

Award-Winning Neuroscience Approach to Manage Difficult Behaviors of memory Care Residents

Learning Objectives

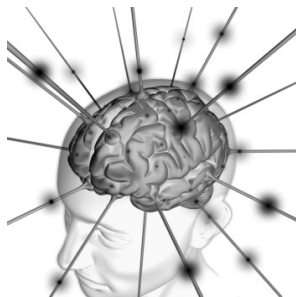
- Basic understanding of Brain function during Alzheimer's disease
- Parts of the Brain which cause difficult behaviors
- Neuroscience research to understand difficult behaviors
- Practical solutions for behavior management in Memory Care

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Root Cause of Behavior Problems

1. Boredom
2. Emotional Connection

Effect of Boredom and Emotional Disengagement on People with Alzheimer's & Dementia



Mental Stress, Agitation, and Behavior Problems

Alzheimer's/Dementia Resident Needs

1. Physical needs
2. Clinical needs
3. Emotional needs

Lack of Emotional care is the root cause of Behavior problems in Memory Care Residents

Topics of Discussion

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**Our Brain is divided into two Hemispheres:
Left Brain and Right Brain**



The left brain controls the right side of the body and the right brain controls the left side of the body.

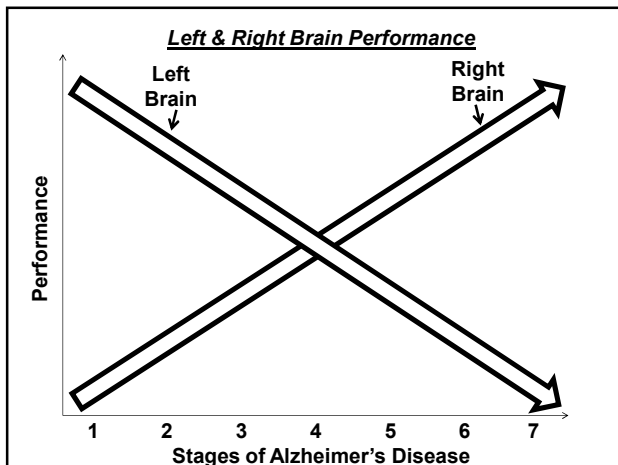
Effect of Alzheimer's Disease

- **LEFT BRAIN** begins to deteriorate significantly affecting short-term memory, language skills, and analytical skills
- **RIGHT BRAIN** stays active for much longer duration maintaining sensory functions, emotions, and feelings

Brain PET Scan of PWD



Although the Alzheimer's disease affects neurons (brain cells) in both right and left brain, the ADL functional areas in the left brain is affected more than the right brain such as short-term memory, language, logic, executive function, math skill, etc




**Emotions & Feelings of Alzheimer's and Dementia Residents
Remains High even at the Late Stage**



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Type of Difficult Behaviors

- Catastrophic Reaction (anger, crying, etc.)
- Depression and Delusion
- Hallucination
- Restlessness or agitation
- Disruption of sleep/wake cycle
- Suspiciousness
- Wandering
- Disinhibition about social behavior
- Compulsive and repetitive symptoms
- Others (sexual, shadowing, hoarding, etc.)

Behavior Actions by PWD

1. **Aggressive Behavior Actions:** hitting, kicking, pushing, scratching, tearing things, biting, spitting, cursing, throwing things, or verbal aggression
2. **Physically Non-aggressive Behavior Actions:** pacing, inappropriate dressing and undressing, trying to get to a different place, handling things inappropriately, general restlessness, repetitive mannerism
3. **Verbal/Vocal Agitated Behavior Actions:** constant request for attention, complaining, negativism, repetitious sentences, screaming

What is PWD trying to tell you?

- **Verbal/Vocal Agitated Behavior Action** is associated with discomfort, pain, or medical conditions
- **Physically Non-Aggressive Behavior Action** is looking for stimulation as opportunities for meaningful activity. He/she is getting bored.
- **Aggressive Behavior Action** is associated with feeling cold or perceived threatening situation during ADL.

In summary:

*The reason for behavior problems is the result of **UNMET NEEDS** (physical, social, or psychological) which they are unable to fulfill by themselves because of communication difficulties.*

Stage of Early Childhood

- During early childhood , the Right brain enjoyed music, games, and all the fun stuff
- This stage was fearless, uninhibited without social constraints and conditions
- It was a stage of total freedom and fun memories
- Those memories are stored in the Right Brain
- These emotional memories surface from time to time and are constantly neutralized by the "Logic" of the Left Brain

Stage of Growing Up

- During this stage the person learned how to take care of himself/herself (all ADL functions)
- He/she also learned how to live in society with social do's and don'ts.
- All the above was programmed into the Left brain which also included language
- The Right brain continued to enjoy fun stuff with limited language knowledge
- The Left brain became the Master brain and the Right brain became the Passive brain (spare tire)

Functional Development in the Brain

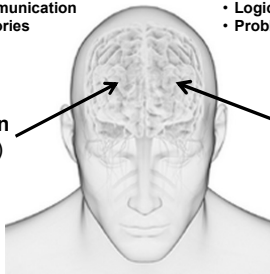
Functional Areas in The RIGHT BRAIN

- Sensory function
- Emotional connection
- Love of music & art
- Non-verbal communication
- Emotional memories

