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Implementing Cognitive Behavioral Therapy into Post Cerebral Vascular Accident Rehabilitation: An Occupational Therapy Guideline

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IMPLEMENTING COGNITIVE BEHAVIORAL THERAPY INTO POST CEREBRAL
VASCULAR ACCIDENT REHABILITATION: AN OCCUPATIONAL THERAPY
GUIDELINE

by

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Master of Occupational Therapy, University of North Dakota, 2015

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This Scholarly Project Paper, submitted by Erica Myers and Sarah Peterson in partial fulfillment of the requirement for the Degree of Master of Occupational Therapy from the University of North Dakota, has been read by the Faculty Advisor under whom the work has been done and is hereby approved.

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Erica Myers, MOTS
12/16/2014

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12/16/2014

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ABSTRACT

Strokes are a leading cause of disability in the United States, with approximately 7 million adults currently living with a stroke. The incidence rate of strokes is expected to significantly increase by 2030, which demonstrates a need for this population to receive quality care (Billinger et al., 2014). There is extensive research on how occupational therapists provide skilled interventions for the physical and cognitive deficits of a stroke; however, a gap in the literature exists regarding treatment of the psychosocial impairments an individual may experience post-stroke. Specifically, there is limited research on how to treat post-stroke depression (PSD) and post-stroke anxiety (PSA), which are two prevalent psychosocial impairments resulting from a stroke, that lead to an interruption in occupational performance. Cognitive-behavioral therapy (CBT) is a common frame of reference implemented in mental health practice; the authors investigated how CBT techniques could be implemented into post-stroke therapy to target PSD and PSA, thereby leading to increased occupational performance.

The authors completed an extensive literature review before creating the product; this included the overall need for addressing PSA and PSD in typical post-stroke rehabilitation, and evidence supporting the use of CBT with this population. The literature review was completed using reliable databases and journals that generated articles relevant to the proposed topic and profession. Upon completion of the literature review, the authors created the guide following the occupational therapy process addressed within the Occupational Therapy Practice Framework: Domain and Process

(2014). The most evidence-based strategies and interventions were included within the guide.

Additionally, the product was based on the Model of Human Occupation (MOHO), and contains five sections. Part I is an overview of the psychosocial limitations that may present after a stroke, and how CBT can be incorporated into occupational therapy interventions as an adjunctive method to enhance the therapy process and outcomes. Part II provides occupational therapists with assessments that are appropriate to use with individuals post-stroke. Part III is an overview of occupational therapy intervention planning strategies to facilitate collaboration between the client and therapist. Part IV is the actual guide, and contains several CBT strategies, handouts, and worksheets that can assist the occupational therapist in providing the client with helpful tools to learn more about and overcome the psychosocial impairments they are experiencing. This guide is not intended to replace existing methods of occupational therapy intervention, but rather to serve as a supplement for providing a more comprehensive approach to post-stroke rehabilitation. Part V is a summary of the materials presented in the guide, as well as explaining the need for continuing research. The overall purpose of this guide was to facilitate occupational performance and functioning among this post-stroke population by occupational therapists using CBT strategies as a means for treating post-stroke depression (PSD) and post-stroke anxiety (PSA).

CHAPTER I

INTRODUCTION

The authors of this scholarly project share a common interest in neurorehabilitation, specifically the neurological disorder of cerebral vascular accidents (CVA), or what is most commonly referred to as a stroke. According to the American Stroke Association (ASA) (2014), 795,000 individuals in the United States experience a CVA, or stroke, each year. There are approximately 7 million adults in the United States living with a stroke, with a projected increase of 4 million, or 25%, by the year 2030. This astonishing increase in stroke is largely due to the expanding population of older adults in America, as well as cardiovascular risk factors in society such as diabetes, obesity, and physical inactivity (ASA, 2014). The incidence rate for Americans was found to be 1 in 6 for men and 1 in 5 for women between the ages of 55 and 75 (Seshadri et al., 2006). Stroke is the leading cause of disability in the United States that is long-term in nature, which demonstrates a pressing need for this population to receive quality care with preventing, managing and treating strokes and post-stroke deficits (ASA, 2014).

Occupational therapy has been shown to be highly effective for assisting stroke survivors with achieving independence and satisfaction in their daily lives after sustaining a stroke (Woodson, 2014). Occupational therapists address residual deficits both physical and cognitive in nature, which include, but are not limited to, hemiparesis, spasticity, aphasia, and apraxia. There is a rich amount of literature that supports interventions for the physical and cognitive impairments formerly acknowledged;

however, there is a paucity in current research regarding intervention methods to treat psychosocial impairments post-stroke. These impairments include post-stroke depression (PSD) and post-stroke anxiety (PSA), which commonly co-occur in stroke survivors and often go untreated, which can lead to a poor quality of life among this population of individuals. The authors wanted to develop a holistic product that could be utilized by occupational therapists to address psychosocial impairments that individuals may experience after a stroke.

Cognitive behavioral therapy (CBT) is a theoretical frame of reference that has its roots in psychology, but has been embraced and implemented within the profession of occupational therapy, primarily within mental health settings. The goal of CBT is to replace an individual's distorted thoughts and ineffective thinking patterns with more effective, realistic, and adaptive thoughts (Beck, 1995). CBT is based on the concept that thoughts, emotions, and behaviors are intertwined and influence one another. Therefore, if an individual is experiencing maladaptive thoughts, their actions will most likely be ineffective (Beck, 1995).

The authors created a cognitive-behavioral therapy (CBT) guide for occupational therapists, with an intended purpose of addressing PSD and PSA in clients throughout the duration of therapy services. The guide contains evidence-based information and resources for occupational therapists, as well as educational handouts for the client in order to facilitate a collaborative and client-centered approach to treatment, which adheres to the profession's overall domain and process (AOTA, 2014).

The authors chose the Model of Human Occupation (MOHO) to guide their scholarly project and facilitate the development of this clinical tool along with the core

constructs of CBT (Beck, 1995). MOHO is comprised of four concepts that are believed to influence participation in occupational performance (Kielhofner, 2008). These concepts, founded by Kielhofner (2008), include volition, habituation, performance capacity, and environment. These concepts may be altered when individuals experience a significant change in their life, such as a stroke. There is existing literature that supports the relationship between MOHO and CBT, which presents relevancy as to why MOHO is an appropriate and ethically sound model to aid in the development of the intervention guide. For example, Taylor (2006) emphasizes the importance of volition in chronically ill individuals, and how an individual's level of motivation can influence their participation in daily life. This can be applied in the case of those who have experienced a stroke, where factors such as personal causation, values, and interests (Kielhofner, 2008) may be compromised due to PSD and/or PSA. This is where CBT techniques and skills can be put into action and applied during the occupational therapy process.

Occupational therapist discretion is imperative to the usage of this guide. For example, clients who have adequate communication abilities, cognitive capacity, and self-reflective capacity are most suitable for use of the guide. The guide is intended to be implemented in the outpatient phase of treatment, though could be appropriate in inpatient rehabilitation as well. The following chapter provides a detailed description of existing literature regarding CBT techniques and post-stroke rehabilitation in order to support development of the guide. Subsequent chapters are comprised of the methodology of how the guide was created, presentation of the guide, and recommendations for future research regarding the topic of CBT techniques in post-stroke rehabilitation.

CHAPTER II

REVIEW OF LITERATURE

Numerous individuals are affected by neurological disorders each year, which often disrupts their ability to complete desired tasks and function in every day life. The profession of occupational therapy has played a significant role in the treatment of neurological disorders, specifically cerebral vascular accidents (CVA), Parkinson's disease (PD), and multiple sclerosis (MS). There is considerable literature that supports a variety of intervention methods for this group of individuals, many of them including physical and cognitive impairments, that aim to increase the independence of this population when completing occupations. However, there is limited research that addresses the psychosocial impairments individuals may experience after sustaining a neurologic disorder. These impairments can include depression and anxiety, and are often debilitating for the individual experiencing them. Recent literature has shown cognitive-behavioral therapy (CBT) to be effective for treating individuals who have PD or MS, however there is a gap in the literature for applying CBT to stroke patients. A review of the literature is presented, which addresses the notion for applying CBT techniques during therapy to individuals who have experienced a stroke.

Risks & Prevalence of Disorder

Strokes, or cerebral vascular accidents (CVA), are the leading cause of disability in the western part of the world (Morris, van Wijck, Joice, & Donaghy, 2013; Polatajko, McEwewn, Ryan, & Baum, 2012). From an occupational therapy perspective, strokes

negatively influence all areas of occupation, which include activities of daily living (ADLs), instrumental activities of daily living (IADLs), education, work, play, leisure, social participation, and sleep (AOTA, 2014), as well as occupational roles that are inherent and meaningful to an individual. When considering the significant number of individuals who withstand a stroke, 70% of those individuals experience cognitive deficits (Lesniak, Bak, Czepiel, Seniow, & Czlonkowska, 2008). Other impairments or deficits that an individual may experience post-stroke include sensorimotor deficits and a decrease in social participation (Kootker, Fasotti, Rasquin, Van Heugten, & Geurts, 2012; Nilsen, Gillen, DiRusso, & Gordon, 2012). In the study completed by Nakayama, Jorgensen, Raaschou, and Olsen (1994), the researchers reported that 5%-20% of individuals regain complete upper extremity functioning, while 33%-66% of individuals do not experience any improvements in upper extremity function for as long as six months post-stroke. Another study also reported that two-thirds of the participants experienced limited community participation, half of the participants were completely dependent with ADLs, and a significant amount of participants experienced declines with functioning two to four years after their stroke (Polatajko et al., 2012).

The second most common neurologic or neurodegenerative disorder in the United States is Parkinson's disease (PD) (Dobkin et al., 2011; Foster, Bedekar, & Tickle-Degnen, 2014). Individuals diagnosed with this debilitating and progressive disease experience physical deficits in motor function, which include tremors, bradykinesia, rigidity, and sensory disturbances (Dobkin et al., 2011; Foster et al., 2014), as well as cognitive and psychosocial impairments, including depression in approximately 50% of individuals, poor quality of life, anxiety, disturbances in sleep, and impulsive behavior

(Dobkin et al., 2011; Foster et al., 2014; Menza, Robertson-Hoffman, & Bonapace, 1993). The third neurologic disorder that is prevalent among individuals is multiple sclerosis (MS), which has been estimated to affect approximately 2.5 million people throughout with world, with about 400,000 in the United States alone, according to the National MS Society. MS affects 135 individuals out of 10,000 (Moss-Morris, et al., 2013), which demonstrates the high incidence rate of this disease. It is diagnosed in early adulthood, with women being two times more likely to be diagnosed than men (Compston et al., 2005). MS is described as being chronic and unpredictable, and is characterized by physical deficits including spasticity, fatigue, pain, problems with coordination and balance, muscle stiffness, and paralysis of affected extremities (Graziano, Calandri, Borghi, & Bonino, 2014; Moss-Morris et al., 2013; Yu & Mathiowetz, 2012b). Individuals diagnosed with MS also experience psychological deficits such as difficulty maintaining quality of life, regulating emotions, valuing their overall well-being, and engaging in social situations (Dennison, Moss-Morris & Chalder, 2009; Graziano et al., 2012; Moss-Morris et al., 2013; Yu & Mathiowetz, 2012a). Research has shown that treatment to address these deficits has largely focused on strength training, adapting the environment, cognitive retraining, and increasing participation in activities (Yu & Mathiowetz, 2012a). However, there has been a recent push to increase the attention given to psychological aspects that may further impact daily functioning (Graziano et al., 2014).

Symptoms/Characteristics of Stroke

It was found throughout the literature that post-stroke anxiety (PSA) and post-stroke depression (PSD) are two common diagnoses that often present in individuals who

have experienced a stroke (D'Aniello et al., 2014; Kootker et al., 2012). Bergersen, Froslic, Sunnerhagen, and Schnake (2010) reported that PSA is often co-morbid with PSD. This can affect the prognosis of both diagnoses, and in turn, negatively influence the psychosocial status of these individuals, hindering their ability to make a complete recovery. The authors indicated that two thirds of participants in the study, who had anxiety, also had coexisting depression, while approximately half of the participants who had depression also had some form of anxiety. This comorbidity is also supported in the study completed by D'Aniello et al. (2014), where the authors found that PSA and PSD can occur either simultaneously or independent of one another. When PSA and PSD occur independently, depression typically manifests during the acute stages of stroke, whereas symptoms of PSA have been shown to be more persistent and dominant in the chronic stages of stroke (Bergersen et al., 2010; D'Aniello et al., 2014; Kneebone & Jeffries, 2013; Morris et al., 2013).

There is limited research about PSA, however it is known to be a common consequence post-stroke (D'Aniello, et al., 2014). Statistics regarding the incidence of PSA have been shown to vary throughout the literature, however each statistic reveals that PSA is a prevalent occurrence post-stroke. Tang et al. (2013) indicated that PSA occurs in 23%-29% of stroke survivors from two weeks to five years post-stroke, while Kneebone and Jeffries (2013) reported 18%-25% of individuals experience anxiety post-stroke (Campbell Burton et al., 2013). Further findings within the literature support the evidence that PSA is more stable and chronic than PSD. Morris et al. (2013) indicated that PSA occurs in 20%-36% of stroke survivors up to one year post-stroke, while

Bergersen et al. (2010) reported general anxiety disorder (GAD) is present in 17%-18% of individuals two years after experiencing a stroke.

Tang, Lau, Mok, Ungvari, and Wong (2013) reported that certain demographic characteristics might be an indicator of which individuals are predisposed to developing PSA at a higher level. These characteristics include being a female, being younger in age, participating less in social activities, and having depressive symptoms. Individuals who are considered to have PSA experience a wide array of symptoms and deficits that are often overlooked (Morris et al., 2013). Fear, emotional lability, changes in personality, irritability, and worry are common psychological or cognitive characteristics that may be present (D'Aniello, et al., 2014; Tang et al., 2013). The National Stroke Association indicated that physical symptoms may manifest as well, including muscle tension, rapid heartbeat, and nausea (D'Aniello, et al., 2014). Occupational therapy practitioners should be cognizant of these signs and symptoms when treating an individual with PSA in order to address any unidentified physical or psychological problems.

Literature also indicates that PSA is a determiner of quality of life (QoL). Individuals who experience a high level of anxiety post-stroke have been found to have a lower quality of life (Morris et al., 2013; Tang et al., 2013). A decreased QoL has been found to significantly correlate with decreased occupational performance and functioning, and negatively affects social participation, interpersonal communication, and overall well being (Carod-Artal & Egido, 2009; Ferro, Caeiro, & Santos, 2009; Morris et al., 2013; Tang et al., 2013; West, Hill, Hewison, Knapp, & House, 2010). This evidence indicates that daily life for stroke survivors is significantly altered after they have sustained a stroke. In the study completed by Morris et al. (2013), it was found that upper

extremity impairment following a stroke was indicative of a lower QoL, which consequently resulted in increased symptoms of anxiety. This was due to the participants' poor perception of their ability to engage in occupations, as well as their decreased independence in completing daily tasks (Morris et al., 2013). These studies suggest an interesting cyclical relationship found between PSA, lower QoL, and a decreased engagement in occupation.

As previously indicated, literature suggests that PSD is more prevalent in the acute, or early stages of stroke, and is often co-morbid with PSA (Bergersen et al., 2010; D'Aniello et al., 2014; Kneebone & Jeffries, 2013; Morris et al., 2013). PSD is characterized by executive dysfunction, attention deficits, problem-solving impairments, and psychiatric comorbidity, and has been linked to a poorer quality of life and a greater decline in cognitive and physical function (Broomfield et al., 2011; Dobkin et al., 2011). Little research has been completed on the relationship between psychological conditions and stroke, which supports the need for further evidence on this topic (Bergersen et al., 2010). According to several sources cited by Rasquin, van de Sande, Praamstra, and van Heugten (2009), approximately 25% of individuals experience PSD (Khan, 2004; Whyte, Mulsant, Vanderbilt, Dodge, & Ganguli, 2004), whereas Broomfield et al. (2011) reported that one in three individuals suffer from PSD. Although PSD is more common in the initial stages of stroke, it is not exempt from persisting into later stages post-stroke. Naess, Lunde, and Brogger (2012) reported that depression was present in 18%-38% of individuals two to five years post-stroke.

As certain characteristics may predispose stroke survivors in developing PSA, the same holds true for development of PSD. Broomfield et al. (2011) identified four key

features that could increase the possibility for an individual to develop PSD. These features include: age-related comorbidities, decreased cognition, physical impairments, and negative thoughts and perceptions. PSA is a common disease that can coexist with PSD, however, pain and fatigue can also co-occur with PSD (Naess et al., 2012). The authors found that if individuals had one of these symptoms, it was to be expected they would have one of the other two.

Literature indicates that treatment for PSD has commonly been in the form of pharmacological interventions, particularly antidepressants, whereas a limited amount of studies have utilized Cognitive Behavioral Therapy (CBT) as a means of addressing depression (Dobkin et al., 2011; Kootker et al., 2012). The theory of CBT has its roots in mental health and psychosocial settings; however, has been shown to be beneficial in addressing both psychosocial and physical symptoms experienced by an individual. Further explanation of this theory illustrates both the traditional and novel ways this theory is utilized and integrated into practice.

Cognitive Behavioral Therapy (CBT)

As indicated by existing literature, the physical and psychological impairments post-onset of a neurological diagnosis drastically impair occupational functioning. According to Bergersen (2010), individuals who have experienced a stroke have more contact with mental health care services than the general population, indicating a correlation between physical and psychological functioning. In this same study, only a small percentage of individuals actively sought out help for their anxiety and/or depression, ultimately hindering their overall quality of life. It is imperative that health care personnel actively screen for mental health deficits in individuals post-stroke in

order to prevent greater psychological and physical impairment. Tang et al. (2013) suggested that individuals should be regularly screened for psychological problems post-stroke; however, almost half of post-stroke patients are not routinely screened for PSA or PSD, ultimately impacting occupational enjoyment.

Other suggested methods to enhance treatment of post-stroke anxiety and depression are staff education, as well as support and guidance for carrying out anxiety and depression screening protocols (Tang et al., 2013). When anxiety and depression are not adequately addressed in vulnerable populations, psychological impairments may accelerate physical limitations. Dobkin et al. (2011) completed a study focused on depression in individuals with PD. The authors noted that individuals who received sub-optimal treatment for their depression also had exacerbated physical symptoms. Conversely, poor functional outcomes may lead to increased levels in frustration and distress, resulting in increased vulnerability to PSD (Broomfield et al., 2011).

Due to increasing survival rates post-stroke, a pressing issue that needs addressing is life after stroke, primarily related to PSD and PSA. This is commonly known as chronic disease management (Lorig et al., 2012). PSD drastically contributes to quality of life post-stroke as it has the ability to increase mortality rates, and interferes with functional recovery due to feelings of loss and hopelessness (Broomfield et al., 2011; Rasquin et al., 2009). When individuals are unable to engage in meaningful activities, low mood often results, which is consistent with multiple studies addressing PSD stemming from physical impairments (Broomfield et al., 2011). A majority of participants in the study completed by D'Aniello et al. (2014) were admitted to the hospital years after surviving a stroke. These results demonstrate the need for therapists

to enter into the psychosocial aspects of depression and anxiety in the initial stages post-stroke in order to be proactive and prevent these problems from occurring, or to at least hinder the development of these issues.

In order to optimize treatment efficacy, it is essential to address the physical and psychological components throughout the therapeutic process, as well as how the functioning of one component can impact the functioning of the other. This approach of occupational therapy directly correlates to the principles of CBT, which aims to help clients identify distorted and unrealistic thinking patterns, as well as irrational beliefs, and to replace them with more realistic and effective ways of thinking, as a means to ultimately change their behavior (Beck, 1995). According to Taylor (2006b), the initial stages of CBT are aimed at assisting the client in identifying, evaluating, and determining the effectiveness of their thoughts through Socratic questioning. The next stages of CBT involve more in depth content, which includes challenging the individual's thoughts and beliefs, and providing the individual with encouragement to be their own agent of change (Taylor, 2006b). CBT has been shown to be effective treatment for chronic illnesses such as cancer, diabetes, PD, and MS, specifically improving depression and self-efficacy (Kootker et al., 2012; Rasquin et al., 2009; Yu & Mathiowetz, 2012a, 2012b). Taylor (2006a) also supports the implementation of CBT for individuals with chronic illnesses, specifically ones that impact an individual's fatigue level, such as anemia, asthma, pulmonary disorders, diabetes, cardiovascular disorders, Myasthenia Gravis, Rheumatoid Arthritis, spinal cord injuries, and thyroid disorders. Evidence in current literature also suggests that the CBT approach is effective for treating individuals with certain mental health diagnoses, including but not limited to depression, anxiety, mood disorders,

Bipolar Disorder, personality disorders, Post Traumatic Stress Disorder, and substance use/abuse (Wagley, Rybarczyk, Nay, Danish, & Lund, 2012). With supporting evidence of CBT as an approach for individuals with mental health and chronic diagnoses, it is suggested that CBT may be an effective and plausible approach for guiding occupational therapy treatment for individuals post-stroke, as many of these individuals often suffer from cognitive and physical impairments. Literature indicates that utilizing CBT as a therapeutic frame of reference to guide post-stroke interventions would be beneficial as it can take into account the trauma, acute onset, physical and psychological impairments, and consequences of the individual's functional decline. Although CBT is an optimal fit for guiding post-stroke rehabilitation, no existing model of CBT for post-stroke currently exists (Broomfield et al., 2011).

Role of Occupational Therapy

Assessment.

CBT can be implemented as an integral part of the occupational therapy treatment process beginning from the initial assessment. Previous studies, focused on CBT, utilized the Hospital Anxiety and Depression Scale (HADS) as a means of monitoring their participants' progress. The HADS measures symptoms of generalized anxiety and depressions and is one of the few anxiety measures validated for the post-stroke population (Bergersen et al., 2010; D'Aniello et al., 2014; Kneebone & Jeffries, 2013; Kootker et al., 2012; Lincoln & Flannaghan, 2003; Morris et al., 2013; Naess et al., 2012; Tang et al., 2013). In order to assess mood states, such as anxiety, depression, positive well-being, self-control, general health, and vitality, the Psychological General Well-Being Index may be another beneficial assessment measure. This assessment is unique as

it not only focuses on impairments, but also has the ability to identify areas of strength or progress (D'Aniello et al., 2014). When addressing post-stroke assessments, the CheckList for Cognitive and Emotional consequences following stroke (CLCE-24) to assess depression (Rasquin et al., 2009), the Stroke Adapted Sickness Impact Profile-30 (SA-SIP30) to assess quality of life (Rasquin et al., 2009), and the Stroke Specific Quality Rating Scale (SSQOL) (Tang et al., 2013) have been shown to be effective.

In order to obtain a holistic assessment of the individual, it is imperative to also address the physical capabilities and limitations of the individuals' functioning.

Therefore, the Performance Quality Rating Scale (PQRS) would be beneficial used in conjunction with a previously addressed psychological assessment. The PQRS is an evaluation for specific self-selected skills. The therapist rates the individual on their functional performance of a given task on a 10-point scale, 1 meaning the client cannot do the task and 10 meaning the client can do the task very well (Polatajko et al., 2012). Upon completion of a thorough assessment, it is essential to integrate the findings into occupation-based intervention.

Intervention.

Literature has shown that post-stroke depression is most commonly being treated using a pharmacological approach, which is not effective without subsequent treatment addressing physical limitations (Hackett, Anderson & House, 2004, 2005). Occupational therapists have the unique ability to not only look at either the cognitive or physical functioning of the individuals, but to also look at these two areas in unison in order to obtain the greatest occupational performance possible. Although occupational therapists have demonstrated this unique capability, these skills are not always being implemented.

As evidenced in the literature, common OT interventions in post-stroke rehabilitation include constraint induced movement therapy, robotic arm treatment, therapist-provided exercise programs, and repetitive task training (Chanubol et al., 2012). Dobkin et al. (2011) suggests that it may be beneficial to implement a modified CBT approach in addressing specific needs of the post-stroke population, such as a stronger emphasis on behavioral and anxiety management techniques.

A drawback is that there is limited research available specifically studying the outcomes of CBT with the post-stroke population. However, there have been a number of studies addressing CBT with other neurological disorders including PD and MS. CBT has been shown to be an effective treatment method to use with patients who have multiples sclerosis (MS) in order to manage symptoms and reduce depression and anxiety (Moss-Morris et al., 2013). CBT has also been used to educate clients on coping strategies and adjusting to new life aspects, improve quality of life and mental well-being from a psychologist's perspective (Graziano et al., 2014). Dobson and Dozois (2001) explained that CBT coping strategies are frequently applied to individuals who are experiencing difficulties which are occurring externally, whereas cognitive restructuring techniques are utilized in cases where individuals are experiencing problems within themselves. It is evident that neurological disorders such as ones previously listed negatively impact an individual at both internal and external levels, and therefore, intervention strategies should focus on and implement all levels of CBT. CBT has been shown to increase an individual's sense of coherence and self-efficacy, and positively increase quality of life in individual's who have MS as individuals often experience a loss of identity upon diagnosis of a debilitating disease (Graziano et al., 2014). Other benefits of implementing

a CBT therapeutic approach include reducing cognitive and behavioral deficits in individuals with MS (Moss-Morris et al., 2013), and encouragement of generalization of strategies to minimize negative thoughts and avoidance behaviors (Dobkin et al., 2011).

Although no specific protocol implementing CBT in occupational therapy practice has been created, there is evidence supporting specific OT programming that incorporates CBT characteristics. Cognitive Sensory Motor Training Therapy may be beneficial by utilizing visualization, cognitive retraining strategies, and systematic coaching in order to maximize sensory retraining of the upper extremities. This technique specifically focuses on joint position and sensory integration (Chanubol et al., 2012). Literature suggests that Cognitive Sensory Motor Training Therapy may benefit individuals with a severe paretic arm rather than a minimally affected arm as the process is very time consuming (Chanubol et al., 2012). Another program seen to be effective is Cognitive Orientation to daily Occupational Performance (CO-OP). CO-OP is a task specific training joined with cognitive strategies in 3 client-chosen skills to be the focus of treatment. The specific strategy of Goal-Plan-Do-Check is used as the framework in this treatment approach (Polatajko et al., 2012). Lastly, Mental Practice (MP) may be useful for individuals post-stroke as the individuals cognitively rehearse a physical skill prior to the physical task of engaging in the activity. Literature suggests MP may improve motivation, self-perception, and behavior (Nilsen et al., 2012).

According to Mohr et al. (2000, 2001), the delivery method of CBT does not appear to be as critical as the components being addressed in the process. Literature shows that CBT delivered via face to face and over telephone (Mohr et al., 2000, 2001) has been effective in reducing depression in patients with MS, as well as increasing

quality of life and well-being, and decreasing feelings of fatigue and disability (Moss-Morris et al., 2013). Interventions utilizing a CBT approach may incorporate a variety of techniques including, but not limited to, exercise, behavioral activation, thought monitoring and restructuring, relaxation training, worry control, and sleep hygiene, all of which correlate with the core values and practices of occupational therapy (Dobkin et al., 2011).

CBT Implementation Post-Stroke

CBT has been shown to have significant effects for individuals with neurologic diagnoses including PD and MS; however, limited research is available addressing CBT in post-stroke interventions. Although minimal, the available evidence does suggest significant benefits for implementation of a CBT program with individuals post-stroke as it is designed to address emotional regulation, optimal activity functioning, and realistic/optimistic thinking (Broomfield et al., 2011). The fit is so great that Broomfield et al. (2011) concluded, “The here and now orientation of CBT perfectly matches the immediate nature of stroke survivors’ concerns,” (p. 207). Psychological symptoms such as depression, anxiety, negative thoughts, and low self-esteem drastically impact an individual’s occupational functioning, though multiple studies have found that CBT can improve these psychological limitations. Rasquin et al. (2009) concluded that utilizing a CBT approach with individuals who have PSD experienced a reduction in depressive symptoms. Literature has also been provided supporting the effectiveness of a modified cognitive behavioral psychotherapy approach for treating PSA without PSD (Kneebone & Jeffries, 2013). Evidence suggests that by improving psychological symptoms, physical impairments also improve. According to Broomfield et al. (2011), CBT provides

a gateway for improving PSD, which can drastically impact the individuals physical rehabilitation gains, as negative thoughts and low self-esteem play a crucial role in the maintenance of depression and limit improvement of physical symptoms. Improved functional performance and enhanced self-satisfaction were also reported to increase after the participants completed MP intervention (Nilsen et al., 2012). Overall, literature implies CBT has the ability to improve social functioning, rehabilitation outcome, and increase quality of life in individuals with PSD and PSA (Kootker et al., 2012).

Although a number of benefits have been presented addressing a CBT approach for intervention with individuals post-stroke, some noteworthy limitations exist. A key difficulty for implementing CBT with individuals post-stroke is that clinicians may encounter client cognitive and communication problems, which can influence the way treatment is delivered and received by the client (Kneebone & Jeffries, 2013). D'Aniello et al. (2014) recommended initially evaluating the cognitive efficacy of the client before beginning any type of formal assessment or interventions may be beneficial in addressing this issue. Interventions and assessments may need to be modified or approached in a unique way in order to compensate for other cognitive deficits caused by stroke such as aphasia, memory, attention, orientation, and/or language (D'Aniello et al., 2014). Age, stroke severity, and other demographic information should also be taken into consideration when determining treatment methods (D'Aniello et al., 2014). Literature suggests that modified CBT has been supported by research and has been shown to be effective for treating individuals with PSA/PSD, however traditional CBT, or unmodified CBT has not always been successful (Lincoln & Flannaghan, 2003; Thomas, Walker, Macniven, Haworth, & Lincoln, 2013).

