2017

Expanding the Role of Occupational Therapy in Oncology: An Introduction to the Oncology Occupational Therapy Screening Tool and Occupational Therapy & Cancer Education Guide

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EXPANDING THE ROLE OF OCCUPATIONAL THERAPY IN ONCOLOGY: AN
INTRODUCTION TO THE ONCOLOGY OCCUPATIONAL THERAPY SCREENING TOOL
AND OCCUPATIONAL THERAPY & CANCER EDUCATION GUIDE

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A Scholarly Project
Submitted to the Occupational Therapy Department
of the
University of North Dakota
In partial fulfillment of the requirements
for the degree of
Master’s of Occupational Therapy

Grand Forks, North Dakota
May 13, 2017
The Scholarly Project Paper, submitted by Courtney Funk and Jessika Lackie in partial fulfillment of the requirement for the Degree of Master's 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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01/20/2017
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Department  Occupational Therapy

Degree  Master's of Occupational Therapy

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ACKNOWLEDGEMENTS

The authors wish to thank Dr. Julie Grabanski for her support, kindness, and encouragement throughout the development of this project. We would also like to thank our family and friends for their love and support throughout our academic careers. A special acknowledgment to our loved ones that have experienced cancer first hand and fought so courageously: you were the inspiration for this entire process.
ABSTRACT

Expanding the role of occupational therapy in oncology: An introduction to the Oncology Occupational Performance Screening Tool and Occupational Therapy and Cancer Education Guide. Courtney L. Funk, Jessika M. V. Lackie, Dr. Julie Grabanski, Department of Occupational Therapy, University of North Dakota School of Medicine and Health Sciences, 1301 N. Columbia Road, Grand Forks, ND 58202

Purpose: Cancer survivorship is growing as time progresses. The National Cancer Institute (2016) found the rate of survivorship after a cancer diagnosis was almost 14.5 million in 2014 and projected it to increase further by 2024 to nearly 19 million. This rise in cancer survivors indicates increased needs for rehabilitation services to cope with the multi-dimensional side effects of cancer and cancer treatment. Occupational therapy will be a key member of the oncology care team to improve physical, psychosocial, cognitive, and quality of life outcomes of this population. There are few resources currently available for practitioners to assist with referrals and designing holistic interventions.

Methodology: An extensive review of literature was completed on physical, psychosocial, and cognitive needs of individuals who are receiving/have received cancer treatment, changes to quality of life as a result of cancer and cancer treatment, and the role of occupational therapy in addressing these needs.

Product: A multidisciplinary screening tool and occupational therapist education guide were created based on the Person-Environment-Occupation Model of Occupational Performance. The Oncology Occupational Performance Screening Tool (OOPST) addresses the limited utilization...
of occupational therapy services and was developed to increase the number of referrals made for individuals at various stages in their cancer treatment. The *Occupational Therapy & Cancer Education Guide* was created for occupational therapists working with individuals diagnosed with cancer to integrate the screening tool produced into developing a holistic treatment plan for referred individuals.
CHAPTER I
INTRODUCTION

Cancer is a devastating disease that significantly impacts those who experience it first hand. Sleight and Stein Duker (2016) estimated that 1.5 million adults are diagnosed with cancer in the United States annually. The rate of cancer diagnosis is increasing, but so is the rate of survivorship (Sleight & Stein Duker, 2016). With the increasing rates of survivorship, research is now finding long-term effects of cancer treatment that impact multiple aspects of a cancer survivor’s physical, mental, and cognitive health. Brearley, Stamataki, Addington-Hall, Foster, Hodges, Jarrett, Richardson, Scott, Sharpe, Stark, Siller, Ziegler, and Amir (2011) found that those diagnosed with cancer or undergoing cancer treatment experience numerous, long-term unmet needs due to the lack of rehabilitation services in this area.

There is a broad body of interest for this project. As cancer can affect a large portion of the population, in regards to age, gender and location of cancer, the authors chose to focus on adults and older adults with any type or stage of cancer. The authors also designed products that would be useful in a variety of settings in order to increase the utilizability and continuum of care perspective. Choosing to focus on a broader population was also chosen due to gaps in literature and a lack of evidence based materials on oncology rehabilitation for occupational therapists. The authors intended this project to benefit a large group of occupational therapy practitioners, and therefore felt that narrowing the population focus may limit the chance of achieving this goal.
Currently, the role of occupational therapy in oncology care is beginning to grow, however, a clear and distinct role for the profession with this population still does not exist. Evidence indicates that symptoms associated with cancer can significantly impact occupational functioning and decrease quality of life; these areas directly indicate a need for occupational therapy services. Despite having the skills and education to address these occupational issues, there is a significant lack of referrals to occupational therapy from oncology clinics. When referrals are received, it is common for occupational therapists to address physical symptoms and neglect cognitive or psychosocial impacts in a similar manner. The purpose of this scholarly project is to develop resources for occupational therapists to advocate for their role in oncology, receive more referrals, and generate an educational guide for practitioners that describes and demonstrates holistic oncology rehabilitation.

Development of this project is guided by the Person-Environment-Occupation (PEO) model of occupational performance (Turpin & Iwama, 2011). The PEO model was chosen because of its unique, holistic view of how the person, environment, and occupation have a transactive relationship across one’s lifespan. These transactions impact occupational performance (Law, Cooper, Strong, Stewart, Rigby, Letts, 1996). This means that a person’s abilities that result in occupational participation are interconnected with the environment (Turpin & Iwama, 2011). Treatment can be focused on any transaction between person, environment, or occupation to improve “fit”, and therefore occupational performance. The authors felt that the transactive relationship of the person, environment, and occupation, lifespan perspective, and the sense of meaning that develops from occupational participation were important to addressing rehabilitation with this population.
In this project, the person is the client with cancer or post cancer treatment. Person factors addressed include spirituality, abilities, motivation, and needs (Turpin & Iwama, 2011). The environment includes physical environments relevant to the person, as well as their cultural, socioeconomic, institutional, and social factors. According to the model’s authors, occupation includes meaningful activities and tasks the person does, including self-care, productivity, and leisure. These occupations are personal, intrinsically motivating to the client, and give meaning to the roles held by an individual (Law et al., 1996). These three components of PEO guide how occupational therapy can improve occupational participation (Turpin & Iwama, 2011).

The authors of this project included and created multiple resources and chapters to meet the requirements of a scholarly project. Chapter II includes a literature review on common symptoms experienced as a result of cancer and cancer treatment, unmet rehabilitation needs of this population, and the contributions occupational therapy can provide in oncology care. Chapter III includes the activities and methodology used to create the literature review and the process of developing the materials and products. Chapter IV includes the Oncology Occupational Performance Screening Tool (OOPST), created to increase the amount of referrals made to occupational therapy, as well as the Occupational Therapy & Cancer Education Guide, to support occupational therapists in implementing holistic and meaningful therapy to improve the health, occupational participation, and quality of life of cancer patients. The importance of this project and occupational therapy’s role in oncology is summarized in Chapter V, along with recommendations for future use of the information and products provided.
CHAPTER II
LITERATURE REVIEW

Over 1.5 million adults in the United States are diagnosed with cancer each year. New technologies, more effective diagnostic procedures, and better treatments have increased the cancer survival rates (Sleight & Stein Duker, 2016). As survival rates increase, the number of people with rehabilitation needs also increases (Taylor & Currow, 2003). Even if one’s cancer treatment has ended, there are still a variety of needs that are often not addressed (Brearley, Stamatakai, Addington-Hall, Foster, Hodges, Jarrett, Richardson, Scott, Sharpe, Stark, Siller, Ziegler, & Amir, 2011). With a lack of holistic cancer care and rehabilitation, rehabilitative and other healthcare professionals have begun to explore and acknowledge a wide range of deficit areas that impact this population. The research provided numerous physical, cognitive, and psychosocial impacts of cancer treatment that affect patients’ overall functional abilities and quality of life. Further literature reviewed included oncology as an emerging practice area in occupational therapy and stressed the importance of providing more holistic treatments to facilitate positive outcomes (American Occupational Therapy Association [AOTA], 2017).

Common Issues Experienced by People with Cancer

Physical Functioning

People who have been affected by cancer often experience numerous physical symptoms that negatively impact their functioning. Newell, Swanson-Fisher, Girgis, and Ackland (1999) noted that the participants in their study experienced, on average, four significant physical
symptoms that restricted occupational engagement. Nausea, appetite loss, fatigue, pain in limbs where drugs were injected, and vomiting were the most common physical symptoms identified during and after chemotherapy or radiation. Brearley et al. (2011) found that pain, fatigue, and lymphedema are physical changes secondary to the progression of cancer or cancer treatment. Chemotherapy-induced peripheral neuropathy (CIPN) is another common and detrimental side effect of cancer treatment, as it can greatly impact functioning and quality of life (Beijers, Mols, Tjan-Heijnen, Faber, van de Poll-Franse, & Vreugdenhil, G., 2015; Holz, Wininger, Cooper, & Smith, 2017). Brearley et al. (2011) also indicated that older adults with cancer may have a greater number of comorbidities, which has a greater effect on physical functioning. Taylor and Currow (2003) found that as physical functioning declined, the unmet needs of people with cancer increased. A greater number of physical functioning deficits were associated with a decreased quality of life in a study conducted by Hwang, Lokietz, Lozano, and Parke (2015). Purcell, Fleming, Haines, and Bennet (2009) noted that cancer related fatigue has a significant impact on physical functioning, and can fluctuate through cancer treatment.

Physical functioning is essential for people who have or had cancer to participate in life and meaningful occupations. Occupational therapists possess the skills necessary to address these physical issues, and adapt various environments to facilitate participation (Longpre & Newman, 2011). Hwang et al. (2015) stated that when people with cancer are unable to physically fulfill roles and meaningful occupations, they are likely to experience psychosocial issues as well.

**Psychosocial Functioning**

People who receive a cancer diagnosis may experience a variety of psychosocial impacts. Mitchell (2007) found that chemotherapy treatment had an impact on social and emotional
wellbeing. Participants of this study reported increased tension and irritability, which negatively impacted relationships. Participants of this study also noted that concentration, confidence, and attention were affected, which impacted the safety of people with cancer. This author highlighted changes in three key relationships as a result of undergoing treatment: participant with partner/spouse, children, and friends. While spouses were acknowledged as a key support, Mitchell (2007) described that the relationship can become “an act, whereby thoughts and feelings were suppressed in an effort to protect the other” (pg. 43), even when participants were experiencing suicidal thoughts. A similar change in relationships happens with children of participants as they are at risk to become uninvolved with their parent going through treatment in an attempt to protect themselves. These impacts on the family unit cause a major shift in role functioning for individuals going through treatment that could further impact symptoms of depression, anxiety, and other psychosocial symptoms experienced by this population.

Newell et al. (1999) asked participants who were undergoing cancer treatment to identify their top ten needs. Six of the ten needs identified were related to their psychosocial functioning and ability to cope with fears, frustrations, and anxiety. Notably, participants identified that they would like help with managing the disappointment associated with being unable to engage in activities that they were able to do previously. Further, when asked to identify symptoms that they experienced most often that cause this limitation, 24% had varying levels of clinically significant anxiety and 23% reported similar levels of depression (p.77). Heidari and Ghodusi (2015) noted the significant impact of body esteem on psychosocial functioning. The researchers noted that poor body esteem limited people with cancer from social interactions. However, positive body esteem was correlated with ideas of hope and better mental health (Heidari & Ghodusi, 2015).
In addition to the participants undergoing cancer treatment, Mitchell (2007) identified that some family members also experienced changes in psychosocial functioning as a result of their loved one going through treatment. Partners/spouses of the participants undergoing treatment experienced another specific change in their psychosocial functioning as they adopted a role of gatekeeper. These partners/spouses had to manage visitors in addition to caring for the participant’s needs, thus resulting in physical exhaustion and social stress similar to the patients participating in the study. Children of these participants also experienced a change in roles as they became more withdrawn in an attempt to protect themselves from uncertain treatment outcomes. The psychosocial factors discussed above have been shown to correlate with diminished cognitive abilities (Von Ah, 2015).