Functional Areas in The Left BRAIN

- Language & comprehension
- Short-term memory
- Math and grammar
- Logical reasoning
- Problem solving

Right Brain
(emotional)



Left Brain
(analytical)

Stage of Dementia

- All was fine for thousands of years, since our lifespan was less than 60 years
- When there was a breakthrough in science and medicine, it caused our lifespan to increase to more than 60 years.
- The human biology could not keep up with the change
- When the Alzheimer's disease attacked the Left brain, it destroyed all the knowledge and experiences of the lifetime
- The Right brain is left to manage with very little knowledge, language and ADL experience


The Action of the Right Brain

- During our life many memories which are embarrassing and fearful come up from time to time, but the logic of the left brain neutralizes it without behavior problems
- Under normal conditions the logic of the Left brain controls the behavior of the Right brain
- During dementia (Alzheimer's disease) the logic of the Left brain is destroyed and the Right brain begins to live in the past
- The Right brain begins to enjoy the fun-loving and emotional experiences of the past which is full of childlike behaviors, uninhibited, and free from social control. It also tries to re-live the past emotional memories to fulfill unmet needs.

We call it difficult behaviors

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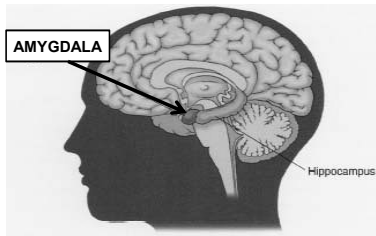
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Primary Sensory Areas of the Brain and Emotional Memory

- The primary sensory areas of the brain remains relatively untouched by the disease such as touch, smell, sight, sound and taste (except due to aging).
- Use the primary sensory areas to create positive emotional memory of pleasure and stimulation.

Amygdala in the Right Brain



Amygdala in the Right Brain acquires emotional memories through the past experiences

Right Brain Personality

- Communicates using non-verbal method
- Does not like verbal method of communication
- Enjoys sensory interaction; touch, smell, etc.
- Pessimistic towards life with negative outlook after normal daily incidence
- Suspicious about everyone and thinks others want to hurt and steal from him/her
- Sometimes conducts in an anti-social behavior
- Very sensitive to negative criticism
- Likes to be treated with patience, respect, & kindness
- Loves music, art, nature with emotional connection

Conclusion

The Quality of Life for People with Alzheimer's and Dementia will depend upon the understanding, capability and performance of the

Right Brain

Right Brain Likes:

- Emotional connection (it had liked before)
- Music and Art with emotional connection
- Touch to the left hand
- Faces and shapes and colors
- Memories from old pictures & albums
- Personalized taste and smell
- Limited conversation and words
- Short words (3-letter nouns and verbs)
- Spatial stimuli with nature

Right Brain Strongly Hates:

- Long sentences using long words
- Criticism of its action or inaction
- Activities which cause overstimulation
- Lack of emotional respect & understanding
- Long conversations and stories
- Forcing to do activities without explanation
- Explaining too many steps for a task at one time

Left Brain vs. Right Brain

- **Left brain** uses verbal method of communication
Right brain use non-verbal communication
- **Left brain** likes multi-tasking
Right brain processes single task at a time
- **Left brain** has high level of vocabulary
Right brain has limited vocabulary
- **Left brain** likes to use long words
Right brain cannot comprehend long words
- **Left brain** likes to tell long stories
Right brain hates long stories
- **Left brain** lives in the present
Right brain lives in the past

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Strategy to interact with Memory

- In Hippocampus (left brain)
- In Cortex (left and right brain)
- In Amygdala (right brain)



What does the Right Brain Like? (by priority)

1. Music with emotional connection
2. Art/video with emotional connection
3. Any activity related to nature (indoor or outdoor)
4. To re-live emotional memories when getting bored
5. Actions to get attention (like a child during early years)

Published Results of BBET Implementation*

	Improvement in 6 months
Reduction in falls	33%
Improvement in mood & behavior issues	67%
Improvement in behavior episodes	38%
Reduction in PRN medications	47%
Reduction in anti-psychotic medications	65%

*Results of an independent study conducted by Wright State University College of Engineering and published in *Long-Term Living* magazine and the *American Journal of Alzheimer's Disease & Other Dementias* (2012)

Summary of Recommendations

- When the PWD shows the agitated behavior, check the following:
 - If it is verbal or vocal behavior, then check for pain, physical discomfort or medical condition
 - If it is physically non-aggressive behavior, then provide meaningful music or video therapy, which was explained in the session
 - If it is aggressive behavior, then check whether the person is feeling cold or check for perceived threatening situation during ADL and act appropriately
- For BBET therapy use the following steps:
 1. Sit on the left side of the PWD
 2. Lightly massage the left hand or the left shoulder (3-5 minutes)
 3. Use aromatherapy (2-3 minutes)
 4. Use music or video therapy (60 minutes) from their past interests
 5. Do BBET therapy about 2-3 times a day

Questions?
