

# Sleep, Aging, and Dementia

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## Presentation Objectives

- ▶ Describe the basics of normal sleep and common primary sleep disorders
- ▶ Discuss how aging and cognitive decline impact sleep
- ▶ Make evidence-based lifestyle recommendations to enhance sleep in your clients with cognitive decline



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**SLEEP  
IS  
GOOD ...**



### ... Except When It Isn't

***"What is the most troubling nighttime behavior your family member had during the past month?"***

Cleaning room, emptying drawers and closet
Wanting to fly to France in the middle of the night
Thinking the building is on fire
Urinary and bowel incontinence
Slapping self and saying she wants to die
Falling out of bed
Looking for deceased spouse
Wanting to "go home" and becoming agitated trying to leave
Getting up and wandering from room to room
Eating in bedroom, including non-food items (e.g., plants)
Thinking she is being held captive by caregiver
Bad dreams and hallucinating visitors
Looking for her kids who left home a long time ago

## Sleep Problems in Dementia

### ► Four broad categories

- Insomnia
- Hypersomnia (particularly during the day)
- Excessive motor activity at night
- Hallucinations and behavioral problems

### ► “Sundowning” behaviors

- Increasingly seen as a circadian disturbance

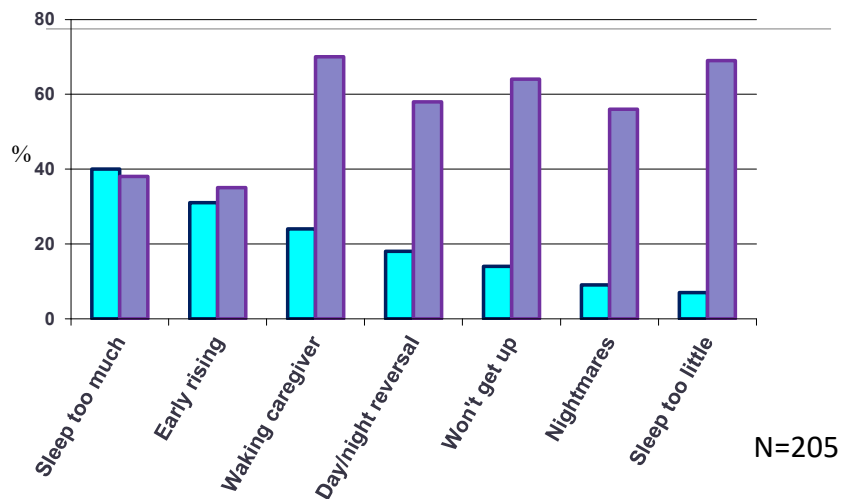
Boeve BF. 2008. *Sleep Medicine Clinics*, 3(3): 347-360.

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## Sleep Problems in Dementia

■ Frequency ■ Caregiver Reaction



McCurry S, et al. 1999. *J Geriatr Psychiatry Neurol*, 12, 53-59.

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## Points to Remember #1

*Sleep issues in older adults with dementia are complex.*

*They take many different forms, impact caregivers in variable ways, and have multiple etiologies.*

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## What Is Sleep Anyway?

**Sleep is an essential behavior**

The screenshot shows a web browser displaying a position statement from the Journal of Clinical Sleep Medicine (JCSM). The article title is "Sleep is essential to health: an American Academy of Sleep Medicine position statement". The authors listed are Kayvan Ravan, MD; Ramon K. Malhotra, MD; Kelly A. Canner, MD, MBA; Jennifer L. Martin, PhD; Farhat Abbas Fakhry, MD; Il Nishiyama, MD, MPH; Vishakh K. Kapur, MD, MPH; Eric J. Chrousos, MD; Carol L. Rosen, MD; James A. Rowley, MD. The article was published online on June 21, 2021. The abstract states: "Sleep is a biological necessity, and insufficient sleep and untreated sleep disorders are detrimental to health, well-being, and public safety. Healthy People 2030 includes several sleep-related objectives with the goal to improve health, productivity, well-being, quality of life, and safety by helping people get enough sleep. In addition to adequate sleep duration, healthy sleep requires good quality, appropriate timing, regularity, and the absence of sleep disorders. It is the position of the American Academy of Sleep Medicine (AASM) that sleep is essential to health. There is a significant need for greater emphasis on sleep health in education, clinical practice, inpatient and long-term care, public health promotion, and the workplace. More sleep and circadian research is needed to further elucidate the importance of sleep for public health and the contributions of insufficient sleep to health disparities." The page also features a JZJZ Pharmaceuticals advertisement for Xyluvon.

But most people don't know anything about it, even though we all sleep every day

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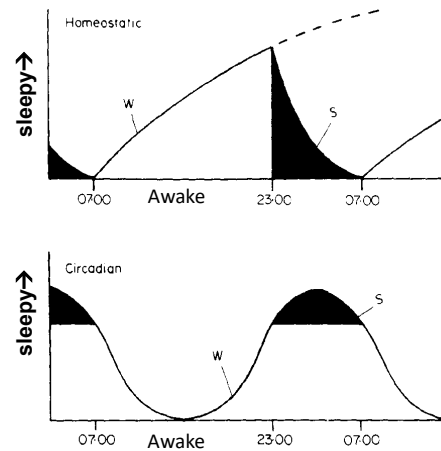
## Two Process Model of Sleep Regulation

### 1) Homeostatic Process

Sleep need (“drive”) increases the longer you are awake.

