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Inservice for Individuals Working or Caring for People with Low Vision

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INSERVICE FOR INDIVIDUALS WORKING OR CARING
FOR PEOPLE WITH LOW VISION

by

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This Scholarly Project paper, submitted by Tara Lee and Haylee Volesky 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.

Jan Stube
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Date

PERMISSION

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ABSTRACT

Throughout the United States, low vision affects more than 3 million Americans 40 years of age and older (Rosenberg & Sperazza, 2008). As the population continues to age, more individuals will be moving to some form of either assisted living care or long-term care, which will increase the number of individuals with visual impairment living in such situations and requiring appropriate services. An individual with low vision typically has a decreased ability to function in daily life with a considerable impact upon functional decline in performance (Haymes, Johnston, & Heyes, 2002; Horowitz, 1994). Difficulties occur in everyday activities such as reading, driving, preparing meals, social activities, mobility, and more. With a decrease in independence and perceived loss of control, an individual's quality of life is impacted causing psychological stress (Horowitz, 2004). There is a concern that an individual with low vision living in an institutionalized setting is often overlooked or misinterpreted as having cognitive decline and disruptive behavior leading to further participation restriction and dependency (Horowitz, 1997). The purpose of this project is to educate healthcare workers (ex. CNAs) in skilled nursing facilities and/or assisted living facilities. The education will include common visual impairments and adaptive techniques and devices to use when working with individuals with low vision to help them cope, manage, adapt to lifestyles changes, and participate in occupations.

Occupational therapists have the background knowledge on visual impairments and techniques to help improve and maintain occupational performance. An extensive literature review was completed in order to develop an educational inservice for healthcare workers. The components of this inservice are guided by the Adult Learning Theory and Ecological Model of Occupation. Information in the developed materials includes a general overview of common visual impairments, impacts of low vision, low vision aids, and strategies for adapting activities of daily living. This scholarly project is intended to help healthcare workers become more aware of visual impairments experienced by the elderly as well as how to facilitate healthy, successful participation in life tasks. Increased knowledge of techniques and strategies that can be implemented when working with elderly individuals with low vision can, in turn, improve their quality of life.

CHAPTER I

INTRODUCTION

Low vision affects more than 3 million Americans 40 years of age and older throughout the United States (Rosenberg & Sperazza, 2008). The number of individuals with visual impairments living in some form of either assisted living care or long-term care will only increase as the population continues to age. There is a concern that an individual with low vision living in an institutionalized setting is often overlooked or misinterpreted as having cognitive decline and disruptive behavior leading to further participation restriction and dependency (Horowitz, 1997). Other problems occur in the environment in which a visually impaired person resides, as it often does not support his or her safety needs.

An individual with low vision typically has a decreased ability to function in daily life with a considerable decline in functional performance and quality of life (Haymes, Johnston, & Heyes, 2002; Horowitz, 1994). Visual impairment may disrupt the completion of various activities of daily living. In a study conducted by Murthy et al. (2004), participants reported functional problem areas specifically related to visual impairment as: ambulation, occupation/household activities, recognizing people, eating and drinking, self-care, reading, watching television, trouble seeing in bright light, recognizing small objects, and participation in social functions. Psychological effects are also common among the elderly who are suffering from low vision. Approximately one-

third of older adults who are visually impaired experience significant depressive symptoms (Horowitz, Reinhardt, Boerner, & Travis, 2003).

Vision rehabilitation for adults with age-related vision impairments includes: low vision clinical services; rehabilitation; orientation and mobility training; and counseling and support groups that are designed specifically to address the emotional aspects of a vision loss and to facilitate psychosocial adaptation to the disability (Stuen & Faye, 2003). Despite the positive benefits of low vision rehabilitation, not all individuals with visual impairment know or understand what can be done for his or her function in everyday life. In general, there is little emphasis on low vision rehabilitation being delivered to those in need (Markowitz, 2006). Barriers to accessing low vision rehabilitative services include poor public awareness, limited access, and lack of referrals (Nia & Markowitz, 2007).

The occupational therapy (OT) students designing this product became interested in the topic of low vision related to older adults after receiving the education through courses in the occupational therapy program. Through this education, the OT students participated in simulation activities similar to those presented in the product. Also, through fieldwork and previous work experiences, the OT students gained an understanding of the prevalence of low vision, the impacts that it had on occupational performance, and became aware of the benefit of low vision education for certified nursing assistants (CNAs).

An occupational therapist is trained to recognize the functional impacts caused by vision impairments. Occupational therapists are essential for low vision rehabilitation teams as their role consists of assessing occupational performance, making modifications

to the environment, providing adaptive equipment, addressing psychosocial issues, and utilizing an individual's residual vision (Markowitz, 2006). When working with individuals who have low vision, the goal of occupational therapy is to increase quality of life by enhancing participation in meaningful activities (AOTA, 2005). Within the scope of practice, an occupational therapist can educate and consult with other healthcare professionals to help meet the needs of individuals with low vision. Occupational therapy focuses on helping individuals to be independent in daily living tasks. By using the product created, occupational therapists can provide training to healthcare workers to assist individuals with low vision. This training will, in turn, lead to individuals with low vision becoming more independent and will increase their quality of life. To increase the awareness of occupational therapy, the product contains information regarding when it is appropriate to request a referral to occupational therapy.

This scholarly project provides an educational package for healthcare workers that can be presented by an occupational therapist. Its intent is to effectively facilitate a more independent lifestyle by providing supportive and adaptive strategies to individuals with low vision. Specifically, the population in which this scholarly project seeks to address is the CNAs who work most closely with individuals who have low vision, and will address implications most relevant to the care that a CNA provides. The information will be presented to the healthcare workers using a Microsoft® PowerPoint® presentation containing slides viewable to the audience and lecture notes for the presenter. It is intended to educate such workers on low vision and its impacts on occupational performance, as well as to provide supportive and adaptive strategies that may be implemented while working with an individual with low vision.

The information presented is not only intended to address the educational needs of healthcare workers, but also to address the needs of individuals with low vision. The education offered throughout the inservice is meant to provide CNAs with the informative background to be better able to provide effective and supportive care to improve the quality of life and level of independence for the individual with low vision.

This product could be utilized either in an assisted living or long-term care facility. The implementation of this inservice relies on the availability of an occupational therapist to provide the teaching of the included implications and strategies to the healthcare workers. The application also requires the advance approval of each healthcare facility administration to provide the resources necessary to carry out the inservice. Implementation would also be based on an expected desire from healthcare staff to learn the presented information and in a context where there is a population of individuals with low vision living at the facility that could benefit from such additional supportive services.

There are several terms that are used to describe low vision within the product presented in Chapter IV. These terms are described here, as well as in the product itself.

- *Low vision* is defined as a permanent vision impairment that is not correctable by spectacles, contact lenses, or medical or surgical intervention; however, it is not a diagnosis but a result of an eye condition that causes reduced visual function (Rozenberg & Sperazza, 2008).
- *Age-related macular degeneration* is the loss of central vision which causes blurred or dark spots and can result in a loss of visual acuity and contrast sensitivity (Watson, 2001).

- *Glaucoma* is a loss of peripheral vision due to an increase in intraocular pressure (Stuen & Faye, 2003).
- *Diabetic retinopathy* is caused by retinal hemorrhages or scattered scotomas causing blind spots (Watson, 2001).
- *Cataracts* are a clouding of the lens that causes a decrease in the passage of light (Watson, 2001).

The adult learning theory was used to develop the inservice to healthcare workers providing initial care for the individual with low vision. The adult learning theory is defined as the art and science of helping adults learn (Knowles, 1990 as cited in Bastable & Dart, 2006). Principles of the Adult Learning Theory include: problem-centered learning, relating materials to past experiences, and involving learners in active participation (Knowles, 1990 as cited in Bastable & Dart, 2006). These principles are a focus of the product as the information provided serves to build off of the learner's previous experience of working with individuals who have low vision. The information given in this inservice will ultimately be applied to the learner's employment facility to enhance performance of clients with low vision receiving care. The adult learning theory helps to guide the process for the learners to integrate or connect these resources to previous knowledge and skills. As an occupational therapist presents this inservice, the learners will be encouraged to actively participate in demonstrations, discussion and share experiences and thoughts.

The occupational therapy theoretical model that most appropriately describes the person with low vision and his or her interaction with the environment, as well as the ability to perform various tasks, is the Ecological Model of Occupation. This model is

suitable for this product as it is used across disciplines and contains terminology that is easily understandable. This model focuses on the relationships between four core constructs of *person*, *task*, *context*, and *performance*. Each of the four constructs is interrelated and interacts with one another (Dunn, Catana, & Youngstom, 2003).

The *person* construct identifies that a person (in this case, the person with low vision) has many qualities that are incorporated into their occupational experiences. The individual may bring past experiences, skills, values, and interests, which are all unique and meaningful to the individual (Dunn, et al., 2003). Within this scholarly project, the *person* construct is emphasized as the core of occupational performance in that the individual, despite any disability, needs to be as independent as possible in activities that are meaningful and of value. This project also acknowledges the assets an individual may have, including past experiences, values, and interests, and attempts to educate the CNA to incorporate each when describing the optimal modifications for the individual.

The *task* construct refers to the set of behaviors that is necessary to achieve a goal. This construct recognizes that individuals participate in a variety of different tasks and that each task is defined differently by the individual and influenced differently by cultural variables for each individual (Dunn, et al., 2003). This scholarly project incorporates participation in meaningful tasks for the individual as being a large factor in satisfaction, psychosocial wellbeing, and quality of life. This is accomplished by the CNA identifying tasks in which the resident routinely engages.

The *context* construct describes various interrelated conditions that may involve and surround an individual. This construct identifies two main types of context, temporal and environmental. The temporal context refers to the aspects of the individual, which

includes qualities of age, developmental stage, life cycle, and health status. Included within the environmental context are the physical, social, and cultural variables which provide barriers and facilitators to an individual's occupational performance (Dunn, et al., 2003). Context is a key component to this scholarly project as it describes the impact an individual's health status or visual disability may have on the ability to perform occupational tasks. This project also incorporates such contextual qualities as age, life cycle, and social variables as affecting an individual's ability to experience success in meaningful occupational activities. For example, this scholarly project specifically identifies how a visual impairment, which is often associated with increased age and development, may impact the quality of interaction within the social context that an individual may have. Additionally, the care provider is part of the social and cultural context for the individual with low vision. This scholarly project educates the care provider to become a facilitator of the individual's successful performance in meaningful tasks.

