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TREATMENT OF PATIENTS WITH LOW-LEVEL COGNITIVE FUNCTION

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Course Description

- **This course is part two of a two part series which will provide guidance on the assessment and treatment of individuals who present with low level cognitive functioning.**
- **Course two will examine evidenced based practice methods for speech language pathologist on the treatment of patients who present with low level cognitive functioning due to new onset and progressive neurological conditions.**

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Learner Outcomes

1) Describe treatment methods which focus on residual abilities as a method for promoting functional success
2) Define methods for best practice when providing restorative and maintenance-based levels of care
3) Explain evidenced-based interventions including spaced retrieval, stimulated presence, and Montessori based approaches to care.

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Regulatory Background-Medicare

Can I provide services to individuals who present with low level cognitive functioning?

The Omnibus Budget Reconciliation Act of 1987 (OBRA '87) dramatically changed the way Skilled Nursing Facilities (SNFs) approached resident care, radically modifying nursing home regulations and the survey process.

- The federal government established a requirement for comprehensive assessment as the foundation for planning and delivering care to nursing home residents.
- Mandated that facilities "provide necessary care and services to help each resident attain or maintain their highest practicable physical, mental, and psychosocial well-being." and "ensure that the resident obtains optimal improvement or does not deteriorate within the limits of a resident's right to refuse treatment, and within the limits of recognized pathology and the normal aging process."

Source: Code of Federal Regulations [CFR] Title 42, Part 483.25

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Regulatory Background-Medicare

Chronic Conditions- Can I assess and treat?

- *Rehabilitative* therapy may be needed, and improvement in a patient's condition may occur, even *when* a chronic, *progressive, degenerative,* or terminal condition exists.
- For example, a terminally ill patient may begin to exhibit self-care, mobility, and/or safety dependence requiring skilled therapy services. The fact that full or partial recovery is not possible does not necessarily mean that skilled therapy is not needed to improve the patient's condition *or to maximize his/her functional abilities.*
- The deciding factors are always whether the services are considered reasonable, effective treatments for the patient's condition and require the skills of a therapist, or whether they can be safely and effectively carried out by non-skilled personnel.

Source: Medicare Benefit Policy Manual Chapter 15

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Determining Skilled Need

- Evidenced Based Practice
- Complexity and Sophistication
- Medical Diagnoses
- Individualized Frequency and Duration

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POC- Restoring Function

- *Rehabilitative/Restorative therapy includes services designed to address recovery or improvement in function and, when possible,* ***restoration to a previous level of health and well-being (i.e. PLOF)****.*
- *Plan should describe objective measurements which, when compared, show improvements in function, decrease in severity or rationalization for an optimistic outlook to justify continued treatment.*

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POC-Maintaining Function

- *MAINTENANCE PROGRAM (MP) means a program established by a therapist that consists of activities and/or mechanisms that will assist a beneficiary in maximizing or maintaining the progress he or she has made during therapy or to prevent or slow further deterioration due to a disease or illness.*
- *Samples: Establishing POC to improve attention to task at meals with development of functional dining programs; establishing a POC for improved environmental awareness via use of signage*

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CLINICAL CATEGORIES
STROKE, TBI, AND DEMENTIA

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Stroke Guidelines

American Heart Association and American Stroke Association

(1) **The Rehabilitation Program**, which includes system-level sections (eg, organization, levels of care)
(2) **Prevention and Medical Management** of Comorbidities, in which reference is made to other published guidelines (eg, hypertension)
(3) **Assessment**, focused on the body function/structure level of the *International Classification of Functioning, Disability, and Health* (*ICF*)
(4) **Sensorimotor Impairments and Activities** (treatment/interventions), focused on the activity level of the *ICF*; and
(5) **Transitions in Care and Community Rehabilitation**, focused primarily on the participation level of the *ICF*.

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Stroke as a CHRONIC Condition

- Stroke is fundamentally a chronic condition
- The end of formal rehabilitation (commonly by 3–4 months after stroke) should not mean the end of the restorative process.
- Prior approaches have managed stroke medically as a temporary or transient condition instead of a chronic condition that warrants monitoring after the acute event.
- Currently, unmet needs persist in many domains, including social reintegration, health-related quality of life, maintenance of activity, and self-efficacy (i.e, belief in one's capability to carry out a behavior). Apathy is manifested in >50% of survivors at 1 year after stroke; fatigue is a common and debilitating symptom in chronic stroke; daily physical activity of community-living stroke survivors is low; and depressive symptomology is high.
- By 4 years after onset, >30% of stroke survivors report persistent participation restrictions (eg, difficulty with autonomy, engagement, or full filling societal roles)

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The Statistics

- Between 2000-2010 the relative rate of stroke deaths dropped by 35.8%
- Every year stroke still affects nearly 800,000 individuals with survivors experiencing persistent difficulty with daily tasks.
- More than 2/3rds of stroke survivors receive rehab services following their acute care stay
- Considering the setting after the acute hospitalization, the largest proportion of stroke patients are referred for rehabilitation to an SNF (32%), followed by an IRF (22%) and then HHCA (15%).
- There is strong evidence that organized, interprofessional stroke care not only reduces mortality rates and the likelihood of institutional care and long-term disability but also enhances recovery and increases independence in ADLs.

