

University of Nevada, Reno
Sanford Center for Aging/Nevada Geriatrics Education Center
Nevada Care Connection (a.k.a. SPE) Training Module
Lesson Plan

Unit: Memory & Dementia

Introduction: The Memory and Dementia lesson is designed to familiarize service providers both staff and volunteers with expected memory changes over time, types of memory, unexpected memory changes, the differences between dementia and delirium, risk factors, types of screenings/diagnostic workups, as well as knowledge of Alzheimer's Disease (AZ) and Mild Cognitive Impairment (MCI).

Learning Overview:

- (1) Trainees will participate in a session designed to teach and/or enhance knowledge of expected memory changes with age, types of memory and types of dementia and differences between dementia and delirium.
- (2) Trainees will engage in experiential exercises designed to simulate senior challenges related to dementia.
- (3) Role-playing will allow trainees to practice applying newly learned skills.

Unit Objectives: The trainee will develop and refine knowledge of expected and unexpected memory changes of older adults in order to improve interaction with seniors and their caregivers to optimize assessment of their needs. Trainees will learn the meaning of dementia, differences between dementia and delirium, AZ, MCI, risk factors, and types of screening/diagnostic workups.

Anticipated Outcomes for the Unit:

- Increase knowledge of expected/unexpected memory loss with age
- Increase knowledge of dementia, delirium, AZ, and MCI
- Understand various risk factors for AZ
- Interpret and clarify types of dementia and screening/diagnostic workups
- Understand the differences between dementia and delirium as well as diseases which cause dementia
- Enhanced sensitivity to specifics of working with seniors with dementia

Materials:

Provided by the Facilitator:

- Lesson plan handouts (one for each trainee)
 - Clipboards and pens-one set for each trainee
 - Blank applications for each program discussed
 - Plastic bag
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Activities:

- Demonstrations involving role play and guided practice
- Utilization of key words and definitions
- Practice using the Geriatric Social Readjustment Questionnaire and how it predicts life stressors in the senior population

References:

Alzheimer's Association. Training for Dignity Manual. Available at <http://www.alz.org>.

American Medical Directors Assoc. Clinical Practice Guideline: Dementia. Available at <http://www.amda.com/info/cpg/dementia.htm>.

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Chronic Care Networks for Alzheimer's Disease Initiative. Tools for early identification, assessment, and treatment for people with Alzheimer's disease and dementia.

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Cummings, J.L. et al. Guidelines for managing Alzheimer's disease: Part I. Assessment. Am Fam Physician. 2002;65:2263-2272.

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Hazzard, et al, Principles of Geriatric Medicine and Gerontology. 2nd ed.

LESSON:

Begin Lesson:

There are various types of memory: Working memory, short-term memory, long-term memory, semantic memory, episodic memory-autobiographical memory, muscle memory language-comprehension, visual spatial, calculation, executive control-frontal lobes, and self regulation-frontal lobe. Memory changes can be expected after the age of 40, however, these changes tend to be insignificant. For instance working memory declines only 10% and semantic memory, recognition & cued recall, and ability to recall concepts and meaningful information remain intact. However, unexpected memory changes can occur as a result of disease such as Alzheimer's, Pick's, and Parkinson's disease. Dementia and delirium are often concepts that are confused with each other; dementia includes irreversible loss of memory and impairment of intellectual ability of sufficient severity to interfere with social and occupational function whereas delirium includes disorganized thinking and confusion which is often reversible. Further, older adults with depression often experience memory loss. Understanding the differences between dementia, delirium and depression are important in working with older adults who may exhibit these symptoms.

Anticipatory Set:

Today we will explore the different types of memory, expected and unexpected memory loss, dementia, delirium, depression, Alzheimer's disease, symptoms, early presentation, risk factors and assessment. These topics are important when assessing older adults because:

1. Dementia is a global progressive deterioration that can result in problems with memory, thought, language, behavior, personality, and mood.
 2. Loss of memory and impairment of intellectual ability of sufficient severity to interfere with social and occupational function.
 3. Dementia can be an insidious, slow, gradual onset that results in a decline in Activities of Daily Living (ADLs), behavior, and cognition.
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Share the Objective:

During this meeting we will be discussing the following *types of memory*:

- a) **WORKING MEMORY**
- b) **SHORT-TERM MEMORY**
- c) **LONG-TERM MEMORY**
- d) **SEMANTIC MEMORY**
- e) **EPISODIC MEMORY-
AUTOBIOGRAPHICAL MEMORY**
- f) **MUSCLE MEMORY (PRAXIS)**
- g) **LANGUAGE-COMPREHENSION**
- h) **VISUAL SPATIAL SKILLS**
- i) **CALCULATION**
- j) **EXECUTIVE CONTROL-FRONTAL
LOBES**
- k) **SELF REGULATION-FRONTAL LOBE**

