Insomnia treatment in primary care

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Conflict of Interest Disclosures

☐ The authors do not have any potential conflicts of interest to disclose,

OR

☒ The authors wish to disclose the following potential conflicts of interest:

Type of Potential Conflict	Details of Potential Conflict
Grant/Research Support	
Consultant	Bayer, BeHealth Solutions, Emmi Solutions
Speakers' Bureaus	
Financial support	
Other	CME Institute

☐ The material presented in this lecture has no relationship with any of these potential conflicts

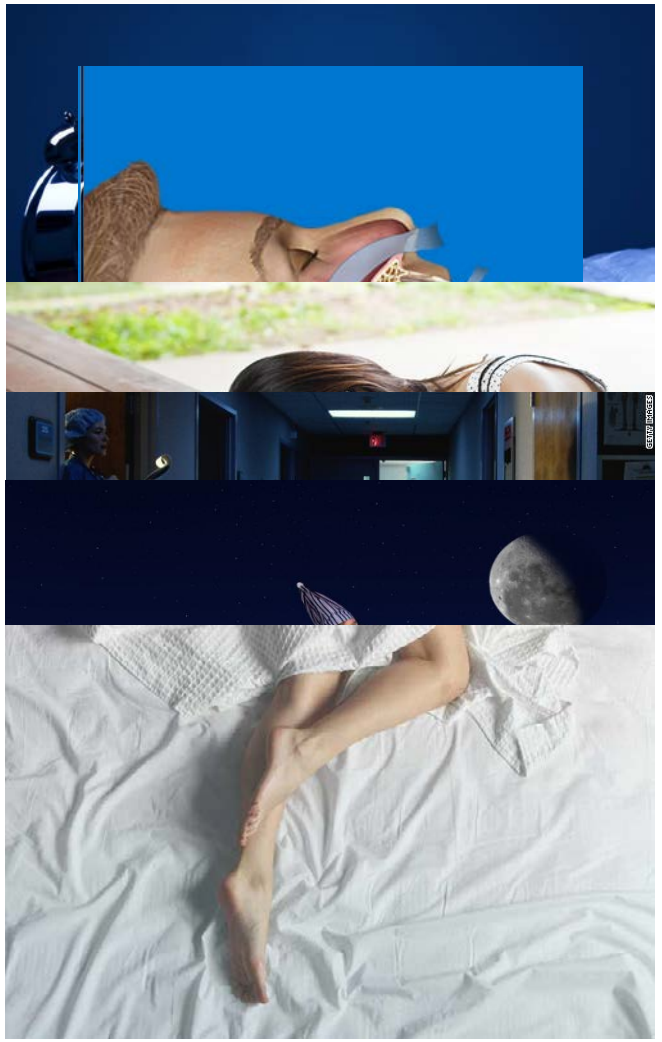
☒ This talk presents material that is related to one or more of these potential conflicts, and references are provided throughout this lecture as support.

Insomnia in primary care

- Diagnosis and assessment
- Practical behavioral treatment
- Practical pharmacologic treatment

Types of sleep disorders

Category	Description



American Academy of Sleep Medicine, International Classification of Sleep Disorders, 3rd Edition, 2014

Insomnia disorder, DSM-5

A. Complaint of dissatisfaction with sleep quantity or quality, with one (or more) of the following symptoms:
   1. Difficulty initiating sleep
   2. Difficulty maintaining sleep, characterized by frequent awakenings or problems returning to sleep after awakenings.
   3. Early morning awakening with inability to return to sleep

B. Significant distress or impairment in social, occupational, educational, academic, behavioral, or other important areas of functioning.

