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Abilities Based Approaches to Treatment of Persons with Dementia

OccupationalTherapy.com

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Course Description

- This course will provide guidance on best practice for the treatment of persons with dementia including review of evidenced based approaches. Additionally, this course will describe methods for intervention that involve functional abilities present in order to develop person centered plans of care.
Learning Objectives

- Describe abilities based treatment procedures for individuals with cognitive impairment.
- Identify current evidenced based interventions, direct and compensatory in nature, which are aimed at improving functional abilities during IADL and ADL tasks.
- Explain methods for documenting functional progress as relates to skilled interventions provided.

Overview

- Review of Impairments & Abilities for Mild, Moderate and Severe Dementia

- Interventions to COMPENSATE for Cognitive Impairment:
  - Review of Techniques for Error Free Learning to Promote Success
  - Review of ADL task, Gait Specific Interventions
  - Interventions for Low Level

- Interventions to RESTORE/REHAB Cognitive Impairment:
  - Dual Task Interventions (High Level Cog)
  - Spaced Retrieval Therapy (Moderate to High Level Cog)
WHY Do All Therapy Disciplines Need to Intervene?

The FACTS:
There are more than 70 types of dementia, and it is estimated that of people 65 years or older, 5% have a dementia diagnosis.
In individuals 90 years or older, it is estimated that over 50% have dementia.
Globally, it is estimated that 35 million people have dementia.

Cognition on the Move:
Gait control is a complex brain process with recent reviews confirming the importance of the central nervous system to gait in non-demented older adults.
Global Cognition has been shown to longitudinally predict gait speed decline.
Poorer short-term memory and executive function has been associated with slow gait speed during simple single gait tasks, with some studies including attention and global cognition.
Early motor changes associated with aging predict cognitive decline, which suggests that a "motor signature" can be detected in pre-dementia states.

NEWS FLASH
Movement Key to Cognitive and Physical Health: Study Published on October 30, 2014

To improve cognitive function, according to a study conducted at the Institut universitaire de gériatrie de Montréal (IUGM); an institute affiliated with Université de Montréal, the key is to simply "get moving."

A news release from the Université de Montréal reports that the study compared the impact of different training methods on the cognitive functions of individuals aged 62 to 84 years old. Two groups were assigned a high-intensity aerobic and strength-training program, while a third group performed tasks that targeted gross motor activities, including coordination, balance, ball games, locomotive tasks, and flexibility.

The release notes that while the aerobics and strength-training were the only exercises that led to physical fitness improvements after 10 weeks (in terms of body composition, VO2 max, and maximum strength), all three groups exhibited equivalent improvement in cognitive performance. Subjects assigned to the third group reportedly performed activities that can easily be done at home, implying that to improve cognitive health, sedentary individuals can start by performing an activity they like.

- See more at: http://www.ptproductsonline.com/2014/10/movement-key-cognitive-physical-health-age-study/#sthash.4EK5mEfuduf
Cannot Stand Alone

Prevent “Siloing” of Your Interventions

PT
- Transfers
- Gait
- Balance

OT
- Positioning
- ADLs
- Feeding
- Hygiene

ST
- Language
- Cognition
- Dysphagia

Improve outcomes by collaborating for interventions: Physical therapy completing transfers with verbal auditory rehearsal; Occupational therapy incorporating visual signage into ADL routines; SLP including safe transfer steps into memory training.
Treating the WHOLE Person

Many of our residents present with multiple complexities including dx which affect cognitive & language functions. In order to promote carryover into the real world with interventions we must treat all areas.

