

Treating Insomnia in Obstructive Sleep Apnea

Allison Wilkerson, PhD, DBSM

Annual Update, June 5, 2025



Conflict of Interest

- Relevant
 - Founder and CEO, NightRigher, Inc.
- Not relevant
 - Consultant, Rise Science

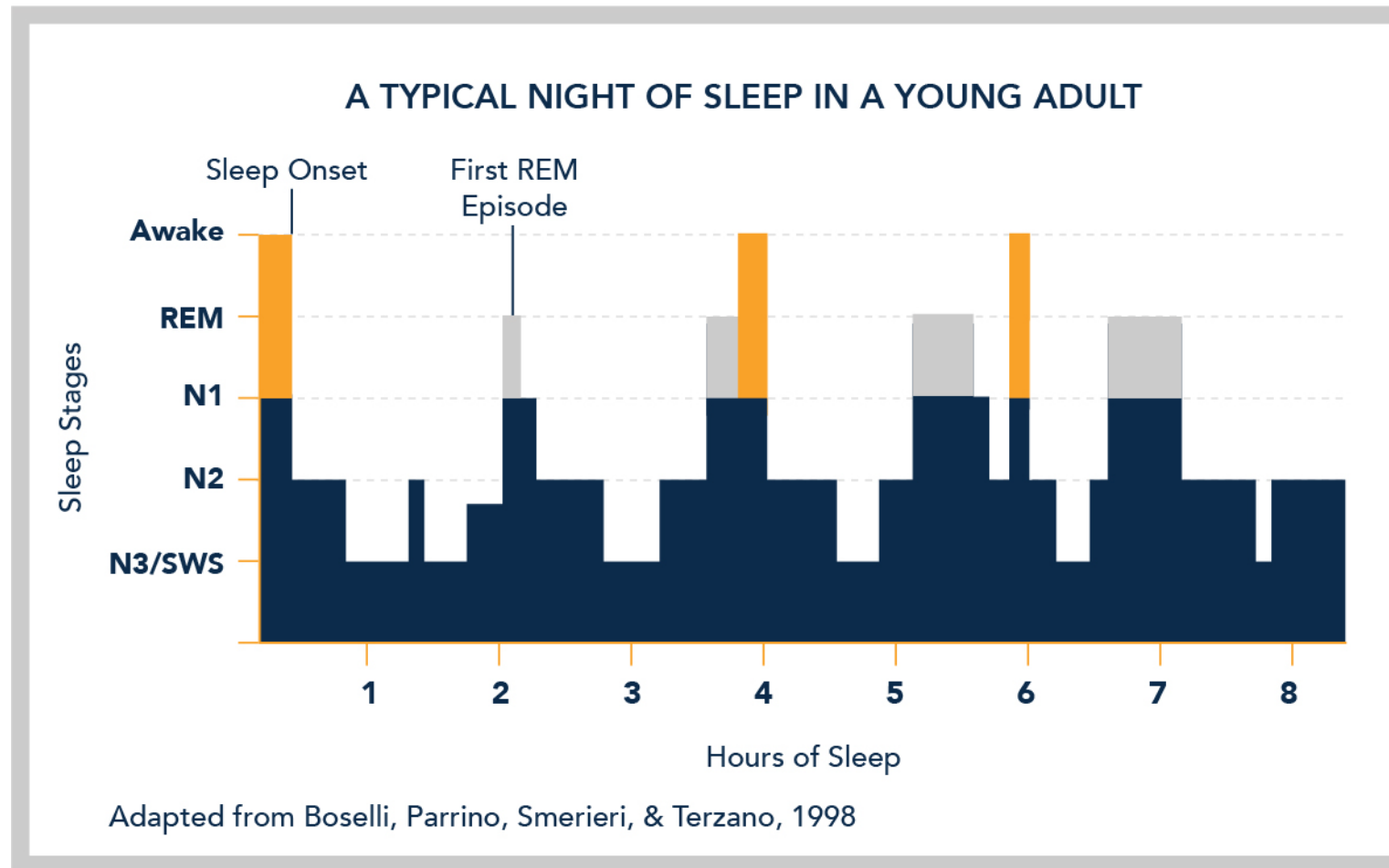
Objectives

- Define criteria for insomnia and sleep apnea and identify factors important for differential diagnosis.
- Understand best practice treatment for insomnia, sleep apnea, and COMISA.

A Little History of Sleep Patterns



Sleep Architecture



Terms

Insomnia

- 1. Sleep difficulty:** Difficulty initiating sleep, maintaining sleep, or waking up too early, or resistance to going to bed on an appropriate schedule.
- 2. Adequate opportunity and circumstances** for sleep.
- 3. Daytime impairment:** At least one daytime consequence (e.g., fatigue, mood disturbance, cognitive impairment, social or occupational dysfunction).
- 4. Frequency:** Occurs at least **three times per week**.
- 5. Duration:** Present for at least **three months**.
- 6. Exclusion:** Not better explained by another sleep disorder, medical or mental disorder, or substance use.

Sleep Apnea

- 1. Polysomnography (PSG) or home sleep apnea test (HSAT) shows:**
 - › **Apnea-Hypopnea Index (AHI) $\geq$ 5 events/hour** with symptoms (e.g., daytime sleepiness, fatigue, insomnia, snoring, gasping/choking, or observed apneas), or
 - › **AHI $\geq$ 15 events/hour** regardless of symptoms.