C. Occurs at least 3 nights per week

D. Present for at least 3 months

E. The sleep difficulty occurs despite adequate opportunity for sleep

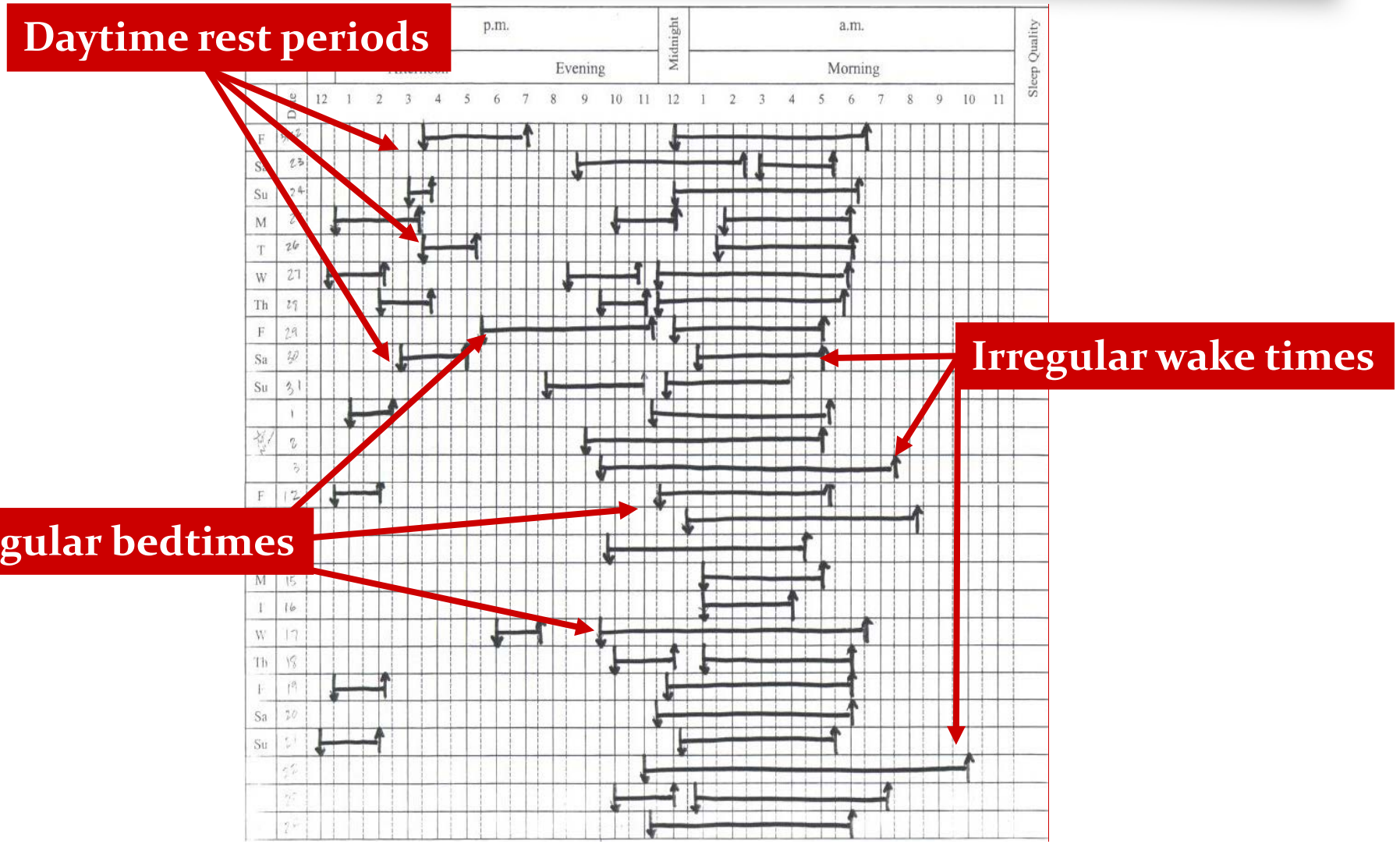
F. Not better explained by and does not occur exclusively during the course of another sleep-wake disorder, effect of drug/medication, or mental/ medical disorder

G. Can occur with or without comorbid mental, medical, sleep-wake disorder

Insomnia assessment: 24-hour history

- Sleep quality, satisfaction
- Temporal aspects of sleep
  - Bed time (vs. sleep time)
  - Out of bed time (vs. wake time)
- "Quantitative" aspects of sleep
  - Sleep latency
  - Awakenings
  - Sleep duration
- Sleep-related behaviors ("sleep hygiene"): Caffeine, alcohol, activities
- Day-to-day variability (weekends, vacations)
- Daytime activities and impairments: Napping, fatigue, cognitive function, mood
- Life situation and circumstances
- Other sleep disorder symptoms
  - Apnea (Snoring, sleepiness)
  - Restless legs (Urge to move)
  - Parasomnias (Unusual behavior)
  - Circadian rhythm disorders (Unusual timing)
- Medical and psychiatric disorders
- Sleep diary, wearable fitness/sleep trackers

Graphic sleep diary in insomnia patient



Insomnia ≠ Sleep Deprivation

	Insomnia	Sleep Deprivation
Sleep Opportunity	Adequate	Reduced
Sleep Ability	Reduced	Adequate

How to treat insomnia: Practice guideline from the American College of Physicians

Recommendation 1

- ACP recommends that all adult patients receive cognitive behavioral therapy for insomnia (CBT-I) as the initial treatment for chronic insomnia disorder.
- Grade: strong recommendation, moderate-quality evidence