**Cognitive Functioning**

Caused by a variety of reasons such as neurotoxic injury, inflammation of tissues, or dysregulation of brain processes, cognitive deficits impact 17 to 75% of cancer patients and survivors (Von Ah, 2015). Specific areas of the brain are shown by the existing literature to be particularly impacted by chemotherapy treatment. When these areas experience the trauma caused by treatment, deficits arise in executive functions such as working memory, cognitive flexibility, multitasking, planning, and attention (Kesler, Kent, & O’Hara, 2011). Other studies have identified similar cognitive impairments; diminished attention, memory, processing speed, word finding, and problem solving (Von Ah, 2015) in addition to impaired spatial working, psychomotor efficiency, and manual dexterity (Mitchell, 2007). Beyond causing initial changes, the research showed that functioning remains lower for this population for years and even decades after treatment and have the potential to lead to further impairments (Kesler, Hosseini, Heckler, Janelins, Palesh, Mustian, & Morrow, 2013; Von Ah 2014). Kesler et al. (2011) noted
that 44% of breast cancer survivors experience clinically significant memory deficits post-treatment. Mitchell (2007) described participant’s widespread cognitive changes that demonstrated the severity of the cognitive symptoms. One participant stated that her memory and concentration were so poor that she felt as though she had Alzheimer’s disease. Another stated “I feel cuckoo” (Mitchell, 2007, p. 45). Due to the prevalence and severity of the symptoms described above, providing treatment to minimize or remediate these symptoms is crucial to the health and healing of cancer patients.

Impact on Occupation

Cancer has a significant impact on occupational participation. Brearley et al. (2011) stated that physical changes as a result of cancer treatment and/or progression negatively impact daily functioning, sexual function, and the ability to work. Depending on the severity of symptoms, the impact of these physical symptoms is significant on a person with cancer’s occupational performance. Hwang et al. (2015) found that participants rated sexual activity, sleep, leisure, physical exercise, and education as the most difficult areas of occupation to engage in with cancer. Eighty-two percent listed fatigue as the number one symptom that stopped them from doing their everyday occupations (Newell et al., 1999). Taylor and Currow (2003) identified that patients verbalize the most difficulty with working, leisure, and driving. Long-term sensory changes also impact an individual’s ability to complete meaningful and necessary daily occupations, especially ADLs, functional mobility, and various lifting and carrying tasks (Stubblefield, McNeely, Alfano, & Mayer, 2012).

Von Ah (2015) noted that people with cancer found socializing difficult. As a result of cognitive changes resulting in diminished memory, slower processing speeds, and concentration, patients that were undergoing/had undergone cancer treatment would avoid social situations to
prevent feeling embarrassed in front of others as a result of these deficits. Stilley, Bender, Dunbar-Jacob, Sereika, and Ryan (2010) also identified that this population experienced difficulty with medication management and compliance as a direct result of cognition changes. In addition to difficulty keeping up in social situations and treatment plans, work productivity and perceived work competency also decreased as a result of cognitive changes and put individuals at risk of disrupting retirement plans, requiring further rehabilitation, or work disability (Von Ah, 2015).

The social functioning of individuals was also found to be impacted by emotional/psychosocial factors as well. Mitchell (2007) described the significant amounts of distress felt by research participants. Qualitative data that summarized participant’s hopelessness: “feel very low”, “I’ve lost my bubbly self” (Mitchell, 2007, p. 44). These psychosocial changes caused individuals going through cancer treatment to seclude themselves and experience decreased engagement and satisfaction from previously enjoyed activities. In addition to preventing engagement in valued occupations, patients were forced to adopt new occupations that include coping with keeping up with housework, disturbed sleep, fears, pain, anxiety, and further deterioration or disability (Newell et al., 1999). These participants felt unprepared to address these new, unfamiliar tasks.

A study by Pederson, Koktved, & Nielsen (2012) noted that the intense side effects, from decreased coping skills to neuropathy and vomiting, impeded the participants’ ability to engage in the occupations expected of their roles and established routines. Participation in ADLs, leisure, and work are other areas of occupation that can be impacted by the weakness, changes in sensation, decreased range of motion, and decreased endurance that result from CIPN (Stubblefield, McNeely, Alfano, & Mayer, 2012; Toftahren, C., 2010). Participants described
not being able to cook for their family, care for their children or pets, or engage in valued leisure activities thus relying on family members and losing independence that further impacted their self-esteem (Pederson, Koktved, & Nielsen, 2012). As evidenced by the literature, a majority if not all occupations have the potential to be negatively affected by the variety of symptoms resulting from cancer and its treatment.

**Other Occupational Therapy Considerations**

**Environment and Context**

Cancer is a global issue that impacts individuals from a variety of cultures, countries, socioeconomic statuses, religions, etc. The World Health Organization (2017) identified that lung, trachea, and bronchus cancers alone are the fifth largest cause of death worldwide. Due to the significant number of people diagnosed with cancer, it is important to consider each individual’s environment. Environment and context must be considered because of their vast impact on experience with cancer and cancer treatment. For example, Obeidat, Homish, and Lally (2013) identified a variety of different beliefs related to cancer treatment among individuals in Non-Western countries such as, Lebanon, Pakistan, and Taiwan compared to those beliefs in Western culture. They identified that the predominant approach to treatment in the West consists of shared decision making and collaboration on treatment approaches. However, in Iran, patients preferred their physicians to take control of the decision making (Beyraghi, Mottaghipour, Mehraban, Eslamian, & Esfahani, 2011).

Accounting for one’s environmental experiences can be broad and include a variety of cultural, social, and physical features. Law, Cooper, Strong, Stewart, Rigby and Letts (1996) described a person’s environment as consisting of his/her cultural, socioeconomic, institutional, physical, and social contexts, thus making this area extremely individualized and easy to neglect.
during cancer treatment. The World Health Organization (2017) also acknowledges that while cancer is more predominant in areas with strong socioeconomic status, this disease and its detrimental effects are felt by millions of people with various cultural, socioeconomic, institutional, physical and social backgrounds.

**Quality of Life**

Those undergoing cancer treatments experience significant changes in their quality of life. Multiple physical and psychosocial symptoms affect quality of life and thus daily functioning. Hwang et al. (2015) studied how functional deficits impact the quality of life of those with cancer. These researchers noted that participants rated different body functions, performance skills, psychosocial issues, and areas of occupation that were most difficult due to cancer symptoms. Increased ratings of functional deficits were correlated with decreased quality of life. The researchers also noted that participants rated quality of life lowest during their first year after surviving cancer treatment (Hwang et al. 2015). Moseholm, Rydahl-Hansen, Wengel, Frederiksen, Brandt, and Lindhardt (2016) noted that the diagnostic process of cancer has a significant impact on quality of life. The researchers stated clinicians should strive to be increasingly aware of potential emotional and social issues that could have a significant impact on quality of life, rather than just the actual cancer diagnosis. Barre, Padmaja, Saxena, and Rana (2015) noted that quality of life of cancer patients is a minimally researched topic.

Pergolotti, Cutchin, and Muss (2015) identified that participation in meaningful activities was correlated with quality of life. In a study by Mols, Beijers, Lemmens, van den Hurk, Vreugdenhil, and van de Poll-Franse (2013), participants that reported more CIPN side effects and reported more intense quality of life disturbances. These authors also found that these symptoms persisted for years after treatment, yet little is done to meet this need currently.
Sleight and Stein Duker (2016) found that a greater amount of unmet needs such as emotional and psychosocial functioning correlated with lower reported quality of life. This information indicates that occupational therapists have the potential to increase quality of life by addressing unmet needs and helping people with cancer return to meaningful activities. Occupational therapists have the skills to view a person diagnosed with cancer as a holistic being, and provide interventions that address a variety of physical, emotional, and psychosocial needs (Longpre & Newman, 2011).

**Role of Occupational Therapy**

**Current Utilization of Occupational Therapy Services**

Pergolotti, Williams, Campbell, Munoz, and Muss (2016) stated that occupational therapy is an underused service for people with cancer. The researchers note that even though occupational therapists are able to address relevant issues such as falls, fatigue, and cognitive function, a significant number of people that would benefit from therapy do not receive referrals. Barriers such as poor awareness of occupational therapy, lack of understanding of who would benefit from services, and limited accessibility prevent occupational therapists from being a crucial part of the cancer care team (Pergolotti et al., 2016). Pederson, Koktved, and Nielsen (2013) found that people with cancer often feel a loss of control due to the amount of unmet needs they are experiencing, and the lack of consistency from healthcare professionals. The authors note that occupational therapy is not involved throughout the individual’s care to address changing and dynamic issues because of cancer progression and treatment.

Sleight and Stein Duker (2016) identified that occupational therapists are primarily addressing physical symptoms such as weakness and lymphedema, but are falling behind on interventions addressing emotional and psychosocial needs. There is a significant amount of
literature on the multitude of symptoms experienced by people with cancer within occupational therapy’s scope of practice (Barre et al., 2015; Bentley et al., 2013; Heidari & Ghodusi, 2015; Longpre & Newman, 2011; Park et al., 2015). However, there is a lack of literature of best practice for occupational therapists within cancer care and the effectiveness of holistic treatment. Bentley, Hussain, Maddocks, and Wilcock (2013) related the effectiveness of activity analysis and adaptive equipment for occupations in the home, however discussed the need for more research on best practice for occupational therapy in oncology.

There are numerous interventions provided by occupational therapists that improve cognitive function, however, their use with cancer patients is still an area in need of further research and protocol development. Research has found that the course of cognitive impairment in cancer patients who receive treatment is similar to that of mild traumatic brain injury (Correa & Ahles, 2008) and therefore benefit from similar treatments. A systematic review of nine studies analyzing the effectiveness of occupation based cognitive rehabilitation strategies confirmed its effectiveness on improving performance in mental functioning, activities of daily living, values, beliefs, and spirituality (Park, Maitra, & Martinez, 2015). Treatments included in the nine studies consisted of a variety of motor imagery, awareness, divided attention, social communication skills, and executive functioning interventions. Kesler, Hadi, Heckler, Janelins, Palesh, Mustian, & Morrow (2013) found that a specific cognitive computer home exercise program designed for cancer patients and survivors improved cognitive flexibility, processing speed, verbal fluency, executive function, and verbal memory through engagement in five exercises, four times per week for twelve weeks. The skills addressed in this study are crucial in numerous occupations such as reading for work, leisure or education, driving, socializing, and
numerous others. Currently, occupational therapy is beginning to play a role in cancer care, but a large gap in the care currently provided and the holistic best practices still exists.

**Assessment**

Occupational therapists have the skills necessary to use various assessments to evaluate occupational performance of people with a cancer diagnosis (Sleight & Stein Duker, 2016). Assessments are used to help occupational therapists understand a variety of factors that impact occupational performance, such as physical abilities, cognitive and psychosocial functioning, environmental constraints, and functioning in meaningful occupations (Pergolotti et al., 2015). Understanding the client’s needs aids the occupational therapist in planning and implementing holistic interventions to increase quality of life and functioning of people with cancer. There are currently no assessments guided by the PEO Model (Strong, Rigby, Stewart, Law, Lewis, & Cooper, 1999), but researchers report useful assessments that are relevant to an oncology setting. The table below includes a list of assessments used by occupational therapists that are appropriate tools for evaluating the needs of a person with cancer, as identified in the literature review.

Table 1

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Purpose</th>
<th>Citation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Occupational Performance Measure (COPM)</td>
<td>Identify issues related to self-care, productivity, psychosocial and cognitive, and leisure. The client will also rate the importance of these occupations</td>
<td>(Bentley, Hussain, Maddocks, &amp; Wilcock 2013)</td>
</tr>
<tr>
<td>Modified Barthel Index</td>
<td>Assess functional status in activities of daily living (ADLs)</td>
<td>(Taylor &amp; Currow, 2003)</td>
</tr>
</tbody>
</table>
---|---|---
Mini Mental State Examination (MMSE) | Quickly assess cognitive performance | (Taylor & Currow, 2003)
Cancer Coping Questionnaire | Assess coping strategies and impact therapy on coping | (Moorey, Frampton, & Greer 2003)

Currently, there is limited research on assessments that occupational therapists utilize in oncology care. Assessments presently being used by occupational therapists are general and nonspecific to oncology.

