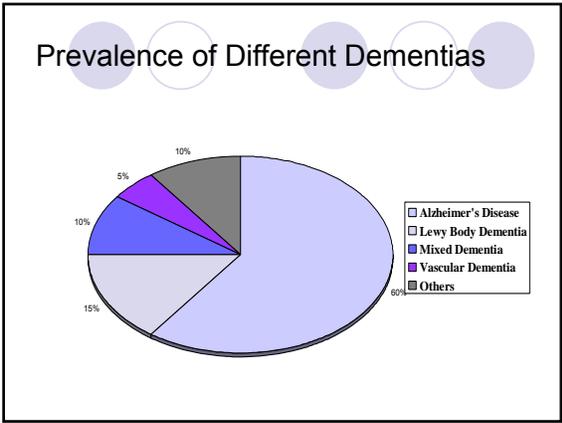


Understanding Behaviors of the Different Dementias

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Alzheimer's Disease

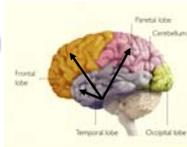
Alzheimer's Disease Subtypes

- Early (Young) onset: prior to age 65
 - 10% of total cases
 - 500,000 persons in the US
 - Strong genetic component
 - Shorter, more fulminate disease progression
- Late onset: after age 65
 - 90% of total cases
 - Genetic risk of APO- ε4 allele

Alzheimer's Disease

● Trajectory of symptoms

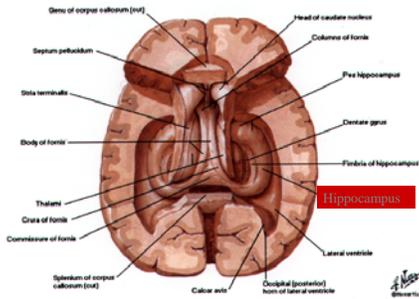
- Amnesia--loss of short-term memory
- Executive function and judgment impairment
- Aphasia--word-finding difficulty
- Apraxia--motor skills impairment: "how to do it"
- Agnosia--inability to recognize the purpose of things: "what is it"



Key Features of Alzheimer's Disease

- **Amnesia:** Difficulty learning and retaining new information
 - Damage to the Hippocampus
 - Almost always the first symptoms

Hippocampus—Seat of Memory



Key Features of Alzheimer's Disease

- **Executive Function Impairment:**
Difficulty making a plan and carrying it out;
difficulty making good decisions
 - Frontal lobe dysfunction

Key Features of Alzheimer's Disease

- **Aphasia:** Language impairment; word finding difficulties
 - Damage to the Temporal lobes
 - More prominent in some patients, less in others

Key Features of Alzheimer's Disease

- **Apraxia:** Difficulty way-finding; doing multiple step projects; disoriented to time and place; difficulty understanding the value of numbers; difficulty using tools or appliances

- Disease involving the Parietal lobe
- Patients look "demented"

Key Features of Alzheimer's Disease

- **Agnosia:** Difficulty understanding the purpose of objects; difficulty interpreting what is seen

- Late-stage symptoms
- Involves association areas & multiple brain systems

Key Behaviors of Alzheimer's Disease

- Delusions
- Misidentifications
- Depression & anxiety
- Apathy
- Wandering
- Agitation with catastrophic reactions
- Disinhibition

Lewy Body Dementia

Criteria for Diagnosis

- Central feature— **Dementia**
 - Mild memory impairment
 - Initially difficulty with memory retrieval
 - Prominent visual spatial impairment
 - Severe attentional difficulty
 - Decreased executive function & problem solving
 - Decreased verbal fluency

Criteria for Diagnosis

- Core feature— **Fluctuating cognition**
 - Variable alertness occurring over time
 - Minutes to weeks
 - Periods of daytime sleeping
 - Decreased awareness of surroundings
 - Confusion on waking
 - Variable attention
 - Disorganized speech



Criteria for Diagnosis

● Core feature– Visual hallucinations

- 80% of patients experience them
- An early symptom in most
- Colorful, detailed, vivid in nature
- Often of children, animals or patterns
- Usually don't frighten patient



