

# Sleep Management in the Older Adult



Peggy Burhenn, MS, CNS, AOCNS

Slides created in collaboration with Finly Zachariah, MD

Kate Kravits, MA, RN, HNB-BC, LPC, NCC, ATR-BC, Jaroslava Salman, MD, FAPM

NIH Award 1R25CA183723-01A1



# Objectives

- Describe evidence-based data related to insomnia and cancer
- Assess a patient for sleep related problems
- Describe non-pharmacological methods of sleep promotion that can be suggested to patients

# Normal Sleep Architecture

- Healthy adults require 7-9 hours a night
- 4-6 sleep cycles per night, each lasting about 90 minutes
- Mostly non-REM sleep (75%) with short periods of REM (25%)
- Deep, slow wave sleep predominates early; sleep gets lighter closer to wakening

# Typical Sleep Changes with Aging

## Risk factors

- Chronic health conditions (CHF, GERD, COPD)
- Nocturnal urination
- Medications (ex: dex)
- Increased sensitivity to caffeine/alcohol
- Environment
- Lifestyle changes
- Depression
- Pain

## Sleep changes:

- Delayed sleep onset
- Early to bed and early to rise
- Less restorative sleep and REM sleep
- Lower arousal threshold
- Daytime napping
- Fragmented sleep
- Less total asleep time

# Effects of Sleep Quality on Health Outcomes

- Daytime fatigue/reduced concentration
- Increase risk for accidental death
- Increase cognitive and motor impairment
- Irritability/Anxiety/Depression
- Increased length of stay
- Predisposes to delirium
- Correlated with increased pain, depression, and functional impairment

# Extent of the problem in oncology

- Insomnia 3xs higher incidence with chemo (n=823)
- Surgical oncology pts experienced 59% incidence of insomnia at baseline (n=962)
- Poor sleep quality has been associated with cancer and chemotherapy
- Oncology patients with insomnia also reported more symptoms of depression and fatigue

# Sleep History

Basic questions about breathing difficulties, sleep patterns, snoring and daytime sleepiness

Examples:

- Do you have any difficulty falling asleep?
- Are you having any difficulty sleeping until the morning?
- Are you having difficulty sleeping throughout the night?
- Have you or anyone else ever noticed that you snore loudly or stop breathing in your sleep?
- Do you find yourself falling asleep during the day when you don't want to?

Follow-up questions about length of time asleep and awake, frequency of arousals, and leg movements

Examples:

- What time do you usually fall asleep?
- How often do you awaken?
- Do you have any pain, discomfort, or shortness of breath?
- Are you sleepy or tired during the day?
- Do your legs kick or jump around while you sleep?

# Assessment of Insomnia: The Epworth Sleepiness Scale (ESS)

- How likely someone would fall asleep in these situations
  - 0 = would never doze
  - 1 = slight chance of dozing
  - 2 = moderate chance of dozing
  - 3 = high chance of dozing
- Situations
  - Sitting and reading
  - Watching television
  - Sitting inactive in a public place (theatre, meeting)
  - As a passenger in a car for an hour without a break
  - Lying down to rest in the afternoon when circumstances permit
  - Sitting and talking to someone
  - Sitting quietly after a lunch without alcohol
  - In a car, while stopped for a few minutes in traffic
- Score results:
  - 1-6            Congratulations you are getting enough sleep!
  - 7-8            Your score is average
  - 9 and up      Very sleepy and should seek medical advice



# Pittsburgh Sleep Quality Index (PSQI)

Instructions: The following questions relate to your usual sleep habits during the past month only. Your answers should indicate the most accurate reply for the majority of days and nights in the past month. Please answer all questions.

During the past month,

1. When have you usually gone to bed?

\_\_\_\_\_

2. How long (in minutes) has it taken you to fall asleep each night?

\_\_\_\_\_

3. When have you usually gotten up in the morning? \_\_\_\_\_

4. How many hours of actual sleep do you get at night? (This may be different than the number of hours you spend in bed) \_\_\_\_\_

5. During the past month, how often have you Not during Less than Once or Three or

had trouble sleeping because you... the past once a twice a more times month (0) week (1) week (2) week (3)

a. Cannot get to sleep within 30 minutes

b. Wake up in the middle of the night or early morning

c. Have to get up to use the bathroom

d. Cannot breathe comfortably

e. Cough or snore loudly

f. Feel too cold

g. Feel too hot

h. Have bad dreams

i. Have pain

j. Other reason(s), please describe, including how often you

have had trouble sleeping because of this reason(s):

# Pittsburgh Sleep Quality Index (PSQI)

6. During the past month, how often have you taken medicine (prescribed or “over the counter”) to help you sleep?
7. During the past month, how often have you had trouble staying awake while driving, eating meals, or engaging in social activity?
8. During the past month, how much of a problem has it been for you to keep up enthusiasm to get things done?
9. During the past month, how would you rate your sleep quality overall?