**Unmet Needs**

Cancer is a complex disease that includes multiple different symptoms and issues for each person with a diagnosis. While many team members may be involved in a patient’s care, numerous researchers indicated that cancer patients experienced a variety of unmet needs. Player, Mackenzie, Willis, and Yim Loh (2014) stated that a significant amount of people with cancer struggled with physical and cognitive changes that prevented them from participating in various roles and daily tasks. The researchers reported that these needs were not addressed because physicians are often more concerned over the pathology of cancer, rather than daily functioning (Player et al., 2014). Newell et al. (1999) stated that cancer treatment such as chemotherapy and radiation often contribute to many physical, cognitive, and emotional issues that people with cancer felt were not addressed. The authors indicated that a holistic approach to cancer treatment may decrease the amount of unmet needs people with cancer contend with (Newell et al., 1999). In a survey conducted by Taylor and Currow (2003), participants most
frequently noted work, leisure, and driving as unmet needs during cancer treatment. The researchers also found that as functional status declined, the number of unmet needs per participant increased. Mitchell (2007) reported that participant’s social and emotional well-being were not addressed, causing relationship tension and safety concerns in the home. Although participants would have benefited from occupational therapy services, they did not receive a referral (Taylor & Currow, 2003).

The literature found for this project indicated many different symptoms and functional issues that people with cancer experience, that are not being appropriately treated by the health care team. Various researchers stated that while occupational therapists have the skills and scope of practice to address these issues, referrals are not being utilized by physicians (Newell et al., 1999; Player et al., 2014; Taylor & Currow, 2003). Taylor & Currow said that a short screening tool would be beneficial to gain understanding of what needs each person with cancer is experiencing. There currently is limited research on screening tools in cancer care, despite the potential of benefiting a significant number of people with cancer.

**How Occupational Therapy Can Fill Unmet Needs**

Hwang et al. (2015) noted that occupational therapists have education and skills that can address many issues and deficits experienced during and after cancer treatment. However, these researchers stated that occupational services are not being referred or utilized due to a lack of research and limited understanding of the role of occupational therapy (Hwang et al. 2015). It was previously noted that cancer patients rated their quality of life lowest during the first year of cancer survivorship (Hwang et al. 2015). This indicated that people with cancer may benefit most from occupational therapy intervention during the first year of cancer survivorship when quality of life was rated the lowest.
Cancer care and oncology were identified as an emerging practice area in 2011 (Longpre & Newman, 2011). While this area of practice has expanded, a holistic standard of practice still has yet to be universally achieved. Sleight and Stein Duker (2016) found that occupational therapists are primarily addressing physical symptoms on the cancer care team, such as lymphedema and weakness. Literature was found that referenced how occupational therapy intervention could benefit clients with cancer (Pergolotti et al., 2016), however there was a lack of research on the effectiveness of many interventions, especially treatments focused on holistic functioning. There was also limited literature available on effective evaluation and screening procedures used for people with cancer, to ensure all needs are being addressed. Without evidence for best practice in oncology care, it may be difficult for occupational therapists to understand the treatments they can provide for clients with cancer.

**Summary**

In summary, the literature review indicated a need for reliable research on best practice for occupational therapy in oncology. People who are diagnosed with cancer often have multiple and complex symptoms, including physical, psychosocial, cognitive, and emotional issues (Hwang et al., 2015). A cancer diagnosis is a life changing experience, and symptoms of cancer and cancer treatment often prevent people from participating in valued occupations such as self-cares, leisure, work, and social participation (Moseholm et al., 2015; Pederson et al., 2013). Researchers indicated that many people with cancer have multiple unmet healthcare needs, which further prevents them from participating in daily occupations (Taylor & Currow, 2003). Occupational therapists have the skills needed to address people with cancer’s variety of needs by improving function, adapting their environment, and modifying occupations (Sleight & Stein Duker, 2016). By evaluating the client’s needs and creating individualized interventions,
occupational therapists have the ability to improve quality of life and daily functioning for people with a cancer diagnosis (Pergolotti et al., 2016). There is limited literature on best practice for occupational therapists in oncology care and a need for holistic screening tools to ensure people with cancer are having their needs addressed. The researchers of this project sought to create a short holistic screening tool that can be given to people with cancer to indicate a need for further referral and treatment. An educational guide was also for occupational therapists on how a variety of oncology needs can be addressed with clients. The goal of this project is to promote the role of occupational therapy in oncology care and create a tool that can be used to ensure people with cancer are having all their needs addressed.
CHAPTER III

METHODODOLOGY

The Oncology Occupational Performance Screening Tool (OOPST) and Occupational Therapy & Cancer Education Guide were created to increase referrals of people with cancer to occupational therapy services, and provide an education guide for occupational therapy practitioners to improve holistic and meaningful therapy for people with cancer. A need for these products was identified through a detailed literature review. Topics included symptoms of cancer and cancer treatment, effects of cancer on occupation, quality of life of people with cancer, unmet healthcare needs of people with cancer, occupational therapy’s current role in oncology, and therapeutic interventions. Relevant literature was found using a variety of research databases including CINAHL, PubMed, OT Search, and PsychInfo. Key words and phrases used to search databases included cancer symptoms, cancer rehabilitation, occupational therapy, oncology, psychosocial/cognitive/physical effects of cancer, and quality of life. A summary of each article was completed to identify the purpose, measurement tools used, characteristics of the study, outcomes, and discussions. These summaries were used to understand the need for a holistic screening tool and education guide for practitioners to understand the multiple and complex needs of people with cancer.

Common themes in the literature indicated that cancer and cancer treatment affected psychosocial, cognitive, and physical functioning. Occupations were significantly impacted by cancer, and commonly included activities of daily living, instrumental activities of daily living,
leisure, rest & sleep, and work. Despite the complex variety of symptoms and occupations affected, people with cancer still experienced unmet healthcare needs. Occupational therapists have the skills, education, and scope of practice to address a majority of the unmet needs identified. Literature also indicated that a greater amount of unmet needs correlated with a decreased quality of life. Despite having the abilities to address the complex rehabilitation needs of people with cancer, occupational therapists are not receiving many referrals due to lack of awareness, lack of understanding of the occupational therapy role within other professions, insurance reimbursement barriers, and occupational therapists who do not provide meaningful/holistic interventions. These findings supported the need for an occupational therapy screening tool to be used in oncology settings, and education guide to assist practitioners in understanding the impact of cancer on occupations, advocating for referrals and clients, and implementing interventions that address a broad range of therapy needs.

The Person-Environment-Occupation (PEO) Model of Occupational Performance was utilized to guide the literature review, and development of the OOPST and Occupational Therapy & Cancer Education Guide. The PEO model was chosen because it considers the impact of person, environment, and occupation to understand occupational performance. These three components are transactive, and influence each other. The PEO model demonstrates the importance of considering a holistic view to plan interventions (Turpin & Iwama, 2011). People with a cancer diagnosis have a multitude of symptoms, environmental issues, and occupational concerns, which result in limited occupational performance. Using this model for the products allows each area and transaction to be understood in order to plan interventions that result in improved occupational performance (Law et al., 1996).
The OOPST is intended to be a quick screening tool that can be used by a variety of health disciplines to determine occupational performance issues. Current literature suggests that people with cancer are not receiving referral to occupational therapy, even with unmet rehabilitation needs. The goal of the OOPST is to increase referral of people with cancer to occupational therapy. The Occupational Therapy & Cancer Education Guide was created for occupational therapy practitioners to better understand their role in oncology settings, to provide client-centered treatment.

The authors sought to develop occupational therapy’s role in oncology by completing a thorough literature review, using an occupation-based model, and developing products. Chapter IV will include the OOPST and Occupational Therapy & Cancer Education Guide.
CHAPTER IV
PRODUCTS/RESULTS

Recent research and journal articles emphasize the need for occupational therapy in oncology care due to its ability to address key client factors and areas of occupation on a variety of levels and in numerous settings. Specifically, a call to action by Polo and Smith (2017) in the American Journal of Occupational Therapy noted the following: Practitioners need to be aware of the oncology population as a group that benefits from occupational therapy services, materials must be developed to increase occupational therapy’s role in oncology rehabilitation, and occupational therapy practitioners must advocate for their role in this area of practice.

To meet the needs of the profession, occupational therapy practitioners, as well as patients, the following products were made: The *Oncology Occupational Performance Screening Tool* (*OOPST*) and the *Occupational Therapy & Cancer Education Guide*.

The *OOPST* is a brief screening tool to assist members of the oncology care team, such as oncologists, nurse practitioners, nurses, or other health professionals, identify cancer patients who would benefit from occupational therapy services and assist them in making these referrals. An introduction to the *OOPST* is provided and informs the administrator of necessary time, materials, and instruction. Information on the *OOPST* form is organized by client factors and occupational difficulties that research described as common and debilitating for this population. Those completing the screening tool are asked to quantify the level of intensity or difficulty of these areas on a Likert-scale from one to five. These numbers are then added to create a total
score that indicates to care providers if referral to occupational therapy services is not needed, slightly recommended, recommended, or highly recommended. A scoring sheet is also included to further describe scoring and interpreting the results in a clinical setting.

The *Occupational Therapy & Cancer Education Guide* was created for occupational therapists use to provide information that is crucial to providing holistic evaluation and intervention to cancer patients. Information presented in this guide follows the following format.

- Introductory information including statistics relevant to oncology rehabilitation, connection to supporting research, and description of the occupational therapy role with this population. This orients the practitioner to occupational therapy’s distinct role in cancer care.
- Theoretical framework including overall description and application of the Person-Environment-Occupation (PEO) Model to the oncology rehabilitation population.
- Discussion on the importance of reimbursable care including how occupational therapy services support current health perspectives. This allows practitioners to better advocate for occupational therapy services in this area on an administrative level.
- Descriptions of cancer treatments including the various types of treatment offered, occupational deficits various treatments can create, and side effects of treatment that impact occupational therapy practice.
- An occupational profile including a format for creating a client-centered occupational profile using the PEO Model as a theoretical guide.
- Recommended assessments including descriptions of clinically relevant assessments that can be used to assess client factors, occupational performance, and quality of life. The price, materials needed, and connection to aspects of the PEO Model are also included.
• Application of the Occupational Therapy Practice Framework (American Occupational Therapy Association, 2014), including side effects of cancer and cancer treatment that can impact each area of occupation and possible interventions to address each area of occupation. This is to increase awareness and creativity in relation to creating holistic, occupation-based interventions for this population.

• A case study including how to apply aspects previously mentioned in the education guide to a clinical example. The case study also provides sample assessments/evaluations, treatment goals, SOAP-format documentation, and interventions.

• An appendix including reference sheets, the occupational profile template, and informative handouts to assist occupational therapists in advocating their role in oncology care.

Throughout the OOPST and education guide, aspects of the PEO Model were described and applied to inform occupational therapy’s role in oncology rehabilitation (Law et. al., 1996). The PEO Model was chosen for its consideration of the person, environment, and occupation aspects and how changing any of these areas can maximize fit and occupational performance for a client (Turpin & Iwama, 2011). This model was also selected for its lifespan perspective, as cancer and cancer treatment can impact aspects of the person, environment, and occupation differently at various times during its progression.

Law et. al. (1996) described the aspect of person as constantly interacting with the environment and consists of one’s spirituality, roles, needs, skills, interests, motivations, psychosocial abilities, and cognitive abilities. These areas of the person can be measured both subjectively and objectively (Turpin & Iwama, 2011). Understanding these perspectives of the PEO Model informed the creation of the screening tool, as it collects both subjective and
objective data about a person’s symptoms, roles, skills, and needs as it pertains to their experience with cancer and cancer treatment. It is also noted that the person develops over time and the environment influences how one thinks and feels about him/herself (Turpin & Iwama, 2011). This ever-changing psychosocial consideration of the person is crucial to the holistic care described in the education guide.

