Non-pharmacological Interventions for Dementia

The Role of the Speech-Language Pathologist and Occupational Therapist

Becky Khayum, M.S., CCC-SLP
Holistic Approach to Intervention

How do we address these common problems?

- A sense of isolation; social withdrawal
- Decreased participation in meaningful, purposeful activities
- The loss of dignity and sense of self
- Preserving independence and safety
Treatment Approaches

- **Impairment-based Approach**
  - Focuses improving individual’s weaknesses
  - Drill-based
  - Clinician-directed

- **Life-Participation Approach (Simmons-Mackie et al, 2001)**
  - “LPAA emphasizes the attainment of reengagement in life by strengthening daily participation in activities of choice.”
  - Takes advantage of individual’s strengths
  - Focuses upon functional activities that are meaningful to the individual
  - Client-directed
### Speech Therapy vs. Occupational Therapy

#### Speech-Language Pathology
- Cognitive Skills Development
  - Memory loss
- Orientation (schedule management)
- Problem Solving
  - Initiation
- Speech, Language & Auditory Processing Treatment
  - Aphasia (expressive + receptive)
    - Dysarthria/Apraxia
      - Voice
  - Treatment of Swallowing Function
    - Diet Recommendations
  - Swallow compensatory strategies

#### Occupational Therapy
- Home safety/Problem solving
- IADL’s: Increasing independence
  - Financial management
  - Use of computer, phone, TV
    - Cooking
- ADL’s: Facilitating safety and independence
  - Adaptive equipment
  - Skills for bathing, dressing, toileting
  - Functional mobility/fall prevention
  - Upper body weakness/injury
    - Fine motor skills
    - Incontinence
    - Low vision
    - Visuospatial skills
      - Attention
      - Organization
Intervention Continuum through all Stages of Alzheimer's Dementia

**Early Stages**

- Spaced Retrieval Training
- Errorless Learning
- Vanishing Cues
- Graphic Cueing Systems
- Electronic Memory Devices
- Memory Stations
- Strategies to increase initiation, organization, and sequencing
- Initiate care partner training on recommended strategies

**Middle Stages**

- Environmental modifications
- Graphic Cueing Systems
- Adaptive Equipment
- Bathing/Dressing
- Visuospatial strategies
- Communication strategies
- Managing difficult behaviors
- Increased reliance on caregiver to help implement strategies

**Late Stages**

- Communication strategies
- Graphic Cueing Systems
- Managing difficult behaviors
- Strategies to address other common problems: (swallowing, fall prevention, functional mobility, incontinence, perceptual deficits)
- Predominantly caregiver training

**Link with External Resources**
Evidence-based Strategy: Graphic Cueing Systems

Single most effective way to facilitate functional recall:

- Signs
- Written reminders
- Schedule Board
- Memory Wallet
- Memory Book
- Visual sequencing aids

The use of written or electronic aids to prompt memory has been associated with increasing:

- Prospective memory (Oriani et al. 2003)
- Positive ADL learning outcomes (Lancioni et al., 2010)
- Reduction of repetitive questions (Hopper et al., 2013)
Graphic Cueing Systems

- **Creation of Memory Station:**
  - Schedule board
  - Large display clock with date
Graphic Cueing Systems: Memory Station
Graphic Cueing System: Reminder Board

- **Oct 22**: Phone Messages
- **Oct 23**: Return calls (~15min)
- **Oct 24**: Check email
- **Oct 25**: Return emails (~15min)
- **Oct 26**: Hearing aids
- **Oct 27**: (w/1min)
- **Oct 28**: (w/1min)

- **Wait for benefits letter from Social Security (expect to get it after 10/29)**
- **Get (Moleskin) small notebook.**
Graphic Cueing System: Visual Aids
Graphic Cueing System: Visual Aid

Take Your Walker With You!
Graphic Cueing System: Visual Aid

- Push this button when finished

- Sunday:
  - 6 AM
  - 6 PM
- Monday:
  - 8 AM
  - 10 PM
- Tuesday:
  - 8 AM
  - 10 PM
- Wednesday:
  - 8 AM
  - 10 PM
- Thursday:
  - 8 AM
  - 10 PM
- Friday:
  - 8 AM
  - 10 PM
- Saturday:
  - 8 AM
  - 10 PM

- Sunday:
  - Noon
  - Bed
- Monday:
  - Noon
  - Red
- Tuesday:
  - Noon
  - Bed
- Wednesday:
  - Noon
  - Bed
- Thursday:
  - Noon
  - Bed
- Friday:
  - Noon
  - Bed
- Saturday:
  - Noon
  - Bed