Terms

Insomnia

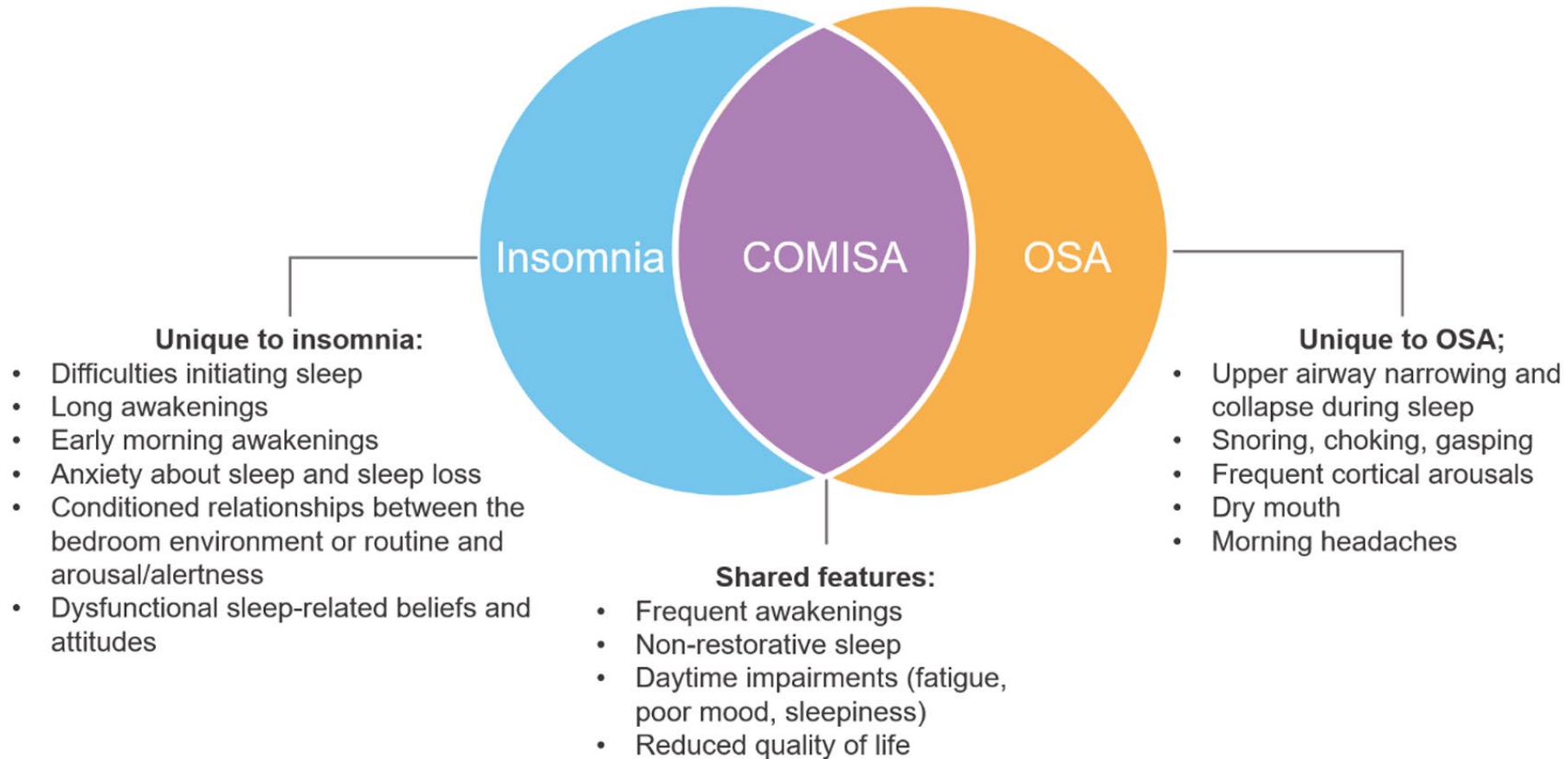
- 1. Sleep difficulty:** Difficulty initiating sleep, maintaining sleep, or waking up too early, or resistance to going to bed on an appropriate schedule.
- 2. Adequate opportunity:** Adequate opportunity to sleep.
- 3. Daytime impairment:** Daytime impairment (e.g., fatigue, mood disturbance, social or occupational impairment).
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Sleep Apnea

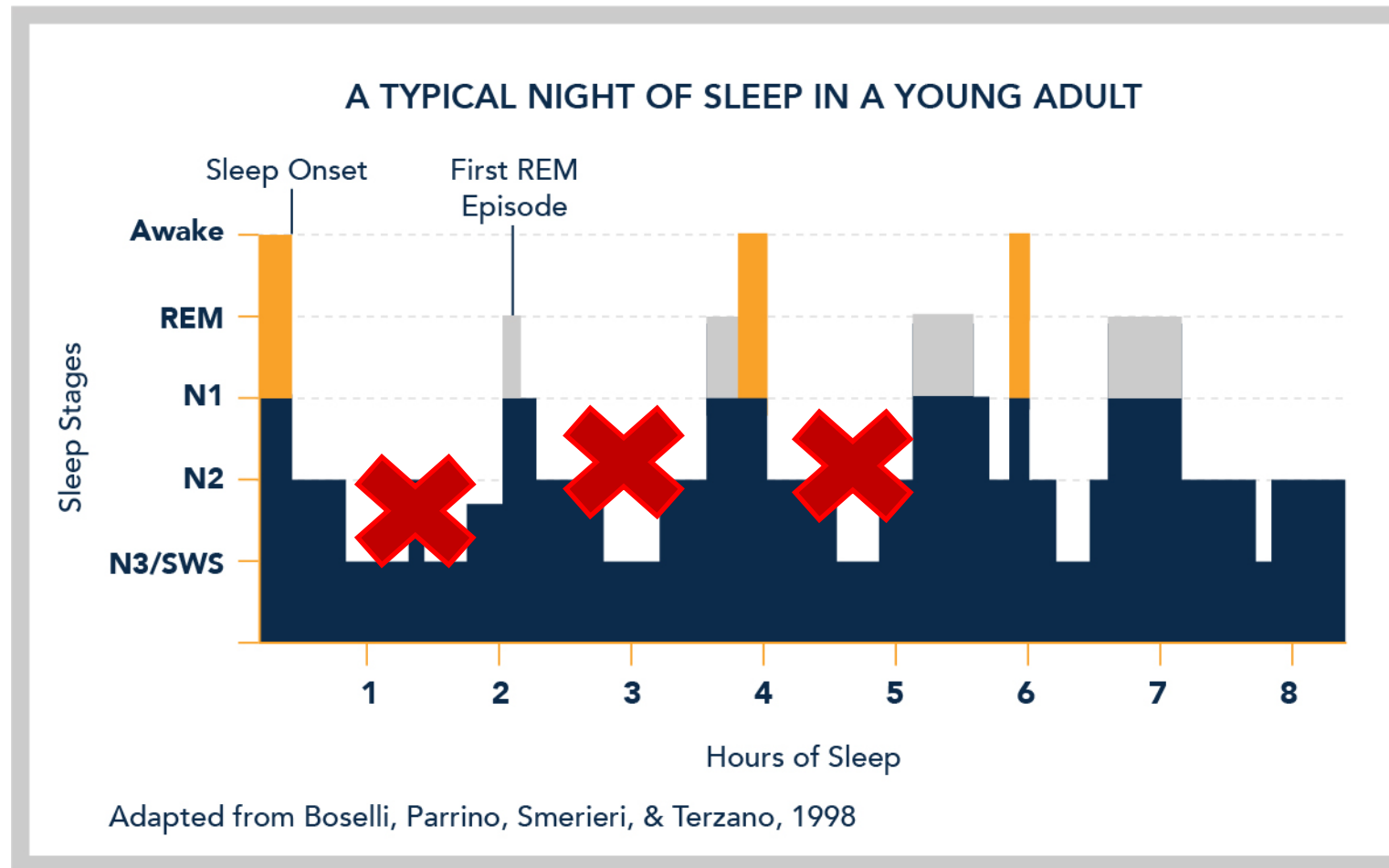
- 1. Polysomnography (PSG) or home sleep apnea test (HSAT) shows:**
 - Obstructive sleep apnea (OSA):** Apnea-hypopnea index (AHI) ≥ 5 events/hour with daytime sleepiness, fatigue, insomnia, or observed apneas, or AHI ≥ 15 events/hour regardless of symptoms.