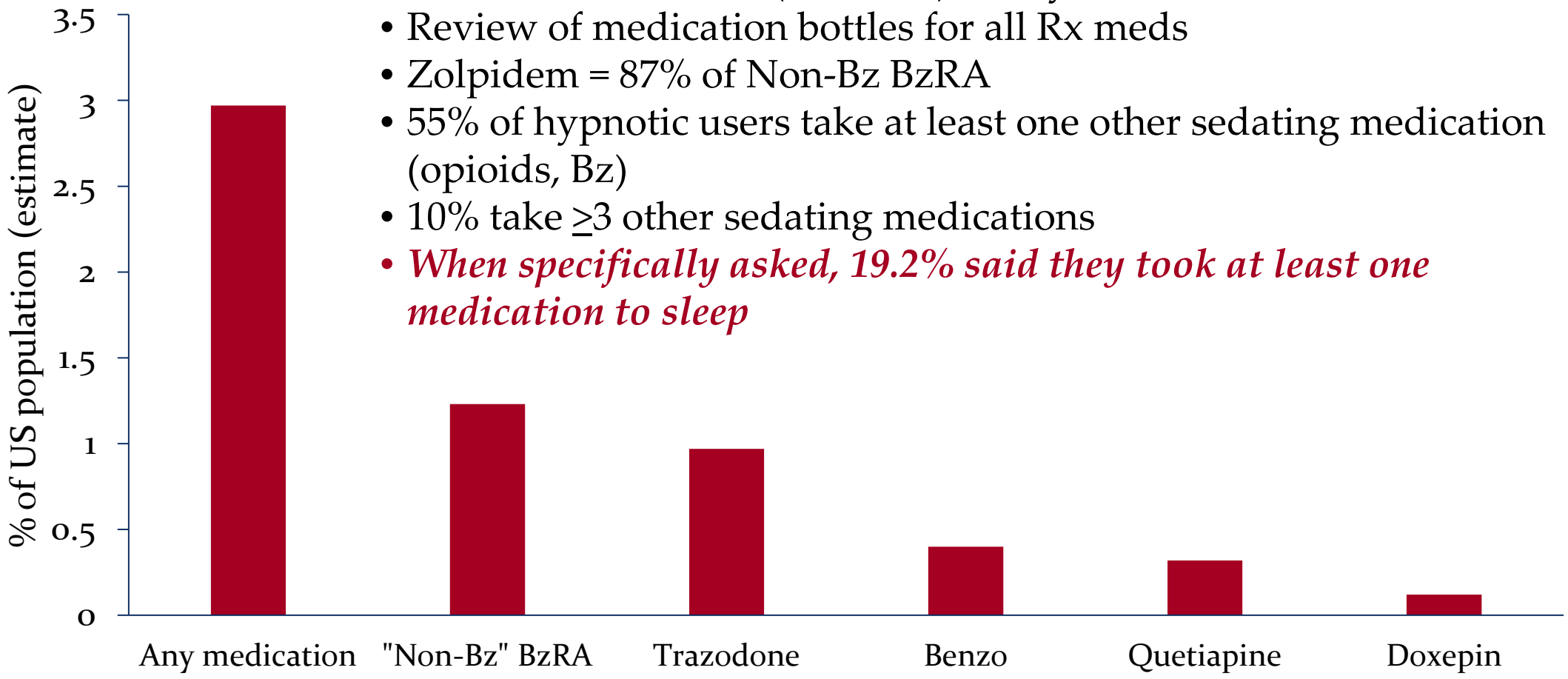
Recommendation 2

- ACP recommends that clinicians use a shared decision-making approach, including a discussion of the benefits, harms, and costs of short-term use of medications, to decide whether to add pharmacological therapy in adults with chronic insomnia disorder in whom cognitive behavioral therapy for insomnia (CBT-I) alone was unsuccessful.
- Grade: weak recommendation, low-quality evidence

Qaseem, *Ann Int Med,* 2016. 165 doi:10.7326/M15-2175

Medications commonly used for insomnia: National Health and Nutrition Epidemiological Survey, 1999-2010

- NHANES 1999-2010 (n=32,328), ≥ 20 y.o.
- Review of medication bottles for all Rx meds
- Zolpidem = 87% of Non-Bz BzRA
- 55% of hypnotic users take at least one other sedating medication (opioids, Bz)
- 10% take ≥3 other sedating medications
- ***When specifically asked, 19.2% said they took at least one medication to sleep***



Bertisch, *SLEEP* 2014; 37:343-349.

Medications used to treat insomnia

Medication Class	Examples	Potential Advantages	Potential Disadvantages
Benzodiazepine receptor agonists (BzRA)	Zolpidem, zaleplon, eszopiclone, temazepam	• Efficacious • Variety of half-lives	• Cognitive effects • Falls • Dependence
Sedating antidepressants	Doxepin, *amitriptyline, nortriptyline*	• No abuse • Effective for WASO	• Anticholinergic at high doses • Cardiac effects • Falls
Antihistamines	Diphenhydramine, doxylamine	• Widely available	• Cognitive effects • Limited efficacy data
Melatonin, receptor agonist	*Melatonin,* ramelteon	• "Natural" mechanism • Some efficacy data	• Limited efficacy on WASO
Orexin antgonist	Suvorexant	• Novel mechanism, blocks wake signal	• Limited efficacy, effectiveness data
Sedating antipsychotics	*Quetiapine, olanzapine*	• Not BzRA • Efficacy for psychosis, depression	• Metabolic, neurological, cardiovascular effects
Miscellaneous	*Gabapentin, pregabalin*	• Not BzRA • Efficacy for pain	• Limited sleep efficacy data

WASO = Wakefulness After Sleep Onset. *Italics = Not FDA-approved for insomnia*

Clinical practice guideline for pharmacologic treatment of chronic insomnia in adults

