator with fair dynamic standing balance with use of a standard cane and grabbed out one egg and placed in on the kitchen counter making a cautious effort to not let the egg roll off onto the floor. The client propped her cane on the edge of the counter and attempted to use both
hands by holding the box with her left hand and using her right hand to open the box of cookie mix. The client required minimum assistance with scissors to open the inside plastic bag with her right hand after she realized it was too difficult to open. With minimum assistance of the student therapist for balance to reach outside her base of support, the client was able to reach into the cabinet and get out a measuring cup. She then placed the measuring cup on the counter as she side stepped over to the sink to turn on the water holding onto the counter with both hands.

Next, she began to stir the mix with her right hand and using the left hand to hold onto the bowl as she stirred. The client required minimum assistance to get the batter off the wooden spoon and for proper spacing on the baking pan as the client neglected the left side of the pan. The client then set the timer on the oven for 8 minutes with some cues on how to set it correctly. Initially it was difficult for the client to find the timer because it was on the left side of the oven and the client demonstrated slight left sided neglect. When the timer went off the client stood up slowly holding onto her standard cane, she walked over to the oven to get the cookies out. The client required moderate assistance from the student in order to keep the oven door open as it was heavy for her to open the first time. The student therapist retrieved the box of foil for the client in order for her to wrap the cookies up. The client ripped off a piece of aluminum foil with some assistance not to cut her fingers on her left hand on the sharp edge of the box due to her inattention to her left side. The client then walked back to her wheelchair and the student therapist gave the client the plate on cookies to hold on her lap.

Next, the student therapist then rolled the client in her wheelchair down one floor of the hospital where she worked. The client was fatigued from the cooking occupation and asked if the student would help her go down one floor. The client then provided her old co-workers the plate of cookies she had just made. The client received a number of hugs from old co-workers.
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and were surprised at the fact the client baked the cookies. The client stated that she was glad that she did that and it made her feel good to see her old co-workers and to be able to do something for them.

*Meaning and Purposes Inferred*

The client acknowledged the importance of completing the occupation-based tasks of dressing, bathing/showering, meal preparation, and laundry management in order to return to independent living at home. The client saw the therapy session of baking cookies as an opportunity to make something for her co-workers as a token of appreciation for their support.

*Impacts*

The client was able to integrate her left upper extremity into the occupation as well as maintaining fair dynamic standing balance throughout the cooking occupation with use of a standard cane. The client required minimum cues to attend to her left side during some portions of the occupation.

*Assessment*

The client demonstrated some left sided neglect as she was unable to locate the oven timer located on the left side of the oven, but the client was able to find it with increased time and some cues to scan the whole oven. The client was able to successfully complete the baking occupation and deliver the cookies to her co-workers.

*Adaptations*

The client gained increased insight into her physical limitations and left side neglect which played a role in completing her everyday occupations. She understands the need to scan and turn her head to left in order to become more aware of the environment to her left.
Compensations

The client used a pair of scissors to open the plastic bag of cookie mix once she realized it was difficult to open using only her right hand. She used the scissors to compensate for her decreased movement and strength in her left hand in order to open the bag.

Re-Synthesis

The student therapist had planned on having the client prepare another hot food item in the OT kitchen which required the client to use bilateral hands to complete along with placing cooking items on the left side of the client requiring the client to tend to the left side of her environment more.

Outcomes

1. Dressing- The long term goal was met. The client was able to independently get dressed and pull her pants over her hips.
2. Bathing/Showering- The long terms goal was met. The client was able to safely manage taking a shower in the OT bathroom using transfer bench.
3. Meal Preparation- The short term goals were met and the long term goal was not met. The client demonstrated difficulty completing a cooking occupation due to slight left sided neglect.
4. Laundry Management- The short term goals were met and the long term goals was not met. The client required the assistance of being able to load the washer with her clothes due to her using a one handed technique. It was difficulty for her to manage putting the clothes from the washing machine to the dryer.
5. **Coping**- The short term and long term goals were met. The occupational therapy student addressed healthy ways in which the client can cope with stress and depression she was feeling. By the end of acute rehabilitation the client was able to identify and demonstrate healthy alternative coping strategies.

6. **Community Integration**- The long term goal was met. The client was able to independently plan and identify potential limitations of going out into the community and ways to overcome those barriers.