### 2) The Circadian Process (Biological Clock)

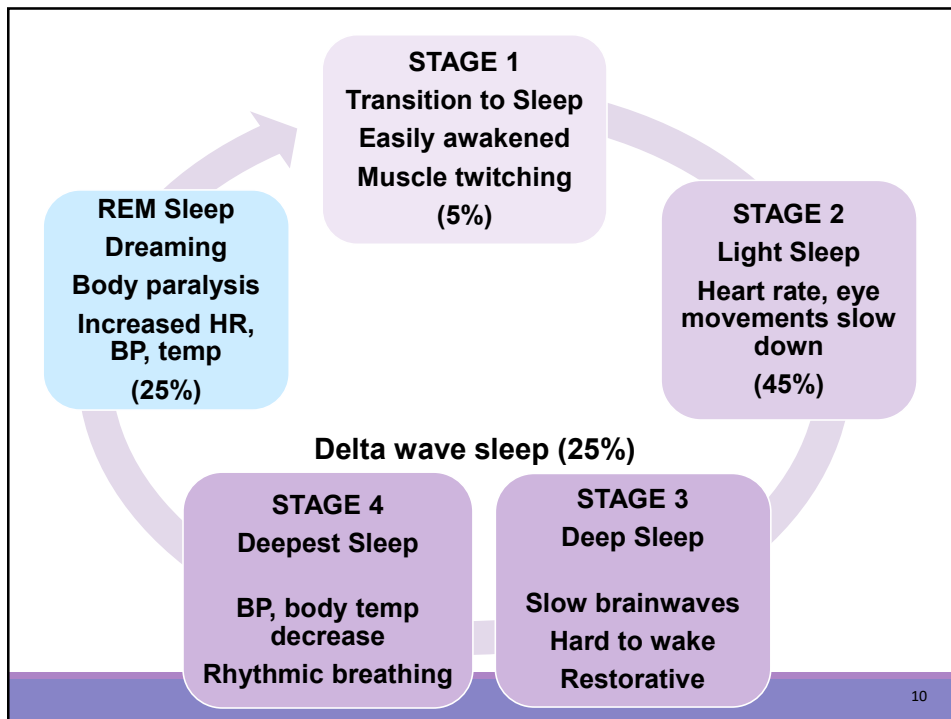
The propensity to sleep varies as a function of the time of day/night over 24 hours.



Germain A, Buysse DJ. Brief behavioral treatment of insomnia. In: Perlis M, et al. (eds.). Behavioral treatments for sleep disorders, pp. 143-150. Elsevier, 2011.

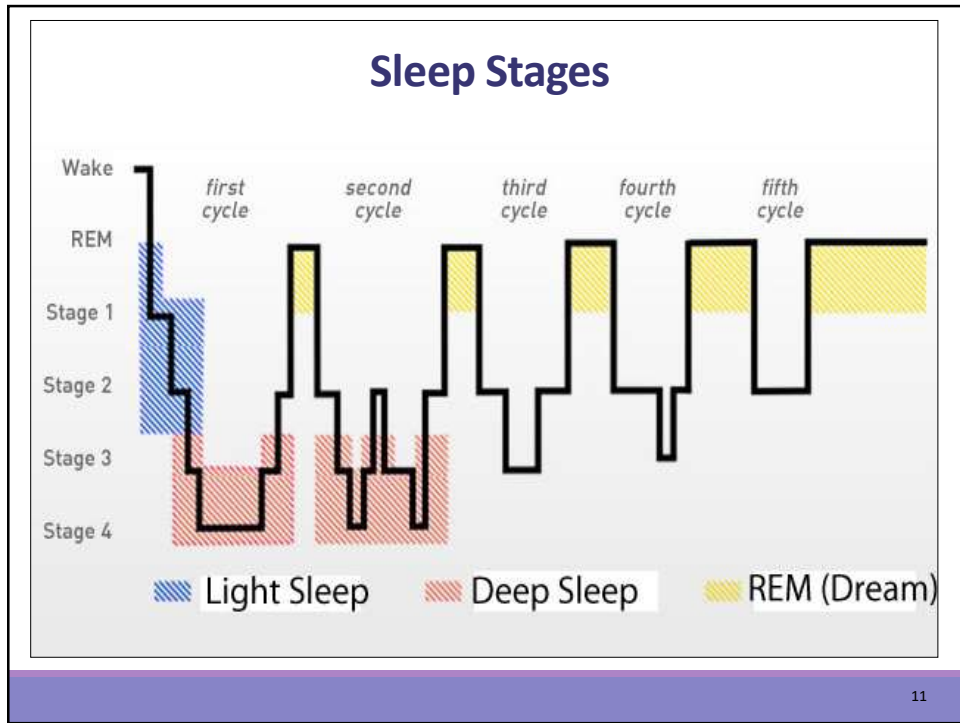
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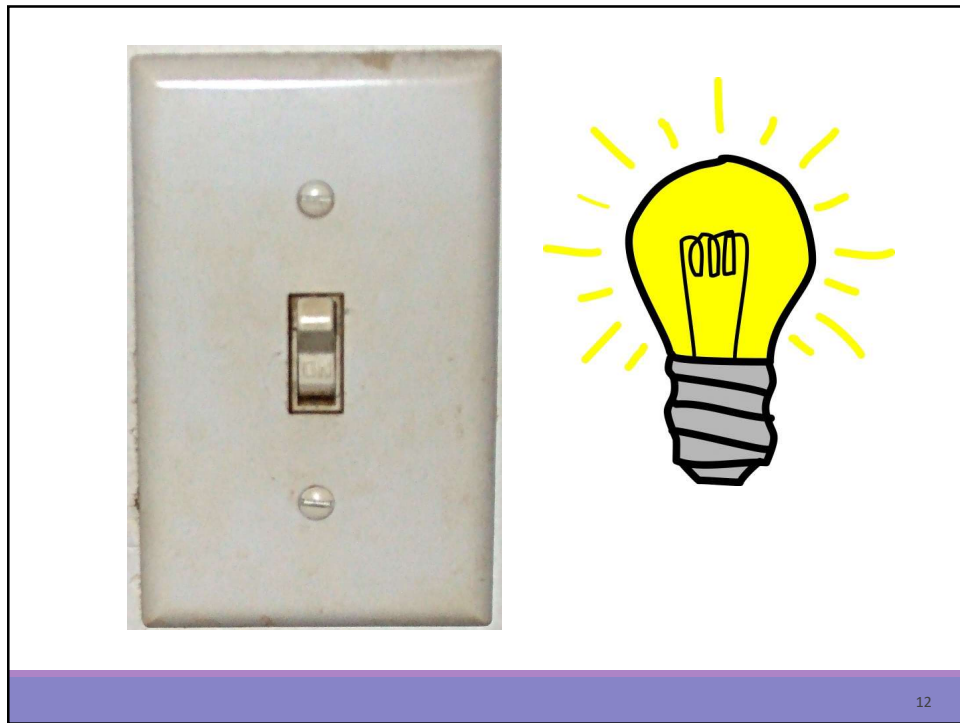


