BRIGHAM HEALTH

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Insomnia: What Primary Care Doctors Need to Know

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HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL

Conflict of Interest Disclosures

☐ 1. I do not have any potential conflicts of interest to disclose, **OR**

☒ 2. I wish to disclose the following potential conflicts of interest

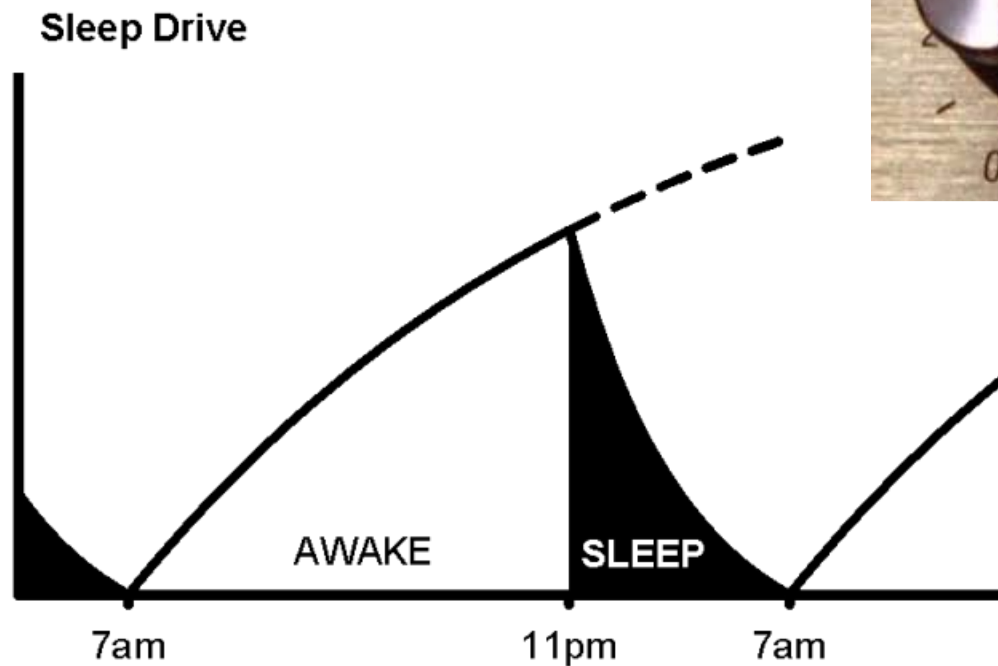
	Details of Potential Conflict
Grant/Research Support	NIH, PCORI, ApniMed
Consultant	Idorsia
Speakers' Bureaus	
Financial support	
Other	

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

Learning Objectives

- Perform a diagnostic assessment of patients presenting with insomnia
- Summarize guidelines supporting both behavioral and pharmacologic treatments of insomnia
- Develop and implement evidence-based treatment plans for chronic insomnia disorder

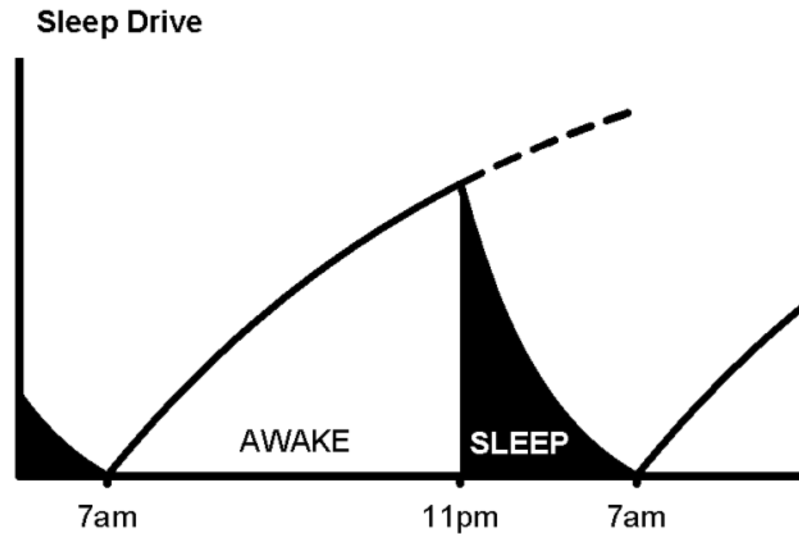
What controls sleep?



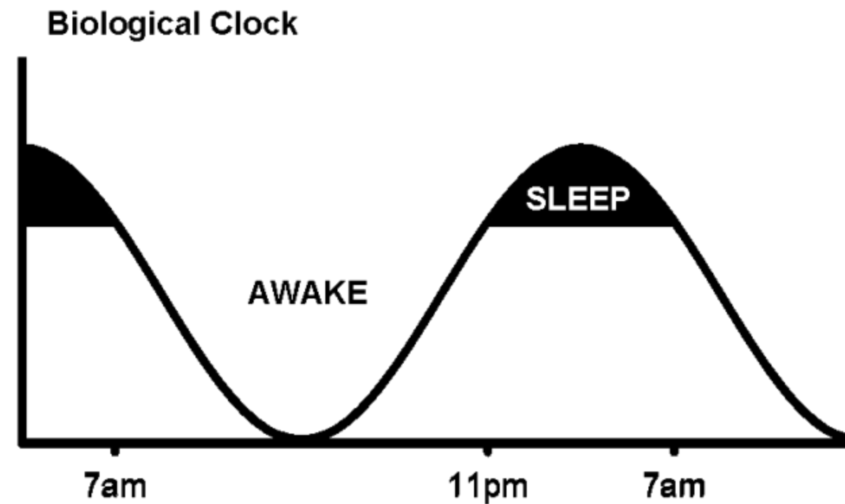
Homeostatic Process (S): How long you've been awake

What controls sleep?

