BEHAVIORAL and PSYCHOLOGICAL SYMPTOMS in DEMENTIA (BPSD)

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DISCLOSURE

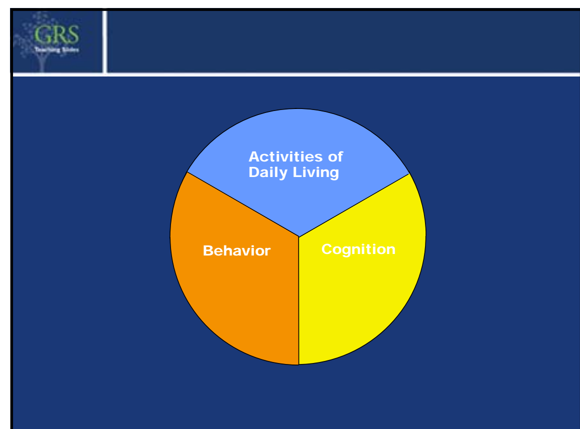
- Dr. Shah has no relevant conflicts with commercial interests to disclose

OBJECTIVES

- Factors precipitating behavioral disturbances
- How to rule out medical, environmental, and caregiving causes of behavioral problems
- Environmental and non-pharmacologic management of behavioral disturbances
- When and how to medicate

TOPICS COVERED

- Clinical Features
- Assessment and Differential Diagnosis
- Basic Approach to Treatment
- Treatments for Specific Disturbances



Behavioral symptoms (Usually identified on the basis of observation of the patient)	Psychological symptoms (Usually and mainly assessed on the basis of interviews with patients and relatives)
Physical aggression	Anxiety
Screaming	Depressive mood
Restlessness	Apathy
Agitation/Catastrophic reactions (Verbal/Physical)	Hallucinations and delusions (Psychosis of Alzheimer's Disease)
Wandering	Misidentification syndromes
Culturally inappropriate behaviors	Sundowning
Sexual disinhibition	Elation
Hoarding	Negativism
Cursing	

Behavioral symptoms

- Physical/verbal aggression, agitation, disinhibition, restlessness, wandering, culturally inappropriate behaviors, sexual disinhibition, cursing and hoarding.

Psychological symptoms

- Anxiety, depressive mood, hallucinations and delusions, apathy, Sundowning (Delirium due to known physiological condition ICD F05)
- delusional misidentification syndrome (DMS), negativism and elation.

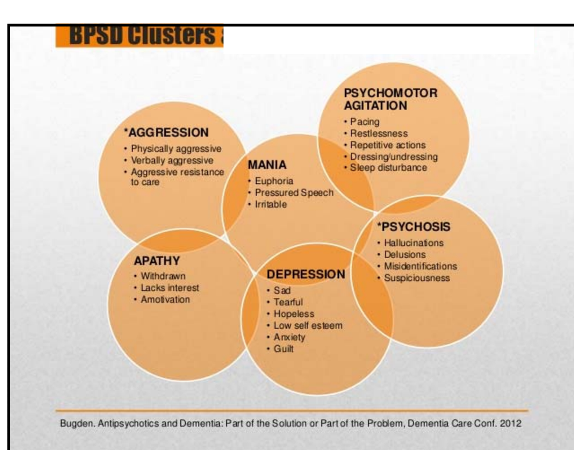
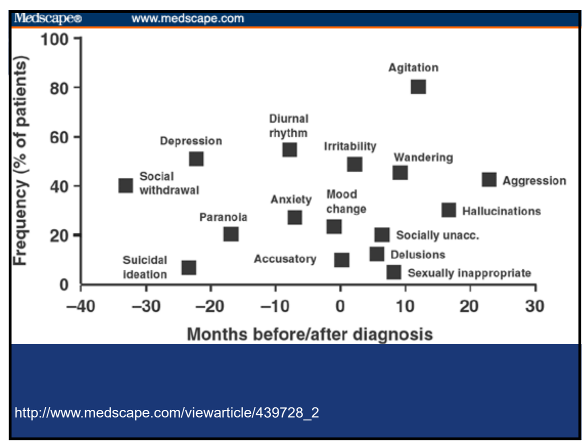


Table 1. Behavioral and psychological symptoms of dementia (from Luxenberg [35])

DOI: 10.1046/j.1440-1819.2000.00773.x

Group I (most common/most distressing)	Group II (moderately common/moderately distressing)	Group III (less common/manageable)
Psychological	Psychological	Behavioral
Delusions	Misidentifications	Crying
Hallucinations		Cursing
Depressed mood	Behavioral	Lack of drive
Sleeplessness	Agitation	Repetitive questioning
Anxiety	Culturally inappropriate behavior and disinhibition	Shadowing
Behavioral	Pacing	
Physical aggression	Screaming	
Wandering		
Restlessness		



http://www.medscape.com/viewarticle/439728_2

Apathy

- Recently been recognized as one of the BPSDs
- It is different than depression, although it can be a part of depression
- When severe, it can interfere with overall functioning