Incorporating the benefits and addressing the potential limitations of CBT, the outcomes show that CBT may be a plausible and effective tool for post-stroke rehabilitation. According to Dobkin et al. (2011), CBT participants expressed a higher level of satisfaction in social participation, as well as less isolation. The participants identified the use of positive reframing as a healthy coping strategy in relation to social participation anxiety. Quality of life was also shown to increase through the use of CBT in a group setting as the psychological well-being increased for men, which shows the effect of the intervention long-term (Graziano et al., 2014). An increase in self-efficacy was also noted in this study, demonstrating the short-term effect of the treatment. Depression decreased, while coherence and identity increased, which shows the value of using a psychological approach rather than an informative approach, as in the study control group (Graziano et al., 2014). Nilsen et al. (2012) also verified the long-term effects of CBT as participants in their study reported improvement in untrained tasks, or tasks that were not included in the intervention phase of the study, which suggests the potential for generalization of the MP method of rehabilitation. Literature shows individuals with PD who receive a CBT based intervention report improvements in depression, anxiety, social functioning, symptom management, quality of life, coping, and motor functioning (Dobkin et al., 2011). It is suggested that CBT is an effective intervention tool for individuals by addressing performance skills, occupational engagement, environmental cues, self-management, and emotional regulation, ultimately increasing quality of life and functional abilities (Foster, Bedekar, & Tickle-Degnen, 2014).

Introduction into the Intervention Guide

The preceding evidence established within the literature validates the need for further implementation of CBT with individuals who have experienced a stroke. As authors, we have created a CBT intervention guide, which can be utilized by occupational therapy practitioners in order to deliver effective and evidence-based intervention strategies for individuals post-stroke. The purpose for creating this guide is to facilitate occupational performance and functioning among this population by using CBT as a means for treating and/or hindering the progression or development of PSA/PSD. The literature reveals an essential need for an intervention protocol that explicitly identifies methods for addressing the physical and psychological components of PSA/PSD. Our procedures and methodology for gathering information and developing the intervention guide are further explained in the following chapter.

CHAPTER III

METHODOLOGY

This product is an evidence-based guide for occupational therapists to utilize with individuals post-stroke who may be experiencing post-stroke anxiety (PSA) and/or post-stroke depression (PSD). An extensive literature review was completed prior to creation of the product to determine the overall need for addressing PSA and PSD in typical post-stroke rehabilitation. Literature identified there is a lack of evidence-based practice in relation to PSA and PSD as these psychological components are commonly experienced after onset of a stroke; however, they have been minimally addressed in the occupational therapy process, until more recently when awareness is increasing. Due to this gap between literature and practice, it was evident a guide implementing cognitive behavioral therapy (CBT) techniques into post-stroke rehabilitation would be beneficial for occupational therapists to truly provide best evidence-based practice.

The literature review consisted of scholarly articles and evidence focused on current post-stroke rehabilitation, needs of the post-stroke population, CBT strategies, and evidence of CBT implementation with other neurological conditions such as Multiple Sclerosis and Parkinson's Disease. These articles were the primary foundation of research supporting this product. Scholarly articles were obtained through The University of North Dakota School of Medicine and Health Sciences, Harley E. French library, as well as other search engines including PubMed, CINAHL, Google Scholar, and Academic

Search Premier. Journal articles were primarily obtained through *The American Journal of Occupational Therapy*, *Stroke*, *Journal of Neurological Sciences*, and *Neuropsychological Rehabilitation*. Supporting worksheets and homework implemented throughout the guide were obtained using a Google search and were modified from credible therapist websites including Therapistaid.com and getselfhelp.co.uk. The worksheets presented were free to download for scholarly and therapy purposes. Other information guiding the production of this guide was obtained through other credible websites including The American Stroke Association, The Center for Disease Control and Prevention, Mayo Clinic, and The National Stroke Association. Textbook references were utilized for addressing CBT techniques and assessment tools correlating with the guiding model and population of the desired product.

The product was created upon completion of a thorough literature review and knowledge gained within the previous three years in the University of North Dakota Occupational Therapy Program. The authors began creating the product with a simple outline addressing key points to be included in the guide. Key components included facts about post-stroke impairments, typical post-stroke rehabilitation techniques, CBT strategies, assessments, intervention planning, and outcome evaluation. The product was then further divided into parts following the guidelines for occupational therapy implementation. Part I is an overview of the common psychological limitations present in the post-stroke population and how implementation of CBT techniques within occupational therapy intervention can address those needs. The Model of Human Occupation (MOHO) model is also described as the theoretical base for guiding the product. MOHO has been specifically connected with CBT through the work of Renee

Taylor (Taylor, 2006). Part II provides occupational therapists with a quick reference of assessments specifically designed for the post-stroke population. The assessments provided are intended to measure occupational functioning, PSA, PSD, cognition, self-regulation, perceived impact of stroke, and changes in habits, roles, and routines. The assessments also correlate with the guiding model of MOHO. Part III is an overview of intervention planning strategies to facilitate collaboration between the client and therapist throughout the goal-setting process. Part IV provides therapists with a number of CBT strategies, techniques, guides, worksheets, and homework addressing specific areas of limitation. These materials are the original scholarly work of the authors or have been adapted from credible therapy websites within the public domain. Key topic areas included in the guide are: education, functional performance strategies, grief resolution, self-management, coping, self-esteem, changing/challenging negative thoughts, distorted thinking, cognitive restructuring, behavioral activation, fear of falling, and relapse prevention. Part V serves as a reminder to therapists to constantly review implementation and goals in order to determine progress, resulting in a change of goals or potential discharge. Part VI addresses outcome evaluation to ensure the techniques and skills being utilized are being incorporated into occupation-based activities, ultimately promoting occupational performance and self-efficacy of the client. This guide is intended to serve as a reference for occupational therapists and clients in order to implement the best evidence-based, client-centered practice possible.

CHAPTER IV

PRODUCT

Based on the limited research available addressing the correlation of interventions between the physical and psychological impairments post-stroke, the authors have created a cognitive-behavioral therapy (CBT) intervention guide for therapists to utilize with this population. Occupational therapy practitioners can employ this guide in order to deliver effective and evidence-based intervention strategies for individuals post-stroke.

The purpose for creating this guide is to facilitate occupational performance and functioning among this population by using CBT as a means for treating post-stroke depression (PSD) and post-stroke anxiety (PSA). PSD and PSA often co-occur, with an incidence found to be between 18% and 50% of individuals who experience a stroke (Campbell Burton et al., 2013; D’Aniello et al., 2014; Kneebone & Jeffries, 2013; Tang et al., 2013). The literature reveals a need for an intervention protocol that explicitly identifies methods for addressing the physical and psychological components of PSD and PSA.

It is important to address the fact that occupational therapists are highly qualified to use CBT techniques and strategies to address post-stroke depression (PSD) and post-stroke anxiety (PSA). Woodson (2014) identified psychosocial aspects, specifically depression and anxiety, as important factors to consider during the therapy process for individuals post-stroke. There is a need to address the outcomes of PSD, which the author lists as decreased social participation, decreased motivation, and decreased engagement

in activities. It is also noted that occupational therapists have the skills and abilities to evaluate and treat all aspects of an individual post-stroke. These include physical, cognitive, and psychosocial components. Woodson (2014) explains the difficulty of receiving full participation from clients during therapy if they are unable to effectively cope with psychosocial adjustments that occur due to the stroke, which supports the need for occupational therapists to address coping strategies in therapy. Despite this evidence supporting the qualifications for occupational therapists to address these symptoms, there remains a gap with referring these individuals to occupational therapy. This strengthens the need for occupational therapists to implement CBT into post-stroke treatment. Occupational therapists should be aware that the CBT strategies included in the guide are not intended to conflict with the profession of psychology, nor are they considered “talk-based therapy”. If the occupational therapist feels a client needs more time to process through challenging thoughts and feelings, it should be at the therapist’s discretion that they refer the client to psychology as an adjunctive means of therapy.

This guide is presented as a bound document, containing materials for the occupational therapist, as well as the client, to facilitate a collaborative approach during the therapy process. The guide contains assessment resources to assist with the evaluation stage of occupational therapy. The authors included several assessments, non-standardized and standardized, to provide the therapist with a list of options to select from, based on an individual’s client factors. It is important to note that not all assessments included should be administered, and that therapists are advised to use clinical reasoning to determine the best evaluation method for each individual. The authors also included CBT intervention strategies that have proven to be effective with

individuals who have neurologic disorders such as multiple sclerosis (MS) and Parkinson's. Each CBT strategy is thoroughly described in the guide, and includes handouts for the occupational therapist and client, supportive evidence, benefits, integration into occupational performance, and occupational therapist strategies. Additionally, there is information that addresses outcomes, recurrent stroke prevention, and steps to prepare for discharge, which brings the therapy process full circle by adhering to the profession's holistic framework. It is imperative for occupational therapists to understand that this guide should not be the sole focus of therapy; instead, treatment sessions should incorporate aspects of this guide into current post-stroke interventions. This guide is not intended to replace existing methods of treatment, but rather to serve as a supplement for providing a more comprehensive approach to post-stroke rehabilitation.

It is essential to remark on the concept that each individual will present with different post-stroke impairments along a spectrum, each manifesting at varying degrees. With this said, there is not a specific timeframe in which this guide must be completed. Each individual is unique in their needs and levels of progression, which enforces the need for therapists to use clinical decision-making skills. Inclusion criteria for this guide include an individual who has sustained a stroke, is experiencing symptoms of PSD and/or PSA, and possesses the cognitive and physical capacities to engage in the CBT strategies. Exclusion criteria include cognitive and physical impairments that would prevent an individual from engaging in the CBT strategies, such as aphasia, apraxia, memory loss, and paralysis. Aphasia may limit the ability for the client and occupational therapist to communicate effectively about topics presented in the guide. Apraxia and

paralysis may hinder the client's ability to engage in physical activity techniques or the progressive muscle relaxation script, which is included in the guide. Lastly, memory loss will prevent the client from remembering techniques and strategies that are taught, limiting the extent to which the clients can apply them outside of therapy.

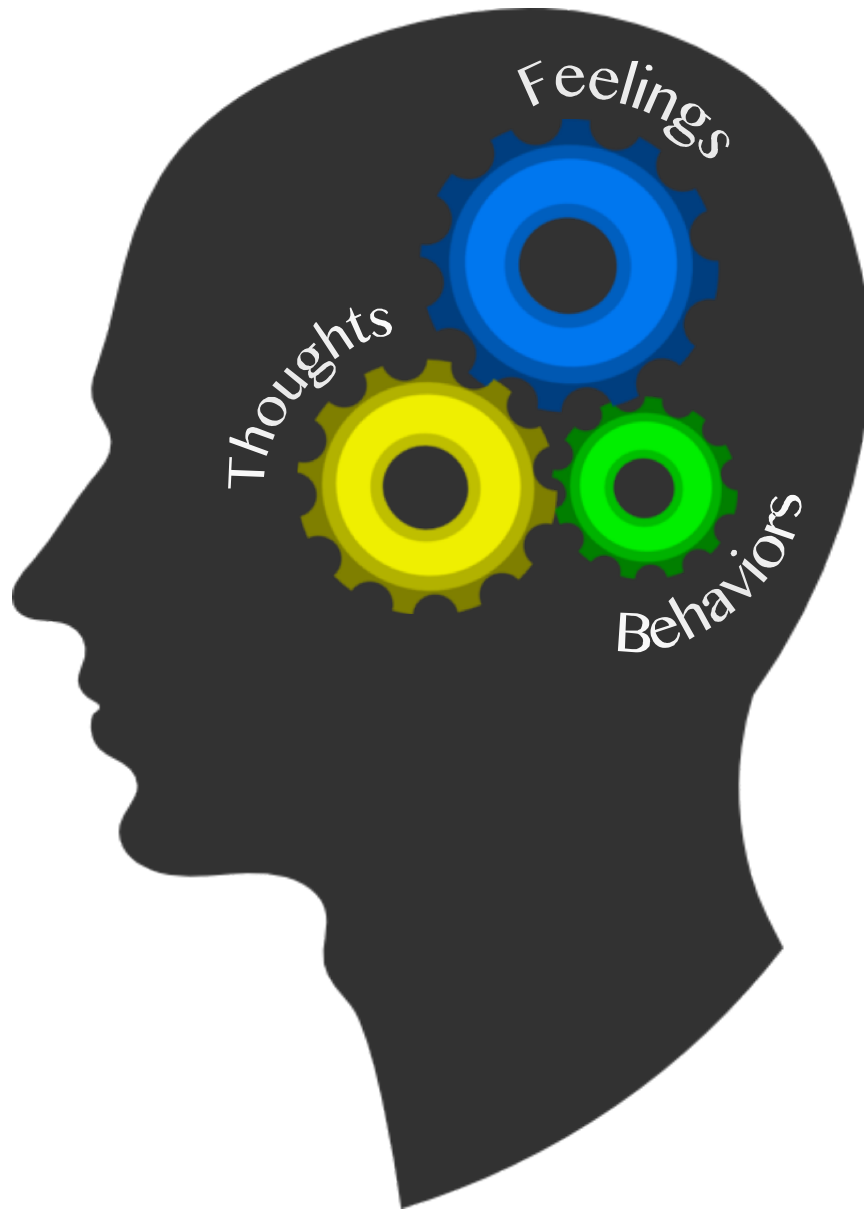
The authors chose the Model of Human Occupation (MOHO) to support and facilitate the development of this clinical tool. The four concepts of MOHO, which include volition, habituation, performance capacity, and environment, are believed to influence participation in occupational performance (Kielhofner, 2008). These concepts may be altered when individuals experience a significant change in their life, such as a stroke, which ultimately interrupts occupational functioning. By implementing CBT strategies under the umbrella of MOHO, individuals may be able to identify and change ineffective thinking patterns in order to increase the effectiveness of their thoughts and actions, leading to a more positive sense of self-efficacy. This can be applied in the case of those who have experienced a stroke, where factors such as personal causation, values, and interests (Kielhofner, 2008) may be compromised due to PSD and/or PSA.

The clinical guide, *Cognitive-Behavioral Strategies to Facilitate Occupational Performance Post-Stroke*, will be presented in the following pages. Sections of the guide include:

1. Occupational Therapy Service Delivery Post-Stroke Using Cognitive-Behavioral Techniques
2. Occupational Therapy Evaluation & Assessments
3. Occupational Therapy Intervention Planning
4. Occupational Therapy Intervention Implementation

5. Occupational Therapy Intervention Review
6. Occupational Therapy Outcome Evaluation

Cognitive-Behavioral Strategies to Facilitate Occupational Performance Post-Stroke



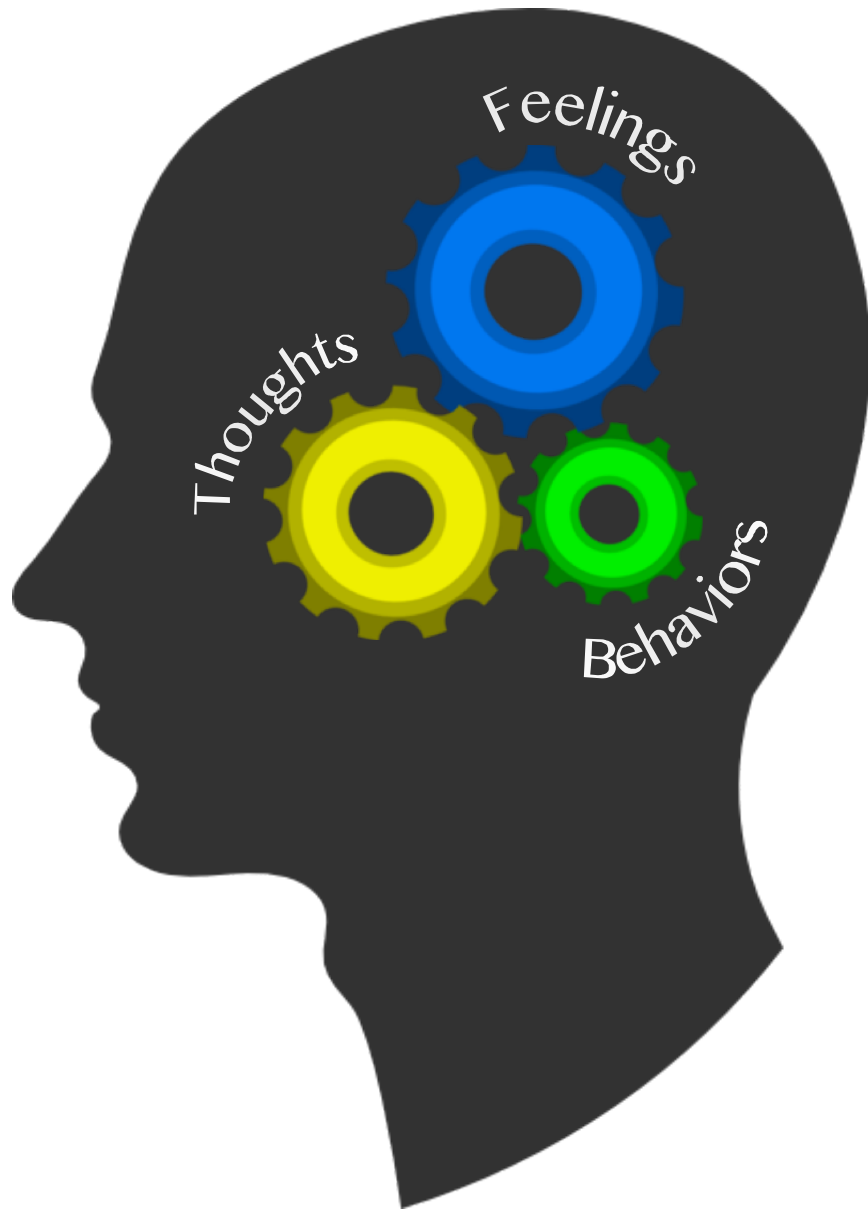
**Erica Myers, MOTS; Sarah Peterson, MOTS;
& Jan Stube, PhD, OTR/L, FAOTA**

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Part 1: Occupational Therapy Service Delivery Post-Stroke Using Cognitive- Behavioral Techniques



Stroke is the leading cause of chronic disability in the western world, affecting approximately 795,000 in the United States each year (Center for Disease Control and Prevention, 2014). Due to an aging population, the number of individuals living with a stroke is expected to increase by 25% by the year 2030. The physical impairments post-stroke are widely recognized, including poor sensation, poor balance, loss of strength, loss of coordination, decreased range of motion, or paralysis; however, significant psychosocial impairments may be just as limiting, though they are rarely addressed. The primary psychosocial limitations of individuals post-stroke are post-stroke anxiety (PSA) and post-stroke depression (PSD). If left untreated, PSA and PSD can significantly impair physical functioning and overall quality of life.

This guide suggests utilizing cognitive behavioral therapy (CBT) strategies to address both the physical and psychosocial limitations experienced while living with a stroke. The primary goal of CBT intervention is based on the concept that thoughts, emotions, and behaviors are intertwined and influence one another; therefore, addressing the components within the individual will provide the greatest opportunity for occupational functioning (Taylor, 2006). Occupational therapists have played a crucial role in post-stroke rehabilitation, as their main focus is to help clients achieve independence and satisfaction with everyday activities including activities of daily living (ADLs), instrumental activities of daily living (IADLs), sleep, work, play, and mobility. It is therefore recommended that occupational therapists employ the use of CBT strategies with this population in order to further address occupational functioning in regards to psychosocial factors, specifically PSA and PSD. Occupational therapists are uniquely trained to address the individual as a whole, which inadvertently incorporates

the concepts of CBT into typical planning. It is important to recognize the fact that occupational therapists are highly qualified to use CBT techniques and strategies to address PSD and PSA. Woodson (2014) identified psychosocial aspects, specifically depression and anxiety, as important factors to consider during the therapy process for individuals post-stroke.

Occupational therapists should be aware that the CBT strategies included in the guide are not intended to conflict with the profession of psychology, nor are they considered “talk-based therapy”. If the occupational therapist feels a client needs more time to process through challenging thoughts and feelings, it should be at the therapist’s discretion that they refer the client to psychology as an adjunctive means of therapy.

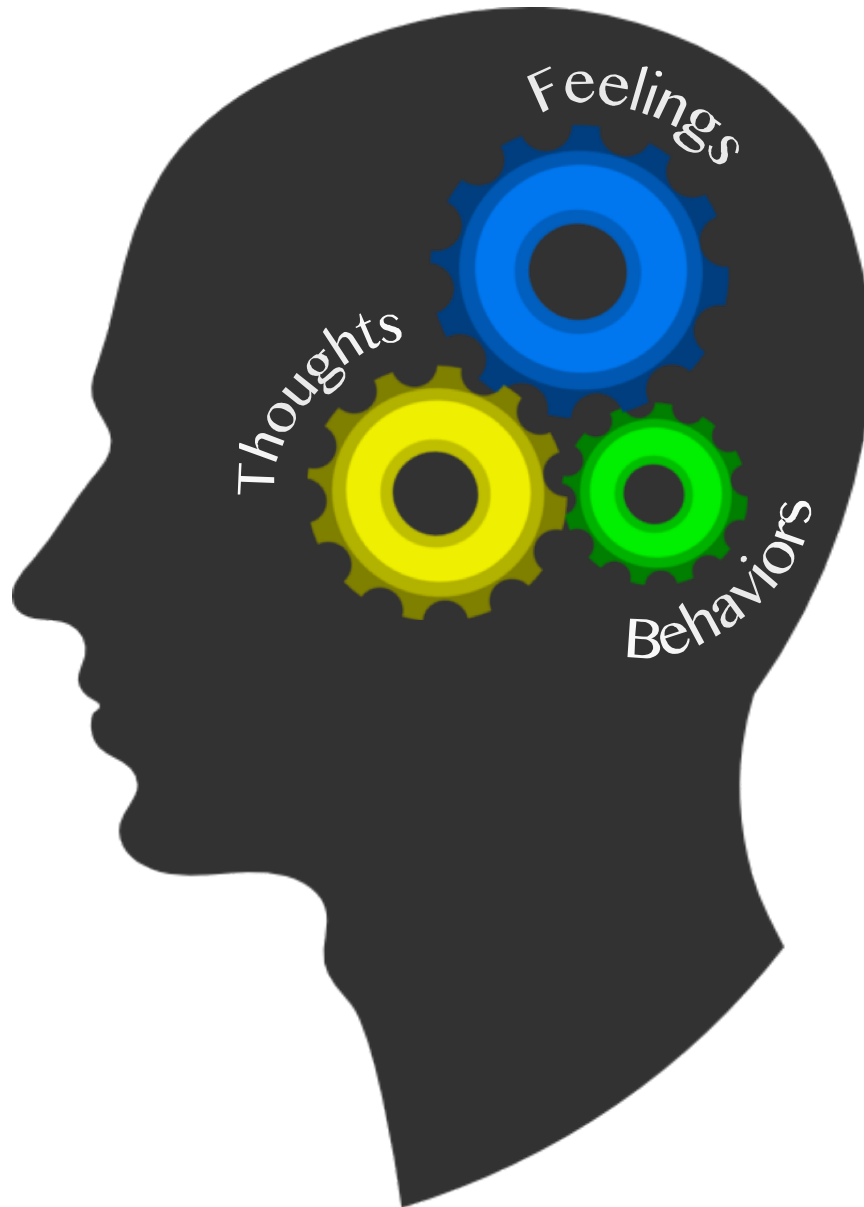
The primary focus of this guide is to address the lack of cognitive behavioral techniques and interventions available for therapists to implement, specifically in regards to PSA and PSD. It is imperative for occupational therapists to understand that this guide should not be the sole focus of therapy; instead, treatment sessions should incorporate aspects of this guide into current post-stroke interventions. This guide is not intended to replace existing methods of treatment, but rather to serve as a supplement for providing a more comprehensive approach to post-stroke rehabilitation. It is intended to be used in adjunct with traditional therapies that focus on physical rehabilitation, such as improving strength, endurance, and range of motion. Since this guide is a reference and not a protocol, the interventions may be used in various orders depending on the client. Each individual is unique in their needs and levels of progression, which enforces the need for therapists to use clinical reasoning skills. With this said, there is not a specific timeframe in which this guide must be completed. Therapist discretion and clinical decision-making

is recommended when utilizing these techniques, as they can be applied in various ways, though it is essential to connect the skills being learned to occupational performance in order to support functional progress, improved self-efficacy, and generalization of skills.

This guide was created to include the core concepts of the Model of Human Occupation (MOHO) as the core concepts directly correlate with the primary goals of CBT. Taylor (2006) emphasizes the importance of volition in individuals with chronic conditions, and how an individual's level of motivation can influence their participation in daily life. This can be applied in the case of those who have experienced a stroke, where factors such as personal causation, values, and interests (Kielhofner, 2008) may be compromised due to PSD and/or PSA.

The following sections of the guide include several assessments, non-standardized and standardized, to provide the occupational therapist with a list of options to select from, based on an individual's client factors. It is important to note that not all assessments included should be administered, and that occupational therapists are advised to use clinical reasoning to determine the best evaluation method for each individual. The authors also included CBT intervention strategies that have proven to be effective with individuals who have neurologic disorders such as multiple sclerosis (MS) and Parkinson's. Each CBT strategy is thoroughly described in the guide, and includes handouts for the occupational therapist and client, supportive evidence, benefits, integration into occupational performance, and occupational therapist strategies. Additionally, there is information that addresses outcomes, recurrent stroke prevention, and steps to prepare for discharge, which brings the therapy process full circle by adhering to the profession's holistic framework.

Part 2: Occupational Therapy Evaluation & Assessments



Evaluation is a key component of the occupational therapy process (American Occupational Therapy Association, 2014), as the results often dictate the future method and mode of intervention. It is essential to utilize effective screening/assessment tools in order to obtain accurate and client-centered information. According to Kootker et al. (2012), cognitive behavioral therapy (CBT) implementation should address cognitive impairments, emotional barriers, and behavioral exercises to be executed in daily life situations; therefore, the assessments utilized should reflect client factors that may impact occupational performance. For the purpose of this manual, the following screening tools and assessments correlate with the key elements of MOHO, while addressing specific cognitive and behavioral limitations that typically affect an individual post-stroke. Initially, it is imperative to develop a comprehensive occupational profile of the individual (American Occupational Therapy Association, 2014). By doing so, the therapist is able to employ their clinical judgment in determining if the client is appropriate for the post-stroke CBT program, as CBT intervention techniques require an adequate cognitive functioning capacity.

The presented assessments are intended for implementation in addition to customary post-stroke assessments of performance skills and client factors, not as the sole assessment(s). Discretion of the therapist is essential for determining the specific assessment to employ in order to best analyze the client's needs and abilities. Various assessments are presented, though it is not recommended to use every assessment, but rather 1-3 assessments to establish a baseline of cognitive/behavioral functioning.

Quick Reference Guide to Occupational Therapy Assessments

Assessment	Component	Population	Type	Source
Brief Neuropsychological Cognitive Evaluation (BNCE)	Cognition: working memory, gnosis, praxis, language, orientation, attention, and executive functions	Adults 18+ diagnosed with stroke, TBI, Parkinson's, Schizophrenia	Pencil-paper & functional tasks	www.wpspublish.com
Model of Human Occupation Screening Tool (MOHOST)	Motivation, pattern of occupation, communication and interaction skills, motor skills, and environment	Individuals with mental health impairments	Observation, discussion, & record review	www.moho.uic.edu
Self-Regulation Skills Interview (SRSI)	Metacognition and self-regulation skills	Adults with possible cognitive impairments	Semi-structured interview	Gillen, 2009
Short Form-36 Health Survey (SF-36)	Physical and mental well-being	Adults	Self-report	www.qualitymetric.com/products
Hospital Anxiety and Depression Scale (HADS)	Depression & anxiety	Adults	Self-report	http://www.scalesandmeasures.net/files/files/HADS.pdf
Beck Depression Inventory 2nd ed. (BDI-II)	Severity of depression	Adults	Self-report	www.pearsonclinical.com
Beck Anxiety Inventory (BAI)	Severity of anxiety	Adults	Self-report	http://www.pearsonclinical.com/psychology/products
Stroke Specific Quality of Life Scale (SS-QOL)	Quality of life	Adults post-stroke	Self-report	www.strokecenter.org
Stroke Impact Scale (SIS)	Strength, hand function, ADL/IADL, mobility,	Adults post-stroke	Self-report	http://stroke.ahajournals.org

	communication, emotion, memory and thinking, and participation			
Role Checklist	Perception of past, present, and future roles	Older adolescents and adults	Self-report	www.moho.uic.edu
Functional Status Questionnaire (FSQ)	Limitations and changes in functional status.	Adults	Self-report	http://geriatrictoolkit.missouri.edu
Cognitive Performance Test (CPT)	ADL/IADL	Adults with dementia, Alzheimer's, and/or psychiatric diagnoses	Functional tasks	http://www.maddak.com/index.php

Brief Neuropsychological Cognitive Examination (BNCE)

The purpose of this screening tool is to determine the cognitive status of a patient with psychological or neurological deficits through the use of pencil-paper tasks, as well as performance tasks. The BNCE measures 10 categories including working memory, gnosis, praxis, language, orientation, attention, and executive functions and takes approximately 25-30 minutes to complete. Each response records a score of 1 (correct) or 0 (incorrect). Upon completion of the assessment, the therapist totals the scores to determine level of cognitive impairment (Cooke & Kline, 2007).

Intended Population. Designed for individuals 18 and older with a wide range of diagnoses such as head injury, stroke, Huntington's, Parkinson's, substance abuse, Schizophrenia; applicable in various adult patient settings (Cooke & Kline, 2007).

Relevancy. This screening tool directly correlates with the objectives of this intervention guide, as it could be beneficial in determining if an individual post-stroke is cognitively appropriate to engage in CBT techniques. The results also are indicative of cognitive abilities and impairments, from which to base continuing therapy on.

Source & Cost.