The *performance* construct refers to how an individual uses skills and abilities to interact with the context to select and complete meaningful tasks. *Performance range* identifies the number and type of tasks available to the individual based on the individual's level of interaction with the context and the various variables of the context (Dunn, et al., 2003). Within this scholarly project, performance is incorporated as the largest area of concern and also the largest area of possible improvement for the person with low vision. Initially, this project describes the impact a visual impairment may have on an individual's performance in various aspects of daily life. As the project progresses, it incorporates numerous strategies and techniques that a CNA working with an

individual with visual impairment may do in order to facilitate the most independent, successful, and meaningful occupational performance. By providing education on such strategies, support, and modifications to the CNA, the performance range of an individual with low vision may increase as he or she is now much more prepared and well adapted to various contextual performance barriers.

This model also involves therapeutic intervention strategies that address the interrelationship between the various constructs (Dunn, et al., 2003). The *adapt/modify* intervention approach involves modifying either the context or the features of a task in order to facilitate performance (Dunn, et al., 2003). To support occupational performance, information regarding alterations or modifications to both the environment and the task is presented. It is not expected that the CNA will apply this model when working with individual's with low vision. However, the CNA should be able to implement the adapt/modify strategies for which they have been educated on that follow the intentions of this model as designed by the occupational therapist. For example, arranging grooming items in a clock format will increase independence when performing self-care tasks.

Following this introduction, Chapter II contains an extensive literature review about the prevalence, the four most common diagnoses, impacts of low vision, psychological effects, and vision rehabilitation. Chapter III describes the methodology and processes used to research and develop this scholarly project. Chapter IV presents the developed product in its entirety. And finally, the last chapter includes a conclusion and summary of the project.

CHAPTER II

REVIEW OF LITERATURE

Terms such as low vision, blindness, and visual impairment are often used to encompass all vision-related diagnoses. Throughout the United States, low vision affects more than 3 million Americans 40 years of age and older (Rosenberg & Sperazza, 2008). It has been projected that this number will reach 5.5 million by the year 2020 (Rosenberg & Sperazza, 2008). Low vision is defined as a permanent vision impairment that is not correctable by spectacles, contact lenses, or medical or surgical intervention; however, it is not a diagnosis but a result of an eye condition that causes reduced visual function (Rozenberg & Sperazza, 2008). Normal visual changes occur with aging and may include presbyopia, decreased contrast sensitivity caused by retinal changes, decreased dark/light adaptation, and delayed glare recovery (Carter, 1994, as cited in Rozenberg & Sperazza, 2008).

The four most prevalent causes of vision impairment in the older population include age-related macular degeneration, glaucoma, diabetic retinopathy, and cataracts (Rozenberg & Sperazza, 2008). The risk factors for each of these diagnoses vary, but often involve and are compounded by advanced age, poverty, poor self-rated health, along with a lack of informal social support systems (Lee & Brennan, 2006). Each of these visual changes interfere with an individual's daily life as many basic and instrumental activities of daily living either become difficult or impossible to accomplish due to the lack of independence caused by poor vision.

While the aforementioned diagnoses similarly and significantly impact an individual's ability to perform daily activities, each diagnosis affects vision differently and each has a separate cause. Age-related macular degeneration is the loss of central vision which causes blurred or dark spots and can result in a loss of visual acuity and contrast sensitivity. An individual with macular degeneration may experience difficulty reading, recognizing faces, and mobility due to decreased visual depth cues (Watson, 2001). Progression of the disease can lead to a distortion of objects and decreased color vision (Rozenberg & Sperazza, 2008). Glaucoma, often referred to as binocular vision, appears to have an opposite effect from macular degeneration on an individual's sight as it causes a loss of peripheral vision due to an increase in intraocular pressure (Stuen & Faye, 2003). While the central vision is maintained, the restricted visual field creates problems such as functioning in dim light, reading and writing, diving, and orientation and mobility (Watson, 2001). The central vision is maintained in this disease; however, as it progresses a loss of central acuity may become evident (Rozenberg & Sperazza, 2008).

The third previously mentioned cause of vision impairment, diabetic retinopathy, which is associated with diabetes, is caused by retinal hemorrhages or scattered scotomas making it difficult to read and recognize faces. The effects of this disease also cause sensitivity to glare, difficulty adapting to light or dark, decreased depth cues, and color sensitivity (Watson, 2001). Finally, cataracts are a clouding of the lens that causes a decrease in the passage of light which can result in poor visual acuity and sensitivity to glare. Individuals suffering from cataracts have trouble adapting to change in light, visual perception, and contrast which causes many disruptions in daily tasks (Watson, 2001).

Although the four visual diagnoses mentioned are the most prevalent in older adults, there are many others that also impact an individual's visual status.

As the generations continue to age, more individuals will be moving to some form of either assisted living care or nursing care, which will increase the number of individuals with visual impairment living in such situations and requiring appropriate services. An assisted living facility is a setting where the needs of an individual are met by providing support services and healthcare in order to promote health and wellbeing (Fagen, 2001). According to the Assisted Living Federation of America, approximately one million Americans live in assisted living facilities throughout the United States (as cited in Fagen, 2001). An estimated 57% of individuals residing in nursing homes experience significant visual impairment or are considered to be legally blind (Scilley & Owsley, 2002). Research has shown that elderly individuals fear visual impairments compared to other chronic conditions (Steun & Offner, 1999).

An individual with low vision has a decreased ability to function in daily life with a considerable impact on functional decline in performance (Haymes, Johnston, & Heyes, 2002; Horowitz, 1994). Visual impairments affect much more than an individual's ability to do obvious sight-related tasks such as reading or driving. Such impairment may disrupt the completion of various activities of daily living (ADLs) and instrumental activities of daily living (IADLs). As defined in the Occupational Therapy Practice Framework, an ADL is an activity that is oriented toward taking care of one's own body, while an IADL is an activity oriented toward interacting with the environment and is generally complex and optional in nature (AOTA, 2008). These activities would include tasks as ordinary as identifying food and maneuvering it to one's mouth, dressing, grooming, playing card

games, and writing letters (Scilley & Owsley, 2002). In a study by Horowitz (1994), visual impairments strongly correlated with ADL dependency among nursing home residents. Furthermore, in a study conducted by Murthy et al. (2004), participants reported functional problem areas related to visual impairment as: ambulation, occupation/household activities, recognizing people, eating and drinking, self-care, reading, watching television, trouble seeing in bright light, recognizing small objects, and participation in social functions. Likewise, many communication activities that older adults participate in require adequate use of both hearing and sight, such as watching television, using the phone, and reading (Cruice, Worrall, & Hickson, 2005).

Ambulation and mobility are accomplished through the collaboration of many body mechanical skills and sensory functions working together; without vision, the integration of all senses is disrupted. A previous study by Sloan et al. (2005) found that all forms of an individual's mobility were significantly affected by impaired near and distance vision. The information obtained using an individual's visual acuity provides the nervous system with continuous updates regarding the body's position and the movements of each body part both in relation to one another and to the environment (Bush, Vinding & Nielsen, 2001). For some older individuals, there is a coexistence of visual impairment with other sensory deficits. Recent studies have shown that poor vision that is accompanied by either hearing loss or difficulty with balance increases the risk of falls; such a risk is increased further when both loss of hearing and balance are present together with poor vision (Bush, Vinding & Nielsen, 2001).

Visual deficits make it difficult to maneuver around objects, step up or down an incline, or to climb stairs. An individual with visual impairment may also have difficulty

seeing an upcoming hazard, may overcorrect to step around what is perceived as a hazard, and may not be able to locate a source of support in the incidence of a loss of balance (La Grow, Robertson, Campbell, Clarke, & Kerse, 2006). Some individuals may even fear falling due to his or her poor vision (Scilley & Owsley, 2002). Often, the environment in which a visually impaired person resides does not support his or her needs to safely maneuver independently to reduce the risk of fall. “Other research has supported the relationship between vision impairment and falls, imbalance, risk of hip fracture, and mortality” (Daubs, 1973; Felson et al., 1989; Gerson, Jarjoura, & McCord, 1989; Thimpson et al., 1989, as cited in Horowitz, 1994, p. 316)

Sight-related tasks are considered to be most predominantly affected by visual impairment, however, tasks often completed utilizing other senses or those seeming to not necessitate vision for participation are also affected. Poor vision impacts an individual’s ability to maintain social relationships due to a lack of visual cues during interactions and a lack of understanding by others regarding the effects of a visual impairment (Wang & Boerner, 2008). Although an individual with visual impairment is able to rely on other senses to maintain social relationships, the loss of visual cues makes it difficult to correctly interpret the interaction and to experience the non-verbal bodily components of communication.

Boerner and Cimarolli (2005) found, in a study exploring the life goals of individuals with visual impairment that along with functional aspects of living, participants rated social relationships among the top priority of life goals. Visually impaired individuals value social interactions to the extent that they attempt to implement self-created strategies to cope with the effect vision loss has on his or her communication;

such strategies include relying more on other senses, ‘faking’ one’s way through an interaction, being more selective of social relationships, getting angry and expressing his or her aversive feelings, or simply letting the relationship ‘go sour’ (Wang & Boerner, 2008). In a focus group study by Teitelman and Copolillo (2005), the results suggested that difficulty with face recognition had a negative effect on the social interaction and participation of a visually impaired individual. Other participants in the study argued that they felt like a burden on others when needing transportation (Tietelman & Copolillo, 2005).

A nursing home resident’s visual loss may not be identified by staff or family members due to lack of regular vision care in most facilities and may not be reported by the patient himself (Horowitz, 1997). Visual impairment among nursing home residents is a strong contributor to disruptive behaviors (Horowitz, 1997). An individual’s visual status is often overlooked by nursing home facilities as contributing to such behaviors; however, it is a common co-morbid impairment of older adults whom reside there (Horowitz, 1997).