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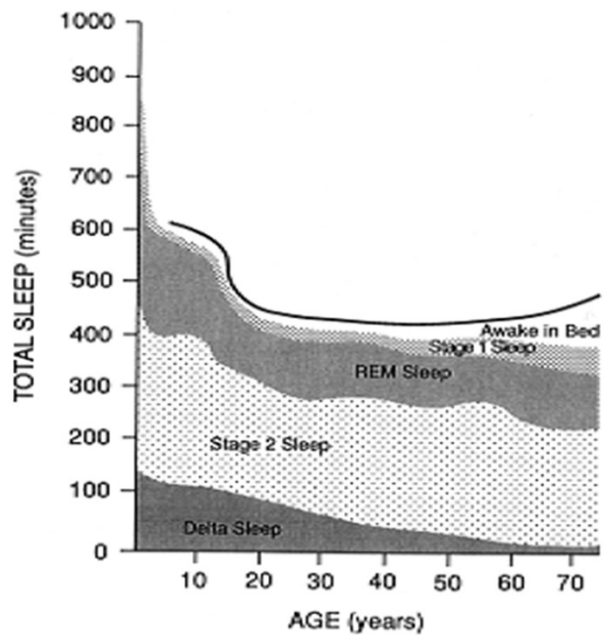
*“There are changes to sleep architecture over the lifespan that are not, in themselves, pathologic, but can be viewed as making older adults more vulnerable to sleep disturbances.”*

Miner B, Kryger MH. 2017. *Sleep Med Clin* 12(1): 31-38

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## Changes in Sleep Architecture with Age

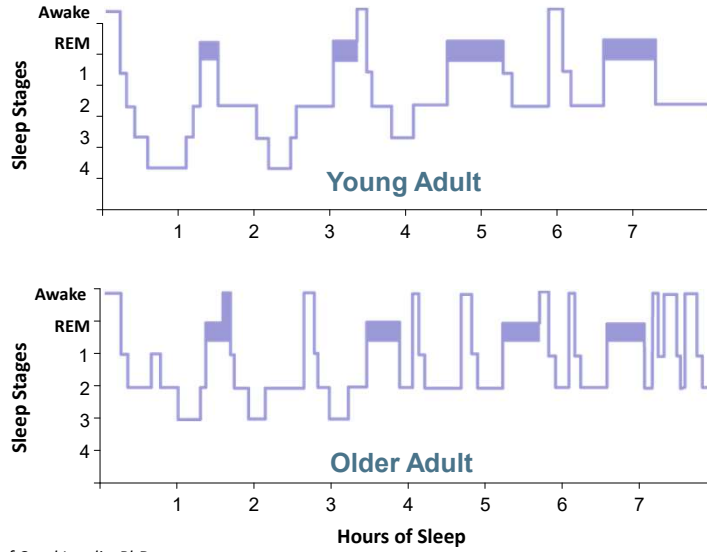


Courtesy of Charles Morin, PhD

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## Hypnogram: Young vs. Old

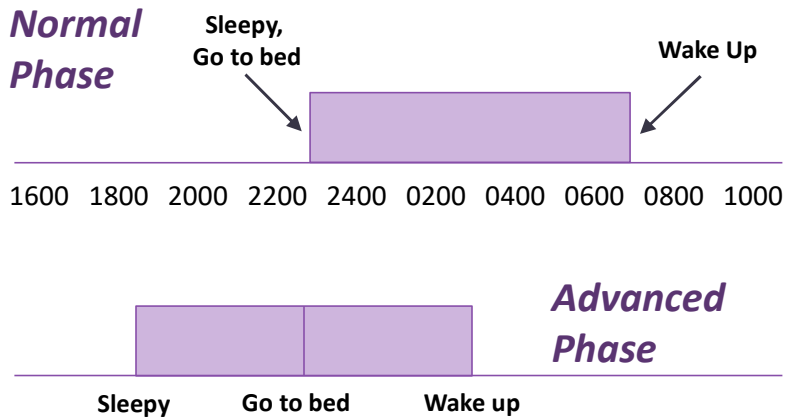


Courtesy of Carol Landis, PhD

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## Circadian Rhythm Changes: Advanced Sleep Phase



Ancoli-Israel, S. 1996. *All I want is a good night's sleep*. Mosby.

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## Points to Remember #2

*Older adults do not need  
less sleep than younger adults,*

**BUT...**

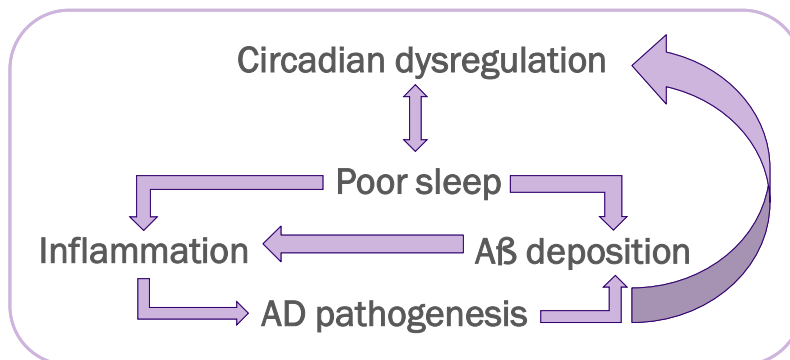
*Aging can reduce ability to  
achieve desired quantity and  
quality of sleep.*