Weak evidence FOR

- Suvorexant (Belsomra)[2]
- Eszopiclone (Lunesta)[1,2]
- Zaleplon (Sonata)[1]
- Zolpidem (Ambien)[1,2]
- Triazolam (Halcion)[1]
- Temazepam (Restoril)[1,2]
- Ramelteon (Rozerem)[1]
- Doxepin (Silenor)[2]

Weak evidence AGAINST

- Trazodone (Desyrel)
- Tiagabine (Gabitril)
- Diphenhydramine (Benadryl)
- Melatonin
- Tryptophan
- Valerian

- Based on systematic review using Grading of Recommendations Assessment, Development, and Evaluation (GRADE) methodology.
- 2,821 studies reviewed, 129 studies included
- [1] = For sleep onset insomnia. [2] = For sleep maintenance insomnia

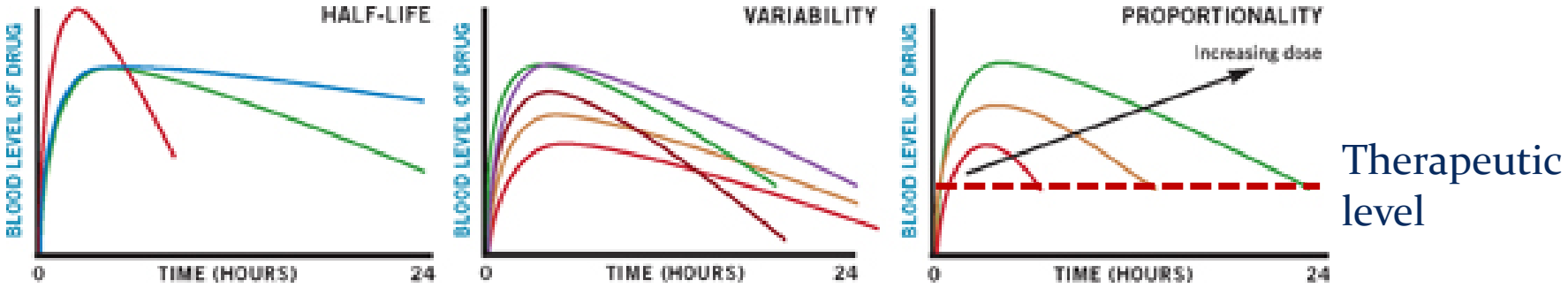
Sateia, Buysse, Krystal, Neubauer, Heald, 2017; *JCSM* 13; 307-349.

Benzodiazepine receptor agonists: Guidelines for clinical use

- Ensure proper diagnosis
- Evaluate and treat comorbid conditions
- Assess risk of dependence, abuse
- Start with short-acting agent in “therapeutic trial”
- Break the cycle of insomnia with consistent use for 1-4 weeks
- Aim for intermittent use if needed chronically
- Periodically evaluate for side effects
- Taper *very slowly* and by *lowest doses* possible when discontinuing

Practical aspects of pharmacotherapy for insomnia

- Realistic expectations
  - Sleeping pills vs. general anesthesia
  - Modest effects
  - The Olympic Sleep Team
- Characteristics of medications
  - Pharmacokinetics
  - Effects
  - Side effects



What do you do when BzRA don't work?

- Suvorexant
- Sedating antidepressants
  - Trazodone
  - Mirtazapine
  - Tricyclic
- Combination: BzRA + sedating cyclic drug
- Sedating antipsychotic drugs: Only when consistent with psychiatric diagnosis
- Other sedating drugs
  - Gabapentin, pregabalin
  - Tiagabine?
- Sedating antihistamines
- Other?

Behavioral treatments for insomnia

Technique	Aim
"Sleep hygiene" education	Promote habits that help sleep; eliminate habits that hurt sleep
Stimulus control	Strengthen bed/bedroom as sleep stimulus
Sleep restriction therapy	Restrict time in bed to improve sleep depth/consolidation
Cognitive therapy	Address maladaptive thoughts and beliefs; behavioral experiments
Relaxation training	Reduce physical/psychological arousal
Cognitive Behavioral Therapy for Insomnia (CBTI)	Combines elements of each of the above techniques

A diverse set of behavioral prescriptions designed to improve the quality of nocturnal sleep

Cognitive-behavioral treatments for insomnia: New approaches

- Brief(er) Treatments
  - Brief Behavioral Treatment for Insomnia[1,8]
  - ≤4 sessions, single session treatments, classroom/lecture
- Single-component treatments (stimulus control, sleep restriction)[9]
- Other types of therapists
  - Master's-level therapist,[2] nurse, social worker, peer specialist
- Groups[3,8]
- Telephone[4], Video tele-health/Skype™ [5]
- Self-help approaches[6]
- Online treatments: Sleepio™, SHUTi™, others[7]
- Mobile app-based: VA CBTI coach, iREST™, others

[1]Buysse, 2011; *Arch Int Med* 171(10):887-895. [2]Fields, 2013; *J Clin Sleep Med* 9(10):1093-1096. [3]Koffel, 2015; *Sleep Med Rev* 19:6-16. [4]Arnedt, 2013; *SLEEP* 36(3):353-362. [5]Savard, 2014; *SLEEP* 37(8):1305-1314. [6]Ho, 2015; *Sleep Med Rev* 19:17-28. [7]Cheng, 2012; *Psychother Psychosom* 81(4):206-216. [8]Lovato, 2014; *SLEEP* 37:117-126. [9]Epstein, 2012; *SLEEP* 35:795-805.