COMISA

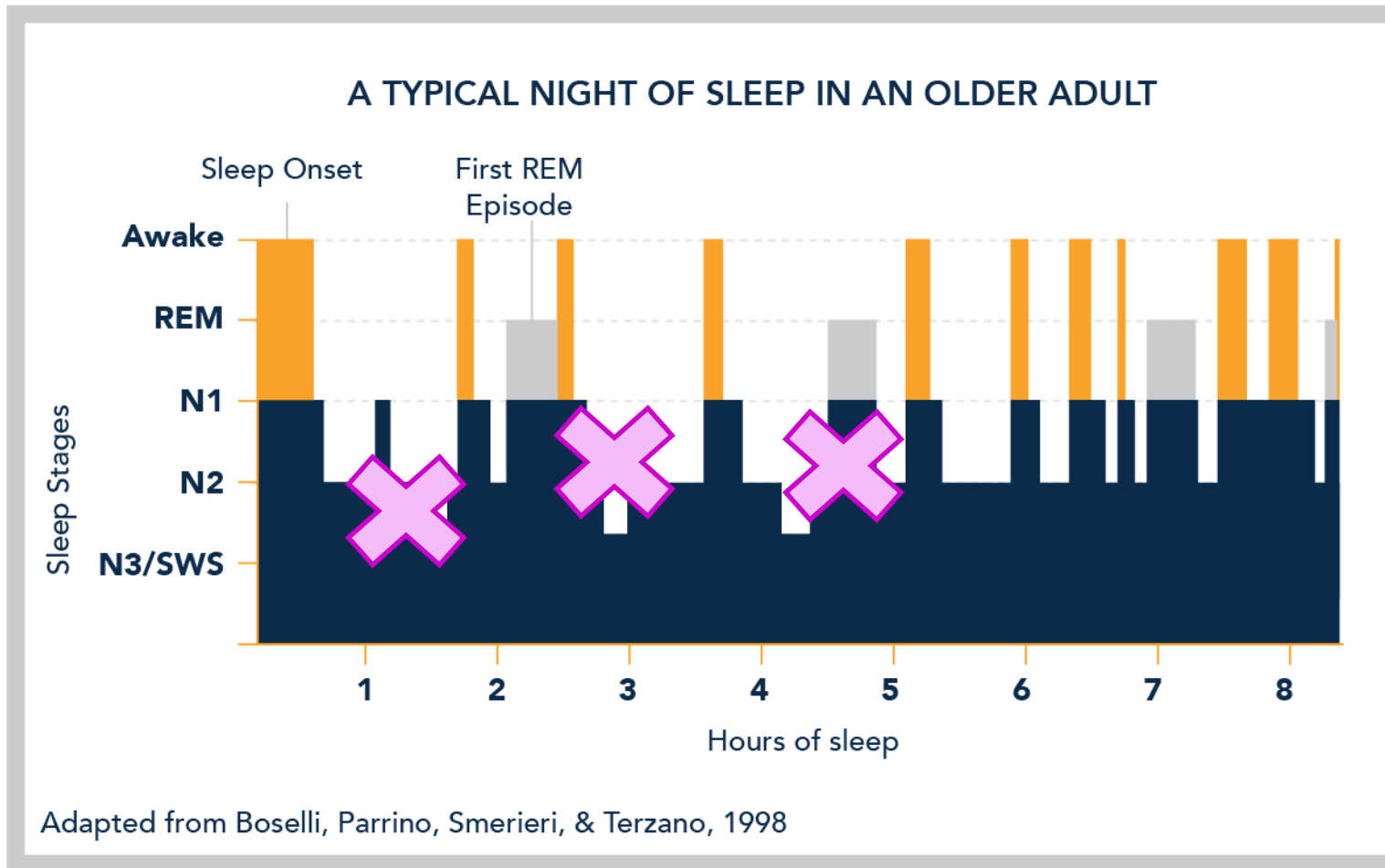
COMorbid Insomnia and Sleep Apnea



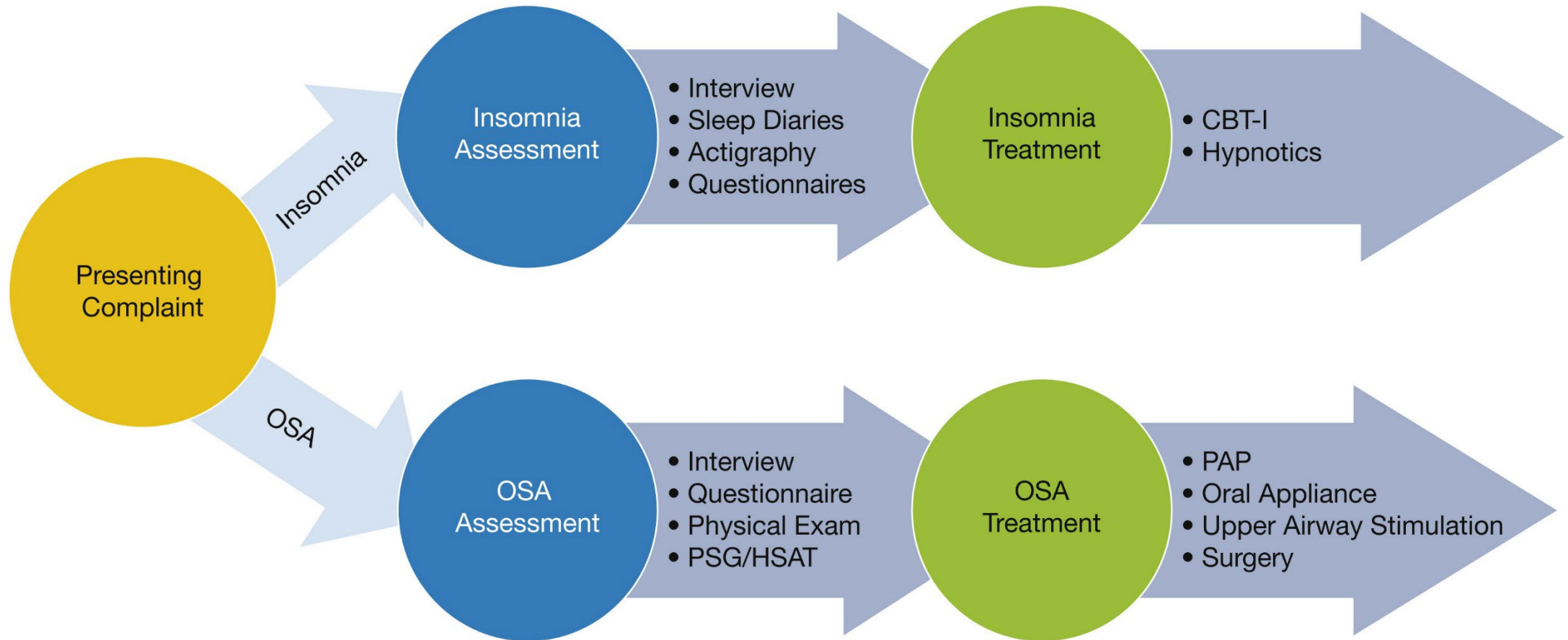
Sleep Architecture with Apnea



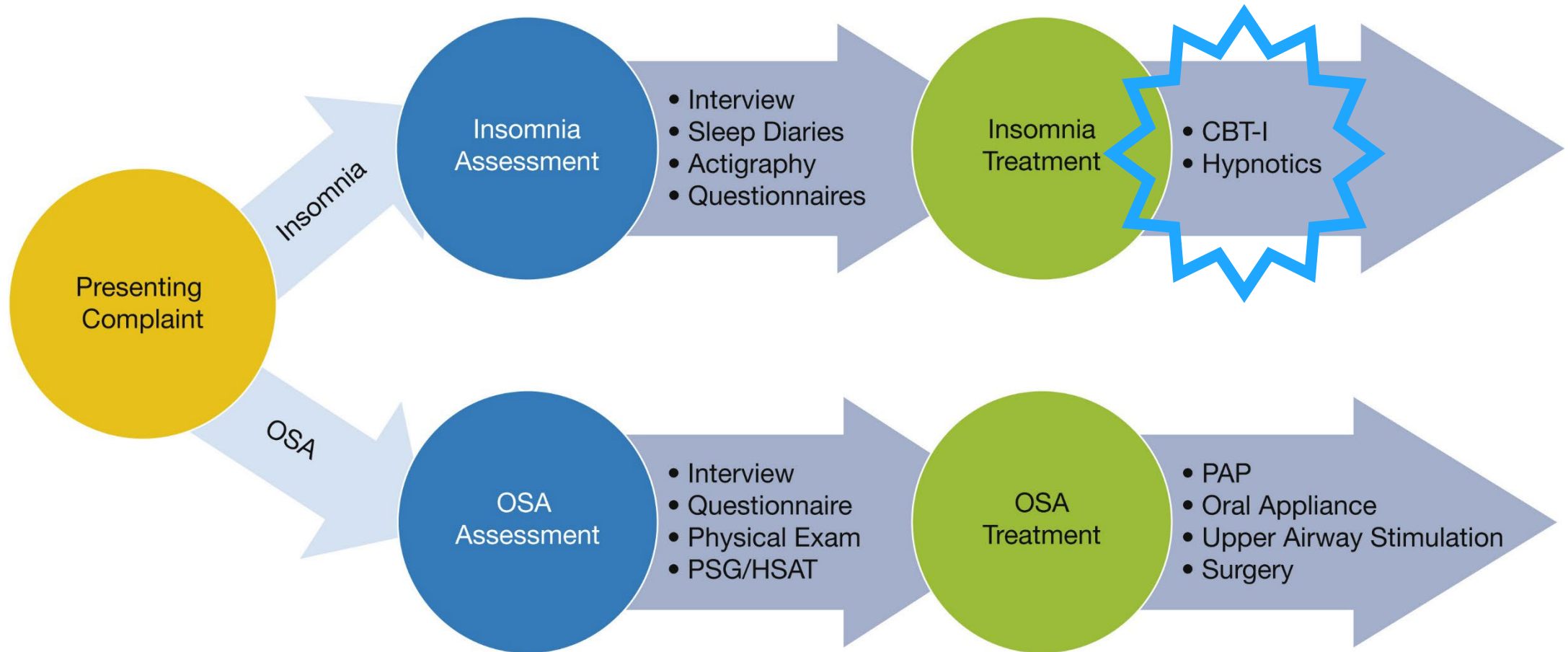
A Note on Aging



Traditional Clinical Pathways



Traditional Clinical Pathways



Cognitive Behavioral Therapy for Insomnia (CBTI)

Daily Sleep Logs

Technique	Aim
Stimulus control	Strengthen bed/bedroom as sleep stimulus
Sleep restriction therapy	Restrict time in bed to improve sleep depth/consolidation
“Sleep hygiene” education	Promote habits that help sleep; eliminate habits that hurt sleep
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



CBTIweb

A provider-focused, web-based learning course in Cognitive Behavioral Therapy for Insomnia.
CE Credits Available*

WHAT IS CBTI?