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Visual Memory Aids

EAT SLOWLY

- Small bites
- Chew thoroughly

THIS IS MY DOMICILE.
Electronic Memory Aids

- Examples:
  - Large display clock with date
  - Automatic pill dispenser
  - Memory Phone
  - Object locator
Graphic Cueing Systems

Memory Wallet:
- Portable memory aid that contains important information for the individual to use during daily tasks and conversations

Memory Book:
- Contains information from both long term memory and short term memory
- Used as a reference tool to promote recall or as a meaningful activity to reduce agitation
- Work in progress
- *Must be combined with caregiver education and training to be effective (Egan et al, 2010)*
Drinks

- Decaf coffee
- Iced tea
- Diet Coke
- Martini--Hendrick’s gin
  —“up” with blue cheese olives
- Gin and tonic
Friday, March 18
10am - Dr. Smith
12pm - Lunch w/ Sue
7pm - Watch Purdue game

Tucson Vacation
Saguaro cactus
Desert + Museum
University of AZ

We are driving
to Dr. Smith’s office
Appointment: 10am

Dinner Tonight:
Bob + Shirley
Mary G.
Bill + Patrick
<table>
<thead>
<tr>
<th>Grocery List Template</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Pet Supplies</strong></td>
</tr>
<tr>
<td>- Cat litter</td>
</tr>
<tr>
<td>- Cat food</td>
</tr>
<tr>
<td><strong>Other</strong></td>
</tr>
<tr>
<td>- Cards</td>
</tr>
<tr>
<td><strong>Dairy &amp; Juices</strong></td>
</tr>
<tr>
<td>- Skim milk</td>
</tr>
<tr>
<td>- Butter</td>
</tr>
<tr>
<td>- Margarine spread</td>
</tr>
<tr>
<td>- Cheese</td>
</tr>
<tr>
<td>- Cream</td>
</tr>
<tr>
<td>- Eggs</td>
</tr>
<tr>
<td>- Orange Juice</td>
</tr>
<tr>
<td>- Tomato juice</td>
</tr>
<tr>
<td>- Broth</td>
</tr>
<tr>
<td><strong>Grilling &amp; Smoking</strong></td>
</tr>
<tr>
<td>- Cedar Boards</td>
</tr>
<tr>
<td>- Wood for smoking</td>
</tr>
<tr>
<td><strong>Pastries</strong></td>
</tr>
<tr>
<td>- Coffee cake</td>
</tr>
<tr>
<td><strong>Candy</strong></td>
</tr>
<tr>
<td>- Chocolate!</td>
</tr>
<tr>
<td><strong>Grains</strong></td>
</tr>
<tr>
<td>- Cereal</td>
</tr>
<tr>
<td>- Bread</td>
</tr>
<tr>
<td>- Hotdog buns</td>
</tr>
<tr>
<td>- Hamburger buns</td>
</tr>
<tr>
<td><strong>Meats/Seafood</strong></td>
</tr>
<tr>
<td>- Hamburger</td>
</tr>
<tr>
<td>- Steak</td>
</tr>
<tr>
<td>- Breakfast Sausage</td>
</tr>
<tr>
<td>- Bacon</td>
</tr>
<tr>
<td>- Italian Sausage</td>
</tr>
<tr>
<td>- Chicken</td>
</tr>
<tr>
<td>- Turkey</td>
</tr>
<tr>
<td>- Salmon</td>
</tr>
<tr>
<td>- Roast (&amp; vegetables)</td>
</tr>
<tr>
<td>- Corned beef brisket</td>
</tr>
<tr>
<td><strong>Stuffed:</strong></td>
</tr>
<tr>
<td>- Pork chops</td>
</tr>
<tr>
<td>- Salmon</td>
</tr>
<tr>
<td>- Chicken breasts</td>
</tr>
<tr>
<td>- Ham</td>
</tr>
<tr>
<td><strong>Frozen Foods</strong></td>
</tr>
<tr>
<td>- Vegetables</td>
</tr>
<tr>
<td>- Frozen Dinners</td>
</tr>
<tr>
<td>- Texas Toast</td>
</tr>
<tr>
<td><strong>Canned Goods</strong></td>
</tr>
<tr>
<td>- Baked beans</td>
</tr>
<tr>
<td>- Coffee</td>
</tr>
<tr>
<td>- Jam</td>
</tr>
<tr>
<td>- Tomato paste</td>
</tr>
<tr>
<td>- Peanut Butter</td>
</tr>
<tr>
<td>- Kidney beans for chili</td>
</tr>
<tr>
<td><strong>Baking Supplies</strong></td>
</tr>
<tr>
<td>- Sugar</td>
</tr>
<tr>
<td>- Flour</td>
</tr>
<tr>
<td>- Brown sugar</td>
</tr>
<tr>
<td>- Powdered sugar</td>
</tr>
<tr>
<td>- Chocolate chips</td>
</tr>
<tr>
<td>- Cocoa</td>
</tr>
<tr>
<td>- Vanilla</td>
</tr>
<tr>
<td><strong>Vegetables</strong></td>
</tr>
<tr>
<td>- Green beans</td>
</tr>
<tr>
<td>- Carrots</td>
</tr>
<tr>
<td>- Broccoli</td>
</tr>
<tr>
<td>- Cauliflower</td>
</tr>
<tr>
<td>- Peapods</td>
</tr>
<tr>
<td>- Tomatoes</td>
</tr>
<tr>
<td>- Potatoes</td>
</tr>
<tr>
<td>- Onions</td>
</tr>
<tr>
<td>- Split peas</td>
</tr>
<tr>
<td>- Cabbage</td>
</tr>
<tr>
<td>- Garlic</td>
</tr>
<tr>
<td><strong>Fruit</strong></td>
</tr>
<tr>
<td>- Oranges</td>
</tr>
<tr>
<td>- Apples</td>
</tr>
<tr>
<td>- Bananas</td>
</tr>
<tr>
<td><strong>Cleaning Supplies</strong></td>
</tr>
<tr>
<td>- Laundry Detergent</td>
</tr>
<tr>
<td>- TB Cleaner</td>
</tr>
<tr>
<td>- Glass Cleaner</td>
</tr>
<tr>
<td>- Shower spray</td>
</tr>
<tr>
<td>- Hand soap</td>
</tr>
<tr>
<td>- DW Soap</td>
</tr>
</tbody>
</table>
**Visual Sequencing Aids**