Brief Behavioral Treatment of Insomnia

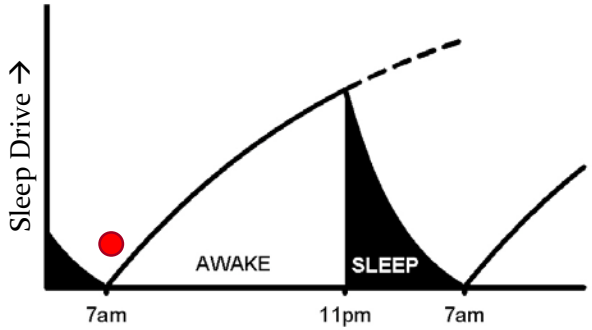
- Healthy Sleep Practices
- What Controls Sleep
- Brief Behavioral Treatment
- Action Plan

What controls sleep? The hourglass, the clock, and the alarm

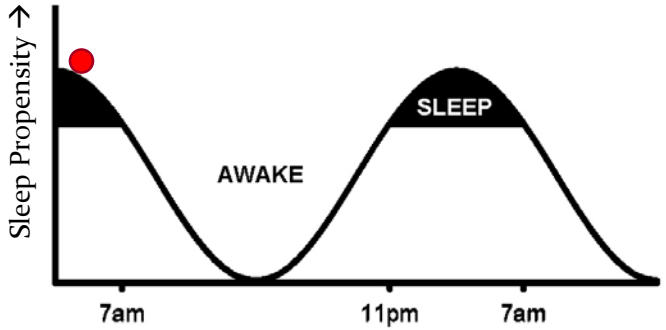
How long you've been awake

Time of day

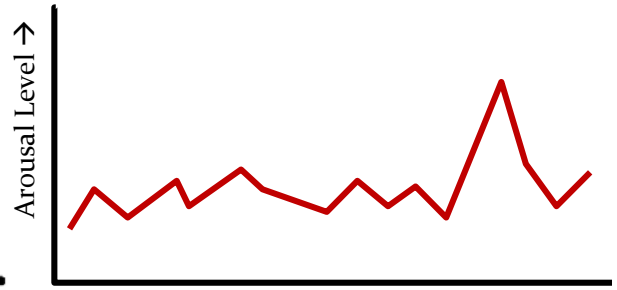
Level of arousal



Homeostatic sleep drive



Circadian sleep propensity



Psychophysiological arousal

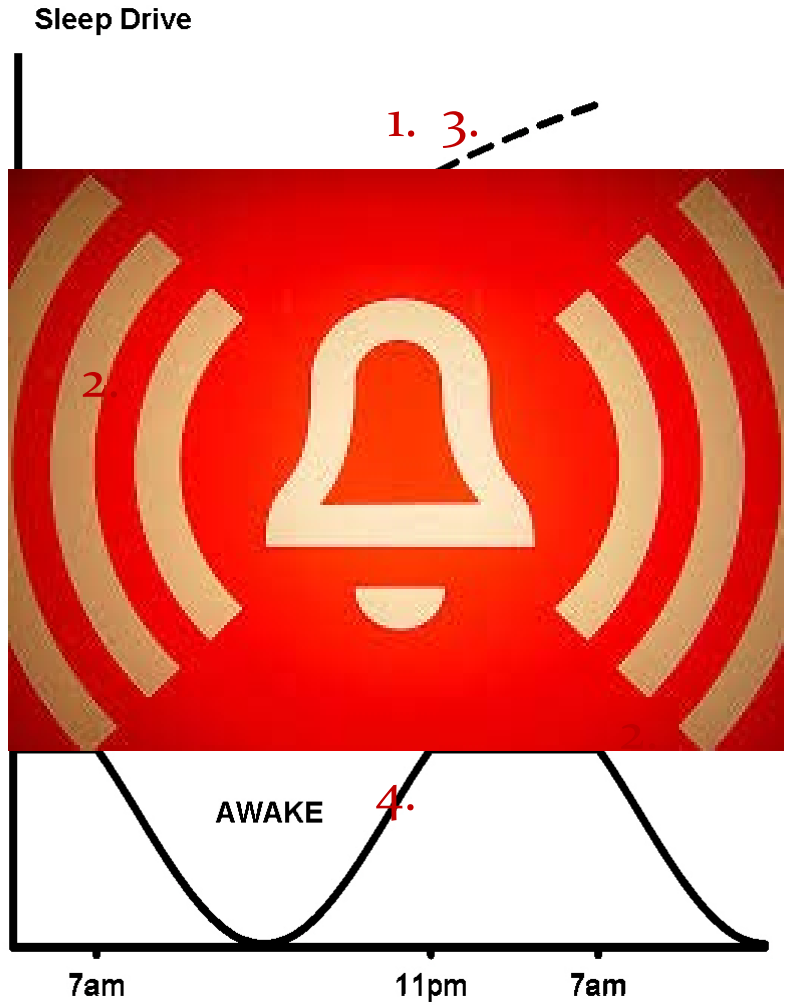
Getting started

What are your sleep times? (self-report, diary)