Initially, the signs of vision loss may appear somewhat similar to those associated with cognitive impairments and may include disorientation, wandering behavior, failure to recognize familiar individuals or items, and difficulty maneuvering throughout an environment (Horowitz, 1997). Such behavioral displays may be misinterpreted by staff of a residential nursing facility as disruptive behavior cause by a cognitive deficit, when in actuality these behaviors are reflective of the functional limitations experienced by the resident with visual impairment (Horowitz, 1997). A coexistence of visual impairment with another deficit, such as cognitive impairment, would serve to increase problem

behaviors. “When residents are identified as visually impaired, staff’s fears about the resident’s vulnerability to injury often lead to restrictions in the resident’s mobility and self-care activities” (Hiatt, 1986; Hill & Harley, 1984; Rusalem, 1969 as cited in Horowitz, 1994, p.317). For example, “Woodruff et al. (1985) reported that severe vision impairment was a significant factor contributing to whether the resident was wheelchair or bedbound” (Horowitz, 1994, p.317).

Not only do physical limitations occur with low vision, but psychological effects are common among the elderly who are suffering from visual impairment. Approximately one-third of older adults who are visually impaired experience significant depressive symptoms (Horowitz, Reinhardt, Boerner, & Travis, 2003). Individuals with low vision have a high risk of depression and a decreased quality of life compared to other age-related changes (Horowitz, 2004) due to the psychological stress caused by the perceived loss of control, being dependent, and not participating in social activities (as cited by Orr, 1991 in Teitelman & Copolillo, 2005). Evans, Fletcher, and Wormald (2007) found that older adults with visual impairments have a 25% increased risk of being depressed. In a study by Rövner et al (2007), the results indicated that a dissatisfaction with performance in valued activities predicted depression over a two month period for individuals with age-related macular degeneration and that such dissatisfaction is a risk factor for depression. All of the participants with a visual impairment in a study by Teitelman & Copolillo (2005) experienced everyday frustrations and fluctuations with emotional well-being, although only some were diagnosed with depression.

There is not detailed information available regarding whether the specific cause of depression may be a result of decreased ADL function or whether reduced ADL function

may lead to depression (Evans et al., 2007). Many activities of daily living, such as driving, shopping, and other everyday tasks, may not be completed independently or as easily which may serve to initiate the emotional challenges (Teitelman & Copolillo, 2005). Occupations include and encompass all of the activities that comprise our daily lives and are central to a persons' identity; difficulty in performance of such activities promotes the feelings of hopelessness and despair (Teitelman & Copolillo, 2005).

Lee and Brennan (2006) discussed the effects of stress and coping strategies of older adults with low vision. In this study, stress was considered as a factor in the individuals' functional abilities, psychological thoughts, and social support; the coping strategies which were identified included the use of compensatory techniques, adaptive equipment, rehabilitation, acceptance, and seeking of support from peers. The study indicated that many of the individuals did not obtain rehabilitation for vision, had a low acceptance of vision loss and desire to strengthen personal resources, all of which have an effect on poor psychological well-being (Lee & Brennan, 2006). In general, not all individuals know how to deal or cope with visual changes and may not know about or have access to appropriate rehabilitative or psychological services.

Positive coping strategies that are helpful for some individuals with visual impairment include a 'sense of mastery' with the use of internal resources such as problem solving, sense of humor, positive attitude, and the external environment for support (Turner and Wood 1985; Kleinshmidt 1999, as cited in Teitelman & Copolillo, 2005). Other strategies that may make a difference in an individual's psychological well-being include: cognitive restructuring, having a support system, engaging in meaningful activities, spirituality, and contributing to society (Teitelman & Copolillo, 2005). Overall,

all daily activities that give meaning to an individuals' self-worth and self-esteem may seem impossible for those suffering from low vision; however, with vision rehabilitation, adaptive equipment, and compensatory techniques a level of satisfaction can be reached when performing such activities.

Participation in some form of activity can promote an individual's overall wellbeing by improving immune response, cardiovascular health, stress management, psychological wellness, and motivation (O'Donnell & Daniel, 2008). When daily activities cannot be performed to the extent of a person's capability, areas of body structure and functions are affected. Although vision rehabilitation still continues to develop, research has shown positive results from physical to psychological wellbeing when working with individuals with visual impairments (Horowitz, Reinhardt, & Boerner, 2005). Low vision rehabilitation may assist in reducing an individual's risk for depression by helping to maintain or regain some degree of independent functioning while simultaneously maximizing the individual's sense of control and self-efficacy in life (Horowitz, Reinhardt, & Boerner, 2005).

Vision rehabilitation for adults with age-related vision impairments includes: low vision clinical services; rehabilitation; orientation and mobility training; and counseling and support groups that are designed specifically to address the emotional aspects of a vision loss and to facilitate psychosocial adaptation to the disability (Stuen & Faye, 2003). Watson (2001) stated, "working with a low-vision therapist will provide an opportunity for the older adult to develop appropriate visual skills; learn the benefits, limitation and uses of low vision devices; and apply principles of color, illumination and

contrast to make the environment as conducive as possible to the use of remaining low vision” (p. 322).

Low vision rehabilitation also includes exercises to help strengthen eye movements and functions in order to gain competence in the skills such as reading, writing, driving, orientation, and mobility (Markowitz, 2006). A part of the rehabilitation process should include training and learning how to utilize a person’s remaining vision. Research has supported the findings that rehabilitation enhances visual functions as improvements are measured through such skills as reading. O’Donnell and Daniel (2008) suggest that vision rehabilitation consisting of creative occupations will promote a successful adaptation to low vision. To accomplish the occupations, modifications such as lighting, glare control, contrast, pattern and size all need to be considered (O’Donnell & Daniel, 2008). Watson (2001) stated that staff should be aware of “teaching visual motor skills for activities of daily living and instrumental activities of daily living with and without low-vision and electronic devices, task analysis, teaching basic orientation and mobility, and teaching basic techniques of reading with low vision devices” (p. 322).

In a study of institutionalized elders with low vision, de Winter, Hoyng, Froelng, Meulendijks, and van der Wilt (2004) found a number of disabilities that could be corrected with the use of low vision aids. Simple tools and equipment that include lamps, sunglasses, magnifiers, or brightly colored duct tape can make daily activities possible for some individuals (O’Donnell & Daniel, 2008). With today’s technology, adaptive equipment is available to help with everyday functioning. Devices and machines are used to enlarge print, magnify television pictures and newspapers, and read printed material. One important factor for utilization of adaptive equipment is training. The

implementation of such adaptive technology and strategies can improve an individual's level of independence. In a study conducted by Cimarolli and Gordon (2006), individuals with visual impairments who reported feeling a sense of overprotection from caregivers were at a greater risk for distress, which was already compounded by distress resulting from a chronic visual disability.

Despite the positive benefits of rehabilitation, not all individuals with visual impairment know or understand what can be done for his or her function in everyday life. In general, there is little emphasis on low vision rehabilitation that is being delivered to those in need (Markowitz, 2006). Barriers to accessing low vision rehabilitative services include poor public awareness, access, and lack of referrals (Nia & Markowitz, 2007). "Older adults may experience unnecessary or excess disability if they are unaware that help is available, which is why it is so important for anyone in the field of geriatric rehabilitation to be aware and educated about age-related vision problems" (Steun & Offner, 1999, p.13). As decreased vision may be seen as a normal part of the aging process, many individuals are overlooked and undertreated (Steun & Offner, 1999). With the increasing age of the baby boomer population, more low vision rehabilitation services and knowledge from healthcare workers will be needed to assist in enhancing everyday functional skills and to reduce the psychological effects resulting from visual impairment.

In a study by Beckley et al. (2007) older adults with low vision identified the need for services to include safety in the home, social support, transportation, funding, mental health care, case management, caretaker issues, access to services, continuity of care, nutrition, technology access, use of optical devices, race and ethnicity, and work, leisure,

or volunteer opportunities. This population also suggested having more services available throughout the community.

Through the review of literature, it was evident that low vision is prevalent among elderly living in assisted living facilities and nursing facilities. As low vision affects many activities of daily living, the independence and quality of life decline as there is distress surrounding a perceived loss of control. Low vision rehabilitation has shown to improve an individual's wellbeing, although there is limited access and awareness of such services. The purpose of this product is to educate healthcare workers caring for individual's with visual impairments on basic adaptations to promote independence.

CHAPTER III

METHODOLOGY

The product, Strategies to Assist Individuals with Low Vision, is designed as a Microsoft® PowerPoint® presentation given to healthcare workers (ex. CNAs) for additional training when working with individuals who have low vision. The Ecological Model of Occupation was chosen to guide this product as it appropriately describes the person and his or her interaction with the environment, as well as the ability to perform various tasks. Using the *adapt/modify* intervention approach to support occupational performance, information regarding alterations or modifications to both the environment and the task is presented. The product consists of strategies that can be implemented in the assisted living or long-term care workplace when providing care to individuals with low vision; these strategies include: sighted-guide techniques, environmental modifications and adaptations for daily activities, social interaction facilitation, and promotion of positive coping skills.

The process for developing the product began with an extensive review of current literature on the prevalence of low vision, age-related visual changes, the impact of low vision, psychological effects associated with low vision, and the benefits of vision rehabilitation, including adaptive equipment use. This literature included a diverse selection of both quantitative and qualitative research studies. Through the use of many search engines that included OT Search, PubMed, and Cinahl, the literature review was completed. Additional data was gathered through government-based and organizational

websites, brochures, pamphlets, books, and clinically-based textbooks to support the creation of this product.

With a vast amount of research and knowledge on this topic of choice, the occupational therapy (OT) students narrowed the information to be presented so that it could be implemented in a two-hour inservice. With fieldwork experience and education, the OT students used their knowledge on low vision to determine the product content. The literature addressed four common visual diagnoses that included age-related macular degeneration, glaucoma, diabetic retinopathy, and cataracts. It also concentrated on the impacts that low vision has on activities of daily living (ADL), instrumental activities of daily living (IADL), mobility, social interaction, disruptive behavior, and psychological effects. Many strategies and adaptive equipment are available to help assist individuals with low vision; however, only techniques that complimented the role of CNAs and don't require further education are included in the product. These techniques focused on the areas of mobility, social interaction, environmental modifications and adaptations to areas of daily living, and the promotion of positive coping strategies. To make these modification or adaptations to the environment or task easily accessible, a tool kit was created to make materials and items that are frequently used. The inservice provides CNAs with information on knowing when to make a referral to an occupational therapist for an individual with low vision. An outcome measure was developed for the learners to complete to assess the content of the inservice.

