# Pharmacologic Management of Insomnia



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URL: https://www.pcmg-us.org/survey/pre/insomnia7



# Pharmacologic Management of Insomnia

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Executive Director Primary Care Metabolic Group



# Disclosures

- **Stephen Brunton, MD, FAAFP, CDCES,** has disclosed that he is on the advisory board and/or speakers bureau for Abbott Diabetes, AstraZeneca, Bayer, Biolinq, Boehringer Ingelheim, Lifescan, Lilly, Novo Nordisk, Sanofi, and holds stock options for Paracrine.
- All relevant financial relationships have been mitigated.



# Learning Objectives

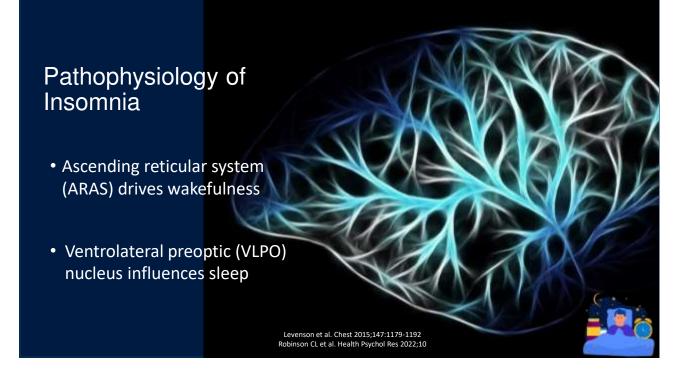
### Participants in this presentation should be able to...

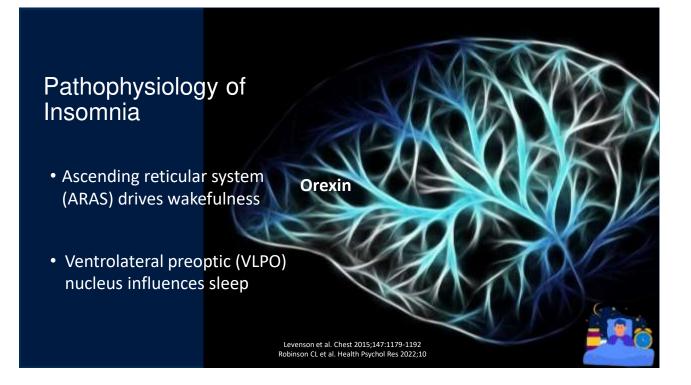
**Describe** the physiology of sleep and wake as it relates to insomnia management.

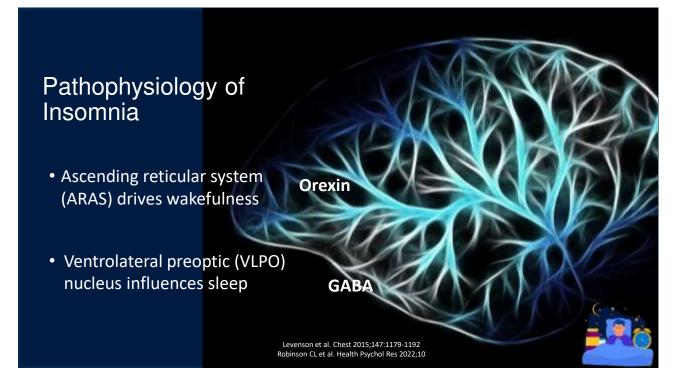
**Identify** patients with insomnia by routinely asking about sleep and associated symptoms, as well as employing recommended diagnostic methods.

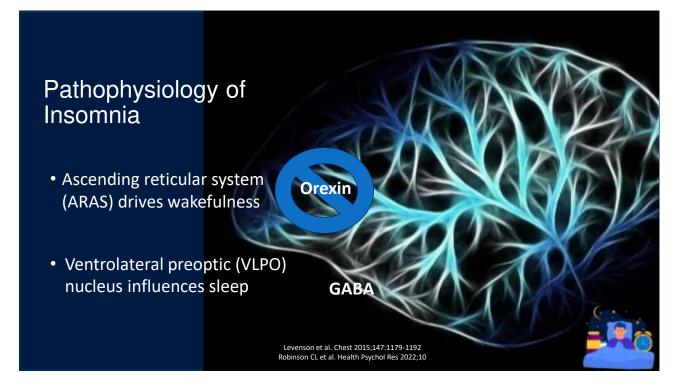
**Select** appropriate pharmacologic treatments for patients with insomnia, when indicated, based on patient characteristics and risk-benefit profiles.