Criteria for Diagnosis

● Core feature– Motor Features of Parkinsonism

- Occurs in 75% patients
- Rigidity & bradykinesia (slow movement)
 - Tremor less common
- Hypophonic speech (soft voice)
- Stooped posture
- Slow, shuffling gait



Criteria for Diagnosis

● Motor Features of Parkinsonism

- Postural instability with frequent falls
- Facial impassivity
- Loss of hand dexterity
- Small handwriting
- Poorly responsive to levodopa

Criteria for Diagnosis

- Suggestive features— REM sleep disorder
 - May be earliest sign of DLB—often by years
 - Restless limb movements
 - Bad or vivid dreams
 - Talking in sleep
 - Confusion on waking
 - Sleep walking
 - Acting out dreams



Criteria for Diagnosis

- Suggestive features— Sensitivity to antipsychotic medications
 - Especially traditional (Haldol) & atypical with D-2 blockade (Risperidol)
 - Causes severe parkinsonism with sudden rigidity, falls & global cognitive deterioration
 - Highly vulnerable to Malignant Neuroleptic Syndrome and death
 - Effects 25-60% of Lewy patients
 - Impossible to predict who will react



Criteria for Diagnosis

- Supportive features
 - Falls
 - Hallucinations of touch, smell, hearing or taste
 - Transient unresponsiveness
 - Autonomic nervous system abnormalities
 - Hypotension
 - Fainting or dizziness
 - Constipation



Criteria for Diagnosis

- Supportive features
 - Urinary incontinence or sexual impotence
 - Delusions & misidentifications
 - Depression
 - Very prominent in DLB
 - Early symptom in many
 - Responds to antidepressants
 - Anger & irritability



Common Behavioral Problems- Lewy Body Dementia

- Periods of acute confusion, “brown-outs”
- Agitation, paranoia from being told that hallucinations are unreal
- Confused about people’s identity
- Depression and irritability
- Difficulty with visual-spatial tasks- e.g. inability to find the bathroom, especially when acutely confused
- Sleep disturbance and restless legs

Vascular Cognitive Impairment & Vascular Dementia

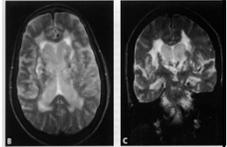
Vascular Cognitive Impairment and Vascular Dementia

- Risk factors:
 - Hypertension or prolonged hypotension
 - Heart diseases
 - Diabetes, especially Type II
 - Obesity
 - Elevated lipids
 - Smoking



Causes of Vascular Cognitive Impairment

- Multiple large strokes
- Single strategic stroke
- Hemorrhage
- Small vessel disease
 - Most common cause of VCI
 - Lacunar infarcts
 - White matter disease
- Ischemic-hypoxic dementia
 - Prolonged lack of oxygen



Vascular Cognitive Impairment

- History of vascular risk factors
- Dysexecutive syndrome
 - Goal formation and initiation of activity
 - Planning and organizing
 - Sequencing
 - Executing
 - Set-shifting
 - Self-maintenance
 - Abstraction ability

Vascular Cognitive Impairment

- Mild memory deficit
 - Less severe than AD
 - Benefits from cueing
- Mood disorders:
 - Apathy
 - Depression
 - Mood lability
 - Irritability

Vascular Dementia

- Progression of cognitive and functional impairment
 - Spotty cognitive deficits
 - Often co-existing with AD
 - Accelerates AD pathology
 - MRI evidence of stroke or white matter disease

Vascular Dementia

- Neurological Signs
 - Abnormal gait
 - Psychomotor retardation
 - Increased reflexes
 - Localized neurological signs
 - Urinary incontinence



Common Behavioral Problems- Vascular Cognitive Impairment

- Episodes of unexplained confusion
- Apathy, loss of interest in activities, social withdrawal, negativism, lack of self-confidence
- Self-neglect
- Moving and thinking slowly: Irritability and agitation when rushed
- Poor decision making
- Treatment-resistant depression, sleep disturbances, anorexia
- Perseveration

