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Dementia:
Managing Difficult Behaviors

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No conflicts of interest. Off-label medication use will be discussed
during this talk.

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Types of Neurocognitive Disorder

Alzheimer's Disease	Lewy Body Dementia
Vascular	Parkinson's Disease
Frontotemporal	Huntington's Disease
Traumatic Brain Injury	Multiple Sclerosis
Substance/Medication Induced	HIV related
Prion Diseases	

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Dementia: Common Characteristics

- Multiple cognitive deficits
  - Memory impairment
  - Aphasia
  - Apraxia
  - Agnosia
  - Executive dysfunction
- Personality Change
- Social/Occupational dysfunction

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Prevalence of Dementia

Dementia	Affected Population in US
Alzheimer's Disease	5 million (4.9 million > 65)
Lewy Body Dementia	1.3 million
Vascular	1 million
Frontotemporal dementia	50,000 thousand

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Alzheimer's Disease Incidence

- Currently someone in the US is diagnosed with AD every 72 seconds
- By 2050 AD will be diagnosed every 33 seconds

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Findings Consistent with AD

- Slow onset, insidious progression
- Global losses in cognition, planning, language, memory, visual-spatial abilities
- Decreased ability to process change

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Findings inconsistent with AD

- Severe disinhibition
- Changes in motor function (tremor, gait, spasticity, bradykinesia)
- Rapid onset <1yr
- Loss of vision
- Early loss of speech or fluency
- Focal neurologic signs
- Muscle wasting
- Motor apraxia early in the illness

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Mrs. Smith's family notes that she suddenly has not be able to balance her checkbook, appears apathetic and cannot figure out how to operate the TV remote. These changes seem to have happened overnight.

Possible cause?

A. Normal Pressure Hydrocephalus

B. Vascular insult/dementia

C. Dementia of the Alzheimer's type

D. Lewy Body Dementia

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Vascular Dementia

- Dramatic changes in personality or behavior with onset of stroke
- Disinhibition-- frontal lobes
- Labile changes in mood (pseudo bulbar affect)
- Frustration with word finding and communication

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If Mrs. Smith had Lewy Body Dementia, early in the illness she may present with:

A. Visual hallucinations

B. Somatic delusions

C. Olfactory hallucinations

D. Delusions of grandeur

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Lewy Body Dementia

- Early changes in executive dysfunction
- Fluctuations in awareness and concentration
- Distressing visual hallucinations and delusions
- Active vivid dreams
- Frustration over tremor, mobility problems

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If Mrs. Smith initially presented with increased apathy, perseveration, and socially inappropriate behaviors such as disrobing in public she may have:

A. Lewy Body Dementia

B. Dementia of the Alzheimer's Type

C. Frontotemporal Dementia

D. Normal Pressure Hydrocephalus

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Frontotemporal Dementia

- Executive dysfunction
- Inappropriate social behavior
- Lack of empathy
- Compulsive behavior
- Poor judgment

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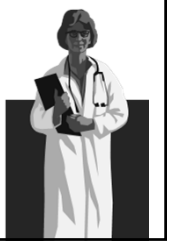
After the diagnosis…….

- Treatment goals include:
  - Maintaining quality of life
  - Maximize function
  - Stabilize cognition
  - Treat mood and behavior problems
  - Ease caregiver burdens



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Neuropsychiatric Symptoms

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Behaviors

Behavioral	Verbal
Hitting	Cursing
Pushing	Screaming
Wandering/Pacing	Temper outbursts
Scratching	Whining
Kicking/Biting	Complaining
Throwing things	Verbal sexual advances
Hoarding	Constant attention requests
Socially inappropriate	Repetitive statements
Sexual advances	

Cohen-Mansfield, JAGS. 1996

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Neuropsychiatric Symptoms (NPS)

- Most patients with dementia have NPS
- Often the reason for early nursing home placement

Aggression	Apathy
Depression	Anxiety
Delusions	Hallucinations
Apathy	Disinhibition

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Meaning of Behavior

- "Problem Behavior"
- Whose problem is it?
  - Staff? Family? Other residents?
- What is the person trying to communicate through their behavior?

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Models to Explain Behavior in Patients with Dementia

- Biological/Genetic Model
- Behavioral Learning Model
- Reduced Stress Threshold Model (Environmental vulnerability)
- Unmet Needs Model

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What is DICE?

A. A new method to count plaques and tangles

B. An atypical antipsychotic for dementia currently in Phase II trials

C. A behavioral framework to address neuropsychiatric symptoms

D. A gambling device found in Las Vegas casinos

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DICE

Evidence-informed, consensus expert panel

D Describe
I Investigate
C Create
E Evaluate

Kales, JAGS, 2014.