Consideration of the Adult Learning Theory was taken into account when considering how this product should be presented to the healthcare workers. A PowerPoint® format with a handout of the slides proved to be the most appropriate

choice to stimulate both visual and auditory learners. The inservice provides many opportunities for the learners to engage in activities for those who learn best through hands-on experiences. Learners will be encouraged to actively participate in demonstrations, discussion and share experiences and thoughts. For example, the learners will practice various tasks using simulated glasses that represent common visual impairments and demonstrate the sighted-guide technique.

CHAPTER IV

PRODUCT

The following product within this chapter is an educational inservice for healthcare employees, specifically certified nursing assistants (CNAs), who care for individuals with low vision. The inservice is formatted as a Microsoft® PowerPoint® presentation containing slides viewable to the audience and lecture notes for the presenter. This presentation is intended for occupational therapists (OT) to provide additional training for healthcare workers, specifically CNAs, who work with individuals who have low vision either in an assisted living facility or a long-term care facility. The occupational therapy presenter will have a copy of the slide presentation, as well as the accompanying lecture notes. Prior to the presentation of this material, the healthcare workers will receive a copy of the slides as a handout.

The presentation begins by defining low vision and detailing the classification of various levels of low vision as was described in the literature. Significant statistics regarding the prevalence of low vision in the United States are included, as well as a discussion of key terminology in order for the learners to have an understanding of the terms related to visual impairment which are used throughout the presentation. The inservice progresses to inform the audience about normal age-related visual changes and the four most common visual diagnoses acquired by older adults in order to provide the participant with adequate background knowledge to better understand the necessity of the care he or she provides to an individual with low vision. For each of the four common

visual diagnoses, the audience will have the opportunity to participate in various activities using simulation glasses to better understand the functional ability of an individual who has visual impairments. Following this diagnostic information, the presentation discusses the possible impact that low vision may have on an individual's ability to perform tasks in numerous areas of daily living. Specific impacts are described in detail while discussion questions, posed to the audience, are scattered throughout to facilitate generalization of the information to the client population that the audience currently serves.

The presentation then flows into the next logical area of information regarding low vision rehabilitation. This section informs the audience about the components of rehabilitation, possible barriers to accessing low vision rehabilitation, and about many of the adaptive devices that are most useful to individuals with low vision. Providing this information allows the listener to become more aware of services that are available and when it is appropriate to make a referral to a low vision specialist or occupational therapist. Those who attend will also have exposure to adaptive devices that an individual they care for may need or may already be using. As occupational therapists are a discipline frequently involved in low vision, the qualifications, abilities, and training are provided within this presentation.

Finally, the remaining portion of the inservice describes numerous strategies that can be employed by a healthcare worker caring for an individual with low vision in order to facilitate that individual's independence and satisfaction in daily activities. Mobility, social interaction facilitation, environmental modifications and adaptations to areas of daily living, and the promotion of positive coping strategies are the four main topics

included to help care for the individual with low vision. Throughout this portion of the presentation, an emphasis is placed on learner discussion and practice of the techniques discussed as these will be the actual strategies the learner will employ with those he or she cares for. This teaching style is consistent with Adult Learning Theory as the participants will be engaged in activities and discussion to build off of their past experience when working with an individual who has low vision. The participants, for example, have the opportunity to try different strategies to lead an individual with low vision while walking. The Ecological Model of Occupation is used to guide this product design and presentation; as you will notice there is a focus on the person, task, context, and performance. The goal of this product is aimed for the healthcare workers (ex. CNAs) to help individuals to successfully adapt to low vision in their daily skills and activities thereby leading to increased quality of life.

Prior to starting this last portion, a worksheet will be handed out to those who attend the inservice to help them identify an individual they work with who has low vision, what impacts low vision has on that individual, what adaptations or techniques can be used to increase independence, and what questions can be asked of the occupational therapist for more assistance. In conclusion, a list of items needed to make a low vision tool kit will be provided to help healthcare workers make simple modification and give adaptive equipment to those in need. Items included in the low vision tool kit are puffy paint, Velcro/puffy dot, colored tape, stickers, tinted glasses, magnifiers, a deck of enlarged playing cards, and enlarged crosswords/word-finds. Following the presentation, the audience will have the opportunity to ask questions and discuss the information and techniques that have been provided. An outcome survey will be provided

for the learners to complete to determine the quality and usefulness of the inservice content.

The product described in this chapter is presented in its entirety in the following pages. Contained within the pages are both the PowerPoint® slides and the lecture notes for the OT presenter.

Strategies to Assist Individuals with Low Vision

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Objectives

- To educate individuals on normal visual changes and the four major causes of low vision.
- To inform individuals on the impact that low vision may have on daily living in a variety of areas.
- To provide information regarding available adaptive devices, low vision rehabilitation services and referrals to occupational therapy.
- To educate workers caring for individuals with low vision on techniques and strategies that can be utilized to assist the individual.

Listed are the objectives that will be achieved through this presentation, the discussion, and the interactive activities.

What is Low Vision?

- Permanent vision impairment that is not correctable by spectacles, contact lenses, or medical or surgical intervention
- Low vision is not a diagnosis, but a result of an eye condition that causes reduced visual function
- Other terms: visually impaired, partially sighted, partially blind, visually challenged, sub-normal vision

Low vision is defined as a permanent vision impairment that is not correctable by spectacles, contact lenses, or medical or surgical intervention (Rozenberg & Sperazza, 2008). Low vision is not a diagnosis, but rather a result of an eye condition that causes reduced visual function (Rozenberg & Sperazza, 2008). Other terms that are used interchangeably with low vision include: visually impaired, partially sighted, partially blind, visually challenged, or sub-normal vision (Brown, 1997). There is no agreed upon criteria to define low vision. The World Health Organization (WHO) definition for low vision is worse than 20/60 in the better eye with best correction.

Classification of Vision Loss

- Mild vision loss
 - No specific aid needs, may require reading glasses
- Severe vision loss (legally blind)
 - 20/200 – 20/400, only read at slower rates with reduced endurance and use of special aids
- Near total blindness
 - Hand motion & light perception, requires on other senses
- Total blindness
 - No vision

(Rozenberg & Sperazza, 2008)

This diagram illustrates the different levels of vision loss and the ability an individual would have at each level. For example, an individual with mild vision loss will require no special aids other than possible reading glasses. While an individual with severe vision loss, who is considered to be legally blind, may only be able to read with special aids slower and may be requiring more breaks while reading. Finally, an individual with total blindness has no vision at all and relies completely on other senses such as hearing and touch.

You may have noticed through team meetings, interactions with nurses or doctors, or interaction with the individual themselves, that a classification level has been assigned to the individual's level of vision. If so, you may be able to use this chart to give you an idea of what his or her ability may be based on the level of vision.

Group discussion, questions posed by the lecturer to the entire group: Can you recall an instance where you may have been aware of the classification name given to an individual's low vision? And if so, what difficulties, if any, did you notice that individual had when completing every day tasks?

Prevalence of Low Vision

- Low vision affects 3.3 million Americans age 40 and over
- Individuals 80 years of age and older make up 8% of the population, but account for 69% of blindness
- An estimated 124 million people in the world with low vision.
 - About ¼ of these would benefit from low vision services.

(National Eye Institute, 2008 & World Health Organization, 2009)

Blindness or low vision affects 3.3 million Americans age 40 and over, or one in 28. This figure is projected to reach 5.5 million by the year 2020. Low vision and blindness increase significantly with age, especially in people over age 65. People 80 years of age and older currently make up eight percent of the population, but account for 69 percent of blindness (National Eye Institute, 2008). According to the most recent data available to the World Health Organization (2009), there are an estimated 124 million people in the world with low vision. About a fourth of these would benefit from low vision services.

Terms

- Visual acuity
 - Near
 - Far
- Contrast sensitivity
- Visual perception
- Visual field
 - Central vision
 - Peripheral vision

(Zoltan, 2007; Scheiman, Scheiman, & Whittaker, 2007)

Testing for each of these aspects of vision can be conducted by an optometrist, an ophthalmologist and an occupational therapist.

Visual acuity is the resolution power of the eye. It is the ability to see, inspect, identify, and understand objects at near or far distances (Zoltan, 2007). It is often measured using letters or words. Many individual's have participated in this test and may recognize it as the test in which you must read the letters in a row on the eye chart across the room (Scheiman, Scheiman, & Whittaker, 2007).

Contrast can be defined as the degree of blackness to whiteness of a target or the luminance level of an object when compared with the luminance of its surrounding background. Contrast sensitivity refers to how well someone is able to see larger low-contrast objects. It is related to visual acuity, however, testing for contrast sensitivity provides information that tells about the quality of a person's available vision.

Visual perception is the ability to interpret information from visible light that reaches the eye. What is being perceived is also known as eyesight or vision (Scheiman, et al., 2007).

Visual field is the field of view of the external world that is viewed by both eyes without turning the head. In your visual field you have central vision and peripheral vision.

Central vision is simply straight-ahead vision. Central vision allows a person to read, drive, and perform other activities that require fine, sharp, straight-ahead vision. It includes everything you are able to see directly in front of you (Scheiman, et al. 2007).

Peripheral vision is simply side vision. The ability to see objects and movement outside of the direct line of vision. It includes everything that can be seen "in the corner of your eye" when looking straight ahead (Scheiman, et al., 2007).

Normal Age-Related Visual Changes

- Presbyopia
- Decreased light/dark adaptation
- Decreased contrast sensitivity
- Color is not as vivid
- Increased sensitivity to glare

(Stuen & Faye, 2003)

Every individual will experience age related visual changes. At about age 40-50 **presbyopia**, which is the inability to focus on close objects, will often occur. Presbyopia makes tasks such as reading more difficult; however, can be corrected with glasses. The pupil of the eye becomes smaller with age causing less light to enter the eye. Thus, requiring more optimal light to perform everyday tasks. Older adults will also have a decreased ability adjusting to **light/dark adaptations** making it difficult to see at night. Generally, older adults will have a **deceased contrast sensitivity** to discriminate between two objects caused by retinal changes. **Colors are also not as vivid** and can look faded. Many of these changes can be precipitated by **increased sensitivity to glare** (Stuen & Faye, 2003).