CBTI is the first line treatment for chronic insomnia, as effective as medication in the short-term with considerably better long term outcomes

WHAT IS CBTIWEB?

What is CBTIweb? CBTIweb is an online training designed to provide you, the clinician, with the most efficient and enjoyable learning experience possible to become minimally proficient in CBTI.

TELL ME MORE

Dr. Daniel Taylor, an expert in CBTI, explains the components of CBTIweb

[Learn more](#)

Common Medications for Insomnia

- **Z-drugs (Non-benzodiazepine hypnotics: Zolpidem** (Ambien), **Eszopiclone** (Lunesta), **Zaleplon** (Sonata)

These are commonly prescribed for short-term insomnia and are known for fewer side effects than traditional benzodiazepines.

- **Orexin Receptor Antagonists: Suvorexant** (Belsomra), **Lemborexant** (Dayvigo), **Daridorexant** (Quviviq)

These are commonly prescribed for short-term insomnia and are known for fewer side effects than traditional benzodiazepines.

- **Melatonin** (Mimic)

Mimic

- **Benzodiazepines** (off-label use): **Clonazepam** (Klonopin), **Lorazepam** (Ativan), **Temizepam** (ProSom), **Triazolam** (Halcion), **Alprazolam** (Xanax), **Clobazam** (Rivotril), **Flurazepam** (Doriden), **Clonazepam** (Klonopin), **Lorazepam** (Ativan), **Temizepam** (ProSom), **Triazolam** (Halcion), **Alprazolam** (Xanax), **Clobazam** (Rivotril), **Flurazepam** (Doriden)

Effective but generally used short-term due to risk of dependence.

- **Sedating Antidepressants** (often used off-label): **Trazodone**, **Amitriptyline**, **Mirtazapine**

These are especially helpful when insomnia is linked to depression or anxiety.

- **Antipsychotics** (off-label use): **Quetiapine** (Seroquel)

Sometimes used for their sedative effects, though not first-line due to side effect risks.



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- **Orexin Receptor Antagonists: Suvorexant** (Belsomra), **Lemborexant** (Dayvigo), **Daridorexant** (Quviviq)