Western Psychological Services

12031 Wilshire Blvd.

Los Angeles, CA 90025-1251

Phone: 310-478-2061

www.wpspublish.com

Cost: \$164.50

Model of Human Occupation Screening Tool (MOHOST 2.0)

The purpose of this screening tool is to determine the need of occupational therapy services from a MOHO perspective, as the tool specifically addresses motivation for occupation, pattern of occupation, communication and interaction skills, motor skills, and environment. Screening time can last days or weeks dependent on the therapist's discrepancy of time and days of observation. The tool consists of 24 items rated on observation, discussion, and record review. The client's strengths (rated as F) and weakness (rated as A, I, or R) patterns are recorded to determine the needs of the client (Schultz-Krohn, 2007).

Intended Population. Designed for individuals with mental health impairments who demonstrate the inability to express concerns, poor concentration, and/or poor insight (Schultz-Krohn, 2007).

Relevancy. This screening tool directly correlates with the objectives of this intervention guide, as well as implements the core concepts of the MOHO model. The therapist is able to gain better insight into the individual's meaningful occupations, functioning in desired occupations, motivation, roles, and skills. The results could serve as a basis for goal setting and intervention implementation. CBT techniques could be utilized to improve areas as identified by the MOHOST.

Source & Cost.

Model of Human Occupation Clearinghouse

Phone: 312-413-7469

www.moho.uic.edu

Cost: \$40.00

Self-Regulation Skills Interview (SRSI)

The purpose of this interview is to assess metacognition and self-regulation skills of the client. The assessment consists of a semi-structured clinician rated interview made up of six questions related to everyday living. The results of the assessment indicate the client's awareness, readiness to change, and a strategy behavioral index (Gillen, 2009).

Intended Population. Designed for individual's post-acquired traumatic brain injury, though may be beneficial when applied to other adult populations who demonstrate cognitive impairments (Gillen, 2009).

Relevancy. This interview directly correlates with the objectives of this intervention guide and the core concepts of MOHO through specifically addressing awareness, readiness to change, and behavioral strategy. The results from this interview can guide a therapist in implementing CBT strategies that are beneficial to the client, ultimately impacting their motivation for change and ability to successfully engage in occupations.

Source & Cost.

Gillen, G. (2009). *Cognitive and perceptual rehabilitation: Optimizing function*. (pp. 67-104). St. Louis, MO: Mosby, Inc.

Cost not available.

Short Form-36 Health Survey (SF-36) Version 2

The purpose of the assessment tool is to gain a general health perspective of the individual, which incorporates questions regarding physical and mental well-being specifically regarding functional limitations. Eight scales are present including physical functioning, role limitations due to physical health, bodily pain, social functioning, general mental health, role limitations due to emotional problems, vitality, and general health perceptions. The SF-36 takes approximately 5-15 minutes to complete as it is designed to be a self-report questionnaire (Martin, 2007).

Intended Population. Designed for the adult population (Martin, 2007).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide and the core concepts of MOHO, as it specifically addresses the correlation between mental and physical health. The results of the tool can assist therapists in determining the CBT strategies to implement in the rehabilitation process.

Source & Cost.

QualityMetric, Inc.

640 George Washington Hwy, Ste 201

Lincoln, RI 02865

Phone: 800-572-9394

www.qualitymetric.com/products

Hospital Anxiety and Depression Scale (HADS)

The purpose of this tool is to detect states of depression and anxiety in clients through the use of a self-report rating scale. The assessment consists of 14 questions, 7 that addressed anxiety and 7 that address depression. The client rates their answers on a four-point response category (0-3), resulting in a possible score of 0-21 for both anxiety and depression. A higher score indicates a higher level of anxiety and/or depression. Administration takes approximately 2-5 minutes, though it is recommended that the administrator conduct follow-up questions (Snaith, 2003).

Intended Population. Designed for adults with the potential risk of developing anxiety or depression (Snaith, 2003).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide through determining the severity of anxiety and depression in individuals post-stroke. Through early detection, the therapist can employ CBT strategies and techniques to improve anxiety and depression. This tool is also beneficial to use for clinical monitoring and outcome measurement.

Source & Cost.

<http://www.scalesandmeasures.net/files/files/HADS.pdf>

Cost: Free

Beck Depression Inventory 2nd ed. (BDI-II)

The purpose of this assessment is to identify the severity of depression present in at risk clients. The 21 question self-report questionnaire takes approximately 5-10 minutes to administer by asking the individual to choose the response, which described their feelings most accurately in the past 2 weeks. The statements are correlated with a number 0-3 to assess severity of depression. The higher the score indicates the greater severity of depression. Scores range from mild depression to severe depression (Crist, 2007).

Intended Population. Designed for adults' ages 13-80 with suspected depression (Crist, 2007).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide as it helps identify the severity of depression an individual is experiencing, as well as gives insight into areas to be improved upon. The concepts of CBT can be implemented upon completion of this assessment by addressing depression through coping mechanisms and activity engagement.

Source & Cost.

Psychological Corporation

19500 Bulverde Rd.

San Antonio, TX 78259

Phone: 800-211-8378

www.pearsonclinical.com

Cost: \$125.00

Beck Anxiety Inventory (BAI)

The purpose of this assessment is to identify the severity of anxiety present in at risk clients. The 21 item self-report questionnaire takes approximately 5-10 minutes to administer. The clients rate statements correlated with a number 0-3 to assess anxiety in relation to somatic, affective, and cognitive symptoms of anxiety. The higher the score indicates the greater level of anxiety (Beck, Epstein, Brown, & Steer, 1988).

Intended Population. Designed for adults' ages 13-80 with the potential generalized anxiety (Beck, Epstein, Brown, & Steer, 1988).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide as it helps identify the severity of anxiety an individual experiences post-stroke, as well as gives insight into areas to be improved upon. The concepts of CBT can be implemented upon completion of this assessment by addressing anxiety through coping mechanisms, relaxation strategies, education, and activity engagement.

Source & Cost.

<http://www.pearsonclinical.com/psychology/products>

Cost: \$125.00

Stroke Specific Quality of Life Scale (SS-QOL)

The purpose of this scale is to measure quality of life in individuals post-stroke. The assessment specifically addresses the physical and psychological limitations individuals often experience during recovery from a stroke. The scale takes approximately 15 minutes to complete and measures 12 domains: energy, family roles, language, mobility, mood, personality, self-care, social roles, thinking, upper extremity function, vision, and work/productivity. Clients rate their perceived function on a scale from 1 to 5 with 1 indicating total help/strongly agree and 5 indicating no help/strongly disagree. The lower the self-reported number suggests lower functioning (William, Weinberger, Harris, Clark & Biller, 1999).

Intended Population. Designed for individuals post-stroke (William, Weinberger, Harris, Clark & Biller, 1999).

Relevancy. This scale directly correlates with the objectives of this intervention guide and the core concepts of MOHO by incorporating specific post-stroke impairments that impact an individual's physical and mental well-being, ultimately affecting volition, values, roles, routines, and habits. The results of this quality of life scale are pertinent in determining which CBT techniques to employ.

Source & Cost.

www.strokecenter.org

Cost: Free

Stroke Impact Scale (SIS)

The purpose of this scale is to identify specific consequences post-stroke through the use of a 64-item questionnaire. The questionnaire addresses 8 domains including strength, hand function, ADL/IADL, mobility, communication, emotion, memory and thinking, and participation. The results of the scale indicate how the individual perceives how their stroke has impacted their functioning and quality of life, as well as how they have recovered from their stroke, which can guide the intervention process (Duncan, Wallace, Lai, Johnson, Embretson & Laster, 1999).

Intended Population. Designed specifically for individuals post-stroke (Duncan, Wallace, Lai, Johnson, Embretson & Laster, 1999).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide and the core concepts of MOHO by obtaining the client's perspective of their impairments and limitations post-stroke as well as their functional recovery. The scale addresses both cognitive and physical impairments, perfectly guiding the use of CBT strategies during intervention implementation. The scale can also give the therapist insight into certain motivational strategies and role participation to employ during the process.

Source & Cost.

http://www.northeastrehab.com/Forms/NRH_Forms/SIS_Handout.pdf

Cost: Free

Role Checklist

The purpose of this checklist is to assess a client's perception of their roles in the past, present, and future through a self-administered questionnaire and rating form. The checklist takes approximately 15 minutes to administer and covers the following categories: continuous roles, disrupted roles, role changes, past roles, present roles, future roles. The client rates each role on a scale from not valuable to valuable. The results indicate motivation to return to role competence, as well as changes in role perception over time (Reed, 2007).

Intended Population. Designed for older adolescents, adults, or older adults who have the ability to comprehend the instructions (Reed, 2007).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide and the core concepts of MOHO as it assists the client in identifying valuable roles and role changes they may be experiencing. The results of the tool can guide the intervention process by examining which roles are most important and how the individual can utilize CBT strategies to cope with role changes, as well as improve engagement in behavioral roles.

Source & Cost.

Model of Human Occupation Clearinghouse

Phone: 312-413-7469

www.moho.uic.edu

Cost: Free

Functional Status Questionnaire (FSQ)

The purpose of this questionnaire is to screen for limitations and changes in functional abilities. It is a self-administered tool that takes approximately 15 minutes to complete. The assessment is categorized into six scales including basic activities of daily living, intermediate activities of daily living, mental health, work performance, social activity, and quality of interaction. The results range from 0-100, with 0 indicating minimal function and 100 indicating full function (D'Amico & Mortera, 2007).

Intended Population. Designed for the adult population (D'Amico & Mortera, 2007).

Relevancy. This assessment tool directly correlates with the objectives of this intervention guide as it assists the therapist and client in identifying specific areas of occupation that may be limited post-stroke. The results of the assessment determine the potential future of the therapeutic process and how CBT strategies can be implemented to facilitate occupational success.

Source & Cost.

<http://geriatrictoolkit.missouri.edu>

Cost: Free

Assessment Record

The purpose of this record is to monitor and track a client's progress through post-stroke occupational therapy rehabilitation. This record will be solely used by the therapist and will be beneficial for recording assessment data in a single location. In addition the client's progress, maintenance, or decline in functioning can be easily monitored; furthermore, this record can assist the therapist in documenting objective and measurable data throughout the occupational therapy process. The record can also serve as a reminder to continually examine the individual's progress, while also serving as a prompt for follow-up. In maintaining this record, the client will continually have input into their rehabilitation, as well as have the opportunity to express positives and areas of continued concern. Therapist discretion and clinical reasoning is a key component to employ during the assessment process as all of these assessments have shown to be relevant with the post-stroke population; though, certain assessments may be more beneficial than others, depending on the client's immediate needs.

Assessment Record

Directions: In order to monitor functional/cognitive changes and to track an individual's progress through the therapeutic process, this chart may be used to document the assessment results. Record the results from each particular assessment in the chart provided at initial assessment, re-evaluation, discharge, and follow-up.

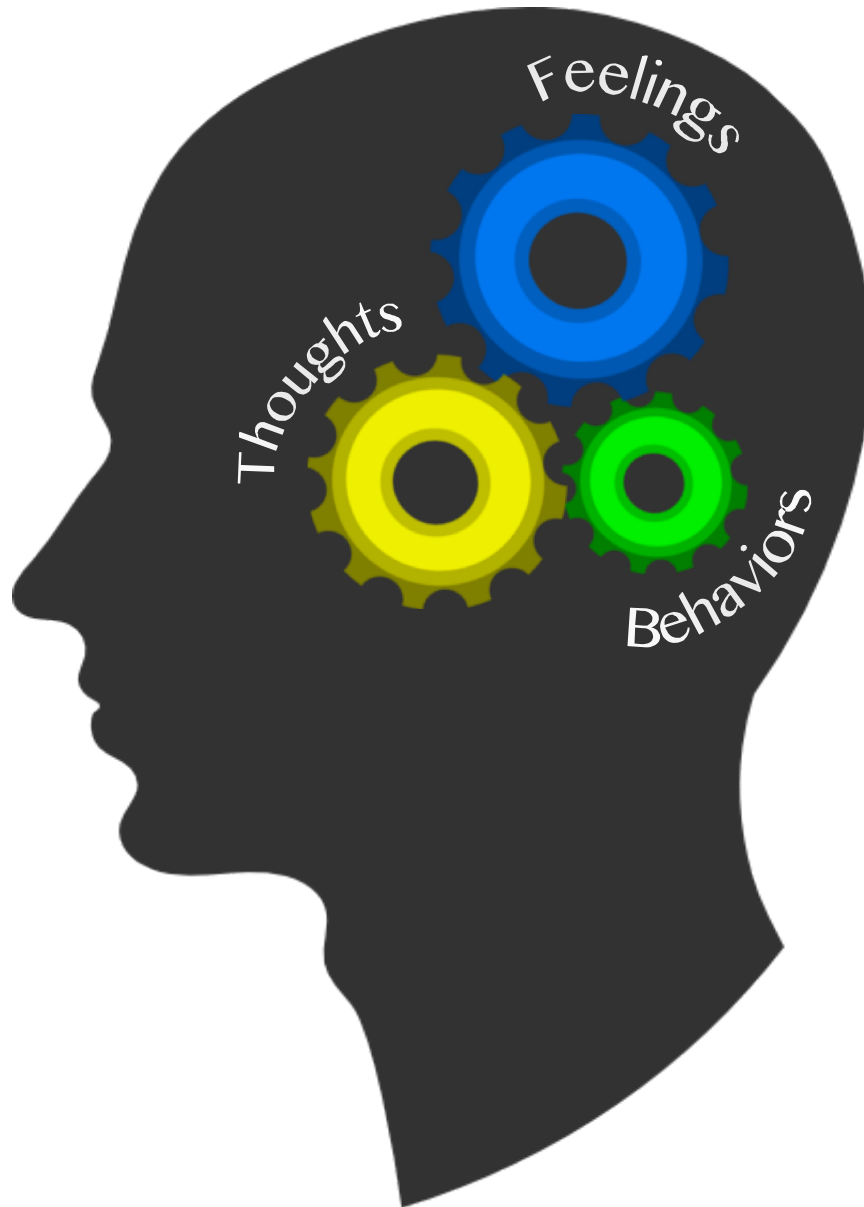
Name: _____ **DOB:** _____

Title of Assessment	Initial Assessment	Re-evaluation	Discharge	Follow-up
BNCE				
MOHOST				
SRSI				
SF-36				
HADS	A: D:	A: D:	A: D:	A: D:
BDI-II				
BAI				
SS-QoL				
SIS				
Role Checklist				
FSQ				

Comments/Recommendations:

Therapist Signature: _____ **Date:** _____

Part 3: Occupational Therapy Intervention Planning



Upon completion of a comprehensive assessment of the individual that addressed both the psychosocial and physical components of the person, it is essential to develop goals addressing the identified limitations. It is important to note that while many of the included assessments are intended to measure the mental functions of the individual, it is imperative to use these assessments in adjunct with standard post-stroke occupational therapy assessments. A client is most likely to improve if the primary goals accurately reflect the clients main concerns, stressing the importance of therapist-client collaboration (National Stroke Association, 2010; Taylor, 2006). Goals that are concrete, behaviorally oriented, and easily attainable in a short, specified time frame have shown to develop the greatest success (Taylor, 2006). According to Taylor (2006), there are three primary types of CBT goals to consider: “being goals”, “becoming goals”, and “doing goals”.

- “Being goals” are typically process oriented and focus on simply existence, such as accepting who the individual currently is rather than who they once were.
- “Becoming goals” focus on interpersonal or psychological development such as relationships with others.
- “Doing goals” are concrete and readily attainable, often revolving around specified occupations (Taylor, 2006).

Taylor (2006) recommends starting with “doing goals”, as they are more measureable and attainable, then work towards “being” and “becoming goals”. In accomplishing “doing goals”, the individual is well on their way to achieving “being and becoming goals” as they are experiencing a heightened level of self-esteem and self-efficacy. Goal setting from the client’s perspective is highly reliant on: the level of

hopefulness or optimism, a sufficient degree of self-esteem, past experiences to draw confidence from, having sufficient resources available, and living in a safe, supportive environment that is free from environmental limitations (Taylor, 2006). Taylor (2006, p. 49) identifies possible questions to facilitate goal-setting including:

1. What would you say is your greatest worry or difficulty right now?
2. What would need to happen in order to overcome that difficulty?
3. Is there a role you could play in helping to overcome this difficulty?
4. What do you need most today?
5. What would you like to gain from our work together?
6. What are some of your hopes for the future?
7. Would you [visualize, write, draw, or describe] your goal for me?

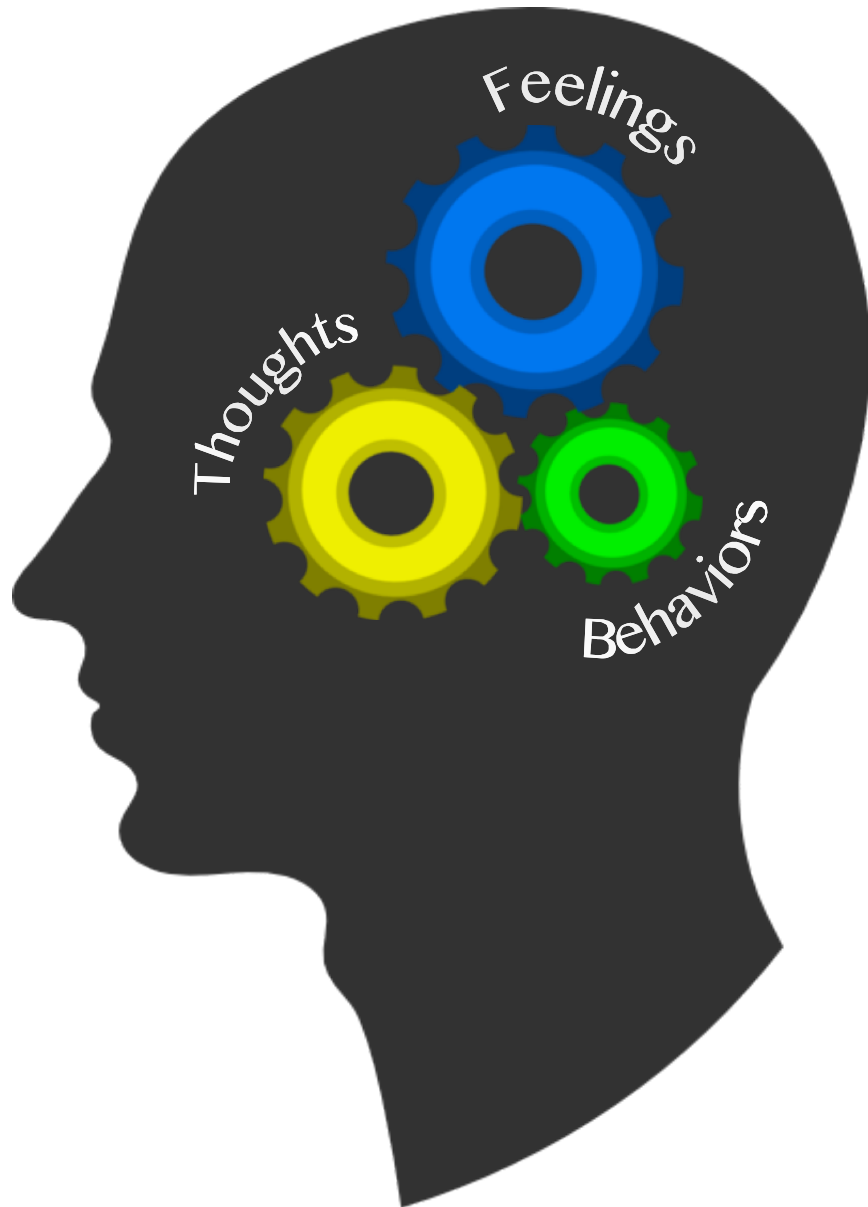
In the case of this guide, these questions may be beneficial in specifically addressing the physical and psychosocial needs of the client. It is essential to remember that the initial goals are subject to change as the individual progresses through therapy. Re-evaluation of goals upon skill mastery is imperative in order to obtain the greatest level of occupational competence. The following section describes possible cognitive-behavioral interventions to employ in order to address the specific needs of the client. Depending on the identified limitations, some or all of these techniques may be relevant. There is no specified order in which the components need to be addressed, as it is up to the therapist's discretion to determine the severity of necessity.

What to Expect in Occupational Therapy

Education	<ul style="list-style-type: none">• What is a stroke? How is your body reacting? What to expect from therapy?
Functional Performance Strategies	<ul style="list-style-type: none">• Exercise, compensatory and adaptation strategies, home modifications
Grief Resolution	<ul style="list-style-type: none">• How to move forward with your new life.
Self-Management	<ul style="list-style-type: none">• Becoming in control of your rehabilitation and chronic conditions
Coping	<ul style="list-style-type: none">• How to deal with negative impairments in a healthy manner
Self-Esteem	<ul style="list-style-type: none">• Steps to improve how you feel about yourself and your outlook on life.
Changing/Challenging Negative Thoughts	<ul style="list-style-type: none">• Changing negative thoughts and feelings into positive ones.
Distorted Thinking	<ul style="list-style-type: none">• How our thinking affects our behaviors
Cognitive Restructuring	<ul style="list-style-type: none">• Positively changing your thoughts and feelings
Behavioral Activation	<ul style="list-style-type: none">• Identifying why we avoid certain activities and how we can overcome these barriers
Fear of Falling	<ul style="list-style-type: none">• Tips and tools to use if you are afraid of falling and what steps to take if you do fall
Relapse Prevention	<ul style="list-style-type: none">• Tips on how to prevent a recurrent stroke or other comorbidities

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

Part 4: Occupational Therapy Intervention Implementation



Occupational therapy intervention varies based on the client's immediate needs and occupational limitations. The interventions provided in this section of the guide are not intended to be implemented in a specific order, but rather to be used in unison with the identified limitations of the client. As a result, the therapist may use a one, a few, or all of the sessions in varying orders in order to promote occupational performance. It is essential to note that not all session may be used with each client. An occupational therapy intervention quick reference is provided, portraying a visual of how the interventions included fall on the cognitive-behavioral spectrum. Education, which is placed on the top, center of the arrow, is included in the guide as educational techniques are employed throughout the therapeutic process. Education should be regularly implemented through each treatment session, facilitating the client's understanding of their road to recovery. This aspect of intervention is not intended to be talk-based treatment, but rather to facilitate communication between the therapist and client.

Education

What Is It?

Education is an essential aspect of the therapeutic process in order to enhance the client's understanding of their diagnoses, to further explain the therapeutic process, and to build a better occupational profile of the client. The Occupational Therapy Practice Framework: Domain and Process (2014), identifies education as a type of occupational therapy intervention defined as, "an intervention process that involves the imparting of knowledge and information about occupation and activity and that does not result in actual performance of the occupation/activity" (p. 628). Although education is not going to result in the actual performance of the occupation, it should still be integrated into each

of the intervention strategies presented in this guide. In promoting the client's understanding, the therapist is also facilitating motivation to enhance occupational recovery through building a greater therapeutic rapport. Education should occur within the first two sessions; however, can be implemented throughout the remainder of therapy, as the client may desire further knowledge regarding their progress or prognosis.

According to Taylor (2006, p. 53) clients should be taught that CBT is characterized by five practices including:

- A collaborative relationship
- Setting and following a weekly structure and agenda
- Answering questions and providing feedback
- Completing weekly homework assignments
- Learning to become one's own therapist.

Throughout the process of therapy, clients are encouraged to play a more active role in their recovery, promoting self-management their chronic condition.

Supporting Evidence

According to the National Stroke Association (2010), three key components should be present when providing information and education to stroke survivors and their family which include: all stroke survivors and their families should be offered detailed information tailored to meet their needs using relevant language and communication formats, information should be provided at different stages of recovery, and stroke survivors and their families should be provided with routine follow-up opportunities for clarification or reinforcement of information provided. Client education is also an important factor in relapse prevention, as approximately 25% of individuals who recover

from an initial stroke will have another stroke within the following 5 years (Stroke Awareness Foundation, 2014). Education can also drastically decrease the individual's chances in developing PSA or PSD.

Benefits

According to the Patient Education Institute (2013), a client is better able to actively participate in their treatment, improve outcomes, and reduce lengths of stay when properly educated. Other benefits they identify are increasing the client's ability to cope with their current disability or diagnosis, facilitates better understanding of treatment options and consequences of care, empowers clients, improves follow through, promotes recovery and function, increased confidence, decreased complications, and prevention of relapse.

Application to Occupational Performance

Educating the client throughout the therapeutic process allows for the client to ask questions pertaining to meaningful occupations in order to enhance engagement. The therapist is also better able to gain a full perspective of how to better address the client's wants and needs.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on what a stroke is, how it can impact their life, and most importantly how they can recover. A brochure is provided in the appendix.
- Explain why it is important to address PSA and PSD.

- Provide client with the handouts on Stroke, PSA/PSD, and what to expect from therapy if the client desires to learn more.
- Ask the client what questions they may have.
 - Make sure the client understands they are always able to ask questions at a later time if questions arise.
- Assist client in recognizing and understanding how becoming more aware of PSA/PSD can help them participate in meaningful occupations that may have been interrupted.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

HIDDEN CHARACTERISTICS AFTER A STROKE

Post-Stroke Anxiety (PSA)

- Occurs in 23-29% of post-stroke survivors two weeks to five years after the initial stroke.
- PSA is more stable and chronic than PSD
- Characteristics increasing your chances of developing PSA:
 - Female
 - Depression
 - Decreased engagement in social activities
- Signs & Symptoms:
 - Fear
 - Emotional lability
 - Changes in personality
 - Irritability
 - Worry
- Can impact a number of your daily activities including socialization, exercise, dressing, bathing, driving, cooking, and overall lower quality of life.

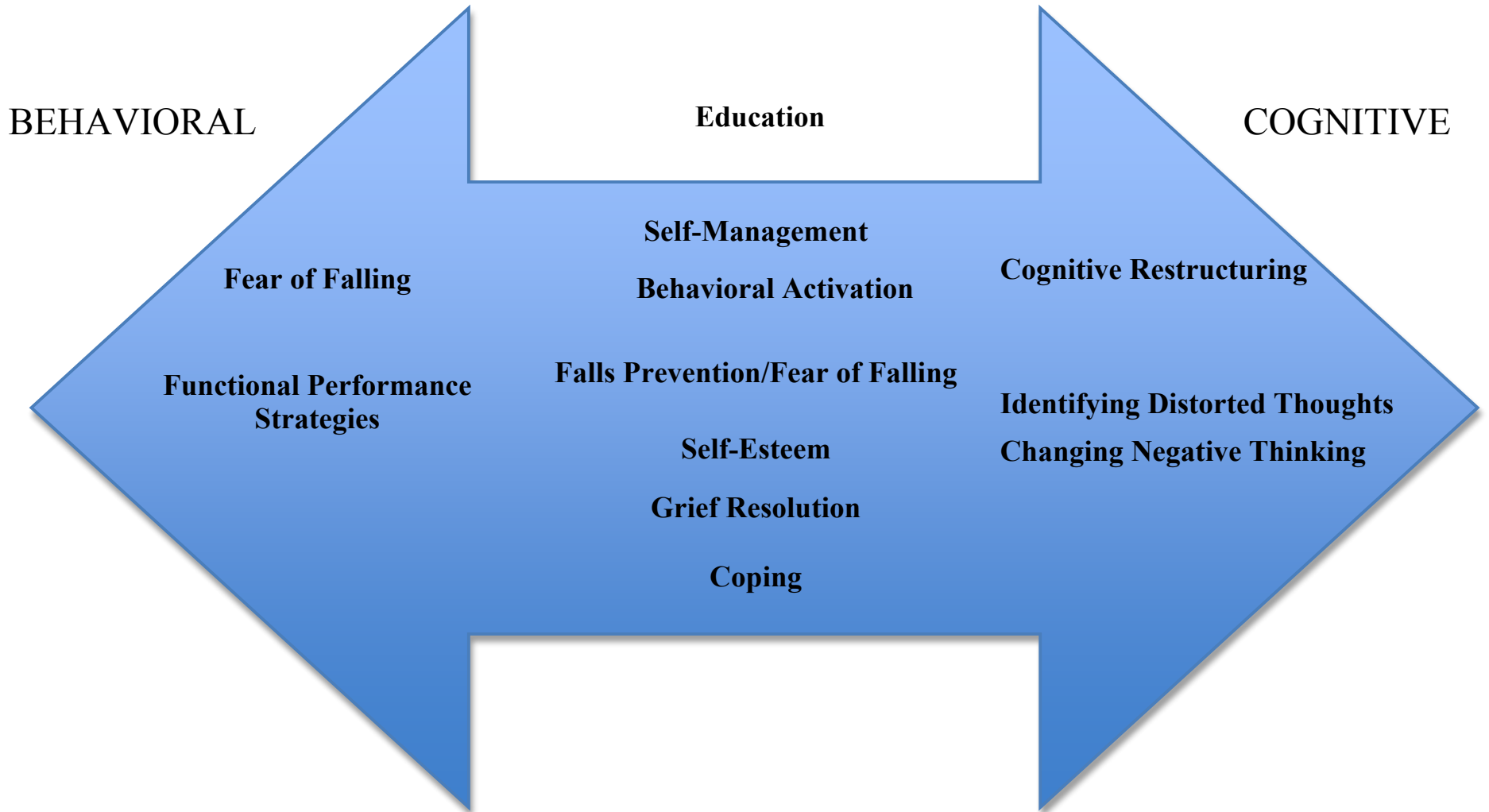
(Modified from Tang et al., 2014; D'Aniello, et al., 2014, & Morris et al., 2013)

Post-Stroke Depression (PSD)

- Approximately 25% of individuals experience PSD
- Common in the early stages post-stroke.
- Often seen with PSA
- Characterized by:
 - Executive dysfunction
 - Attention deficits
 - Problem-solving impairments
 - Lower quality of life
 - Social isolation
 - Increased physical and cognitive deficits
- Can impact a number of your daily activities including socialization, exercise, dressing, bathing, driving, cooking, and overall lower quality of life.

(Modified from Tang et al., 2014; D'Aniello, et al., 2014, & Morris et al., 2013)

OCCUPATIONAL THERAPY INTERVENTION QUICK REFERENCE



Functional Performance Strategies

What Is It?