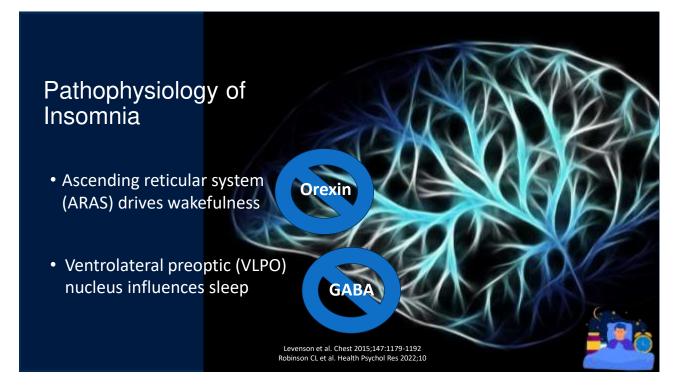
**Incorporate** DORAs into the multimodal treatment approach for treating insomnia, as appropriate.

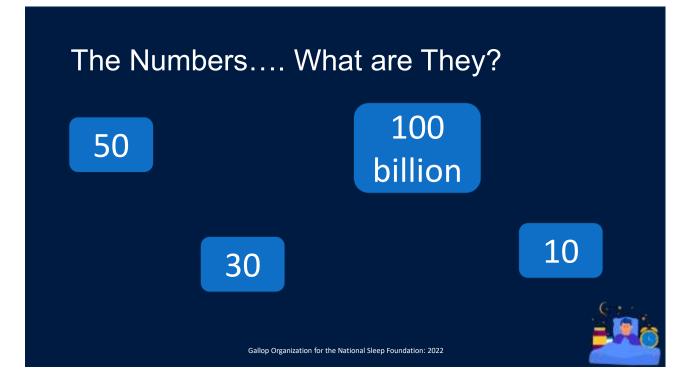


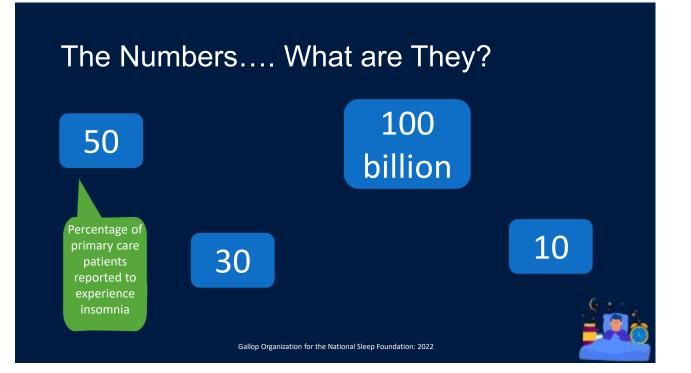




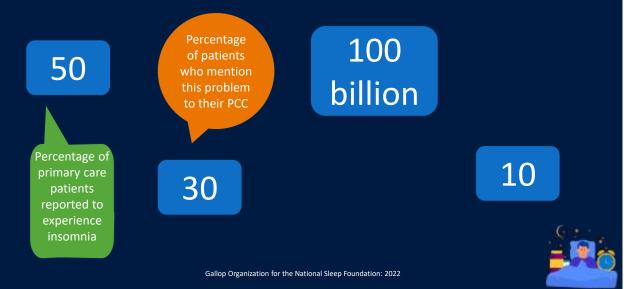




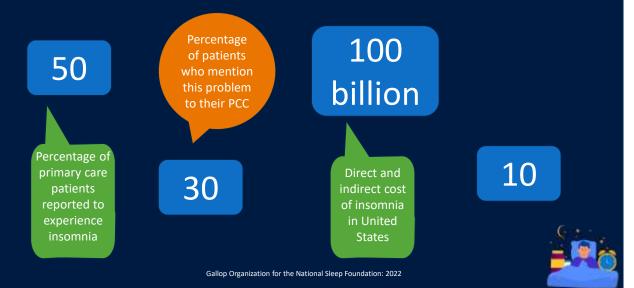




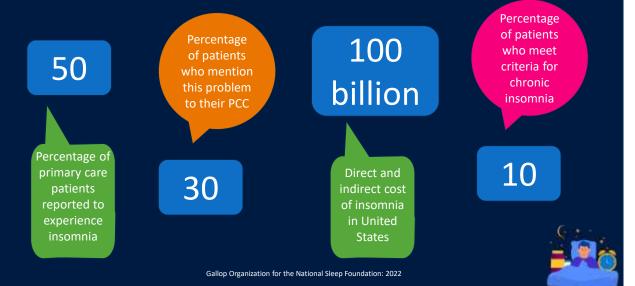
# The Numbers.... What are They?



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# What is Insomnia Disorder?



- Frequent and persistent difficulty initiating or maintaining sleep
- Benorts daytime
- Reports daytime symptoms

Amer Psych Assoc. Diagnostic and statistical manual of mental disorders (5th ed) 2015



3

months

# Consequences of Insomnia

- Disability or medical leave
- Traffic accidents
- Depression, anxiety, alcohol use disorder, psychosis
- Alzheimer's disease
- Hypertension and cardiovascular disease, can be bidirectional
- Death



Deak et al. Neurolog Clin 2012;30(4):1045-66, JAMA 2013;309(7):706-16, Lancet 2012;379:1129-41

# How to Assess for Insomnia

• Ask!

Do you have trouble getting to sleep or staying asleep? Do you feel well rested during the day?