We will also be discussing *other factors that contribute to memory and unexpected memory loss*:

- l) **DEMENTIA**
- m) **DELIRIUM**
- n) **DEPRESSION**
- o) **DISEASE WHICH CAUSE DEMENTIA**
- i) **ALZHEIMER'S DISEASE**
- j) **RISK FACTORS OF AZ**
- k) **SCREENING/DIAGNOSTIC WORKUP**
- l) **MILD COGNITIVE IMPAIRMENT (MCI)**

Each unit will include

- Input**
- Modeling and guided practice**
- Discussion and debriefing**

Share the Handout:

- The Global Deterioration Scale will be used to assess memory loss in older adults.
 - The Mini-Mental Status Exam will be used to assess cognitive ability in older adults.
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Input:

a. TYPES OF MEMORY

Working Memory: The working memory in an individual is their capacity to retain 1-8 words or numbers at a time.

Short-Term Memory: The short-term memory is the holding area for recently acquired information. This type of memory has limited capacity, but if repeated and organized can be filed in an individual's long-term and semantic memory.

Long-Term Memory: The long-term memory is the holding area for long-term information and has a large capacity.

Semantic Memory: The semantic memory works to store long-term facts, concepts, and vocabulary. The semantic memory consists of an individual's knowledge of the world.

Episodic Memory: The episodic memory is an individual's autobiographical memory for life's episodes. This type of memory consists of memories made within a content of time and place.

Muscle Memory (Praxis): The muscle memory consists of movement without conscious thought.

Visual Spatial Skills: a set of mental processes that allow us to perceive, interpret, and act on visual stimuli in our environment. "Visual" refers to environmental information that we take in through our eyes. "Spatial" refers to where things are in three-dimensional space. Visual-spatial information not only tells us what the surrounding environment looks like, it also guides our movements in the environment.

People with Visual-Spatial deficits may exhibit:

- **Poor judgment of depth and distance**
- **Inattention to visual-spatial information**
- **Visual-spatial neglect**
- **Difficulty finding objects in cluttered environments**
- **Difficulty recognizing printed letters or words**
- **Difficulty recognizing numbers or other symbols**
- **Difficulty recognizing familiar objects or faces**
- **Difficulty navigating in familiar or unfamiliar environments**

Strategies for managing visual-spatial deficits include:

- **Recognizing the Problem**
- **Practice – Lots of Practice**
- **Reduce Clutter**
- **Simple Décor is Best**
- **Organize Your Environment and Keep it Constant**
- **Use Your Sense of Touch**
- **Use Language to Guide You**

Calculation: This type of memory works with calculations, such as balancing a checkbook or computing tips.

Executive Control – Frontal Lobe: This type of memory works with reasoning, judgment, abstract thinking, focusing, and personality.

Self-Regulation – Frontal Lobe: This type of memory determines socially appropriate behavior. This would also include controlling oneself over impulse and temper, as well as sexual modesty.

b. DEMENTIA

Dementia is a global progressive deterioration, which includes problems in one's memory, thought, language, behavior, personality, and mood. The loss of memory and impairment of intellectual ability, interferes with an individual's social and occupational functioning. The memory loss associated with Dementia has a slow, gradual onset which results in a decline in activities of daily living (ADLs), behavior, and cognition.

Dementia is memory loss plus one or more of the following cognitive difficulties:

- Disorientation
- Disturbed executive functioning
- Aphasia (language disturbance)
- Apraxia (skilled movement disturbance)
- Agnosia (disturbance in recognition)
- Impaired attention and concentration
- Change from baseline function not attributable to other cause

c. DELIRIUM

Delirium is an acute confusional state characterized by recent onset, fluctuating over days, and wandering attention span. Delirium has a rapid onset, from hours to days. It is further characterized as an impaired ability to maintain attention to external stimuli, being easily distracted, and in difficulty shifting attention to new external stimuli. It is often reversible.

d. DEPRESSION

Memory loss is a prominent feature in older adults with depression. Characteristics of this might include dysphoric mood, loss of interest or pleasure in usual activities, and decreased concentration. Other warning signs might consist of loss of appetite, loss of weight, decreased energy, sleep disturbances, feelings of worthlessness, and suicidal ideations.

e. DISEASES WHICH CAUSE DEMENTIA

The following diseases contribute to an individual developing dementia:

- Alzheimer's Disease
- Pick's Disease
- Jakob Creutzfeld Disease (prion, Mad Cow)
- Frontotemporal Dementia
- Parkinson's Disease
- Huntington's Chorea
- Lewey Body Dementia
- Progressive Supranuclear Palsy
- Vascular Dementia (multi-infarct)
- AIDS
- Etc.