These help reduce wakefulness

- **Melatonin Receptor Agonists:**

Mimics melatonin to help regulate sleep

- **Benzodiazepines: Temazepam**

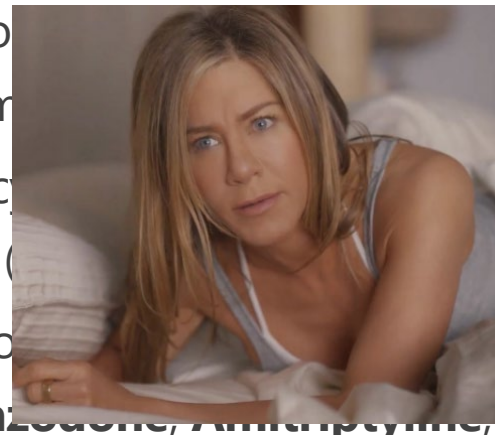
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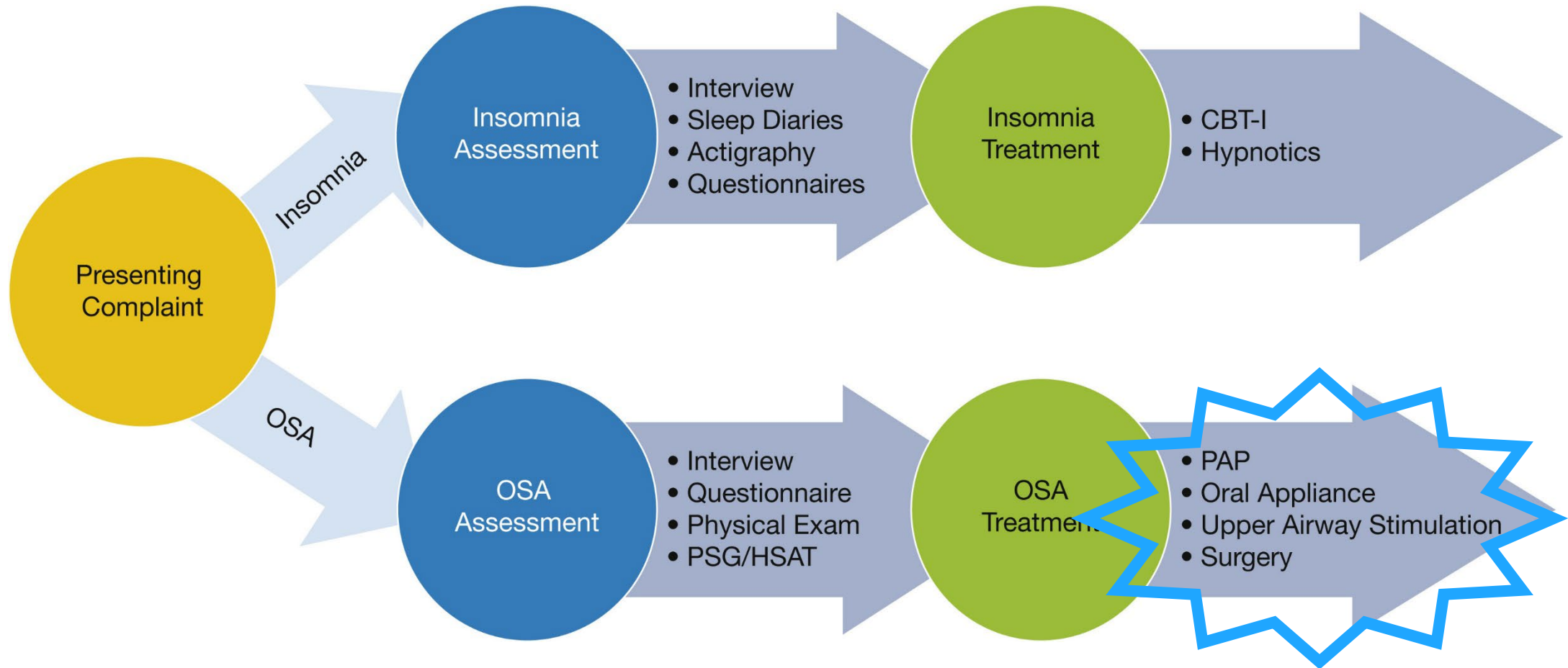
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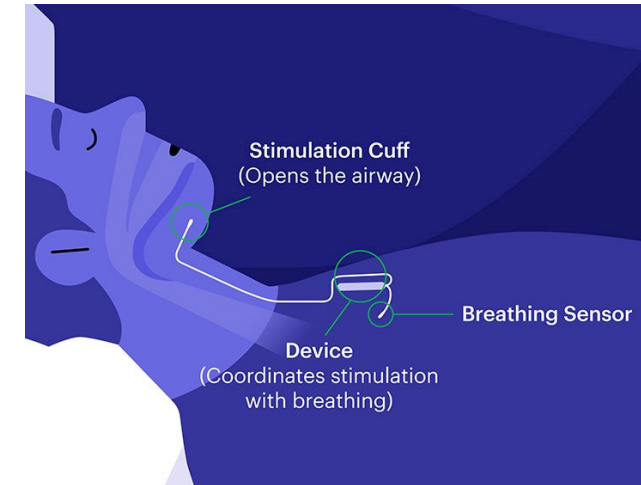
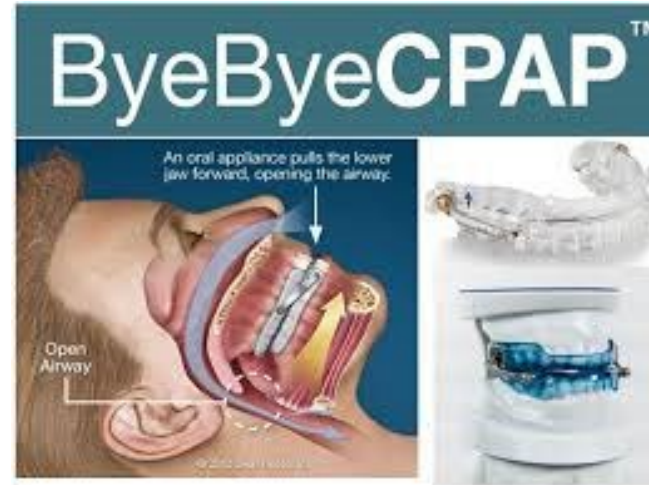
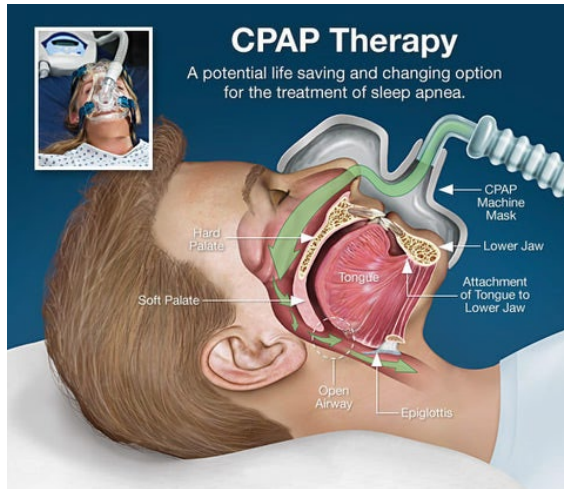
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These are commonly prescribed for short-term insomnia and are known for fewer side effects than traditional benzodiazepines.
