Award-Winning Program for Alzheimer's/Dementia Care

Learning Objectives

- Basic understanding of Neuroscience and Alzheimer's disease
- Parts of the brain affected by the Alzheimer's disease
- Neuroscience approach to Alzheimer's /dementia care in assisted living
- Neuroscience approach to Alzheimer's /dementia care in memory care

Behavior-Based Ergonomics Therapy (BBET) Program

Award-Winning Non-Pharmacological Program to Reduce Falls and Anti-Psychotic Medications for Alzheimer's & Dementia Residents

Dr. Govind Bharwani
Adjunct Professor
Wright State University, Dayton, OH

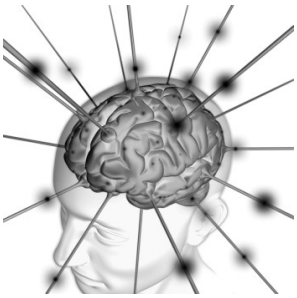
Behavior-Based Ergonomics Therapy (BBET) Program

- BBET program has been implemented in over 60 facilities in 7 states
- The BBET Program is truly a person-centered care approach which is customized to **individual** residents
- The BBET Program complements the **group** activity schedule
- The BBET Program has received **six national awards**:
  - 2011 Dorland Health Silver Crown Award for Alzheimer's Care
  - 2011 AMDA Foundation / Pfizer Quality Improvement Award
  - 2012 *Long-Term Living* Leaders of Tomorrow Award
  - 2012 LTC LINK Spirit of Innovation Award
  - 2012 OPTIMA Award by *Long-Term Living*
  - 2014 ACHCA Public Service Award

Root Cause of Behavior Problems

1. Boredom
2. Emotional Disengagement

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

There is lack of emotional care due to time, knowledge, and expertise of the staff.

BBET uses the Science of Ergonomics & Neuroscience Research to reduce Mental Stress for Residents with Alzheimer's & Dementia

BBET consists of Four Therapies in a Resource Center

- Memory Prop Box (for each resident)
- 60 Audio (Music) therapy CDs (M1 – M60)
- 60 Video therapy DVDs (D1 – D60)
- 30 Stimulating therapy items (S1 – S30)

Libraries are based on Neuroscience research

150+ tools available in the BBET Resource Center

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)*

Basic Understanding of Neuroscience and Alzheimer's Disease

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.

Left and Right Brain Areas which affect ADL Function

Left Brain controls:

- Short-Term memory
- Language skill
- Analytical skill
- Talking, reading, writing etc.
- Speech comprehension
- Verbal memories
- Math skill
- Grammar skill
- Logical reasoning

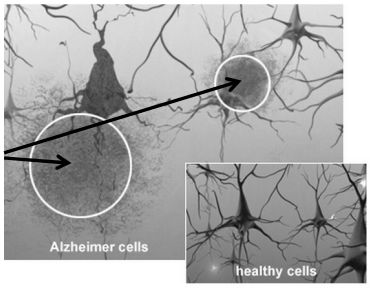
ACTIVE BRAIN

Right Brain controls:

- Perception of faces
- Emotional speech
- Singing skill
- Environmental sounds
- Comprehension of music
- Emotional memories
- Visual-spatial processing
- Geometric thinking
- Creative thinking

PASSIVE BRAIN

Alzheimer's Disease affects the active cells of the brain



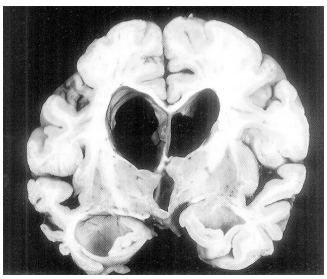
Alzheimer's disease is caused by the formation of protein build-up between nerve cells called **PLAQUES** and formation of twisted strands of proteins called **TANGLES**

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

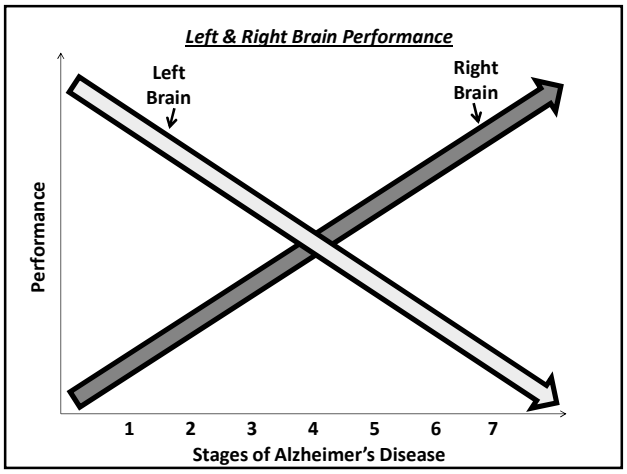
Brain PET Scan of PWD

Left Brain



Right Brain

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



Effect of Left Brain Decline

- Short-term memory declines
- Speech pattern deteriorates
- Logic and analytical skills deteriorate
- Space/time concept becomes confusing

Neuroscience Approach to Alzheimer's / Dementia Care in Assisted Living

Left-Brain Dominant Phase

Opportunities/Challenges

- PWD experiences decline of short-term memory
- PWD can communicate with some language difficulties
- PWD expresses denial and frustration
- PWD begins to hide the problem as much as possible
- PWD faces deterioration of logic and problem-solving

What should Caregivers do?

- Do not keep correcting the PWD
- Do not call attention to the memory lapses of the PWD
- Do not embarrass the PWD about use of incorrect words
- Do not argue with the PWD using your logic skills
- Do not force your help without being asked

Effect of the Right Brain Bloom

- Music and art receptivity improves
- Tactile and touch sensitivity is retained
- Smell, taste, and aroma sensitivity is retained
- Feelings and emotions are retained

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

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

Conclusion

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

Right Brain

Neuroscience Approach to Alzheimer's / Dementia Care in Memory Care

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

Right-Brain Dominant Phase

Opportunities/Challenges

- PWD begins to forget relationship link
- PWD begins to communicate using non-verbal methods
- PWD can become irritated and agitated very quickly
- PWD begins to be suspicious, pessimistic, and fearful
- PWD starts to live in the past

What should Caregiver do?

- Use Massage and Aromatherapy to calm the Right Brain
- Use Neuroscience technique to manage difficult behaviors
  (These techniques are used constantly in the BBET Program)

Major Challenge for the Caregivers

The Caregivers are LEFT BRAIN dominated taking care of the residents who are RIGHT BRAIN dominated

BBET Program uses the science of Ergonomics and Neuroscience research to train the caregivers on how to interact with the resident**s**