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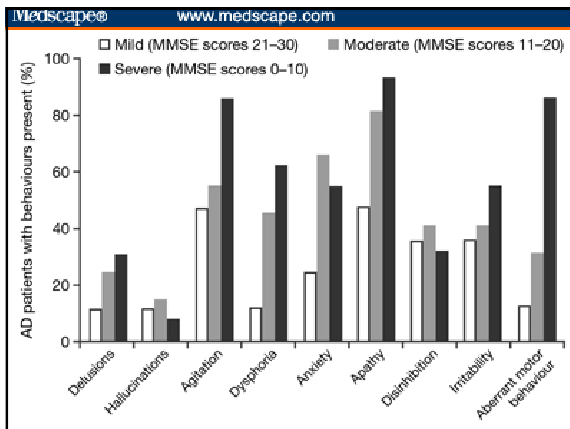
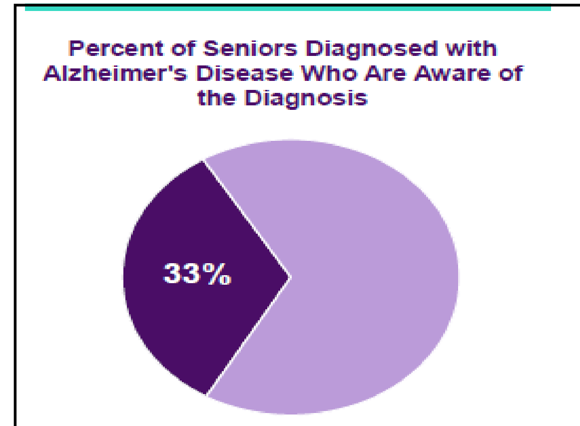


BEHAVIORAL SYMPTOMS BY DEMENTIA TYPE

- Frontotemporal dementia (Pick's disease): often associated with prominent disinhibition, compulsive behaviors, and social impairment
  - In severe cases, a syndrome of hyperphagia, hyperactivity, and hypersexuality may occur
- Dementia with Lewy bodies: prominent psychosis characterized by visual hallucinations
- Behavioral problems can occur in all dementia types



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HOW COMMON IS BPSD

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INTRODUCTION

- As many as 80%–90% of patients with dementia develop at least one distressing symptom over the course of their illness
- Behavioral disturbances or psychotic symptoms in dementia often precipitate early nursing-home placement
- Disturbances are potentially treatable, so it is vital to anticipate and recognize them early

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- Present in all types of dementias
- 60% community dwelling
- 80% dementia pts in LTC

- Agitation 75%
- Wondering 60%
- Depression 50%
- Psychosis 30%
- Screaming 20%

- ⬆ Caregiver stress
- ⬆ ER
- ⬆ Hospital Stay
- ⬆ Polypharmacy
- ⬆ Placement in LTC
- ⬆ $
- ⬇ QoL for pt. and the caregiver

NEUROCHEMISTRY

TABLE 1 Neurology of behavioral and psychological symptoms of dementia

Type	Change
Neuropathological	Neuritic plaques and neurofibrillary tangles in the frontal and temporal cortices are associated with BPSD; right frontal lobe atrophy is associated with DMS
Neurofunctional	Frontal, temporal, and parietal cortical dysfunction are associated with psychotic symptoms; greater EEG delta-power over the right hemisphere is associated with DMS
Neurochemical	Damage to cholinergic neurons in the frontal and temporal cortices and adrenergic and serotonergic systems is associated with BPSD; higher levels of norepinephrine in the substantia nigra and lower levels of serotonin in the presubiculum are associated with psychotic symptoms
Genetic	Depression is more common in first-degree relatives with depression; the heritability for psychotic symptoms is between 30% and 61%; the presence of *APOE4* allele is associated with an earlier age of onset of symptoms; the presence of *APOE2* allele is associated with depressive symptoms; homozygotes for *APOE4* allele are associated with disorientation, agitation, and motor disorders; anxiety and sleep disorders are more frequent in individuals with *APOE3* allele; serotonin 2A receptor polymorphisms are associated with visual and auditory hallucinations, hyperphagia, and aggression; dopamine receptor polymorphisms are associated with psychosis and aggression
Psychological	High premorbid level of neuroticism is associated with depressive symptoms

BPSD, behavioral and psychological symptoms of dementia; DMS, delusional misidentification symptoms.

http://www.psychiatrictimes.com/special-reports/managing-behavioral-and-psychological-symptoms-dementia-era-black-box-warnings/page/0/2

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Neurochemical changes

- Higher levels of NE in the substantia nigra
- Lower 5-HT levels in the presubiculum
- Associated with psychotic symptoms