7. **Return to Leisure Occupations**- The long term goal was met. The client demonstrated use of her hemiplegic side and was able to demonstrate safe and effective ways to pick up heavier objects.

**Changes on Standardized Assessments**

When the COPM was re-administered to the client her performance and satisfaction scores both increased over a one week period. The client was impressed with her results and how she felt she was progressing with her problem areas. The Stroke Impact Scale was self administered and the client missed a number of the questions. Rather than giving her the scale to complete on her own, I would have incorporated completing the scale during a treatment session so that all questions would have been filled out.

**Inferred Meanings and Purposes**

The client was provided with resources on stroke and alcohol support groups which will help the client cope. The client reported that she planned to attend the support groups which were one coping mechanism the client was able to identify. The client was also provided with
“Stroke Smart” magazine as another coping mechanism because the client enjoyed reading and was interested in learning more about living with stroke. The student also provided the client with education regarding the negative effects of alcohol after stroke and the importance of abstaining to avoid having another stroke. The client’s husband wanted to be reassured that his wife was prepared to effectively cope with resumption of her role as homemaker and new role as retiree. At the end of therapy, the client reported feeling confident about continuing to live a healthy lifestyle.

Clients Report on Progress

On February 21, 2008, approximately two weeks after the conclusion of acute rehabilitation occupational therapy, a phone interview was conducted with the client. The client reported that she has been progressing every day and she had just started her home occupational therapy that day. She reported being able to get dressed quicker and with better accuracy, being able to get her pants over her left hip. She stated it took her only fifteen minutes to complete her dressing occupation on that particular day. She also reported being able to abduct and adduct the fingers of her left hand, which she was unable to do when she was discharged from the inpatient rehabilitation program. She is completing some of her routine home tasks, such as making coffee and an English muffin for breakfast, dusting, and doing the dishes. Since her retirement she has taken on a new life role and her husband now helps complete some IODL’s. The client’s husband was able to take off two weeks of work while the client adjusted to her being back in her home environment. The client reported that she and her husband had to get used to each other being home all day as they both had worked full time. The client’s new life role as a retiree consists of home therapy, reading books, watching soap operas, and visiting with friends.
and family who come to visit frequently. The client reported that occupational therapy helped prepare her to get back to doing her everyday occupations and made her feel more at ease when trying to complete tasks at home. She expressed that she was now ready to learn ways to don her bra. During inpatient rehabilitation, the client chose not to address this as a goal.

The client reported that she planned on starting in the Neuro-day treatment program at Lakewood hospital following completion of home therapies and pending insurance approval. The Neuro-day program consists of outpatient PT, OT, and ST three times a week for approximately eight weeks. The program involves individual treatment sessions with each discipline and one group session with other individuals with neurological impairments.

**Conclusions**

**Discharge Recommendations**

Family education was completed with the client’s husband and daughter-in-law prior to discharge from inpatient rehabilitation. The family education session and plan of care meeting with the social worker and physiatrist were the only times the clients husband was present for a treatment session due to his work schedule. Despite having to work, the client’s husband expressed his concerns during the plan of care meeting regarding the clients drinking prior to her CVA and her depressed mood. Further OT was recommended for the client. Based on insurance approval and transportation needs, the client received Cleveland Clinic home care which consists of home OT, PT, home health aide, and home lab draws. The client also received a raised toilet seat and standard cane in terms of adaptive equipment as the client already owned a tub bench.

1. **Dressing-** Recommended the client to continue using NDT dressing technique in order to don/doff clothing. It was also recommended the client should not attempt to
get dressed in bed. Instead the client should be seated on a chair, preferably a straight chair next to the bed. The client should always begin dressing with the hemiplegic side. When donning a shirt, the shirt should be positioned across the patient’s knees, armhole visible, and the sleeve dropped between the knees. The client should then bend forward at the hips and place affected hand into the sleeve. When donning pants the client should clasp hands and cross the affected leg over the non-hemiplegic leg and then pull the pant leg over the hemiplegic foot then place the non-hemiplegic food inside the pants. Pull the pants to the knees and while holding onto the waistband, stand to pull over hips. The same sequence in dressing is maintained to increase learning (Pedretti & Early, 2001).

2. Bathing/Showering- Recommended the client to continue using the tub bench when showering and have someone close by when getting into and out of the shower for safety. Proper positioning of the client such as sitting to shower facilitates more normal movement throughout the recovery process. The client should her feet flat on the floor, hips near 90 degrees of flexion, knees and ankles at less than 90 degrees of flexion, and trunk extended in order to maintain proper positioning (Pedretti & Early, 2001).