Bed time
Time out of bed (morning)
Total time in bed
Time to fall asleep
Awake during the night
Total awake during the night
Total sleep time (Time in bed – Awake time)

Brief Behavioral Treatment of Insomnia

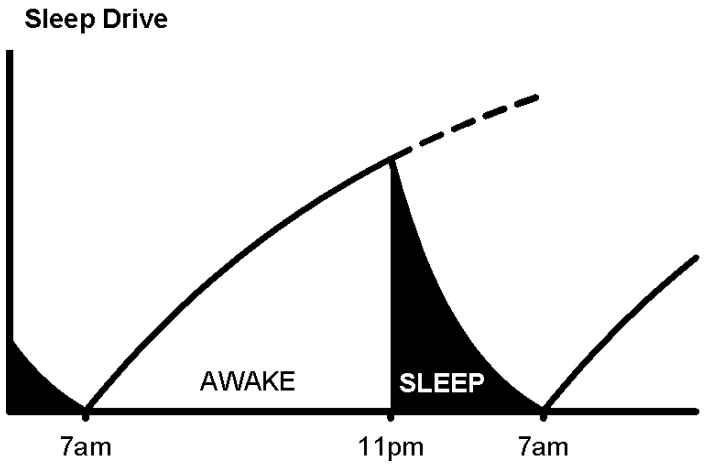
4 behavioral recommendations

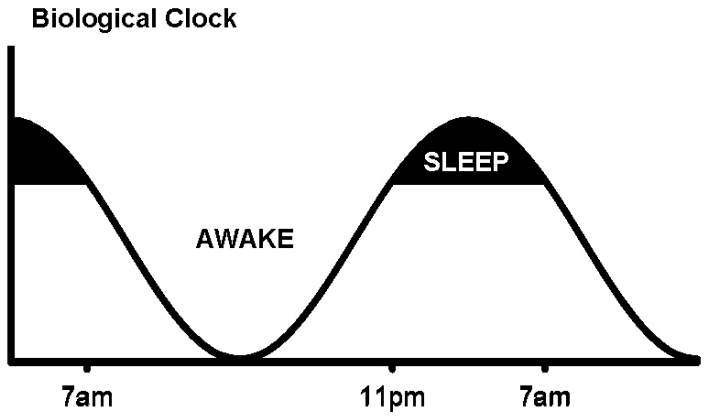
1. Reduce your time in bed
2. Get up at the same time every day of the week, no matter how much you slept the night before
3. Don't go to bed unless you're sleepy
4. Don't stay in bed unless you're asleep