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Strokes: Where is care provided?

Appendix 1. Structure and Organization of Stroke Rehabilitation Care in the United States			
Setting	Admission	Median Length of Stay	Specialist Involvement
Acute inpatient facility (hospital)	Near onset	4 d for ischemic stroke 7 d for hemorrhagic stroke	Major: MD, RN More limited: OT, PT, SLT, SW
IRF	5–7 d	15 d (range, 8–30 d)	Major: MD, RN, OT, PT, SLT More limited: SW
SNF	5–7 d	Highly variable (maximum, 100 d)	Major: LPN/LVN, NA, OT, PT, SLT More limited: MD, RN
Long-term care (nursing home)	Highly variable	Prolonged and highly variable	Major: LPN/LVN, NA More limited: RN, OT, PT, SLT, MD
Long-term care hospital	Variable	25-d average (required)	Major: RN, MD More limited: OT, PT, SLT
HHCA	Variable (typically 5–30 d)	Maximum 60-d episode	Major: NA, RN More limited: OT, PT, SLT, MD
Outpatient of ce	Variable (typically 5–30 d)	Variable	Major: OT, PT, SLT, MD

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Aphasia: ASHA Evidence Maps

- Aphasia Intervention is designed to (WHO):
  - Capitalize on strengths and address weaknesses related to underlying structures and functions that affect communication across partners, activities, and settings;
  - Facilitate the individual's activities and participation by
    - (a) teaching new skills and compensatory strategies to both the individual with aphasia and his or her partner(s) and
    - (b) incorporating AAC strategies if appropriate; and
  - Modify contextual factors that serve as barriers and enhance those that facilitate successful communication and participation, including accommodations such as large print, pictures, and aphasia-friendly formatting to support comprehension of written health materials (e.g., Rose, Worrall, & McKenna, 2003; Rose, Worrall, Hickson, & Hoffman, 2011).
  - http://www.asha.org/Practice-Portal/Clinical-Topics/Aphasia/

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TBI: ASHA Evidence Maps

- Treatment of individuals with TBI is individualized and typically considers the influence of
  - The complex relationship between cognitive domains (e.g., an individual with short-term memory impairments who is unable to recall names may also have attention deficits that negatively influence this individual's ability to attend to and encode newly presented information);
  - Fatigue and limited physical endurance impacting duration of participation in treatment;
  - Personal and contextual factors, such as the individual's age, education, premorbid status, social history, present social context, cultural and linguistic background, and vocational status (current or premorbid);
  - Physical, sensory, and neurobehavioral sequelae of TBI, especially in the acute phase of recovery;
  - Poor insight into deficits (anosagnosia) and executive function impairments that may negatively influence recognition of breakdowns in function, buy-in to potential benefits of treatment, and adherence to specific recommendations (for example, individuals may fail to follow swallow safety guidelines, wear hearing assistive technology, or follow safety recommendations).
  - http://www.asha.org/PRPSpecificTopic.aspx?folderid=8589935337&section=Treatment

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TBI/Stroke: Sensory Stimulation

- **Sensory Stimulation**
- Also known as coma stimulation
- Includes sensory stimulation is the systematic exposure of an individual in a comatose, vegetative, or minimally conscious state to a variety of environmental stimuli (visual, auditory, tactile, olfactory, and kinesthetic) to improve arousal/level of consciousness (Giacino, Katz, & Schiff, 2006). Coma stimulation aims to prevent sensory deprivation, which may influence recovery (Thomas, 2013) and allows for frequent monitoring of an individual's responsiveness during recovery.

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TBI: Evidence Based Approaches

- **Cognitive-Communication Treatment**
  - "Bottom-up" (training basic skills to build up to more complex processing) or
  - "Top-down" (training complex skills to strengthen underlying basic skills)
- **Compensatory Strategy Training**
  - Maximizes skills via modifying the environment and/or providing internal and external cues.
  - Focuses on residual abilities capitalizes on intact skills
  - Includes mnemonics, imagery, association and external (e.g., memory aids, PDAs, calendars) strategies.
- **Drill And Practice Training**
- **Errorless Learning**

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TBI Case Study

- Mr. Jones was admitted to your long term care community following fall in assisted living with resulting TBI. Functional impairments during assessment revealed severely reduced attention to task, impulsivity during activities of daily living and reduced short term memory limiting functional carryover of newly learned skills during physical and occupational therapy sessions.
- Which evidenced based approaches would be beneficial during his course of care?