Frontal-Temporal Dementia

Symptoms of Fronto-Temporal Dementias

- Early executive dysfunction
 - Behavior/personality changes—not memory
 - Often not diagnosed or misdiagnosed
- Differential from AD
 - Early loss of insight
 - Intact visual-spatial and arithmetic skills
 - Memory not as impaired as in AD
 - Speech changes

Behavioral Features of Fronto-Temporal Dementia

- Decline in personal hygiene and grooming
- Mental rigidity, inflexibility
- Distractibility and restlessness
- Hyperorality
 - Dietary changes: craving for sweets
- Perseveration and stereotyped behavior
- Utilization behavior
- Hypersexuality

Language Disorders of Fronto-Temporal Dementia

- Economy, terseness of speech
 - Press of speech: fluent aphasia
- Stereotypy
- Echolalia
- Mutism

Dementia of Frontal-Temporal Lobe

- Other frontal lobe dementias
 - Pick's Disease
 - Primary progressive aphasia – PPA
 - Semantic dementia
 - Progressive supranuclear palsy
 - Corticobasal ganglionic degeneration – CBD
 - ALS with dementia

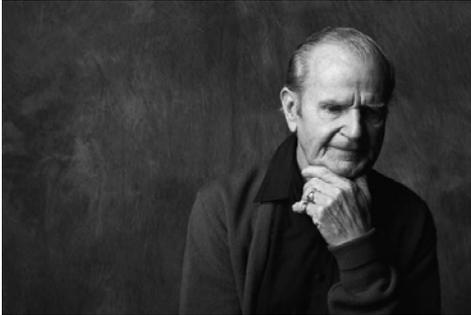
Common Behaviors of Frontal Lobe Dementia

- Poor judgment: driving, financial, relationships
- Anti-social behavior and aggression
- Lack of empathy and insight- not my problem!
- Difficulty communicating
- Perseveration
- Hyperorality and hypersexuality
- Wandering and successful elopement
- Obsessive- compulsive behavior/ hoarding

Now That You Know About the Different **Dementias**—What do you do with the Person Who Has **Behaviors from Dementia**?

Here's the Resident with Dementia Behaviors !

This is How He Views Himself



Is This How You See Him?



In your experience, what can trigger dementia behaviors?

Environmental Triggers

- Relocation
- Architectural maze
- Uncomfortable environment: (too hot/ cold, uncomfortable seating)
- Noise
- Hubbub
- Sensory stimulation: over or under
- Inadequate lighting cues
- Reflective surfaces
- Varied flooring surfaces

Physical/ Psychosocial Triggers

- Pain
- Illness: UTI, MI, CVA, Dental problems, etc.
- Medications
- Disruption of circadian rhythms
- Depression
- Boredom
- Pre-morbid personality
- Interaction with peers
- Depressed caregiver

Caregiver Interactions

- Lack of knowledge about dementia
- Lack of knowledge about the person
- Carried-over emotions from personal life
- Hurry
- Communication failures



How Can We Communicate Better with Persons with Dementia?

Is This How You Feel Working with Dementia Residents?



General Communication Principles

- Set the Stage
 - Quiet environment
 - Even bright lighting
 - Avoid strong backlights
 - Reduce clutter and distraction
 - Turn off the television!
 - Disasters portrayed on tv may seem real and immediate

General Communication Principles

- Earn attention
 - Make eye contact
 - Use touch, if appropriate
 - Sit if the person is sitting
 - Be at the same level
 - Smile genuinely
 - Greet the person
 - Use the person's preferred name
 - Introduce yourself
- Be willing to come back, if this isn't a good time

General Communication Principles

- Vocal Quality
 - Lower pitch
 - Calm
 - Slow down
 - Don't use Elderspeak
 - Sing-songy voice, childish intonation and language, "Imperial we"
 - If a person is hard of hearing, consider using a pocket talker or other assistive device
 - A loud voice may be perceived as angry or cross

General Communication Principles

- Non-Verbal Cues
 - "Center" and collect yourself, so your body language will be calm, positive, open
 - Smile with the eyes, as well as the mouth—mean it!
 - Open, non-threatening stance, hands relaxed, visible
 - Be aware of each person's personal space comfort zone

Keep Language Simple

Slowdown

- One step at a time
- Add descriptors and gestures:
 - Please sit down in this chair right here
 - This blue chair
 - This blue rocking chair
- Don't argue or confront
- NEVER SAY NO!