- **Orexin Receptor Antagonists: Suvorexant** (Belsomra), **Lemborexant** (Dayvigo), **Daridorexant** (Quviviq)
These help reduce wakefulness and are approved for long-term use.
- **Melatonin Receptor Agonists: Ramelteon** (Rozerem)
Mimics melatonin to help regulate the sleep-wake cycle.
- **Benzodiazepines: Temazepam** (Restoril), **Triazolam** (Halcion)
Effective but generally used short-term due to risk of dependence.
- **Sedating Antidepressants** (often used off-label): **Trazodone**, **Amitriptyline**, **Mirtazapine**
These are especially helpful when insomnia is linked to depression or anxiety.
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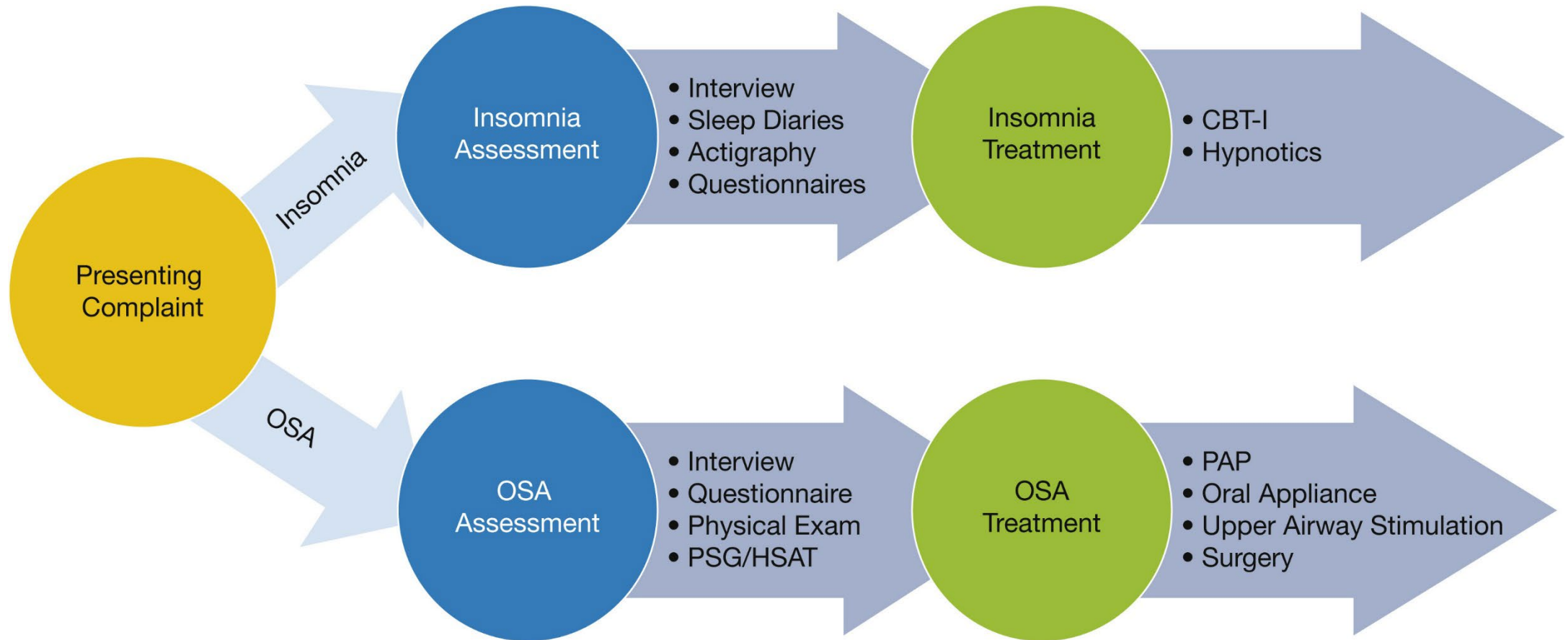
Traditional Clinical Pathways