Age-Related Visual Changes

- Age-related macular degeneration (AMD)
- Glaucoma
- Diabetic Retinopathy
- Cataracts

Four common age related vision changes are age-related macular degeneration, glaucoma, diabetic retinopathy, and cataracts.

Age-Related Macular Degeneration

- Loss of central vision
- Can result in loss of visual acuity and contrast sensitivity
- Causes blurred or dark spots
- Difficulty reading, recognizing faces, driving, and mobility



(National Eye Institute, 2008;
Scheiman et al., 2007;
Rozenberg & Sperazza, 2008;
Stuen & Faye, 2003)

The leading cause of blindness among white Americans is age-related macular degeneration, accounting for 54 percent of all blindness (National Eye Institute, 2008). It is estimated that more than 1 in 10 white Americans over age 80 have vision loss from age-related macular degeneration. (National Eye Institute, 2008). This disease is characterized by the loss of central vision which is caused by fibrous scarring or atrophy of the macula (Scheiman et al., 2007). Visual acuity and contrast sensitivity are commonly impaired leading to difficulties in performing tasks such as reading, writing, recognizing faces, driving, and mobility due to distorted, blurred, or dark spots. Risk factors of macular degeneration include older age, smoking, hypertension, hyperlipidemia, ultraviolet light exposure, and a family history of macular degeneration (Rozenberg & Sperazza, 2008). Caucasians and individuals with light eye color and at increased risk for the disease (Stuen & Faye, 2003).

Activity: Simulated glasses will be passed around for participants to better understand the visual deficits of this specific eye diagnosis. They will be encouraged to look at their reading materials and the person sitting next to them, as well as to practice writing something to experience impacts of this diagnosis.

Glaucoma

- Increase in intraocular pressure
- Causes a loss of peripheral vision
- Reduction in visual field
- Problems occur when functioning in dim light, reading and writing, driving, and orientation and mobility

(Watson, 2001; Scheiman et al., 2007; Rozenberg & Sperazza, 2008; Steun & Faye, 2003, National Eye Institute, 2008)



Glaucoma is caused by an increase in intraocular pressure causing a loss of peripheral vision while the central vision is maintained. This disease is often referred to as "binocular vision". Problems can occur when functioning in dim light, reading and writing, driving, and orientation and mobility (Watson, 2001; Scheiman et al., 2007). If it goes untreated, a loss of central acuity may become evident (Rozenberg & Sperazza, 2008). Indicators of glaucoma include African ancestry, a family history of the disease, diabetes, and being nearsighted (Steun & Faye, 2003). Glaucoma is also the most common cause of blindness among Hispanics and the prevalence rises rapidly over the age of 65. Glaucoma is the most frequent cause of blindness among African Americans. It is almost three times as common in African Americans as in Caucasians (National Eye Institute, 2008).

Activity: Simulated glasses will be passed around for participants to better understand the visual deficits of this specific eye diagnosis. They will be encouraged to look at their reading materials, the person sitting next to them, as well as to open a granola bar wrapper to experience impacts of this diagnosis.

Diabetic Retinopathy

- Associated with diabetes
- Caused by retinal hemorrhages
- Leads to scattered scotomas
- Decreased visual acuity, contrast sensitivity, color perception, and dark/light adaptation
- Difficulty in dim light and sensitive to glare
- Difficulty reading, recognizing faces, mobility



(Rosenberg & Sperazza, 2008; Scheiman, et al., 2007)

Diabetic retinopathy most often develops as a complication of diabetes. Damaged blood vessels leak causing a retinal hemorrhage or bleeding that create blind spots referred to as scotomas. Individuals with diabetic retinopathy have decreased visual acuity, contrast sensitivity, color perception, and dark/light adaptation (Rosenberg & Sperazza, 2008). These individuals are also particular about lighting and are sensitive to glare (Scheiman et al., 2007). Problems will arise with tasks that require fine detail such as reading and recognizing faces, and with mobility due to the loss of depth and contrast views (Watson, 2001). Diabetes is the main factor contributing to diabetic retinopathy; African Americans, Native Americans, and persons of Hispanic origins have a higher prevalence of diabetes making them at increased risk (Steun & Faye, 2003) One in every 12 people with diabetes age 40 and older has vision-threatening diabetic retinopathy (National Eye Institute, 2008).

Activity: Simulated glasses will be passed around for participants to better understand the visual deficits of this specific eye diagnosis. They will be encouraged to look at their reading materials, the person sitting next to them, and a picture of a person to experience impacts of this diagnosis.

Cataracts

- Clouding of the lens
- Causes a decrease in the passage of light
- Results in hazy or blurred vision
- Symptoms include decreased visual acuity, color perception, contrast sensitivity, and glare disability



(Steun & Faye, 2003; Rozenberg & Sperazza, 2008; National Eye Institute, 2008)

Cataracts can be defined as a clouding of the lens; this cloudiness reduces the passage of light making everything look hazy and blurred (Steun & Faye, 2003). Symptoms of cataracts include decreased visual acuity, decreased color perception, decreased contrast sensitivity, and glare disability (Rozenberg & Sperazza, 2008). Many everyday tasks will be affected that require clear near vision such as reading and crossword puzzles. Prolonged exposure to sunlight, smoking, and alcohol consumption are all risk factors for developing cataracts (Steun & Faye, 2003). Cataract is the leading cause of low vision among all Americans, responsible for about 50 percent of all cases (National Eye Institute, 2008).

Activity: Simulated glasses will be passed around for participants to better understand the visual deficits of this specific eye diagnosis. They will be encouraged to look at their reading materials, the person sitting next to them, and look at a colored magazine to experience impacts of this diagnosis. The therapist may also choose to turn down the lights to further facilitate simulation of the experience.

Eye Disease Prevalence & Projection

	Current Estimates	2020 Projections
Age-related Macular Degeneration	1.8 million	2.9 million
Glaucoma	2.2 million	3.3 million
Diabetic Retinopathy	4.1 million	7.2 million
Cataract	20.5 million	30.1 million

(National Eye Institute, 2008)

According to the National Eye Institute (2008), the prevalence of low vision and blindness will increase markedly by 2020, due mostly to the aging population. The population represented in this chart is the number of adults 40 years and older who currently have, or are projected to have, one of these eye diseases (National Eye Institute, 2008). The projected numbers are based on 2020 United States census estimates of population increase (National Eye Institute, 2008). An estimated 57% of individuals residing in nursing homes experience significant visual impairment or are considered to be legally blind (Scilley & Owsley, 2002).

Impacts of Low Vision

- Activities of Daily Living (ADLs)
- Instrumental Activities of Daily Living (IADLs)
- Mobility
- Social interaction
- Disruptive behavior
- Psychological effects

Each of these areas will be discussed individually in the following slides with descriptions and what to do to assist individuals with low vision.

Question: What are some impacts you may have noticed on daily activities for an individual that has low vision?

Impacts: ADLs

- Bathing
- Toileting
- Dressing
- Eating
- Hygiene & Grooming

An activity of daily living, often referred to as an ADL, is an activity that is oriented toward taking care of one's own body (American Occupational Therapy Association, 2008). ADLs include all of the categories listed above, as well as others, however, we'll discuss those listed as they are the most predominantly impacted by low vision.

Activity: The participants will be asked to identify examples of low vision impacts that they have seen while working with their clients prior to discussing the impacts as a large group.

Bathing: An individual with low vision may have difficulty safely completing a transfer to or from a shower, bath, or shower chair and may display increased anxiety during such transfers due to a fear of falling. An individual may fear reaching towards his or her lower legs or feet, again due to a fear of falling, and therefore may not be able to fully clean those areas.

Toileting: Similar to bathing, again, an individual may have difficulty safely completing a transfer to or from the toilet as they may have difficulty seeing grab bars or simply the toilet itself. Again, the individual may display increased anxiety during a transfer due to a fear of falling and being unable to see when transitioning to sitting. An individual may also have difficulty locating the toilet paper dispenser.

Dressing: An individual may have difficulty with such areas of dressing as: locating appropriate clothing to wear, coordinating appropriate colored items, orienting clothing items correctly, fastening fasteners or buttons, and tying shoes.

Eating: An individual may have difficulty locating the plate, silverware, and glass. He or she may also have difficulty distinguishing between certain foods on the plate or even seeing the food on the plate altogether. It may also be difficult to scoop or pick up the food with silverware and to bring it to one's mouth without spilling.

Hygiene & grooming: An individual may have difficulty locating and identifying various grooming items. It may also be difficult for the individual to correctly utilize the grooming items. For example, activities that may be difficult include: applying toothpaste to a toothbrush, combing all areas of one's hair, accurately shaving one's face, and applying make-up.

Impacts: IADLs

- Shopping
- Meal preparation
- Home management
- Health management
- Financial management

An instrumental activity of daily living, often referred to as an IADL, is an activity oriented toward interacting with the environment and is generally complex and optional in nature (American Occupational Therapy Association, 2008). The IADL activities that we will be discussing include meal preparation, shopping, home management, health management, and financial management as they are most predominantly impacted by low vision.

Shopping: An individual with low vision may have difficulty maneuvering around a store, locating items, reading labels or prices, and correctly identifying dollar bills to purchase items.

Meal preparation: It may be difficult for an individual with low vision to locate ingredients or cooking utensils, to accurately measure ingredients, to safely maneuver the kitchen, and to recognize safety hazards such as a burner that hasn't been turned off.

Home management: An individual with low vision may not be able to clean his or her home adequately due to visual impairments. They may also be unable to recognize safety hazards throughout the home, or to appropriately remediate a safety situation.

Health management: It may be difficult for an individual with low vision to appropriately manage medical conditions, to accurately disperse medications in a medication box, and to take medications as prescribed as it may be difficult to read labels.

Financial management: An individual with low vision may be unable to see well enough to write out a check, to accurately identify dollar bills, or to read a bill and pay the appropriate amount.