Positive Language

- Let's explore the garden.
- I'm sorry, I must have bumped the table and spilled your juice.
- Let's us early-birds have some coffee.
- Let's go freshen up.

Negative Language

- Don't go out to the street!
- Oops, you spilled your juice all over!
- You can't get up now- it's 4 a.m.
- I need to clean you up, you had an accident.

The Art of Questions



1. Who is this?
 - Open-ended question
2. Is this a picture of John Wayne?
 - Question that gives the answer
3. Gee, John Wayne looks serious here, don't you think?
 - Make a commentary
4. How do you feel when you see this picture of John Wayne?
 - Creative question, with no right or wrong answer

Responding

- "Please don't leave me, stay here..."
 - *I hate to leave, but I'll look forward to seeing you tomorrow.*
- "Nobody loves me or wants me..."
 - *I cherish your friendship, love.*
- "I don't want to go back in...let's stay outside."
 - *I had so much fun watching the squirrels play in the yard. Thank you for sharing this time with me.*

What Are Your Feelings About The Following People ?

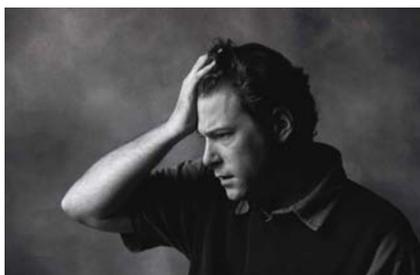
How do you feel about these people?



Is she friendly?

Do you want this man to help you dress?



Is she helpful?



Would you ask her to take you to the toilet?



Would you work with this lady?





Is this boy happy to see you?





Is this a genuine smile?

Is this boy interested in what you are saying?



Is she laughing at you or with you?





Why We Behave As We Do

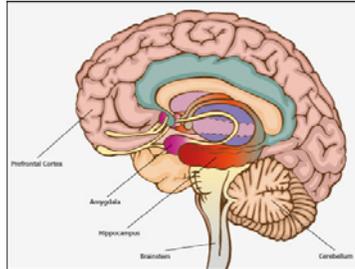
Recommended Reading

Daniel Goleman
Social Intelligence: The New
Science of Human
Relations,
New York: Bantam Books, 2006

The anatomy of emotions

- The Amygdala
 - Almond-shaped structure in mid-brain
 - Brain's "emotion central"
 - Triggers fight, flight or freeze reaction to danger
 - Always on, never sleeps

Amygdala



The Anatomy of Emotions

- Of all of the emotions, fear most powerfully arouses the amygdala
 - When driven by alarm, the amygdala heightens our alertness to emotional cues in other people
- People with dementia often have a heightened sense of alarm due to damage to their amygdala



Emotional Contagion

- The amygdala is highly sensitive to other people's non-verbal cues: a scowl, grin, shift of body position or vocal tone
 - Detects the emotion before we know what we are looking at or hearing



Emotional Contagion

- The Amygdala— Low Emotional Road
 - Has no immediate access to the speech or reasoning parts of our brain
 - Makes us mimic the same emotion in our own body
 - We don't **see** emotions on someone else's face, but rather **feel** them

Emotional Contagion

- When someone dumps their toxic feelings on us-- like anger, disgust, contempt-- they activate our brain circuitry for those same emotions



Emotional Contagion

- Conversely, when someone shares a smile or a laugh, we “catch” that happy emotion
- That mood stays with us long after the interaction ends
- The net balance of feelings that we have “caught” throughout the day determines whether we have had a “good” or “bad” day



Mirror Neurons

- A special type of neuron found in all primates
 - Reflect back an action we observe in someone else
 - “When you’re smiling, the whole world smiles with you.”
 - Also reflect back the emotions of others—making emotions contagious