Buysse, *Arch Int Med*, 2011; 171:887-895

Behavioral aspects of pharmacotherapy: Timing is key





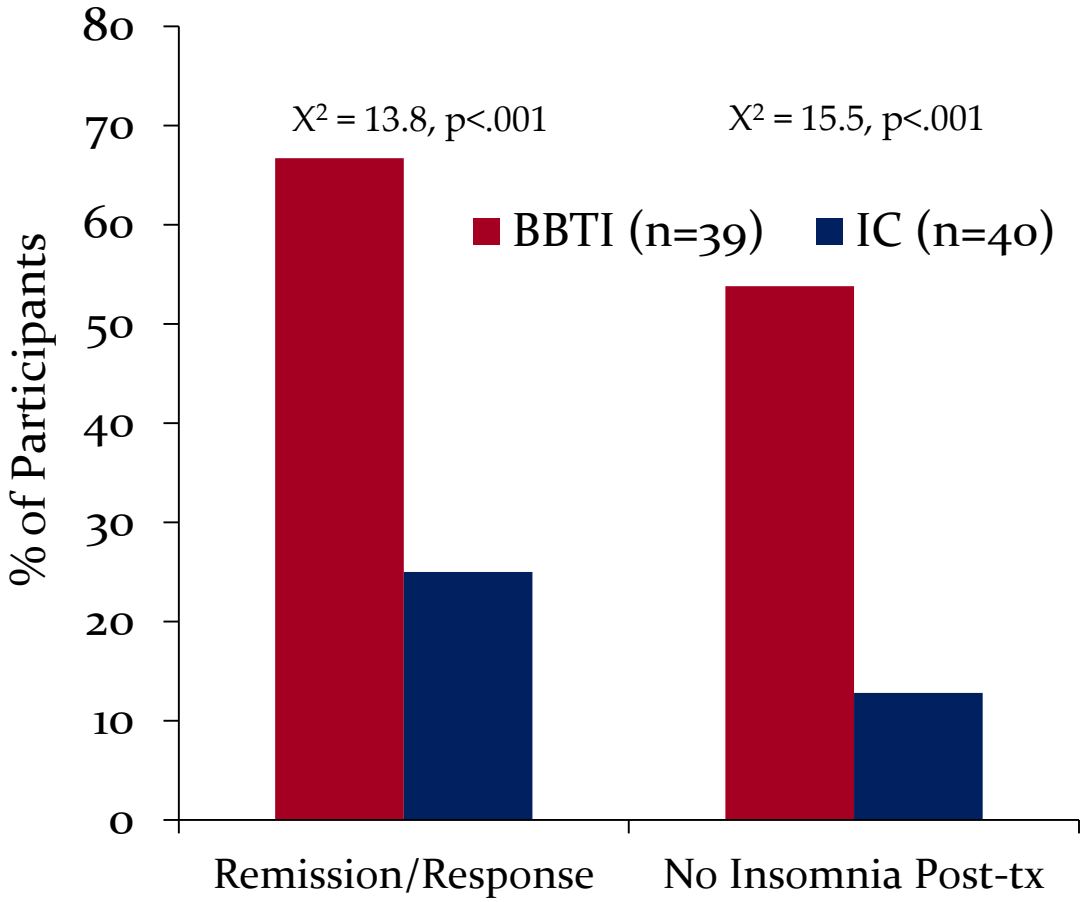
Review and action plan

Your Sleep "Prescription"
Rules for better sleep
Wake-up time: No LATER than… …every day!
Bed time: No EARLIER than…
Total time in bed at night
Sleep medication
Sleep diary
Return visit

Acute response to BBTI vs. information control (IC) in older adults with chronic insomnia

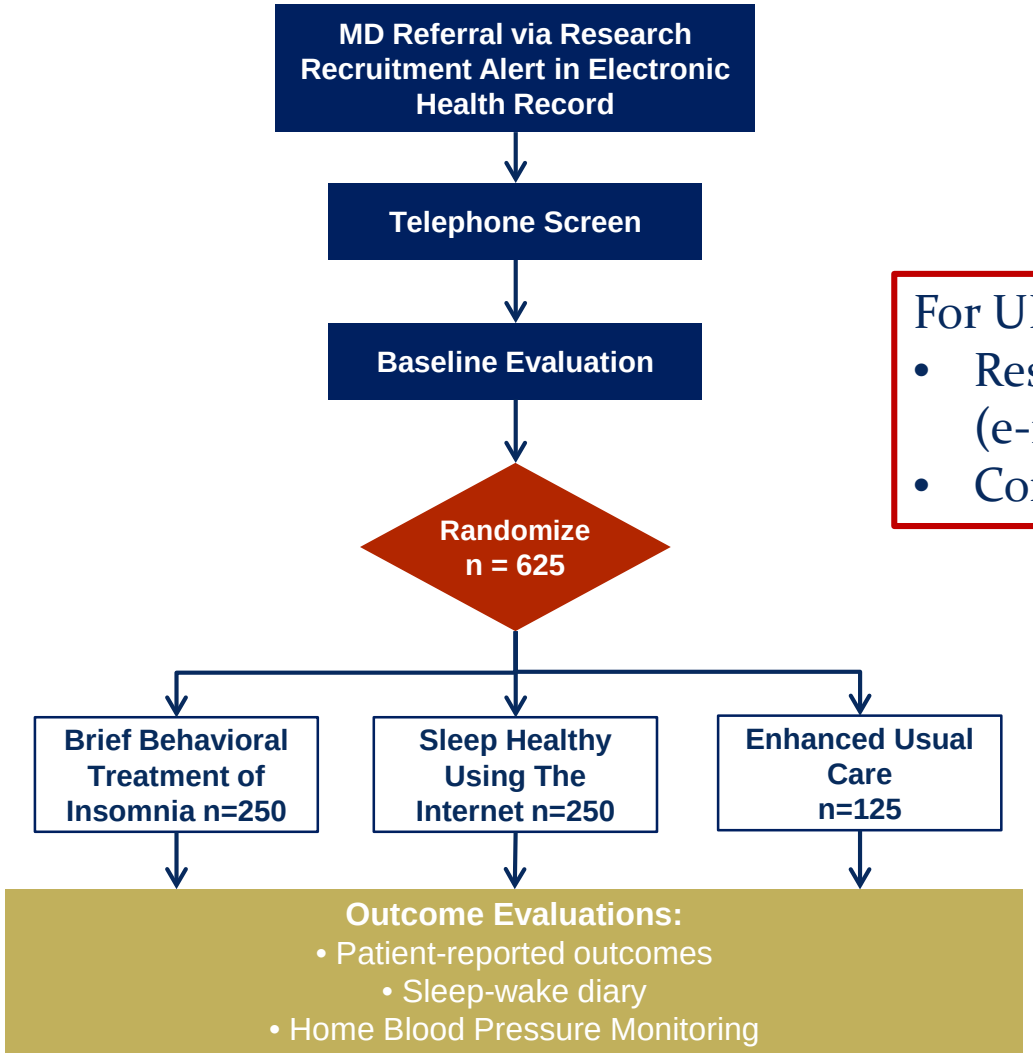
Brief Behavioral Treatment of Insomnia (BBTI)