Ms. Smith.
Dx: COPD; TBI; Moderate AD.
PLOF ALF

Definitions

**Expressive Language**
Ability to express wants needs and ideas
Affects ability to complete automatic speech tasks (counting, singing, stating days of week and months of year); Ability to verbalize across language domains (word, phrase, sentence, structured and spontaneous conversation)

**Receptive Language** (aka Auditory Comprehension): Ability to Comprehend Language
Affects ability to discriminate body parts, objects, and pictures; ability to follow one-step; two-step and multi-step commands; ability to respond to yes/no and open ended questions; and ability to comprehend conversational interactions

**Cognitive/Executive Functions**
Memory, Sequencing, Problem Solving, Safety Awareness
Signs of Cognitive Impairment

Increased task/cues breakdown required for sequencing during ADL/IADLs, bed mobility, transfers and gait tasks
Increased time required to respond to questions and initiate tasks
Reduced attention to task
Repetitive questions and requests for clarification on previously learned/reviewed tasks
Increased wandering, episodes of “unsafe acts”, and increased “negative behaviors”

REMEMBER: DIAGNOSIS ALONE DOES NOT DETERMINE NEED FOR SKILL

Residual Abilities Mild Dementia

<table>
<thead>
<tr>
<th>Area</th>
<th>Deficit</th>
<th>Ability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orientation</td>
<td>Decreased for time</td>
<td>Oriented to person and place</td>
</tr>
<tr>
<td>Memory</td>
<td>Decreased for recent events; misplaces objects</td>
<td>Can reminisce, preserved procedural/habit memory</td>
</tr>
<tr>
<td>Attention</td>
<td>Distractible; decreased concentration</td>
<td>Can follow 3-step commands</td>
</tr>
<tr>
<td>ADLS</td>
<td>Decreased with IADLs</td>
<td>Can bathe, feed self and dress</td>
</tr>
<tr>
<td>Sequencing</td>
<td>Difficulty with complex</td>
<td>Can order similar and familiar tasks</td>
</tr>
<tr>
<td>Cognition</td>
<td>Decreased word recall, decreased vocabulary</td>
<td>Can express needs, answer yes/no questions; comprehends language</td>
</tr>
</tbody>
</table>
### Residual Abilities Moderate Dementia

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

### Residual Abilities Severe Dementia

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

<table>
<thead>
<tr>
<th>Compensation</th>
<th>Restoration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mod to Severe Impairment</td>
<td>Mild to Moderate Impairment</td>
</tr>
<tr>
<td>Incorporate for individuals who require external or internal cues in order to be successful</td>
<td>Demonstrates stimulability to repeat tasks verbally or physically</td>
</tr>
<tr>
<td>Initiate caregiver training re: needs from SOC.</td>
<td>Evidenced Based Practice Patterns support restoration (i.e. SRT; self-cues)</td>
</tr>
</tbody>
</table>

Depending on Physical Abilities, PLOF, anticipated d/c MANY residents will fall into both categories

TIP: CONSULT with ST at SOC when making determinations

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### Rehab Therapy Defined

_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)._  

_Therefore, evaluation, re-evaluation and assessment documented in the Progress Report should describe objective measurements which, when compared, show improvements in function, decrease in severity or rationalization for an optimistic outlook to justify continued treatment._

Medicare Benefit Policy Manual Chapter 15 Section 220
Individuals with Chronic Conditions

*Rehabilitative* therapy may be needed, and improvement in a patient’s condition may occur, even when a chronic, progressive, degenerative, or terminal condition exists.

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.

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Maintenance Programs Defined

*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.*

Medicare Benefit Policy Manual Chapter 15 Section 220
Individual Therapy

- Individual Therapy
  - Therapy provided on an individual basis
  - “One on one”

Individual Therapy Example

- Mr. Weary is receiving SLP services for dysphagia. He received one on one treatment time of 30 minutes.

- MDS Record:
  - Individual Therapy= 30 minutes
  - All 30 minutes are counted toward MDS
Concurrent Therapy

- Concurrent Therapy
  - Treatment of 2 residents at the same time, when the residents are not performing the same or similar activities, regardless of payer source, both of whom must be in line-of-sight of the treating therapist for Part A.
  - When a Part A resident receives therapy that meets this definition, it is defined as concurrent therapy for the Part A resident, regardless of the payer source of the second resident.