Functional performance strategies refer to the physical and environmental factors of post-stroke rehabilitation. This category may consist of exercise, range of motion, edema management, compensatory strategies, adaptive equipment, home modifications, and regaining independence in meaningful occupations dependent on the individuals unique needs.

Supporting Evidence

According to the National Stroke Association (2010), individuals post-stroke often experience physical limitations, such as weakness, paralysis, and balance problems, leading to approximately 40% of individuals post-stroke experiencing a serious fall within one year. Fear of falling, diminished self-esteem, and physical/environmental limitations ultimately lead to occupational deprivation. Stroke survivors are often deconditioned and predisposed to a sedentary lifestyle, impacting activities of daily living, increased risk of falls, increased risk of developing cardiovascular diseases, and may contribute to a greater risk of experiencing a recurrent stroke (Billinger et al., 2014).

Benefits

By addressing the physical and environmental needs of the individual, they are better able to engage in meaningful occupations throughout the rehabilitation process. As their functional capacities increase, the environmental adaptations can also be altered depending on the needs of the client. The physical rehabilitation aspect encourages an active lifestyle with the potential to decrease potential post-stroke risks including anxiety, depression, social isolation, recurrent stroke, or other cardiovascular diseases.

Application to Occupational Performance

For the purpose of this intervention guide, this section serves as a reminder to the therapist and the client to implement common post-stroke intervention strategies focusing on aspects such as exercise, range of motion, occupational performance, edema management, adaptations, and environmental modifications. This is essential for active engagement in occupations as the individual's physical functioning may be more limiting than the individual's cognitive or emotional functioning. By implementing occupational adaptations and environmental adaptations, the individual is able to engage in meaningful occupations, roles, routines, and/or habits that he or she identified as being interrupted. Improvement of occupational performance, results in a heightened sense of self-efficacy, personal causation, and occupational engagement.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Incorporate “usual” post-stroke occupational therapy intervention while implementing CBT strategies to achieve the greatest possible outcome.
- Depending on the client's limitations and a thorough activity analysis, activity adaptations or compensatory strategies should be utilized.
- Educate the client on the importance of exercise and improving strength and range of motion, while decreasing fear, pain, and edema.
- Determine if a home evaluation is necessary. If a home evaluation would be beneficial for the client, the therapist should complete a thorough evaluation of

the client's home, followed by providing the client with suggested recommendations to ensure client safety.

- Collaborate with the client to determine appropriate adaptive and cost effective adaptive equipment.
- Determine an appropriate home exercise program to facilitate physical strength and endurance.
- Assist client in recognizing and understanding connection between physical and occupational limitations and PSD/PSA, helping them participate in meaningful occupations that may have been interrupted.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

FUNCTIONAL PERFORMANCE
RESOURCES,
MATERIALS & HANDOUTS

Resource, Material, & Handout Instructions

- **Summary of Physical Activity Post-Stroke:** This handout is intended for therapist use, as it serves as a general guide to physical rehabilitation strategies to employ during each phase of rehabilitation. Each phase correlates with increasing engagement in occupations. Although the resource focuses more on exercise, meaningful occupations can be incorporated as the mode of exercise rather than weights, arm bike, or weights. The ultimate goal from this resource is to increase occupational performance by increasing the client's physical capabilities.

SUMMARY OF PHYSICAL ACTIVITY POST-STROKE

Setting	Goals	Mode of Exercise	Guideline
Hospital/Acute	Prevent deconditioning Prevent depression Evaluate cognitive and motor deficits Address balance and coordination	Low level walking Self-care activities Seated activities Range of motion, motor challenges	As tolerated
Outpatient Rehabilitation			
Aerobic	Increase walking speed Improve functional capacity Increase ADL independence Reduce motor impairment Improve cognition	Large muscle activities (walking, cycling, arm exercises)	3-5 days/week 20-60 min sessions 5-10 min of warm-up and cool down activities Compliment with pedometers
Muscle Strength/Endurance	Increase strength and endurance Increase ability to perform leisure, ADL, and IADL activities Reduce cardiac demands	Resistance training of U/E Use of free weights Weight-bearing activities Circuit training Functional Mobility Occupational Performance	1-3 sets of 10-15 repetitions 2-3 days/week Gradually increase resistance
Flexibility	Increase ROM Prevent contractures Increase ADLs & IADLs Decrease risk of injury	Stretching	Static stretches, hold for 10-30 seconds 2-3 days/week
Neuromuscular Improvement	Improve balance, quality of life, and mobility Decrease fear of falling Increase safety	Balance Tai chi Yoga Hand-eye coordination	2-3 days/week

Modified from Billinger et al., 2014

Grief Resolution

What Is It?

The development and sustainment of PSD often stems from the individuals ongoing struggle with functional loss (Broomfield et al., 2010). According to the National Stroke Association (2010), individuals who have experienced a stroke follow a similar grieving process to those who have experienced a death or divorce, as they begin to comprehend their personal loss. As stroke is often considered a chronic illness or diagnosis, it is imperative for the individual to recognize and utilize the stages of grief in order to promote the efficacy of therapy (Broomfield et al., 2010).

The most common model for supporting an individual through the grieving process is the Kubler-Ross Stages of Grief model, which guides the individual through five key steps in overcoming loss. The five stages of this model are denial, anger, bargaining, depression, and acceptance (Huntington's Disease Society of America, 2014). Denial is often a temporary defense for the individual, which typically is replaced with heightened awareness of loss. Individuals in this stage may state, "I am fine" or "this isn't happening to me". The second stage of grief, or anger, is defined by resentment, anger, jealousy, or rage. Individuals may say, "why me," "this isn't fair," or "who is to blame." Bargaining is the third stage, which is defined as the individual negotiating for returned functioning in exchange for something else. This may be recognized as "I'll do anything for...." or "just let me do ...". The fourth stage is depression. During this stage, individuals truly begin to understand the functional loss. It is common for individuals to be seen crying, refusing visitors, or disconnecting themselves during this time. The final stage is acceptance, which may occur 2-12 months post-stroke. During this stage, individuals may come to terms with their diagnosis and functional abilities, as well as be

more open to therapeutic intervention (Huntington's Disease Society of America, 2014). Although the model refers to the categories as stages, it is important to recognize the process is not always linear and each step does not always occur. The author identified that individuals often experience a roller-coaster effect while grieving, which refers to switching between two or more stages, or returning to a previous stage several times before fully working through it.

Supporting Evidence

Broomfield et al. (2010) identified that individuals post-stroke often experience feelings of grief and loss for at least 6-12 months following original onset, which suggests the implementation of CBT practices to work on bereavement counseling with former self. Throughout this process, it is essential to address letting go of the pre-stroke self and accepting the post-stroke self. It is suggested to provide support, as well as education about grief while the individual is in a weakened emotional and cognitive state (Broomfield et al., 2010).

Benefits

There are many added benefits from implementing grief resolution into post-stroke rehabilitation, as PTSD is a common hidden consequence of stroke. Grief resolution can positively impact the individual's view of the future (motivation). Comparing the intense post-stroke emotions to bereavement results in a sense of normality, ultimately decreasing the client's level of distress (Broomfield et al., 2010). Grief resolution can also prevent isolation, impact overall mental and physical well-being through acceptance, and can guide the individual to understand their feelings and emotions.

Application to Occupational Performance

By establishing an effective grief resolution plan, the individual is better able to adapt to the demands of new roles, habits, and routines in their every day lives. Rather than isolating from the multitude of activities in their every day lives, the individuals can learn how to accept and appreciate the valuable role they play in society. Grief resolution can also impact an individual's volition and personal causation through the development of acceptance.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

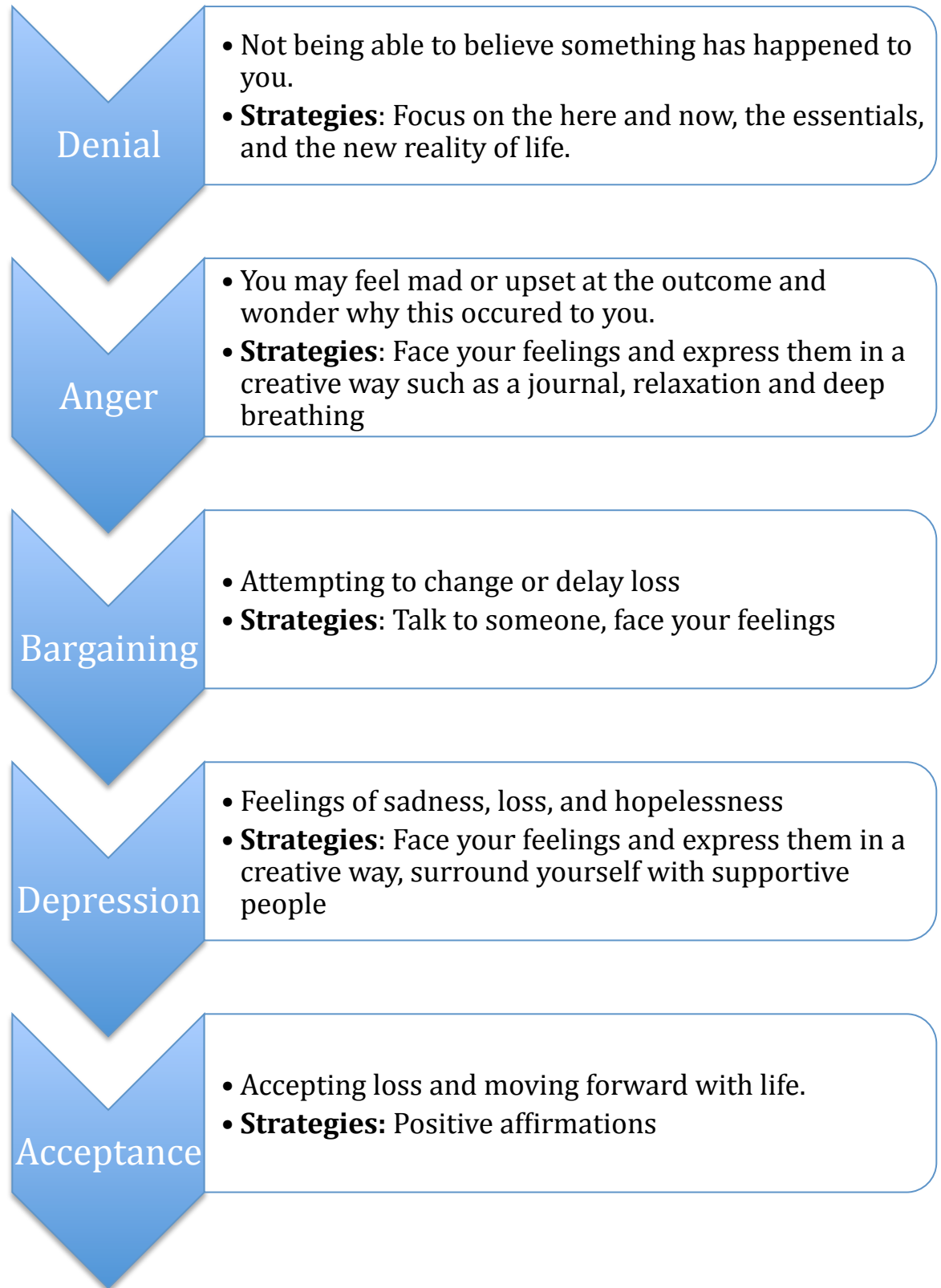
- Educate client on grief resolution (stages and how to overcome each stage).
- Provide client with handout on the stages and have the client identify how they have worked through each stage.
- If they have not worked through a stage, identify strategies to utilize for when the time arises.
- Allow the client time to discuss their feelings of grief.
- Collaborate to identify irrational thinking and how to challenge these thoughts.
- Identify support systems the individual is able to utilize during this difficult time.
- Assist client in recognizing and understanding how becoming more aware of their grief patterns can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Educate and assist client in applying skill learned to other areas of occupation.

**GRIEF RESOLUTION RESOURCES,
MATERIALS & HANDOUTS**

Resource, Material, & Handout Instructions

- **Stages of Grief Resource:** This resource is intended for the client and the therapist. When using this sheet, the therapist is able to explain the stages of grief to the client. They are then able to collaborate to determine the stage the individual is in, as well as strategies to move toward acceptance. The client is able to take this resource home in order to monitor their progress and remind them of strategies to employ during each stage.
- **My Stages of Grief Handout:** This handout is intended for client use. It may be beneficial to use this handout with the resource presented above. The client is instructed to reflect upon their progression towards acceptance thus far. It is encouraged to complete the worksheet through acceptance to facilitate a proactive rather than reactive approach to grief resolution.

STAGES OF GRIEF



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MY STAGES OF GRIEF

Please describe how you have worked through each stage of grief including strategies that have helped you. If you have not worked through some of the stages how could you prepare yourself?

1. Denial – “This can’t be happening”

2. Anger – “Why is this happening to me?”

3. Bargaining – “I will do anything to change this”

4. Depression – “What’s the point of going on?”

5. Acceptance – “It will all be okay”

Modified from Therapistaid.com (2014)

Self-Management

What Is It?

Self-management is a key and unique skill to utilize while adapting to life with a chronic condition such as heart disease, stroke, arthritis, depression, stroke, and diabetes. The primary component of self-management is encouraging clients to be an active participant in their disease management by acquiring the necessary skills in order to positively manage the chronic conditions. Specifically in regards to stroke, the most common self-management chronic conditions are fatigue, physical function, and difficult emotions (Lorig et al., 2012). Self-managing these conditions are mastered through three types of skills: 1) Skills needed to deal with the illness, 2) Skills needed to continue living normal life, and 3) Skills needed to deal with emotions (Lorig et al., 2012).

Supporting Evidence

According to Joice (2012), more individuals are surviving from stroke due to advances in medical treatment; therefore, self-management is key for these individuals to manage their post-stroke impairment and recovery. Self-management offers a holistic approach to care through enabling clients to maximize their recovery potential. Individuals who engaged in post-stroke self-management training experienced greater function in family roles, activities of daily living, self-care, work productivity, improved mood, reduced disability, and greater efficacy (Joice, 2012).

Benefits

Numerous benefits arise when implementing a self-management program with individuals who have chronic diseases or illnesses. The National Council on Aging (2014) identifies benefits as improvement in exercise and ability to participate in one's

own care, improved health status in fatigue, shortness of breath, pain, social activity limitation, illness intrusiveness, depression, and health distress, and improved health in relation to exercise, cognitive symptom management, communication, and self-efficacy.

Application to Occupational Performance

Encouraging self-maintenance strategies can motivate the client to take control of their chronic condition, ultimately placing them in control of their future. The individual becomes aware of conditions that may impact occupational performance while developing appropriate adaptive techniques for successful engagement. Self-management skills may be utilized in a number of settings and occupations, resulting in a greater sense of participation, self-efficacy, and volition.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate the client on self-management (what it is, the benefits, etc
- Ask the client what aspects of self-management they are struggling with (paraphrase, reflect, probe). Provide worksheets and information as necessary.
- Use motivational interviewing to facilitate the client taking control of his or her rehabilitation.
 - Motivational interviewing is a way to guide the client into recognizing and making decisions for themselves.
- Employ collaboration skills. Begin with instruction then transition into more of a coaching role.

- Assist client in recognizing and understanding how becoming more aware of their grief patterns can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

**SELF-MANAGEMENT RESOURCES,
MATERIALS & HANDOUTS**

Resource, Material, & Handout Instructions

- **Managing Fatigue Resource:** This handout is intended for the client, as it identifies potential strategies on how to manage fatigue. The therapist is encouraged to explain the handout to the client while giving specific examples that apply to the client's every day life.
- **Fatigue Diary:** This is a worksheet for the client to complete, with moderate assistance from the occupational therapist. The fatigue diary can be overwhelming to look at, especially upon first glance, so the therapist is encouraged to explain to the client that this tool typically requires practice to fully understand it. The therapist should walk the client through the steps of the fatigue diary, taking each step at a pace that the client feels comfortable with, yet being cognizant of the time allotted for the therapy session. The therapist should also explain that the purpose of a fatigue diary is to monitor activities that cause the client fatigue.
- **Daily Activity & Rest Diary:** This is a worksheet for the client to complete, with moderate assistance from the occupational therapist. The daily activity and rest diary can be overwhelming to look at, especially upon first glance, so the therapist is encouraged to explain to the client that this tool typically requires practice to fully understand it. The therapist should walk the client through the steps of the daily activity and rest diary, taking each step at a pace that the client feels comfortable with, yet being cognizant of the time allotted for the therapy session. The therapist should also explain that the purpose of a daily activity and rest diary is to ensure the individual is able to complete meaningful occupations, while incorporating necessary rest breaks throughout the day. The diary can serve as a visual reminder to take time to rest and conserve energy throughout the day.
- **Emotional Regulation:** This handout is intended to serve as a resource for the client. It can assist the client in understanding and regulating their emotions appropriately, in order to facilitate chronic disease self-management.
- **Mood Diary:** This is a worksheet for the client to complete, with moderate assistance from the occupational therapist. The mood diary can be overwhelming to look at, especially upon first glance, so the therapist is encouraged to explain to the client that this tool typically requires practice to fully understand it. The therapist should walk the client through the steps of the mood diary, taking each step at a pace that the client feels comfortable with, yet being cognizant of the time allotted for the therapy session. The therapist should also explain that the purpose of a mood diary is to monitor fluctuations in mood throughout the day in order to employ a proactive approach to negative emotions rather than a reactive approach.

MANAGING FATIGUE

Tracking

- Keep a fatigue diary to record time, place, and environment that fatigue occurred.

Location

- Check accessibility of desired activities in order to prevent extreme fatigue during participation

Logistics

- Plan activities around your abilities. Bring medications & adaptive equipment along if necessary.
- Include time for rest breaks!

Time

- Participate in activities for a limited amount of time.
- Include rest breaks.
- Consider the surroundings and outside stimulation

Stamina

- Determine which activities have the greatest impact on energy level, then modify activities and educate clients on energy conservation.

Diet

- Foods that can help fight fatigue are: pumpkin seeds, walnuts, yogurt, whole grains, dark chocolate, tea, and watermelon.
- Check with your physician that these are okay to take with your medications

National Stroke Association, 2014

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

FATIGUE DIARY

When Date/Time	Situation What was I doing, where, with who, how long for?	Fatigue Describe and rate 0-none, 10-max	Emotion/s Frustrated, anxious, angry, sad, depressed, scared	Thoughts What went through my mind? What does that say about me? What really upset me?	Alternative, more helpful Thought & Response Is there another, more helpful way to look at this?

Modified from www.getselfhelp.co.uk

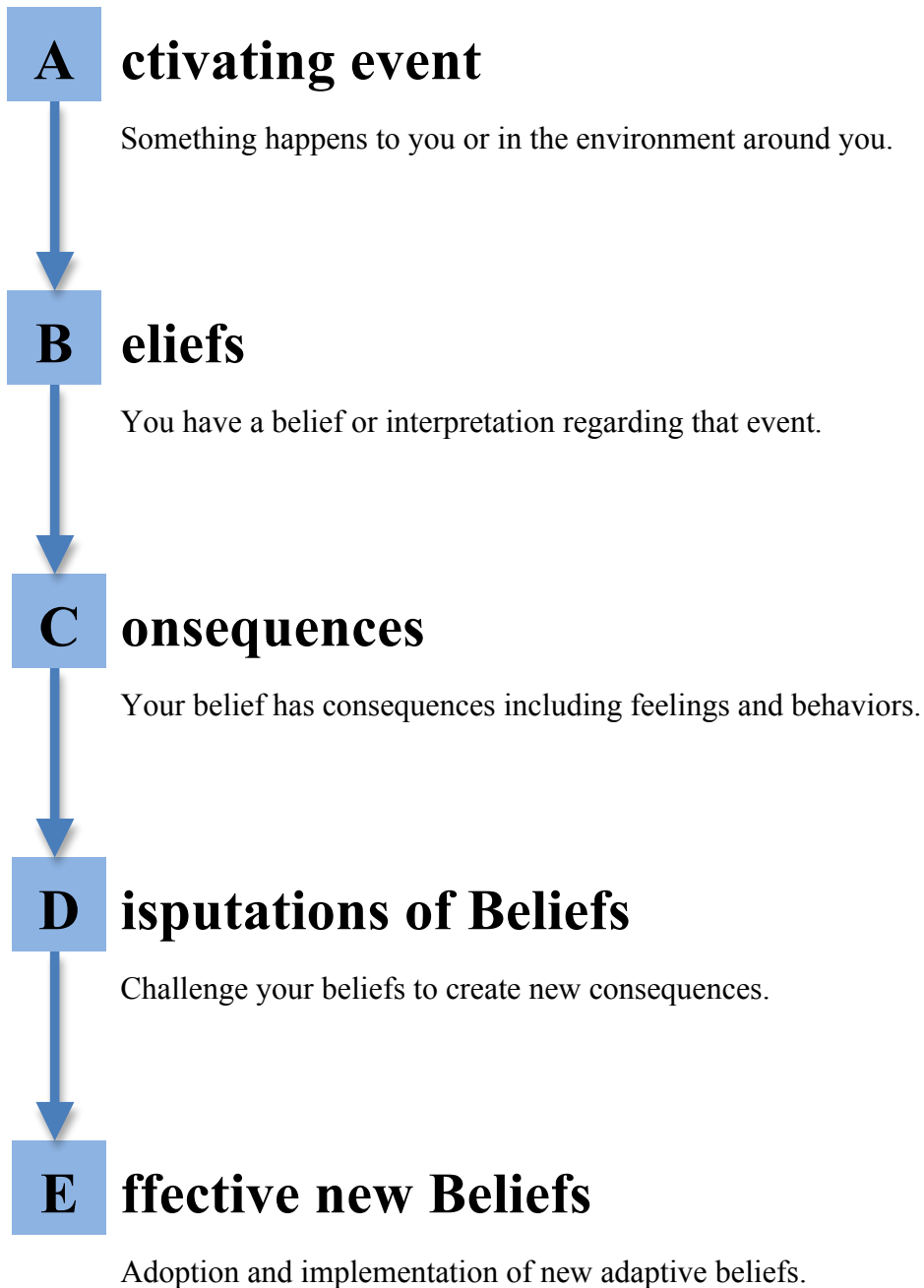
DAILY ACTIVITY AND REST DIARY

DAILY ACTIVITY AND REST DIARY							
Day							
Slept for (hours)							
Awake at (time)							
8-9 am							
9-10 am							
10-11 am							
11-12 noon							
12-1 pm							
1-2 pm							
2-3 pm							
3-4 pm							
4-5 pm							
5-6 pm							
6-7 pm							

7-8 pm							
8-9 pm							
9-10 pm							
10-12 pm							
Asleep at							

Additional Comments:

EMOTIONAL REGULATION ABC MODEL



Modified from Therapistaid.com (2014)

Coping

What Is It?

Stress, a natural part of life, can present itself in positive and negative ways. Often times following a stroke an individual may feel negative stress due to the sudden change in physical and cognitive impairments, as well as the emotional and financial consequences. If stress is not dealt with in an efficient and positive manner, the individual is more likely to develop PSD and PSA, ultimately impacting functional recovery and optimal occupational performance (Stroke Foundation, 2009). As each individual reacts to stress differently, numerous techniques may be presented based on the client's needs and desires including exercise, social support groups, environmental adaptations, relaxation strategies, and activity engagement (Stroke Foundation, 2009; Kneebone & Jeffries, 2013). Conversely, if healthy coping mechanisms are not presented, individuals may have a tendency to cope in ineffective ways such as isolation or substance use/abuse.

Supporting Evidence

Graziano (2012) found that using a CBT coping approach with individuals with MS tended to reduce depression and increase quality of life, self-efficacy, sense of coherence, and identity redefinition. Rasquin et al. (2009) suggested the importance of the individual's ability to self-register mood, engage in pleasurable activities, and engage in relaxation techniques for influencing reduction of PSD. As an individual becomes more self-aware, they are able to identify early warning signs of PSD and cope with them as seen fit.

Benefits

The most prominent benefit for healthy coping post-stroke is the reduction in development and/or sustainment of PSA and PSD. The individual may be more likely to engage in social activities, occupations, and be more motivated to improve physically. Each coping strategy has unique benefits, though each may have the ability to reduce chronic pain, improve concentration and mood, increase blood flow to major muscles, lower fatigue, reduce anger and frustration, and can boost confidence (Mayo Clinic Staff, 2014).

Application to Occupational Performance

Addressing healthy coping mechanisms allows the individual to engage in meaningful occupations on a more regular basis. The coping strategies can be utilized in a variety of setting and a variety of occupations. Acceptance of healthy coping strategies could also be viewed as new meaningful occupations for the client to engage in. Healthy coping strategies encourage reintegration into roles, habits, and routines through an increased sense of volition and self-efficacy.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on potential signs of stress including depression, anxiety, inability to relax, loss of concentration, poor memory, short temper, impulsive behavior, no desire to engage in social activities, and poor motivation.
- Explain to the client what healthy coping strategies are.

- Educate the client on the benefits of using healthy coping strategies.
- Ask the client to identify current coping strategies, if they are positive or negative, and how they could implement new coping strategies.
- Paraphrase, reflect, and probe in a following discussion with the client about when they may use coping strategies and how they could be beneficial.
- Provide the client with handouts as necessary to facilitate active engagement and application of skills.
- Assist client in recognizing and understanding how using healthy coping strategies can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

COPING RESOURCES,
MATERIALS & HANDOUTS

Resource, Material, & Handout Instructions

- **Positive Ways to Cope with Stress:** This handout is intended for client use, as it gives specific examples of how to deal with stress in a healthy, positive manner. The therapist is encouraged to go over this resource with the client, elaborating on the information and responding to questions as necessary.
- **Health Coping Strategy Ideas:** This handout is intended for client use. The purpose of this handout is to encourage participation in occupations as a form of healthy coping. If the client is uninterested in the ideas presented, this handout could serve as a brainstorming activity to facilitate engagement in meaningful activities unique to the client.
- **Progressive Muscle Relaxation Script:** Initially, this script is intended for the therapist to utilize during a session with the client. The therapist is encouraged to educate the client on the importance of relaxation, as well as explain the positive effects relaxation can have on stress reduction. Once the client understands progressive relaxation, they are encouraged to employ these techniques at home.
- **Deep Breathing:** Initially, this script is intended for the therapist to utilize during a session with the client. The therapist is encouraged to educate the client on the importance of relaxation, as well as explain the positive effects relaxation can have on stress reduction. Once the client understands progressive relaxation, they are encouraged to employ these techniques at home.
- **Guided Imagery Script:** Initially, this script is intended for the therapist to utilize during a session with the client. The therapist is encouraged to educate the client on the importance of relaxation, as well as explain the positive effects relaxation can have on stress reduction. Once the client understands progressive relaxation, they are encouraged to employ these techniques at home.

POSITIVE WAYS TO COPE WITH STRESS:

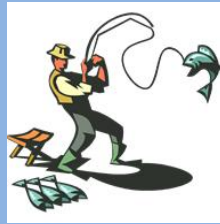
- Don't bottle things up
- Look at the situation with fresh eyes
- Learn to relax
- Learn to breathe deeply
- Take time out to do things you really enjoy
- Develop new skills for coping, energy, and confidence
- Find a solution to problems early
- Take responsibility for your own feelings
- Set limits for what you can and cannot do
- Value exercise and a healthy diet and positive people in your life
- Get enough sleep
- Learn how to say “no”
- Recognize your own strengths and weaknesses
- Learn to accept the things you cannot change
- Laugh

Modified from The Stroke Foundation, 2009

HEALTHY COPING STRATEGY IDEAS

Leisure

- Read a book
- Bake
- Go fishing
- Garden
- Arts & Crafts
- Volunteer



Social Support

- Join a support group
- Talk with family & friends



Relaxation

- Yoga
- Meditation
- Deep breathing
- Guided imagery
- Progressive Muscle Relaxation



Exercise

- Go for a walk
- Swim
- Theraband
- Theraputty



Adapting the Environment:

Ask your OT about: shower chair, walker, dressing stick, long handled shoehorn, ramp, built up handles, communication devices, etc., if you have problems with every day activities.

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

PROGRESSIVE MUSCLE RELAXATION SCRIPT

Progressive muscle relaxation is an exercise that reduces stress and anxiety in your body by having you slowly tense and then relax each muscle. This exercise can provide immediate feelings of relaxation, but its best to practice frequently. With experience, you will become more aware of when you are experiencing tension and you will have the skills to help you relax. During this exercise, each muscle should be tensed, but not to the point of strain. If you have any injuries or pain, you can skip the affected areas. Pay special attention to the feeling of releasing tension in each muscle and the resulting feeling of relaxation. Lets begin:

Sit back or lie down in a comfortable position. Shut your eyes if you're comfortable doing so.

Begin by taking a deep breath and noticing the feeling of air filling your lungs. Hold your breath for a few seconds (*pause*).

Release the breath slowly and let the tension leave your body.

Take in another deep breath and hold it (*pause*).

Again, slowly release the air.

Even slower now, take another breath. Fill your lungs and hold the air (*pause*).

Slowly release the breath and imagine the feeling of tension leaving your body.

Now, move your attention to your feet. Begin to tense your feet by curling your toes and the arch of your foot. Hold onto the tension and notice what it feels like (*pause for 5 seconds*).

Release the tension in your foot. Notice the new feeling of relaxation.

Next, begin to focus on your lower leg. Tense the muscles in your calves. Hold them tightly and pay attention to the feeling of tension (*pause for 5 seconds*).

Release the tension from your lower legs. Again, notice the feeling of relaxation. Remember to continue taking deep breaths.

Next, begin to focus on your upper leg and pelvis. You can do this by tightly squeezing your thighs together. Make sure you feel tenseness without going to the point of strain (*pause for 5 seconds*).

And release. Feel the tension leave your muscles.

Begin to tense your stomach and chest. You can do this by sucking your stomach in. Squeeze harder and hold the tension. A little bit longer (*pause for 5 seconds*).