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## Sleep-Related Pathway to AD


Studies suggest a bidirectional relationship  
between sleep and Alzheimer's disease



Landry GL, Liu-Ambrose T. 2014. *Front Aging Neurosci.* doi: 10.3389/fnagi.2014.00325

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**“While the brain sleeps, it clears out harmful toxins, a process that may reduce the risk of Alzheimer’s, researchers say.”**

- Jon Hamilton, NPR, October 17, 2013

Credit: Eiko Ojala

Xie et al. 2013. [Science](#) 342:373-377; Landry GJ & Liu-Ambrose T. 2014. [Front Aging Neurosci](#). Dec 8:6:325.

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## Underlying Causes of Sleep Problems in PWLD

- ▶ Dementing illness and its associated neuronal degeneration/ischemia/death and alterations in neurochemical systems
- ▶ Primary sleep disorder
- ▶ Medication effect/medical morbidities
- ▶ Depression
- ▶ Circadian dysrhythmia
- ▶ Environmental and behavioral factors

Least Modifiable

Most Modifiable

Boeve BF. 2008. [Sleep Medicine Clinics](#), 3(3): 347-360; McCurry et al. [Sleep Med Rev](#) . 2000; 4:603-608. 20

## Dementia Related Changes

### ▶ Alzheimer's disease

- Loss of neurons that regulate circadian sleep-wake cycles (SCN: the body's internal "clock") and thermoregulatory processes

### ▶ Parkinson's disease/dementia with Lewy bodies

- Sleep problems nearly universal in advanced PD
- Tremors, muscle contractions and cramps, limb jerks, nocturia, nightmares, daytime "sleep attacks"

### ▶ Vascular dementia, frontotemporal lobar degeneration, prion disorders

- All are known to disrupt sleep

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## Primary Sleep Disorders

### ▶ Sleep Disordered Breathing / Sleep Apnea

- Overlapping risk factors for stroke (HTN, diabetes, atrial fibrillation, cardiac and carotid disease)
- Widely underdiagnosed; compliance w/CPAP often poor

### ▶ Periodic leg movement syndrome (PLMS)

### ▶ Restless legs syndrome

- Linked to low iron levels
- In persons with dementia more strongly associated with nocturnal agitation than OSA and PLMS

### ▶ REM sleep behavior disorder (RBD)

- Most common in older men
- Increased in persons with Parkinson's

### ▶ Irregular Sleep-Wake Rhythm

- Associated with neurological/medical conditions

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## Drugs That Can Worsen Sleep



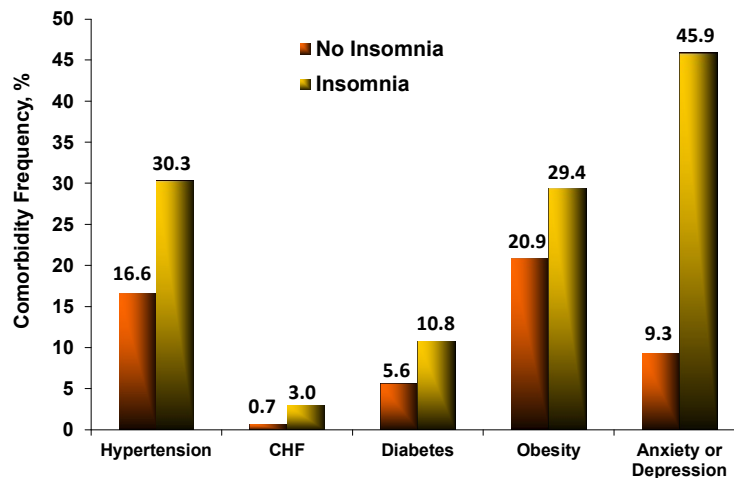
- ▶ Alcohol
- ▶ CNS stimulants (e.g., caffeine, theophylline, nicotine)
- ▶ Beta-blockers, calcium channel blockers
- ▶ Bronchodilators
- ▶ Corticosteroids
- ▶ Decongestants
- ▶ Diuretics
- ▶ Thyroid hormones
- ▶ Stimulating antidepressants, **cognitive enhancing medications for dementia**

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## Insomnia and Medical/Psychiatric Conditions

(National Health Interview Survey)



Pearson NJ, Johnson LL, Nahin RL. Arch Intern Med 2006 166: 1775-1782.

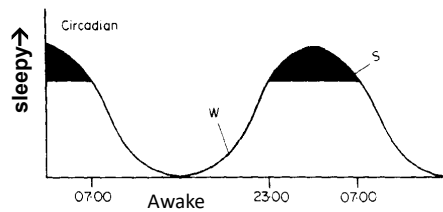
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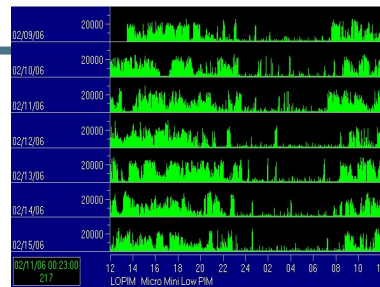
## Circadian dysrhythmia

### The Circadian Process (Biological Clock)

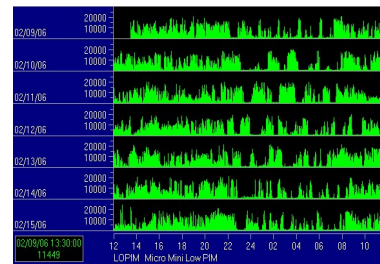
The propensity to sleep varies as a function of the time of day/night over 24 hours.