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CLINICAL FEATURES

CLINICAL FEATURES

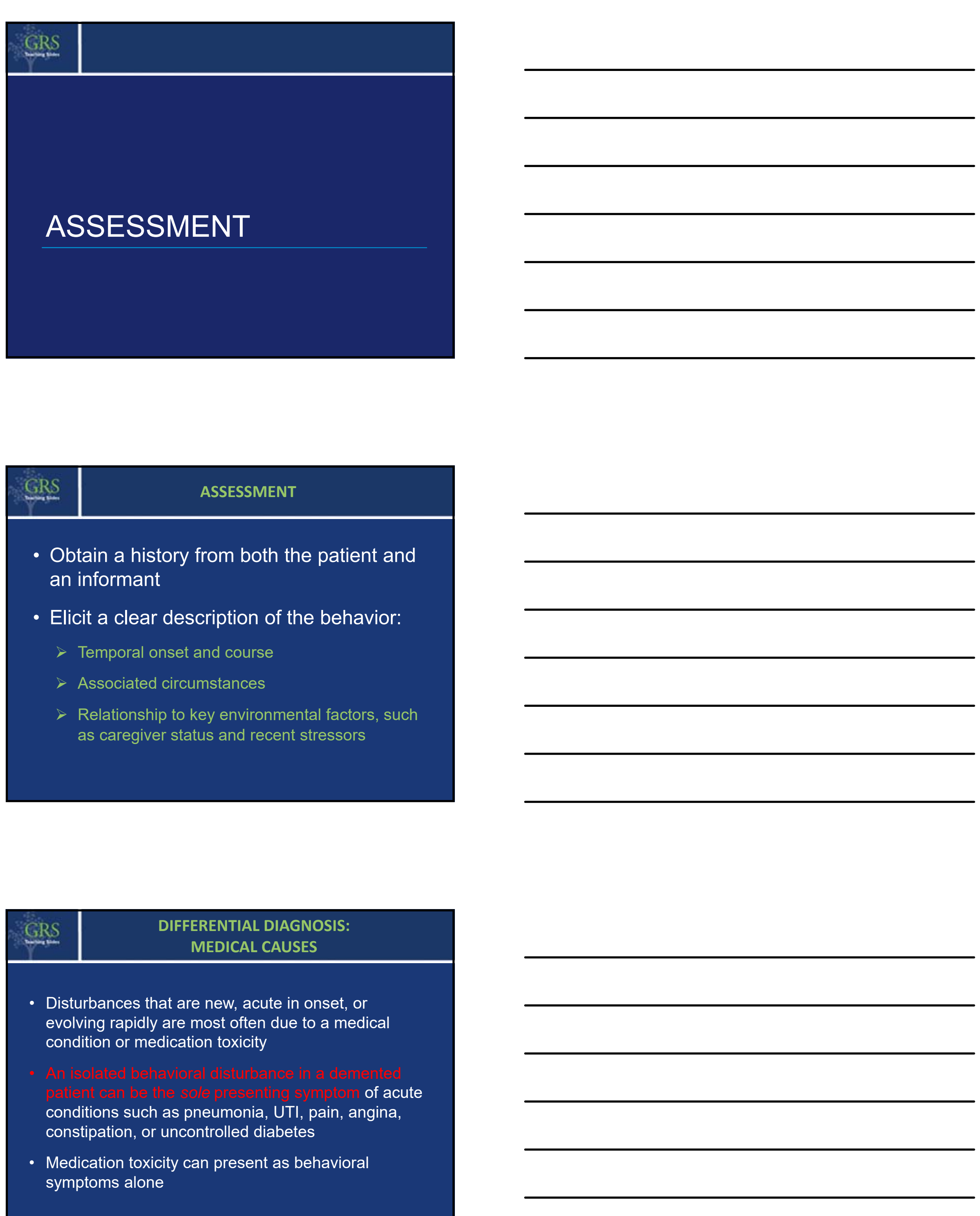
- Psychiatric symptoms may develop that resemble discrete mental disorders such as depression or mania
- The course and features are more difficult to predict, and treatments are less reliably effective than in younger adults without dementia
- Neuropsychiatric symptoms such as **apathy, poor self-care, or paranoia may be the first indication of dementia**

CLINICAL FEATURES: AGITATION (1 of 2)

- Reflects loss of ability to modulate behavior in a socially acceptable way
- May involve verbal outbursts, physical aggression, resistance to bathing or other care needs, and restless motor activity such as pacing or rocking
- Often occurs concomitantly with psychotic symptoms such as paranoia, delusional thinking, or hallucinations

CLINICAL FEATURES: AGITATION (2 of 2)

- The word *agitation* is used to describe a variety of behaviors and psychologic symptoms
- Assessment of disruptive behavior must include a careful description of the nature of the symptom, when it occurs, where it develops, and if any precipitants are identified
- Overt resistance to care is most often seen in later stages of dementia, but it may be a first sign of incipient cognitive decline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ASSESSMENT
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ASSESSMENT
Obtain a history from both the patient and an informant
Elicit a clear description of the behavior:
Temporal onset and course
Associated circumstances
Relationship to key environmental factors, such as caregiver status and recent stressors
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DIFFERENTIAL DIAGNOSIS:
MEDICAL CAUSES
Disturbances that are new, acute in onset, or evolving rapidly are most often due to a medical condition or medication toxicity
An isolated behavioral disturbance in a demented patient can be the sole presenting symptom of acute conditions such as pneumonia, UTI, pain, angina, constipation, or uncontrolled diabetes
Medication toxicity can present as behavioral symptoms alone

MANAGEMENT

- Educate caregivers
- Nonpharmacological
- Optimize current medications
- Pharmacological

CARE GIVER

DIFFERENTIAL DIAGNOSIS: STRESS IN CAREGIVING RELATIONSHIP

- May exacerbate/cause a behavioral disturbance
- Relationships with potential for stress include:
  - Inexperienced caregivers
  - Domineering caregivers
  - Caregivers who themselves are impaired by medical or psychiatric disturbances

A general strategy focuses on two main elements: the environment and direct caregiving

3

The Environment

- **Maintain consistency of physical facilities and staff**
- **Instruct new residents and family to bring familiar items with them**
- **Reduce noise**
- **Avoid highly contrasting colors or wall papers**
- **Use clear, soft lighting**

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Caregiving

- Maintain consistency of staff and approach
- Remember that behaviors are not intentional
- Minimize a rigid schedule
- Avoid trying to reason or argue
- Daily routines

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NONPHARMACOLOGICAL

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Remember, the nonpharmacological interventions should be considered before or at the same time as pharmacotherapy!