Release the tension. Allow your body to go limp. Let yourself notice the feeling of relaxation.

Continue taking deep breaths. Breathe in slowly, noticing the air fill your lungs, and hold it (*pause*).

Release the air slowly. Feel it leaving your lungs.

Next, tense the muscles in your back by bringing your shoulders together behind you. Hold them tightly. Tense them as hard as you can without straining and keep holding (*pause for 5 seconds*).

Release the tension from your back. Feel the tension slowly leaving your body, and the new feeling of relaxation. Notice how different your body feels when you allow it to relax.

Tense your arms all the way from your hands to your shoulders. Make a fist and squeeze all the way up your arm. Hold it (*pause for 5 seconds*).

Release the tension from your arms and shoulders. Notice the feeling of relaxation in your fingers, hands, arms, and shoulders. Notice how your arms feel limp and at ease.

Move up to your neck and your head. Tense your face and your neck by distorting the muscles around your eyes and mouth (*pause for 5 seconds*).

Release the tension. Again, notice the feeling of relaxation.

Finally, tense your entire body. Tense your feet, legs, stomach, chest, arms, head, and neck. Tense harder without straining. Hold the tension (*pause for 5 seconds*).

Now release. Allow your whole body to go limp. Pay attention to the feeling of relaxation, and how different it is from the feeling of tension.

Begin to wake your body up by slowly moving your muscles. Adjust your arms and legs.

Stretch your muscles and open your eyes when you're ready.

DEEP BREATHING

It's natural to take long deep breaths when relaxed. However, during the flight-or-fight response, breathing becomes rapid and shallow. Deep breathing sends messages to the brain to begin calming the body. Practice will make your body respond more efficiently to deep breathing in the future. It helps to do deep breathing 2-5 minutes every night, even if you aren't particularly stressed.

1. Breathe in slowly. Count in your head and make sure the inward breath lasts at least 5 seconds. Pay attention to the feeling of the air filling up your lungs.
2. As you inhale, count from 1 to 5 (again, keep count). You don't want to feel uncomfortable, but it should last quite a bit longer than an ordinary breath.
3. Breathe out very slowly for 5 to 10 seconds (count!). Pretend like you're breathing through a straw to slow yourself down. Try using a real straw to practice.
4. Repeat the breathing process until you feel calm.

GUIDED IMAGERY SCRIPT

This is a guided relaxation sequence devoted to calming the mind and body. We will focus on your breath and relaxing your muscles. To begin, get into a comfortable position and begin breathing through your nose. Lie on your back with arms at your sides, bending the knees if this is comfortable, or get into a position that feels comfortable to you. Let your body sink into the floor and notice your body relaxing into the place you have chosen.

Focus on your breathing as you inhale and exhale through your nose. Notice your stomach moving up and down with your breathing. Relax the muscles in your face and neck. Relax your forehead and release your tongue from the roof of your mouth. Try to release the stressors from your day and let those thoughts ease out of your mind as you begin to focus on relaxation. Relax your cheeks and jaw. Notice the tension fading away from your face and neck.

Relax your shoulders and back. Feel the weight of your back pressing into the floor. Continue to focus on your breathing and relax your muscles more with each breath. If you have trouble focusing on your breath, you can imagine the air you inhale is one color; the air you exhale is another. Relax your shoulders, your arms, and your hands. Unclench your fist and fingers.

Relax your stomach and lower back, noticing the rise and fall as you inhale and exhale. Imagine a wave flowing down your legs releasing the tension stored in your hips, legs and feet. Pay attention to each part of your body as you continue to release the tension from your muscles.

Focus on your breathing and let your day melt away. If you want, you can place your hands on your belly to feel the rise and fall of your breath.

If you feel a place in your body where tension has returned, turn your focus to that part of your body and release that tension. If thoughts pop into your mind, let your breath carry them away. Notice how your body and mind feel as you relax let your worries melt away. As you start to bring more awareness to your body, begin to move your fingers and toes. Move your feet from side to side. If you are lying on your back, you can roll to your side as you begin to bring energy back to your body. When you are ready, slowly open your eyes and continue to focus on your breathing, taking slow and deep breaths. Stretch to bring movement back into your muscles and be mindful of how your body feels at this point and take this with you throughout the day.

Imagine with me that it is a beautiful spring, sunny day – the warm sun shines down on you –making you feel comfortable and we are going on a path up a mountain. Imagine the path now, gradually ascending this gentle slope. Perhaps you can let yourself really feel that you're going higher and higher, into the mountain of peace. Look around you now. Yes, just pause there for a moment, and notice a soft breeze blowing on your skin and on your hair. You are quite high up the mountain and you have

a wonderful view below, and across – you can see for miles and miles around. Here and there you may come across a rabbit or a few mountain sheep or goats. They live peacefully up here; you continue your journey up the mountain.

As you go higher, the mountain becomes a little steeper and in places the path narrows. Coarse bushes border your path in places, and mountain flowers peep out to greet you. You can see another mountain, which looks so close that you almost feel you could walk over to it; but in reality, you know it's far too far away.

As you climb higher and higher, ascending up the mountain, you eventually reach a plateau where you stop to rest. Just pause there, rest a while, relax, and take in the beautiful view.

Looking down the mountain you can see how far you've come. You've come a very long way, up a mountain path that was, at times, difficult, at other times easy, but you continued. And you can continue now until you reach your summit. I am going to be silent for a few moments to allow for you to reach your summit. Go closer now towards your goal.

Now, in a moment you can begin to come back to an alert, wakeful state of mind. Pay attention as I count from one up to five. When I get up to five, you can open your eyes and feel awake, alert, and refreshed. Remember that you CAN create these positive, relaxed and centered feelings on your own during your daily activities.

One—gradually beginning to come back up to an alert, wakeful state.

Two—more and more awake.

Three—perhaps you might move your hands and feet as you become even more alert.

Four—almost back to a fully alert state.

And Five—opening your eyes now, finding yourself fully awake, alert, and refreshed.

Modified from Bateman (2008)

Self-Esteem

What Is It?

According to the American Stroke Association (2013), high self-esteem refers to acceptance and love for who you are in this specific moment. An individual's functional, cognitive, and emotional abilities are often limited post-stroke, ultimately impacting the individuals view or perception of themselves. A decreased self-esteem not only affects the individual's motivation for occupational competence, but can also impact the severity of PSD/PSA. Chang and Mackenzie (1998) stress the importance of addressing self-esteem, as clients often feel dehumanized following a stroke. Improving self-esteem can positively impact an individual's functioning by increasing participation in social and occupational activities and by improving physical rehabilitation gains.

Supporting Evidence

According to Chang and Mackenzie (1998), self-esteem and social support can significantly impact an individual's success in functional abilities at three months post-stroke. They also identified that a lower self-esteem also correlated with high levels of depression and physical disabilities. Keppel and Crowe (2000) stress the importance of implementing self-esteem treatment into rehabilitation programs for individuals post-stroke as it can impact the emotional, cognitive, and physical potentials.

Benefits

Improved self-esteem can be associated with greater levels of assertiveness, willingness to take risks, independence, and social participation with significant decreases in PSD and PSA (Keppel & Crowe, 2000). Other benefits may include

acceptance of their new capacities, motivation, decreased fear, more resilience, and more commitment to engagement in activities.

Application to Occupational Performance

Increasing self-esteem can drastically impact a client's engagement in occupations, as improved self-esteem results in a decrease of an individual's PSA/PSD. In doing so, the individual is more apt to take risks, engage socially, and accept new habits, roles, and routines promoting occupational performance. When individuals feel greater self-esteem in one area of functioning, the skills can be generalized to improve participation in other areas of occupation. Increased occupational engagement can, in turn, also increase the individuals overall sense of self-esteem.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Explain to the client what improving self-esteem means, using the “cycle” handout
- Educate the client on the benefits of increasing self-esteem (what it is, what the benefits are, strategies).
 - Provide the client with self-esteem handouts.
- Explain the cycle of self-esteem and how changing one component of the cycle can affect the others.
- Ask the client to begin filling out the provided worksheets to facilitate an understanding of the skills, which will later be needed in a homework assignment.

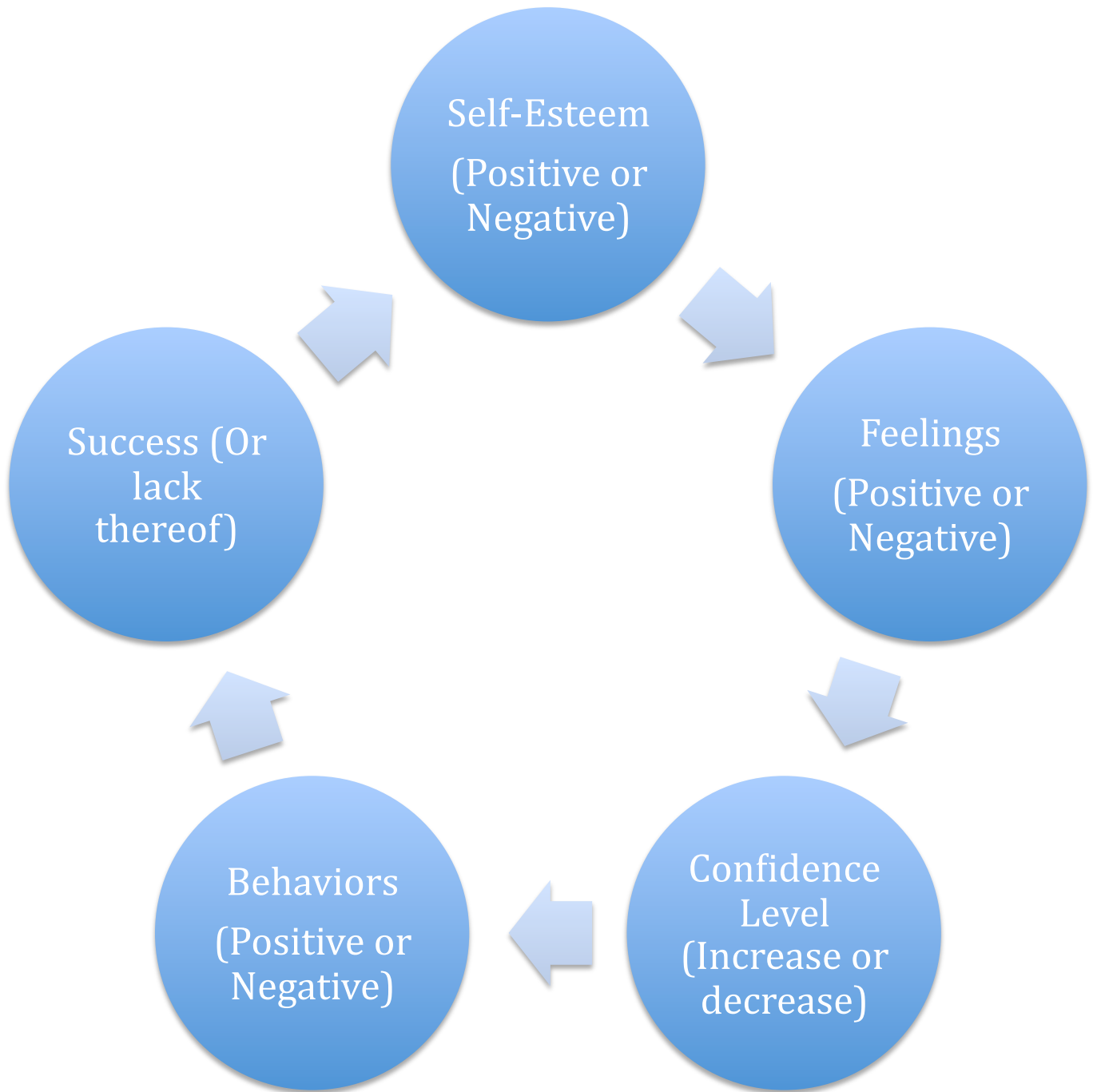
- Ask client to provide their own example of a “negative” feeling related to their PSD and/or PSA.
 - Role playing may be an effective way to facilitate an example
- Paraphrase, reflect, and probe in a following discussion with the client about why they may be experiencing these feelings or thoughts.
- Assist the client in changing a part of the “negative” situation so that it is more “positive” or believable.
- If time permits, ask the client to complete the self-esteem collage.
 - Explicitly state the benefits and meaning behind the collage.
- Assist client in recognizing and understanding how becoming more aware of the their self-esteem can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

SELF-ESTEEM RESOURCES,
MATERIALS & HANDOUTS

Resource, Material, & Handout Instructions

- **Cycle of Self-Esteem:** The cycle of self-esteem handout is a resource that can be provided to clients to explain the relationship between thoughts, feelings, behaviors, confidence, and self-esteem, which incorporates core aspects of CBT. The occupational therapist is encouraged to explain the continuous cycle of these five components, providing brief examples of how positive and negative self-esteem can be impacted.
- **Self-Esteem Thought Record:** This is a worksheet for the client to complete, with moderate assistance from the occupational therapist. The self-esteem thought record can be overwhelming to look at, especially upon first glance, so the therapist is encouraged to explain to the client that this tool typically requires practice to fully understand it. The therapist should walk the client through the steps of the self-esteem thought record, taking each step at a pace that the client feels comfortable with, yet being cognizant of the time allotted for the therapy session. The therapist should also explain that the purpose of a self-esteem thought record is to monitor when an individual experiences a heightened self-esteem, as well as to encourage thought checking when an individual experiences a lowered self-esteem.
- **Self-Esteem Journal:** This is a worksheet for the client to complete with moderate assistance from the occupational therapist initially. The therapist is encouraged to explain to the client that this tool is to be used daily and only takes minutes to complete. The client should be educated on the importance of maintaining a self-esteem journal, as it reflects on the individual's positive attributes. A positive outlook can promote physical, psychosocial, and occupational performance.
- **Positive Self-Affirmations:** This handout is intended for use from the client. They are encouraged to take the positive self-affirmations home and to recite them at least once per day. The therapist should explain that the purpose of self-affirmations is to encourage individuals to look at themselves from a positive point of view rather than a negative. If able to do so, the client is encouraged to create his or her own positive self-affirmations to employ in daily life.
- **Self-Esteem Collage:** The purpose of this activity is to promote self-esteem through a hands-on activity. The therapist should encourage the client to create a collage, based on past, present, and future values, roles, activities, things, people, and quotes. Upon completion of the collage, the client can take the poster home as a motivational piece to remind them of how far they have come, as well as how far they would like to go. The self-esteem collage also incorporates physical rehabilitation as the client is asked to use fine motor skills, motor planning, and cognition to complete the task.

CYCLE OF SELF-ESTEEM



This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

SELF-ESTEEM THOUGHT RECORD

Situation	Mood/Emotions (Rate 0-100%)	Physical Sensations	Unhelpful Thoughts/Images	Alternative/Realistic Thought	What's the Best Response? (Re-Rate emotion)
<p><i>What happened? Where? When?</i></p>	<p><i>What emotion did I feel? How intense was it?</i></p>	<p><i>What did I notice my body do? What did I feel?</i></p>	<p><i>What went through my mind? What disturbed me? What am I responding to?</i></p>	<p><i>Take a breath! Fact or opinion? Am I comparing myself to others? Am I taking responsibility for something that is not in my control?</i></p>	<p><i>What could I do differently? What would be more effective?</i></p>

SELF-ESTEEM JOURNAL

Monday	
Something I did well today...	
Today I had fun when...	
I felt proud when...	
Tuesday	
Today I accomplished...	
I had a positive experience with...	
Something I did for someone...	
Wednesday	
I felt good about myself when...	
I was proud of someone else...	
Today was interesting because...	
Thursday	
I felt proud when...	
A positive thing I witnessed...	
Today I accomplished...	
Friday	
Something I did well today...	
I had a positive experience with...	
I was proud of someone when...	
Saturday	
Today I had fun when...	
Something I did for someone...	
I felt good about myself when...	
Sunday	
A positive thing I witnessed...	
Today was interesting because...	
I felt proud when...	

Modified from Therapistaid.com (2014)

POSITIVE SELF-AFFIRMATIONS

Objective: Encourage individuals to choose 2-4 affirmations to hang up around their home. When they see the affirmation, they are encouraged to say the statement to themselves until they truly see the positivity within. Once affirmations have been said multiple times, individuals are encouraged to hang new statements around their home.

- I love and approve of myself.
- I trust myself.
- I have as much brightness to offer this world as the next person.
- Wonderful things are going to unfold before me.
- I forgive myself for the mistakes I have made.
- I know my wisdom guides me in the right direction.
- I surround myself with people who treat me well.
- I am a good friend and family member.
- I take time to show my friends I care about them.
- I see my family as a gift.
- I listen to others lovingly.
- I refuse to give up.
- I am beautiful.
- I accept responsibility of my thoughts, feelings, and behaviors.
- I can change my future to be something better than I could ever imagine.
- I breathe in calm feelings and breath out negative feelings.
- I am special, creative, and wonderful.
- I choose love, joy, and freedom.

Modified from www.vitalaffirmations.com

SELF-ESTEEM COLLAGE

Objective: To build self-esteem and motivate participant to see themselves in a positive light.

Materials: Tag Board
Scissors
Glue or Tape
Magazines
Stickers
Crayons, markers, colored pencils

Steps:

1. Activity can last 45 minutes up to multiple sessions.
2. The individuals should be instructed to create a collage using pictures, phrases, and words to describe how they view themselves, what they have accomplished, their goals, what they are proud of, how they see themselves in the future, what they like to do, quotes and words that inspire them, things or people they value, etc.
3. Upon completion of the collage, have the individual share it with you (and possibly the group).
4. Ask the participant how this can impact their self-esteem and motivate their success in future endeavors.
5. Encourage the individual to take their collage home as a constant reminder of the great qualities they possess and where they see themselves in the future.

Changing/Challenging Negative Thoughts

What Is It?

Changing or challenging an individual's negative thoughts is an intervention method that is commonly used when treatment is guided by CBT. This method is rather self-explanatory, where the overarching purpose is to assist the client in challenging their own negative thoughts that have become patterned for them due to PSD and/or PSA, so they will be able to independently challenge their own thoughts once they are discharged from therapy. Therapists assist the clients with challenging their own thoughts by posing questions to them that bring about realizations and reasoning as to why these thoughts began to develop. The form of questioning commonly used in conjunction with CBT is that of Socratic questioning, which was pioneered by the Greek philosopher Socrates. The purpose of Socratic questioning is to allow clients to shift the way they view their thoughts, to elicit a more disciplined and logical way of thinking by engaging in a dialogue with the therapist (Taylor, 2006). Examples of Socratic questioning include: "What could we assume instead?" "What is another way to look at the situation?" and "What are the strengths and weaknesses of the situation?" (Paul, n.d.). By engaging in this new way of thinking, individuals may begin to test the validity of their old thoughts and start to consider new points of view (Taylor, 2006).

Supporting Evidence

Evidence that supports the use of implementing interventions to change and/or challenge negative thoughts that an individual is experiencing post-stroke; this is often called cognitive restructuring. Cognitive restructuring techniques are suggested by many authors as being beneficial to include in treatment with individuals who are experiencing

PSD and/or PSA to facilitate identification of dysfunctional thinking, and shift towards more effective thinking (Broomfield et al., 2010; Dobkin et al., 2011; Rasquin et al., 2009).

Benefits

Taylor (2006) identified several benefits of using Socratic questioning throughout the therapy process to help challenge negative thinking patterns that individuals may be experiencing. These include becoming more aware of automatic thinking patterns through the gathering of evidence, allowing core beliefs to surface and become more evident, aiding in the development of behavioral experiments, and facilitating the planning process for termination of therapy services. From a more broad perspective, challenging an individual's negative thinking can bring these thoughts to the forefront, and assist an individual in becoming aware of the difference between ineffective and effective thinking patterns, which may act as a catalyst to implement internal changes within the client.

Application to Occupational Performance

Individuals who are experiencing symptoms of PSD and/or PSA often engage in negative thinking, which can interrupt their habits and role performance, as well as inhibit their ability to participate in desired occupations, due to decreased volition. When individuals learn how they can challenge and question their current ways of thinking, they can take steps to shift their thoughts to becoming more effective. This can result in an increase in personal causation, which can further lead to an increase in performance of all areas of occupation.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Explain to the client what challenging or changing negative thoughts means through use of the 3-D Model.
- Educate the client on the 3-D Model (what it is, what the components are, how they are related).
- Provide client with a scenario that demonstrates the relationship between thoughts, feelings, and actions.
 - Ex. Waking up in the morning and thinking that “today is going to be a bad day” will lead to negative feelings, and negative actions throughout the day.
- Ask client to provide their own example of a “negative” situation related to their PSD and/or PSA.
- Paraphrase, reflect, and probe in a discussion with the client about why they may be experiencing these feelings or thoughts.
- Assist the client in changing a part of the “negative” situation so that it is more “positive” or believable for the client.
- Assist client in recognizing and understanding how becoming more aware of the interconnectedness between their thoughts, feelings, and actions can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.

- Additionally, educate and assist client in applying skill learned to other areas and occupations.

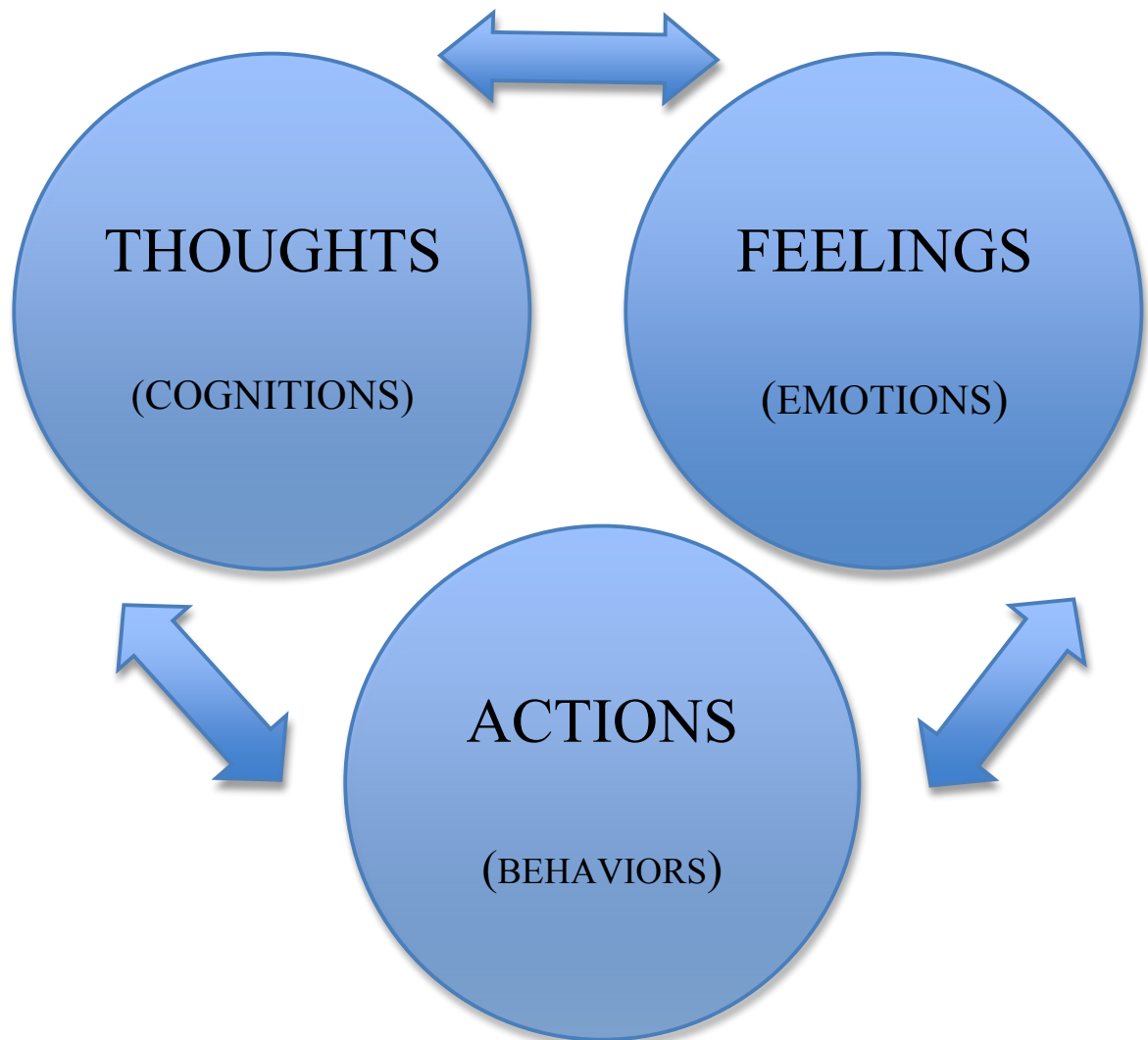
CHANGING/CHALLENGING NEGATIVE
THOUGHTS RESOURCES, MATERIALS &
HANDOUTS

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

3-D Model: The 3-D Model handout is a resource that can be provided to clients to explain the relationship between thoughts, feelings, and actions, which is the core of CBT. The occupational therapist is encouraged to explain the continuous cycle of these three components, providing brief examples of positive and negative situations of how thoughts, feelings, and actions can be related.

Are You Ready to Take the Challenge?: This worksheet is intended for client use to assist the client in identifying a negative experience or situation where they noticed the cyclical relationship between their thoughts, feelings, and actions to occur. The occupational therapist should then instruct the client to “challenge” the negative situation, by changing each component (thought, feeling, and action) to become more positive, or rational. This will assist the client in seeing how they can have control of the outcome of a situation by “breaking the cycle”, or by changing one of the three components.

3-D MODEL

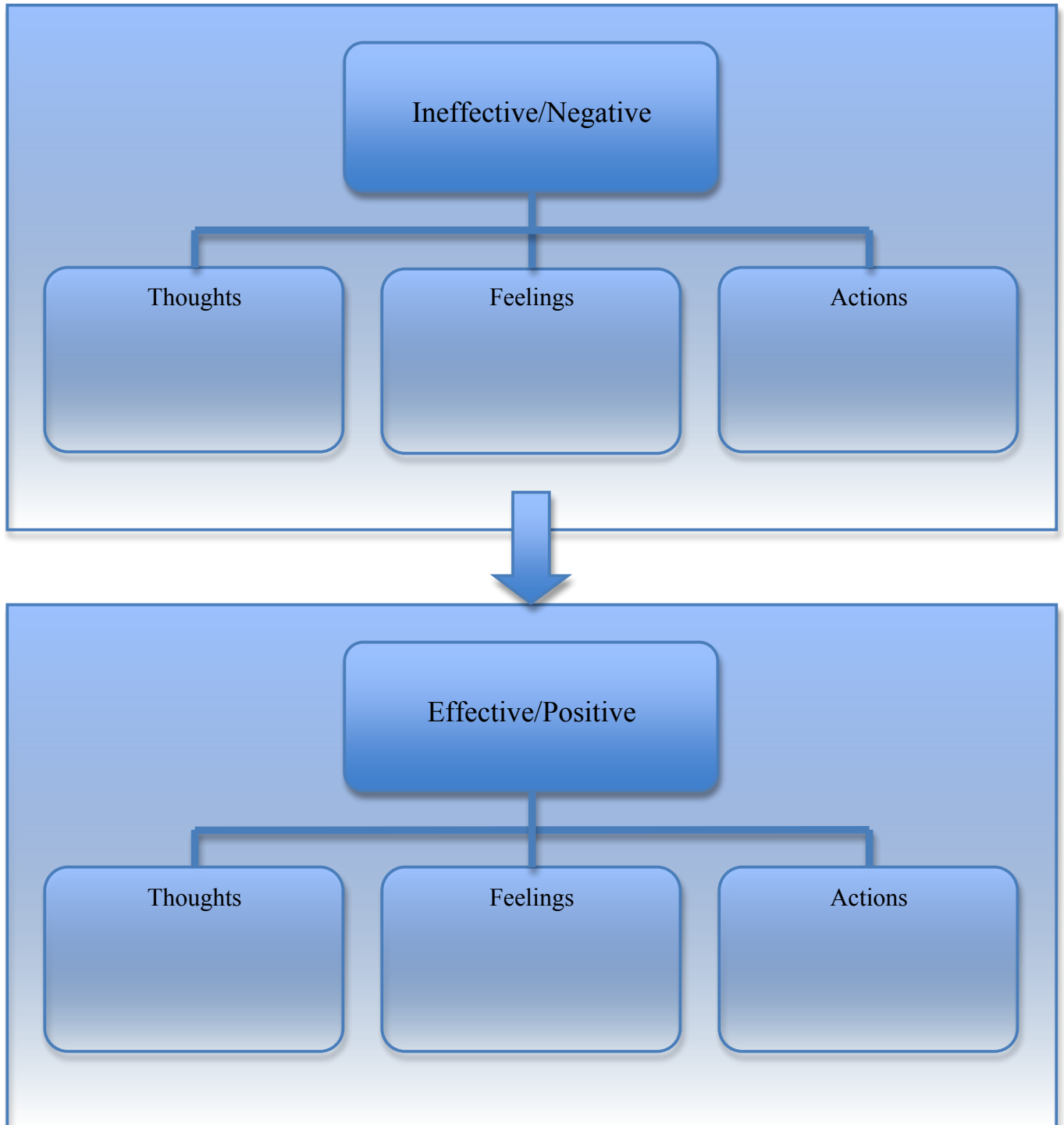


Your thoughts, feelings, and actions are all connected. Your thoughts affect your feelings, your feelings affect your actions, and your actions affect your thoughts. The cycle goes on and on. Negative thoughts lead to negative feelings and actions that you might not feel good about. When you change one part, the other two will also change. How will you break the cycle?

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

ARE YOU READY TO TAKE THE CHALLENGE?

Complete the worksheet by first identifying a recent situation where you experienced a negative thought, feeling, or action. Keep in mind all three areas are connected, so if there was a negative thought, there may have been negative feelings or actions that reflected those feelings. Once you have filled out the “negative” part, move on to the next section and “challenge” yourself to identify a more balanced thought, feeling, or action for the same situation.