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Active Dementia: Stage 5

Stage 5: Moderately severe cognitive decline.

- Major gaps in memory and deficits in cognitive function emerge. Assistance with day-to-day activities becomes essential.

Deficits include:

- Unable to recall important details such as their current address, their telephone number, or the name of the college or high school from which they graduated
- Confusion about where they are or about the date, day of the week, or season
- Difficulty with less challenging mental arithmetic; for example, counting backward from 40 by 4s or from 20 by 2s
- Require assistance choosing proper clothing for the season or the occasion
- Usually retain substantial knowledge about themselves and know their own name and the names of their spouse and/or children
- Usually require no assistance with eating or using the toilet

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Active Dementia: Stage 6

Stage 6: Severe cognitive decline.

- Memory difficulties continue to worsen, significant personality changes may emerge and affected individuals need extensive help with customary daily activities.

At this stage, individuals may:

- Lose most awareness of recent experiences and events as well as their surroundings
- Recollect their personal history imperfectly, although they generally recall their own name
- Occasionally forget the name of their spouse or primary caregiver but generally can distinguish familiar from unfamiliar faces
- Need help getting dressed properly; without supervision, may make such errors as putting pajamas over daytime clothes or shoes on the wrong feet
- Experience disruption of their normal sleep/waking cycle
- Need help with handling details of toileting (flushing toilet, wiping and disposing of tissue properly)
- Have increasing episodes of urinary and fecal incontinence
- Experience significant personality changes and behavioral symptoms, including suspiciousness and delusions; hallucinations (seeing or hearing things that are not really there); or compulsive, repetitive behaviors such as hand-wringing or tissue shredding
- Tend to wander and become lost

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Active Dementia: Stage 7

Stage 7: Very severe cognitive decline

- This is the final stage of the disease when individuals lose the ability to respond to their environment, the ability to speak and, ultimately, the ability to control movement.
- Frequently individuals lose their capacity for recognizable speech, although words or phrases may occasionally be altered
- Individuals need help with eating and toileting and there is general incontinence of urine
- Individuals lose the ability to walk without assistance, then the ability to sit without support, the ability to smile, and the ability to hold their head up. Reflexes become abnormal and muscles grow rigid. Swallowing is impaired.

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Residual **Abilities** Moderate Dementia

Area	Deficit	Abilities
Orientation	Decreased for time and place	Oriented to family
Memory	Decreased for current events	Can reminisce with assist; preserved habit memory
Attention	Highly distractible	Can give examples; can repeat
Sequencing	Decreased for even familiar activities	Simple tasks with assist
ADLs	Decreased IADLs, decreased dressing	Can bathe with assist; generally continent; feeds self
Cognition	Decreased word finding; decreased verbal output; scattered speech	Reads at word level; expresses need for assist; follows 2-step commands; can gesture

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Residual **Abilities** Severe Dementia

Area	Deficit	Ability
Orientation	Decreased for time, place, environment and body parts	May know name and will respond to greeting
Memory	Very poor word finding and STM	Some habit memory intact: reading, singing
Attention	Highly distracted; unable to track conversation	Will attend to pleasant stimuli (music)
Sequencing	Decreased for even familiar tasks	May carry out routine tasks with assist
ADLs	Decreased for IADLs and ADLs including late stage	Often can transfer and feed self
Cognition	Utterance appear nonsensical; decreased output (verbal) and reading comprehension	Can respond/answer basic questions and yes/no level tasks

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PROMOTING ABILITIES COMPENSATION

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Errorless Learning Procedures

Term to describe **procedures that are structured to reduce the opportunity for error**.