3

TREATMENTS FOR SPECIFIC DISTURBANCES: GENERAL PRINCIPLES

- Management of pain, dehydration, hunger, and thirst is paramount
- Consider the possibility of positional discomforts or nausea secondary to medication effects
- Modify environment to improve orientation
- Good lighting, one-on-one attention, supportive care, and attention to personal needs and wants are also important

BEHAVIORAL INTERVENTIONS (1 of 3)

- Evaluate and treat underlying medical conditions
- Replace poorly fitting hearing aids, eyeglasses, and dentures
- Keep the environment comfortable, calm, and homelike with use of familiar possessions
- Provide regular daily activities and structure; refer patient to adult day care programs, if needed

BEHAVIORAL INTERVENTIONS (2 of 3)

- Assess for new medical problems
- Attend to patient's sleep and eating patterns
- Install safety measures to prevent accidents
- Ensure that the caregiver has adequate respite
- Educate caregivers about practical aspects of dementia care and about behavioral disturbances
- Teach caregivers communication skills, how to avoid confrontation, techniques of ADL support, activities for dementia care

BEHAVIORAL INTERVENTIONS (3 of 3)

- Simplify bathing and dressing with use of adaptive clothing and assistive devices, if needed
- Offer toileting frequently and anticipate incontinence as dementia progresses
- Provide access to experienced professionals and community resources
- Refer family and patient to local Alzheimer's Association
- Consult with caregiving professionals, such as geriatric case managers

Table 1. Behavior Management Techniques for Individuals With Dementia

Communication	• Smile • Positive tone • Calm manner/voice • One-step directions • Allow adequate time for responses
Redirection/ reassurance	• Acknowledge emotion • Simple distraction • Rest periods • Offer food or drink
Memory support	• Reminiscence therapy (photos/personal items) • Recorded familiar voices • Familiar environment
Sensory methods	Visual • Pictures of familiar things/people • Working in garden • Home-like environment Auditory • Play familiar music • Group music activities • One-on-one music activity

Sensory methods	Visual • Pictures of familiar things/people • Working in garden • Home-like environment Auditory • Play familiar music • Group music activities • One-on-one music activity Olfactory • Lavendar on pillow or lotion to skin for sleep disorders/anxiety • Diffusion of *Lavandula angustifolia* or sunflower for aggression/anxiety • Ylang, ylang, patchouli, rosemary, peppermint for BPSD • Taste • Offer simple choices • Finger foods Tactile • Brushing hair • Hand-under-hand technique • Hand massage • Stroking pets
Exercise	• Aerobic activities • Balance activities • Resistance activities • Walking • Chair exercise

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OPTIMIZE CURRENT MEDICATIONS

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REMOVE OFFENDING MEDICATIONS, PARTICULARLY ANTICHOLINERGIC AGENTS

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Popular OTC -anticholinergic

- Advil PM (pain and sleep)
- Benadryl (for allergies)
- Dramamine (for motion sickness)
- Excedrin PM (for pain and insomnia)
- Pepcid AC (acid reflux)
- Sominex (for insomnia)
- Tagamet (acid reflux)
- Tylenol PM (for pain and insomnia)

Drugs that may Cause Memory Loss

Narcotic painkillers
Sleeping aids
Incontinence drugs -**Anticholinergics**
Antihistamines
Cholesterol drugs
Antidepressant drugs
TCA

Drugs

- Regularly review medications and supplements
- Manage medications that could affect cognition
- Do frequent medication reconciliation

PHARMACOLOGICAL

ROLE OF ANTI-DEMENTIA FOR BEHAVIOR

- 868 patients were treated with memantine and 882 patients were treated with placebo.
- Patients on memantine improved by 1.99 on the NPI scale
- (95% CI -0.08 to -3.91; p = 0.041) compared with the placebo group.

https://www.ncbi.nlm.nih.gov/pubmed/18056833

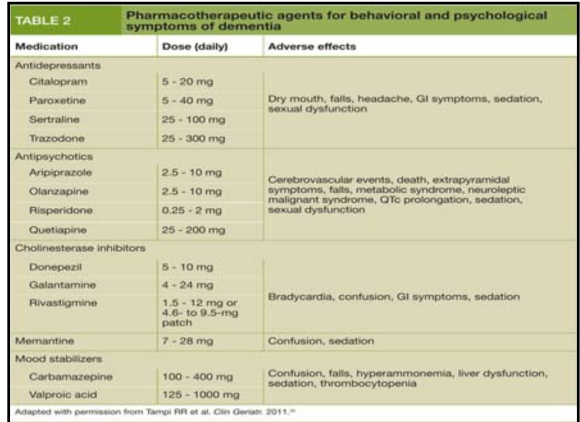
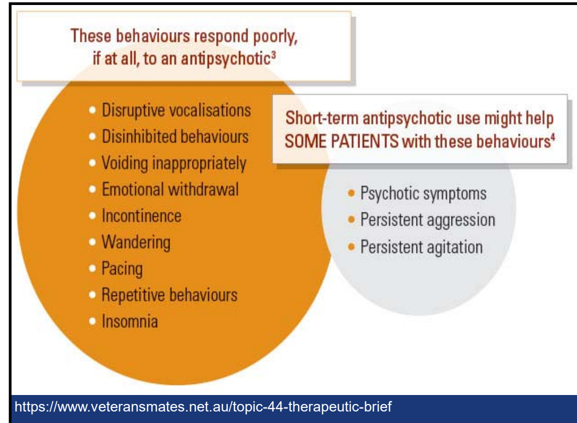
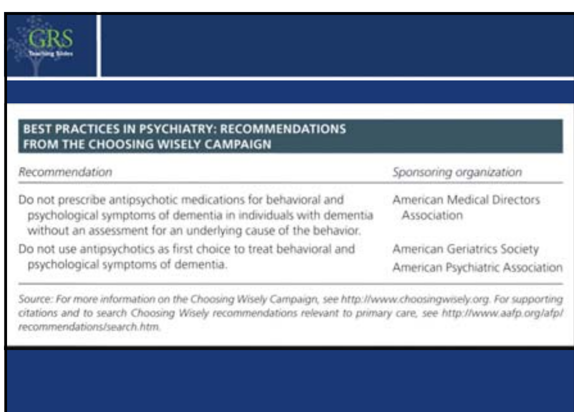