**SENDING AN EMAIL**

1. Tap Email Button

2. "Compose" Button

3. Type Email Address Here

4. Type In Your Subject

5. Type Message

**S’MORES**

- Graham Crackers
- Chocolate Bar
- 2 Marshmallows

- Put 2 Graham Crackers on Plate
- Add Chocolate Bars
- Add Marshmallows
- Place in Microwave
- Press 1, 5, Start
Visual Sequencing Aid

Salad = Lettuce + Spinach + Carrots + Celery + Tomatoes + Feta cheese
Visual Sequencing Aid: Medications

AM
- Metoprolol – 25mg ½ pill per day – white
- Clopidogrel – 75 mg/1 per day - pink
- Vitamin E – 400 iu/1 per day- gel (medium size)
- Multivitamin – 1 per day - grey
- Fish Oil – 1000 mg/2 per day – gel (big)

PM
- Crestor – 10 mg/1 per day - pink
- Enalapril – 2.5 mg/1 per day - tan
- Donepezil – 10 mg/1 per day - white
- Aspirin – 81 mg/1 per day – color varies
- Fish Oil – 1000 mg/2 per day – gel (big)
- Vitamin D – 1000 mg/1 per day – gel (small)
- Citalopram HBR – 20 mg/1 per day – pink (oblong)
Number Strategies

- Use of written aids to facilitate reading/writing of phone numbers and addresses or taking phone messages
- Written aid for TV/radio stations
- Templates for check-writing
- Tip calculator apps
Memory Book

SALZBURG, GERMANY

BEAUTIFUL ARCHITECTURE

METAL WORK

BOUGHT BBQ AT STANDS ON SIDE OF ROAD

CENTRAL ITALY

STAYED ON FARM IN MOUNTAINS - ANTONIO’S GRANDMOTHER

CHASED BY A PIG
Electronic Memory Books

Develop system of taking pictures during daily activities; integrate pictures into daily conversations

Pictures from photo stream

Story Creator App
Electronic Memory Books

Jenny's Pictures

My mother, Martha Burnett. She was a nurse.
Electronic Memory Books

My first birthday party!