Concurrent Therapy Example

- Tammy Therapist is treating two Part A patients. She assists Mr. A with Therapeutic Exercises in order to improve Lower Extremity strength due to knee buckling during gait. She also performs interventions with Ms. B for balance activities. She goes back and forth between the two patients. Total treatment time is 20 minutes.
- MDS Record:
  - Concurrent for each patient is 20 minutes.
  - 10 minutes is counted toward RUG.
Group Therapy

- Part A as the treatment of 4 residents, regardless of payer source, who are performing the same or similar activities.

- Part B: treatment of two patients or more, regardless of payer source, at the same time.

Group Therapy Example

- Ollie, OT, is performing a Group activity with 4 patients for cooking. While in the activity, the patients work on fine motor skills for chopping and measuring, balance activities by reaching in cabinets and cognition by ability to follow directions. The treatment for all 4 patients lasts one hour.

- MDS Record:
  - Group Therapy: 60 minutes for all four patients
  - 15 minutes are counted toward RUG score
Co-Treatment

Part A:
When two clinicians, each from a different discipline, treat one resident at the same time with different treatments, both disciplines may code the treatment session in full.

Part B
Therapists, or therapy assistants, working together as a “team” to treat one or more patients.
Cannot bill separately for the same or different service provided at the same time to the same patient.

Co Treatment Example: ST/OT
Speech and Occupational Therapy may provide co-treatment to an individual during meal time in order to yield greater meal time functional outcomes for an individual with dysphagia in addition to self feeding deficits.
Co Treatment Example PT/ST

Physical and Speech Therapy may provide co-treatment for an individual who presents with gait disturbance in addition to cognitive impairments affecting their abilities to negotiate obstacles in facility in order to yield greater functional outcomes for ability to ambulate throughout environment.
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

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
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

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 bedside; in closet; on w/c or rolling walker. Be Creative!
- Recall of Important Biographical Information

KEY to assess visual field for appropriate font size and potential need for contrast
Visual Cues - Highlighting the Environment

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

Use clear color contrasts define important aspects of the environment.
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 will increase success

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

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
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 “Let’s go for a walk,” say “Let’s 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

Dressing

Early Stages
- Resident will be able to dress during the early stages, however losing 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. Provide 2-3 items for them to choose from. “Ms. Jones, today it is 73 degrees and 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......
A **single-task** is a procedure that requires an individual to perform a single task.

A **dual-task** paradigm is a procedure that requires an individual to perform two **tasks** simultaneously.

Many **ST** baseline methods are single-tasked requiring resident to respond to a verbal task.

Many **PT and OT** baseline methods are dual-task requiring resident to perform physical task while also demonstrating cognitive skills to sequence the task.

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Single versus Dual Tasking
Cognition on the Move: Evidence Base

- Gait control is a complex brain process with recent reviews confirming the importance of the central nervous system to gait in non-demented older adults (3).
- Global cognition has been shown to longitudinally predict gait speed decline (4,5).
- Poorer short-term memory and executive function (4) has been associated with slow gait speed during simple single gait tasks, with some studies including attention (7) and global cognition (8).
- Early motor changes associated with aging predict cognitive decline, which suggests that a “motor signature” can be detected in pre-dementia states (2).

Effects of Dual Tasking

Do you see what I see?

- Speech Pathology may not immediately identify cognitive breakdowns during assessment when the resident is not directly participating in a dual task.
- Communicating functional breakdowns between team members is crucial for yielding greatest outcomes.
Treatment Planning

Promote your residents’ ability to reach full potential

- **SLP**
  - Obtain sequenced steps from PT and OT for functional tasks related to targeted ADLs and mobility to incorporate into treatment planning.

- **PT**
  - Collaborate with ST and OT regarding tips to promote resident success during dual task activities which add to cognitive load.