Second, the aspect of environment includes a broad definition of the term to include environments such as social, institutional, socioeconomic, physical, and cultural (Turpin & Iwama, 2011). These environments both shape the person and are shaped by the person as one’s environmental needs shape the roles, spirituality, and motivations of the person and vice versa through a highly transactive relationship. Cancer and cancer treatment impact and change all areas of the environment, thus impacting the transactions between all other aspects of the PEO Model, as well.

Law et. al. (1996) describes the final piece in the PEO transaction, occupation, as consisting of tasks and activities “in which a person engages in order to meet his/her intrinsic needs for self-maintenance, expression, and fulfillment” (p.16). It is also understood that these occupations are connected to roles, motivations, needs, and interests and occur in various environments (Turpin & Iwama, 2011). The authors further described occupations as falling under the classifications of self-care, productivity, and leisure. Again, this model was selected due to its ability to acknowledge occupational changes because of life stages and events, such as receiving a cancer diagnosis and undergoing treatment.

Other considerations and foundations of the PEO Model also supported its use during the creation of both products. The transactional nature of the model allows practitioners to interact with all the aspects of person, environment, and occupation to find the best fit and maximize
occupational performance, which is emphasized in the education guide’s holistic and varied suggested interventions. Law et. al. (1996) also created the model for use in interdisciplinary teams. This was a key aspect in the creation of the OOPST as the tool was intended to be distributed and scored by oncologists, nurses, or other healthcare providers, not an occupational therapist. The research reference sheet provided in the Occupational Therapy & Cancer Education Guide also emphasize collaboration between occupational therapy and other disciplines through advocating for the need for occupational therapy in this role.

The goals of the OOPST and Occupational Therapy & Cancer Education Guide are to make care providers and occupational therapy practitioners aware of the unique contributions of occupational therapy to oncology rehabilitation. To do this, the screening tool provides diverse members of oncology care teams the knowledge and ability to refer to occupational therapy services. The education guide then informs and assists occupational therapists with designing client-centered, holistic assessment/evaluation and treatment for individuals at various stages in their cancer treatment.

The OOPST and Occupational Therapy & Cancer Education Guide are presented in the following pages.
Overview & Instructions

**Purpose:** The purpose of the *Oncology Occupational Performance Screening Tool (OOPST)* is to assist members of the oncology team to identify patients who would benefit from referral to occupational therapy services. This screening tool identifies common symptoms and functional deficits of those diagnosed with cancer and undergoing various types of cancer treatment that can be addressed by occupational therapy services.

**Type:** Questionnaire with both subjective and objective information

**Population:** Individuals diagnosed with cancer and in any stage of the treatment process

**Materials:** A copy of the OOPST, pen/pencil

**Time:** 10-15 minutes

**Administration:** The OOPST can be given to patients by receptionists, nurses, nurse practitioners, or medical doctors. The first category addresses physical, cognitive and emotional symptoms. Instruct the patient to circle a number that corresponds with the severity of the indicated symptoms; 1 meaning “does not disrupt me at all” and 5 meaning “is disruptive to my life, and I cannot manage it.” Invite the patient to use the space at the bottom of the page to further describe their symptoms or add others.

The second category addresses necessary and meaningful life tasks (occupations) that can be impacted by symptoms of cancer and cancer treatment. Instruct the patient to circle a number that corresponds with their ability to complete the activities (occupations) listed; 1 meaning “no difficulty/does not apply” and 5 meaning “extreme difficulty.” Again, invite the patient to use the space at the bottom of the page to further describe what tasks (occupations) they are having difficulty with or add others.

If the patient is unable to complete the assessment themselves, a caregiver or family member may assist or complete it for the patient.

**Scoring:** Nurses, nurse practitioners, and/or medical doctors can score the OOPST. Once the score has been calculated, conduct a brief interview with the patient and/or family member/caregiver regarding responses, areas of concern, etc. See the attached scoring sheet for further instructions on how to calculate scores and score interpretation.
Oncology Occupational Performance Screening Tool

This quick screening tool was made to rate how or if side effects of cancer or treatment impact your ability to complete daily activities that are important to you. Based on your responses, you may receive referral to an occupational therapist that can address these specific needs and necessary and/or meaningful daily tasks.

Use the scale below to indicate how severe various symptoms are on an average day.

1 - indicates ‘does not disrupt me at all’
3 - indicates ‘is disruptive but I can manage it at times’
5 - indicates ‘is disruptive to my life, and I cannot manage it’

Fatigue ......................................... 1 2 3 4 5
Nausea/Vomiting ............................. 1 2 3 4 5
Pain ............................................. 1 2 3 4 5
Difficulty Finding Words ............... 1 2 3 4 5
Anxious ....................................... 1 2 3 4 5
Feeling Sad .................................... 1 2 3 4 5
Low Confidence ............................ 1 2 3 4 5
Weakness ..................................... 1 2 3 4 5
Difficulty Remembering ............... 1 2 3 4 5
Feeling Hopeless ........................... 1 2 3 4 5
Numb/Tingling Fingers or Toes ....... 1 2 3 4 5
Low Motivation ............................ 1 2 3 4 5
Difficulty Planning Ahead ............ 1 2 3 4 5
Fear ........................................... 1 2 3 4 5
Appetite Changes ......................... 1 2 3 4 5
Negative Feelings about Body ....... 1 2 3 4 5
Difficulty Multitasking ................. 1 2 3 4 5

Are there other symptoms related to cancer and cancer treatment that significantly impact your life?
Use the scale below to indicate how difficult it is to complete the listed activities on an average day.

1 - indicates ‘no difficulty/does not apply’
3 - indicates ‘moderate difficulty’
5 - indicates ‘extreme difficulty’

<table>
<thead>
<tr>
<th>Activity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Taking care of children/pets</td>
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<td></td>
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<tr>
<td>Housework</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Meal Preparation</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sexual Activity</td>
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</tr>
<tr>
<td>Sleeping</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leisure or Hobbies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Socializing with Others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Managing Finances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moving around your home</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting around your community</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting Dressed</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bathing/Showering</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Getting on or off the Toilet</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Are there other activities in your life that are difficult right now? Such as, gardening, going to religious services, sewing, riding a motorcycle, etc.
Interpretation Sheet

Goal: Identify patients experiencing a decrease in function, independence, satisfaction, and/or quality of life due to the symptoms and functional deficits related to cancer and cancer treatment and connect the patient with occupational therapy services to address their needs.

Determining the Need for Referral: In the provided categories, scores can indicate the following referral suggestions.

<table>
<thead>
<tr>
<th>Score Range</th>
<th>Referral Not Required at This Time</th>
<th>Potential for Referral</th>
<th>Referral Recommended</th>
<th>Referral Strongly Recommended</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-40</td>
<td>41-60</td>
<td>61-90</td>
<td>91+</td>
<td></td>
</tr>
</tbody>
</table>

Clinical reasoning is required to judge the areas of patient indicated areas of difficulty as well as make further referral determinations if the patient would benefit from services but does not reach the above scoring thresholds.

Rescreen Timeframe: During active treatment, have the patient complete this form approximately once a month to monitor for decline in function, worsening symptoms, patient questions, and concerns. During breaks in treatment, have the patient complete this form once a month or every other month depending on treatment timeframe. During remission, have the patient complete this form annually.

If unsure about the need for referral, please contact:

Name: ____________________________
Email: ____________________________
Phone: ____________________________
This guide is designed to be utilized by occupational therapists in order to assist them in advocating for referrals, describing the distinct value of occupational therapy in oncology care, and providing holistic care for individuals undergoing or recovering from cancer treatment.
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Introduction to Current Literature Supporting the Role of Occupational Therapy

Literature has shown that the symptoms experienced by those undergoing cancer treatment are significant and are connected to ongoing decreased functioning. For example, cognition changes such as impaired memory and processing speed make it difficult and overwhelming for patients to socialize with friends and loved ones (Von Ah, 2015). Therefore, these individuals tend to withdraw which then places them at risk of developing depression and/or anxiety which further limits one’s cognitive abilities. There is a strong, cyclical connection between symptoms experienced and engagement in occupations; symptoms limit satisfying occupational engagement which further worsens a broad spectrum of symptoms and again impacts one’s ability to complete personally meaningful occupations (Mitchell, 2007). Occupational therapy can help stop this cycle by providing holistic, client centered treatment.

Occupational therapists can assist in the rehabilitation process to improve symptoms and outcomes while promoting occupational engagement and improve quality of life. These symptoms can include:

- Physical: Nausea, appetite loss, fatigue, pain, vomiting, lymphedema
- Psychosocial: depression, anxiety, decreased confidence, irritability, tension, impacts on relationships, role changes, lack of coping skills
- Cognitive: impaired working memory, cognitive flexibility, multitasking, planning, attention, processing speed, word finding, problem solving, spatial working, manual dexterity

This education guide will describe common treatments of cancer, symptoms that impact every area of occupation, and intervention ideas that can address limitations in the various areas of occupation. The information provided will also be utilized and integrated into a case study.

This education guide uses the PEO model to guide evaluation and treatment of the client. The PEO model provides a holistic framework to understand how person, environment, and occupation factors interact to facilitate occupational performance across the lifespan (Turpin & Iwama, 2011).
Person, environment, and occupation are described as transactive in the PEO model. This means that they should be considered influencing one another, rather than separate factors (Law, Cooper, Strong, Stewart, Rigby, & Letts, 1996). PEO authors also assert that these factors fluctuate through a person’s life, thus constantly changing the transactive process (Turpin & Iwama, 2011). The connectedness of person, environment, and occupation result in occupational performance, shown in table 3. When these three components of the PEO model are compatible, greater occupational performance is represented.

If there are difficulties in a person’s life, such as disability, decreased motivation, unsupportive environment, or unmeaningful occupations, the fit between person, environment, and occupation will decrease (Turpin & Iwama, 2011). This decrease results in a decrease in occupational performance, represented in table 4.

Occupational therapy assesses these factors at various phases in an individual’s life to increase occupational performance by facilitating fit between person, environment, and occupation. Interventions can focus on one or more of the PEO transactions. It is understood that through therapy, changing one area will also change other areas due to the transactions in the PEO model (Turpin & Iwama, 2011).
The Importance of Reimbursable Care

As in other areas of rehabilitation, reimbursement and insurance coverage for services is a key determinant in what is offered and provided to patients. Health systems value services that reduce overall cost and maximize positive outcomes. Occupational therapy can help fill this need in cancer care across a variety of areas including: reducing symptoms, promoting health management, and prevention practices.

Occupational therapy has been a part of promoting overall health and disease prevention since its inception (Hildenbrand & Jo Lamb, 2013). Due to policy and reimbursement guideline changes in the Affordable Care Act, preventative approaches are becoming a focus again in an attempt to improve outcomes and lower costs. The approach of occupational therapy is to engage clients in active lives which includes participation in meaningful occupations, client empowerment, providing education on topics that promote healthy decision making, increasing the amount of healthcare access points, and promote social and emotional well being through participation and interaction (Hildenbrand & Jo Lamb, 2013).

Health promotion and prevention also includes reducing symptoms in order to increase occupational engagement, thus preventing negative outcomes. Research on side effects of cancer treatment and rehabilitation identifies numerous symptoms that can be addressed within the occupational therapy scope of practice. The research also shows that many of these symptoms can transform from short term to long term effects if left unaddressed. If these symptoms persist, patients will require ongoing treatment, more frequent visits to doctors, and other expensive care that could have been prevented. For example, cognition after chemotherapy treatment has been shown to impact brain function for years after the initial treatment, much like a mild traumatic brain injury (Kesler, Hosseini, Heckler, Janelins, Palesh, Mustian, & Morrow, 2013; Von Ah 2014). This can impact a person’s ability to manage medications, remember care instructions, and a variety of other health and safety hazards. Occupational therapists are trained to monitor cognition and increase independence and safety when completing occupations such as working, leisure, education, driving, and socializing. In Appendix B, materials are included to further describe the benefit of occupational therapy in this area of practice and provide research to support practitioners as they strive to advocate for expanding the profession. Overall, the information provided in this education guide aligns with both the practice of occupational therapy as well as future healthcare trends focusing on minimizing cost and increasing positive outcomes.
Cancer Treatments to Consider

The different types of cancer treatment clients are receiving has a significant impact on their functioning and symptoms experienced. Occupational therapists can play a crucial role in cancer rehabilitation and treatment, and it is important for therapists to understand the differences and implications that are common with each cancer treatment (Radomski & Trombly Latham, 2014). The authors created this simple education guide on common cancer treatments. This will assist occupational therapists in understanding various person factors and environments that are experienced related to cancer treatment as well as their impact on occupational performance.
Chemotherapy

Chemotherapy is the use of one or more anti-cancer drugs. These drugs are used to kill cancer cells, slow tumor growth, prolong life, and/or reduce symptoms of cancer. Chemotherapy can be administered intravenously or orally (Radomski & Trombly Latham, 2014). Chemotherapy treatments can be given daily, weekly, or monthly depending on the type of cancer and treatment course. Treatments are often given in cycles to give the body a break from the drugs and regain new healthy cells (American Cancer Society [ACS], 2016b).