My husband Joe, with our first daughter, Becky.
Electronic Memory Books

Joe's Cars

1969 GTO

1965 Corvette
Simulated Presence Treatment

Treatment focuses upon recording and re-playing videos of familiar persons or persons in position of authority (e.g., physician), to elicit desired behavior:

- Bathing
- Exercising
- Decreasing risk of elopement
- Discussing events from the past to promote engagement
Additional Strategies: Functional Recall

- **Vanishing cues**: technique in which cues or prompts are gradually faded in relation to the learning progress (Sohlberg, Ehlhardt, & Kennedy, 2005)

- **Spaced Retrieval**: the prompted recall of a target behavior response at spaced or delayed intervals (Camp & Stevens, 1990)

- **Errorless learning**: memory intervention technique where clinicians use cues or instruction to prevent or reduce the likelihood of individuals making mistakes during learning trials (Clare & Jones, 2008)
Communication Aids

- Using graphic cueing aids to increase the ability to communicate in the later stages:
  - Basic needs, presence of pain
  - Make daily choices regarding preferences (food, activities, clothing)
  - End of life decisions:
    - Pleasure feeds vs. risk of aspiration
    - Decisions regarding wills and funeral arrangements
Communication Aid

**MY ACTIVITIES**

- **EXERCISE**
- **PETS**
- **COOKING**
- **MUSIC**
- **ART**
- **OUTSIDE**
Auditory Comprehension

Training communication partners to use the following strategies:

- eliminating distractions
- simplifying sentence structure
- slowing rate
- increasing use of nonverbal cues
- use of written or picture cues
ALL STAGES:
Avoid questions or statements that rely on short term memory

<table>
<thead>
<tr>
<th>DON’T SAY:</th>
<th>DO SAY:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do you remember me?</td>
<td>Hi! I’m your physical therapist, Becky. It’s so nice to see you.</td>
</tr>
<tr>
<td>What day is it today?</td>
<td>I can’t believe it’s already Thursday!</td>
</tr>
<tr>
<td>What did you do today?</td>
<td>How’s it going?</td>
</tr>
<tr>
<td>Is that a new sweater?</td>
<td>That sweater is so pretty on you. I don’t remember it.</td>
</tr>
<tr>
<td>What did you have for lunch today?</td>
<td>How was lunch today?</td>
</tr>
</tbody>
</table>

(Strauss, C.J., 2001)
Environmental Modifications

- Lighting
- Color schemes
- Flooring
- Furniture and hangings
- Noise and sound

*ECAT- Environmental and Communication Assessment Kit (Brush, J., Calkins, M., Bruce, C., & Sanford, J., 2012)
Strategies to increase organization

To prevent misplacement of important belongings

Strategies:

- Decluttering
- Use of organizers
- Clear labeling
- Increased contrast
- Establishing location for specific items
- Vanishing cues to implement use of system
Organizational Strategies

KEYS
Adaptations for ADL’s

**Strategies for Bathing:**
- Use of adaptive equipment (e.g., shower bench, rails) to increase safety
- Wash individual’s face and hands separately
- Use dry shampoo for hair whenever possible or go to a salon for a wash and style once a week
- Give individual something to hold and focus on, such as a washcloth

**Strategies for Dressing:**
- Set out clothes that match in advance
- Provide verbal, visual, or tactile cues as needed while individual is getting dressed
- Choose clothing for ease, comfort, familiarity, color, and touch

**Strategies for Toileting:**
- Toileting schedule
- Selecting appropriate clothing that easy to remove
- Ensuring patient can locate the toilet

(Coste, J.K., 2003)
Managing Difficult Behaviors

Care Partner Training:

- Don’t reason or argue
- Redirect
- Distract
- Validate
- White Lie
- Comfort

(Coste, J.K., 2003)
**Behavior Log**

- A great tool for determining what may be triggering a challenging behavior
- Record the behavior, the time of day, exact location, description of environmental factors (odors, sights, sounds)
- Look for a pattern after a week of recording the behavior

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Example: Yelling/screaming (be as specific as possible)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BEFORE</td>
<td>BEHAVIOR</td>
</tr>
<tr>
<td>Date/Time/Location</td>
<td>What did my loved one do?</td>
</tr>
<tr>
<td>Who was there?</td>
<td></td>
</tr>
<tr>
<td>What was happening?</td>
<td></td>
</tr>
</tbody>
</table>
Strategies for Common Problems in the Later Stages

- Communication
- Swallowing
- Fall prevention
- Functional mobility
- Incontinence
- Perceptual deficits
- CARE-PARTNER TRAINING
Life Participation in the Later Stages

Use of Montessori Approaches + Graphic Cueing Aids:

- Modifying activities/hobbies individual enjoys so participation is still possible
  - Daily activities/chores around home or care community
  - Music, Art, Theater, Dancing
  - Intergenerational activities
  - Pet therapy
  - Reminiscence

Beverage cart


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