- Identify medical and psychiatric comorbidities
- Sleep diary
- Insomnia Severity Index, Pittsburgh Sleep Quality Index, Epworth Sleepiness Scale



# Patient Evaluation of Sleep Disturbance

### **Comorbidities**

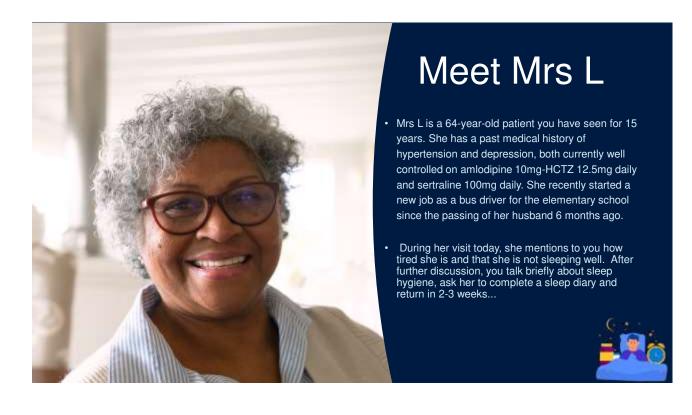
Mental disorders Cardiovascular diseases Respiratory diseases Rheumatologic diseases Malignancies Endocrine disorders Neurogenerative disorders

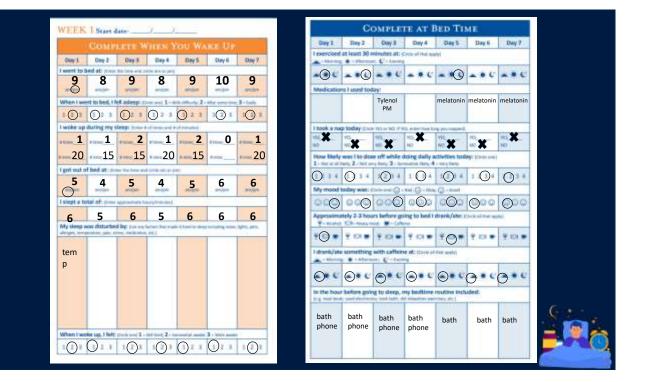
### Substance Use/ Dependence

Alcohol Nicotine Caffeine THC Opioids Cocaine Amphetamines

### **Medications**

ADHD stimulants SSRIs/ SNRIs Bupropion Varenicline Corticosteroids





# Return Visit...

- Mrs L completed her sleep diary and started taking melatonin supplements (5mg) during second week with no noticeable improvement.
- Upon questioning, she admits to scrolling through her social media in bed when she is frustrated about not sleeping, and sleeps with TV on with sound very low.
- Tylenol PM (taken once) caused excessive sleepiness the next day.
- Her PHQ-9 score is 8; she admits to being lonely but otherwise ok.