PAP, Oral Appliance, Upper Airway Stimulation



Traditional Clinical Pathways



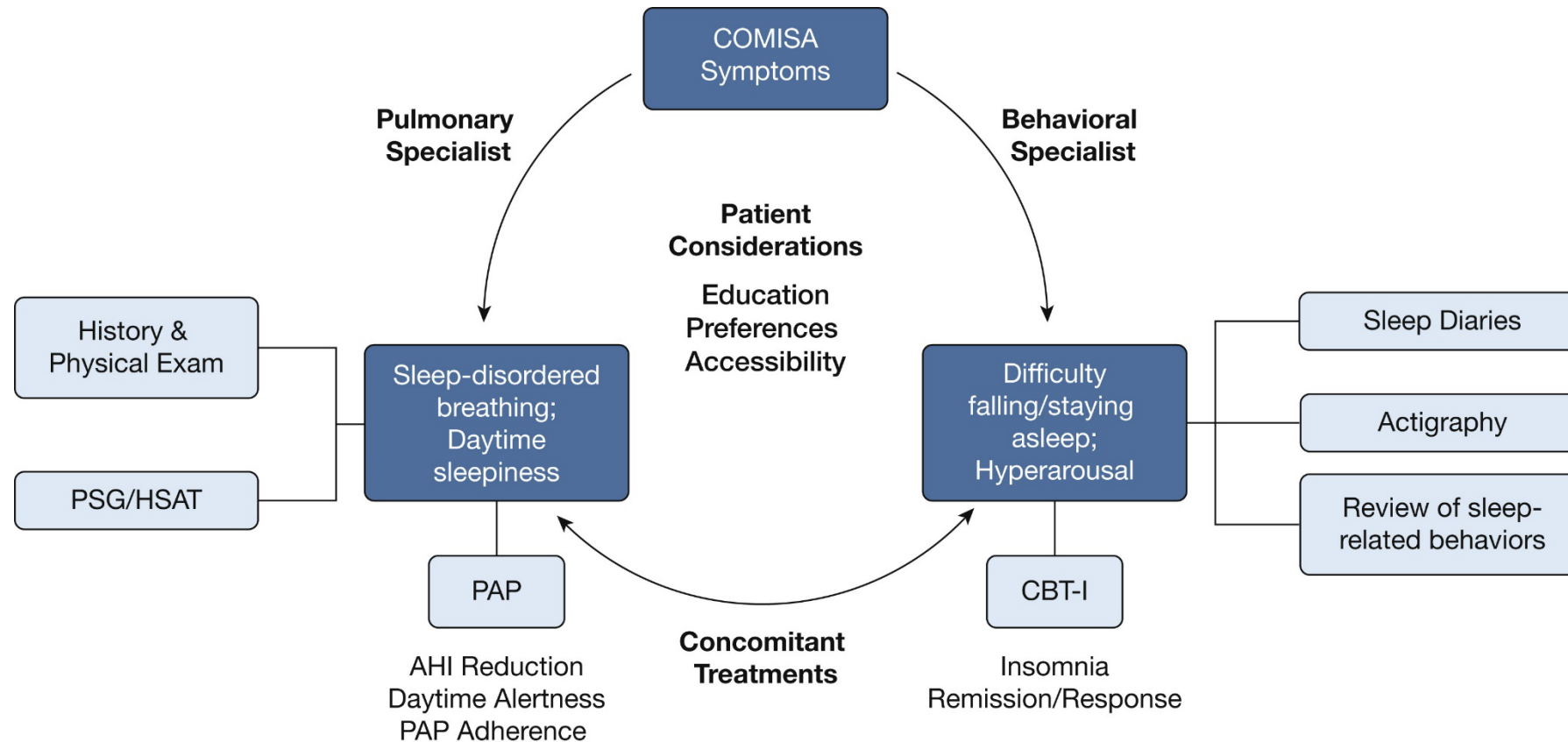
Problems with Traditional Clinical Pathways

- When insomnia and OSA co-occur, insomnia symptoms are correlated with lower PAP adherence
- Pharmacological treatment of insomnia in patients with OSA could increase daytime sleepiness and other adverse events
- Patients who have minimal improvement with PAP due to continued insomnia symptoms are more likely to be dissatisfied with their treatment and less likely to seek help in the future