- Available at Try This [www.ConsultGerRN.org](http://www.ConsultGerRN.org)
- Scoring

# Commonly Used Medications

- Older adults have increased sensitivity- Avoid use
- Benzodiazepine (temazepam, triazolam)
- Non-benzodiazepine (zolpidem, eszopiclone)
- Antihistamines (diphenhydramine)
  - Anticholinergic: cognitive impairment & urinary retention
  - Tolerance can develop in less than a week.
  
- If used, start low and go slow
- NCCN guidelines recommend:
  - Sleep hygiene education
  - Sleep restriction methods
  - Cognitive behavior therapy

# Discuss Risk Benefit

- Adverse Effects
  - Increased falls and hip fractures
  - Recent past amnesia
  - Morning sedation
  - Impaired balance
  - Complex sleep behaviors: sleepwalking, sleep related eating, etc
  - Rebound insomnia, withdrawal, and dependence

# Case Study

- Mrs. H is a 74 year old female with metastatic breast cancer receiving trastuzumab and lapatinib
- She reports poor sleep requesting “sleeping pill”
- She has poor sleep initiation and stays awake until 0400 tossing and turning
- Later takes a “Tylenol PM” (diphenhydramine) and falls asleep until 1200
- She is unable to break the cycle of poor sleep
- She is frequently tired during the day and is too tired to get exercise except walking her dogs for short periods

# Sleep Management

- Our nurse had a conversation with Mrs. H about her sleep habits.
- Discussed that all “sleeping pills” have some side effects. We would prefer that she try some non-medication efforts.
- Patient was not aware of side effects of diphenhydramine.
- Patient reports watching TV in bed late at night when she cannot sleep.
- Patient had not tried any non drug remedies

# Reinforce SLEEP Hygiene

S- Stimulants : Avoid

L- Light : Daytime not night

E- Exercise : Daily

E- Every night follow a routine

P- Promote sleep

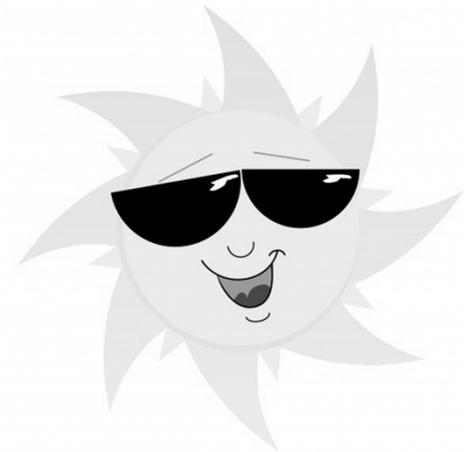
## S- Stimulants: Avoid

- Avoid caffeinated foods and drinks such as: coffee, tea, chocolate, and soft drinks after lunch
- Avoid alcohol and nicotine near bedtime
- Avoid them close to bedtime



## L- Light: Daytime not night

- Expose yourself to bright light during the day
- Eye masks at night
- Turn off the TV and computer prior to bedtime
  - Includes tablets and phones
  - Screen light mimics daylight



## E- Exercise: Daily



- Exercise daily
- Limit naps
- Encourage activity during the day
- Avoid strenuous exercise 2 hours before bedtime
- Yoga- a 4-week yoga program had significantly reduced insomnia and increased QoL in breast cancer patients on hormonal therapy (Mustian, 2013)
- Exercise 30 minutes 4 xs per week slept 45 minutes longer after 4 months (Reid, 2010)

## E- Every night follow a routine

- Develop a bedtime ritual
  - Have a snack or cup of decaf tea
  - Personal hygiene
  - Reading, meditation, or prayer
- Consistent bedtime and wake times



## P- Promote sleep

- Sleep in a dark, cool, quiet, and relaxing room
- Decrease noise (consider white noise or ear plugs)
- Eat a light protein snack
- Lavender oils
- Relaxation techniques



# Interventions

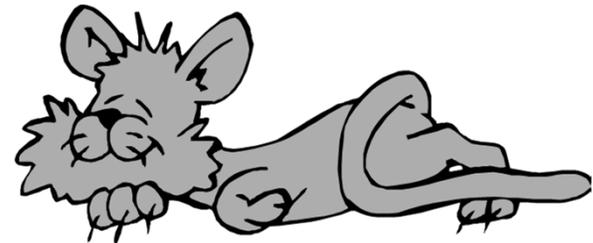
## Relaxation Strategies:

- Engage in activities to reduce stress:
  - Reading
  - Meditation/prayer
  - Music
  - Warm shower or bath
  - Massage
  - Progressive relaxation or guided imagery
  - Offer patients a backrub before sleeping



# Interventions

- Relaxation training at COH
  - Guided imagery
    - On the inpatient TV
    - 5 versions available- 2 in Spanish, 3 English
  - Abdominal breathing
    - Deep breathing exercise
    - 5 minute version on the inpatient TV