Normal Older Sleeper



Person with Dementia



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## Modifiable Environmental/Behavioral Causes



- ▶ Noise
- ▶ Light
- ▶ Temperature
- ▶ Season of year
- ▶ Bedding
- ▶ Television, computer, smart phone
- ▶ Dietary practices
- ▶ Exercise routines
- ▶ Pets and (grand)kids
- ▶ Roommate or bed partner behaviors

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## Points to Remember #3

*Many physical and environmental risk factors contribute to sleep disturbances in older adults and should be considered as part of any sleep assessment and plan, including in persons with dementia.*

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## Sleep Self-Report Questionnaires

Assessment Domain	Instrument
Global sleep	Pittsburgh Sleep Quality Index (PSQI)
Insomnia symptoms	Insomnia Severity Index (ISI)
Fatigue	Flinders Fatigue Scale (FFS)
Sleepiness	Epworth Sleepiness Scale (ESS)
Attitudes about sleep	Dysfunctional Beliefs About Sleep (DBAS) scale
Sleep-related behaviors	Sleep Hygiene Index (SHI)
Quality of life	SF-36 (includes pain subscale)
Psychological symptoms	Patient Health Questionnaire (PHQ-9) Generalized Anxiety Disorder scale (GAD-8) Pre-Sleep Arousal Scale (PSAS)
Undiagnosed primary sleep disorders	STOP-BANG Restless legs single question*

\*When you try to relax in the evening or sleep at night, do you ever have unpleasant, restless feelings in your legs that can be relieved by walking or movement? (Ferri R. et al. 2007)

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**Sleep Disorders Inventory**

**In the past two weeks:**

	0	1	Frequency	Severity	Distress
	No	Yes			

1. Does your relative have difficulty falling asleep?     0  1 →
2. Does your relative get up during the night? (Do not count if your relative gets up once or twice per night only to go to the bathroom and quickly falls back asleep.)     0  1 →
3. Does your relative wander, pace, or get involved in inappropriate activities at night?     0  1 →
4. Does your relative awaken you during the night?     0  1 →
5. Does your relative wake up at night, dress, and plan to go out, thinking that it is morning and time to start the day?     0  1 →
6. Does your relative awaken too early in the morning (earlier than was his/her habit)?     0  1 →
7. Does your relative sleep excessively during the day?     0  1 →
8. Does your relative have any other night-time behaviors that bother you that we haven't talked about?     0  1 →

**Frequency**

- 1 Occasionally – less than once per week
- 2 Often – about one or two times per week
- 3 Frequently – several times per week but less than every day
- 4 Very frequently – once or more per day (every night).

**Severity**

- 1 Mild – night-time behaviors occur but are not particularly disruptive.
- 2 Moderate- night-time behaviors occur and disturb your relative and your sleep; more than one type of night-time behavior may be present.
- 3 Marked – night-time behaviors occur; several types of night-time behavior may be present; your relative is very distressed during the night and your sleep is markedly disturbed.

**Caregiver Distress**- How emotionally distressing do you find this behavior?

- 0 Not at all
- 1 Minimally
- 2 Mildly
- 3 Moderately
- 4 Severely
- 5 Very severely/ extremely

Tractenberg, RE et al. (2003). *J.Sleep Research*, 12(4): 331-337.

**Sleep Log Instructions:** (1) Complete the log every day. (2) Record the date and time you went to bed to sleep ("lights out") and the time you got up to start your day as displayed on your sleep watch in military time. If you do not wear a sleep watch, please use your own clock or watch.

Day	Date	Time you got up for the day	Time you tried to go to sleep ("light's out")	Please note and describe any of the following: <ul style="list-style-type: none"> <li>• Unusual bed time (in or out)</li> <li>• Not a typical day.</li> </ul> <b>What time did you put on the devices today?</b> Hour: ___ Min: ___
Day 1 (day you put on the device)	MM / DD / YYYY	n/a	Hour: ___ Min: ___	
Day 2	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Day 3	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Day 4	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Day 5	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Day 6	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Day 7	MM / DD / YYYY	Hour: ___ Min: ___	Hour: ___ Min: ___	
Last Day	MM / DD / YYYY	Hour: ___ Min: ___	n/a	<b>What time did you take off the devices?</b> Hour: ___ Min: ___

**Did you experience any of the following while wearing the device(s)?:**

1. Skin irritation: <input type="checkbox"/> Yes <input type="checkbox"/> No	2. Swelling: <input type="checkbox"/> Yes <input type="checkbox"/> No
a. If Yes, with which device(s)? <input type="checkbox"/> activPAL <input type="checkbox"/> Actwatch	b. If Yes, with which device(s)? <input type="checkbox"/> activPAL <input type="checkbox"/> Actwatch
3. Other problem (Please describe):	

Please return the activPAL and sleep watch and the tracking log in the pre-stamped envelope.

## Tricks for Getting Good Questionnaire/Log Data

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- ▶ Keep questions as brief and as simple as possible
- ▶ Provide clear written instructions, including any prescribed recommendations
- ▶ Practice filling them out together
- ▶ Review diaries every week when they are returned
- ▶ Persons with cognitive impairment may need caregivers to provide sleep diary reports
  - Caregiver reports aren't always reliable either!

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## Diagnostic/Treatment Considerations

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- ▶ If a primary sleep disorder is the cause of the sleep disturbance it should be treated directly
- ▶ If a sleep disturbance is co-morbid with an illness or medication, treat both these and the sleep disturbance independently
- ▶ People with dementia can have their sleep negatively impacted by other medical/environmental causes and poor sleep habits
- ▶ Modifying sleep habits and environments isn't easy. Be specific and realistic in what you ask and expect.

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ACP recommends that all adult patients receive cognitive behavioral therapy for insomnia (CBT-I) as the initial treatment for chronic insomnia disorder.