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Step 1: Describe

- "Play back NPS as if it were a movie"
- Describe antecedent events, specifics of NPS, Consequences of NPS
- Antecedents (time of day, people present, activity, location of NPS)
- Use of a behavior diary or log
- Describe the most distressing part of NPS
- How does patient and caregiver feel about behavior? Safety?

Kales, JAGS, 2014

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Tools to Assess NPS and Behavioral Disturbance

- Neuropsychiatric Inventory-Nursing Home Version (NPI-NH)
- Cohen-Mansfield Agitation Inventory (CMAI)
- Behavioral Pathology in Alzheimer's Disease (BEHAVE-AD)
- Minimum Data Set

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Step 2: Investigate

PATIENT CONSIDERATIONS

- Medication side effects
- Pain
- Delirium
- Functional limitations
- Medical conditions
- Psychiatric NPS (depression, etc.)
- Severity of cognitive impairment
- Poor sleep hygiene
- Sensory changes
- Fear, loss of control, boredom

Kales, JAGS, 2014

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Step 2: Investigate

CAREGIVER CONSIDERATIONS

- Quality of relationship between pt. and caregiver
- Caregiver expectations "they're doing it on purpose"
- Caregiver stress, over or underestimation of patient abilities
- Cultural context of patient and family
- NPS may be "viewing dirty laundry" to outsiders

Kales, JAGS, 2014

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Step 2: Investigate

Environment Considerations

- Excessive stimulation (clutter, noise, people)
- Under stimulation (lack of visual cues, poor lighting
- Difficulty navigating environment
- Lack of predictable daily routine
- Lack of pleasurable activities

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Step 3: Create

RESPOND TO PHYSICAL PROBLEMS

- Discontinue medications causing side effects, if possible
- Manage pain
- Treat infection, dehydration, constipation
- Optimize tx of underlying psych conditions
- Sleep hygiene measures
- Deal with sensory impairment

Kales, JAGS, 2014

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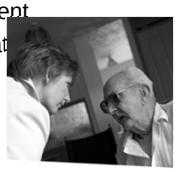
Step 3: Create

WORK WITH CAREGIVER

- Provide caregiver education and support
- Enhance communication with patient
- Create meaningful activities for pat
- Simplify tasks
- Teepa Snow
- Savvy Caregivers



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- **WORK WITH CAREGIVER**

- Alzha TV
- We Care Advisor Project
- Alzheimer's Association online Caregiver Resources

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Step 3: Create

ENVIRONMENTAL INTERVENTIONS

- Ensure the environment is saf
- Simplify environment
- Enhance environment

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Specific Interventions

Problem	Strategies
Hearing voices	Evaluate hearing, adjust hearing aids Determine whether voices are a threat to safety or fxn
Wandering	Modify triggers to elopement ID Exercise
Nighttime wakefulness	Sleep hygiene Eliminate contributors (temp, noise, light, shadows) Eliminate caffeine Limit daytime napping Use a nightlight Nighttime respite for caregiver

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Specific Interventions

Problem	Strategies
Repetitive questioning	Calm, reassuring response with voice Calm touch Inform patient of events only as they occur Structure daily routines Use distraction, meaningful activities
Aggression	Modify cause (pain, caregiver interaction) Warn caregiver not to confront or return aggression Self protection strategies Limit dangerous items

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Environmental Changes….

- Availability of food
- Ambient music
- Use simple visual reminders as prompts
- Opportunities to wander safely
- Simulate natural conditions
- Decrease the institutional appearance of facility

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Psychological Issues

- Control
- Autonomy
- Choice
- Unfinished business
- Unresolved family issues
- Loss of family, friends, finances, resources
- Fear of the unknown

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Goals for Patients with Dementia

- Help the patient accept lost role
- Remind the patient of abilities that remain intact or could be developed
- Help patient foster new roles, work on feelings about dependency

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Step 4: Evaluate

- Has intervention been effective?
- If intervention not implemented, why?
- Are there unintended side effects of intervention?
- What changes to the envir made

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Depression

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Which statement about depression in dementia is most accurate?

A. Depression is almost always reactive

B. Depression occurs early in the disease process

C. Antidepressants are not effective for depression in patients with dementia

D. Depression can occur at any point in the disease process.

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Depression in AD

- High prevalence (25%)
- Occurs at any point in the illness
- Presentation may be atypical or "masked"

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Assessment of Depression

- Use of caregivers
- Self-report not accurate
- Behavioral changes
- Cornell Scale for Depression in Dementia

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Cornell Scale for Depression In Dementia

- Mood Related Signs
- Behavioral Disturbance
- Physical Signs
- Cyclic Functions
- Ideational Disturbance

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Treatment of Depression in AD

- Choice of drug
  - SSRI's first line drug of choice
  - Can use SNRI, TCA, MAOI
- Augmentation
  - Stimulants, neuroleptics
- Non-drug antidepressants
  - Light box, ECT