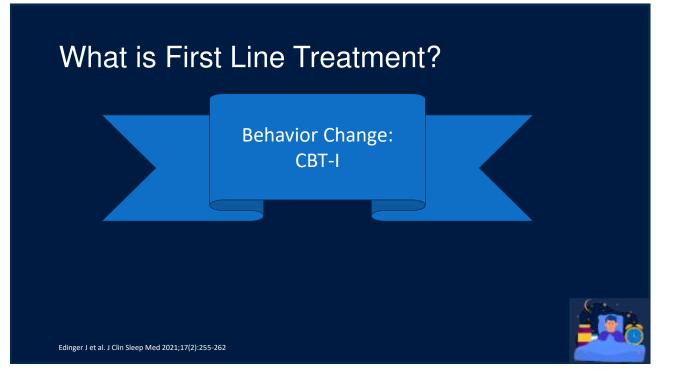


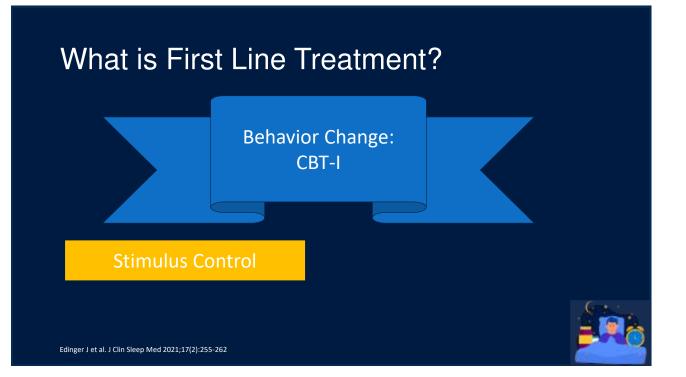
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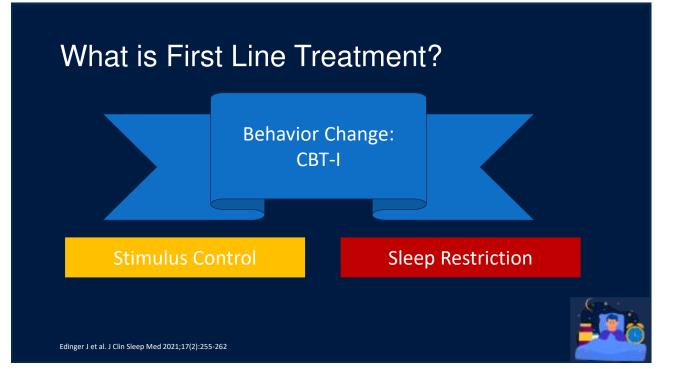
# What is First Line Treatment?

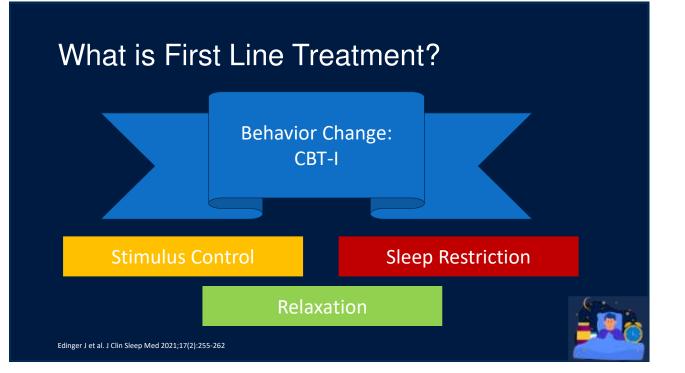
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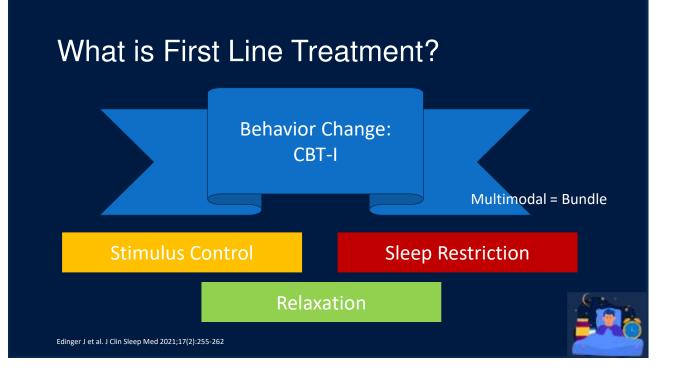