Distorted Thinking

What Is It?

When individuals post-stroke experience PSD and /or PSA, they may engage in distorted thinking patterns that are not effective, leading to maladaptive feelings and behaviors (Taylor, 2006). The client is often unaware of their distorted thinking patterns, which provides a need for the occupational therapist to help the client gain awareness of their errors in thinking. Listening to the client's automatic thoughts is the most effective way to understand the type of thought distortion they are engaging in (Beck, 1995).

Supporting Evidence

There is sufficient literature that supports the use of assisting clients in identifying distorted thinking patterns. Broomfield et al. (2010) explained that interventions for identifying cognitive errors should begin by focusing on "baseline distortions", which allows the client to compare their present level of functioning to their ability to function before they experienced the stroke, rather than focusing on what they cannot do now. This is used to facilitate a positive focus in identifying their current strengths (Broomfield et al., 2010). Taylor (2006) reported that once the therapist has identified the type of thinking error(s) the client tends to engage in, the therapist should then begin to educate the client on how they can independently identify their own distorted thinking. Taylor (2006) goes on to further say that by assisting the client in identifying these thoughts, they may, in turn, uncover core beliefs that they may not have been consciously aware of. By bringing these concepts to the surface, the client may be better able to understand how their thinking can ultimately affect their behaviors.

Benefits

As mentioned in the previous section, when the therapist acts as a facilitator for the client to realize their distorted thinking patterns, they may also gain awareness of underlying core beliefs. Clients may also feel a sense of relief due to the fact they can classify their thoughts into categories. The ability to identify distorted thinking patterns in the future may come easier for clients, allowing them to implement other techniques they have learned.

Application to Occupational Performance

When an individual automatically engages in distorted thinking patterns, their occupational performance is impacted, hindering them from participating in occupations they may have used to find meaningful. Clients' habits may also be impacted due to engaging in distorted thinking patterns, which may prevent them from getting tasks done. By educating clients on the 15 styles of distorted thinking, they will be able to recognize those thoughts and feel more confident controlling or challenging the thoughts. This can lead to an increased ability to participate in enjoyable occupations that may have been previously affected, and an overall increase in volition and performance capacity. Examples include spending time with friends and family in social settings, feeling more comfortable in a work or school setting, and taking part in activities within the community.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on automatic thoughts (what they are, our awareness of them, conscious or unconscious).
- Explain what distorted thinking patterns are, followed by an explanation of the 15 styles of distorted thinking.
- Provide client with handout on the 15 styles, and go over each style, depending on the amount of time available.
- Ask client if he/she can relate to or identify with any of the thinking styles.
 - Have client provide an example of when they noticed that style of thinking was being used.
- Ask client what evidence they have to believe these thoughts or if they are valid to believe.
- Ask client if there would be a more balanced or rational way to think about certain situations, rather than their current way.
- Assist client in recognizing and understanding how becoming more aware of these distorted thinking patterns can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

**DISTORTED THINKING RESOURCES,
MATERIALS & HANDOUTS**

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

15 Styles of Distorted Thinking: This is a handout intended for the clients to use as a point of reference to learn about the 15 styles of distorted thinking. The clients can also use this handout to identify with the styles of distorted thinking they engage in the most. The therapist is encouraged to probe for examples from the clients about how they engaged in a certain style of thinking.

Which Thinking Pattern Are You? This client worksheet builds off the previous handout. The client will write down the type of distorted thinking style they engage in (up to 4), followed by writing down examples of situations when the thinking style emerged. Lastly, the therapist will encourage the client to think of a new thought that “counteracts” the distorted thought. This will assist the client in becoming more aware of their ineffective thinking patterns, and being able to catch the thought and change it.

15 STYLES OF DISTORTED THINKING

DISTORTION	DEFINITION
Filtering	Focusing more on negative details of a situation while filtering out, or disregarding the positive aspects
Polarized Thinking (Black & White Thinking)	Thinking about a situation in simplistic terms or extremes, with no middle ground or grey area. Individuals see themselves either as perfect or as a failure; there is no room for possibilities.
Overgeneralization	Making general assumptions based on a single incident. When something bad happens, we believe anything else we do will also be bad, regardless of what the facts are.
Mind Reading	Not taking the time to look at a situation from each point of view. Making a quick decision or judgment without having all the facts. Knowing what people are thinking about you, without them saying anything.
Catastrophizing	Taking a normal situation and thinking of the worst possible outcome that could happen. Expecting the worst scenario all the time. “What if?” thinking.
Personalization	Belief when an individual feels everything said or done by others is directed to the individual. Blaming themselves for negative outcomes.
Control Fallacies	The individual feels as though they are a helpless victim of all situations.
Fallacy of Fairness	The individual continuously thinks about what they feel is fair, becomes upset when others do not agree with what the individual sees as fair.
Blaming	Either blaming ourselves for everything, or blaming others for all of our problems.
Shoulds	Individual has a list of how people “should” behave/act. If others don’t follow these rules, the individual becomes upset and angry.

Emotional Reasoning	Believing what you feel is true, without any reasoning. If you feel guilty, then you must have done something wrong.
Fallacy of Change	Expecting others to change their thoughts and behaviors to make you happy, because your happiness depends on them.
Global Labeling	Generalizing one or two qualities in yourself or others to a negative global judgment that can lead to stereotyping.
Always Being Right	You have a strong desire to be right all of the time; being wrong is not an option, and you will do whatever you can to prove yourself correct.
Heaven's Reward Fallacy	You expect all of your hard work and sacrifices to pay off, and that someone will reward you or recognize you for it. When you don't get the reward you want, you become upset and bitter.

(Eastern Washington University, 2014; Grohol, 2009; Taylor, 2006)

Cognitive Restructuring

What Is It?

Cognitive restructuring is a form of executive functioning that refers to how an individual is able to change their thinking and alter their thoughts and beliefs in a more adaptive way (Johnco, Wuthrich, & Rapee, 2104). The authors explain that cognitive flexibility is another component of executive functioning, and assists with the learning of cognitive restructuring. When an individual possesses this skill, he or she can increase their ability to adjust and adapt to life situations.

Supporting Evidence

Literature supports the use of cognitive restructuring as an intervention method for using CBT with individuals post-stroke (Broomfield et al., 2010; Dobkin et al., 2011). Taylor (2006) explains the importance of allowing individuals to not only identify and become aware of their automatic thoughts, but having the capability to respond to these automatic thoughts in an effective way. She further goes on to support the use of thought records, and how they can be implemented into the therapy process. The purpose of a thought record is to permit the client to identify and respond to automatic thoughts (Taylor, 2006). The thought record is encouraged to be given as a form of homework, however it is recommended that the therapist goes over an initial thought record with the client before they take it home. This allows the client to not only identify their automatic thoughts, but to have the opportunity to practice responding to it in the presence of and under the guidance of the therapist (Taylor, 2006). Taylor (2006) also references Beck (1995), by explaining that the thought record also challenges the client to contemplate and reflect on other ways of thinking about the situation.

Benefits

The benefit of using a thought record to aid in cognitive restructuring is that clients will be able to identify their automatic thinking patterns, leading to a new level of awareness. These individuals will also be able to learn ways to respond to these automatic thoughts, which will be beneficial to use once they leave therapy. Client may experience increased self-efficacy as a result of achieving this aspect of CBT and the overall therapy process.

Application to Occupational Performance

By providing individuals with the tools and education to learn about restructuring their thoughts and challenging automatic thoughts, they may be able to feel more confident in returning to occupations they engaged in before the stroke occurred. If the client was experiencing mostly PSD symptoms, it is desired that he/she will experience an increase in volition or drive to complete occupations. This may be a small increase, and should still be recognized. If the signs and symptoms were mainly reflective of PSA, the goal is the individual will be able to reduce feelings of anxiety so he/she can engage in occupations they avoided due to feeling anxious. When individuals are able to become more aware of their thinking, they may experience increased feelings of personal causation, which can be a motivating factor for engaging in other meaningful occupations or roles they may have felt unable to engage in.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate the client on what cognitive restructuring is, using the handout and worksheets provided.
- Emphasize that this skill is a broad term that encompasses many of the techniques the client will be learning.
- Educate the client on the thought record (what it is, how and why it is used).
 - Reassure the client that the thought record is a challenging tool, and takes practice to fully understand.
 - Remind them to not get down on themselves.
- Before completing a thought record with the client, complete an activity analysis to determine whether the normal or modified thought record would be most beneficial for the client.
- Assist client in recognizing and understanding how cognitive restructuring, specifically using the thought record tool, can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

COGNITIVE RESTRUCTURING
RESOURCES,
MATERIALS & HANDOUTS

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

Cognitive Restructuring: This is a handout to be given to the client to use as a point of reference or that explains what cognitive restructuring is. The handout also lists a variety of strategies and techniques that fall under the umbrella of cognitive restructuring. The therapist is encouraged to talk through the handout with the client to explain the concept further.

Thought Record: This is a worksheet for the client to complete, with moderate assistance from the occupational therapist. The thought record can be overwhelming to look at, especially upon first glance, so the therapist is encouraged to explain to the client that this tool typically requires practice to fully understand it. The therapist should walk the client through the steps of the thought record, taking each step at a pace that the client feels comfortable with, yet being cognizant of the time allotted for the therapy session. The therapist should also explain that the purpose of a thought record is to change the way an individual thinks about and approaches a situation. It works on changing negative automatic thoughts to a more balanced and effective thought, which in turn leads to a more effective action. The therapist may need to define “automatic thoughts” and “hot thought” to the client. Automatic thoughts are the first thoughts that come to mind about a situation or experience, and are often unconscious; the client is typically unaware of the thoughts, but they do exist, which is why it is important to identify them. A “hot thought” is one of the automatic thoughts that gets the client the most charged up or upset. It is the thought that “gets their blood boiling” the most.

Modified Thought Record: This is a simpler version of the previous mentioned thought record, where the client is identifying only the situation, how it made them feel, and what their thoughts were about the situation. This may be a good thought record to begin with, and gradually working up to the actual seven-column thought record. The therapist may also implement this worksheet in the case of modifying or adapting the activity to meet the cognitive abilities of a client.

COGNITIVE RESTRUCTURING

At first glance, these words might seem confusing and difficult to understand, however, cognitive restructuring has a basic idea behind it. Cognitive restructuring is used to help identify negative thoughts and feelings, and working toward changing them to more balanced, or positive thoughts and feelings. It is a way of “rebuilding” negative thinking patterns of depression or anxiety that may have developed after experiencing a stroke. Cognitive behavioral therapy (CBT) is a form of therapy used to allow cognitive restructuring to happen.

HOW WILL I LEARN TO “REBUILD” MY THOUGHTS?

You will learn many ways to challenge and change the negative thoughts and feelings you may be experiencing. The skills are a part of cognitive behavioral therapy (CBT), which explains how your thoughts, feelings, and actions are related. Skills that may be helpful in “rebuilding” your thoughts include:

- Completing a Thought Record
- Identifying distorted styles of thinking
- Learning about the relationship between thoughts, feelings, actions
- Coping with grief
- Coping from a more general point of view
- Behavioral activation
- Self-Esteem
- Affirmations

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THOUGHT RECORD

Situation	Feelings (Rate from 1-100)	Automatic Thoughts (Circle the hot thought)	Evidence that support the hot thought	Evidence that does not support the hot thought	Alternative/more balanced thought	Outcome/ Re-rate Emotion (1-10)
<p><i>What happened? Who? What? Where? How?</i></p>	<p><i>What emotions did I feel? How strong did I feel those feelings or emotions? What did I notice in my body?</i></p>	<p><i>What was I thinking about? What were the first thoughts that came to mine? What am I responding to? What did my thoughts mean to me? What thought made me feel stronger than the others?</i></p>	<p><i>What are the facts? What are the things that are true about my hot thought? What facts prove the unhelpful thought to be true?</i></p>	<p><i>What facts do I have that prove the hot thought isn't completely true? Is this hot thought/unhelpful thought opinion rather than fact? ?</i></p>	<p><i>Can I believe this way of thinking about the situation? What's the bigger picture? What would someone else say about the situation? Is there another way of looking at it? Is this as important as it seems?</i></p>	<p><i>What am I feeling now? Did my emotions become less intense? What could I do differently? Did this help me reach a more balanced way of looking at the situation?</i></p>

Modified from psychologytools.org, 2014. Permission to use for therapy purposes

MODIFIED THOUGHT RECORD

Situation (What happened? Who? Where? What?)	Feelings (Emotions; how did this situation make you feel? Rate emotion 1-100%)	Thoughts (What was going through my mind when you started to feel this way?)

Behavioral Activation

What Is It?

The behavioral activation model explains that avoidance occurs due to the innate desire to avoid situations and activities that are uncomfortable or distressing (Sudak, Majeed, & Youngman, 2014). Individuals who have PSD often experience a decrease in their ability to face these situations, which leads to social withdrawal, weakened relationships, and a lack of participation in occupations. The authors explain the purpose of behavioral activation is to analyze the areas that individuals have a tendency to avoid, and increase their level of engagement and activity within those areas. A key component of behavioral activation is to emphasize the importance of starting small. The individual should be made aware that radical changes will not occur on a short-term basis, but rather that this is a skill that requires practice for a longer amount of time before they will experience a noticeable increase in their sense of pleasure and enjoyment (Sudak, Majeed, & Youngman, 2014). A common motto or catchphrase for behavioral activation is “Just Do It”, which initially sounds frank and cliché, however, it is integral to note the relationship between motivation and action. Often times we think motivation comes first, which will in turn lead to completing the action or occupation, when in fact it is the opposite. We must commit to completing an occupation or some form of action, which will then produce feelings of accomplishment, leading to an increase in motivation and self-efficacy, and a higher probability of engaging in future occupations.

Supporting Evidence

Sudak, Majeed, and Youngman (2014) support the use of behavioral activation with individuals who have depression. It has been shown that behavioral activation has

been effective and successful at reducing depressive symptoms while increasing feelings of positivity. The authors reported that therapists should explain the purpose of using behavioral activation, because when the client understands what the rationale of therapy is, they are more likely to comply with treatment and incorporate these techniques into their lives after discharge. It is recommended that the therapist explains what the natural signs and symptoms of depression are, such as a decrease in energy and lack of interest, so the client feels validated and understood (Sudak, Majeed, & Youngman, 2014). Broomfield et al. (2010) and Dobkin et al. (2011) also note the importance of implementing behavioral activation into treatment sessions as part of a CBT program post-stroke.

Benefits

Behavioral activation can be individually tailored to the client, based upon what their interests are and what they find pleasurable (Sudak, Majeed, & Youngman, 2014). This facilitates increased adherence to treatment, which leads to participation in enjoyable occupations. Individuals may also feel an increase in motivation and self-efficacy after activating their behavior, which can promote activation in the future with other areas of avoidance. Therefore, an occupational profile and/or use of an Interest checklist are likely to assist this understanding.

Application to Occupational Performance

Individuals often experience a lack of volition, a decrease in personal causation, and limited interests and values due to PSD and/or PSA, which can significantly restrict their occupational engagement and performance. By learning about and integrating behavioral activation into daily life, individuals can participate in occupations they used

to enjoy that they may have been avoiding as a result of PSD and/or PSA. This can lead to an increase in personal causation, role identification, and habituation.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on what behavioral activation is through use of the following handouts and worksheets.
- Emphasize the concept of “starting small” to the client.
 - Explain it does not matter how much they do, but that they are doing.
 - Have client pay attention to what they are doing, versus what they are not doing.
 - Remind clients that the symptoms of PSD or PSA are common for the diagnosis; validate these symptoms as being a part of the diagnosis.
- Remind client that changes in how they re-engage in occupations will not happen overnight. Learning this skill takes time.
- Explain to the client that there must be an internal desire to change; applying old ways and habits to a new situation will be ineffective.
- Educate the client on avoidance and why avoidance occurs.
 - Provide client with Activity Planner to schedule in activities and occupations that need to be completed.

- Assist client in recognizing and understanding how cognitive restructuring, specifically using the thought record tool, can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

**BEHAVIORAL ACTIVATION RESOURCES,
MATERIALS & HANDOUTS**

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

Behavioral Activation: This is a handout intended to be given to the client to inform them on what behavioral activation is and why it is helpful and relevant to the therapy process. The handout also includes tips for using behavioral activation successfully. The therapist is encouraged to go over this handout with the client to explain any concerns or confusion.

Avoidance: This is a worksheet the therapist can provide the client to address avoidance. Behavioral activation can be used to overcome avoidance behaviors and patterns, which is why this topic is addressed. The worksheet lists reasons as to why we avoid; the therapist is encouraged to have a discussion with the client about ways they avoid (if they do), and how that impacts their daily habits and occupational performance. The client should then write down the things they avoid on the lines provided, as well as *how* they avoid those things. This can provide the therapist and client with a better idea of how to use behavioral activation strategies to target the avoidance behaviors.

Activity Planner: The activity planner is self-explanatory, however, the therapist will provide this worksheet to the client so they can schedule in activities they need or want to do. The clients are encouraged to fill in any large spaces of time with an activity that is achievable and realistic to complete. The therapist should encourage the client to pencil in a variety of activities, such as leisure, household, and self-care activities. The client should adhere to the planner as much as possible, using behavioral activation tips and techniques.

BEHAVIORAL ACTIVATION

WHAT IS BEHAVIORAL ACTIVATION?

A skill used in therapy to help identify areas in our lives that we are avoiding, and increase our participation and activity level in those areas.

(Martell, 2014)

TIPS!



- Start small
- Keep goals realistic
- Learning this skill takes time and practice
- Celebrate your accomplishments
- Action leads to motivation
- **JUST DO IT!**

When we experience feelings of depression and anxiety, we tend to withdraw from things that we used to do or enjoy, which is due to the normal signs of depression. These include feeling tired, having difficulty with sleeping, having a decreased appetite, and thinking in negative ways. We often want to stay in bed, isolate from our family and friends, and not do the things we used to find enjoyable. Behavioral activation is about “activating” our behavior and increasing our activity level to increase motivation and self-esteem. When we can increase our motivation and self-esteem, we can experience a

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AVOIDANCE

WHY DO WE AVOID?

- Lack of motivation
- Fear of a situation
- Fear of confrontation
- Fear of failure
- Distraction
- Escape uncomfortable situations

WHAT DO I AVOID?

Write down each thing you have found yourself avoiding on the lines below, followed by *how* you avoid each thing. When we can identify what it is we are avoiding, we have a better understanding of how we can use our behavioral activation skills.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

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ACTIVITY PLANNER

Complete the following planner by filling in activities you already do or would like to do. Each activity does not need to be done every day. First, start by filling in any activities you already do during the morning, afternoon, or evening. Then move on to adding activities you would like to do.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Morning							
Afternoon							
Evening							

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Fear of Falling

What Is It?

Fear of falling (FoF) is when an individual experiences concern, anxiety, or fear of the possibility of falling. This typically occurs after an individual has experienced a disorder or illness, like a stroke, that leaves them with physical impairments that may predispose them or place them at risk of experiencing a fall. This is a valid fear to have, however there are precautions that can be taken to decrease the risk of falls for this population. Home modifications and adaptive equipment are common methods used to create a safe environment for these individuals, instilling a sense of comfort and ease when considering living independent lives. Emotional and psychosocial aspects are also essential to identify when working with clients who are experiencing fears of falling. Quality of life has been shown to decrease, due to a higher amount of anxiety that presents itself. Individuals become anxious about falling, which leads to them isolating themselves and withdrawing from activities that may put them at a risk of falling. By not being able to participate in occupations they used to, their quality of life decreases, leaving them vulnerable for developing further psychosocial concerns such as depression.

Supporting Evidence

Based on results from the article by Schmid et al. (2011), the authors suggest that interventions to reduce fears of falling may be beneficial in decreasing depression and anxiety, as well as other mood disorders that may occur post stroke. The authors explain the restriction of occupations post-stroke due to anxiety, and the impact it can have on quality of life. Therapists are encouraged to screen and assess clients to indicate any signs of anxiety and/or depression post-stroke, as well as to implement mental health

interventions that have been shown to be appropriate for treating these diagnoses (Schmid et al., 2011).

Benefits

For the purpose of this guide, the focus will be for occupational therapists to address emotional and psychosocial concerns of the client that include anxiety, depression, and quality of life. When an individual is able to overcome or decrease their fear of falling, and practice physical skills to prevent or recover from a fall, they will feel more confident throughout their daily lives. As an individual is able to learn ways of coping with anxiety and other hidden automatic thoughts associated with falling, they can increase their self-efficacy, personal causation, and participation in desired occupations.

Application to Occupational Performance

When individuals are able to effectively work through fears related to falling, they increase their opportunities for engagement in meaningful occupations. Social participation is a significant area of occupation that is negatively impacted when an individual is fearful of falling. Individuals may be able to return to spending time with family and friends, as well as engaging in community mobility more effectively than when they had high levels of anxiety. An individual's volition to engage in previous habits may also increase, leading to improved personal causation. Other areas of occupation that can be positively influenced by addressing fear of falling in therapy include activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Specific occupations within these areas include grooming, dressing, home maintenance, cooking, and child rearing (AOTA, 2014).

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on the relationship between individuals who have experienced a stroke and the risk of falling using the following handout and safety cards.
- Validate any anxiety the client is experiencing about engaging in social situations and community mobility.
 - Explain to the client the preventative measures that can be implemented to decrease the risk of falls.
 - Educate the client on what to do in the case a fall does occur to ensure the client is prepared for any situation.
 - If the client displays additional physical needs that would be better treated by a physical therapist (PT), the occupational therapist should make a referral to PT
- Assist client in recognizing and understanding how learning about preventing falls and taking action to decrease the risk of falls can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

- A role-play activity is recommended to simulate a fall, where the client can practice engaging in a self-check for any injuries and calling 911 or a family member for help.
 - The occupational therapist should determine that a client is physically healthy and able to engage in the desired role-play tasks.
- This will help to increase confidence and preparedness within the client in the case of an actual fall.

FEAR OF FALLING RESOURCES,
MATERIALS & HANDOUTS

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

Keeping You Safe From Falls: Occupational therapists should provide this handout to the client. The handout identifies six ways that individuals can prevent falls. The therapists is encouraged to talk about these six areas with the client, and address any concerns or questions the client may have.

Home Modification Checklist: This is a worksheet for the occupational therapist and client to complete together through doing a home evaluation. The checklist identifies hazards and risk factors for several areas and rooms within a home or apartment. There is also room to identify recommendations for modifications or adaptations within the home. This can assist the client is staying safe within their home upon discharge, and preventing falls from occurring.

Staying Safe After a Fall: The occupational therapist is encouraged to administer these safety cards to the client. The cards identify what to do after a fall, and contain spaces where the client can fill in family members' names and phone numbers in the case of a fall, and the client is near a phone. The emergency number of 911 is also on the card. The included worksheet comes with two cards, which the client can cut apart and keep in separate locations, for example a purse or near the bed or kitchen. These cards can be duplicated if needed, and laminated to allow for durability.

KEEPING YOU SAFE FROM FALLS

After experiencing a stroke, it is common to feel anxious and fearful about falling. Sometimes these fears can cause us to stop doing the things we enjoy because we are fearful that we might fall when we are doing those things. This handout lists 6 simple ways to prevent falls.

1. SCHEDULE A DOCTOR'S APPOINTMENT

Getting regular check-ups can help you and your doctor find out if any medications or health problems may increase your risk for falls.

2. STAY ACTIVE

With permission from your doctor, exercising can help decrease falls by increasing balance, strength, and coordination.

3. WEAR PROPER SHOES

Shoes that are floppy and difficult to walk in, as well as walking in socks, can increase your risk of falling. Wear sturdy shoes with nonskid soles.

4. MAKE YOUR HOME SAFE

Remove any clutter or loose items within your home. Refer to the handout on home adaptations to prevent falls.

5. INCREASE LIGHTING

Keeping your home brightly lit can prevent you from falling and tripping on hard to see objects. Use night-lights and lamps for added light.

6. USE ASSISTIVE DEVICES

Devices such as raised toilet seats, grab bars for the shower, non-slip mats, and handrails for the stairs can help reduce falls.

Information modified from Mayo Clinic Staff (2014)

HOME MODIFICATION CHECKLIST

Front Entrance

- Lack of railing
- Unsafe steps (too steep/cracked)
- Unmarked raised threshold
- Lack of lighting at night
- Lack of ramp
- Uneven/cracked pavement
- Ice or snow on sidewalk/driveway
- Lack of outdoor grab bar
- Other: _____

Recommendations:

Hallway

- Uneven or slippery floor
- Cluttered area
- Dark or poor lighting
- Lack of access to ceiling light
- Other: _____

Recommendations:

Living Room

- Presence of rugs
- Presence of clutter
- Presence of cords on the floor
- Poor lighting
- Unstable furniture
- Difficult access to light switch
- Not enough space to move around
- Other: _____

Recommendations:

Kitchen

- Cabinets are too high or too low
- Not enough counter space
- Using a stool or chair to reach things
- Not enough room to move around
- Presence of rugs
- Presence of slippery floor
- Poor lighting
- Other: _____

Recommendations:

Bedroom

- Presence of clutter
- Presence of cords on the floor
- Unsafe carpet
- Presence of rugs or blankets on the floor
- Height of bed (too low or too high)
- Lack of telephone near bed
- Lack of night light
- Difficulty reaching important items (remote, lamp, etc.)
- Lack of device to get into or out of bed
- Other: _____

Recommendations:

Bathroom

- Presence of unsafe bath rugs
- Lack of grab bars in tub
- Lack of grab bars in shower area
- Lack of grab bars near toilet
- Toilet is too high or too low
- Slippery tub (lack of bath mat, etc.)
- Tub too high to get into
- Lack of bath chair in shower area
- Clutter
- Other: _____

Recommendations:

(Modified from Occupational Therapy Geriatric Group, 2013)

STAYING SAFE AFTER A FALL

In the case that a fall has occurred, the following is a checklist available for you to refer to in order to stay calm and get the help that you need. There are two copies provided, which allows to you keep one at home and one in your wallet.

SAFETY CARD FOR AFTER A FALL

- Call someone from your emergency contacts OR press the button on your emergency response device
- Check for any bleeding and/or bruising
- Check for movement in all body parts
- Take your time standing up to avoid dizziness
- Even if you feel the fall was not significant, still tell your doctor or a loved one about the fall

Emergency Contacts

- Emergency: 911
- Name: _____
Phone: _____
- Name: _____
Phone: _____
- Name: _____
Phone: _____



SAFETY CARD FOR AFTER A FALL

- Call someone from your emergency contacts OR press the button on your emergency response device
- Check for any bleeding and/or bruising
- Check for movement in all body parts
- Take your time standing up to avoid dizziness
- Even if you feel the fall was not significant, still tell your doctor or a loved one about the fall

Emergency Contacts

- Emergency: 911
- Name: _____
Phone: _____
- Name: _____
Phone: _____
- Name: _____
Phone: _____

Recurrent Stroke Prevention

What Is It?

Recurrent stroke prevention methods are used to prevent the occurrence, or recurrence, of strokes or symptoms that the client presented with in the initial stage of therapy. Taylor (2006) explained how from the beginning of therapy services, the therapist is encouraged to assist the client in preparing for discharge and termination of services, so when the client has completed therapy, they are able to guide themselves through any subsequent problems they may experience. Taylor (2006) shared that therapists are encouraged to continuously remind their clients that the overall purpose of therapy is to provide them with skills so they can ultimately be their own therapists.

Supporting Evidence

Kneebone and Jeffries (2013) stressed the importance of implementing recurrent stroke prevention techniques during the intervention process. The authors included several topics that have shown to be beneficial as the individual prepares for and is discharged from therapy. These topics include reviewing what skills or techniques have been learned and used, how the individual can use these skills in the future, having the ability to maintain use of the techniques, and preparing for setbacks that may arise (Kneebone & Jeffries, 2013). According to the Clinical Guidelines for Stroke Management (2010), published by the National Stroke Foundation in Australia, individuals post-stroke should be encouraged to engage in exercise and participate in exercise programs within the community.

Benefits

Several benefits occur as a result of teaching clients about prevention methods and techniques. The first and foremost is to decrease the occurrence of relapse, where the individual regresses and goes back to his or her old way of thinking and behaving. By reviewing techniques learned in therapy, and providing the client with tools to refer back to in times of distress, clients will feel more equipped to handle unforeseen challenges that may arise after being discharged. This can further lead to increased self-confidence, and the ability for clients to become more autonomous by independently guiding themselves through these challenges.

Application to Occupational Performance

It is essential to apply and integrate skills and techniques learned in therapy to every day occupations. Potential occupations an individual may engage in where recurrent stroke prevention methods can be utilized include attending support groups to facilitate social participation, while also being able to communicate with others who have had similar experiences. Another opportunity to integrate skills learned is through community reintegration, where the client is encouraged to participate in occupations they enjoy doing or would like to do to, such as grocery shopping, going to the bank, going out to eat, or exercising. By engaging in a healthy lifestyle after discharge, the client may experience increased volition, role performance, habituation, and performance capacity, leading to competency when engaging in occupations.

Occupational Therapist Strategies

The following therapist strategies are broad suggestions of how to approach this topic. It is recommended and encouraged that the therapist uses previous knowledge to make the sessions individualized and client-centered.

- Educate client on how to live a healthy life post-stroke, and what the benefits are of living a healthy life using the following handouts and worksheets.
- Educate client on relapse prevention and have client demonstrate learned knowledge of CBT techniques learned throughout the duration of therapy using the included worksheet.
- Assist client in identifying progress made throughout therapy, encouraging them to celebrate their success and accomplishments.
- Assist client in recognizing and understanding how learning about prevention methods, can help them participate in meaningful occupations that may have been interrupted due to their PSD and/or PSA, and allow them to live overall healthier lives.
- Additionally, educate and assist client in applying skill learned to other areas and occupations.