Impacts: Mobility

- Increased risk of falls
- Difficulty maneuvering around objects
- Difficulty seeing upcoming hazards
- Decreased balance
- Relying on other senses for body position
 - Body position refers to where one's body is located in space and how to position the body while moving
- Community mobility
 - This is the ability of an individual to maneuver throughout the community to places like businesses, parks, etc
- Feel burdensome relying on others for transportation

Visual deficits make it difficult to maneuver around objects, step up or down an incline, or to climb stairs. An individual with visual impairment may also have difficulty seeing an upcoming hazard, may overcorrect to step around what is perceived as a hazard, and may not be able to locate a source of support in the incidence of a loss of balance (La Grow, Robertson, Campbell, Clarke, & Kerse, 2006). Often, the environment in which a visually impaired person resides does not support his or her needs to safely maneuver independently to reduce the risk of fall.

Question: What are a few instances that you can think of when an individual may need assistance for mobility?

Impacts: Social Interaction

- Lack of visual cues during interactions
- Lack of understanding by others
- Difficulty recognizing faces

Visually impaired individuals value social interactions to the extent that they attempt to implement self-created strategies to cope with the effect vision loss has on his or her communication; such strategies include relying more on other senses, 'faking' one's way through an interaction, being more selective of social relationships, getting angry and expressing his or her aversive feelings, or simply letting the relationship 'go sour' (Wang & Boerner, 2008). Vision plays such an instrumental role in social relationships that it may be difficult for an individual with low vision to participate in social interaction and may cause them to participate only minimally, when necessary.

Question: Can you think of a situation in which a person "faked it" in order to preserve personal dignity?

Impacts: Disruptive Behavior

- Visual impairment can contribute to or be misinterpreted as disruptive behaviors
- Signs of vision loss can be similar to signs of cognitive impairment
 - Disorientation, wandering, failure to recognize individuals or items, difficulty maneuvering
- Behaviors may often be misinterpreted by staff
- Behaviors may increase if another deficit is present

Visual impairment among nursing home residents is a strong contributor to disruptive behaviors. Often, a nursing facility will overlook a visual impairment as contributing to such behaviors. Initially, the signs of vision loss may appear somewhat similar to those associated with cognitive impairments and may include disorientation, wandering behavior, failure to recognize familiar individuals or items, and difficulty maneuvering throughout an environment. Such behavioral displays may be misinterpreted by staff of a residential nursing facility as disruptive behavior caused by a cognitive deficit, when in actuality these behaviors are reflective of the functional limitations experienced by the resident with visual impairment. A coexistence of visual impairment with another deficit, such as cognitive impairment, would serve to increase problem behaviors. (Horowitz, 1997)

"When residents are identified as visually impaired, staff's fears about the resident's vulnerability to injury often lead to restrictions in the resident's mobility and self-care activities" (Hiatt, 1986; Hill & Harley, 1984; Rusalem, 1969 as cited in Horowitz, 1994, p.317). For example, "Woodruff et al. (1985) reported that severe vision impairment was a significant factor contributing to whether the resident was wheelchair or bedbound" (Horowitz, 1994, p.317).

Group discussion - questions posed by the lecturer to the entire group: I'd like you to think about your nursing facility and some of the residents that live there.

Are there residents with low vision that may be more restricted in certain activities by the staff? And if so, what type of restrictions do they have? Is the resident ok with these restrictions?

Impacts: Psychological Effects

- Increased risk of depression or psychological stress
 - Perceived loss of control
 - Being dependant
 - Overall decreased self-worth and self-esteem
 - Not participating in social activities
 - Loss of career or job
 - Loss of mobility
 - Poor coping strategies and acceptance

Low vision not only has an effect on the physical aspects of everyday life, but also the psychological. Approximately one-third of older adults who are visually impaired experience significant depressive symptoms (Horowitz, Reinhardt, Boerner, & Travis, 2003). Psychological stress is caused by the perceived loss of control, being dependent, and a decreased loss of self-worth and self esteem. These are all correlated to a decreased participation in social activities, decreased performance in career or loss of a job, loss of mobility and relying on other for transportation. An individual's ability to utilize healthy coping strategies and views of acceptance play a large role in the overall well-being. Not all persons with visual impairments are depressed, but most often will experience everyday frustrations and fluctuations with emotions (Teitelman & Copolillo, 2005).

Low Vision Rehabilitation

- Orientation and mobility training
- Counseling and support
- Use of low vision devices
- Use remaining vision
- Environmental modifications
- State low vision services
 - Provide low vision devices & books on audio tape

Vision rehabilitation for adults with age-related vision impairments includes: low vision clinical services; rehabilitation; orientation and mobility training; and counseling and support groups that are designed specifically to address the emotional aspects of a vision loss and to facilitate psychosocial adaptation to the disability and to provide psychological support (Stuen & Faye, 2003). Watson (2001) stated, "working with a low-vision therapist will provide an opportunity for the older adult to develop appropriate visual skills; learn the benefits, limitation and uses of low vision devices; and apply principles of color, illumination and contrast to make the environment as conducive as possible to the use of remaining low vision" (p.322).

Barriers to Accessing Low Vision Rehab

- Poor public awareness
- Limited access
- Lack of referrals

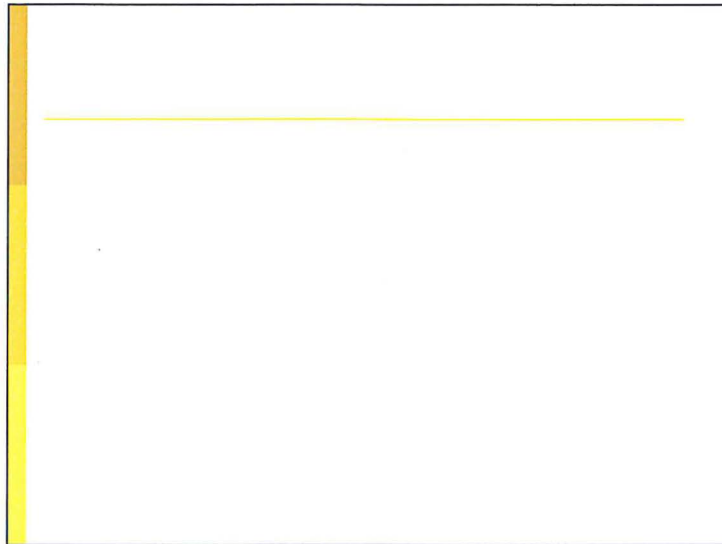
Despite the positive benefits of low vision rehabilitation, not all individuals suffering from low vision know or understand what can be done for his or her function in everyday life. In general, there is little emphasis on low vision rehabilitation that is being delivered to those in need (Markowitz, 2006). Barriers to accessing low vision rehabilitation services include poor public awareness, limited access, and lack of referrals (Nia & Markowitz, 2007).

With the increasing age of the baby boomer population, more low vision rehabilitation services and knowledge from healthcare workers will be needed to assist in enhancing everyday functional skills and to reduce the psychological effects resulting from visual impairment.

Occupational Therapy's Role

- Trained to recognize functional impacts
- Assess visual function
- Assess participation in ADLs/IADLs
- Make modifications to environment
- Provide adaptive equipment
- Address psychosocial issues
- Utilize an individual's remaining vision
- Educate and consult

An occupational therapist is trained to recognize the functional impacts caused by vision impairments and to assess visual function using various visual assessments. The occupational therapist also assesses the individual's ability to participate in areas of occupation and instrumental areas of occupation through various forms of observation, interview, and evaluation. This training also includes the ability to make modifications to the environment, provide adaptive equipment, address psychosocial issues, and utilize an individual's residual vision. Within the scope of practice, an occupational therapist can educate and consult other healthcare professionals to help meet the needs of individuals with low vision. Therapeutic assessment and intervention that is provided by an occupational therapist is adapted specifically to the individual needs of each client based on his or her desires, environment, and the tasks he or she needs to complete.



There are many signs that you can watch for or monitor to know when it is appropriate to make a referral to an occupational therapist. Individuals with low vision may often take longer when performing a morning ADL routine. There may be increased difficulty recognizing colors and reaching or distinguishing objects. A person with low vision will occasionally miss items or objects that are handed to them. Visual impairments can disrupt a person's perception causing difficulty with mobility. Perceptual problems may be indicated by an individual who is over or under stepping, bumping into objects, having a difficulty with transfer, or has an increased number of falls. Pay attention to an individual's social and leisure interests such as playing games or reading the newspaper, as vision loss can hinder participation in these meaningful activities. An individual with low vision will also have difficulty eating or seeing food on his or her plate so it is important to monitor that food or oral intake. People with low vision or who are experiencing visual changes will often complain or make comments which need to be taken note of.

Adaptive Devices for Low Vision

- Magnifiers
- Closed-circuit television
- Audio
 - Books, clocks, medication boxes, etc
- Pen lights
- Computer programs
- Large print items
 - Telephone, newspaper, books



(The presenter may have samples of some of the items to display.)

The adaptive devices listed on this slide are just a small handful of the numerous items available for individuals with low vision. Not all devices are appropriate for every individual and some individuals may not be comfortable using every type of device; because of this, occupational therapists often work closely with the client to determine which device or devices will best meet the individual's needs.

Magnifiers: There are many different sizes and magnification levels of magnifiers available which can all assist an individual with low vision to read, see labels, or identify items.

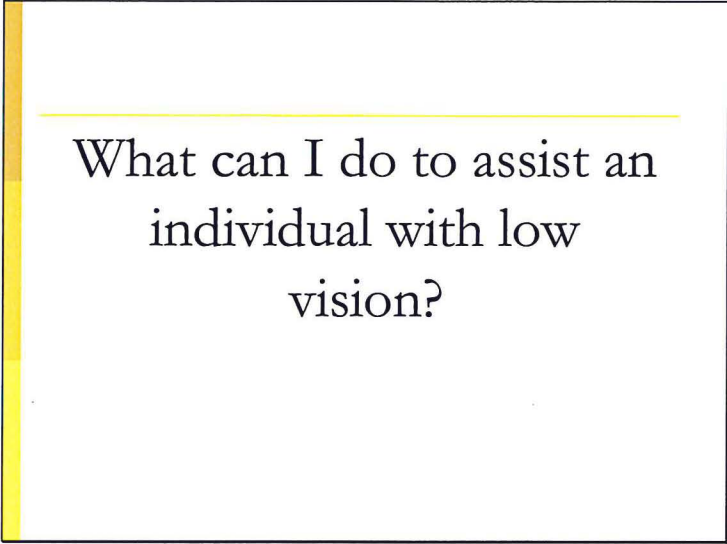
Closed-circuit television: Closed-circuit televisions contain a camera and a monitor screen. When an object is placed under the camera, it is then magnified and displayed on the monitor. A closed-circuit television can magnify an object up to 40 times magnification. Individual's with low vision often use a closed-circuit television to read and to identify items.