Patients can receive chemotherapy in a variety of locations depending on insurance, hospital policy, preference, and what is decided by the cancer care team. These locations may include: home, clinic, outpatient infusion center, or hospital. Some settings may have many patients receiving chemotherapy at one time, and some settings may have private rooms (ACS, 2016b). It is important to consider where your client receives chemotherapy and recommend any adaptations (such as doing something enjoyable during the session) that may make cancer treatment easier.

Chemotherapy treatment includes many side effects that significantly impact people with cancer’s lives. People with cancer often struggle to participate in meaningful occupations due to these side effects.

Side effects to consider include:

- Fever & Chills
- Nausea/Vomiting
- Appetite Changes
- Hair loss
- Fatigue
- Mouth/Throat Sores
- Rash & Itching
- Peripheral Neuropathy

- Constipation or Diarrhea
- Muscle & Joint Pain
- Memory changes
- Easily Bruising or Bleeding
- Significant weight changes
- Issues with Libido and Fertility
- Depression/Anxiety

(ACS, 2016b; Randomski & Trombly Latam, 2014)
Radiation

Radiation is one of the most common treatments of cancer. Radiation is the use of high-energy particles or waves to destroy cancer cells and shrink tumors (Radomski & Trombly, 2014). Radiation treatment can be administered systemically through oral/intravenous drugs, externally by a machine, or internally by an implant. Treatments are usually done in hospitals or advanced medical facilities because of high tech equipment and highly qualified medical professionals (ACS, 2015).

Radiation includes many side effects, both short term and long term.

**Short term side effects include:**
- Fatigue
- Skin Irritation
- Fever/Chills
- Diarhea
- Bladder problems
- Sexual dysfunction
- Depressed

**Long term side effects include:**
- Frustrated & Angry
- Angry
- Hair loss
- Decreased Appetite
- Risk of developing another cancer
- Damage to tissues and organs near radiation site

(ACS, 2015; Randomski & Trombly Latham, 2014)

The ACS (2015) identified various ways for people with cancer to take care of themselves during radiation therapy, that are within occupational therapy’s scope of practice. Some examples are:

- Get plenty of rest
- Eat a balanced, healthy diet
- Take care of skin at radiation site
**Hormone Therapy**

Hormone therapy is a common type of cancer treatment, used to treat a variety of cancers such as breast, ovarian, and prostate. Hormone therapy is a systemic therapy that removes or blocks hormones to stop or slow the growth of cancer cells. Hormone therapy can be used to or reduce symptoms and make patients more comfortable. Hormone therapy may be administered through oral pills, injections, or surgery on organs that produce hormones (National Cancer Institute [NCI], 2015).

Side effects include:

- Hot Flashes
- Sexual dysfunction
- Weakened bones
- Diarrhea
- Nausea
- Enlarged/Tender Breasts
- Fatigue
- Mood Changes
- Weight Changes

(NCI, 2015; Randomski & Trombly Latham, 2014)

The National Cancer Institute (2015) noted that hormone therapy can be administered at home or in a clinical setting. Hormone therapy may also be used with other types of cancer treatment, including chemotherapy or radiation (NCI, 2015).
Surgery

Surgery can be used to diagnose, prevent, or treat cancer. In some cases, surgery may also be used palliatively to relieve discomfort and increase quality of life (ACS, 2016a; Radomski & Trombly, 2014). While the type of surgery depends on the stage, type, and location of cancer, there are many things occupational therapists should consider.

- It may be important to address fears and concerns related to surgery, and make sure the client knows these concerns are validated
- Know precautions from surgery that will impact functioning, such as activity, diet, and lifting restrictions, etc.
- Understand new medications the client may need after surgery, such as pain relievers, and set up a medication management or therapy schedule
- The cancer care team may want the client to be up and moving soon after surgery to prevent blood clots and speed up recovery
- Understand what support the client will need after surgery, and what environment they will discharge to. An occupational therapist may need to advocate for more support for the client, recommend environmental adaptations, or provide adaptive equipment (ACS, 2016a)

It is important that the occupational therapist and client know who to call in case of an emergency, or if there are questions after surgery. Some side-effects after surgery may be serious and should be reported to the doctor or nurse right away. These include:

- Fever of over 100.5 degrees Fahrenheit
- Unexplained bleeding or bruising
- Shaking or chills
- Pain at surgical site that is worsening
- Unusual pain
- Headaches
- Difficulty breathing
- Difficulty urinating

(ACS, 2016a)
Occupational Profile

Occupational therapists create an occupational profile to gather meaningful information to best understand each unique client. The occupational profile contains information such as meaningful roles, performance patterns, occupational history, experiences, and values. This information is collected to help the occupational therapist understand why the client is seeking services, what is meaningful to them, and what will be addressed in therapy (American Occupational Therapy Association [AOTA], 2014).

A template for creating a holistic occupational profile was developed based on the PEO model, with the understanding that the person, environment, and occupation can combine to create positive occupational performance. Assessments, evaluation, conversation, observation, and informal interview are ways to learn more information about the client to include in the occupational profile. Information can be added to the occupational profile as the relationship between client and therapist continues. For a full copy of the occupational profile template, please see Appendix A.
**Recommended Assessments**

Evaluation and assessment of clients are crucial components to the occupational therapy process in oncology care. The review of literature indicated that there is a lack of research on occupational therapy assessments in an oncology setting and that the assessments being used are not specific to oncology care. While there are no assessments that are guided by the PEO Model (Strong et al., 1999), various sources mentioned assessments that could be useful for occupational therapy in an oncology setting. The table below is a collection of useful assessments, including relevant PEO transactions, to guide evaluation.

Table 5

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Purpose</th>
<th>PEO Transaction</th>
<th>Source &amp; Price</th>
<th>Citation</th>
</tr>
</thead>
</table>
| Canadian Occupational Performance Measure (COPM) | Identify issues related to self-care, productivity, psychosocial and cognitive, and leisure. The client will also rate the importance of these occupations | P x O           | Canadian Association of Occupational Therapists  
Tel. 800-434-2268  
Low cost manual only, $  
High cost for manual, DVD, and workbook, $$$ | (Asher, 2007, p. 33-34) |
| Occupational Self Assessment (OSA)              | Understand client’s perception of their occupational performance, the importance of occupations, and environmental modifications. | P x O E x O     | Web.  
www.moho.uic.edu  
Low cost, $ | (Asher, 2007, p. 47-48) |
| Functional Independence Measure (FIM)           | Understand functional status and severity of disability. FIM scores can also be used to track progress | P x O           | Web.  
www.udsmr.org  
Low cost for guide $  
High cost for on site training $$$$ | (Asher, 2007, p. 80-82) |
| Community Integration Measure                   | Understand client’s perspective of belonging/participating in the community | P x E           | (McColl, Davies, Carlson, Johnston, & Minnes, 2001)  
<table>
<thead>
<tr>
<th><strong>Quality of Life Index</strong></th>
<th>A short questionnaire to measure quality of life of client’s with chronic conditions.</th>
<th>P x O</th>
<th>(McDowell, 2006) Very low cost, ¢</th>
<th>(Asher, 2007, p. 219)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cancer Coping Questionnaire</strong></td>
<td>Measure coping strategies used by people with cancer, and understand impact of psychological techniques on coping</td>
<td>P x O</td>
<td>(Moorey, Frampton, &amp; Greer, 2005). Very low cost, ¢</td>
<td>(Asher, 2007, p. 642)</td>
</tr>
</tbody>
</table>
Areas of Occupation and Integration of the OT Practice Framework

The following pages integrate the areas of occupation as outlined in the Occupational Therapy Practice Framework (OTPF) with concepts important to cancer rehabilitation. Each section will include relevant person factors that limit occupational performance in the given area of occupation and possible interventions to address these areas of occupation.

The PEO Model outlines occupations as belonging to three categories:

- Self-care
- Productivity
- Leisure

(Turpin & Iwama, 2011)

For the purpose of this section, the occupations are described according to the OTPF to maximize the understanding of each area of occupation to promote holistic care.
**Area of Occupation: Activities of Daily Living**

**Potential Limiting Factors:**

- Fatigue
- Nausea/Vomiting
- Limb Weakness
- Neuropathy
- Pain
- Altered Cognition
- Mouth Sores

**Treatment Ideas:**

**Bathing/Showering:**

- Try adaptive equipment such as a long handled bath sponge or bath bench
- Use energy conservation strategies such as sitting to bathe, dry off while sitting, and allowing ample time to complete bathing tasks

**Toileting/Toilet Hygiene:**

- Try adaptive equipment such as a toilet tissue aid or seat raiser
- Install grab bars near toilet if safety is an issues
- Practice toilet transfers to ensure safety, proper body mechanics, and increase endurance

**Dressing:**

- Try adaptive equipment such as sock aid, dressing stick, or reacher
- Use energy conservation strategies such as sitting while dressing, and bringing foot up to knee to put on socks, pants, etc.

**Swallowing, Eating, and Feeding:**

- Educate client on possibility of mouth sores during chemotherapy
  - Educate on the importance of eating a healthy diet and appropriate oral hygiene to prevent infection
○ Suggest soft food with limited chewing

● Collaborate with client to identify coping skills when feeling nauseous during eating, such as relaxation and positive imagery

● Ensure client has appropriate medication schedule, if on anti-nausea medication

● Allow ample time to complete feeding and eating tasks

● Increase upper extremity endurance and strength with home exercise program

Functional Mobility:

● Address safety concerns, such as removing rugs that are a fall risk and installing grab bars in high risk areas

● Create home exercise plan to maintain or increase strength and endurance

● Use energy conservation strategies such as taking breaks and sitting when possible

Personal Hygiene and Grooming:

● Provide a visual schedule to remind client to perform ADL tasks, or assist them with sequencing

● Organize environment to decrease bending and reaching

● Plan ahead to ensure ample time to complete hygiene tasks

Sexual Activity:

● Educate client on the possibility of sexual dysfunction during cancer treatment

● The PLISSIT Model is an appropriate resource to guide discussion of sexuality and intimacy. This model is included in Appendix A.