1. Homeostatic Process
How long you've been awake

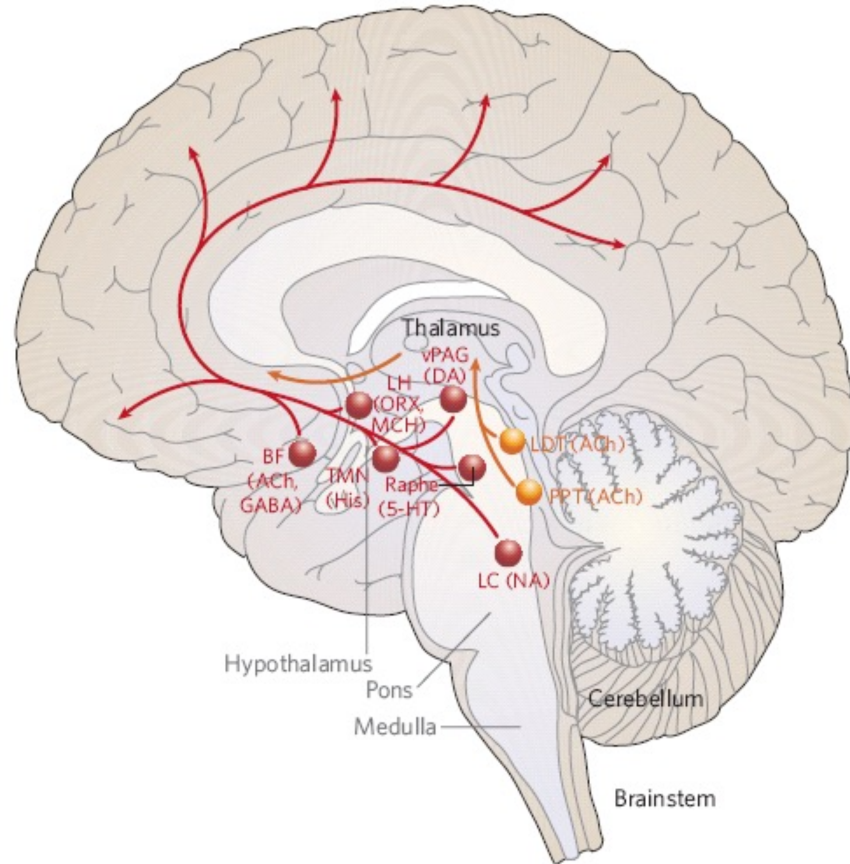


2. Circadian Process:
Body Clock

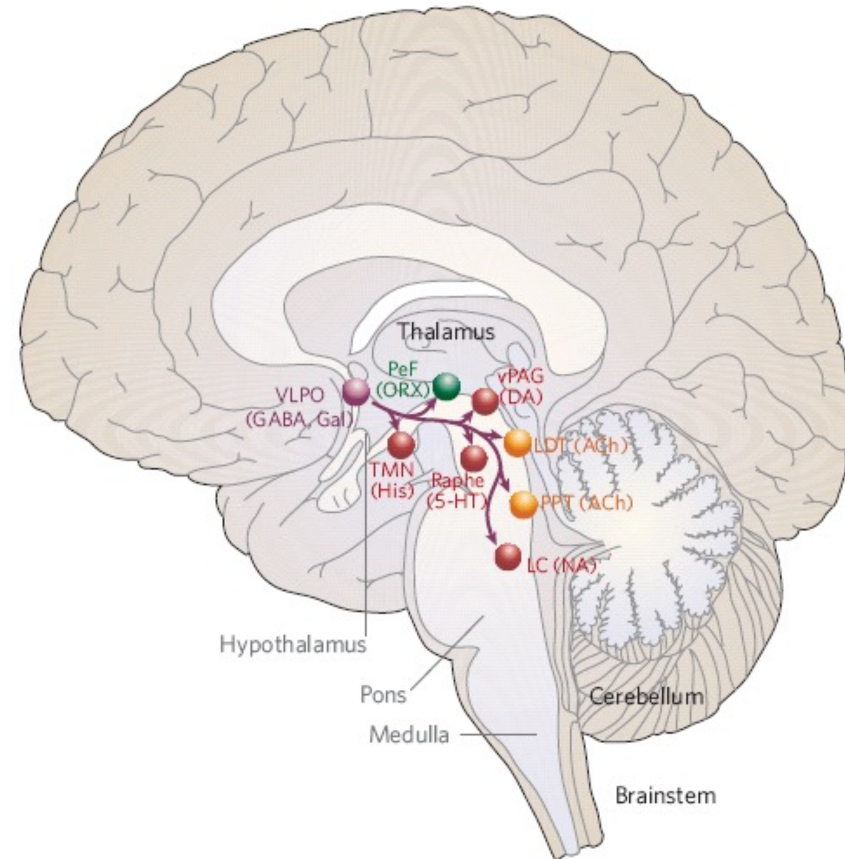


Sleep-wake regulation: Brain systems

Wake Systems



Sleep Systems

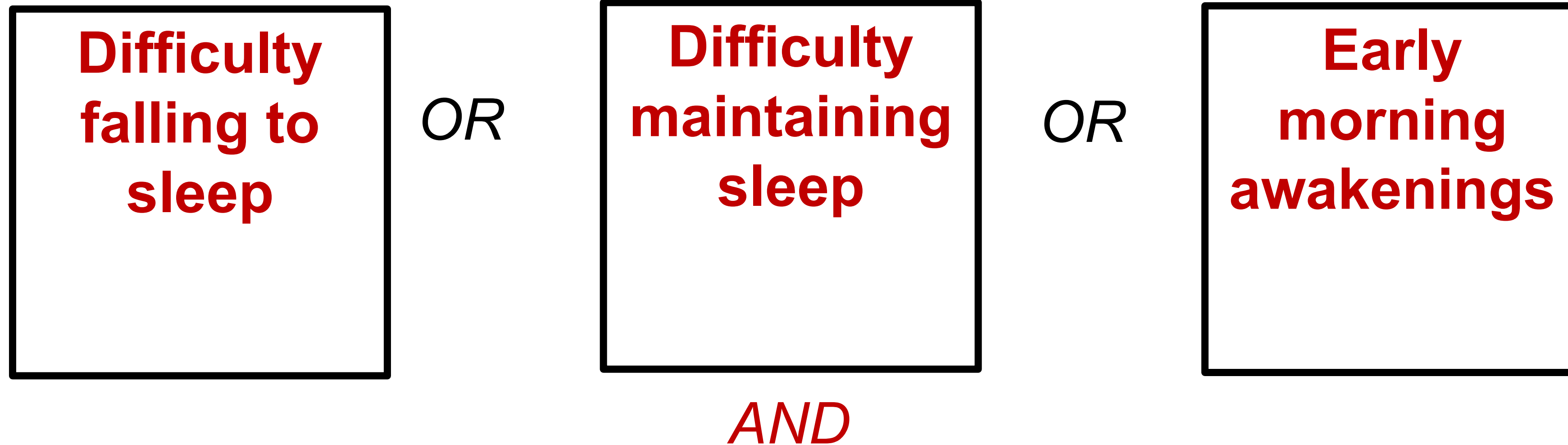


Saper, *Nature*, 2005; 1257-63

BF = Basal Forebrain. VLPO = Ventrolateral preoptic area. LH = Lateral hypothalamus peri-fornical area. LC = locus coeruleus. LDT = Laterodorsal pontine tegmentum. PPT = Pedunculopontine tegmentum. TMN = Tuberomamillary nucleus of the posterior hypothalamus. vPAG = Peri-aqueductal gray.

Insomnia Disorder: Clinical Diagnostic Criteria

>3 months for at least 3 nights/week



Causes significant distress or impairment in functioning

** Sleep problem cannot be accounted for by another sleep disorder (e.g., sleep apnea), a medical problem, a substance (e.g., alcohol, or medication), or a psychiatric condition.*

DSM-V-TR

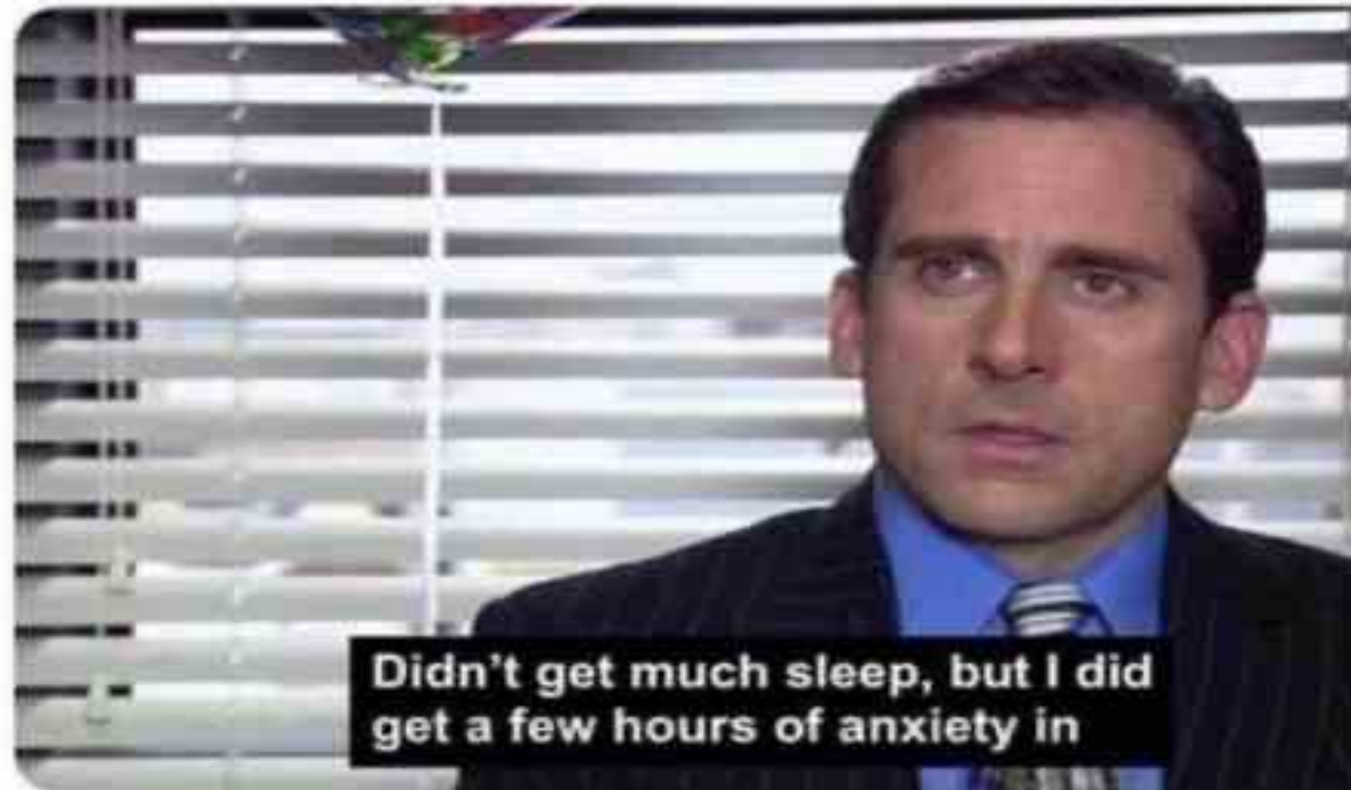
What Insomnia is NOT

- Sleep apnea
- Circadian phase disorders
- Restless legs syndrome
- Night terrors
- Sleepwalking

May present with insomnia symptoms

What Insomnia is NOT

- Things you ingest
- Medical disorders*
- Psychiatric disorder*



Often concurrent with insomnia

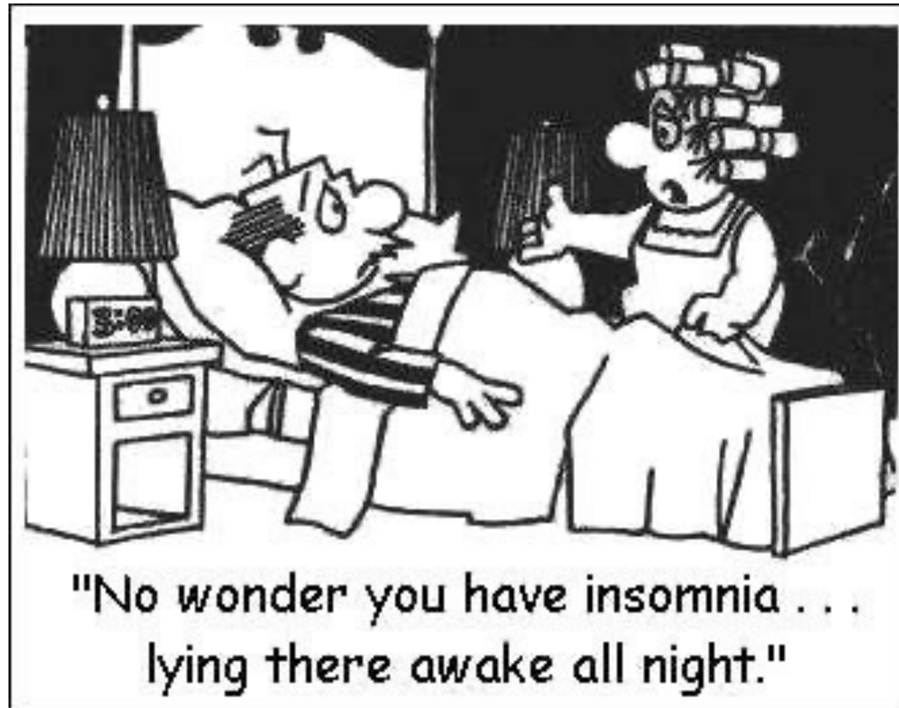
Case 1

- 27 yo with difficulty falling asleep
  - Hypertension (HTN), BMI 21
- Social history
  - Self-employed desk job
  - 2-3 beers/night
- Sleep history
  - Denies snoring or witnessed apneas
  - Daytime sleepiness with recent car accident
  - No RLS symptoms

- Bedtime: 11:00pm – midnight
- Sleep latency: 2 – 3 hours
- Awakenings: 1x for 10 min
- Out of bed: 6:30 am for work; 11:00 or later non-workdays
- Nap: 50% of days, 30 – 60 min

What is the best next step?

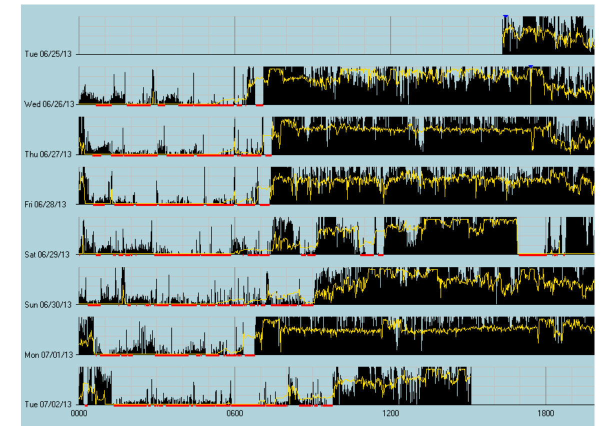
- Take zolpidem later in the evening
- Evaluate for possible circadian rhythm disorder
- Sleep study to evaluate for possible sleep apnea
- Counsel on high-risk alcohol use



What else do you want to know?