- Reduce your time in bed
- Get up at the same time every day of the week, no matter how much you slept the night before
- Don't go to bed unless you're sleepy
- Don't stay in bed unless you're asleep



Buysse, *Arch Int Med*, 2011; 171:887-895

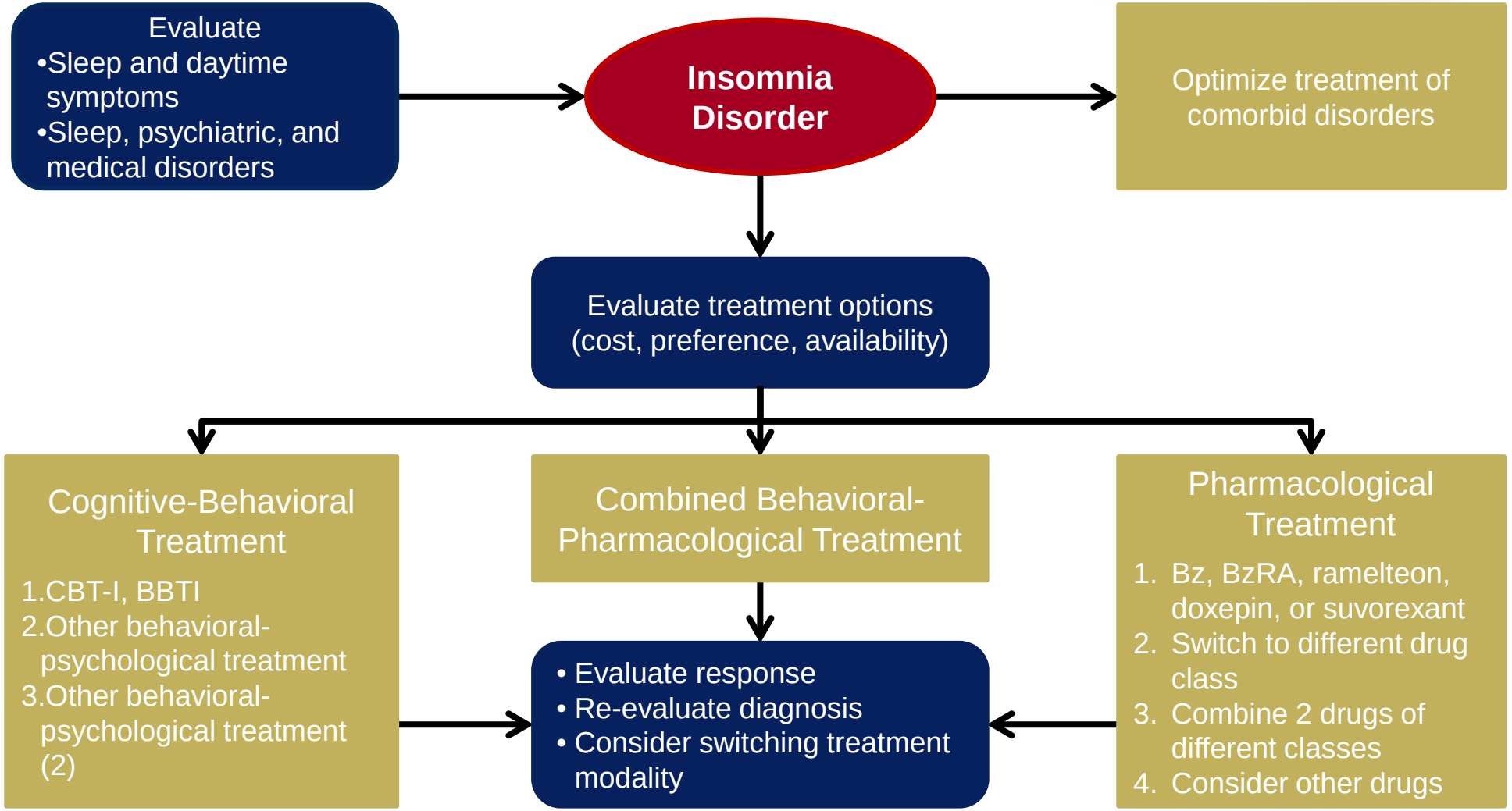
Pragmatic trial of behavioral interventions for insomnia in hypertensive patients (HUSH) HL-125103



For UPMC physicians:

- Research Recruitment Alerts (e-mail buyssedj@upmc.edu)
- Consult HUSH in Epic

Treatment of insomnia disorder



Adapted from Schutte-Rodin et al., *JCSM* 2008; 4:487-504.