Mirror Neurons

- Social skills are based on mirror neurons
- Creates a sense of sharing a moment—“empathic resonance”



The Happy Face Advantage

- The human brain prefers happy faces—recognizing them more readily and quickly than those with negative expressions



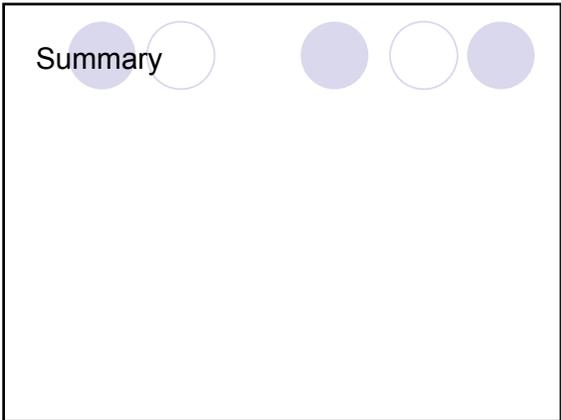
The Happy Face Advantage

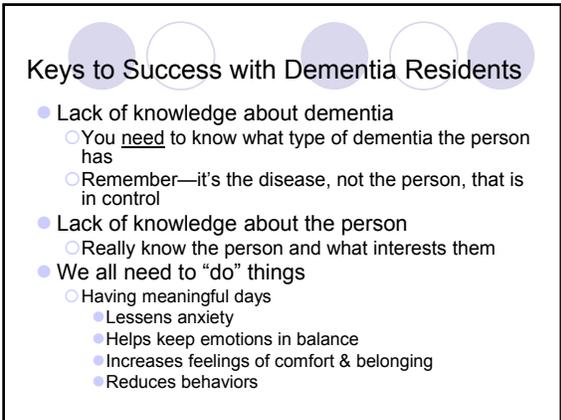
- A moment of playfulness, silliness forms an instant resonance between people
- Laughter may be the shortest distance between two brains
 - Unstoppable, contagious
 - Builds an instant social bond











Keys to Success with Dementia Residents

- Carried-over emotions from personal life
 - How's Your day going?
- Hurry
 - The Tortoise ALWAYS wins
- Communication failures

Keys to Success with Dementia Residents

- Persons with dementia are just the same as You & Me
- EXCEPT their brains are devastated by a disease that destroys brain cells & connections and causes their behavior
- They need (and deserve) our empathy & love

Neuropsychiatric Inventory—an Easy to Use Tool to Understand Dementia Behaviors

Kim P. Petersen MD
Spring Green, WI

Neuropsychiatric Inventory by Jeff Cummings of UCLA

- Tool for assessing changes in behavioral and psychological disturbances
- Also evaluates impact of behavior on caregivers
- Numeric scale 1 – 144
 - <20 Mild
 - 20 – 50 Moderate
 - >50 Severe
- Can be used to monitor treatment efficacy

Neuropsychiatric Inventory Domains

- Delusions (paranoia)
- Hallucinations
- Agitation / aggression
- Dysphoria
- Anxiety
- Apathy
- Irritability
- Euphoria
- Disinhibition
- Aberrant motor behavior
- Nighttime behavior disturbance
- Appetite/ eating abnormalities

Scoring the NPI

Frequency

1. Occasionally, less than 1/week
2. Often, about 1/week
3. Frequently, several times per week, but less than every day
4. Very frequently, once or more/ day

X

Severity

1. Mild (noticeable, but not a significant change)
2. Moderate (significant, but not a dramatic change)
3. Severe (very marked, a dramatic change)

Jeff Cumming's Categories of Behavior Subsyndromes Using the NPI

- **Hyperactivity**
 - Agitation or aggression
 - Irritability
 - Euphoria
 - Disinhibition
 - Aberrant motor behavior
- **Apathy**
 - Apathy
 - Appetite/eating abnormalities
 - Aberrant motor behavior
 - Nighttime behavior
- **Affective**
 - Dysphoria/ depressed mood
 - Anxiety
 - Nighttime behavior
 - Appetite/ eating abnormalities
- **Psychosis**
 - Delusions
 - Hallucinations
 - Anxiety