Diagnostic Tools

- Sleep History
- Medical and psychiatric history
- Substance abuse
- Physical exam, focused
- Sleep diary
- Sleep study—rarely indicated
- Actigraphy



Insomnia assessment: 24-hour history

- Sleep quality, satisfaction
- Temporal aspects of sleep
- "Quantitative" aspects of sleep
- Sleep-related behaviors
- Day-to-day variability (weekends, vacations)
- Daytime activities and impairments: Napping, fatigue, cognitive function, mood
- Life situation and circumstances
- Medical and psychiatric disorders
- Previous treatment/medications/OTC

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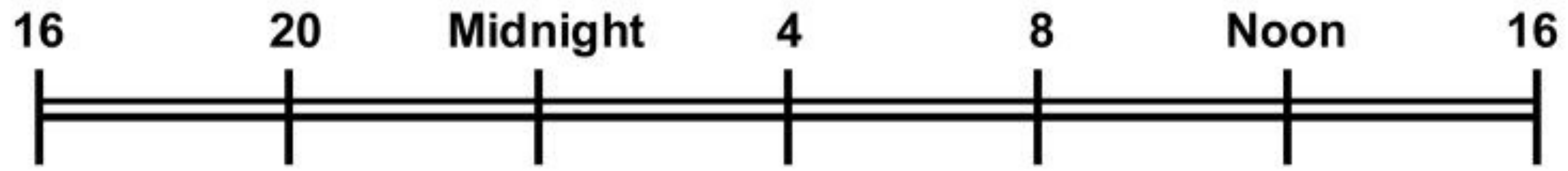
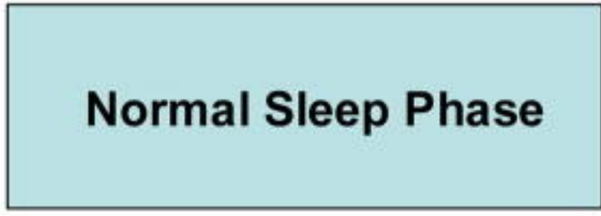
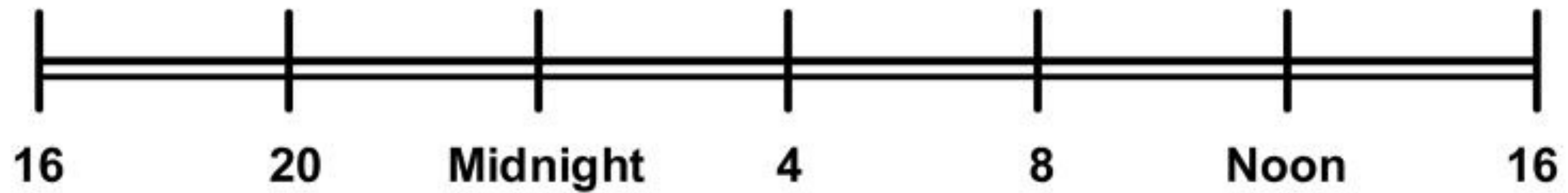
Circadian Rhythm Disorders

- Jet lag
- Shift-work sleep disorder
- Delayed sleep phase
- Advanced sleep phase







Barion and Zee. *Sleep Med.* 2007 Sep;8(6):566-77..

Indications for Diagnostic Sleep Testing

- Suspicion of sleep apnea
- Abnormal behaviors or movements during sleep
- Unexplained excessive daytime sleepiness
- Refractory sleep complaints, particularly repetitive brief awakenings

Case 2

- 50 with middle of the night awakenings often d/t hot flashes
- Feels "worn out" during the day
- Medical history
  - Hypothyroidism, BMI 26
- Sleep history
  - denies snoring/ apneas
  - no RLS symptoms

- Bedtime: 10:00 pm
- Sleep latency: <15 min
- Awakenings: 3-5x, 0 to 60 min
- Out of bed: 6:00 – 7:00 am
- Nap: unable to nap

What is the best next step to treat her insomnia symptoms?

- Initiate zolpidem 5mg
- Initiate gabapentin 300mg qhs
- Referral for cognitive behavioral therapy for insomnia
- Initiate hormone replacement therapy
- Refer for sleep study testing

What is the best next step?

- Initiate zolpidem 5mg
- Initiate gabapentin 300mg qhs
- **Referral for cognitive behavioral therapy for insomnia**
- Initiate hormone replacement therapy
- Refer for sleep study testing

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CLINICAL GUIDELINE

Management of Chronic Insomnia Disorder in Adults: A Clinical Practice Guideline From the American College of Physicians

Amir Qaseem, MD, PhD, MHA; Devan Kansagara, MD, MCR; Mary Ann Forciea, MD; Molly Cooke, MD; and Thomas D. Denberg, MD, PhD; for the Clinical Guidelines Committee of the American College of Physicians*

Description: The American College of Physicians (ACP) developed this guideline to present the evidence and provide clinical recommendations on the management of chronic insomnia disorder in adults.

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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)*

Ann Intern Med. 2016;165:125-133. doi:10.7326/M15-2175 **www.annals.org**
For author affiliations, see end of text.
This article was published at www.annals.org on 3 May 2016.

Behavioral treatments for insomnia

Technique	Aim
Healthy sleep practices education	Reduce behaviors that interfere with sleep drive or increase arousal
Sleep restriction therapy	Increase sleep drive and stabilize circadian rhythm
Stimulus control	Reduce arousal in sleep environment
Cognitive therapy	Restructure maladaptive beliefs regarding daytime and health consequences of insomnia
Relaxation training	Reduce physical/psychological arousal
Cognitive Behavioral Therapy for Insomnia (CBTI)	Combines elements of each of the above techniques

Use voluntary behavior to influence involuntary physiological process

Winkelman JWW. N Engl J Med. 2015 Oct 8;373(15):1437-44.

“Healthy Sleep Practices”Practices that **help** sleep

Practices that **help** sleep

- Daily routines
- Treating underlying problems
- Comfortable sleep environment

CBTI ≠ Sleep Hygiene

Necessary, but insufficient

We suggest that clinicians **not** use sleep hygiene as a single-component therapy for the treatment of chronic insomnia disorder in adults.

Edinger JD, Arnedt JT, Bertisch SM, et al. Behavioral and psychological treatments for chronic insomnia disorder in adults: an American Academy of Sleep Medicine clinical practice guideline. J Clin Sleep Med. 2021;17(2):255–262.

CBTI is Misunderstood

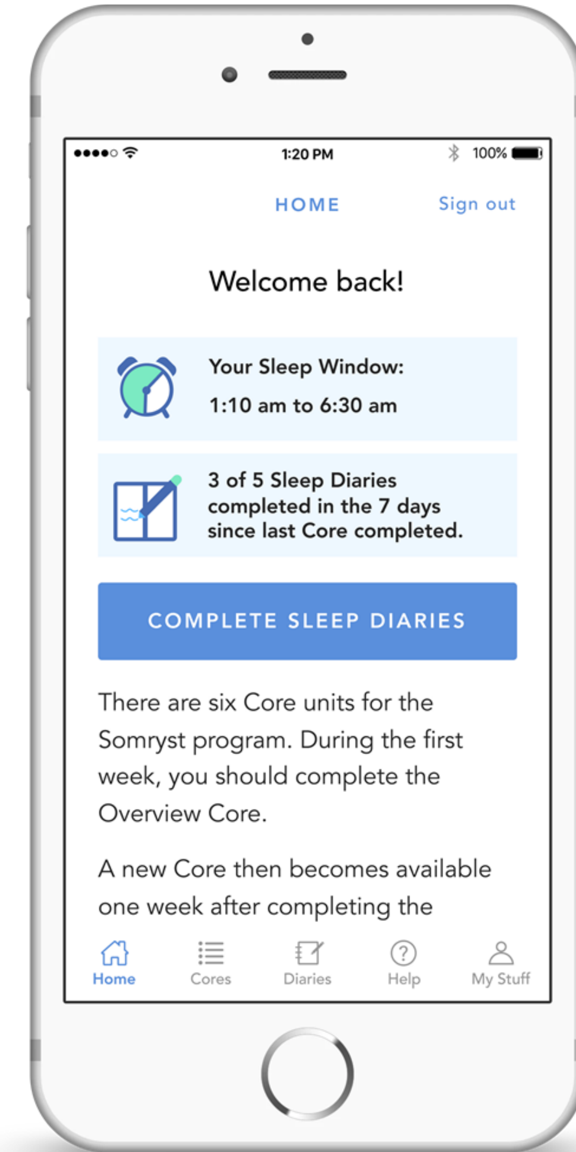
<u>Patients preferred</u>

- Treatments that lasted longer-term
- Fewer side effects
- No preference for onset of action

Cheung, J.M.Y., Bartlett, D.J., Armour, C.L. *et al.* Patient Preferences for Managing Insomnia: A Discrete Choice Experiment. *Patient* **11,** 503–514 (2018)..

CBTi: Accessible options

- Brief Behavioral Treatment for Insomnia
- Single-component treatments
- Mobile app-based: VA CBTI coach, iREST™, GotoSleep, others
- Online treatments: Sleepio™, Somryst/Shuti™, others[7]



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

UPMC LIFE CHANGING MEDICINE

UPMC Sleep Medicine Center

Buysse, *Arch Int Med*, 2011; 171:887-895. Troxel, Germain, Buysse, *Behav Sleep Med* 2012;

Brief Behavioral Treatment of Insomnia

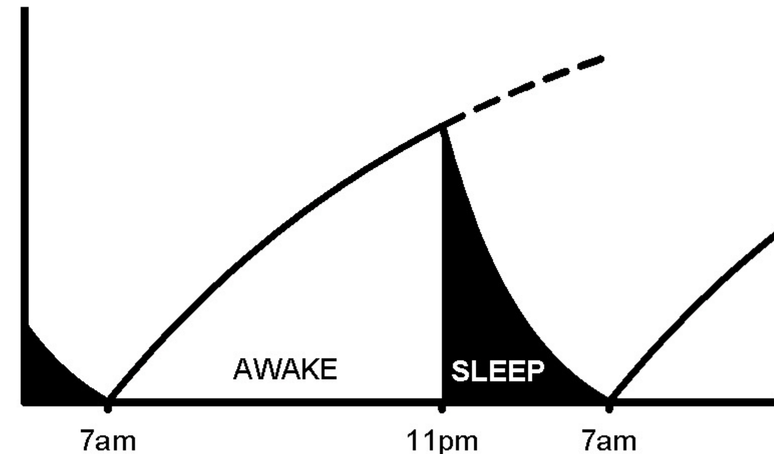
- Healthy Sleep Practices
- What Controls Sleep
- Brief Behavioral Treatment
- Action Plan

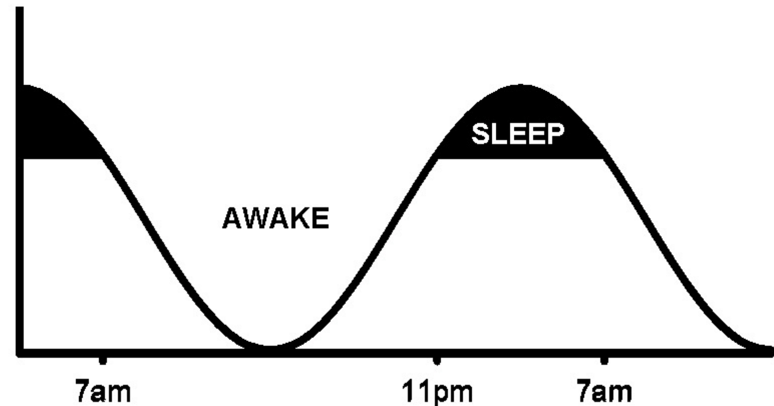
Brief behavioral treatment of insomnia: Four steps