- **OT**
  - Collaborate with ST during treatment planning for environmental modification methods to increase success during ADLs and decrease episodes of frustration for individuals with dementia disease processes.

Assessment Findings: Creating Individualized Plan

Considerations:

REMEMBER: Medicare does not consider progress related to task breakdown alone a skilled service.

REHAB POTENTIAL: Assess benefits of Maintenance versus Restorative Interventions or BOTH. Make determinations based on space between baseline and PLOF and overall potential to return to PLOF versus need for extensive cues and assist for maintenance of abilities.

COLLABORATION: Discuss assessment findings among team members in order to review findings across a variety of tasks and environments.
Rehab Therapy Defined

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).

Therefore, evaluation, re-evaluation and assessment documented in the Progress Report should describe objective measurements which, when compared, show improvements in function, decrease in severity or rationalization for an optimistic outlook to justify continued treatment.

Medicare Benefit Policy Manual Chapter 15 Section 220

What is a Dual Task?

- Ability to carry out two competing tasks simultaneously
- Tasks require equal amounts of attention
- May include a combination of cognitive and motor tasks, two cognitive tasks and/or two motor tasks.
- Examples:
  - Ambulating in hallway while demonstrating cognitive skills to negotiate obstacles
  - Transfer from Bed – Wheelchair while reading written instructions at bedside
  - An individual with moderate cognitive impairment who desires ability to maintain independence with dressing

REMEMBER for individuals with Cognitive and Language impairment MOST daily tasks in action will be DUAL TASK
Executive Function

Definition
Cognitive process that regulates, controls, and manages other cognitive processes

Includes:
Sequencing
Problem Solving
Safety Awareness
Attention to Task - Includes ability to divide attention during ambulation

Complications: Dual Task and Executive Function

Executive Function is Decreased in Older Adults

Dual task creates conflict in which brain must divide attention and prioritize between gait function and secondary tasks

Older adults may demonstrate impaired gait performance with addition of a secondary task.

Increased age associated with decreased ability to flexibly allocate attention to gait

*****CHOOSE DUAL TASK WISELY TO NOT INCREASE RISKS*****
Benefits of Dual Task

Improvements in step length, gait speed and balance were found after dual task training in elderly patients and those with Parkinson’s Disease.

Increases transfer of skills to
Procedural/Ingrained/Long Term Memory

Skill Learning Model:
Complex skills are acquired during three phases of learning

Cognitive ---- Associative ---- Autonomous

Balance/Oral Hygiene Dual Task Example

Background: Ms. Adams presents with mildly impaired cognitive function. Occupational Therapy is targeting standing balance with desired long term outcome aimed at promoting her ability to complete morning routine with increased independence. Consult with SLP reveals decreased ability to sequence tasks for denture care.

Dual Task: Occupational therapy incorporates standing balance activities in room at sink while first tasking resident to:
1. Stand and read verbal instructions for denture care
2. Stand and verbalize steps for denture care
3. Stand and complete denture care
Spaced Retrieval Therapy (SRT)

- **Goal:** Alleviate specific problems associated with the memory impairment rather than restore memory processes or improve general memory functioning.
- **How:** Strengthening conceptual associations through repeated activation of stimulus-response pairing
- **Technique:**
  - Resident is told a piece of information then asked to recall the information repeatedly and systematically over time
  - Intervals between recall are lengthened to facilitate production of a high number of correct responses over longer periods of delay

Spaced Retrieval Benefits

- Potential Benefits for:
  - Use of calendar aide
  - Decrease in repetitive question asking
  - Improved face-name recall
  - **Improved ability to recall steps in safe transfers**

Why SRT Works?

SRT is considered to require little cognitive effort; patient may not explicitly recall the actual training sessions

SRT involves strengthening associations through stimulus-response conditioning, increasing reliance on implicit memory expression, and reducing demands on episodic and working memory
References
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doi:10.1093/gerona/glu155


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