3. Meal Preparation- Recommended the client incorporate the affected upper extremity into cooking occupations. The involved upper extremity can be incorporated into functional occupations through bilateral occupations such as preparing a meal. It was also recommended the client become more aware of the hemiplegic side in order to prevent injuring the affected side by either burning or cutting the affected side while cooking.
4. Laundry Management- Recommended the client keep laundry basket and soap on the left side of the washing machine in order to continue becoming familiar with the left side. Recommended to the client when standing at the washing machine to get in a good starting position with feet flat on the floor, good base of support, and good alignment with pelvis and head. It was also recommended incorporating bilateral extremities into the laundry occupation.

5. Coping- Recommend the client to attend the support groups for the stress and depression she was feeling. Encouraged the client to continue following the healthy coping mechanisms identified.

6. Community Integration- Recommended the client to get out into the community and continue enjoying the things she was doing before her stroke. Recommended going out for a little bit and then eventually working her way up to being able to tolerate sitting through dinner and sitting through a whole movie.

7. Return to Leisure- Recommended the client to start of baby-sitting for short durations of time to see how it goes and then work her way up to watching the kids for the day. Recommended the client to write down the obstacles that she is faced with when watching her grandchildren and brainstorm on ways to overcome those obstacles or ways to make those obstacles easier.

Discussion of Outcomes in Terms of Literature

The Client Centered Model of Practice begins by emphasizing the need for respect for clients and families. Clients of occupational therapy come from many different backgrounds, have encountered different life experiences, and have made choices regarding occupation that are
unique to them and the situation in which they live. Clients have developed styles of coping with the challenges that they encounter in daily living. The student therapist showed respect for the choices that the client has made, choices that the client will make, and the client’s personal methods of coping. Neistadt and Seymour (1995) found that when more formal methods are used to gain knowledge about client’s priorities, intervention focuses more on functional occupations than on remedial approaches focused on improving performance components. The COPM was the formal method that was used by to gain knowledge from the client regarding what is meaningful to her along with her goals for occupational therapy treatment. This case study report suggests the need for an occupational therapy model of practice that allows the client to play a major role in the treatment process.
References


Functional recovery following stroke: Capturing changes in upper extremity function. Neurorehabilitation and Neural Repair. 2013;27:240-250. Rushton WP, Miller WC, Kirby RL, Eng JJ. Neurorehabilitation offers a series of therapies, including physical, occupational, speech, psychological therapies and so on with a focus on improving the patients’ health. The field of neurorehabilitation is relatively new, and some cutting edge therapies, including neuromodulation, that may be potentially beneficial to patients with CNS injuries or other disorders, are currently being investigated. Furthermore, in one case report and one small case series study, DBS in the Ventralis Intermedius [VIM] nucleus of the thalamus, Ventralis Oral is Anterior and Posterior [VOA/VOP] and Globus Pallidus internus [GPI] has been used to treat posttraumatic tremor with good response [27,28]. Neurorehabilitation is a spiral management process in which a treatment program is initiated and then constantly revised and updated, based on therapy-mediated improvements. From: Swaiman's Pediatric Neurology (Sixth Edition), 2017. Related terms Nonetheless, all these authors emphasize methodological limitations to current music-based intervention studies. They provide very important recommendations to consider when designing and assessing the next studies so that music-based interventions in neurorehabilitation can be grounded within a neurobiological understanding of how and why particular brain systems are affected. Case presentation This case presents a CFE with PSH and septic shock of a 23-year-old man occurred at high altit. The study’s aim was a clinical observation concerning the influence of oral health on functional status in stroke patients undergoing neurorehabilitation. This pilot cross-sectional clinical study was performed in 60 subacute phase stroke patients during 12 weeks of treatment. The program was patient-specific and consisted of neurodevelopmental tre. Proprioceptive training is a neurorehabilitation approach known to improve proprioceptive acuity and motor performance of a joint/limb system. Here, we examined if such learning transfers to the contralateral joints. Content may be subject to copyright. Case Study: A Serious Game for Neurorehabilitation Assessment.pdf. Available via license: CC BY-NC-ND 4.0. Content may be subject to copyright. As the target audience has cognitive disabilities, the application evaluation was obtained from their occupational therapists (OT) similarly to the study Brown et al.