Includes:

Verbal Instruction Strategies

Memory Books and Wallets

Visual Cues

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Verbal Instruction Strategy

- Prompts provide specific steps to complete ADL task
  - # of steps given should be specific to abilities level
    - Mild Impairment- 3-steps
    - Moderate Impairment- 2-steps
    - Severe Impairment- 1-step
- Prompts may be delivered by Electronic Memory Aid (EMA)
  - Record directions for completion of tasks to compensate for decreased recall (memory) when skilled therapist not present in order to promote carryover outside of skilled intervention
    - Video or Audio
    - Incorporate into FMPs/RNPs during d/c planning

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Memory Books and Wallets

Memory books/wallets

- Tangible stimuli; reduce demands on word finding and recent memory
- Tap into recognition memory
- Use personally meaningful (and culturally appropriate) stimuli to evoke positive emotion, communication, and behavior
- May Include:
- Small books or albums with labeled photographs
- Can present factual information in written and picture format
- Photographs and descriptors are tailored to the individual and represent meaningful facts and events

Remember: Even in the middle to later stages, many people with dementia can respond appropriately to single written words, short phrases, and familiar pictures

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Visual Cues

Visual Cue Cards can be beneficial for:

- Signage and increasing orientation to environment
  - Key environments in room; Multiple doors; Entry Way
  - Aimed at increasing success, reducing repetitive ?'s to caregivers
- Sequencing Functional Steps for ADL tasks
  - Post at beside; in closet; on wc or rw. Be Creative!
- Recall of Important Biographical Information

KEY to assess visual field for appropriate font size and potential need for contrast

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Visual Cues- Highlighting the Environment

- Table settings must contrast with the table-cloth/table
- Chairs should contrast with floors
- Sinks and toilets must contrast with the bathroom wall/floor

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Visual Cues- Highlighting the Environment

Use **clear color contrasts** define important aspects of the environment.

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Bed Mobility and Transfers

Early Stages

- ❖Provide verbal steps in 3-steps maximum to increase ability to understand task.
- ❖Order task sequence in a consistent manner across caregivers (CNAs and Nursing Staff)
- ❖Verbally review newly learned steps for transfers when added to resident care plan often as reduced short term memory for newly learned tasks will be present

Middle Stages

- ❖Reducing noise level in environment during tasks will increase success
- ❖Break down steps for tasks into 2 steps max.
- ❖Provide written cues of steps (taking into account visual acuity)
- ❖Residents may not be able to independently complete task, however they can repeat therefore providing verbal and visual cues along with demonstrating tasks with increase success

Late Stages

- ❖Initiate tasks with a greeting
- ❖Verbalize steps 1 at a time during tasks

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Eating

All Stages:

- ○Reduce distractions in dining room environment by reducing background noise (televisions, loud music, unnecessary chatter)
- ○Promote adequate environmental lighting
- ○Serve meals at appropriate temperature

Early Stages

- ○Honor meal time preferences via providing choices as residents' will often demonstrate decreased word finding skills however have functional abilities to comprehend language at this point.

Middle Stages

- ○Many residents will be able to self-feed at this stage. Promote success by providing set up and review of tray items "Ms. Smith today we have chicken and mashed potatoes for the main course, your dessert is cherry pie and is on the left, your coffee is on the right. Would you like anything else?"

Late Stages

- ○Keep meal times consistent, Keep environment consistent.
- ○Provide verbal cues and tactile (hand to mouth) at initiation of meal to encourage independence

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Gait

All Stages

- Remember GAIT tasks are often engrained into long term memory as procedural tasks therefore abilities may be preserved into later stages. Safety awareness can be a significant concern during follow through of tasks.
- Incorporate gait tasks into functional and desirable routines for the residents versus simply saying "Lets go for a walk" say "Lets take a walk down to activities". Tie purpose to the task and make routine.

Early Stages

- For residents with high level gait abilities in early stages of dementia provide verbal review of tasks prior to initiation.
- "Mr. Jones we are going to walk to activities with your walker. Remember in order to stay safe do not let the walker get to far ahead of you and remember to watch out for other residents and wheelchairs in the hallways so we do not risk having a fall"

Middle Stages

- Provide verbal instructions at only 2-steps max.

Late Stages

- Reduce auditory distractions in environment.
- Assess room for potential environmental hazards

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Dressing

Early Stages

- Resident will be able to dress during the early stages, however loosing objects is common at this point therefore set-up of items for dressing will assist with reducing stress and frustration.

Middle Stages

- Residents during this stage may have difficulty making choices appropriate for season. In order to honor I. Provide field of 2-3 items for them to choose from. "Ms. Jones, today it is 73 degrees starting to feel like fall. Would you like to wear your red or navy blouse"
- During dressing tasks provide verbal rehearsal of tasks (keep to 3 steps at a time max) prior to initiating. "Ms. Jones **first** I need you to sit up on the side of the bed, **secondly** we will put on your shirt, **third** we will……

Late Stages

- Honor choice with reduced field choice
- Initiate and continue task with 1-step directions
- Encourage natural ROM movements

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Dementia Case Study

- You receive a referral to assess Mr. Adams secondary to progress for his dementia and resulting in refusal of care, urinating in inappropriate areas, and overall poor personal hygiene.
- Which evidenced based approaches would benefit his plan of care?

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Questions?

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