● Collaborate to identify appropriate coping strategies for fear, sadness, frustration, and anxiety

● Encourage client to talk with other cancer survivors in local or online support groups
Area of Occupation: Instrumental Activities of Daily Living

Potential Limiting Factors:

- Fatigue
- Nausea
- Limb Weakness
- Pain
- Limited Cognition
- Decreased Motivation
- Depression/Anxiety
- Neuropathy

Treatment Ideas:

Care of Others:

- Identify possible supports in the community as well as family supports
- Adapt responsibilities to ensure client is comfortable and safe caring for others

Care of Pets:

- Create visual reminders to feed or take out pets if memory is an issue
- Increase walking endurance during intervention to take pets outside or for walks if necessary

Child Rearing:

- Identify possible supports in community as well as family supports

Communication Management:

- Educate older clients on use of communication tools in case of emergency
- Educate clients on computer use so they may engage in online support groups

Driving and Community Mobility:

- Use driving simulator to confront possible fears and anxiety
- Teach coping and relaxation strategies for stressful situations
- Help client plan route ahead of time to be better prepared for route
- Educate on community supports such as driving service or public transportation to get around community
Financial Management:

- Create visual schedules and reminders to manage finances

Health Management and Maintenance:

- Educate client on the importance of healthy routines, such as staying active when possible, eating a healthy diet, and addressing mental health concerns
- Create home exercise plan to engage client in physical activity as able

Home Establishment and Management:

- Organize environment to limit bending and reaching if nausea or fatigue are issues
- Locate community supports if needed
- Increase standing tolerance and endurance
- Take frequent sitting rest breaks

Meal Preparation and Cleanup:

- Identify resources in the community, such as meals on wheels services
- Use energy conservation strategies, such as sitting when possible, sliding objects on counter, and organizing environment to limit bending and reaching
- Educate on safety strategies and adaptations to cope with neuropathy

Religious/Spiritual Activities:

- Collaborate with client to identify spirituality factors, as many people with cancer find spirituality meaningful
- Identify adaptations religious institutions provide, such as transportation to services or a religious leader coming to their home

Safety and Emergency Maintenance:

- Establish a safety plan in case of emergency, especially if client spends a significant amount of time alone at home
- Create a list of emergency numbers, and place in a visible location

Shopping:

- Prepare shopping lists as a memory aid
- Identify community resources, such as grocery delivery
Area of Occupation: Rest and Sleep

Potential Limiting Factors:

- Nausea
- Pain
- Anxiety
- Vomiting
- Fear

Possible Treatments:

Rest:

- Identify situations when rest is needed
- Create a plan/schedule for regular rest to manage fatigue
- Provide/suggest adaptations to one’s environment to make it a space where one can rest

Sleep Preparation:

- Establishing a meaningful routine to engage in before engaging in rest and sleep (grooming, meditation, listening to music)
- Identify tasks that need to be done in order to engage in safe sleep (lock doors, turn off appliances, etc)

Sleep Participation:

- Evaluate positioning options to promote sleep participation and sustained sleep throughout the night
Area of Occupation: Work

Potential Limiting Factors:

- Anxiety
- Decreased motivation
- Cognitive issues
- Impaired attention
- Memory Issues
- Neuropathy
- Difficulty problem solving
- Fatigue, pain, weakness
- Nausea
- Irritability/tension with coworkers

Possible Treatments:

Employment Seeking & Acquisition:

- Use activity analysis to determine jobs that fit client’s abilities and interests
- Advocate for potential adaptations at work related to cancer needs and ADA compliance
- Educate on coping skills to address fear/anxiety during interview process
- Recommend accommodations for decreased sensation

Job Performance:

- Advocate for adaptations in work setting such as increased breaks, flexibility in deadlines, environmental adaptations, and adapting physical demands
- Use visual reminders such as schedules and to do lists to compensate for memory and attention difficulties
- Educate on coping skills to deal with anxiety and fears related to work performance and coworker interactions

Retirement Preparation:

- Help cope with anxiety related to retirement and explore new leisure activities

Volunteer Exploration/Participation:

- Use activity analysis to determine volunteer opportunities in the community based on client’s abilities and interests
- Encourage client to engage and participate in the community, and educate client on the benefits of staying engaged/participating in occupations
Area of Occupation: Play

Potential Limiting Factors:

- Pain
- Decreased Motivation
- Depression
- Weakness
- Limited Mobility
- Fatigue
- Nausea
- Irritability

Possible Treatments:

- Play is an important occupation for adults. Adults with cancer may place a high value on playing with kids, grandkids, pets, etc.
- Discuss psychosocial factors limiting play, such as irritability and depression, and validate these feelings
- Use activity analysis to identify play activities the client is able to participate in
- Schedule time to play during a time when client has more energy, such as mornings or afternoons
- Collaborate to identify relaxation strategies during play to cope with pain, nausea, or negative feelings
- Increase standing tolerance and endurance to participate in physical play activities

* Further considerations would need to occur for pediatric oncology population and are not included in these materials
Area of Occupation: Leisure

Potential Limiting Factors:

- Depression/Anxiety
- Frustration/Anger
- Fear of leaving home or interacting with others
- Neuropathy
- Fatigue
- Cognitive Difficulties
- Decreased Motivation
- Hopelessness
- Weakness

Possible Treatments:

Leisure Exploration:

- Collaborate with client to understand what leisure activities they found meaningful before a cancer diagnosis, and what they find meaningful now
- Identify supports in the community to facilitate client’s leisure exploration
- Use tools, experiences, and materials to help client identify leisure activities they may be interested in
- Address psychosocial concerns related to leisure participation

Leisure Participation:

- Use activity analysis to adapt leisure activities to make them functional for the client, such as adapting the environment, the occupation, addressing skills, or provide adaptive equipment
- Create visual guides or schedules if client struggles with memory, attention, or sequencing
- Teach coping skills to use during leisure activities if the client becomes frustrated or nervous
- Educate client on the benefits of participating in meaningful leisure activities
- Suggest leisure modifications to accommodate for impaired sensation and strength
Area of Occupation: Education

Potential Limiting Factors:

- Nausea
- Pain
- Anxiety
- Vomiting
- Decreased Memory
- Fatigue
- Impaired Attention
- Depression
- Decreased Processing and Problem Solving Abilities
- Neuropathy

Possible Treatments:

- Discover writing or note taking alternatives through utilizing dictation services or sharing notes from peers
- Create a learning schedule that allows for needed breaks to minimize fatigue and cognitive strain
- Prioritize educational responsibilities if this occupation is overwhelming for client
- Increase time to complete assignments and tests
- Set up a review session with a friend/classmate to ensure understanding of concepts
- Ask for reasonable accommodations (Tele-education, recorded lectures, variety of means of information)
- Consult with counselors or advisors to maximize fit between person capabilities, environment, and education demands
Area of Occupation: Social Participation

Potential Limiting Factors:

- Fatigue
- Nausea
- Limited Mobility
- Anxiety/Depression
- Word Finding Difficulties
- Irritability

Possible Treatments:

Community:

- Find ways for client to safely get around the community, such as public transportation, ride service, or supportive family members
- Assist clients in preparing for community outings by understanding physical and time demands
- Encourage client to be a part of the community by attending support groups, wellness groups, cooking classes, or anything else they may find meaningful
- Address psychosocial concerns related to meeting new people in the community

Family:

- Adapt schedule to spend quality time with family during times when the client is well rested and has more energy
- Educate family on cancer symptoms, and side effects of cancer treatment to facilitate better understanding of the client’s needs
- Discuss psychosocial issues and fears related to socialization with family members. Validate the client’s feelings and help them cope with difficult emotions

Peer/Friends:

- Educate or role play social situations with friends to ease anxiety over discussing cancer diagnosis and progression, and other difficult conversations
- Encourage client to socialize with peers and friends to facilitate occupational participation in safe environments
- Collaborate to identify coping strategies when client feels frustrated or has word finding difficulties
- Address body esteem issues, and other psychosocial factors that are limiting client from socializing with peers and friends
Integration Through Case Study

The following section will integrate all previous information regarding reimbursement, types of cancer treatment, assessment, utilization of the Oncology Occupational Performance Screening Tool (OOPST), person factors, and interventions into a case study guided by the PEO Model.

The OOPST is a screening tool designed by Funk and Lackie (2017) to assist members of the oncology team to identify patients who would benefit from referral to occupational therapy services. The screening tool identifies common symptoms and occupational deficits of those diagnosed with cancer and undergoing various types of cancer treatment that can be addressed by occupational therapy services.

Introduction to Kathy

Kathy is a 42 year old woman. She lives with her husband and 3 children who are 7, 10, and 12 years old. She lives in a 2 level home on a 2 acre lot in the country. Kathy was working as a receptionist at a dentist’s office. She enjoys spending time with her friends, riding horses, canoeing, and reading. Kathy takes pride in making meals for her family and keeping a clean, orderly house.

Kathy was diagnosed with right breast cancer with some spreading to her lymph nodes. She has started chemotherapy treatments. Since chemotherapy Kathy has complained of constantly feeling tired and fatigued. She feels anxious and overwhelmed about her health and the outcome of her treatment. Kathy experiences frequent nausea and vomiting and has lost her normal appetite. She frequently feels sad and finds it hard to motivate herself to get out of bed in the morning.

Kathy is currently on medical leave from her job but would like to return after treatment. She finds it most difficult to prepare meals and take care of the household like she used to. Kathy reports feeling too tired to complete chores, shopping, and caring for her children. She reports feeling stressed and anxious since her cancer diagnosis and struggles to relax. Kathy was given the OOPST at a recent oncology appointment. Her responses are recorded on the next page.
Oncology Occupational Performance Screening Tool

This quick screening tool was made to rate how or if side effects of cancer or treatment impact your ability to complete daily activities that are important to you. Based on your responses, you may receive referral to an occupational therapist that can address these specific needs and necessary and/or meaningful daily tasks.

Use the scale below to indicate how severe various symptoms are on an average day.

1 - indicates ‘does not disrupt me at all’
3 - indicates ‘is disruptive but I can manage it at times’
5 - indicates ‘is disruptive to my life, and I cannot manage it’

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>2</td>
</tr>
<tr>
<td>Nausea/Vomiting</td>
<td>3</td>
</tr>
<tr>
<td>Pain</td>
<td>3</td>
</tr>
<tr>
<td>Difficulty Finding Words</td>
<td>4</td>
</tr>
<tr>
<td>Anxious</td>
<td>4</td>
</tr>
<tr>
<td>Feeling Sad</td>
<td>4</td>
</tr>
<tr>
<td>Low Confidence</td>
<td>4</td>
</tr>
<tr>
<td>Weakness</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty Remembering</td>
<td>4</td>
</tr>
<tr>
<td>Feeling Hopeless</td>
<td>4</td>
</tr>
<tr>
<td>Numb/Tingling Fingers or Toes</td>
<td>4</td>
</tr>
<tr>
<td>Low Motivation</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty Planning Ahead</td>
<td>4</td>
</tr>
<tr>
<td>Fear</td>
<td>4</td>
</tr>
<tr>
<td>Appetite Changes</td>
<td>4</td>
</tr>
<tr>
<td>Negative Feelings about Body</td>
<td>4</td>
</tr>
<tr>
<td>Difficulty Multitasking</td>
<td>4</td>
</tr>
</tbody>
</table>

Are there other symptoms related to cancer and cancer treatment that significantly impact your life?

I am so tired and weak all the time and I don’t feel like eating a lot. I am afraid for my health right now and get anxious thinking about my future.

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Use the scale below to indicate how difficult it is to complete the listed activities on an average day.

1 - indicates ‘no difficulty/does not apply’
3 - indicates ‘moderate difficulty’
5 - indicates ‘extreme difficulty’

<table>
<thead>
<tr>
<th>Activity</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving</td>
<td>3</td>
</tr>
<tr>
<td>Taking care of children/pets</td>
<td>3</td>
</tr>
<tr>
<td>Housework</td>
<td>3</td>
</tr>
<tr>
<td>Meal Preparation</td>
<td>3</td>
</tr>
<tr>
<td>Shopping</td>
<td>3</td>
</tr>
<tr>
<td>Work</td>
<td>2</td>
</tr>
<tr>
<td>Sexual Activity</td>
<td>3</td>
</tr>
<tr>
<td>Sleeping</td>
<td>3</td>
</tr>
<tr>
<td>Leisure or Hobbies</td>
<td>3</td>
</tr>
<tr>
<td>Socializing with Others</td>
<td>3</td>
</tr>
<tr>
<td>Managing Finances</td>
<td>3</td>
</tr>
<tr>
<td>Education</td>
<td>3</td>
</tr>
<tr>
<td>Moving around your home</td>
<td>3</td>
</tr>
<tr>
<td>Getting around your community</td>
<td>3</td>
</tr>
<tr>
<td>Getting Dressed</td>
<td>3</td>
</tr>
<tr>
<td>Bathing/Showering</td>
<td>3</td>
</tr>
<tr>
<td>Getting on or off the Toilet</td>
<td>3</td>
</tr>
</tbody>
</table>

Are there other activities in your life that are difficult right now? Such as, gardening, going to religious services, sewing, riding a motorcycle, etc.