- 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

1. Reduce your time in bed

- Cutting down your time in bed = increasing how long you've been awake
- Being awake longer leads to quicker, deeper, more solid sleep
- Not decreasing the amount of SLEEP you get, just the amount of AWAKE time in bed
- How long in bed? <u>Sleep</u> time + 30 minutes



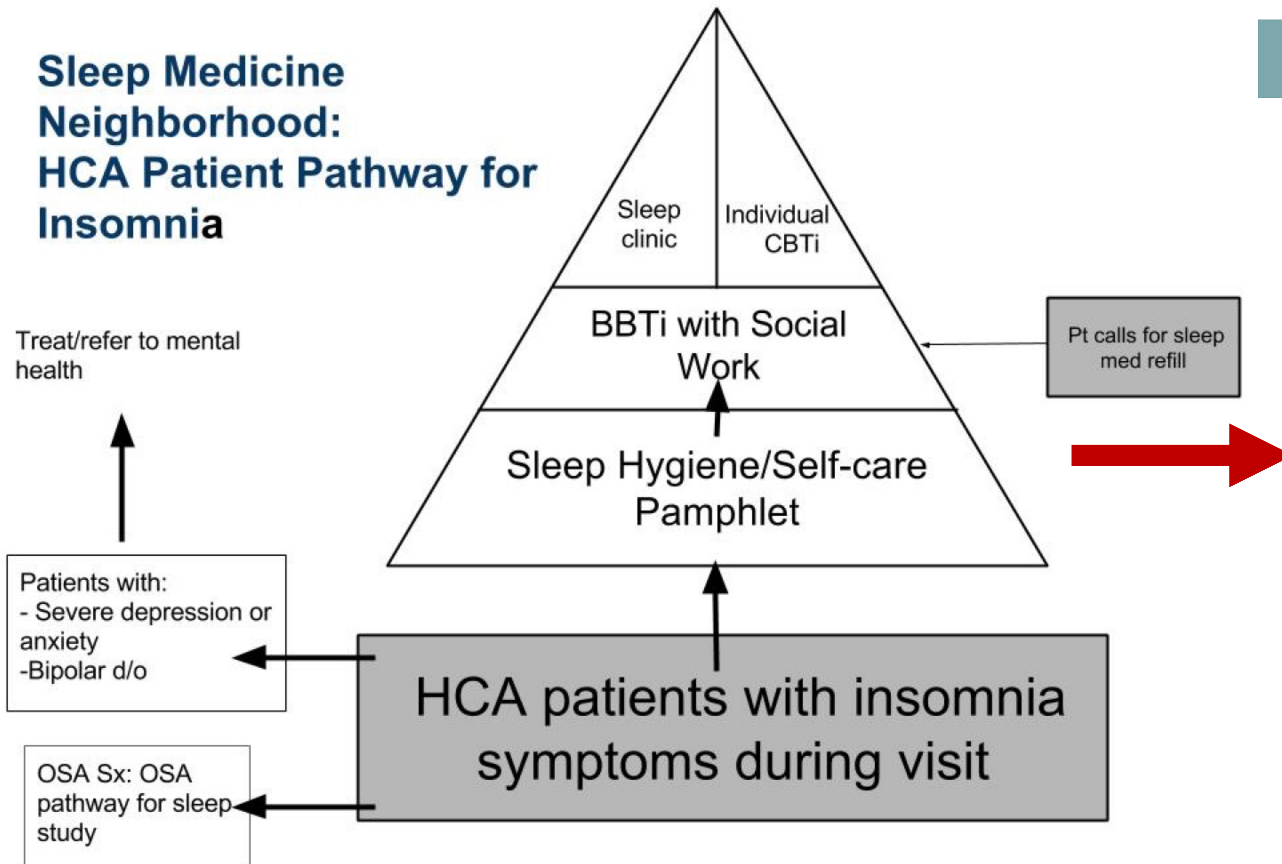


Review and action plan

Your Sleep "Prescription"	
Rules for better sleep	✓
Wake-up time: No LATER than… …every day!	6:30 AM
Bed time: No EARLIER than…	12:00 MN
Total time in bed at night	6.5 hours
Sleep medication	Ambien 10 mg at bedtime only
Sleep diary	✓
Return visit	XXXX

How might this look in primary care?

Primary care doctor
Nurse practitioner
Social worker



Sleep Care: Healthy Habits for Better Sleep

Night Time Tips to Improve Sleep

1. **GET UP AT THE SAME TIME EACH DAY**, even on weekends. A regular wake time helps to set your body clock. Your wake up time each day is: ______________ am/pm
2. Listen to your body and **GO TO BED WHEN SLEEPY.** There are certain times at night that your body will be able to sleep better than others. Going to bed before you are sleepy, or before your body is ready for sleep, will frustrate you.
3. **PUT AWAY ALL ELECTRONICS** 1-2 hours before bedtime. Cell phones, ipads, and other electronic devices make it harder for your brain to turn off. Watching TV is OK.
4. **DO NOT NAP.** Napping during the day makes it harder to sleep at night. If you must nap during the day, try to spend more time in bed at night. If you are very sleepy during the day, talk to your doctor.
5. If you can't sleep for more than 20 minutes, **GET OUT OF BED.** When you get sleepy again, return to bed.
   - When you are out of bed at night, do something that helps you relax.
   - Avoid activities that require bright light or are stimulating (watching scary movies; exercise).
   - It is ok if you fall asleep while out of bed.
   - Some ideas for helpful things to do out of bed include: watching TV; slow breathing exercises; reading magazines; writing a grocery list; doing household chores.

Daytime Habits to Help with Sleep

- **AVOID OR LIMIT CAFFEINE.** Caffeine can make you more alert during the day, but many people are sensitive to its effects. Even 1 or 2 cups of coffee in the morning can disrupt your sleep at night.
- **AVOID OR LIMIT ALCOHOL.** While alcohol can help people fall asleep, it leads to MORE sleep problems at night. Alcohol can also cause more trips to the bathroom in the middle of the night.
- **EXERCISE** each day. Exercise improves sleep quality. Do not exercise too close to bedtime.

JCSM Journal of Clinical Sleep Medicine

SPECIAL ARTICLES

Behavioral and psychological treatments for chronic insomnia disorder in adults: an American Academy of Sleep Medicine clinical practice guideline

Jack D. Edinger, PhD[1,2]; J. Todd Arnedt, PhD[3]; Suzanne M. Bertisch, MD, MPH[4]; Colleen E. Carney, PhD[5]; John J. Harrington, MD, MPH[6]; Kenneth L. Lichstein, PhD[7]; Michael J. Sateia, MD, FAASM[8]; Wendy M. Troxel, PhD[9]; Eric S. Zhou, PhD[10]; Uzma Kazmi, MPH[11]; Jonathan L. Heald, MA[11]; Jennifer L. Martin, PhD[12,13]

[1]National Jewish Health, Denver, Colorado; [2]Duke University Medical Center, Durham, North Carolina; [3]Michigan Medicine, University of Michigan, Ann Arbor, Michigan; [4]Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts; [5]Ryerson University, Toronto, California; [6]University of Nebraska Medical Center, Omaha, Nebraska; [7]University of Alabama, Tuscaloosa, Alabama; [8]Geisel School of Medicine at Dartmouth, Hanover, New Hampshire; [9]RAND Corporation, Pittsburgh, Pennsylvania; [10]Harvard Medical School, Dana-Farber Cancer Institute, Boston Children's Hospital, Boston, Massachusetts; [11]American Academy of Sleep Medicine, Darien, Illinois; [12]David Geffen School of Medicine at the University of California Los Angeles, Los Angeles, California; [13]VA Greater Los Angeles Healthcare System, Geriatric Research, Education and Clinical Center, Los Angeles, California

JCSM
Journal of Clinical Sleep Medicine

SPECIAL ARTICLES

Clinical Practice Guideline for the Pharmacologic Treatment of Chronic Insomnia in Adults: An American Academy of Sleep Medicine Clinical Practice Guideline

Michael J. Sateia, MD[1]; Daniel J. Buysse, MD[2]; Andrew D. Krystal, MD, MS[3]; David N. Neubauer, MD[4]; Jonathan L. Heald, MA[5]

[1]Geisel School of Medicine at Dartmouth, Hanover, NH; [2]University of Pittsburgh School of Medicine, Pittsburgh, PA; [3]University of California, San Francisco, San Francisco, CA; [4]Johns Hopkins University School of Medicine, Baltimore, MD; [5]American Academy of Sleep Medicine, Darien, IL

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CLINICAL GUIDELINE

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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)*

Ann Intern Med. 2016;165:125-133. doi:10.7326/M15-2175 **www.annals.org**
For author affiliations, see end of text.
This article was published at www.annals.org on 3 May 2016.

Classes of Pharmacologic Treatment for Insomnia

- Benzodiazepine receptor agonists
- Melatonin agonists
- Orexin antagonists
- Sedating antidepressants
- Antipsychotics
- Anticonvulsants (e.g., gabapentin)
- OTC agents (nonselective antihistamines)

Clinical practice guideline for pharmacologic treatment of chronic insomnia in adults

Weak evidence FOR

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

Weak evidence AGAINST

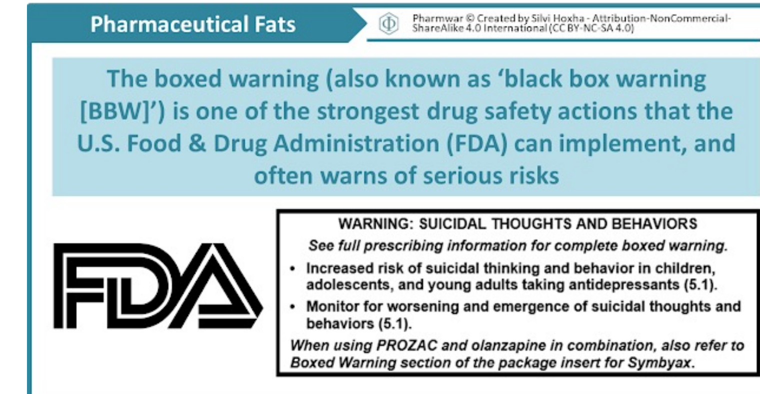
- Trazodone (Desyrel)
- Tiagabine (Gabitril)
- Diphenhydramine (Benadryl)
- Melatonin
- Tryptophan
- Valerian

- 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.