Contents lists available at ScienceDirect

Geriatric Nursing

journal homepage: [www.gnjournal.com](http://www.gnjournal.com)



## Nonpharmacological interventions to improve sleep in nursing home residents: A systematic review

Binghan Shang<sup>a,#</sup>, Huiru Yin<sup>a,#</sup>, Yong Jia<sup>a</sup>, Jinping Zhao<sup>a</sup>, Xiangfei Meng<sup>a</sup>, Li Chen<sup>a,\*</sup>, Peng Liu<sup>b,\*</sup>

<sup>a</sup> School of Nursing, Jilin University, No.965 Xinjiang Street, Changchun, Jilin 130021, People's Republic of China

<sup>b</sup> School of Mechanical and Aerospace Engineering, Jilin University, No.5988 Renmin Street, Changchun, Jilin 130021, People's Republic of China

- Systematic review (28 RCT)
- Physical activity (including exercise bands)
- Mind-body (PMR, Yoga)
- Accupressure
- Chamomile
- Not effective (massage, melatonin, light therapy)

## Case Study Mrs. H

- Our nurse discussed Mrs. H's daily routine and lifestyle
- The following recommendations were made:
  - Improve sleep hygiene
    - Only go to bed when sleepy
    - Maintain a consistent bedtime and wake up time
    - No TV late at night
    - Get up if not falling asleep and do something until you feel sleepy
  - Increase exercise- Mrs. H agreed that she could take longer walks with the dogs

# Intervention: Stimulus control

- Reverse negative associations
- Create an environment that promotes sleep
  - Go to bed only when sleepy
  - Maintain a regular schedule
  - Avoid naps
  - Use the bed only for sleep and intimacy
  - If unable to fall asleep engage in a relaxing activity until sleepy then go back to bed



# Interventions



- Cognitive Behavior Therapy
  - Develop positive experience/beliefs/habits
  - Cognitive aspects (racing mind, worry)
  - Over weeks with a trained therapist



# Nurse-intervention Inpatient Sleep Protocol

- N=59 (experimental design) Sleep improved
- Adhered to patients normal bedtime and regimen
- Personal hygiene assistance, bedtime awareness, minimizing bedside conversations, straightening the bed linens, backrubs, offering warm drinks and/or snacks at bedtime
- Avoiding talking at the bedside at night
- Darkening the room
- Controlling room temperature
- Reinforces need for basic nursing skills



# Interventions-JAMA report July 2013



## Limit night time vital signs

- MEWS (Modified Early Warning Score) data
  - Respirations, Pulse, BP, Neuro, urine output
- Adds to fragmented sleep, negative outcomes
- Sleep deprivation has been implicated in the 30 day readmission rates
- Half of all night VS were in low risk pts
- Discuss with MD need for nighttime VS
- Little evidence supports night time VS taking

## Case Study Mrs. H

- On the next clinic visit 3 weeks later
- Mrs. H reported that she had implemented our suggestions and she was sleeping better
- She had discontinued the use of diphenhydramine
- She initiated melatonin 1.5mg 30 minutes before sleep
- We reinforced relaxation strategies and exercise

# Pharmaceutical Recommendations

## Orders include

- All hypnotics have a risk for adverse events.
- Discuss risks and benefits with patient prior to ordering.
- Consider the timing of diuretic medications to avoid frequent awakenings for elimination
- Consider the timing of steroids and other medications that can impact sleep
- Consider discontinuing vitals and other disturbances at night for stable patients

# Routine Insomnia Orders

- Encourage patients to turn off TVs, computers, and other electronics overnight
- Keep rooms light during the day and dark at night
- Suggest the regulation of fluid intake and reduction in caffeine prior to bedtime
- Encourage bowel and bladder elimination prior to sleep

# Routine Insomnia Orders (Continued)

- Encourage high protein, light snacks within two hours of bedtime if patient's dietary restrictions allow:
  - Renal Diet: do not suggest snacks
  - Cardiac Diet:
    - Low Fat Cottage Cheese, reduced fat yogurt, cereal/milk, ½ chicken sandwich
  - Regular Diet: *Any of above as well as,*
    - Cheese or Peanut Butter with saltine or graham crackers, flan, cottage cheese, yogurt

# Routine Insomnia Orders (Continued)

## Consults:

- PT and OT evaluation
  - Exercise improves sleep quality, onset latency, and duration of sleep
- Social Work consult for Insomnia  
Cognitive Behavioral Therapy

# Summary

- Assess patients for complaints of insomnia
- Utilize non-pharmacological methods as a first line treatment for insomnia
  - Sleep hygiene
  - Cognitive behavioral therapy
  - Nursing interventions
- Staff may need refresher on interventions
- If medications are used:
  - Start low, use a short course
  - Use with caution in older adults

**SHhhhhh.....**



Photo courtesy of Finly Zachariah