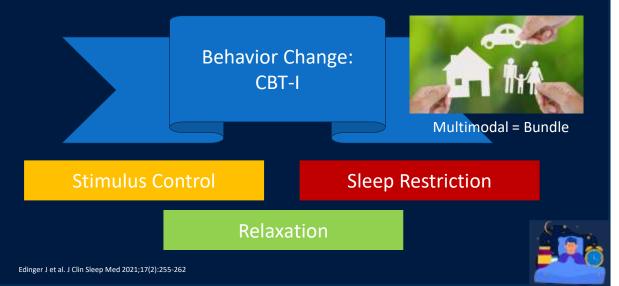








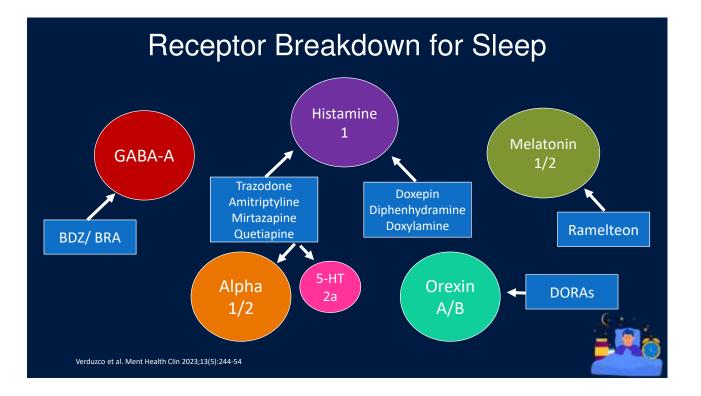




# And if CBT-I Doesn't Work?

Commonly	Used Medications for Sleep	

Sedating antidepressants	Antipsychotics	
trazodone, doxepin, mirtazapine	quetiapine	
Melatonin agonist	Herbal supplements	
ramelteon	melatonin, L-tryptophan, valerian, chamomile	
Benzodiazepine receptor agonists	Antihistamines	
zolpidem, eszopiclone, zaleplon	diphenhydramine, doxylamine	
Benzodiazepines	Anticonvulsants	
temazepam, clonazepam, alprazolam	tiagabine	
Dual orexin receptor antagonists		
suvorexant, lemborexant, daridorexant		-





# The Orexin Story

- Orexin (ORX-A and ORX-B) are neuropeptides discovered in 1998
- Involved in central physiological regulation of sleep and wakefulness, and maintenance of arousal
- Dual orexin receptor antagonists (DORAs) are FDA-approved for treatment of insomnia
  - Suborexant (2014)
  - Lemborexant (2019)
  - Daridorexant (2022)

Pizza F et al. J Sleep Res 2022;31:e13665



# What to Know about DORAs

• Pharmacokinetic half-life differences:

18 hours

- Suvorexant 12 hours
- Lemborexant
- Daridorexant 8 hours

- Work by reducing arousal but preserve person's ability to awaken in response to auditory stimuli
- FDA-approved for sleep onset and sleep maintenance insomnia
- Studies up to 3 months show continued efficacy, low risk of rebound insomnia upon discontinuation
- Next day cognition data is positive



<b>DORA</b> Counseling	
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# DosingSuvorexant10mg, 30 min<br/>before bedtimeLemborexant5mg immediately<br/>before bedtimeDaridorexant25-50mg within 30<br/>min before<br/>bedtime



Verduzco A et al. Ment Health Clin 2023;13(5):244-54

### **Adverse Effects**

Headache Dizziness Daytime sleepiness Sleep Paralysis Hypnagogic hallucinations Suicidal Ideations