Cumming's Conclusions Using the NPI to Analyze Dementia Behaviors

- Apathy sub-syndrome the most common
- Hyperactivity behaviors second most common
- Psychosis behaviors least common
 - Associated with most severe behavioral problems
- Anxiety can be classified with both psychosis and mood/apathy groups
- Using subsyndromes improves selection of medications & monitoring of treatments

Case Study

- Bill Jones is a 76 year-old man with mid-stage (Reisberg Stage 5) Alzheimer's Disease. He has lived in a facility for 6 months. The only behavior medications he is taking is Aricept for his Alzheimer's.
- In the past month he has developed more behavioral problems including:

Case Study

- Striking out during showering and dressing, often hitting the staff with his hands
- Starting arguments with table-mates over which is his food, then throwing the food on the floor and refusing to eat
- Pacing around the facility, wandering into other's rooms, claiming it is his room and ordering them to "get out."

Case Study

- Getting up in the middle of the night, wanting to get dressed to "go to work."
- Sitting in his room crying, saying "no one loves me." When the staff tries to comfort him, he yells at them that "you really hate me. Leave me alone."
- He is not eating as much and has lost 5 pounds of weight.

How to Score the NPI

- Go through each domain and first ask "Does the resident have this behavior?"
 - Yes or No
 - If No, ignore scoring this domain or score a zero
- If Yes, then determine the frequency of the behavior and circle a number score:
 - 1-- if occasional, less than once a week
 - 2-- often, about once a week
 - 3-- frequently, several times a week
 - 4-- very frequently, once or more than once a day

How to Score the NPI

- Then rate the severity of the behavior and score it
 - 1—mild, a noticeable but not significant change in behavior
 - 2—significant but not dramatic change
 - 3—very marked, dramatic change

How to Score the NPI

- Multiple the two scores together and put the score in the “item score” box
- After all domains have been scored, add up the total score out of a possible 144.
 - Less than 20= mild behavioral problem
 - 20-50 = moderate behavioral disturbance
 - 50+ = severe behavioral disturbance

How to Score the NPI

- Then use the “Grouping Neuropsychiatric Behaviors into Categories” form
 - Mark down the “item score” in the box corresponding to each NPI domain number
 - NPI domains 3,7,8,9,10 will cluster under “**Hyperactivity**”
 - NPI domains 4,5,11,12 will cluster under “**Affective**”
 - NPI domains 6,11,12,10 will cluster under “**Apathy**”
 - NPI domains 1,2,5 will cluster under “**Psychosis**”

**Grouping Neuropsychiatric Behaviors
Into Categories for Medication Management**

Resident Bill Jones Date _____

Hyperactivity		
NPI #	Symptom	Item Score (1-12)
3	Agitation or aggression	8
7	Irritability	12
8	Euphoria	0
9	Disinhibition	12
10	Aberrant motor behavior	6

Affective		
NPI #	Symptom	Item Score (1-12)
4	Dysphoria/ depressed mood	6
5	Anxiety	9
11	Nighttime behavior	9
12	Appetite/ eating abnormalities	12

Apathy		
NPI #	Symptom	Item Score (1-12)
6	Apathy	0
11	Nighttime behavior	9
12	Appetite/ eating abnormalities	12
10	Aberrant motor behavior	6

Psychosis		
NPI #	Symptom	Item Score (1-12)
1	Delusions	0
2	Hallucinations	0
5	Anxiety	9

Most effective medication management is based upon the category of behavior disturbance, derived from the Neuropsychiatric...

- ### How to Score the NPI
- Bill Jones has behavior that clusters in the domains of:
 - Hyperactivity—with a total item score of **38**
 - Affective (depression)— with a total item score of **36**
 - Apathy with a total item score of **27**
 - All of the behaviors are also seen in Hyperactivity & Affective, not the domain of Apathy
 - His major behaviors are in the domains of
 - **Hyperactivity & Depression**

- ### Non-Drug Behavior Plan
- Develop a non-drug behavior plan that utilizes his interests, skills and cognitive abilities to address his needs

Questions?