BzRA risks

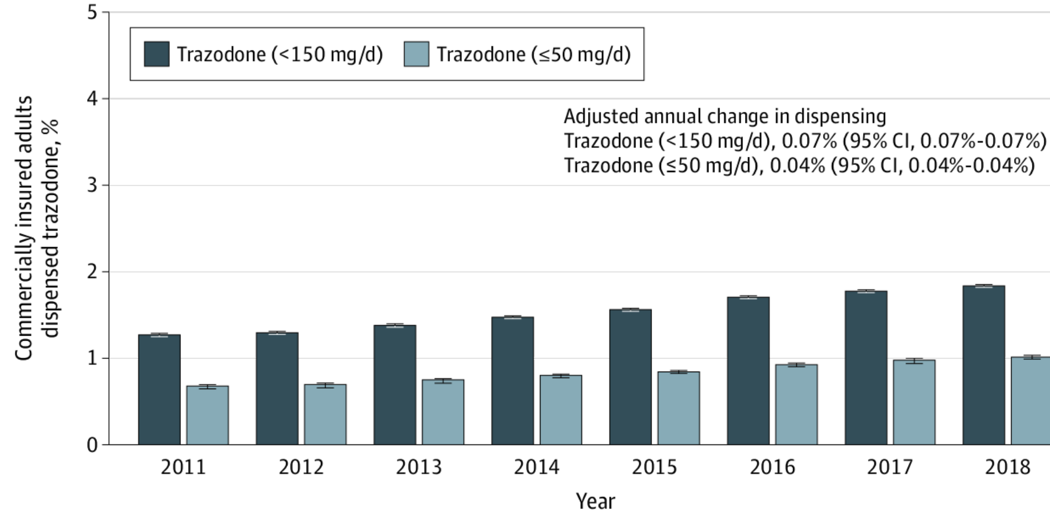
- Motor vehicle accidents in elderly: long ½ life
- Hip fractures: long ½ life
- Anterograde amnesia: t½ life dependent
- Tolerance: no evidence from 12 to 26 wk studies
- Recent black-box warning

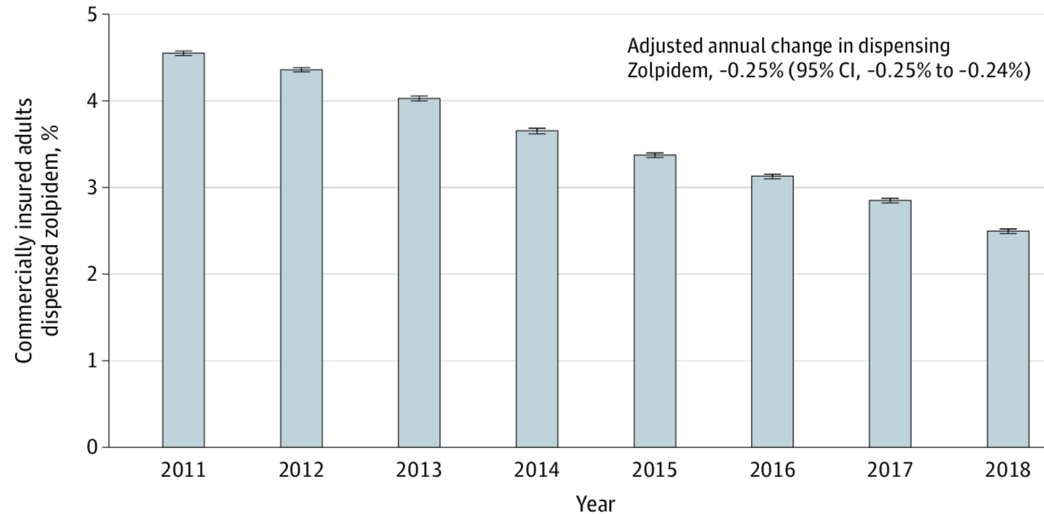


(1) Hemmelgarn B et al. JAMA. 1997;278:27-31. (2) Cumming RG, Le Couteur DG. CNS Drugs. 2003;17:825-837. (3) Woods JH, Winger G. Psychopharmacology. 1995;118:107-115. (4) Krystal AD et al. Sleep. 2003;26:793-799.

Slide c/o Dr. John Winkelman

Figure 1. Percentage of Commercially Insured Adults Dispensed Zolpidem or Low-Dose Trazodone, 2011-2018



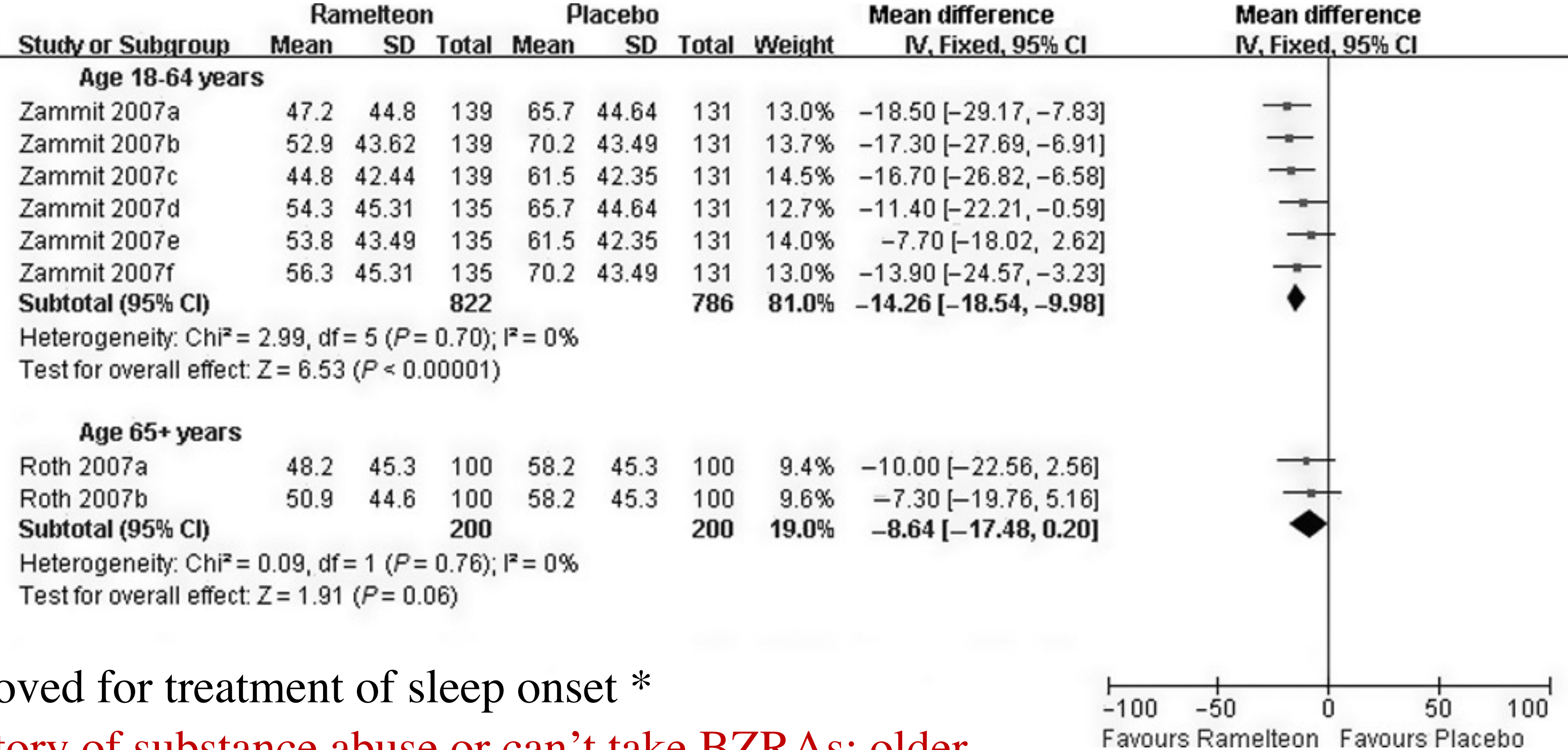


From 2011-2018 among an estimated 16.6 million US adults:

- Trazodone prescriptions increased from 1.25 to 1.82%
- Zolpidem prescriptions decreased from from 4.56 to 2.5%

Wong, Murray Horowitz, Bertisch, et al *JAMA 324 (21), 2211-2213*.

Ramelteon in the treatment of chronic insomnia: systematic review and meta-analysis



Study or Subgroup	Ramelteon Mean	Ramelteon SD	Ramelteon Total	Placebo Mean	Placebo SD	Placebo Total	Weight	Mean difference IV, Fixed, 95% CI
Age 18-64 years								
Zammit 2007a	47.2	44.8	139	65.7	44.64	131	13.0%	−18.50 [−29.17, −7.83]
Zammit 2007b	52.9	43.62	139	70.2	43.49	131	13.7%	−17.30 [−27.69, −6.91]
Zammit 2007c	44.8	42.44	139	61.5	42.35	131	14.5%	−16.70 [−26.82, −6.58]
Zammit 2007d	54.3	45.31	135	65.7	44.64	131	12.7%	−11.40 [−22.21, −0.59]
Zammit 2007e	53.8	43.49	135	61.5	42.35	131	14.0%	−7.70 [−18.02, 2.62]
Zammit 2007f	56.3	45.31	135	70.2	43.49	131	13.0%	−13.90 [−24.57, −3.23]
Subtotal (95% CI)			**822**			**786**	**81.0%**	**−14.26 [−18.54, −9.98]**
Heterogeneity: Chi² = 2.99, df = 5 (*P* = 0.70); I² = 0%								
Test for overall effect: Z = 6.53 (*P* < 0.00001)								
Age 65+ years								
Roth 2007a	48.2	45.3	100	58.2	45.3	100	9.4%	−10.00 [−22.56, 2.56]
Roth 2007b	50.9	44.6	100	58.2	45.3	100	9.6%	−7.30 [−19.76, 5.16]
Subtotal (95% CI)			**200**			**200**	**19.0%**	**−8.64 [−17.48, 0.20]**
Heterogeneity: Chi² = 0.09, df = 1 (*P* = 0.76); I² = 0%								
Test for overall effect: Z = 1.91 (*P* = 0.06)								

Approved for treatment of sleep onset *

✅ History of substance abuse or can’t take BZRAs; older adults

International Journal of Clinical Practice, Volume: 66, Issue: 9, Pages: 867-873, First published: 17 August 2012, DOI: (10.1111/j.1742-1241.2012.02987.x)

Sedating Antidepressants Used for Insomnia

Selective H1 antagonists

- *Doxepin: approved in 3 to 6 mg**
- Mirtazapine (2 to 4 mg selective effects)