Audio: There are many resources available for individuals with low vision to continue to enjoy various forms of media. For example, an individual with low vision can enjoy reading by listening to an audio book or learning about the news by listening to the radio. There are also audio devices available such as a clock that speaks the time in order to further facilitate independence for individuals with low vision.

Pen lights: Pen lights are often used to assist in reading or seeing the detail of small objects by providing more intense illumination as it is often easier for an individual with low vision to see more effectively when objects are well-lit.

Computer programs: There are numerous computer programs available for individual's with low vision that have various features to assist the individual in communicating and also utilizing all aspects of a computer or the internet. These features may include, but are not limited to: voice commanded use, enlarged icons and print, or the availability of audio to read what is on the screen.

Large print items: There are numerous items available in large print to assist individuals with low vision. These may include items such as: telephones with large buttons, books in large print, and clocks with large numbers.



What can I do to assist an individual with low vision?

Group discussion/activity - The participants will be given a worksheet to fill in regarding someone they work with, what strategies they could use with that individual, and what questions they may ask the occupational therapist. Questions posed by the lecturer to the entire group: What are some things that you can think of right now that you feel you could do to assist an individual with low vision that you work with? Are there strategies that you feel you are already doing, if so, what are they?

There are many things that you can do as a staff member working with an individual with low vision to assist that individual to be as independent and successful as possible. In the following slides, we will be discussing what you can do to assist in areas such as : mobility, self-care, social interaction, IADLs, leisure, and with the psychological aspects of low vision.

Mobility

- Remove obstacles
- Describe the environment
- Adequate lighting
- Use the Sighted-Guide technique

It is important to remove all obstacles that may lead to a fall for the individual with low vision. These obstacles would include such things as: throw rugs, furniture in the center of a room, or carts left in a hallway (laundry, nursing, etc).

Describing the environment to an individual with low vision may help them to be able to orient themselves and be more independent in their own living space. Explaining things such as the location of furniture, the sounds associated with nearing the nursing station when walking, or the smells associated with nearing the dining room may assist the individual with low vision in recognizing different aspects of his or her environment and allowing safer mobility throughout.

Adequate lighting: Brighter and strategically placed lighting may improve an individual with low vision's ability to maneuver through his or her environment. The Sighted-Guide technique is also a beneficial and safe way to lead an individual with low vision.

Sighted-Guide Technique

- Walk ½ step ahead of the individual
- Let the individual grasp your arm above the elbow
- Announce when arriving at stairs, curbs, turns, doorways
- Never approach obstacles at an angle



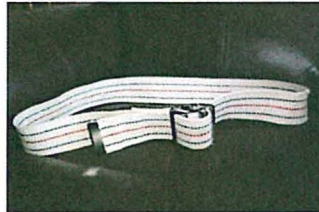
If you are leading an individual with low vision, walk approximately a half-step ahead of the individual, while letting the individual grasp your arm just above your elbow. Announce to the individual when arriving at stairs, curbs, doorways, or turns. When approaching such obstacles, explain them to the individual. For example, when approaching a turn, tell the individual which direction the turn will be. Always approach an obstacle squarely, never at an angle (CNIB, 2009).

The technique is somewhat different, however, when working with an individual that also requires use of a gait belt for safety concerns while walking. One hand must be on the back of the gait belt at all times. The individual with low vision may then grasp your free arm near the wrist so that you may assist in leading them. You will stand to the side and slightly behind the individual to ensure safety while walking, but to also be able to appropriately lead the individual. It is important with this technique to describe the environment, any approaching obstacles or turns, and the direction you will be moving as you lead the individual.

Activity: After education has been provided regarding the Sighted-Guide technique, the participants will be given the opportunity to practice the technique with a partner both with and without the use of a gait belt while one partner, the client, is either blindfolded or will use a pair of glasses that was demonstrated earlier in this presentation. Participants will then discuss as a group the benefits they may have seen to using this technique, and also how it felt as a client being led by either technique.

Transfers

- Describe the transfer first
- Let the individual feel the grab bar or transfer surface before moving
- Verbally direct the transfer step-by-step
- Use a gait belt



Describe the transfer first: Before transferring an individual with low vision, describe where they are transferring to and how they will transfer. This will allow the individual to assist further in the transfer and also to ease fear of falling.

Let the individual feel the grab bar or transfer surface before moving:

Letting the individual feel what they will be grabbing or where they will be transferring to may help to ease fear while transferring as the individual will know what to expect and will also be much more oriented to the transfer destination.

Verbally direct the transfer step-by-step: While transferring, talk with the individual about the steps they are taking. For example, count to three with the individual to initiate the transfer and tell the individual throughout where to grasp or step and when to sit.

Use a gait belt: Individual's with low vision often fear falling. Using a gait belt may allow the individual to feel as though you have a better "grasp" on them when transferring and may serve to reduce anxiety. However, a gait belt should always be used when transferring any individual as a safety measure both for the individual and for yourself.

Activity: Participants, in pairs, will demonstrate a regular transfer, without use of extra strategies, and with one acting as a staff member and the other a blind-folded client. The two participants will then demonstrate a transfer using the strategies provided. The individual that was blind-folded will then discuss whether or not they felt safer or more in control of the second transfer using the strategies versus the first transfer with no strategies.

Self-Care

- Align grooming supplies using a clock method around the individual's sink
- Use contrasting colors – toothpaste, towels
- Provide feedback



Clock method: Using the clock method to arrange grooming items around a sink can facilitate independence for an individual with low vision. With practice, the individual will remember the location of each item and be able to locate it independently. Taping a label where each item should be placed will help to maintain consistency when different staff members are assisting the individual.

Contrasting colors: Often times, it is easier for an individual with low vision to see different items if they are of contrasting colors. For example, it may be easier for an individual to more accurately squeeze toothpaste onto a toothbrush if the toothpaste is blue and the toothbrush bristles are white, rather than both the paste and the bristles being white. Other simple adjustments, such as using colored towels either laid or hung on a light surface, may make it easier for the individual to locate the items independently in the environment.

Provide feedback: To increase independence for an individual with low vision, let them attempt to complete his or her self-cares independently with your supervision. Provide feedback to assist them as they complete the self-care task. For example, if an individual is combing his or her hair and has missed combing one area of hair, provide feedback to direct the individual to comb that section of hair. Doing this allows the individual to still physically complete the self-care activity alone, only using simple verbal commands.

Social Interaction

- Identify yourself
- Use more descriptive terms when communicating
- Introduce person to others or state the names of others that are present

Identify yourself: Always state who you are when approaching an individual with low vision as they often will be unable to recognize someone visually and may not be able to connect only a voice with a name.

Use more descriptive terms when communicating: Individual's with low vision often miss visual cues such as body language and facial expressions. When talking with an individual with low vision, it may be necessary to be more descriptive to assist the individual to pick up on your emotions, attitude, and the details of the conversation.

Introduce person to others: An individual with low vision may not be able to recognize the faces of those around them. For example, when bringing the individual up to a dining room table to eat with other residents, either introduce the person to the group, or tell the individual who they are sitting with to help facilitate social interaction and comfort in social participation for the individual with low vision.

IADLs

- Puffy paint, Velcro, stickers
- Enlarged phones or baking items
- Check guides
- High contrast
- Lighting
- Jumbo pill box

There are many tools and supplies that can aid in meal preparation starting with large print recipe books, recipe card/book holders, long oven mitts for safety, boil alerts, liquid level indicator, and large-print measuring cups or spoons. Other supplies such as a ping pong ball can be used to detect when the liquid rises or simply placing your finger over the edge of the cup to feel the liquid reach the top. Again, it is always important to have adequate lighting when reading a cookbook or labels. Contrasting is another factor when preparing food. Having dark and light plates and glasses, and dark and light colored cutting boards make foods more visible. Using puffy paint, Velcro, or stickers on dials or buttons on appliances such as the stove, microwave, refrigerator, toaster, or dishwasher to control or recognize temperature or time. When using this modification, it is best to only mark the setting most frequently used or one or two settings to decrease confusion. Locating items in a pantry, cupboards, or in the refrigerator is another key when preparing a meal. Classifying or grouping cans can aid in organizing or marking with a magnetic labels or colored electric to distinguish between objects. Grouping or labeling will also help when preparing a list for grocery shopping. Paying bills or shopping requires some financial tasks such as writing checks. A check guides can be placed over the check to locate the proper place for the amount or signature. Loose change and dollars are difficult to recognize as well. Individuals form habit of placing dollar bills a specific way or folding edges, and use their touch to distinguish between coins. Doing laundry is another IADL task. Washer and dryer machines can be adapted by adding puffy paint, Velcro, or stickers to the dials to get the proper temperature and time settings. Sock holders may be used to keep paired socks together as it is difficult to match socks when clean due to the contrast. When ironing, an attachable guide can be used to decrease the risk of burns.

Telephone use is an important aspect for communication, but for safety and emergencies as well. Telephones can be purchased that have large number/letter and are high in contrast as well. Other modifications such as placing a dot of puffy paint or a sticker on the number 5 will help locate numbers on the phone when dialing.

Low vision makes it difficult for people to read medication labels. Jumbo pill boxes, a magnifying pill cutter, and a Talking Pharmacist are devices to aid in this activity (Scheiman et al., 2007).

Leisure

- Large printed books
- Audio books on tape
- Playing cards
- Bingo cards
- Crossword puzzles
- Enlarged TV remotes
- Lighting

Many leisure activities options are available to those with low vision. Even group activities in this specific setting are important to adapt for to increase or maintain an individual's participation and social interaction. Recreational and group activities can be adapted by providing large-print playing cards or bingo cards or having large-printed books or audio-taped books on hand. Crossword puzzles and other games can come in large sizes. Enlarged remotes can be purchased for those who like to catch the daily news or watch television shows. Also consider proper lighting is needed for reading or when participating in games, high contrast, and reduced glare.