TABLE 2 Pharmacotherapeutic agents for behavioral and psychological symptoms of dementia

Medication	Dose (daily)	Adverse effects
Antidepressants		
Citalopram	5 - 20 mg	Dry mouth, falls, headache, GI symptoms, sedation, sexual dysfunction
Paroxetine	5 - 40 mg	
Sertraline	25 - 100 mg	
Trazodone	25 - 300 mg	
Antipsychotics		
Aripiprazole	2.5 - 10 mg	Cerebrovascular events, death, extrapyramidal symptoms, falls, metabolic syndrome, neuroleptic malignant syndrome, QTc prolongation, sedation, sexual dysfunction
Olanzapine	2.5 - 10 mg	
Risperidone	0.25 - 2 mg	
Quetiapine	25 - 200 mg	
Cholinesterase inhibitors		
Donepezil	5 - 10 mg	Bradycardia, confusion, GI symptoms, sedation
Galantamine	4 - 24 mg	
Rivastigmine	1.5 - 12 mg or 4.6- to 9.5-mg patch	
Memantine	7 - 28 mg	Confusion, sedation
Mood stabilizers		
Carbamazepine	100 - 400 mg	Confusion, falls, hyperammonemia, liver dysfunction, sedation, thrombocytopenia
Valproic acid	125 - 1000 mg	

Adapted with permission from Tampi RR et al. Clin Geriatr. 2011.





BEST PRACTICES IN PSYCHIATRY: RECOMMENDATIONS FROM THE CHOOSING WISELY CAMPAIGN

Recommendation	*Sponsoring organization*
Do not prescribe antipsychotic medications for behavioral and psychological symptoms of dementia in individuals with dementia without an assessment for an underlying cause of the behavior.	American Medical Directors Association
Do not use antipsychotics as first choice to treat behavioral and psychological symptoms of dementia.	American Geriatrics Society American Psychiatric Association

Source: For more information on the Choosing Wisely Campaign, see http://www.choosingwisely.org. For supporting citations and to search Choosing Wisely recommendations relevant to primary care, see http://www.aafp.org/afp/recommendations/search.htm.

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SORT: KEY RECOMMENDATIONS FOR PRACTICE

Clinical recommendations	*Evidence rating*	*References*
Nonpharmacologic interventions should be used as first-line treatment for behavioral and psychological symptoms of dementia.	C	7, 13
Before initiating antipsychotic therapy in older patients, physicians should have and document a discussion with patients and caregivers about the risks and benefits of these medications.	C	2, 13, 14
The use of atypical antipsychotics for behavioral and psychological symptoms of dementia is associated with increased mortality.	A	23, 24
Antipsychotic medications should be discontinued if there is no evidence of symptom improvement.	A	13, 29, 30

A = consistent, good-quality patient-oriented evidence; B = inconsistent or limited-quality patient-oriented evidence; C = consensus, disease-oriented evidence, usual practice, expert opinion, or case series. For information about the SORT evidence rating system, go to http://www.aafp.org/afpsort.