f. ALZHEIMER'S DISEASE

Alzheimer's Disease accounts for approximately 70% of dementias. Alzheimer's Disease is a progressive degenerative brain disease with development of neuritic plaques and neurofibrillary tangles resulting in brain cell loss and depletion of neurotransmitters. This disease has a gradual onset ranging from 2 – 20 years. The most frequent symptoms of Alzheimer's Disease is memory loss, impaired reasoning, language deficits, impaired orientation, and overall poor comprehension. There are four stages of Alzheimer's Disease:

- Stage I:** Early Presentation
- Stage II:** Moderate Functional Decline
- Stage III:** Signif. Cognitive/Functional Decline
- Stage IV:** Total Dependency

The common characteristics associated with the **first stage** of Alzheimer's Disease include the early presentation of decline. This may include an misplacing/losing items, making repetitive requests, driving and financial difficulties, depression, poor nutrition, irritability, and increased confusion and anxiety.

The **second stage** of Alzheimer's Disease include the individual experiencing a moderate functional decline. Characteristics in this stage may include obvious deficits in memory, retention, recall, judgment, and planning. Individuals in this stage may also experience feelings of being disoriented, delusional, confused, and an inability to initiate and/or complete normal routines. Individuals at this stage may be resentful and angry towards interferences from others. Recommended interventions at this stage include: simplify, set up, supervise, reassure, allow time, rest, and visual cues.

In the **third stage** of Alzheimer's Disease, an individual may be experiencing more significant cognitive and functional decline. This may include one being disoriented to place, person, and self, as well as marked decline in motor abilities. Other characteristics an individual may be experiencing during this stage include presenting as confused, restless, aggressive, immodesty, and overly dependent. Recommended interventions at this stage of Alzheimer's Disease include: simplify environment, communications, assist, cue, distract, and redirect.

In the **fourth stage** of Alzheimer's Disease, an individual may become totally dependent for their needs. Characteristics at this stage may include, incontinence, Ataxia, hallucinations, and restlessness. Persons at this stage may also be at a higher risk for infection and injury. The recommended interventions at this stage would be to focus on compassionate and comfort care for the individual, as well as providing them with pleasant stimuli and assisting them in their everyday activities of daily living.

g. RISK FACTORS OF ALZHEIMER'S DISEASE

The risk factors associated with Alzheimer's Disease may include:

- Genetic predisposition
- History of heady injury
- Down's Syndrome
- Gender (Female)
- Stroke/heart disease

Strategies to reduce one's risk of developing Alzheimer's Disease include treating vascular diseases, Hypertension, elevated cholesterol, and homocysteine levels. Other preventative measures include working to prevent or treat diabetes, increase one's mental and physical activity, and being socially connected. Also diets high in Vitamin C, Vitamin E, Omega 3 fatty acids, and antioxidants such as Ginko biloba have been shown to reduce the risk of Alzheimer's disease

h. SCREENING/DIAGNOSTIC WORKUP

In order to identify those persons at-risk for developing dementia, service providers must be able to properly assess their clients. This may include looking closely at those clients that are 65 years and older, those clients presenting with early warning signs, as well as those under the age of 65 who have a history of head injuries, depression, and/or stroke. This information may be obtained through the interview process, where all medical and psychiatric histories are explored. A person's cognitive and functional status, as well as their driving abilities should also be assessed.

Current treatment recommendations for those persons with dementia include:

- Cognitive enhancers (ChEI's) Aricept, Exelon, Razadyne, and Namenda to help maintain memory and cognitive skills.
- Symptom management-agitation, depression, delusions, and hallucinations.
- Vitamin E to slow decline
- Phosphatidyl Serine (PS)-increases cognitive function
- Supportive services and planning for future
- Family Education
- Behavioral interventions
- Activities/Art

i. MILD COGNITIVE IMPAIRMENT (MCI)

Persons with Mild Cognitive Impairment (MCI), include those persons who are memory impaired by report and by testing but otherwise functioning well with normal judgment, perception, and reasoning skills and do not meet the clinical criteria for dementia. Individuals with

MCI should be identified and monitored for cognitive and functional decline due to their increased risk for subsequent dementia. However, there are currently no recommended treatments for persons with MCI.

Activities:

- Discuss experiences you have had with persons with dementia with emphasis on their emotions.
- Who are the people with dementia? Inquire about their culture, heritage, occupation, hobbies, favorite people/things, emotions, humor. These memories are very much alive in the demented persons mind even in later stages of illness. Find out how much you can about one patient/resident. It will enhance that person's dignity, sense of worth, and independence.
- Discuss the challenges associated with sequencing. Break down a task into steps to enable the AD patient to complete the task, i.e. how to brush teeth, how to sit down.