Psychological

- Its OK to be sad, frightened, anxious or depressed at times
- Promote independence
- Facilitate coping strategies
 - Problem-solving
 - Appropriate sense of humor
 - Positive attitude
- Provide verbal information
- Facilitate trust

As discussed earlier, individuals with low vision may often suffer from symptoms of depression. It is important to recognize those signs, but to not assume a diagnosis of depression. It is important to let the individual know that it is normal to be sad, frightened, and depressed; there are others experiencing the same difficulties as you; and there is hope in achieving everyday occupations at a functional level (Brown, 1997). As **independence** is a large factor in psychosocial well-being, making modifications and adaptation for that individual will help him or her restore the feelings of control, self-worth, and self-esteem. **Positive coping strategies** that are helpful for some individuals with visual impairment include a "sense of mastery" with the use of internal resources such as problem solving, sense of humor, positive attitude, and the external environment for support (Turner and Wood 1985; Kleinshmidt 1999, as cited in Teitelman & Copolillo, 2005). Other strategies that have an impact on psychological wellness include engaging in meaningful activities, spirituality, and contributing to the society (Teitelman & Copolillo, 2005). **Providing verbal information** and **facilitating trust** can also improve the psychological wellbeing of an individual with low vision. Creating and maintaining a trusting relationship with the individual will provide them with a sense of support and understanding. Trust is also a large component in allowing the individual to feel competent and comfortable using new techniques and allowing you to lead them through their environment.

General Reminders

- Be patient
- Be consistent
- Always explain yourself
- Safety

These are a few important general reminders to remember when working with an individual with low vision to facilitate his or her independence, and to help develop an effective and respectful staff-client relationship.

Be patient: It will take plenty of time and practice for an individual with low vision to become accustomed to his or her environment, to living with low vision, and to learn and remember specific techniques. Be patient when reminding them of the location of his or her items or aspects of the environment and when assisting with daily living tasks.

Be consistent: When arranging items in a clock method or arranging items in the individual's room, be consistent. Always place the items in the same spot and remind the individual of its location. When describing something to an individual with low vision, consistently use the same descriptive terms to assist the individual in remembering the information. Marking the placement of an item with a label may assist in maintaining consistency between different staff members that may be helping the same individual.

Always explain yourself: Always remember to fully explain every situation to an individual with low vision, unless the individual has asked you otherwise. If you are bringing the individual somewhere, explain the environment and location of the destination. If assisting the individual with a daily living task, always explain what you are doing to ensure the individual is comfortable, understands what you are doing, and can assist in any way possible. It is also very important to remember to speak when entering the individual's room. Remember to knock, state who you are and why you are there, because an individual with low vision often cannot see you enter their room and will not know your purpose there.

Safety: As a general concern with any individual you may be working with, it is important to remember safety techniques to avoid accidental falls or endangerment to yourself or the individual with low vision. Such techniques may include: always using a gait belt, locking wheelchair or walker brakes, asking for assistance from another staff member when necessary, and paying attention to the concerns of the individual.

Tool Kit

- Puffy paint
- Velcro/puffy dot
- Colored tape
- Stickers
- Tinted glasses
- Magnifiers
- Deck of enlarged playing cards
- Enlarged crosswords/word-finds

Tool kits can be easily made to have available at your facility to help make these modifications for an individual with low vision. Items that you could include in your tool kit are: puffy paint, velcro/puffy dots, colored tape, stickers, tinted glasses, magnifiers, a deck of enlarged cards, and enlarged crosswords or wordfinds. The presenters will have a sample tool kit available with all of the supplies.

Summary

- Four major visual conditions
- Areas low vision impacts and those you can assist with:
 - Activities of Daily Living (ADLs)
 - Instrumental Activities of Daily Living (IADLs)
 - Mobility
 - Social interaction
 - Leisure
 - Psychological effects

In summary, there are four major visual conditions that were discussed in this presentation.

Question: What are the names of these four conditions?

Throughout this presentation, the impacts of low vision were discussed and how, specifically, it effects each of these areas. The overall theme regarding how low vision impacts an individual's ability to perform is that low vision effects one's ability to be independent and to feel successful. Fortunately, as discussed throughout this presentation, there are numerous simple, yet effective strategies and techniques that you, as a caregiver, can use to assist an individual with low vision. Hopefully you now feel much more prepared, equipped, and confident to facilitate the independence of the individuals with low vision that you work with.

Are there any questions?

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CHAPTER V

SUMMARY

The product presented within the preceding Chapter is an educational inservice for healthcare employees who care for individuals with low vision. It consists of a Microsoft® PowerPoint® presentation containing slides viewable to the audience, lecture notes for the presenter, learning activities, occupational therapy referral information, and a low vision tool kit. This presentation is intended for healthcare workers, specifically CNAs, who work with individuals who have low vision either in an assisted living facility or a long-term care facility. It is also intended to educate such workers on low vision and implications for occupational performance, as well as to provide supportive and adaptive strategies that may be implemented while working with an individual with low vision. It is also intended to help healthcare workers become more aware of visual impairments experienced by the elderly as well as how to facilitate healthy, successful participation in life tasks such as utilizing adaptive equipment to increase independence. Increased knowledge of techniques and strategies that can be implemented when working with elderly individuals with low vision can, in turn, improve their quality of life.

The product is designed to be implemented as an inservice in either assisted living or long-term care facilities to healthcare workers employed there. It is recommended that the inservice be presented by an occupational therapist to CNAs who work at the facility and care for, or may care for, individuals with low vision. This recommendation is made to ensure that all healthcare workers receive the information necessary to provide the

most effective and supportive care available in order to facilitate independence and improve quality of life for an individual with low vision. This product has strength in providing applicable information to CNAs that is not received during typical nursing assistant training but is valuable in providing appropriate care.

This product would be most beneficial when presented by a licensed occupational therapist that has adequate training in order to provide the most knowledgeable learning experience and most appropriate strategies to the healthcare workers. An entry-level occupational therapist would have the adequate knowledge to present this information; however, there are continuing education sessions specifically related to low vision that would increase a therapists competency on this topic. The outcomes of this product will be measured by surveying the involved healthcare workers regarding the content of the inservice. The occupational therapist presenting the inservice can modify the content based on the results of the survey. In the future a survey could be implemented after the CNA has received this education to evaluate feelings of competency and to also review whether improvements have been made concerning the level of independence or quality of life experienced by an individual with low vision.

Prospective expansions of this product could include further topics, information, and educational experiences. For instance, information on the development and implementation of sequential training sessions providing more demonstrative and experiential learning opportunities regarding adaptive strategies or techniques could be included. This would be beneficial in providing the healthcare workers with the most effective learning opportunity in order to better generalize the information to the individuals in which he or she cares for.

This product could also be expanded to include information regarding more visual diagnoses other than the four most common seen in older adults or expanded information on those already discussed. Providing this information may allow the healthcare workers to become more supportive of an individual with low vision by being aware of the various aspects of the diagnosis. The healthcare workers may also be better able to determine which adaptive strategies may best suit the needs of the individual with low vision when provided additional education regarding typical onset, symptoms, and effects of each visual impairment.

The product could also explore the needs and experiences of actual individuals diagnosed with a visual impairment. Additional group discussion sessions, containing both healthcare workers and individuals with low vision, may be implemented in which persons with a visual impairment could describe his or her experience and provide the opportunity for questions engaged between members of the session. In doing so, the healthcare worker may be better able to be supportive and aware of the specific, individual needs of any individual with low vision.

The information in the developed inservice includes a general overview of common visual impairments, impacts of low vision, low vision aids, and strategies for adapting activities of daily living. While the presentation gives a thorough background on low vision and provides appropriate strategies to facilitate independence, there are opportunities for expansion and further development of this product, as mentioned earlier, to further the education provided to healthcare workers. In summary, low vision is an emerging area of concern for individuals residing in assisted living or long-term care

facilities and is one which requires appropriate, supportive, and adaptive strategies in order to facilitate independence and maintain quality of life.

APPENDICES

Appendix A
Inservice Worksheet

Strategies to Assist an Individual with Low Vision

Client:

Difficulties the client is experiencing:

Strategies to assist the client:

Questions to ask the occupational therapist:

****Consult with an occupational therapist to further develop strategies**

Appendix B
Outcome Measure

Feedback Form
Occupational Therapy Low Vision Inservice for Healthcare Workers

1. How would you rate the overall quality of the content? (Circle your answer)

Excellent Good Fair Poor

Comments:

2. What content, in particular, was new to you? (Check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Low vision definition | <input type="checkbox"/> Strategies to assist individuals with low vision |
| <input type="checkbox"/> Prevalence of low vision | <input type="checkbox"/> Low vision rehabilitation |
| <input type="checkbox"/> Common visual impairments | <input type="checkbox"/> Referral process |
| <input type="checkbox"/> Impacts of low vision | <input type="checkbox"/> Took kit |

3. How would you rate the overall usefulness of the content? (Circle your answer)

Excellent Good Fair Poor

Comments:

4. What content, in particular, will be most useful to you in your facility? (Check all that apply)

- | | |
|--|---|
| <input type="checkbox"/> Low vision definition | <input type="checkbox"/> Strategies to assist individuals with low vision |
| <input type="checkbox"/> Prevalence of low vision | <input type="checkbox"/> Low vision rehabilitation |
| <input type="checkbox"/> Common visual impairments | <input type="checkbox"/> Referral process |
| <input type="checkbox"/> Impacts of low vision | <input type="checkbox"/> Took kit |

5. Should the content of this inservice be expanded?

Yes ___ No ___ If yes, what content should be added?

6. Additional comments or suggestions

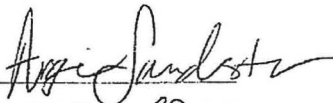
Appendix C
Photograph Consent Forms

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City: GRAND FORKS

State & Zip Code:

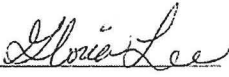
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State & Zip Code:
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Date: 3-17-09

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State & Zip Code:
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