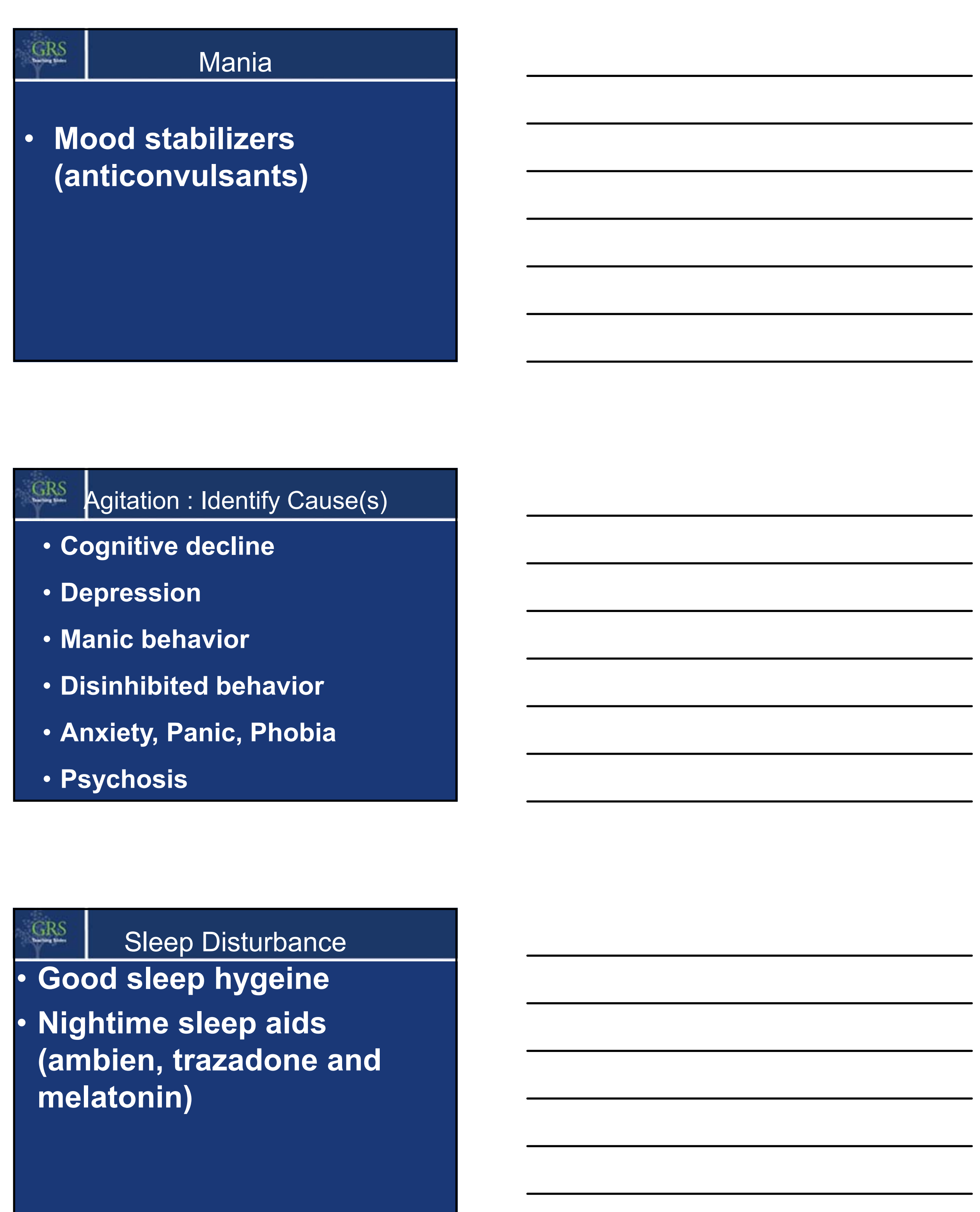
BEHAVIOR AND RX

Depression

- SSRIs
- SNRIs
- Psychostimulants
- Atypical antipsychotics
- ECT, deep brain stimulation, and TMS

Anxiety, Panic, Phobias

- Antidepresants (SSRIs, SNRIs)
- Benzodiazepines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Mania
• Mood stabilizers (anticonvulsants)
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Agitation : Identify Cause(s)
• Cognitive decline
• Depression
• Manic behavior
• Disinhibited behavior
• Anxiety, Panic, Phobia
• Psychosis
GRS
Sleep Disturbance
• Good sleep hygeine
• Nightime sleep aids (ambien, trazadone and melatonin)

Wandering

- **Provide daytime exercise and outdoor time**
- **Place a dark tape across the floor of the entrance to an area that is restricted. Door locks and security systems**

Sexual Disinhibition

- **Inappropriate sexual behavior (ISB)**
- **Cimetidine**
- **sertaline + medroxyprogesterone acetate + lupron**
- **Estrogen patch**

Sundowning

- **Selective Serotonin Reuptake Inhibitors**
- **Mood Stabilizers**
- **Benzodiazepines**
- **Antipsychotics**

6

SUMMARY (1 of 2)

- The need to express basic needs such as hunger, thirst, or fatigue, which the patient cannot adequately communicate in dementia, may precipitate a behavioral disturbance
- Delirium secondary to an underlying condition such as dehydration, urinary tract infection, or medication toxicity is a common cause of abrupt behavioral disturbances in patients with dementia

SUMMARY (2 of 2)

- Medication effects on behavioral disturbances in dementia tend to be modest and should be implemented only after trying environmental and other nonpharmacologic techniques
- Antipsychotic medications may reduce agitation, and antidepressants may be helpful if symptoms of depression are evident in the patient with a behavioral disturbance

SELECTIVE SEROTONIN REUPTAKE INHIBITORS (1 of 3)

Medication	Daily Dose	Uses	Precautions
Citalopram	10–20mg max dose	Depression, anxiety (off-label)	GI upset, nausea, insomnia, risk of QT_c prolongation with doses >20 mg
Escitalopram	5–20 mg	Depression, anxiety	
Fluoxetine	10–40 mg	Depression, anxiety	Long half-life, greater inhibition of the cytochrome P-450 system

SELECTIVE SEROTONIN REUPTAKE INHIBITORS (2 of 3)

Medication	Daily Dose	Uses	Precautions
Paroxetine	10–40 mg	Depression, anxiety	Greater inhibition of cytochrome P-450 system, some anticholinergic effects
Sertraline	25-100 mg	Depression, anxiety	
Vilazodone	10-40 mg	Depression, anxiety	Take with food, dose adjust in severe hepatic disease, reduce dose if given with CYP3A4 inhibitors

SELECTIVE SEROTONIN REUPTAKE INHIBITORS (3 of 3)

Medication	Daily Dose	Uses	Precautions
Vortioxetine	5-10 mg	Depression	Nausea, dizziness, fewer sexual adverse events than other SSRIs

SEROTONIN NOREPINEPHRINE REUPTAKE INHIBITORS

Medication	Daily Dose	Uses	Precautions
Desvenlafaxine	25–50 mg	Depression, fibromyalgia	Nausea, hypertension, dry mouth, dizziness, headaches
Duloxetine	20–60 mg	Depression, diabetic neuropathy	Nausea, dry mouth, dizziness, hypertension
Mirtazapine	7.5–30 mg	Useful for depression with insomnia and weight loss	Sedation, hypotension, potential for neutropenia
Venlafaxine	25–150 mg	Useful in severe depression, anxiety	Hypertension, insomnia

TRICYCLIC ANTIDEPRESSANTS

Medication	Daily Dose	Uses	Precautions
Desipramine	10–100 mg	Severe depression, anxiety, high degree of efficacy	Anticholinergic effects, hypotension, sedation, cardiac arrhythmias
Nortriptyline	10–75 mg	High efficacy for depression if side effects are tolerable; therapeutic level 50–150 ng/dL	Anticholinergic effects, hypotension, sedation, cardiac arrhythmias, caution with glaucoma

OTHER DRUGS TO TREAT DEPRESSIVE FEATURES

Medication	Daily Dose	Uses	Precautions
Bupropion	75–225 mg	More activating, lack of cardiac effects	Irritability, insomnia
Gabapentin	100-300 mg	Anxiety (off-label), insomnia (off-label)	Sedation, falls, hypotension
Trazodone	25–150 mg	When sedation is desirable	Sedation, falls, hypotension