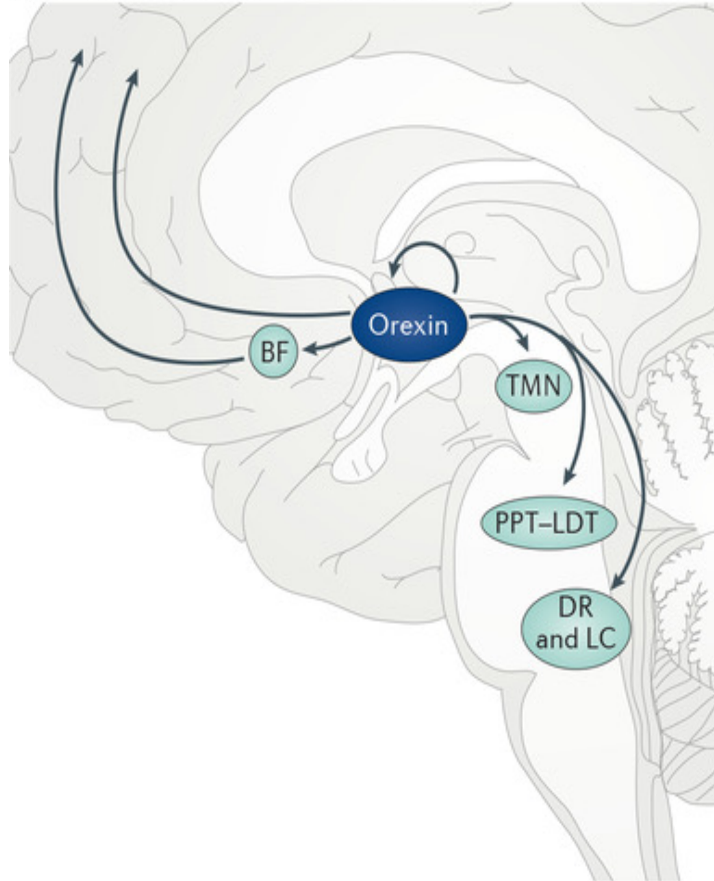
Mixed receptors

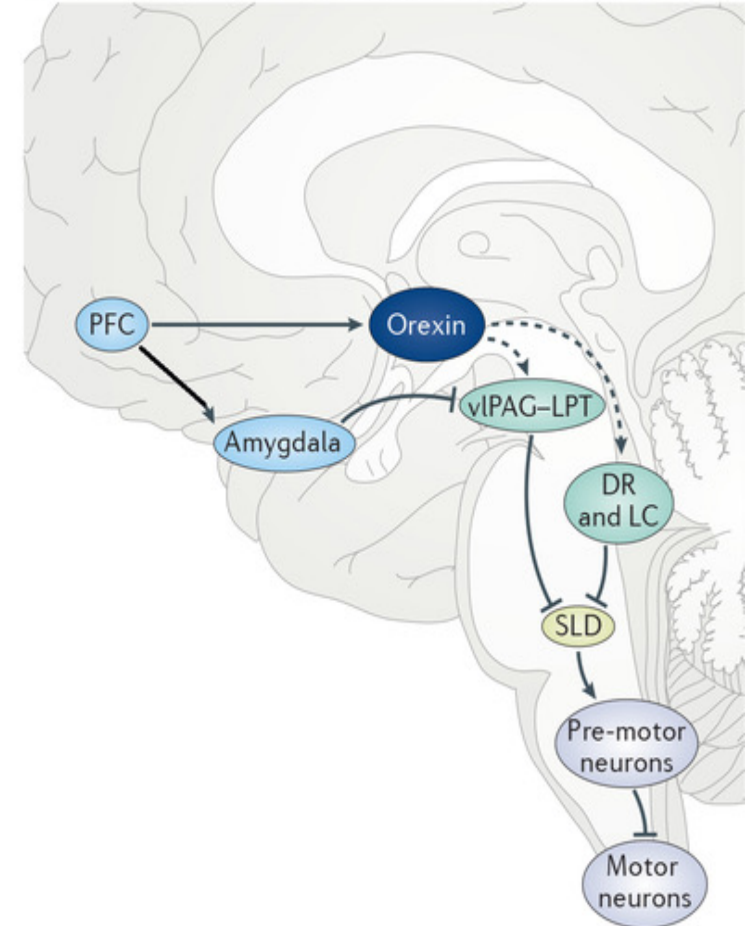
- Trazodone
- Amitriptyline
- Doxepin
- Mirtazapine

✅ Primary problem staying asleep; little abuse potential
Non-scheduled
Approved for treatment of sleep maintenance insomnia*

Orexin antagonists: suvorexant; lemborexant (more coming)

- Benzodiazepine RAs
- Melatonin agonists
- **Orexin antagonists**
- Antidepressants
- Anticonvulsants
- Antipsychotics



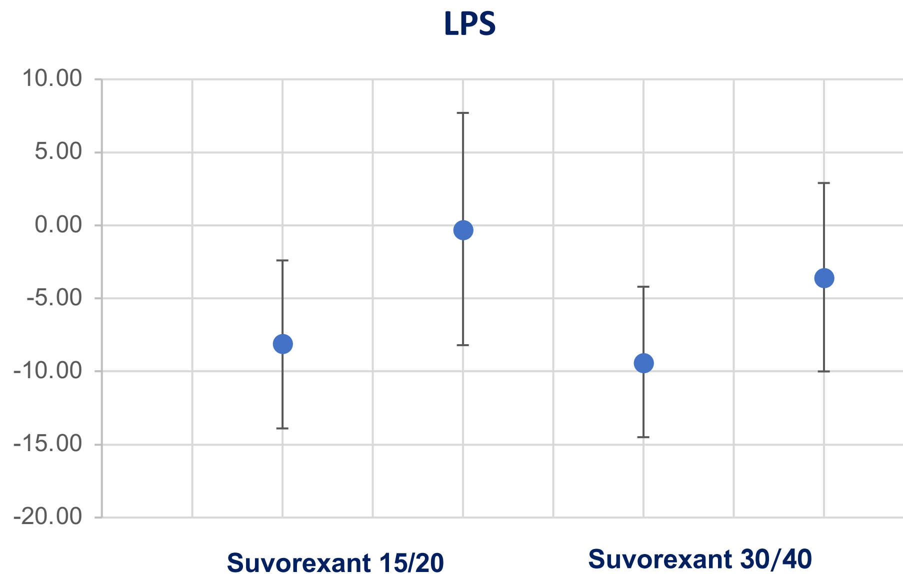


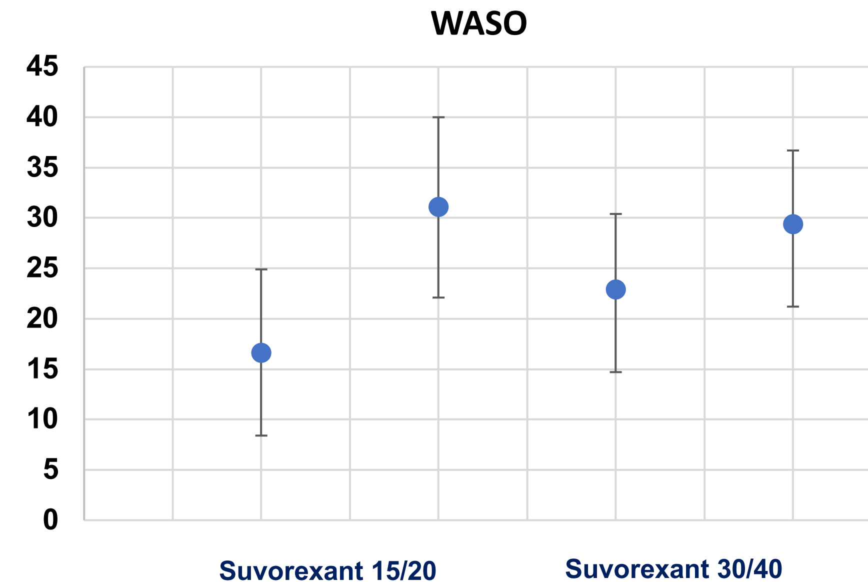
Orexin neurons (dark blue) maintain wake by exciting various wake-promoting neurons (green), including those in the cortex, basal forebrain (BF), tuberomammillary nucleus (TMN), pedunculopontine and laterodorsal tegmental nuclei (PPT–LDT), dorsal raphe (DR) and locus coeruleus (LC)

Mahoney, C.E., Cogswell, A., Koralnik, I.J. *et al.* The neurobiological basis of narcolepsy. *Nat Rev Neurosci* **20,** 83–93 (2019).

Suvorexant in patients with insomnia: results from two 3-month randomized controlled clinical trials

- Randomized Clinical Trials: 3m PSG outcomes





Approved for treatment of sleep onset and sleep maintenance insomnia, and in patients with mild to moderate Alzheimer's disease*

*Herring JW, Ceesay P, Snyder E, et al. Polysomnographic assessment of suvorexant in patients with probable Alzheimer's disease dementia and insomnia: a randomized trial. *J Alzheimers Parkinsonsim Dement*. Published online January 15, 2020 (10mg dose evaluated)

Herring, W. Joseph, et al. "Suvorexant in patients with insomnia: results from two 3-month randomized controlled clinical trials." Biological psychiatry 79.2 (2016): 136-148.

DORA risks

- Somnolence
- Dose-dependent increase in suicidality
- Complex behaviors
- Sleep paralysis
- Abnormal thinking
- Behavioral changes