*I’m not working right now- medical leave. I don’t feel rested after I sleep. I am disappointing my family because I can’t do as many activities with them. Doing things takes so much more effort now and I feel like I can’t keep up with my to-do list.*
Kathy’s score on the **OOPST** was an 84. This indicates an occupational therapy referral is recommended. Kathy identified symptoms that are most disruptive to her, including fatigue, nausea/vomiting, anxiety, feeling sad, weakness, low motivation, fear, appetite changes, and difficulty multitasking. Kathy is having difficulties with home management and maintenance, meal preparation, driving, child care, social participation, community mobility, and rest/sleep.

Kathy’s **OOPST** was given to an occupational therapist, who can clearly see which symptoms and activities Kathy is struggling with. The occupational therapist will provide outpatient therapy for Kathy once a week, for 9 weeks. To learn more about Kathy and build her occupational profile, the therapist will build rapport and use motivational interviewing to get to know Kathy, her roles, routines, and meaningful occupations. The therapist chose to use the COPM and Cancer Coping Questionnaire with Kathy to set goals.

**Table 6, COPM Results:**

Kathy’s rated the following top five performance problems, and her satisfaction

<table>
<thead>
<tr>
<th>Occupational Performance Problems</th>
<th>Performance</th>
<th>Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Preparing meals for family</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2. Spending time with friends</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3. Sleeping</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>4. Riding horses</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>5. Chores around the house</td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

**Cancer Coping Questionnaire:**

Kathy’s responses indicated that she does not have positive coping strategies for anxiety/stress over her cancer diagnosis, difficulty with self-talk, and struggles to communicate and collaborate with her husband. This questionnaire helped the therapist understand areas Kathy could improve to increase coping skills to participate in valued occupations.

The occupational therapist created Kathy’s occupational profile, seen on the next page, with the information known about her and used the PEO model as a guide.
### Occupational Profile

<table>
<thead>
<tr>
<th>Person</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reasons the client is seeking service</strong></td>
<td>Extreme fatigue, feeling anxious and sad since cancer diagnosis</td>
<td>Unable to participate in meaningful occupations</td>
</tr>
<tr>
<td><strong>Personal interests, culture, values</strong></td>
<td>Spending time with friends</td>
<td>Values taking care of family and time spent with them</td>
</tr>
<tr>
<td><strong>Routines, roles, habits, and rituals</strong></td>
<td>Roles: homemaker, mother, receptionist</td>
<td>Routines are nightly family dinners and helping children with homework, weekly social gathering at wine bar</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Environment</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical (buildings, furniture, work, home, etc.)</strong></td>
<td>Work</td>
<td>Supports</td>
</tr>
<tr>
<td></td>
<td>Home, family available to help</td>
<td>Fatigues when traveling longer distances to get to store and establishments to socialize with friends</td>
</tr>
<tr>
<td><strong>Social (family, friends, peers, caregivers)</strong></td>
<td>Supportive family and friends who are willing to assist</td>
<td>Not a family habit to help Kathy with meals or housework. Kathy’s friends prefer to meet in public, Kathy’s children have many needs, including homework help and getting them ready for school</td>
</tr>
<tr>
<td></td>
<td>All genuinely care about Kathy and her health</td>
<td>Kathy feels she should be the primary homemaker, and shouldn’t need help from her family</td>
</tr>
<tr>
<td><strong>Culture (values, customs, beliefs)</strong></td>
<td>Identifies as a Christian, values family time with family and friends, small town values</td>
<td>Kathy doesn’t want to ask for help from others</td>
</tr>
<tr>
<td><strong>Socioeconomic Status</strong></td>
<td>Kathy has good insurance through work</td>
<td>Strong family income</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>What occupations are meaningful to client?</strong></td>
<td>Productivity: Getting around her home, making meals, doing chores, managing finances</td>
<td>Leisure: Reading, riding horses, socializing with friends, spending time with family</td>
</tr>
<tr>
<td><strong>What occupations does the client want to improve?</strong></td>
<td>Meal preparation, home management, riding her horse, relaxation with family in the evenings and getting around the community to see her friends</td>
<td></td>
</tr>
<tr>
<td><strong>Goals</strong></td>
<td>Goals will address maximizing fit between Kathy’s skills, environments, and occupations, to increase occupational performance</td>
<td></td>
</tr>
</tbody>
</table>
Continuing to use the PEO model, the therapist outlined transactions that are currently limiting Kathy’s occupational performance. Transactions between person, environment, and occupation will guide Kathy’s interventions.

| P X E | ● Difficulty getting around home and community due to fatigue, nausea, and anxiety  
|       | ● Takes pride in maintaining home environment  
|       | ● Complex home environment, including multiple floors in home, stable for horse, and large yard  |

| P X O | ● Low motivation and anxiety preventing Kathy from socializing with friends  
|       | ● Fatigue limiting meal preparation, child care, leisure, and home maintenance  
|       | ● Difficulty relaxing throughout the day to rest/sleep  
|       | ● Unable to cope with symptoms, which limits participation in meaningful occupations  |

| E X O | ● Occupations are fatiguing due to organization of home, frequent bending and reaching required  
|       | ● Family is not used to assisting with meal prep and chores in the home  |

The following are examples of goals and SOAP note documentation used during Kathy’s treatment:

**LTG:** Kathy will be able to complete moderate meal preparation with minimum assistance in her home by 6 weeks. She will receive assistance from her children to help conserve her energy.

**STG 1:** Kathy will verbalize understanding of 3 energy conservation strategies to utilize while preparing a family meal within 2 weeks.

**STG 2:** Kathy will be independent in modifying her meal planning to include simpler cooking tasks with fewer steps by 3 weeks.

**STG 3:** Kathy will independently utilize 2 coping strategies to address feelings of guilt/anxiety about simplifying family meals in 4 weeks.
S: Kathy was 10 minutes late to therapy today, reporting “I am just so tired, it was a struggle to leave the house today.” Kathy also reports feeling bad that she is not at home making lunch for her family, and that she “feels like a failure.”

O: Client participated in a 50 minute therapy session addressing energy conservation during meal preparation. At the beginning of the session, time was spent discussing why making meals for her family is so important. Kathy reported that she feels her family does so much for her, she just wants to keep doing this one thing for them in return. Kathy’s strong feelings about meal preparation were validated, and time was spent discussing ways to cope when she feels like she has failed. Kathy reported that she will try using a positive affirmation such as “I am enough” or “My family will always love me.” Next, Kathy prepared a small meal of soup and sandwiches in the therapy kitchen. While Kathy was preparing the meal, the therapist educated Kathy on energy conservation strategies. The therapist and Kathy collaborated to determine strategies Kathy could use in her home: slide heavy items on counter instead of lifting, pace herself/take breaks when needed, make sure a sturdy chair is nearby that will not be tripped over, organize kitchen to limit bending and reaching, and have family take heavier items out of fridge/cupboard before hand. Kathy utilized these techniques while preparing the meal, and verbalized understanding of strategies.

A: Kathy is making progress towards her goals. She has identified energy conservation strategies to use at home while making meals, to limit the amount fatigue impacts this occupation. Kathy still experiences fatigue, anxiety, and feelings of hopelessness that are limiting her ability to participate in meaningful occupations, such as social participation and leisure. Kathy would benefit from continued occupational therapy services to adapt occupations, environments, and teach her skills to increase occupational performance.

P: Continue to treat client 1x/wk for 8 weeks. Plan to address potential adaptations to riding her horse for leisure, energy conservation strategies related to home maintenance, addressing social participation with friends, and a rest routine/schedule.

Kathy attended occupational therapy and reported improvement in her ability to participate in occupations that are meaningful to her. Getting back to doing things she loves, like cooking, taking care of the home, and seeing friends helped decrease feelings of sadness and anxiety. Kathy is motivated to participate in occupations after learning strategies to manage symptoms and adapt her environment in occupational therapy.
Three months after completing radiation, Kathy completed the OOPST again at an oncology appointment. She received a score of 47 which indicates potential for referral if the oncologist feels that it is necessary. However, Kathy’s oncologist felt as though Kathy was managing symptoms with coping strategies, and had increased performance in meaningful occupations. Therefore, no referral was made to send Kathy back for occupational therapy services.
Use the scale below to indicate how difficult it is to complete the listed activities on an average day.

1 - indicates 'no difficulty/does not apply'
2 - indicates 'moderate difficulty'
5 - indicates 'extreme difficulty'

<table>
<thead>
<tr>
<th>Activity</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driving</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Taking care of children/pets</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Housework</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Meal Preparation</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Shopping</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Work</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
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<tr>
<td>Sleeping</td>
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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Leisure or Hobbies</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Socializing with Others</td>
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<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Managing Finances</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Education</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Moving around your home</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Getting around your community</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Getting Dressed</td>
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<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Bathing/Showering</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Getting on or off the Toilet</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

Are there other activities in your life that are difficult right now? Such as, gardening, going to religious services, sewing, riding a motorcycle, etc.

I feel like I have a pretty good handle on everything. I still struggle with tasks where I need to remember things but I have tools to help me remember and stay calm when I get overwhelmed or frustrated.
Conclusion

The authors of this education guide would like to thank you for reviewing these materials. It is our hope that this information will provide increased insight into the complex needs of people with cancer. Occupational therapy can have a significant impact on the quality of life and functioning of people with cancer, yet services are currently underutilized. This education guide assists practitioners with advocating, understanding, and planning meaningful occupational therapy treatment.

Reference materials, including a sheet discussing relevant research and the AOTA Fact Sheet for this practice area are provided in Appendix B for practitioners to use while advocating for the role of occupational therapy in oncology care. The research sheet includes condensed information and key research findings to communicate the benefits and role of occupational therapy to other healthcare professionals in the oncology setting. Also included in Appendix B is the AOTA fact sheet on occupational therapy and oncology care. This reference summarizes the role of occupational therapy in oncology and what can be addressed. Further information is also provided in Appendix C regarding the PLISSIT Model to provide an outline of what practitioners can address regarding sexuality.

This education guide was developed as a scholarly project to fulfill graduation requirements at the University of North Dakota. The authors of this project aim to update this education guide as new research is published and more literature is developed on occupational therapy’s role in oncology.

If you have any questions, concerns, or feedback on this education guide please feel free to contact the following authors:

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References


doi:10.1016/j.clbc.2013.02.004


doi: 10.1111/ecc.12618


https://www.cancer.gov/about-cancer/treatment/types/hormone-therapy#HHTWAC


Appendix A
## Occupational Profile Template

### Person

| Reasons the client is seeking service |  |
| Personal interests, culture, values |  |
| Routines, roles, habits, and rituals |  |

### Environment

<table>
<thead>
<tr>
<th>Supports</th>
<th>Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical (buildings, furniture, work, home, etc.)</td>
<td></td>
</tr>
<tr>
<td>Social (family, friends, peers, caregivers)</td>
<td></td>
</tr>
<tr>
<td>Culture (values, customs, beliefs)</td>
<td></td>
</tr>
<tr>
<td>Socioeconomic Status</td>
<td></td>
</tr>
</tbody>
</table>

### Occupation

| What occupations are meaningful to client? |  |
| What occupations does the client want to improve? |  |

| Goals |  |
| 69 |  |
Appendix B
OCCUPATIONAL THERAPY REFERRALS IN ONCOLOGY
A QUICK REFERENCE GUIDE

Oncology care has increased the survival rate of individuals with cancer to all-time highs, thus making rehabilitation in this area a growing need (Taylor & Currow, 2003). As an occupational therapist, it is my job to help you help your patients through:

- Increasing their participation and compliance in your treatment plan to promote wellness and healing
- Helping them achieve more satisfying lives through participation in their meaningful and necessary “occupations”, such as self-care, leisure, work, rest and sleep, or education

**Occupational therapy addresses 8 areas of occupation:**
- Activities of Daily Living (bathing, eating, sexual activity)
- Instrumental Activities of Daily Living (driving, health management, financial management)
- Rest and Sleep
- Education
- Work
- Play
- Leisure
- Social Participation

American Occupational Therapy Association (2014)

**Occupational therapists can address impairments/decreased function in the following areas:**
- Physical
- Psychosocial
- Cognitive

Newell et. al. (1999); Von Ah (2015)

**Occupational therapy services can intervene at any stage of the cancer and cancer treatment process to promote occupational engagement and overall health:**
- Precautions and safety after surgery
- Protect function during and after chemotherapy or radiation
- Survivorship support groups

American Occupational Therapy Association (2014)

**Other ways occupational therapy can support oncology care:**
- Support treatment and medication compliance through introducing meaningful routines and roles
- Health promotion is a key concept in occupational therapy
- Assist to foster a more hopeful and comfortable continuum of care
- Knowledgeable about community resources

For more research related to occupational therapy in oncology care, see the resources on the back of this sheet.
As survival rates increase, the number of people with rehabilitation needs also increases (Taylor & Currow, 2003).