### **Additional Info**

- Contraindication: Narcolepsy
- Do not use in severe liver impairment & sleep apnea
- DORAs are CYP 3A4 substrates
- Time to sleep delayed with high-fat meal
- Schedule IV medicine
- Expensive



<b>DORA</b> Counse	ling
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## **DORA** Counseling

Meta-analysis safety data over 1-3 months: Suv 8/2027 (0.003%) Lem 14/769 (0.02%) Dari 4/1232 (0.003%)

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Verduzco A et al. Men	t Health Clin 2023;13(5):244-54	Lem 5/235 (0.02%)			

## Zzzzzzz Drugs: Important Points

	Dosing	Unique Considerations	
Zolpidem	IR or nasal spray: Men: 5-10mg Women: 5mg ER formulation: Men: 6.25-12.5mg Women: 6.25mg Elderly: 5mg	Visual disturbances Slower clearance in women and elderly ER: Do not perform next day activities requiring complete awareness	<ul> <li>Minimal anxiolytic effects compared to BDZ</li> <li>Lower risk of tolerance, abuse, dependence when compared to BDZ</li> <li>Short-term use (&lt; 4</li> </ul>
Eszopiclone	1 to 2mg	Unpleasant taste	weeks) recommended
Zaleplon	5 to 10mg	Shortest half-life:1 hour Sleep onset approval only	
		=	

### Z Drug Warnings and ADRs

Black Box Warning (2019): complex sleep disorders such as sleepwalking and sleep driving can result in serious injury or death

#### **Adverse Effects**

Headache, dizziness, confusion, next-day drowsiness, falls, amnesia, rebound insomnia, withdrawal



## Remember This Survey Question?

Zolpidem 10mg at night is most appropriate for

- A. 45-year-old man with heart disease.
- B. 67-year-old female currently taking melatonin for sleep.
- C. 40-year-old who drinks alcohol (1-2 drinks) most evenings.
- D. 29-year-old truck driver.

A 10mg dose of zolpidem is not recommended in women or elderly (at least initially), should not mix with alcohol at all (increased risk of complex sleep behaviors), and should not be used for patients who require next day alertness for their job (like a commercial driver).



2

## BDZs: Temazepam, Triazolam

Indicated for short-term treatment of insomnia (2 weeks)

#### Not generally recommended due to adverse effect potential:

- Next day fatigue
- Anterograde amnesia
- Depression (longer term use)
- Falls and fracture risk (on Beer's list of unsafe medications in elderly)

Verduzco A et al. Ment Health Clin 2023;13(5):244-54

- CNS additive effects with alcohol
- Abuse potential



## My Circadian Rhythm Needs Help!

- Ramelteon has 3 to 5 times the selective affinity for melatonin receptors
- FDA-approved for sleep onset insomnia



- Well tolerated
  - Safe with substance use disorders
  - Can cause next day drowsiness
- Generic now available
- Dose: 8mg at bedtime