TREATMENT OF MANIC-LIKE BEHAVIOR

- Symptoms resemble those of bipolar disorder (pressured speech, disinhibition, elevated mood, intrusiveness, hyperactivity, impulsivity, reduced sleep)
- The important distinction in the dementia patient is the frequent co-occurrence with confusional states and a tendency to have fluctuating mood (ie, irritable or hostile as opposed to euphoric)

MOOD STABILIZERS FOR MANIC-LIKE BEHAVIOR (1 of 3)

Drug	Geriatric Dosage	Adverse Effects	Comments
Carbamazepine	200–1000 mg/day (therapeutic level 4–12 μg/mL)	Nausea, fatigue, ataxia, blurred vision, hypo-natremia	Poor tolerability in older adults; must monitor CBC, LFTs, electrolytes q 2 weeks for first 2 months, then q 3 months

The 4 agents in this table are approved by the FDA for the treatment of bipolar disorder but are off-label for treatment of manic-like behavior associated with dementia. Note FDA warning for increase in suicidal thoughts/behaviors with anticonvulsant agents.

MOOD STABILIZERS FOR MANIC-LIKE BEHAVIOR (3 of 3)

Drug	Geriatric Dosage	Adverse Effects	Comments
Lamotrigine	25–200 mg/day	Sedation, skin rash, rare Stevens-Johnson syndrome, dizziness, anemia	Increased adverse events and interactions when used with divalproex, slow-dose titration required

MOOD STABILIZERS FOR MANIC-LIKE BEHAVIOR (2 of 3)

Drug	Geriatric Dosage	Adverse Effects	Comments
Lithium	150–1000 mg/day (therapeutic level 0.5–0.8 mEq/L)	Nausea, vomiting, tremor, confusion, leukocytosis	Poor tolerability in older adults; toxicity at low serum levels; monitor thyroid and renal function
Divalproex sodium	250–2000 mg/day (therapeutic level 50–100 μg/mL)	Nausea, GI upset, ataxia, sedation, hyponatremia	Monitor CBC, platelets, liver function tests at baseline and every 6 months; better tolerated than other mood stabilizers in older adults

TREATMENT OF DELUSIONS AND HALLUCINATIONS

- Delusions (fixed false beliefs) or hallucinations (sensory experiences without stimuli) typically require pharmacologic treatment if:
  - The patient is disturbed by these experiences
  - Experiences lead to disruptions in the patient's environment that cannot otherwise be controlled
- Clinical criteria for the diagnosis of Alzheimer's dementia with psychosis specifies the presence of delusions or hallucinations for at least 1 month, at least intermittently, and must cause distress for the patient

ANTIPSYCHOTIC AGENTS (1 of 5)

Drug	Daily Dose	Adverse Events	Comments	Forms
Aripiprazole	2-20 mg	Mild sedation, mild hypotension		Tablet, rapidly dissolving tablet, IM injection, liquid concentrate
Asenapine	5-10 mg	Sedation		Only sublingual
Clozapine	12.5–200 mg	Sedation, hypotension, anticholinergic effects, agranulocytosis	Weekly CBC required; poorly tolerated by older adults; reserve for treatment of refractory cases	Tablet, rapidly dissolving tablet

ANTIPSYCHOTIC AGENTS (2 of 5)

Drug	Daily Dose	Adverse Effects	Comments	Forms
Haloperidol	0.5 – 3 mg	Sedation, EPS	1st generation agent	Tablet, liquid, IM, long-acting injection
Iloperidone	1-12 mg	Sedation, orthostatic hypotension	Dose reduce with CYP3A4 & CYP2D6 inhibitors	Tablet
Lurasidone	40-80 mg	Sedation	Do not exceed 40mg daily with CYP3A4 inhibitors	Tablet

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ANTIPSYCHOTIC AGENTS (3 of 5)

Drug	Daily Dose	Adverse Effects	Comments	Forms
Olanzapine	2.5–15 mg	Sedation, falls, gait disturbance	Weight gain, hyperglycemia	Tablet, rapidly dissolving tablet, IM injection
Perphenazine	2 -12 mg	EPS, sedation	1st generation agent	Tablet
Paliperidone	1.5 – 12 mg	Sedation, fatigue, GI upset, EPS	Dose reduce in renal impairment	Sustained release tablet, depot IM long-acting injection
Quetiapine	25-200 mg	Sedation, hypotension	Ophthalmologic exam every 6 mo	Tablet, sustained release tablet

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ANTIPSYCHOTIC AGENTS (4 of 5)

Drug	Daily Dose	Adverse Effects	Comments	Forms
Risperidone	0.5–2 mg	Sedation, hypotension, EPS with doses > 1 mg/day		Tablet, rapidly dissolving tablet, liquid concentrate, depot IM long-acting injection
Ziprasidone	40–160 mg	Higher risk of prolonged QTc interval	Little published information on use in older adults. Warning about increased QTc prolongation	Capsule, IM injection

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Table 3. Clinical Signs of Common Adverse Effects Associated with Antipsychotic Agents

Adverse effect	*Clinical signs*
Anticholinergic effects	Blurred vision, confusion, constipation, dry mouth, urinary retention
Extrapyramidal symptoms	Muscle spasms, pseudoparkinsonism (bradykinesia, rigidity, tremor), restlessness
Hyperprolactinemia	Acne, galactorrhea, gynecomastia, hirsutism, reduced bone density
Neuroleptic malignant syndrome	Autonomic instability (tachycardia, labile hypertension), hyperthermia, muscle rigidity (lead pipe rigidity), tremor, worsened dementia
Tardive dyskinesia	Chorea, irreversible involuntary muscle spasms, myoclonus (usually in the orofacial region), tics

Information from references 19 through 22.