Newell, Swanson-Fisher, Girgis, and Ackland (1999) noted that the participants in their study experienced, on average, four significant physical symptoms that restricted occupational engagement: nausea, appetite loss, fatigue, pain in limbs where drugs were injected, and vomiting were the most common physical symptoms identified during and after chemotherapy or radiation.

When cancer patients were asked to identify symptoms that caused limitations, 24% had varying levels of clinically significant anxiety and 23% reported similar levels of depression (Newell et al., 1999).

6/10 needs identified by cancer patients were related to psychosocial functioning and ability to cope with fears, frustrations, and anxiety (Newell et al., 1999).

Caused by neurotoxic injury, inflammation of tissues, or dysregulation of brain processes, cognitive deficits impact 17-75% of cancer patients and survivors (Von Ah, 2015). These include working memory, cognitive flexibility, multitasking, planning, and attention (Kesler, Kent, & O’Hara, 2011).

Beyond causing initial changes, research shows that functioning remains lower for cancer patients years and even decades after treatment and have the potential to lead to further impairments (Kesler, Hosseini, Heckler, Janelins, Palesh, Mustian, & Morrow, 2013).

A systematic review of nine studies analyzing the effectiveness of occupation based cognitive rehabilitation strategies confirmed its effectiveness on improving performance in mental functioning, activities of daily living, values, beliefs, and spirituality (Park, Maitra, & Martinez, 2015).

Hwang et al. (2015) and Brearley et al. (2011) found that participants rated sexual activity, sleep, leisure, physical exercise, work, and education as the most difficult areas of occupation to engage in with cancer.

REFERENCES


Cancer is a general term used to describe the abnormal growth of cells in any part of the body. There are more than 100 types of cancer, which may affect specific tissues, organs, blood, or lymphatic systems. Treatment for cancer commonly includes surgery, chemotherapy, radiation, and/or hormonal therapy. With earlier detection and improved treatments, there has been a steady increase in the number of cancer survivors over the past decade. Cancer or the treatments involved in one’s care may lead to changes in physical, cognitive, and emotional well-being. Sometimes just doing daily activities leaves little energy for leisure, social, or work-related tasks. Occupational therapy practitioners have the knowledge and expertise to modify activities and environments to allow individuals to do the things they want and need to do to maintain quality of life.

Role of Occupational Therapy
The role of occupational therapy in oncology is “to facilitate and enable an individual patient to achieve maximum functional performance, both physically and psychologically, in everyday living skills regardless of his or her life expectancy” (p. 75). Due to the uniqueness and complexity of human occupation, each individual diagnosed with cancer will experience different limitations in his or her various occupations/roles and restrictions in participation throughout the course of the disease, based on lifestyle choices.

Cancer and its treatment can cause interruptions in daily routines affecting how individuals perform their self-care, work, leisure, or social activities. For example, individuals may experience difficulty with self-care activities such as bathing or dressing. Others may experience difficulty performing essential job functions such as lifting, carrying, or having the mental or physical endurance to work full time. Some individuals with cancer may experience difficulties with leisure activities such as traveling, gardening, or exercising while others may experience difficulty socializing with friends and family. Individuals with cancer may experience these difficulties as a result of the disease or from the effects of its treatment. Common side effects of cancer or its treatment include fatigue, pain, weakness, cognitive difficulties, anxiety or depression, and changes in self-esteem or self-image. Occupational therapy practitioners address these effects through intervention aimed at restoring function such as developing home exercise programs to improve strength and mobility; modifying activities such as teaching individuals ways to conserve energy during important everyday activities; or modifying environments such as the workplace, home, or community.

Occupational therapy intervention methods can remediate, compensate, or adapt a client’s abilities to assist him or her in achieving a maximum level of independence and quality of life. Some examples can include:

- Management of activities of daily living (ADLs) such as bathing and dressing through adaptations to the activity and environment, and/or the use of assistive technology.
- Lifestyle management such as preventative health, improved fitness, etc. This may include education emphasizing the person’s strengths and positive coping strategies that enable him or her to be in control of lifestyle choices.
- Sleep and fatigue management such as education in and demonstration of energy conservation and relaxation management techniques to support health and the ability to participate in meaningful activities.
- Cognitive strategies to address memory, organizational executive function deficits, and low-energy tasks that focus on restoring engagement in daily occupations such as sitting in the park, reading a newspaper, or conversing with a friend.
Occupational therapy enables people of all ages to live life to its fullest by helping them to promote health, make lifestyle or environmental changes, and prevent—or live better with—injury, illness, or disability. By looking at the whole picture—a client's psychological, physical, emotional, and social make-up—occupational therapy assists people to achieve their goals, function at the highest possible level, maintain or rebuild their independence, and participate in the everyday activities of life.

- Therapeutic exercise and positioning to maintain functional range of motion, mobility, and strength such as home exercise programs, splinting, wheelchair fitting, bed positioning, etc. to provide support and comfort.
- Lymphedema management to reduce limb swelling, which can limit range of motion and the ability to move and complete ADLs.

**Who Can Benefit?**

Occupational therapy services are appropriate for individuals throughout the continuum of cancer care, including those who are newly diagnosed, undergoing treatment, receiving hospice or palliative care, or who are in the survivorship phase of care. Caregivers may also benefit from instructions in home programs and/or observing occupational therapy treatment. This will provide them with tools to offer support and assistance to their loved ones in performing daily activities.

**Where Are Occupational Therapy Services Provided?**

Occupational therapy services for those along the continuum of cancer care may be provided in

- general or specialty hospitals,
- rehabilitation centers,
- hospice units, and
- the home.

In hospital settings, occupational therapy may focus on ADLs such as dressing, bathing, or using adaptive equipment to maintain one's highest level of independence. In rehabilitation centers, occupational therapy services may continue to include those elements but expand to include environmental modification and helping individuals reconnect with leisure activities, community participation, and return-to-work activities. Occupational therapy in hospice units may also address self-care or leisure activities and the use of adaptive equipment or environmental modifications, including positioning and pain management strategies. In the home, occupational therapy practitioners may address home modifications and caregiver education to maximize one's safety and independence.

Many cancer survivors continue to require occupational therapy services once treatment is completed in order to transition back to their daily activities. These interventions are sometimes provided in hospitals or other settings, such as survivorship programs designed to address fatigue, weakness, cognitive difficulties, pain, or depression. Intervention following completion of treatment addresses the long-term or late effects of cancer treatments, which may last for months or years and may affect ongoing participation in daily activities.

**Conclusion**

Cancer or the treatments involved in one's care may lead to changes in physical, cognitive, and emotional well-being regardless of the current stage of disease or medical intervention. Occupational therapy practitioners use a collaborative, client-centered approach that supports each individual in shaping the therapeutic intervention and identifying meaningful goals. Occupational therapy practitioners look more broadly than at the cancer treatment itself to provide comprehensive interventions that focus on one's ability to successfully participate in everyday activities and maintain or improve quality of life.

**References**

Appendix C
The PLISSIT Model

The PLISSIT Model is an acronym of the process occupational therapists can use to address sexuality in practice. As sexuality is an important, and often forgotten, activity of daily living, it is imperative that practitioners address the subject confidently with clients while also knowing when to direct the client to further services. The steps of the PLISSIT Models are (Kokesh, 2016):

**P-** Permission: initiate a conversation with the client so they are comfortable and empowered to ask about the subject. Due to the sensitive nature of sexuality, individuals often need ‘permission’ to talk about it.

**LI-** Limited Information: provide basic sexual health education regarding the client’s safety precautions while delivering other information about other ADLs and IADLs.

**SS-** Specific Suggestions: if the client has further questions, specific suggestions can be provided as they are related to new health precautions, changes to routine and regular practices, and activity analysis in order to provide individualized education. For example, budgeting energy throughout the day in order to engage in sexual activity in the evening.

**IT-** Intensive Therapy: practitioners must know referral resources if more intensive intervention is required that is beyond the scope of occupational therapy practice. These services can include a psychiatry, psychology, gynecology, urology, etc.
CHAPTER V

SUMMARY

The purpose of this project is to expand the role of occupational therapy in oncology care. Cancer diagnosis and survivorship are increasing, which results in greater rehabilitation needs for a vast number of people. Occupational therapists have the skills necessary to treat people with cancer and people undergoing cancer treatment. However, occupational therapy is currently an underutilized service. Lack of referrals and limited evidence on holistic treatment are significant limiting factors.

The authors created a holistic screening tool to be used throughout the progression of cancer. The Oncology Occupational Therapy Screening Tool (OOPST) can be used to understand the impact of symptoms related to cancer and cancer treatment. Also, the OOPST is used to measure dysfunction in a variety of meaningful occupations. The authors created this screening tool to address unmet needs of people with cancer and increase referrals to occupational therapy to increase holistic care and quality of life. This screening tool is deemed successful if it is utilized by multidisciplinary oncology care teams to make more referrals to occupational therapy services.

The authors also created the Occupational Therapy & Cancer Education Guide. This guide was designed for occupational therapists to use at any level, in a variety of settings. Its purpose is to educate practitioners about the multiple complex needs of people with cancer. These needs are related to psychosocial, cognitive, and physical dysfunction. The education
guide outlines reimbursable care information, materials to advocate for occupational therapy, common cancer treatments and their side effects, structure of the occupational profile, recommended assessments, holistic intervention ideas, and a case study integrating the above information. The authors deem this guide successful if it increases practitioner knowledge, confidence, and holistic client care in oncology settings.

This project is geared towards any stage or type of cancer and is not limited to a specific setting. The authors would like to present this project to anyone that may benefit from it. Both authors have contacts within the healthcare community that are eager to review this project and implement it as they see fit. Currently, the authors are presenting information on this project at Frank Low Research Day at the University of North Dakota. It is also the goal of the authors to present the project at the American Occupational Therapy Association National Conference in 2018 to educate other practitioners on occupational therapy’s role in oncology care and provide resources to improve practice. The authors are in the process of obtaining creative commons rights for the products to protect intellectual property.

The authors have a variety of recommendations for future action regarding this project. Since the OOPST was developed for this project, it has not been tested for clinical effectiveness, reliability, or validity. The authors recommend future studies and application of the OOPST in a variety of clinical settings. It is also recommended that the education guide be reviewed by occupational therapists that work with people with cancer. It would be beneficial for the researchers to get feedback on the effectiveness of the education guide, what should be added, and what was not helpful. This feedback would allow the researchers to edit the education guide to improve its clinical effectiveness and benefit to occupational therapists in oncology settings.
The education guide should be updated as evidence expands on occupational therapy’s role in oncology. Reimbursement information should also be updated as healthcare policies change.

While the authors wanted a broad audience for this project, it may be a limitation that products were not targeted towards a specific cancer diagnosis, stage, or type of setting. The education guide is designed to be a general overview of the occupational therapy role in oncology and practitioners may desire more specific information about common cancers they encounter in a specific setting. Another limitation of the education guide is that not all settings have reimbursement protocol that follows what was outlined in the education guide. A final limitation is that the OOPST has not been used in a clinical setting to test for effectiveness, validity, reliability, or ease of use by the client.

The authors conclude that the occupational therapy role on the cancer care team is vital. Despite being an emerging practice area and with limited recommendations, occupational therapists have the education, skills, and qualities necessary to provide holistic therapy to increase the quality of life of people with cancer. It is the authors’ hope that providing materials such as the OOPST and Occupational Therapy & Cancer Education Guide that occupational therapists will take a much needed step forward in oncology care to advocate for services and address a broader range of occupations.
References


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