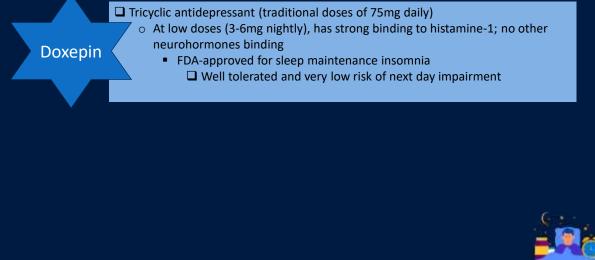


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## Sedating Antidepressants

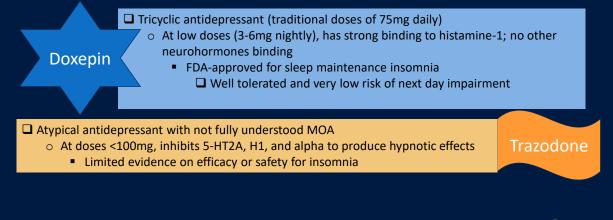


### Sedating Antidepressants



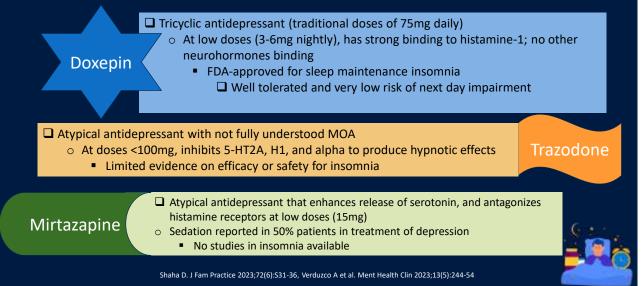
Shaha D. J Fam Practice 2023;72(6):S31-36, Verduzco A et al. Ment Health Clin 2023;13(5):244-54

### Sedating Antidepressants



Shaha D. J Fam Practice 2023;72(6):S31-36, Verduzco A et al. Ment Health Clin 2023;13(5):244-54

### Sedating Antidepressants



# How is Mrs L doing?

- During her follow-up visit, Mrs L agreed to stop scrolling through her phone in bed and try to sleep with TV off.
- Upon return 1 month later, she reports no phone/TV for an hour before bed, and instead started listening to white noise.
- She joined a local gym and started a senior adult class 4 days per week at 5pm, which has helped with her loneliness.
- Her sleep diary still shows only 5 to 6 hours of sleep nightly and she reports increased fatigue during the daytime.



2017 AASM		2019 VA/DoD		
Strong for: CBT-I (mo	od-qual)	Strong for: CE	g for: CBT-I	
<i>Weak for:</i> Temazepam Eszopiclone Zolpidem	Zaleplon Ramelteon Triazolam Doxepin Suvorexant	<i>Weak for:</i> Doxepin Z-drugs	Weak Against: Diphenhydramine Melatonin Antipsychotics BZDs Trazodone	
Not Recommended: Diphenhydramine Melatonin Trazodone		Neither for or Against: Ramelteon Suvorexant Strong Against: Kava		

2017 AASM		2019 VA/DoD		
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Weak for: Temazepam Eszopiclone Zolpidem Sleep onset & maintenance	Zaleplon Ramelteon Triazolam Doxepin Suvorexant	<i>Weak for:</i> Doxepin Z-drugs	Weak Against: Diphenhydramine Melatonin Antipsychotics BZDs Trazodone	
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Strong for: CBT-I (mod-qual)		
	Strong for: CBT-I	
Weak for:ZaleplonTemazepamZaleplonEszopicloneRamelteonZolpidemTriazolamSleep onset & maintenanceDoxepinSuvorexantSuvorexant	Weak for:Weak Against:DoxepinDiphenhydramineZ-drugsMelatoninAntipsychoticsBZDsTrazodone	
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## Guideline Update 2023: Europeans

#### Strong for: CBT-I (A)

< 4 weeks: BDZ/BRA (A) Daridorexant (A) Low-dose antidepressants (B) *3 months:* DORAs (A) Ramelteon (B)

#### Not Recommended:

Antihistamines Antipsychotics Melatonin

J Sleep Res 2023;32:e14035

## **Specific Patient Considerations**

	Sleep-onset insomnia	Sleep maintenance insomnia	Vulnerability to substance disorder	Need for normal next- day function
DORAs	Х	Х	Х	Х
BDZ		Х		
BRA*	Х	Х		
Doxepin		Х	х	х
Ramelteon	Х		Х	



Shaha D. J Fam Practice 2023;72(6):S31-36, Rosenberg R et al. Prim Care Companion CNS Disord 2023;25

## Remember This Knowledge Question?

What is a medication shown to improve sleep onset, sleep maintenance, and have a low risk of next day impairment and rebound insomnia or withdrawal?

- A. trazodone
- B. ramelteon
- C. daridorexant
- D. No such medicine exists

Trazodone is not well studied in insomnia, not FDA-approved, efficacy is doubted, and safety is unknown. Ramelteon is not FDA-approved for sleep maintenance and guidelines differ on efficacy recommendations (still better than OTC melatonin). Early clinical trials with daridorexant have indicated improved sleep onset, improved sleep maintenance and a low risk for the negative impacts described above.