Qaseem et al., *Annals of Internal Medicine*, 2016, 165:125-133

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### Cognitive-Behavioral Treatment for Insomnia: A Multicomponent Approach

Domain	Technique	Aim
Behavioral components	Sleep hygiene	Promote habits and environments that help sleep
	Stimulus control	Strengthen bed and bedroom as sleep stimuli
	Sleep (bed) restriction	Restrict time in bed (including naps) to improve sleep depth and consolidation
Cognitive components	Cognitive therapy	Address thoughts and beliefs that interfere with sleep
	Relaxation training	Reduce arousal and decrease anxiety
	Acceptance based	Decrease struggle to control sleep
Circadian components	Circadian rhythm entrainment	Reset or reinforce biological rhythm (with light and/or exercise)

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## Socio-Cultural Considerations

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- ▶ Sleep environments
  - Light, noise, safety, housing insecurity
- ▶ Employment status
  - Shift work/rotating hours, on-the-job stress
- ▶ Familial or cultural values/beliefs/sleep practices
  - Napping, bed/rise times, multiple generations cohabitation, pre-bedtime activities, expectations about sleep quality
- ▶ Health status
  - Substance use patterns, hospitalization and recovery, dialysis, medications/medical morbidities

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## Lessons Learned: CBT-I with Normal Aging

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- ▶ Unrealistic client expectations
- ▶ Daytime side effects from CBT-I (fatigue, poor concentration, mood swings)
- ▶ Real/perceived obstacles to sleep plans (bed partner, mobility issues, animal love, “it’s cold and dark”)
- ▶ Boredom during increased out-of-bed time
- ▶ Paradoxical reactions (e.g., anxiety during relaxation)
- ▶ “It’s not fair!”

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## Sleep & Mild Cognitive Impairment

- ▶ Unlikely primary care provider is talking about sleep so may not seem important to client
- ▶ Forgetfulness, executive dysfunction can plague action plans
- ▶ Increased importance of involving bed partner in behavioral plans
- ▶ Anxiety and depression often accompany new diagnoses; relaxation/mindfulness training can be very useful
- ▶ Emphasize regular sleep-wake schedule, even if person is not reporting insomnia symptoms

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## Treatment of Sleep & Dementia



All intervention roads lead to the caregiver

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## CBT-I Components That Caregivers Can Help Implement

Domain	Technique	Aim
Behavioral components	Sleep hygiene	Promote habits and environments that help sleep
	Sleep compression	Restrict time in bed (including naps) to improve sleep depth and consolidation
	Functional analysis ("ABC's")	Identify "triggers" and ineffective responses to nocturnal awakenings
Cognitive components	Relaxation training	Reduce arousal and decrease anxiety
Circadian components	Circadian rhythm entrainment	Reset or reinforce biological rhythm (with light and/or exercise)

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## CBT-I Components Less Useful for Persons with Neurocognitive Disorders

Domain	Technique	Aim
Behavioral components	Stimulus control*	Strengthen bed and bedroom as sleep stimuli
Cognitive components	Cognitive therapy	Address thoughts and beliefs that interfere with sleep
	Acceptance based	Decrease struggle to control sleep

\*There is some overlap between sleep hygiene and stimulus control recommendations

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## Sleep Hygiene Recommendations

- ▶ Regularize sleep / wake schedules (especially rise time)
- ▶ Limit daytime napping
- ▶ Establish a relaxing bedtime routine
- ▶ Increase daytime light exposure, keep sleep areas dark
- ▶ Reduce alcohol and caffeine use
- ▶ Keep bedroom a comfortable (cooler) temperature
- ▶ Eliminate environmental factors that interrupt sleep (pets!)
- ▶ Avoid stimulants and stimulating behavior at night (including screens and radio)
- ▶ Don't watch the clock
- ▶ Get regular exercise earlier in day
- ▶ Urinate before bedtime
- ▶ Ask your pharmacist about medication side effects

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## Sleep Hygiene Considerations

### ► Age-related

- Make sure recommendations (e.g., dietary, fluid intake) are consistent with medical recommendations

### ► Compliance needs your support

- Don't just hand people a list and say, "Do this..."
- People so rarely follow suggestions that sleep hygiene recommendations are often used as a control condition in randomized trials
- When they do try to make changes, they often don't stick with them.
  - This is even more so with caregivers of cognitively impaired persons

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## Sleep Compression

### ► If you reduce your time in bed, you increase your time awake

- Being awake longer will help you fall asleep faster and stay asleep for more of the night



### ► How long should I stay in bed?

- Keep a sleep diary for 5 – 7 days
- Write down time you went to bed, time you got up, and get an average "bed window" for the week
- The following week, aim for ½ hour less in bed at night. Keep a consistent schedule
- Continue cutting back by ½ hour each week until sleep improves

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## Sleep Compression Considerations

### ► Age-related

- Don't compress to less than 6 hrs at night
- Take daytime naps into consideration when developing sleep window plan
- This can be hard for caregivers to implement, especially if it causes arguments or disrupts caregiver quality time

### ► Assess safety concerns

- Don't use for persons with conditions exacerbated by sleepiness (epilepsy, mania, parasomnias, SDB)
- Monitor for adverse daytime effects (e.g., sleepiness while driving)

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## Dementia and the ABCs of Behavior Change



### **Activator:**

What happened before the behavior?



### **Behavior:**

What was the person with dementia doing? With whom, where, when?



### **Consequence:**

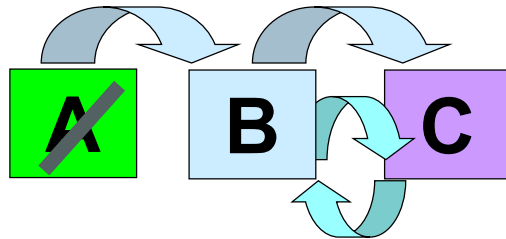
What happened after the behavior?