RECURRENT STROKE PREVENTION
RESOURCES,
MATERIALS & HANDOUTS

RESOURCE, MATERIAL, & HANDOUT INSTRUCTIONS FOR OCCUPATIONAL THERAPIST USE

Healthy Living After Stroke: Occupational therapists should provide clients with this handout as the date of discharge nears. This handout provides clients with healthy lifestyle choices to prevent the recurrence of a stroke, and to overall live a healthy life. The therapist can engage in discussion with the client about suggestions the client would like to engage in, and how they can do those things.

Preparing for the Future: This worksheet will provide the client with a chance to show what they have learned during the therapy process, and will give the therapist an idea as to if the client learned new techniques or strategies during therapy. The worksheet asks clients four questions that have been taken from various aspects of the CBT guide. If certain techniques were not used or taught during therapy, the occupational therapist is encouraged to tailor the worksheet to reflect questions that the client may better understand.

HEALTHY LIVING AFTER STROKE

After experiencing a stroke, it is important to live a healthy life to prevent other health complications. Listed below are six ways you can make healthy choices in your daily life!

<p>HEALTHY EATING</p> <ul style="list-style-type: none">• Fruits & vegetables• Whole grains• Limit trans and saturated fats• Lean meats, fish, poultry• Low-sodium foods• Limit use of alcohol• Avoid sugary food & drinks  <p>American Stroke Association, 2014</p>	<p>EXERCISE</p> <ul style="list-style-type: none">• Lowers blood pressure• Improves heart rate• Improves balance, strength, brain health• Increase self esteem• Decrease anxiety and depression  <p>American Stroke Association, 2014</p>
<p>RELAXATION</p> <ul style="list-style-type: none">• Deep breathing• Guided imagery• Progressive muscle relaxation• Stretching• Meditation/Yoga• Aromatherapy  <p>American Stroke Association, 2014</p>	<p>CONNECT WITH OTHERS</p> <ul style="list-style-type: none">• Family & friends• Community support groups• Online support• Stroke Family Line<ul style="list-style-type: none">○ 1-888-4-STROKE• Stroke Connection Magazine  <p>American Stroke Association, 2014</p>
<p>SLEEP</p> <ul style="list-style-type: none">• Go to bed at the same time every night• Limit bright lights and electronic devices before bed• Limit caffeine intake before bed• Establish a bedtime routine  <p>American Occupational Therapy Association, 2012</p>	<p>LEARN A NEW HOBBY</p> <ul style="list-style-type: none">• Gardening• Painting• Crafts• Card games• Relaxation techniques• Cooking• What ever your new hobby may be, make sure it is something you find enjoyment in! 

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

PREPARING FOR THE FUTURE

Fill in the squares below in response to the questions asked. Each question reviews a skill or technique you have learned throughout your time at therapy.

What is one form of relaxation you can use when you begin to feel anxious?

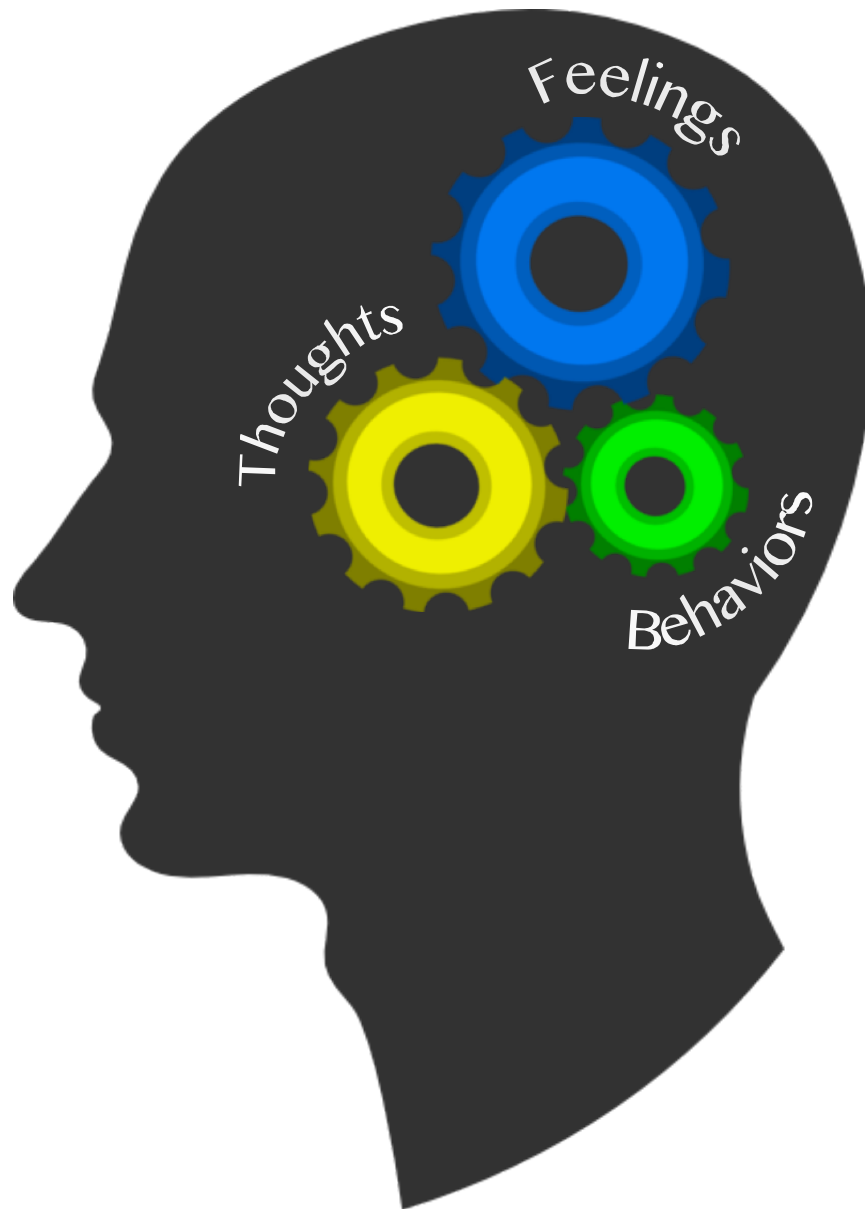
What type of negative thinking are you most likely to engage in? How can you challenge this type of thinking?

Briefly explain the relationship between thoughts, feelings, and actions.

What are two things you can do “activate” your behavior?

This is the authentic work of the authors of this clinical guide: Myers, E., & Peterson, S.

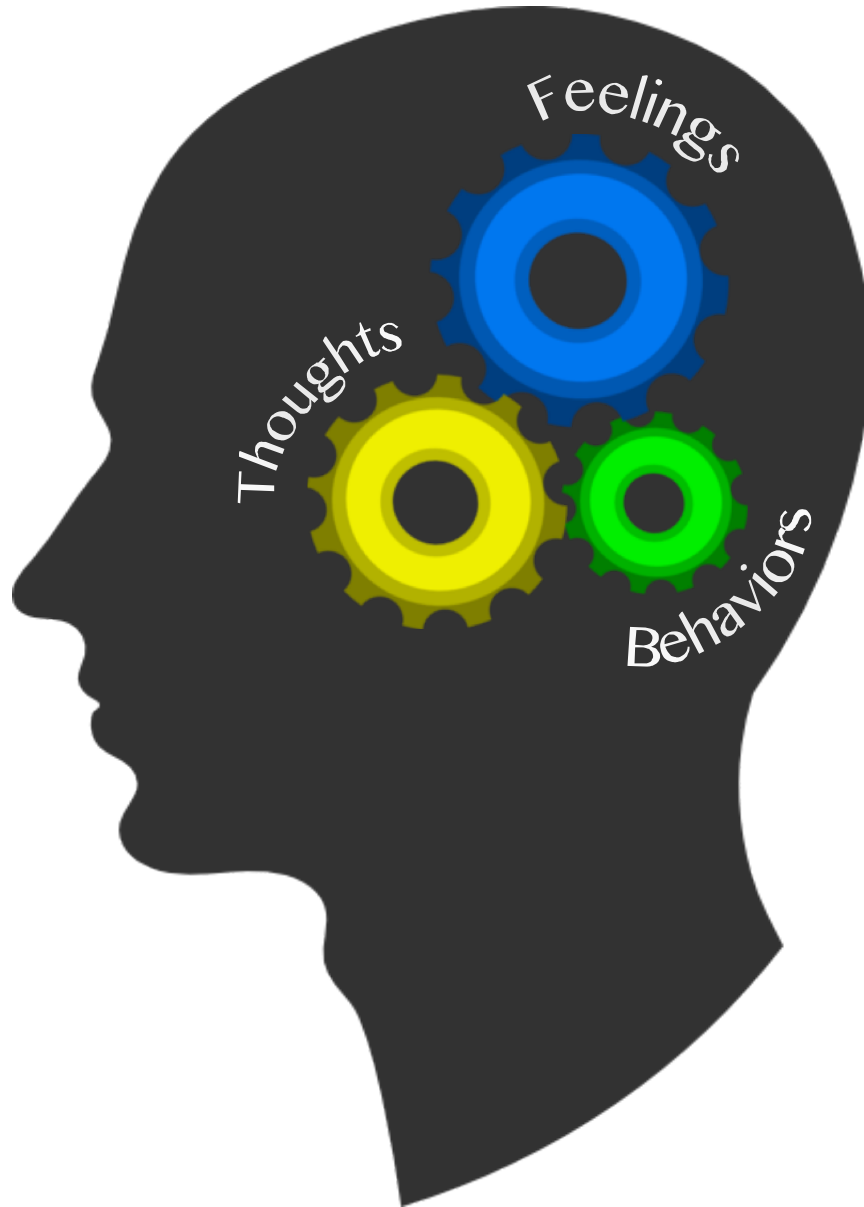
Part 5: Occupational Therapy Intervention Review



The next section of this guide is implementation review, which aligns with the process of our profession, as stated in the Occupational Therapy Practice Framework (AOTA, 2014). The intervention review is the process of reviewing and reevaluating aspects of the intervention to determine whether further treatment is necessary, or the client is ready for discharge. If the client has not shown to improve or progress, further evaluation should be completed, and a new approach to therapy may need to be implemented. If the client has demonstrated improvements and increased their ability to manage symptoms of PSD and/or PSA, and is able to independently engage in meaningful occupations while using CBT techniques to cope with any unforeseen challenges, then the client is ready to be discharged. Collaboration with the client is encouraged to identify initial goals and determine if the desired outcomes have been met (AOTA, 2014). According to the framework (AOTA, 2014), the intervention review includes three steps. The first is to reevaluate the plan and how it is carried out in relation to reaching the outcomes. Second, the plan should be modified as necessary. The last step is to decide if there is a need for further therapy or if the client is ready for discharge and to be referred to other services (AOTA, 2014). In the case of this guide, clients may be referred to home health services or a community based setting upon discharge.

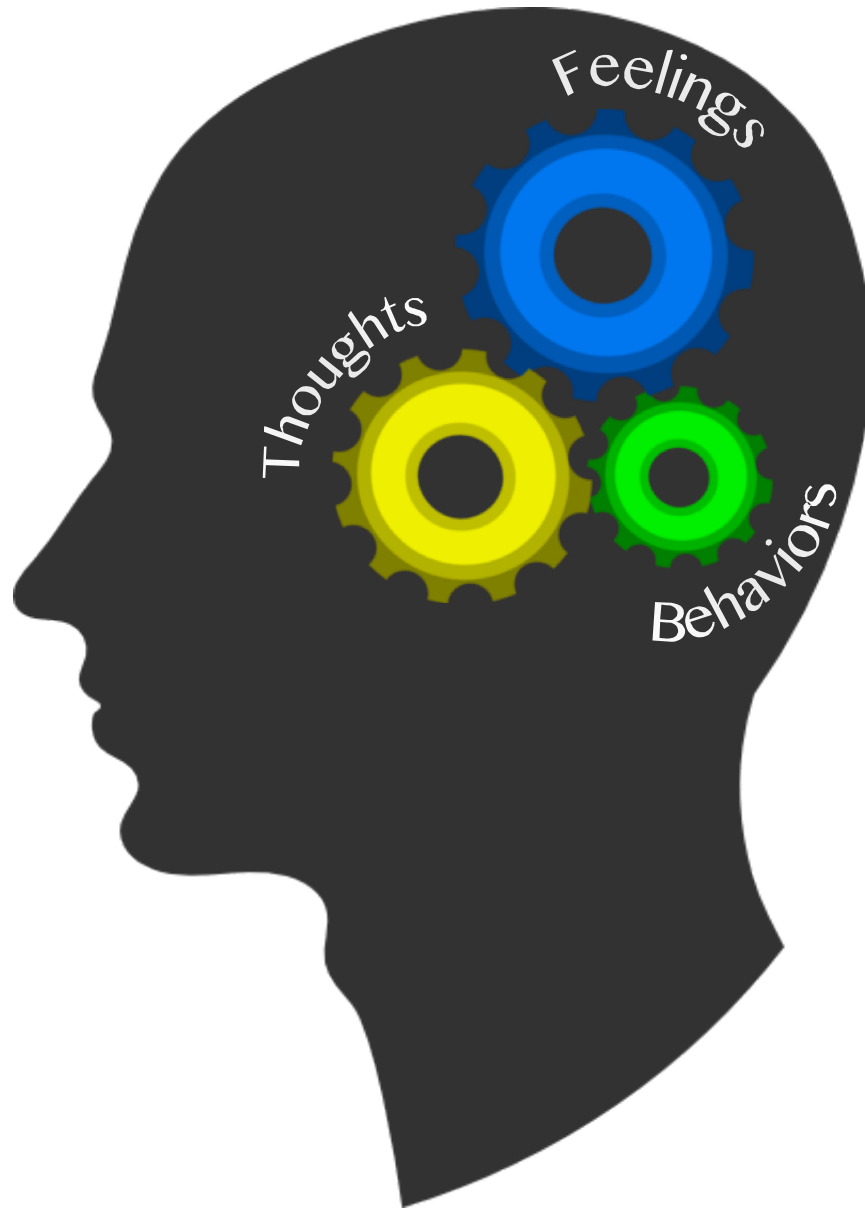
Referrals to other health professionals, such as a psychologist, physical therapist, dietician, etc. is warranted when the occupational therapist feels the topics of therapy no longer correlate with their scope of practice. The client's specific needs may vary throughout the therapeutic process, therefore, the occupational therapist needs to be cognizant of the changes and refer as necessary.

Part 6: Occupational Therapy Outcome Evaluation



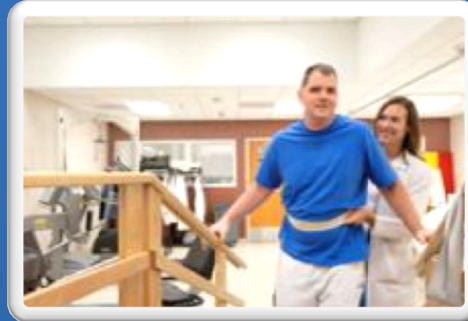
The last part of the process of occupational therapy services is that of outcomes. Outcomes describe what occupations the client is able to successfully engage in by the end of the intervention, since outcomes are directly related to the interventions that are completed during the therapy process (AOTA, 2014). Ideally, outcomes are aimed to match with goals that were set during the evaluation stage of the therapy process, however, it should be known that not all goals may be met, in which case reevaluation would take place, which was previously described. The Occupational Therapy Practice Framework (AOTA, 2014) outlines steps to consider when completing the outcomes process. Re-administer outcome measures given initially to determine progress and adjust goals and interventions as necessary (AOTA, 2014). This is done by comparing the original goals with how the client is performing toward the end of therapy through measures such as post-tests of screens and standardized. The Assessment Record is provided within the guide that therapists can use to record the scores of screens and assessments during the initial and end stages of therapy to determine progress. It is essential to be in continual communication with each client throughout the therapy process, to gain understanding of how the client views the therapy process, and to facilitate a collaborative approach that is client-centered. Once the client has been discharged, it is integral to implement follow-up methods to ensure the client is able to function independently and effectively once they have returned home. Home evaluations, support groups, and community activities are ways that follow-up services can be delivered to make certain the client does not experience symptoms or behaviors inherent to PSD and/or PSA, and they are able to participate in meaningful occupations.

Appendix



How can Occupational Therapy help you?

- Self-care – grooming, feeding, dressing, toileting, bathing
- Mobility – walking, driving, transferring
- Communication – speech and language
- Cognitive Skills – memory, problem-solving
- Social Skills – interacting with others
- Leisure – finding enjoyable activities
- Coping skills – deep breathing, relaxation, exercise



References

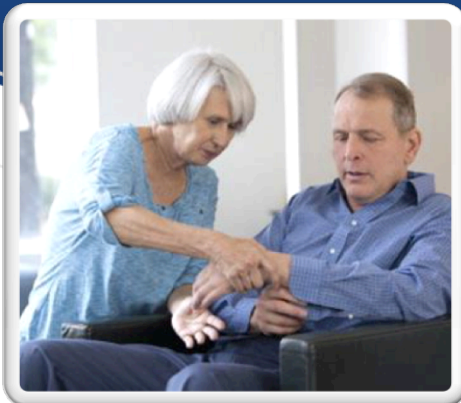
National Stroke Association
www.strokeassociation.org

Centers for Disease Control and Prevention
www.cdc.gov/stroke/index.htm

Minnesota Stroke Association
www.strokemn.org



Life After Stroke



Information was modified from the
American Stroke Association

Created by: Erica Myers, MOTS & Sarah Peterson, MOTS

University of North Dakota
Occupational Therapy
Department

Facts About Stroke



- Stroke is the **4th leading cause** of death in the United States.
- About **800,000** people have a stroke each year.
- On average, 1 person dies from a stroke every **4 minutes**.
- About **7 million** people in America are living with a stroke.
- By 2030, stroke incidence will **increase** by approximately **25%**.
- **1 in 5** women and **1 in 6** men experience a stroke.
- Many stroke survivors are able to **regain independence** over time.

Everyday Challenges

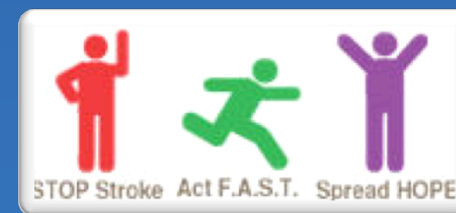
- Physical – balance, coordination, weakness, paralysis
- Cognitive – memory, thinking, attention, learning
- Emotional – depression, anxiety, self-esteem
- Communication – mixing up words, not being able to produce speech, difficulty understanding speech

Regaining Independence

- Ask your doctor about occupational, physical, and speech therapy
- Keep your mind and body active
- Ask your therapist about adaptive equipment
- Make home modifications
- Identify social supports such as support groups, friends, and/or family
- Learn how to cope with depression and anxiety
- Stay active in the community

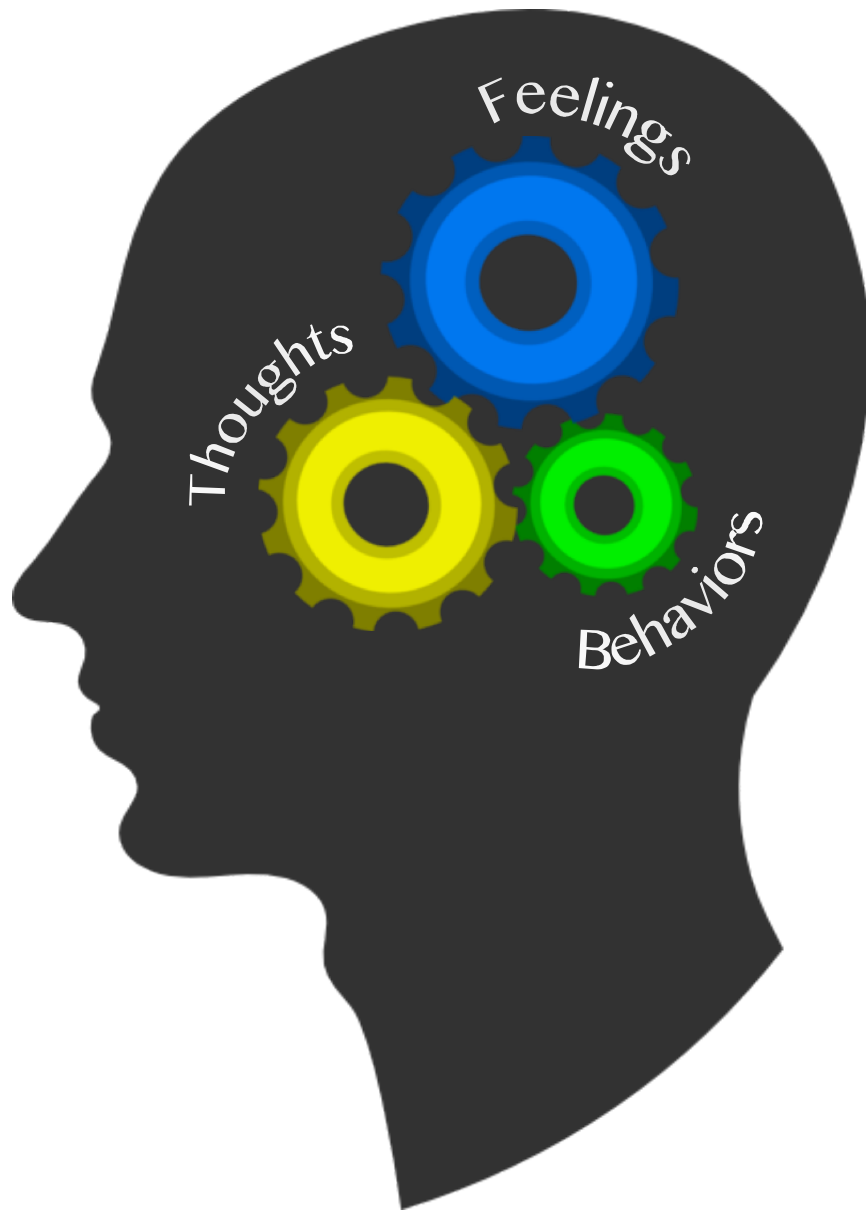
Healthy Living

- Choose healthy food options like fruits and vegetables
- Avoid drinking and smoking
- Exercise
- Spend time with family and friends
- Take your medications



National Stroke Association, 2014

References



References

- American Occupational Therapy Association. (2014). Occupational therapy practice framework: Domain and process (3rd ed). *American Journal of Occupational Therapy*, 68(Suppl, 1), S1-S48. <http://dx.doi.org/10.5014/ajot.2014.682006>
- American Occupational Therapy Association. (2012). *Occupational therapy's role in sleep*. Retrieved from <http://www.aota.org/About-Occupational-Therapy/Professionals/HW/Sleep.aspx>
- American Stroke Association. (2014). *Finding stroke support you are not alone*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/FindingSupportYouAreNotAlone/Finding-Stroke-Support-You-Are-Not-Alone_UCM_308556_SubHomePage.jsp
- American Stroke Association. (2014). *Nutrition tips for stroke survivors*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/HealthyLivingAfterStroke/Nutrition/Nutrition-Tips-for-Stroke-Survivors_UCM_308569_SubHomePage.jsp
- American Stroke Association. (2014). *Physical activity*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/HealthyLivingAfterStroke/PhysicalActivity/Physical-Activity_UCM_310896_Article.jsp
- American Stroke Association (2013). *Self-esteem after stroke*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/RegainingIndependence/EmotionalBehavioralChallenges/Self-Esteem-after-Stroke_UCM_310120_Article.jsp

- Bateman, J.R. (2008). *Scripts for breathing, visualization, & relaxation exercises*. Retrieved from https://www.otc.edu/Documents_Counseling_Services/Relaxation_Scripts_for_CD.pdf
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893-897. doi: 10.1037/0022-006X.56.6.893
- Billinger, S. A., Arena, R., Bernhardt, J., Eng, J. J., Franklin, B. A., Johnson, C. M., MacKay-Lyons, M., Macko, R. F., Mead, G.E., Roth, E.J., Shaughnessy, M., & Tang, A. (2014). Physical activity and exercise recommendations for stroke survivors: A statement for healthcare professionals from the American Heart Association/American Stroke Association. *Stroke, 45*, 2532-2553. doi: 10.1161/STR.0000000000000022
- Broomfield, N. M., Laidlaw, K., Hickabottom, E., Murray, M. F., Pendrey, R., Whittick, J. E., & Gillespie, D. C. (2011). Post-stroke depression: The case for augmented, individually tailored cognitive behavioural therapy. *Clinical Psychology and Psychotherapy, 18*(1), 202-217. doi: 10.1002/cpp.711
- Center for Disease Control and Prevention. (2014). *Stroke facts*. Retrieved from <http://www.cdc.gov/stroke/facts.htm>.
- Chang, A. M., & Mackenzie, A. E. (1998). State self-esteem following stroke. *Stroke, 29*, 2325-2328. doi: 10.1161/01.STR.29.11.2325
- Cooke, D. M., & Kline, N. F. (2007). Assessments of process skills and mental functions part 1: Cognitive assessments. In I. Asher (Ed.), *Occupational therapy assessment*

tools: An annotated index (3rd ed., pp. 489-570). Bethesda, MD: American Occupational Therapy Association, Inc.

Crist, P. A. H. (2007). Assessments of process skills and mental functions part 2: Psychological assessments. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 571-614). Bethesda, MD: American Occupational Therapy Association, Inc.

D'Amico, M., & Mortera, M. H. (2007). Assessments of coping and adaptive behaviors. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 633-671). Bethesda, MD: American Occupational Therapy Association, Inc.

D'Aniello, G.E., Scarpina, F., Mauro, A., Mori, I., Castelnuovo, G., Bigoni, M., Baudo, S., & Molinari, E. (2014). Characteristics of anxiety and psychological well-being in chronic post-stroke patients. *Journal of Neurological Sciences*, *338*, 191-196. doi: 10.1016/j.jns/2014.01.005

Duncan, P. W., Wallace, D., Lai, S. M., Johnson, D., Embretson, S., & Laster, L. J. (1999). The Stroke Impact Scale version 2.0: Evaluation of reliability, validity, and sensitivity to change. *Stroke*, *30*, 2131-2140. doi: 10.1161/01.STR.30.10.2131

Eastern Washington University. (2014). *15 Styles of Distorted Thinking*. Retrieved from <http://access.ewu.edu/caps/selfhelp/stressmanage/distortthink>

Getselfhelp.co.uk. (2014). *Activity diary*. Retrieved from <http://www.getselfhelp.co.uk/docs/ActivityDiary.pdf>

Getselfhelp.co.uk. (2014). *Pain and/or fatigue diary*. Retrieved from <http://www.getselfhelp.co.uk/docs/PainDiary.pdf>

- Gillen, G. (2009). *Cognitive and perceptual rehabilitation: Optimizing function*. (pp. 67-104). St. Louis, MO: Mosby, Inc.
- Graziano, F., Calandri, E., Borghi, M., & Bonino, S. (2014). The effects of a group-based cognitive behavioral therapy on people with multiple sclerosis: A randomized controlled trial. *Clinical Rehabilitation*, 28(3), 264-274. doi: 10.1177/0269215513501525
- Grohol, J. (2009). 15 common cognitive distortions. *Psych Central*. Retrieved on October 17, 2014, from <http://psychcentral.com/lib/15-common-cognitive-distortions/0002153>
- Huntington's Disease Society of America (2014). *The Kubler-Ross Model*. Retrieved from www.hdsa.org
- Johnco, C., Wuthrich, V.M., & Rapee, R.M. (2014). The influence of cognitive flexibility on treatment outcome and cognitive restructuring skill acquisition during cognitive behavioral treatment for anxiety and depression in older adults: Results of a pilot study. *Behaviour Research and Therapy*, 57, 55-64. doi: 10.1016/j.brat.2014.04.005
- Joice, S. (2012). Self-management following stroke. *Nursing Standard*, 26(22), 39-46.
- Keppel, C. C., & Crowe, S. F. (2000). Changes to body image and self-esteem following stroke in young adults. *Neuropsychological Rehabilitation*, 10(1), 15-31. doi:10.1080/096020100389273
- Kielhofner, G. (2008) *Model of human occupation: Theory and application*. Baltimore, MD: Lippincott Williams & Wilkins.

- Kneebone, I. I., & Jeffries, F. W. (2013). Treating anxiety after stroke using cognitive-behaviour therapy: Two cases. *Neuropsychological Rehabilitation*, 23(6), 798-810. doi: 10.1080/09602011.2013.820135
- Kootker, J., Fasotti, L., Rasquin, S. M. C., Van Heugten, C. M., & Geurts, A. C. H. (2012). The effectiveness of an augmented cognitive behavioural intervention for post-stroke depression with or without anxiety (psda): The restore4stroke-psda trial. *BMC Neurology*, 12(1), 51. doi: 10.1186/1471-2377-12-51
- Lorig, K., Holman, H., Sobel, D., Laurent, D., Gonzalez, V., & Minor, M. (2012). *Living a healthy life with chronic conditions*. Boulder, CO: Bull Publishing Company.
- Martell, C.R. (n.d.). *Behavioral activation therapy*. Retrieved from <http://www.christophermartell.com/ba.php>
- Martin, L. M. (2007). Assessments of social participation and quality of life. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 201-227). Bethesda, MD: American Occupational Therapy Association, Inc.
- Mayo Clinic Staff. (2014). *Falls prevention: Simple tips to prevent falls*. Retrieved from <http://www.mayoclinic.org/healthy-living/healthy-aging/in-depth/fall-prevention/art-20047358>
- Mayo Clinic Staff. (2014). *Stress management*. Retrieved from <http://www.mayoclinic.org/healthy-living/stress-management/in-depth/relaxation-technique/art-20045368>
- Morris, J.H., van Wijck, F., Joice, S., & Donaghy, M. (2013). Predicting health related quality of life 6 months after stroke: The role of anxiety and upper limb

dysfunction. *Disability and Rehabilitation*, 35(4), 291-299. doi:
10.3109/09638288.2012.691942

National Council on Aging (2014). *Chronic disease self-management: Fact sheet*.