## Back to Mrs L

- At last visit, Mrs L was encouraged for making hard lifestyle changes and encouraged to continue. She also agreed to a sleep restriction trial during school Spring break (stayed up until midnight and got up at 6am, then increased bedtime by 30 minutes every night).
- She has returned 1 month later and reports improvement, but still struggling several nights per week and has fatigue during daytime, making it difficult to attend gym classes.
- You discuss medication to assist with insomnia...





### You Choose

Based on the guidelines, what medication has the highest evidence for efficacy and safety for Mrs L?

- a. Trazodone
- b. Daridorexent
- c. Doxepin
- d. Ramelteon





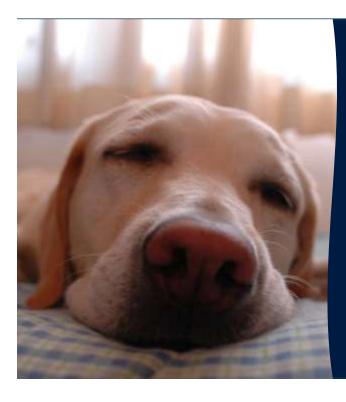
### Correct Answer

#### Daridorexent

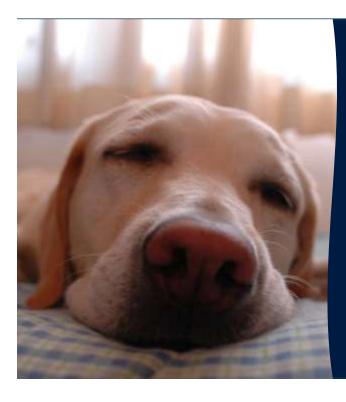
Based on sleep onset and sleep maintenance issues, and a need for early morning alertness for her job, B is the correct answer.

Another acceptable option would be doxepin 3mg with close follow up, but it is not great for sleep onset. The shortest acting BRA zaleplon could be a short-term option as well.



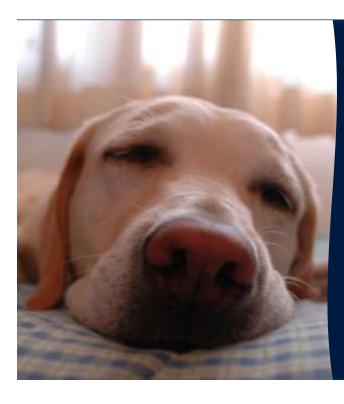






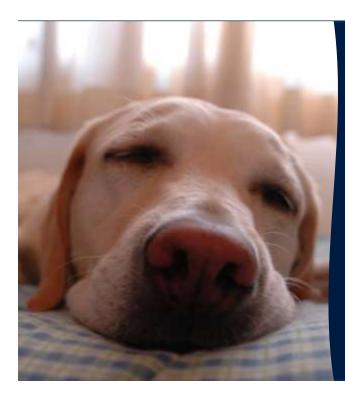
Discuss sleep with your patients





- Discuss sleep with your patients
- Counsel on good sleep behaviors and strategies





- Discuss sleep with your patients
- Counsel on good sleep behaviors and strategies
- Carefully select appropriate patients for pharmacologic treatment IN ADDITION to behavior change





- Discuss sleep with your patients
- Counsel on good sleep behaviors and strategies
- Carefully select appropriate patients for pharmacologic treatment IN ADDITION to behavior change
- Follow-up with all patients!



## **Resource Toolkit**

- More resources for you on insomnia can be found at our resource toolkit, which you can visit via the URL or QR Code below.
- You'll also find a video of this presentation if there is anything you wish to review.



https://www.pceconsortium.org/toolkit/insomnia



## Learning Objectives

#### Let's go over the learning objectives we covered in this presentation:

**Describe** the physiology of sleep and wake as it relates to insomnia management.

**Identify** patients with insomnia by routinely asking about sleep and associated symptoms, as well as employing recommended diagnostic methods.

**Select** appropriate pharmacologic treatments for patients with insomnia, when indicated, based on patient characteristics and risk-benefit profiles.

**Incorporate** DORAs into the multimodal treatment approach for treating insomnia, as appropriate.

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Post-presentation Survey: Please complete the brief survey by using the QR code to the right or the URL below.

URL: https://www.pcmg-us.org/survey/post/insomnia7