Teri L, Logsdon RG. (1990). *Comprehensive Therapy* 16(5):36-42

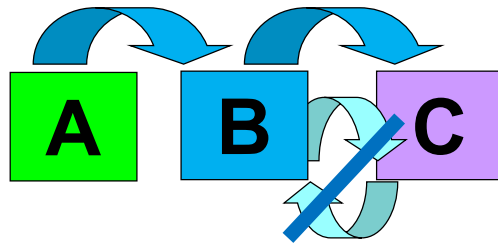
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## ABC Functional Analysis



*Identifying and changing activators may prevent a behavior from happening*

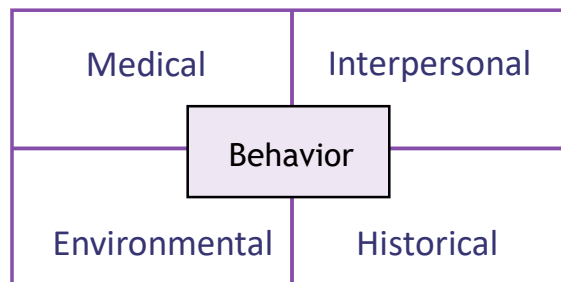


*Changing your response to behaviors can reduce their duration, severity, and probability of occurring in the future*

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## Brainstorming Activators and Consequences



*What are some common medical, interpersonal, environmental, and historical factors that might impact behavior?*

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### Medical Causes

- Brain changes from aging or dementia
- Daytime napping
- Primary sleep disorders
- Medications
- Chronic pain
- Medical illness
- Hunger, thirst
- Incontinence
- Depression or anxiety
- Lack of daytime exercise

### Historical

- Poor sleep habits
- Diet
- Preferred routines (“owl/lark”)
- Past work schedules

### Interpersonal

- Roommate sleep habits
- Boredom or loneliness
- Caregiver habits

### Environmental

- Bedroom light exposure
- Noise
- Pets
- Temperature
- Uncomfortable bedding
- Season of year
- Visual exit cues
- Unfamiliar surroundings
- Sensory deprivation or overstimulation

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### A-B-C Problem Solving Plan

A

**Activator:** What happens before? *Mrs. A is sleeping; we don't know what wakes her up. When she gets dressed she leaves her room and either does inappropriate things or even leaves the house*

B

**Behavior:** What is the person doing? *Mrs. A dresses and leaves the house in the middle of the night*

Where does it happen? *Dresses in bedroom*

Who is there? *She is alone; daughter in her room*

When does it happen? *~ 3-4 am, almost every night*

C

**Consequence:** What happens after? *Daughter scolds Mrs. A and tells her to go back to bed; Mrs. A gets mad*

**Get Active: Making Change Happen!**

How could you possibly change the activators?

1. *Eliminate daytime napping and early bed time*
2. *Hang curtain in hall so Mrs. A doesn't see outside door*
3. *Install baby monitor so daughter hears Mrs. A get up*

How might you change the consequences?

1. *Get up when Mrs. A starts moving around and invite her nicely to come back to bed*
2. *Don't try to explain that it is night and she should be in bed. Don't yell or argue!!!*

Circle your best ideas to try this week!!!

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## Relaxation, Mindfulness, & Yoga

- ▶ There is not good empirical evidence that relaxation/meditation/yoga improve sleep in persons with dementia
- ▶ Anecdotally, some dyads enjoy them
- ▶ Pleasant visual imagery and/or building on a historical prayer habit may be soothing
- ▶ Simple yoga/stretching routines can be a pleasant event
- ▶ Creating a “buffer zone” between ending day activities and going to bed
- ▶ There is evidence mindfulness can enhance caregivers’ coping with dementia care

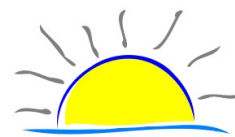


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## Strengthening Circadian Rhythms

- ▶ **Set consistent first exposure to light**
- ▶ **Increase daytime light**
  - Get outside whenever you can
  - Open household curtains during the day
  - Use full spectrum lighting if possible
  - Regular morning light will help you fall asleep earlier at night, evening light will help you fall asleep later
- ▶ **Decreasing nighttime light**
  - Use bathroom night lights not overhead lights
  - Close curtains to outside traffic and street light
  - No screens (computer, TV, smart phone) in bed



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## Bright Light Therapy Considerations

- Contraindicated in persons with eye abnormalities, systemic illnesses that affect the retina, or those using photosensitizing medications
- Bright light can induce migraines (in ~1/3 of migraine sufferers), mania in bipolar individuals, agitation in cognitively impaired individuals
- Some people with dementia really hate having a bright light source nearby
- Light has an energizing effect at night, so don't use immediately before bedtime
- Sleep benefits of bright light decay swiftly when you stop using it
- Use full spectrum, not blue light therapy devices

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## Simple Circadian “Healthy Patterns”

- ▶ **Morning**
  - Activities that support preserved cognitive capabilities, e.g., reminiscence-based or photo-sorting activities.
- ▶ **Afternoon**
  - Physical activity based on the level of physical functioning of the person living with cognitive impairment.
- ▶ **Evening**
  - Sensory-based relaxation practices (yoga, mindfulness audiorecordings, aroma therapy, etc.)

Stable/consistent daily activities can support robust sleep/wake patterns

Hodgson NA, et al. 2024. *Innovations in Aging* 8(1): igad132. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10790812/>

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## Points to Remember #4

*Multiple non-pharmacological strategies for improving sleep in persons with insomnia exist and have relatively few contraindications for their use.*

*All have been validated in older adult populations, although there is less evidence for PLWD.*

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## Sleep in Dementia

McCurry SM, Gibbons LE, Logsdon RG, Vitiello MV, Teri L. (2005) Nocturnal Insomnia Treatment and Education for Alzheimer's Disease (NITE-AD): A randomized controlled trial. *J Am Geriatr Soc*, 53, 793-802.

McCurry SM, Pike KC, Vitiello MV, Logsdon RG, Larson EG, Teri L. (2011) Increasing walking and bright light exposure to improve sleep in community-dwelling persons with Alzheimer's disease: Results of a randomized, controlled trial. *J Am Geriatr Soc*, 59(8):1393-1402.