✅ History of substance abuse or can't take BZRAs

All Hypnotics Have Risks: Fall Risks in Hospitalized Patients

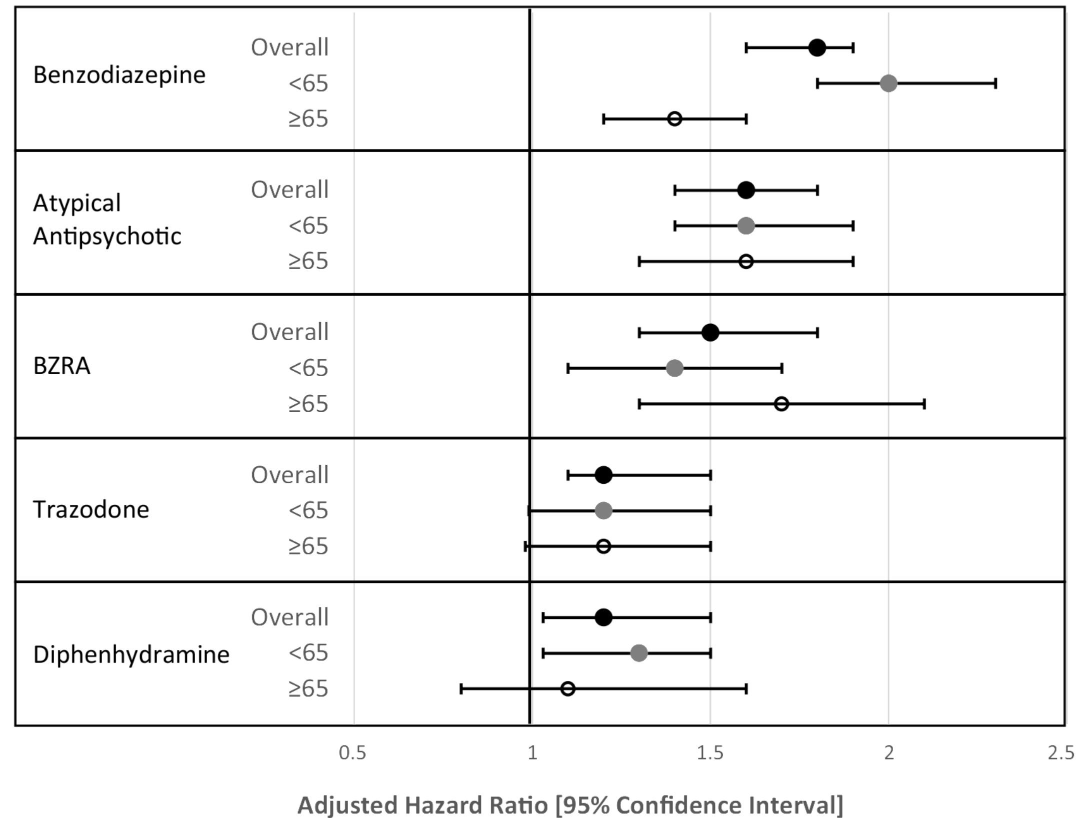
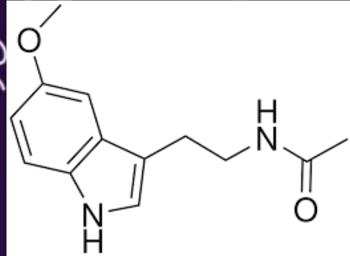


Figure 1. Adjusted hazard ratio of falls by medication class and age (N = 225,498 overall, 141,393 age <65, and 84,105 age ≥65). Legend: Based on a marginal Cox-type regression model, including all variables in Table 1, including other medications, and accounting for repeated hospitalizations of the same patient using a robust sandwich estimator. BZRA = non-benzodiazepine benzodiazepine receptor agonists.

Herzig SJ, Rothberg MB, Moss CR, Maddaleni G, Bertisch SM, Wong J, Zhou W, Ngo L, Anderson TS, Gurwitz JH, Marcantonio ER.. Sleep. 2021 Mar 12..

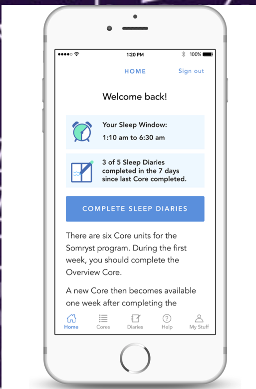


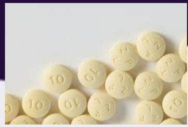
Sleep Restriction and Consolidation

Sleep Restriction is an important technique that helps consolidate your sleep. Consolidating your sleep means reducing the amount of time you are awake in bed, and instead increasing the percentage of time you are asleep in bed.

Fragmented Sleep → Consolidated Sleep

See how it works ▶





INSOMNIA

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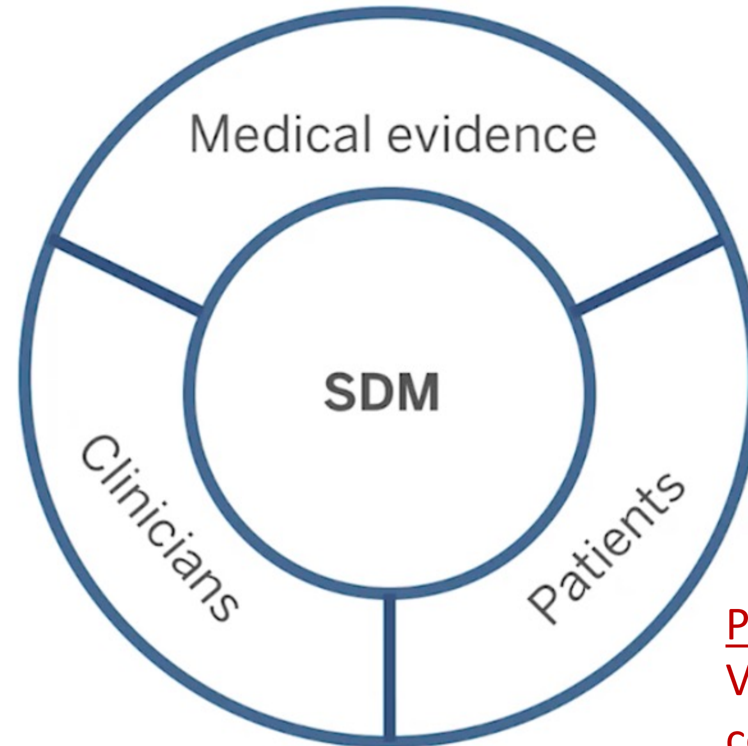
SHARED DECISION-MAKING

Interactive process between patient (and family) and clinician(s)

- Engage patient in decision making
- Accurate information about options and outcomes
- Tailor treatments to patient’s goals and concerns

Shared Decision-Making

Medical evidence
Clear, accurate, and unbiased medical evidence about reasonable alternatives—including no intervention—and the risks and benefits of each



Clinician
Expertise in communicating and tailoring that evidence for individuals

Patients
Values, goals, informed preferences and concerns, which may include treatment burdens

[1]DaCruz, BMJ 2002;324:674.

Slide c/o Dr. Buysse

Provide information on benefits and risks

Elicit patient preferences

Assist with implementation

The Clinical Teacher, Volume: 18, Issue: 1, Pages: 55-61, First published: 20 August 2020, DOI: (10.1111/tct.13233)

Acceptability/Adoption

“Medications don’t work for me.”

“I don’t need therapy.”

“My meds are working.”

“Too difficult.”

“I’ve tried everything.”

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Feasibility/Appropriateness

Patients

- Timing
- Costs
- Co-morbidities
- Competing priorities
- Attitudes
- Language barriers
- Cultural barriers

NOTHING UP MY SLEEVE.....
Jay Ward
PRODUCTIONS, INC.
© 1988

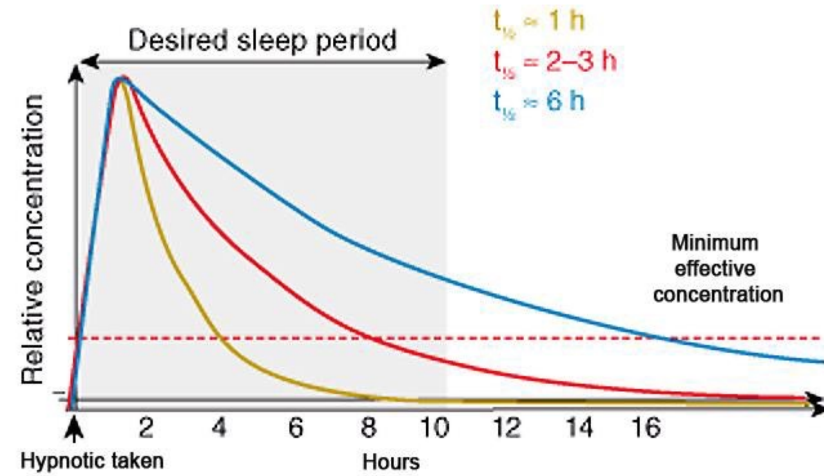
Considerations

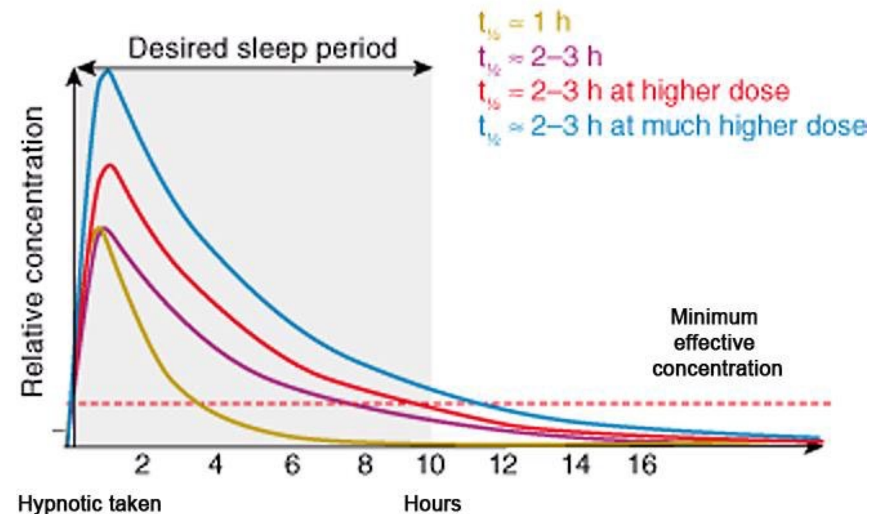
- Goals
- Risks
- History
- Comorbidities
- Costs
- Perceptions

Practical aspects of pharmacotherapy for insomnia

Characteristics of medications

- Pharmacokinetics
- Effects
- Side effects





Slide c/o Dr. Daniel Buysse, UPMC

Winrow and Renger, *Br J Pharmacol* 2013; 171:283-293

Clinical practice guideline for pharmacologic treatment of chronic insomnia in adults

Weak evidence FOR

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

Weak evidence AGAINST

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

Cannabinoids not reviewed. Larger RCTs ongoing

- 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.

Table 3. Medications Commonly Used for Insomnia.

Medication	Dose in Adults		Half-Life	Most Common Side Effects
	<65 yr of age	≥65 yr of age		
	mg		*hr*	
Benzodiazepine-receptor agonists				Daytime sedation, ataxia, anterograde amnesia, complex sleep-related behaviors (e.g., sleepwalking)
Temazepam (Restoril)*	7.5–30	7.5–15	8–10	
Lorazepam (Ativan)	0.5–2	0.5–1	8–12	
Eszopiclone (Lunesta)*	2–3	1–2	6–9	Unpleasant taste†
Zolpidem (Ambien)*	5–10	2.5–5	2.5	
Triazolam (Halcion)*	0.125–0.5	0.125–0.25	2.5	
Zaleplon (Sonata)*	5–20	5–10	1	
Antidepressants				
Trazodone (Desyrel)	25–100	25–100	6–8	Daytime sedation, orthostasis
Mirtazapine (Remeron)	7.5–30	7.5–30	20–30	Daytime sedation, anticholinergic effects, weight gain
Doxepin (Sinequan, Silenor)*	10–50 (3–6 approved)	10–50	12–18	Daytime sedation, anticholinergic effects, weight gain (not at approved doses)
Orexin antagonist: suvorexant (Belsomra)*	10–20	10–20	9–13	Daytime sedation
Melatonin agonist: ramelteon (Rozerem)*	8	8	1	Daytime sedation
Anticonvulsant: gabapentin (Neurontin)	100–900	100–900	5–9	Daytime sedation, dizziness, weight gain

* The medication has been approved by the Food and Drug Administration (FDA) for the treatment of insomnia. Since 1984, all FDA-approved hypnotic medications have had no limitations on their duration of use.
† This side effect is in addition to the other side effects of benzodiazepine-receptor agonists.