ANTIPSYCHOTIC AGENTS (5 of 5)

- All of these medications have warnings about hyperglycemia, cerebrovascular events and increase in all-cause mortality in patients with dementia
- All of these medications are off-label for treatment of psychosis in dementia

TREATMENT OF MOOD DISTURBANCES

- Reduce adversive environmental stimuli
- Assess physical health comprehensively
- Try recreation programs and activity therapies
- Consider antidepressants for:
  - Depression of 2 weeks' duration resulting in significant distress
  - Depressive symptoms lasting >2 months after initiation of behavioral interventions

CHOLINESTERASE INHIBITORS

- In patients with mild to moderate Alzheimer's disease, donepezil or galantamine are better than placebo in reducing psychosis and behavioral disturbances
- In patients with dementia with Lewy bodies, who are sensitive to the EPS of antipsychotic agents, cholinesterase inhibitors have been reported to reduce visual hallucinations

MANAGING SLEEP DISTURBANCES

- Improve sleep hygiene *(see next slides)*
- Treat associated depression, suspiciousness, delusions
- If the above do not succeed, consider (off-label):
  - Trazodone 25–50 mg at bedtime
  - Mirtazapine 7.5–15 mg at bedtime
  - Gabapentin is increasingly used for insomnia
  - Zolpidem 5 mg at bedtime
  - Zaleplon has been studied in older patients and also appears to be effective
  - Melatonin available OTC
- Avoid benzodiazepines or antihistamines

SLEEP HYGIENE (1 of 2)

- Establish a stable routine for going to bed and awakening
- Pay attention to noise, light, and temperature
- Increase daytime activity and light exercise
- Reduce or eliminate caffeine, nicotine, alcohol
- Reduce evening fluid consumption to minimize nocturia

SLEEP HYGIENE (2 of 2)

- Give activating medications early in the day
- Control nighttime pain
- Limit daytime napping to periods of 20 to 30 minutes
- Use relaxation, stress management, and breathing techniques to promote natural sleep

INAPPROPRIATE SEXUAL BEHAVIOR

- First exclude underlying treatable causes
- Treat any underlying syndrome, such as a mania-like state
- Consider antiandrogens for men who are dangerously hypersexual or aggressive:
  - Progesterone[OL] 5 mg/day orally; adjust dose to suppress testosterone well below normal
  - If patient responds, may treat with 10 mg IM depot progesterone weekly
  - Leuprolide acetate[OL] 5–10 mg IM monthly is an alternative

INTERMITTENT AGGRESSION OR AGITATION

- Behavioral interventions: distraction, reminiscence, validation therapy, environmental modifications, caregiver education and support, music therapy, physical activity, or aromatherapy
- Behavior modification using positive reinforcement of desirable behavior
- Avoid physical restraints

CHOOSING WISELY®

- Don't use antipsychotics as first choice to treat behavioral and psychological symptoms of dementia.

CASE 1 (1 of 3)

- An 86-year-old man has episodes of increasing psychosis and aggression over the past 2 months.
  - Primary caregiver is his daughter, whom he verbally abuses and threatens; he has punched her on 3 occasions.
  - Believes that his food is being poisoned
  - Believes that his son, who lives 1,000 miles away, has been coming into their home and stealing
  - Attempts at nonpharmacologic interventions have been unsuccessful
- History: moderate Alzheimer disease

CASE 1 (2 of 3)

Which one of the following is the most appropriate pharmacologic treatment for this patient?

A. Citalopram
B. Donepezil
C. Haloperidol
D. Risperidone
E. Valproic acid

CASE 1 (3 of 3)

Which one of the following is the most appropriate pharmacologic treatment for this patient?

A. Citalopram
B. Donepezil
C. Haloperidol
D. Risperidone
E. Valproic acid

CASE 2 (1 of 3)

- A 78-year-old woman has had disrupted sleep for the past month.
  - Her son says that she has difficulty falling asleep.
  - Once she does sleep, she awakens after about 4 hours.
  - OTC antihistamines help her sleep, but she is groggy the following day.
- History: Lewy body dementia
- Physical examination: no findings that might contribute to insomnia

CASE 2 (2 of 3)

Which one of the following is the most appropriate initial treatment for this patient?

A. Mirtazapine

B. Ramelteon

C. Trazodone

D. Zolpidem

E. Melatonin

CASE 2 (3 of 3)

Which one of the following is the most appropriate initial treatment for this patient?

A. Mirtazapine

B. Ramelteon

C. Trazodone

D. Zolpidem

E. Melatonin

CASE 3 (1 of 3)

- A 72-year-old man has hallucinations that cause him severe distress. The hallucinations are of Civil War soldiers and monkeys, and he fears they will attack him.
  - In previous visits, no medical or pharmacologic (eg, anticholinergic agents) causes of psychosis were identified. Behavioral interventions were unsuccessful.
  - During a particularly stressful episode, his family took him to the emergency department, where he was prescribed risperidone 0.25 mg twice daily.
    - He rapidly became more confused and markedly rigid.
    - Symptoms resolved after risperidone was discontinued.
- History: early Lewy body dementia

CASE 3 (2 of 3)

Which one of the following is the most appropriate treatment recommendation for this patient?

A. Clozapine
B. Haloperidol
C. Lorazepam
D. Quetiapine
E. Rivastigmine

CASE 3 (3 of 3)

Which one of the following is the most appropriate treatment recommendation for this patient?

A. Clozapine
B. Haloperidol
C. Lorazepam
D. Quetiapine
E. Rivastigmine

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