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Antidepressant Pearls

- Start low and go slow (1/3 adult dose)
- Complete antidepressant response may not be achieved for 2-3 months in older adults.
- Results are mixed re: efficacy
  - Cochrane Met analysis 2012: sertraline, fluoxetine efficacy weak
  - Some individual clinical trials demonstrate modest efficacy (sertraline, mirtazapine, citalopram)

Sepehry et al, Drugs Aging 2012;29:793-806

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Agitation

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Aggression/Agitation

- Identify specific patterns of behavior
- Comprehensive evaluation
  - Pain, diuretics, constipation, sensory loss, disinhibition secondary to benzo's, psychosis or depression
- Target specific behavioral interventions
  - Empowering caregivers to act
- Pharmacologic interventions

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Medications to Avoid in Managing Agitation/Anxiety

- Benzodiazepines
  - (lorazepam, oxazepam, alprazolam)
- Narcotic Analgesics
- Hypnotics
- Antihistamines
- Antispasmodics
- Tricyclic Antidepressants
  - (amitriptyline)

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First line Drug Therapies

- SSRI (citalopram, sertraline)
- ChEI agents for mild-moderate dementia:
  - Donepezil, rivastigmine, galantamine
- Low dose trazadone, carbamazepine and valproate

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Dextromethorphan/Quinidine

- Dextromethorphan/Quinidine found more effective than placebo in decreasing agitation in patients with Alzheimer's dementia.
- Clinically significant decrease in agitation characterized by increased motor, verbal and physical activity levels in moderately demented patients.

Cummings et al. JAMA. 2015;314(12):1242-1254

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Antipsychotics and Neurocognitive Dx---- CATIE-AD*

End point	Olanzapine	Risperidone	Quetiapine	Placebo	Significance
Any reason	8.1 weeks	7.4 weeks	5.3 weeks	8 weeks	P=0.52
Lack of Efficacy	22.1 weeks	25.7 weeks	9.1 weeks	9.0 weeks	P=0.02
Adverse Events	24%	18%	16%	5%	P=.0001

63% antipsychotics D/C at 12 weeks/ 83% discontinued 36 weeks—lack of efficacy or side effects

*Schneider, NEJM, 2006

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Adverse Effects of Atypical Antipsychotics for Neurocognitive Disorder*

- 15 trials, n=3353
- Aripiprazole, clozapine, olanzapine, quetiapine, risperidone, ziprasidone
-
- Significant risk for cerebrovascular events (OR=2.13), especially with risperidone (OR=3.43)
- Increased risk for sudden death (OR=1.54)

Schneider JGPN, 2006

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Antipsychotic Use Since Black Box Warning

- Valiyeva (2008) Canadian use of atypicals increased by 20% from 2002 to 2007.
- Census statement on treatment options, clinical trials methodology and policy, 2008
- Nearly 1 in 4 nursing home residents continue to receive an atypical antipsychotic

- Valiyeva E et al CMAJ 2008
- Salzman C. J Clin Psych, 2008.
- Kamble P Am J Geriatr Pharmacotherapy, 2008.

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APA Consensus Guidelines Antipsychotics in Dementia

- Use only when agitation or psychosis is severe, dangerous or distressing
- Risk benefits discussed with legal decision makers
- Avoid Long acting injectable unless concomitant psych disorder is noted
- Taper and withdraw if no response in 4 weeks

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Sleep Disturbance in Dementia

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What is the most common sleep change in the older adult with Dementia?

A. Sleep efficiency increases with age

B. Increased sleep latency

C. Increased REM sleep

D. Increased stage 3 and 4 sleep

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Sleep changes with Aging

- Overall sleep efficiency decreases
- Circadian rhythms become phase advanced
- Increased sleep latency and nighttime arousal
- Reduced REM sleep
- Decreased stage 3 and 4 sleep

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Causes for Sleep Disturbance

- Obstructive sleep apnea
- Restless legs syndrome
- Alcohol, Nicotine and Caffeine use
- Lack of Exercise
- Daytime naps
- Pain
- Nocturia
- Medications

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Non-Pharmacologic Strategies to help with sleep disturbance

- Sleep education, use CPAP for sleep apnea
- Sleep Hygiene
  - Avoid caffeine and nicotine for 6 hrs. prior to sleep
  - Avoid alcohol at bedtime
  - Do not eat a heavy meal before sleep
  - Do no perform heavy exercise before sleep
  - Minimize noise, light and heat during sleep
  - Encourage daytime exercise

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Pharmacologic strategies

- Warm glass of milk or tryptophan foods (cheese, yogurt)
- Melatonin, ramelteon, trazodone
- Avoid benzodiazepines and non-benzodiazepine hypnotics