### Active treatments:

- ▶ Walking only (2011)
- ▶ Light exposure only (2011)
- ▶ Combination walking, light, sleep and behavior management education (NITE-AD)

### Control:

- ▶ Educational Contact Control

**6 sessions over 8 weeks**

**MMSE 0-30; Mean = 12 (2005), 19 (2011)**

**Assessments at baseline, 2, and 6 months**

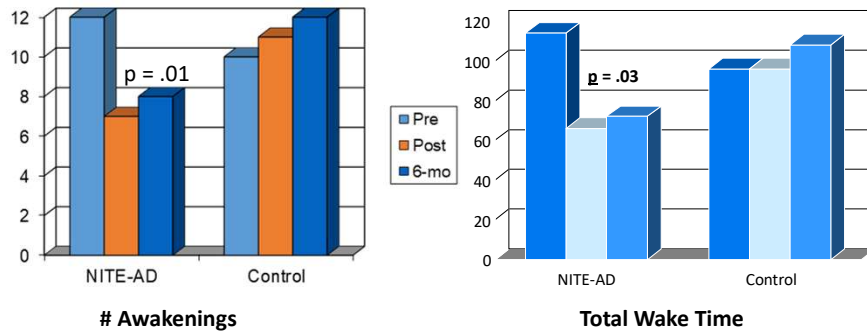
**N=36 (2005), N=132 (2011) persons with Alzheimer's disease**

Funding: NIMH K01-MH01644 and R01-MH072736 (S McCurry, PI)

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## NITE-AD Study: Sleep Changes in Persons with Dementia, 2005 (n=36)



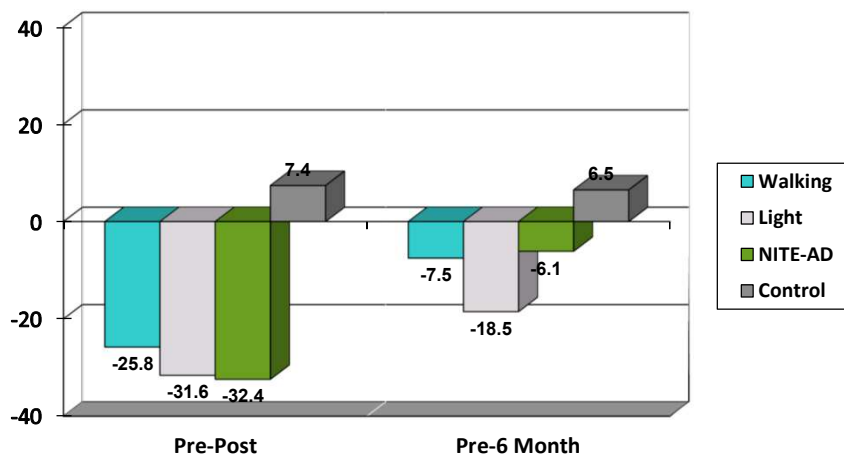
**Changes in community dwelling participant total wake time and # awakenings, combination treatment vs. control**

McCurry, et al. 2005. *J Am Geriatr Soc*, 53, 793-802.

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## Changes in Participant Total Wake Time at Night (mins), 2011 (n=132)



McCurry, et al. 2011. *J Am Geriatr Soc*, 59, 1393-1402.

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## Takeaway Messages from NITE-AD

- ▶ **Interventions need to be personalized to unique sleep disturbance and dyadic situation**
  - Intervention component preferences
  - Physical space, lighting, and walkability of environment
  - Nocturnal behaviors occur in a larger inter/intrapersonal context
- ▶ **Caregiver proxy reports about sleep in persons with dementia are not always reliable**
  - Impacted by caregiver characteristics
  - Improvements less than 1 hour not very meaningful
  - Sleeping area: shared or not

McCurry et al. 2006, *Am J Geriatr Psychiatry*, 14(2): 112-120; McCurry et al. 2010, *Gerontologist*, 50(Special Issue I): 313; McCurry et al. 2010, *Am J Alzheimers Dis Other Demen*, 25(6) 505-512

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## Behavioral Lessons: Changing PWLD Sleep

- ▶ Caregivers often use care-receiver sleep as respite time
  - Many caregivers are reluctant to give it up
- ▶ Keeping a person with dementia awake who wants to sleep can be challenging
  - Must be done without increasing conflict or placing undue burden on caregiver to be activity director
- ▶ Keeping a person with dementia asleep can also be challenging
  - Particularly when a person is inactive or napping throughout the day

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## Behavioral Lessons: Caregiver Considerations

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- ▶ Caregiver realistic expectations: Will amount of improvement be worth the effort?
- ▶ Ascertain if the caregiver is getting some benefit from the current sleep pattern
- ▶ Find ways to make interventions enjoyable and compatible with other household routines
- ▶ Caregiver sleep problems may need to be treated independently

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## Points to Remember #5

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*Sleep interventions for cognitively impaired individuals and caregivers must be individualized to each situation.*

*There are a wide variety of contextual variables that impact treatment efficacy and acceptability of behavioral plans.*

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## A Few Miscellaneous Resources

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- ▶ CBT-I International Directory Listing <https://cbti.directory/>
- ▶ Check your state psychological association webpage for search engine to “find a psychologist” with CBT-I and/or aging specializations  
[https://mms.wspapsych.org/members/directory/search\\_bootstrap.php?org\\_id=WSPA](https://mms.wspapsych.org/members/directory/search_bootstrap.php?org_id=WSPA) (Washington state)
- ▶ American Association of Sleep Medicine aging website  
<https://sleepeducation.org/category/aging/>
- ▶ US Veteran’s administration free CBT-I app  
<https://mobile.va.gov/app/cbt-i-coach>

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## 2024 Spring NW GWEC Dementia Healthcare Series



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