Retrieved from <http://www.ncoa.org/press-room/fact-sheets/chronic-disease.html>

National Stroke Association. (2010). Clinical guidelines for stroke management.

Retrieved from <http://strokefoundation.com.au/health-professionals/tools-and-resources/clinical-guidelines-for-stroke-prevention-and-management/>

National Stroke Association (2010). *Hope: A stroke recovery guide*. Retrieved from
www.stroke.org

National Stroke Association (2014). *Fatigue*. Retrieved from

<http://www.stroke.org/site/PageServer?pagename=fatigue#manage>

Occupational Therapy Geriatric Group. (2013). Home safety self assessment tool

(HSSAT). Retrieved from <http://agingresearch.buffalo.edu/hssat/>

Paul, R.W. (n.d.). *The six types of Socratic questioning*. Retrieved from

<http://www.umich.edu/~elements/probsolv/strategy/cthinking.htm>

Psychologytools.org (2014). *CBT thought record*. Retrieved from

<http://psychology.tools/cbt-thought-record.html>

Psychologytools.org. (2014). *Simple thought record*. Retrieved from

<http://psychology.tools/simple-thought-record.html>

Rasquin, S. M. C., van de Sande, P., Praamstra, A. J., & van Heugten, C. M. (2009).

Cognitive-behavioural intervention for depression after stroke: Five single case studies on effects and feasibility. *Neuropsychological Rehabilitation*, 19(2), 208-222. doi: 10.1020/09602010802091159

- Reed, K. L. (2007). Assessment of roles, habits, and routines. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 619-632). Bethesda, MD: American Occupational Therapy Association, Inc.
- Schmid, A.A., Van Puymbroeck, M., Knies, K., Spangler-Morris, C., Watts, K., Damush, T., & Williams, L.S. (2011). Fear of falling among people who have sustained a stroke: A 6-month longitudinal pilot study. *American Journal of Occupational Therapy, 65*(2), 125-132. doi: 10.5014/ajot.2011.000737
- Schultz-Krohn, W. (2007). Assessments of occupational performance. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 31-54). Bethesda, MD: American Occupational Therapy Association, Inc.
- Snaith, R. P. (2003). The hospital anxiety and depression scale. *Health and Quality of Life Outcomes, 1*(1), 29-32. doi: 10.1186/1477-7525-1-29
- Stroke Awareness Foundation (2014). *Stroke facts*. Retrieved from <http://strokeinfo.org/signsandsymptoms/stroke-facts>
- Stroke Foundation (2009). *Coping with stress after stroke*. Retrieved from <http://www.stroke.org.nz/resources/Coping-with-stress-web.pdf>
- Sudak, D.M., Majeed, M.H., & Youngman, B.D. (2014). Behavioral activation: A strategy to enhance treatment response. *Journal of Psychiatric Practice, 20*(4), 269-275. doi: 10.1097/01.pra.0000452563.05911.c9
- Tang, W.K., Lau, C.G., Mok, V., Ungvari, G.S., & Wong, K. (2013). Impact of anxiety on health-related quality of life after stroke: A cross-sectional study. *Archives of Physical Medicine and Rehabilitation, 94*, 2535-2541. doi: 10.1016/j.apmr.2013.07.012

- Taylor, R.R. (2006). Introduction to the techniques of cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (79-85). Chicago, IL: Springer.
- Taylor, R.R. (2006). Techniques for addressing maladaptive cognitions that are unrealistic. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (86-94). Chicago, IL: Springer.
- Taylor, R.R. (2006). The initial assessment and orientation to cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (53-57). Chicago, IL: Springer.
- Taylor, R.R. (2006). The subsequent sessions of cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (70-76). Chicago, IL: Springer.
- Therapistaid.com. (2013). *ABC model for REBT*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/abc-model-for-rebt/cbt/none>
- Therapistaid.com. (2013). *My stages of grief*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/my-stages-of-grief/emotions/none>
- Therapistaid.com. (2014). *Progressive muscle relaxation script*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/progressive-muscle-relaxation-script/anxiety/none>
- Therapistaid.com. (2013). *Relaxation techniques*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/relaxation-techniques/anxiety/none>

- Therapistaid.com. (2014). *Self-esteem journal*. Retrieved from
<http://www.therapistaid.com/therapy-worksheet/self-esteem-journal/selfesteem/none>
- William, L. S., Weinberger, M., Harris, L. E., Clark, D. O., & Biller, J. (1999).
Development of a stroke-specific quality of life scale. *Stroke*, *30*(7), 1362-1369.
doi: 10.1161/01.STR.30.7.1362
- Woodson, A.M. (2014). Stroke. In M.V. Radomski & C.A. Trombly Latham (Eds.),
Occupational Therapy for Physical Dysfunction (999-1041). Baltimore, MD
:Lippincott Williams & Wilkins.
- Positive affirmations*. (2014). Retrieved from
<http://www.vitalaffirmations.com/affirmations.htm>
- Vivyan, C. (2010). *Mood diary*. Retrieved from
<http://www.getselfhelp.co.uk/docs/MoodDiary2.pdf>
- Vivyan, C. (2010). *Thought record sheet*. Retrieved
from <http://www.getselfhelp.co.uk/docs/ThoughtRecordSheet7.pdf>

CHAPTER V

SUMMARY

The purpose of this guide is to provide occupational therapists with a comprehensive tool that can be utilized throughout the intervention process when working with individuals who are experiencing post-stroke depression and/or post-stroke anxiety. The guide focuses on implementing cognitive-behavioral therapy (CBT) under the Model of Human Occupation (MOHO) with this population to address symptoms of depression and anxiety an individual may experience after sustaining a stroke. The guide contains six parts, each of which parallels the Occupational Therapy Practice Framework: Domain and Process (2014). Part one is an overview of post-stroke psychological interventions. Part two is the assessment and evaluation, and contains several assessments that can be used during the delivery of therapy services. Part three briefly describes the concept of intervention planning. Part four contains twelve interventions that have shown to be effective for this population and are inherent to CBT. Each intervention strategy includes an informational handout for the therapist, therapist strategies, and a handout and worksheet for the client. Part five is a description of the intervention review process, which leads into part six, outcome evaluation, to assist the occupational therapist in determining whether the client is ready for discharge, or if additional services are necessary. The clinical practice strengths of this guide include its comprehensive approach to facilitate occupation therapy services and outcomes for individuals experiencing post-stroke depression and/or post-stroke anxiety. The guide was created

through a thorough review of the literature for best practice interventions. It correlates with the occupational therapy framework, which provides therapists with a familiar process to follow. The guide provides appropriate readability for the therapist and the client, as well as the ability for occupational therapists to modify intervention strategies as necessary. Lastly, this guide allows occupational therapists and clients to collaborate on the desired direction of therapy, and have the freedom to choose the interventions seen as most relevant. Not every intervention strategy within the guide must be used during therapy; occupational therapists are encouraged to employ clinical reasoning skills to determine what will be most effective for their clients and adapt the tools, as needed.

One limitation of this guide is that it is not intended for individuals post-stroke who have cognitive or severe communication deficits such as aphasia, impaired executive functioning, memory, or judgment. If individuals are experiencing these deficits, the interventions included in the guide are likely to not be as effective. Therapists should determine the clients' ability to engage in the provided interventions prior to implementing this guide by completing preliminary assessments and evaluations relevant to stroke rehabilitation as a whole. A second limitation is the effectiveness of the guide, since it has yet to be implemented in a clinical setting.

This guide is likely to be implemented in settings where strokes are a common diagnosis, such as a physical disabilities setting. However, since the guide addresses post-stroke depression and post-stroke anxiety symptoms, this guide also has the potential to be implemented in a mental health setting. A significant component contributing to the implementation of this guide is the cost to produce and distribute the tool so it is able to reach a large amount of therapists. It is anticipated that this guide can initially be

distributed to local facilities and utilized by occupational therapists. Recommendations for future action and research include conducting a pilot study to determine the effectiveness of this guide in order to increase its potential for implementation in expanded practice settings. Further research may be conducted based on results from the pilot study to strengthen the guide and increase its relevancy for the population and symptoms identified by therapists. The authors additionally plan to provide this guide to occupational therapists at the facilities where they will complete fieldwork rotations, as well as those facilities where they will become employed. This will expand the number of practitioners to which the guide is introduced and distributed.

In conclusion, it is a goal of the authors that this guide can serve as a comprehensive set of tools that will prove to be effective in the treatment of individuals post-stroke who are experiencing symptoms of depression and anxiety to increase their performance in meaningful occupations.

REFERENCES

- American Occupational Therapy Association (AOTA). (2014). Occupational therapy practice framework: Domain and process (3rd ed.). *American Journal of Occupational Therapy*, 68(Suppl. 1). S1-S48.
<http://dx.doi.org/10.5014/ajot.2014.682006>
- American Occupational Therapy Association. (2012). *Occupational therapy's role in sleep*. Retrieved from <http://www.aota.org/About-Occupational-Therapy/Professionals/HW/Sleep.aspx>
- American Stroke Association. (2014). *Finding stroke support you are not alone*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/FindingSupportYouAreNotAlone/Finding-Stroke-Support-You-Are-Not-Alone_UCM_308556_SubHomePage.jsp
- American Stroke Association. (2014). *Nutrition tips for stroke survivors*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/HealthyLivingAfterStroke/Nutrition/Nutrition-Tips-for-Stroke-Survivors_UCM_308569_SubHomePage.jsp
- American Stroke Association. (2014). *Physical activity*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/HealthyLivingAfterStroke/PhysicalActivity/Physical-Activity_UCM_310896_Article.jsp

- American Stroke Association (2013). *Self-esteem after stroke*. Retrieved from http://www.strokeassociation.org/STROKEORG/LifeAfterStroke/RegainingIndependence/EmotionalBehavioralChallenges/Self-Esteem-after-Stroke_UCM_310120_Article.jsp
- Bateman, J.R. (2008). *Scripts for breathing, visualization, & relaxation exercises*. Retrieved from https://www.otc.edu/Documents_Counseling_Services/Relaxation_Scripts_for_CD.pdf
- Beck, A. T., Epstein, N., Brown, G., & Steer, R. A. (1988). An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology, 56*(6), 893-897. doi: 10.1037/0022-006X.56.6.893
- Beck, J. (1995). *Cognitive therapy: Basics and beyond*. New York: Guilford Press.
- Bergersen, H., Frosli, K.F., Sunnerhagen, K.S., & Schnake, A.K. (2010). Anxiety, depression, and psychological well-being 2 to 5 years poststroke. *Journal of Stroke and Cerebrovascular Diseases, 19*(5), 364-369. doi: 10.1016/j.jstrokecerebrovasdis.2009.06.005
- Billinger, S.A., Arena, R., Bernhardt, J., Eng, J.J., Franklin, B.A., Johnson, C.M., MacKay-Lyons, M., Macko, R.F., Mead, G.E., Roth, E.J, Shaughnessy, M., and Tang, A. (2014). Physical activity and exercise recommendations for stroke survivors: A statement for healthcare professionals from the American heart association/American stroke association, *Stroke, 45*, 2532-2553. doi: 10.1161/STR.0000000000000022
- Broomfield, N. M., Laidlaw, K., Hickabottom, E., Murray, M. F., Pendrey, R., Whittick, J. E., & Gillespie, D. C. (2011). Post-stroke depression: The case for augmented,

- individually tailored cognitive behavioural therapy. *Clinical Psychology and Psychotherapy*, 18(1), 202-217. doi: 10.1002/cpp.711
- Campbell Burton, C. A., Murray, J., Holmes, J., Astin, F., Greenwood, D., & Knapp, P. (2013). Frequency of anxiety after stroke: A systematic review and meta-analysis of observational studies. *International Journal of Stroke*, 8(7), 545-559. doi: 10.1111/j.1747-4949.2012.0096.x
- Carod-Artal, F. J., & Egido, J. A. (2009). Quality of life after stroke: The importance of good recovery. *Cerebrovascular Diseases*, 27, 204–214.
- Center for Disease Control and Prevention. (2014). *Stroke facts*. Retrieved from <http://www.cdc.gov/stroke/facts.htm>.
- Chang, A. M., & Mackenzie, A. E. (1998). State self-esteem following stroke. *Stroke*, 29, 2325-2328. doi: 10.1161/01.STR.29.11.2325
- Chanubol, R., Wongphaet, P., Chavanich, N., Werner, C., Hesse, S., Bardeleben, A., & Merholz, J. (2012). A randomized control trial of cognitive sensory motor training therapy on the recovery of arm function in acute stroke patients, *Clinical Rehabilitation*, 26(12), 1096-1104. doi: 10.1177/0269215512444631
- Compston, A., McDonald, I. R., Noseworthy, J., Lassmann, H., Miller, D.H., Smith, K.J., Confavreux, C. (2005). *McAlpine's multiple sclerosis* (4th ed.). Philadelphia, PA: Churchill Livingstone.
- Cooke, D. M., & Kline, N. F. (2007). Assessments of process skills and mental functions part 1: Cognitive assessments. In I. Asher (Ed.), *Occupational therapy assessment*

tools: An annotated index (3rd ed., pp. 489-570). Bethesda, MD: American Occupational Therapy Association, Inc.

Crist, P. A. H. (2007). Assessments of process skills and mental functions part 2: Psychological assessments. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 571-614). Bethesda, MD: American Occupational Therapy Association, Inc.

D'Amico, M., & Mortera, M. H. (2007). Assessments of coping and adaptive behaviors. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 633-671). Bethesda, MD: American Occupational Therapy Association, Inc.

D'Aniello, G.E., Scarpina, F., Mauro, A., Mori, I., Castelnuovo, G., Bigoni, M., Baudo, S., & Molinari, E. (2014). Characteristics of anxiety and psychological well-being in chronic post-stroke patients. *Journal of Neurological Sciences*, 338, 191-196. doi: 10.1016/j.jns/2014.01.005

Dennison, L., Moss-Morris, R., & Chalder, T. (2009). A review of psychological correlates of adjustment in patients with multiple sclerosis. *Clinical Psychology Review*, 29, 141–153. doi:10.1016/j.cpr .2008.12.001

Dobkin, R. D., Menza, M., Allen, L. A., Gara, M. A., Mark, M. H., Psy, J. T., Bienfait, K. L., & Friedman, J. (2011). Cognitive-behavioral therapy for depression in parkinson's disease: A randomized, controlled trial. *American Journal of Psychiatry*, 168(10), 1066-1074.

- Dobson, K.S., and Dozois, D.J.A. (2001). Historical and philosophical bases of the cognitive-behavioral therapies. In K.S. Dobson (ed.), *Handbook of cognitive-behavioral therapies* (2nd ed.) (pp. 3-39). New York: Guilford Press.
- Duncan, P. W., Wallace, D., Lai, S. M., Johnson, D., Embretson, S., & Laster, L. J. (1999). The Stroke Impact Scale version 2.0: Evaluation of reliability, validity, and sensitivity to change. *Stroke*, *30*, 2131-2140. doi: 10.1161/01.STR.30.10.2131
- Eastern Washington University. (2014). *15 Styles of Distorted Thinking*. Retrieved from <http://access.ewu.edu/caps/selfhelp/stressmanage/distortthink>
- Ferro, J. M., Caeiro, L., & Santos, C. (2009). Poststroke emotional and behaviour impairment: A narrative review. *Cerebrovascular Diseases*, *27*, 197–203.
- Foster, E.R., Bedekar, M., & Tickle-Degnen, L. (2014). Systematic review of the effectiveness of occupational therapy-related interventions for people with Parkinson's disease. *American Journal of Occupational Therapy*, *68*, 39-49. doi:10.5014/ajot.2014.008706
- Getselfhelp.co.uk. (2014). *Activity diary*. Retrieved from <http://www.getselfhelp.co.uk/docs/ActivityDiary.pdf>
- Getselfhelp.co.uk. (2014). *Pain and/or fatigue diary*. Retrieved from <http://www.getselfhelp.co.uk/docs/PainDiary.pdf>
- Gillen, G. (2009). *Cognitive and perceptual rehabilitation: Optimizing function*. (pp. 67-104). St. Louis, MO: Mosby, Inc.
- Graziano, F., Calandri, E., Borghi, M., & Bonino, S. (2014). The effects of a group-based cognitive behavioral therapy on people with multiple sclerosis: A randomized

- controlled trial. *Clinical Rehabilitation*, 28(3), 264-274. doi:
10.1177/0269215513501525
- Grohol, J. (2009). 15 common cognitive distortions. *Psych Central*. Retrieved on October 17, 2014, from <http://psychcentral.com/lib/15-common-cognitive-distortions/0002153>
- Hackett, M. L., Anderson, C. S., & House, A. O. (2004). Interventions for treating depression after stroke. *Cochrane Database Systematic Review*, 3, CD003437.
- Hackett, M. L., Anderson, C. S., & House, A. O. (2005). Management of depression after stroke: A systematic review of pharmacological therapies. *Stroke*, 36(5), 1098–1103.
- Johnco, C., Wuthrich, V.M., & Rapee, R.M. (2014). The influence of cognitive flexibility on treatment outcome and cognitive restructuring skill acquisition during cognitive behavioral treatment for anxiety and depression in older adults: Results of a pilot study. *Behaviour Research and Therapy*, 57, 55-64. doi:
10.1016/j.brat.2014.04.005
- Joice, S. (2012). Self-management following stroke. *Nursing Standard*, 26(22), 39-46.
- Keppel, C. C., & Crowe, S. F. (2000). Changes to body image and self-esteem following stroke in young adults. *Neuropsychological Rehabilitation*, 10(1), 15-31.
doi:10.1080/096020100389273
- Khan, F. (2004). Post-stroke depression. *Australian Family Physician*, 33(10), 831–834.
- Kielhofner, G. (2008) *Model of human occupation: Theory and application*. Baltimore, MD: Lippincott Williams & Wilkins.

- Kneebone, I. I., & Jeffries, F. W. (2013). Treating anxiety after stroke using cognitive-behaviour therapy: Two cases. *Neuropsychological Rehabilitation, 23*(6), 798-810. doi: 10.1080/09602011.2013.820135
- Kootker, J., Fasotti, L., Rasquin, S. M. C., Van Heugten, C. M., & Geurts, A. C. H. (2012). The effectiveness of an augmented cognitive behavioural intervention for post-stroke depression with or without anxiety (psda): the restore4stroke-psda trial. *BMC Neurology, 12*(1), 51. doi: 10.1186/1471-2377-12-51
- Lesniak, M., Bak, T., Czepiel, W., Seniow, J., & Czlonkowska, A. (2008). Frequency and prognostic value of cognitive disorders in stroke patients. *Dementia and Geriatric Cognitive Disorders, 26*(4), 356-63. doi: 10.1159/000162262
- Lincoln, N. B., & Flannaghan, T. (2003). Cognitive behavioral psychotherapy for depression following stroke: A randomized controlled trial. *Stroke, 34*(1), 111–115.
- Lorig, K., Holman, H., Sobel, D., Laurent, D., Gonzalez, V., & Minor, M. (2012). *Living a healthy life with chronic conditions*. Boulder, CO: Bull Publishing Company.
- Martell, C.R. (n.d.). *Behavioral activation therapy*. Retrieved from <http://www.christophermartell.com/ba.php>
- Martin, L. M. (2007). Assessments of social participation and quality of life. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 201-227). Bethesda, MD: American Occupational Therapy Association, Inc.
- Mayo Clinic Staff. (2014). *Falls prevention: Simple tips to prevent falls*. Retrieved from <http://www.mayoclinic.org/healthy-living/healthy-aging/in-depth/fall-prevention/art-20047358>

- Mayo Clinic Staff. (2014). *Stress management*. Retrieved from <http://www.mayoclinic.org/healthy-living/stress-management/in-depth/relaxation-technique/art-20045368>
- Menza, M. A., Robertson-Hoffman, D. E., & Bonapace, A. S. (1993). Parkinson's disease and anxiety: Comorbidity with depression. *Biological Psychiatry, 34*(7), 465-470. doi: 10.1016/0006-3223(93)90237-8
- Mohr, D. C., Boudewyn, A. C., Goodkin, D. E., Bostrom, A., & Epstein, L. (2001). Comparative outcomes for individual cognitive-behavior therapy, supportive-expressive group psychotherapy, and sertraline for the treatment of depression in multiple sclerosis. *Journal of Consulting and Clinical Psychology, 69*, 942-949. doi:10.1037/0022-006X.69.6.942
- Mohr, D. C., Likosky, W., Bertagnolli, A., Goodkin, D. E., Van Der Wende, J., Dwyer, P., & Dick, L. P. (2000). Telephone-administered cognitive-behavioral therapy for the treatment of depressive symptoms in multiple sclerosis. *Journal of Consulting and Clinical Psychology, 68*, 356-361. doi:10.1037/0022-006X.68.2.356
- Morris, J.H., van Wijck, F., Joice, S., & Donaghy, M. (2013). Predicting health related quality of life 6 months after stroke: the role of anxiety and upper limb dysfunction. *Disability and Rehabilitation, 35*(4), 291-299. doi: 10.3109/09638288.2012.691942
- Moss-Morris, R., Dennison, L., Landau, S., Yardley, L., Silber, E., & Chalder, T. (2013). A randomized controlled trial of cognitive behavioral therapy (CBT) for adjusting to multiple sclerosis (the saMS trial): Does CBT work and for whom does it

work? *Journal of Consulting and Clinical Psychology*, 81(2), 251-262.

doi:10.1037/a0029132

Naess, H., Lunde, L., & Brogger, J. (2012). The effects of fatigue, pain, and depression on quality of life in ischemic stroke patients: The bergen stroke study. *Vascular Health and Risk Management*, 8, 407-413. doi: 10.2147/VHRM.S32780

Nakayama, H., Jorgensen, H. S., Raaschou, H. O., & Olsen, T. S. (1994). Recovery of upper extremity function in stroke patients: The copenhagen stroke study. *Archives of Physical Medicine and Rehabilitation*, 75(4), 394-398. doi: 10.1016/0003-9993(94)90161-9

National Council on Aging (2014). *Chronic disease self-management: Fact sheet*.

Retrieved from <http://www.ncoa.org/press-room/fact-sheets/chronic-disease.html>

National Stroke Association. (2010). Clinical guidelines for stroke management.

Retrieved from <http://strokefoundation.com.au/health-professionals/tools-and-resources/clinical-guidelines-for-stroke-prevention-and-management/>

National Stroke Association (2010). *Hope: A stroke recovery guide*. Retrieved from www.stroke.org

National Stroke Association (2014). *Fatigue*. Retrieved from

<http://www.stroke.org/site/PageServer?pagename=fatigue#manage>

Nilsen, D.M., Gillen, G., DiRusso, T., & Gordon, A.M. (2012). Effect of imagery perspective on occupational performance after stroke: A randomized control trial. *American Journal of Occupational Therapy*, 66(3), 320-329. doi:

10.5014/ajot.2012.003475

- Occupational Therapy Geriatric Group. (2013). Home safety self assessment tool (HSSAT). Retrieved from <http://agingresearch.buffalo.edu/hssat/>
- Polatajko, H. J., McEwenn, S. E., Ryan, J. D., & Baum, C. M. (2012). Pilot randomized controlled trial investigating cognitive strategy use to improve goal performance after stroke. *The American Journal of Occupational Therapy*, *66*(1), 104-109. doi: 10.5014/ajot.2012.001784
- Psychologytools.org (2014). *CBT thought record*. Retrieved from <http://psychology.tools/cbt-thought-record.html>
- Psychologytools.org. (2014). *Simple thought record*. Retrieved from <http://psychology.tools/simple-thought-record.html>
- Rasquin, S. M. C., van de Sande, P., Praamstra, A. J., & van Heugten, C. M. (2009). Cognitive-behavioural intervention for depression after stroke: Five single case studies on effects and feasibility. *Neuropsychological Rehabilitation*, *19*(2), 208-222. doi: 10.1020/09602010802091159
- Reed, K. L. (2007). Assessment of roles, habits, and routines. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 619-632). Bethesda, MD: American Occupational Therapy Association, Inc.
- Schmid, A.A., Van Puymbroeck, M., Knies, K., Spangler-Morris, C., Watts, K., Damush, T., & Williams, L.S. (2011). Fear of falling among people who have sustained a stroke: A 6-month longitudinal pilot study. *American Journal of Occupational Therapy*, *65*(2), 125-132. doi: 10.5014/ajot.2011.000737

- Schultz-Krohn, W. (2007). Assessments of occupational performance. In I. Asher (Ed.), *Occupational therapy assessment tools: An annotated index* (3rd ed., pp. 31-54). Bethesda, MD: American Occupational Therapy Association, Inc.
- Seshadri, S., Beiser, A., Kelly-Hayes, M., Kase, C.S., Au R., Kannel, W.B., & Wolf, P.A. The lifetime risk of stroke: estimates from the Framingham Study. *Stroke*. 2006;37, 345–350.
- Snaith, R. P. (2003). The hospital anxiety and depression scale. *Health and Quality of Life Outcomes*, 1(1), 29-32. doi: 10.1186/1477-7525-1-29
- Stroke Awareness Foundation (2014). *Stroke facts*. Retrieved from <http://strokeinfo.org/signsandsymptoms/stroke-facts>
- Stroke Foundation (2009). *Coping with stress after stroke*. Retrieved from <http://www.stroke.org.nz/resources/Coping-with-stress-web.pdf>
- Sudak, D.M., Majeed, M.H., & Youngman, B.D. (2014). Behavioral activation: A strategy to enhance treatment response. *Journal of Psychiatric Practice*, 20(4), 269-275. doi: 10.1097/01.pra.0000452563.05911.c9
- Tang, W.K., Lau, C.G., Mok, V., Ungvari, G.S., & Wong, K. (2013). Impact of anxiety on health-related quality of life after stroke: A cross-sectional study. *Archives of Physical Medicine and Rehabilitation*, 94, 2535-2541. doi: 10.1016/j.apmr.2013.07.012
- Taylor, R.R. (2006a). Fatigue: Subtypes, prevalence, and associated conditions. In R.R. Taylor (ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (pp. 201-216). New York: Springer.

- Taylor, R.R. (2006). Introduction to the techniques of cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (79-85). Chicago, IL: Springer.
- Taylor, R.R. (2006b). Overview of cognitive behavioral therapy. In R.R. Taylor (ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (pp. 15-21). New York: Springer.
- Taylor, R.R. (2006). Techniques for addressing maladaptive cognitions that are unrealistic. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (86-94). Chicago, IL: Springer.
- Taylor, R.R. (2006). The initial assessment and orientation to cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (53-57). Chicago, IL: Springer.
- Taylor, R.R. (2006). The subsequent sessions of cognitive behavioral therapy. In R.R. Taylor (Ed.), *Cognitive Behavioral Therapy for Chronic Illness and Disability* (70-76). Chicago, IL: Springer.
- Therapistaid.com. (2013). *ABC model for REBT*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/abc-model-for-rebt/cbt/none>
- Therapistaid.com. (2013). *My stages of grief*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/my-stages-of-grief/emotions/none>
- Therapistaid.com. (2014). *Progressive muscle relaxation script*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/progressive-muscle-relaxation-script/anxiety/none>

- Therapistaid.com. (2013). *Relaxation techniques*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/relaxation-techniques/anxiety/none>
- Therapistaid.com. (2014). *Self-esteem journal*. Retrieved from <http://www.therapistaid.com/therapy-worksheet/self-esteem-journal/selfesteem/none>
- Thomas, S.A., Walker, M.F., Macniven, J.A., Haworth, H., & Lincoln NB. (2013). Communication and low mood (CALM): a randomized controlled trial of behavioral therapy for stroke patients with aphasia. *Clinical Rehabilitation*, 27(5), 398-408. doi: 10.1177/0269215512462227
- Wagley, J. N., Rybarczyk, B., Nay, W. T., Danish, S., & Lund, H. G. (2012). Effectiveness of abbreviated cbt for insomnia in psychiatric outpatients: sleep and depression outcomes. *Journal of Clinical Psychology*, 69(10), 1043-1055. doi: 10.1002/jclp.21927
- West, R., Hill, K., Hewison, J., Knapp, P., & House, A. (2010). Psychological disorders after stroke are an important influence on functional outcomes. A prospective cohort study. *Stroke*, 41, 1723–1727.
- Whyte, E. M., Mulsant, B. H., Vanderbilt, J., Dodge, H. H., & Ganguli, H. (2004). Depression after stroke: A prospective epidemiological study. *Journal of the American Geriatric Society*, 52(5), 774–778.
- William, L. S., Weinberger, M., Harris, L. E., Clark, D. O., & Biller, J. (1999). Development of a stroke-specific quality of life scale. *Stroke*, 30(7), 1362-1369. doi: 10.1161/01.STR.30.7.1362

- Woodson, A.M. (2014). Stroke. In M.V. Radomski & C.A. Trombly Latham (Eds.), *Occupational Therapy for Physical Dysfunction* (999-1041). Baltimore, MD :Lippincott Williams & Wilkins.
- Vital Affirmations. (2014). *Positive affirmations*. Retrieved from www.vitalaffirmations.com
- Vivyan, C. (2010). *Mood diary*. Retrieved from <http://www.getselfhelp.co.uk/docs/MoodDiary2.pdf>
- Vivyan, C. (2010). *Thought record sheet*. Retrieved from <http://www.getselfhelp.co.uk/docs/ThoughtRecordSheet7.pdf>
- Yu, C.-H., & Mathiowetz, V. (2012a). Systematic review of occupational therapy-related interventions for people with multiple sclerosis: Part 1. Activity and participation. *American Journal of Occupational Therapy*, 68, 27-32. doi: 10.5014/ajot.2014.008672
- Yu, C.-H., & Mathiowetz, V. (2012b). Systematic review of occupational therapy-related interventions for people with multiple sclerosis: Part 2. Impairment. *American Journal of Occupational Therapy*, 68, 33-38. doi: 10.5014/ajot.2014.008680