Winkelman JW. N Engl J Med 2015;373:1437-1444

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Instructions

Who: The patient

What: Medication

When

Why: Treatment goals

How: Details

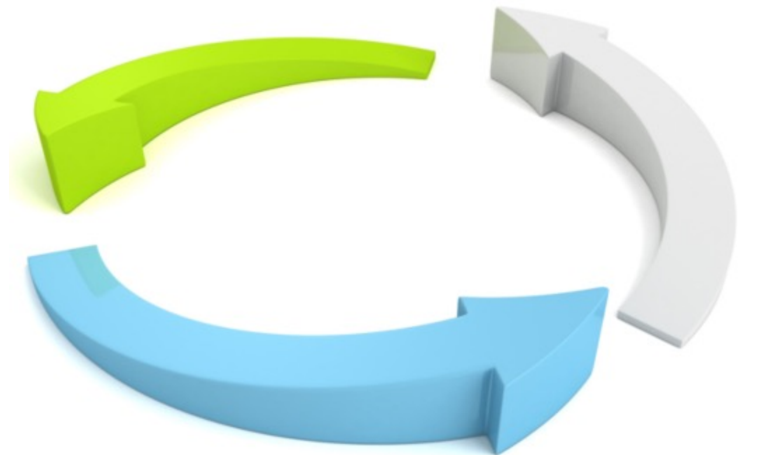
- Other medications
- How long (duration)

"Just a warning about these sleeping tablets.
They may cause drowsiness."

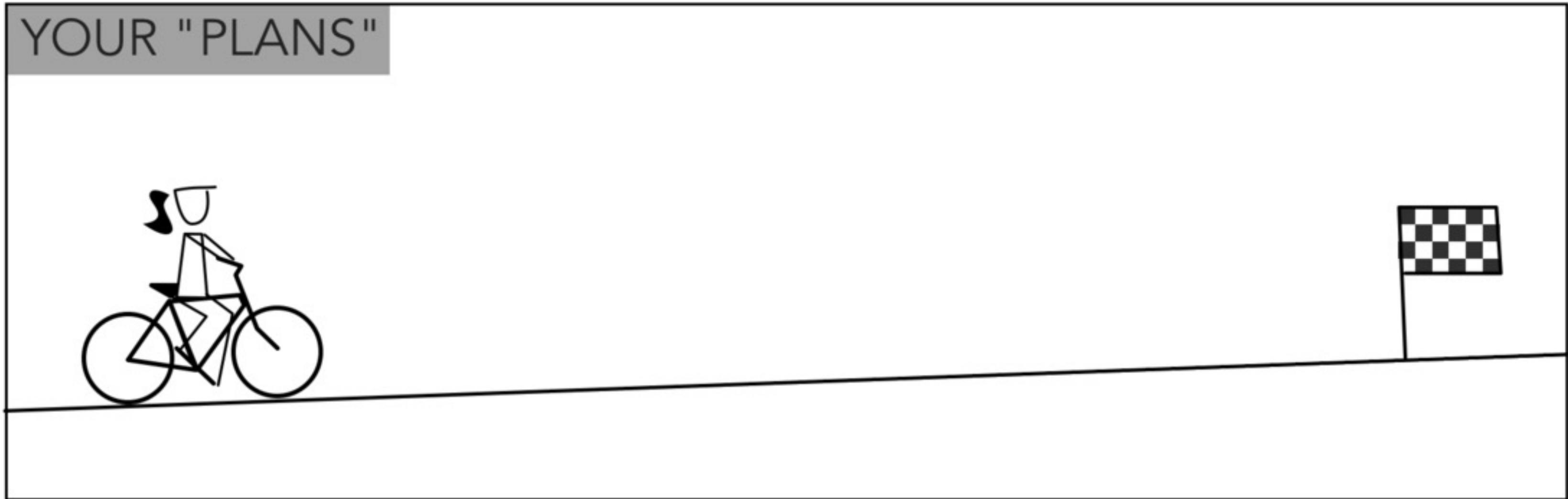
✅ Patient needs to be educated on realistic expectations

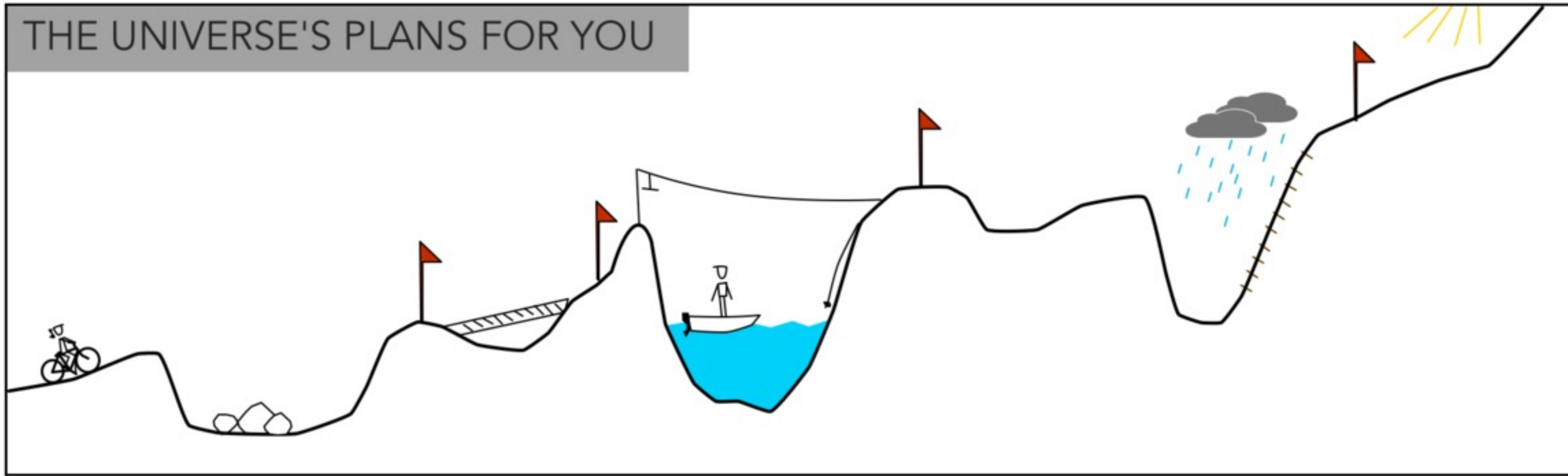
Follow-up

- Ongoing assessments of effectiveness and side effects
- Use lowest dose for shortest period of time
- Discuss challenges
- Answer questions
- Challenge patients to withdraw hypnotics
- Reassess comorbid conditions
- Education regarding long-term use



(1) Sateia MJ, et al. J Clin Sleep Med. 2017;13(2): 307–349

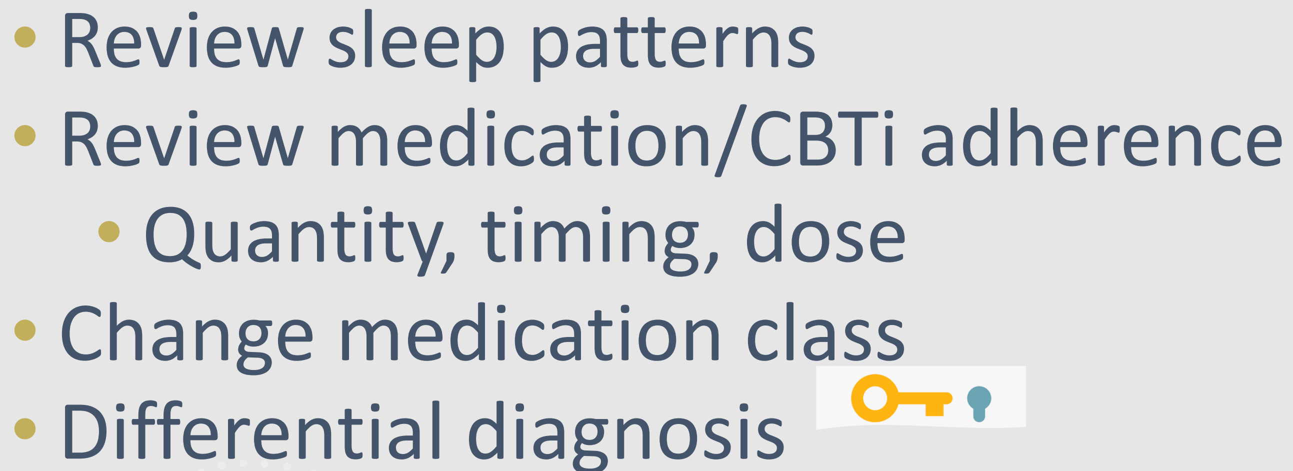




DOGHOUSEDIARIES

What to do if patients don't respond?

- Review sleep patterns
- Review medication/CBTi adherence
  - Quantity, timing, dose
- Change medication class
- Differential diagnosis



Case 3

- 70 F "My doctor said I need to come see you before she will refill my sleeping pill"
- Medical history
  - BMI 24, osteopenia, s/p thyroidectomy
  - Lorazepam for >20 yrs at bedtime
- Social history
  - Recently retired; spends time caring for grandchildren; exercises daily; plays cards 3x/week
- Sleep history / ROS
  - No difficulty falling or staying asleep
  - No snoring, fatigue, occ EDS
  - Denies symptoms c/w depression or anxiety

- Bedtime: 11:00 pm – 11:30 pm
- Sleep latency: <20 min
- Awakenings: 1x, 1-5 min
- Out of bed: 6:00 am
- Nap: none
- Husband sleeps with PAP machine

Deprescribing

- Best practices unclear
- Discuss evidence
  - risks of ongoing BZRA use
  - potential benefits of discontinuation
  - mild, short-term withdrawal effects
- Rationale should be clear
- (Tapering) plan should be negotiated
- Medication use may confound fidelity

No evidence comparing different tapering approaches for insomnia

Adapted from Pottie, Thompson, Davies, et al. 2018; Can Fam Physician, 64(5(:339-351.

When to refer

- Persistent symptoms despite multiple therapies
- Seeking behavioral sleep medicine services
  - https://www.behavioralsleep.org/
- Evaluation or management for other sleep disorders
- Difficult to manage comorbidities

Key Points

- Differential diagnosis of causes/contributors of insomnia is key
- Sleep hygiene is not effective as stand-alone therapy for insomnia
- Behavioral treatments are recommended as first line and are increasing accessible
- Numerous (and new) medications are available, BUT…
  - Evaluate cost-benefit for each medication

option for each patient

Questions?

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