The Latest Evidence

- CBT-I administered prior to, or along with, PAP therapy is safe and effective
- CBT-I can improve adherence to PAP
- Preliminary evidence suggests CBT-I may improve OSA

Multidisciplinary Treatment Approach



Case Study - Laura

Presentation:

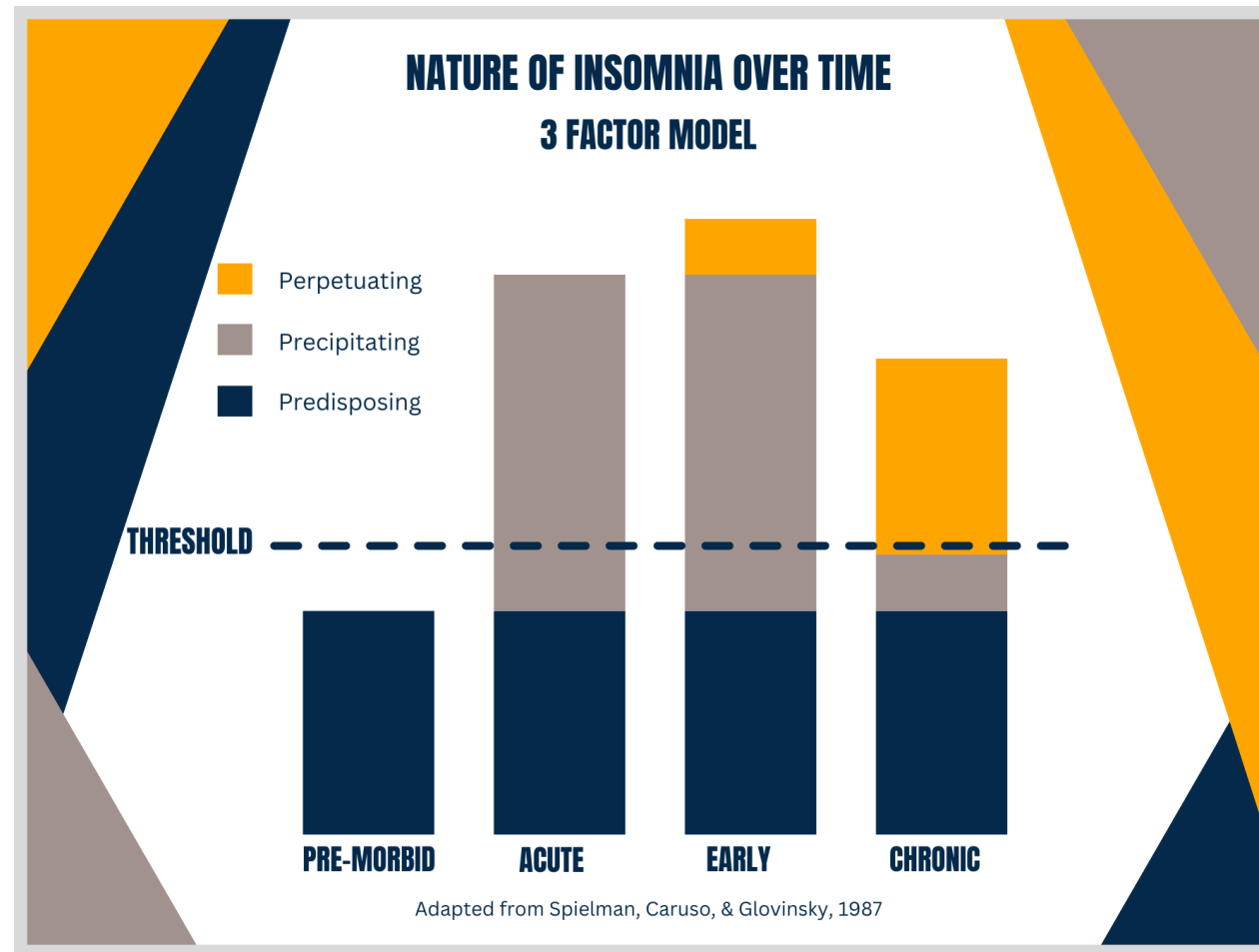
- 56-year-old WF
- Presenting concerns:
 - Some difficulty falling asleep
 - Major problem with staying asleep - period of 60-90 minutes awake in the middle of the night, beginning approximately 1 year ago
 - Self-reported daytime fatigue
 - Partner-reported significant increase in snoring in last year
- Initial evaluation:
 - Seen by pulmonologist who suspects OSA. Sleep study is ordered, first available in 7 months
- Interim Plan:
 - Referred for CBT-I while awaiting sleep study

Case Study - Laura

CBTI Clinic Assessment

- Insomnia
- Adjustment-related anxiety (husband recently retired)
- No other current co-occurring sleep or mental health conditions
- History of postpartum anxiety with first child, received treatment, much better experience with second child (both now adults living independently)
- Key issues identified:
 - Social media usage when waking up at night
 - Increased alcohol (2-3 glasses of wine) before bed to help fall asleep
- Begin collecting daily sleep logs

Conceptualization



Case Study - Laura

Session 1

Sleep log

- Time in Bed: 8 hours
- Total Sleep Time: 4.2 hours
- Sleep Efficiency: 53%
- Sleep Onset Latency: 50 min
- Wake After Sleep Onset: 100 min

Interventions

- Sleep restriction – 5.5-6 hours
- Stimulus control
- Psychoeducation re: alcohol

Session 2

Sleep log

- Time in Bed: 6 hours
- Total Sleep Time: 4.6 hours
- Sleep Efficiency: 77%
- Sleep Onset Latency: 35 min
- Wake After Sleep Onset: 70 min

Progress

- Reduced screen time to < 10 min during wakings
- Cut alcohol down to 1 glass on most nights

Intervention

- Relaxation exercises

Case Study - Laura

Session 3

Sleep log

- Time in Bed: 6.5 hours
- Total Sleep Time: 5.4 hours
- Sleep Efficiency: 83%
- Sleep Onset Latency: 25 min
- Wake After Sleep Onset: 45 min

Progress

- Eliminated screen time at night
- Continued 1 glass wine/night

Intervention

- Behavioral experiment around irritability

Session 4

Sleep log

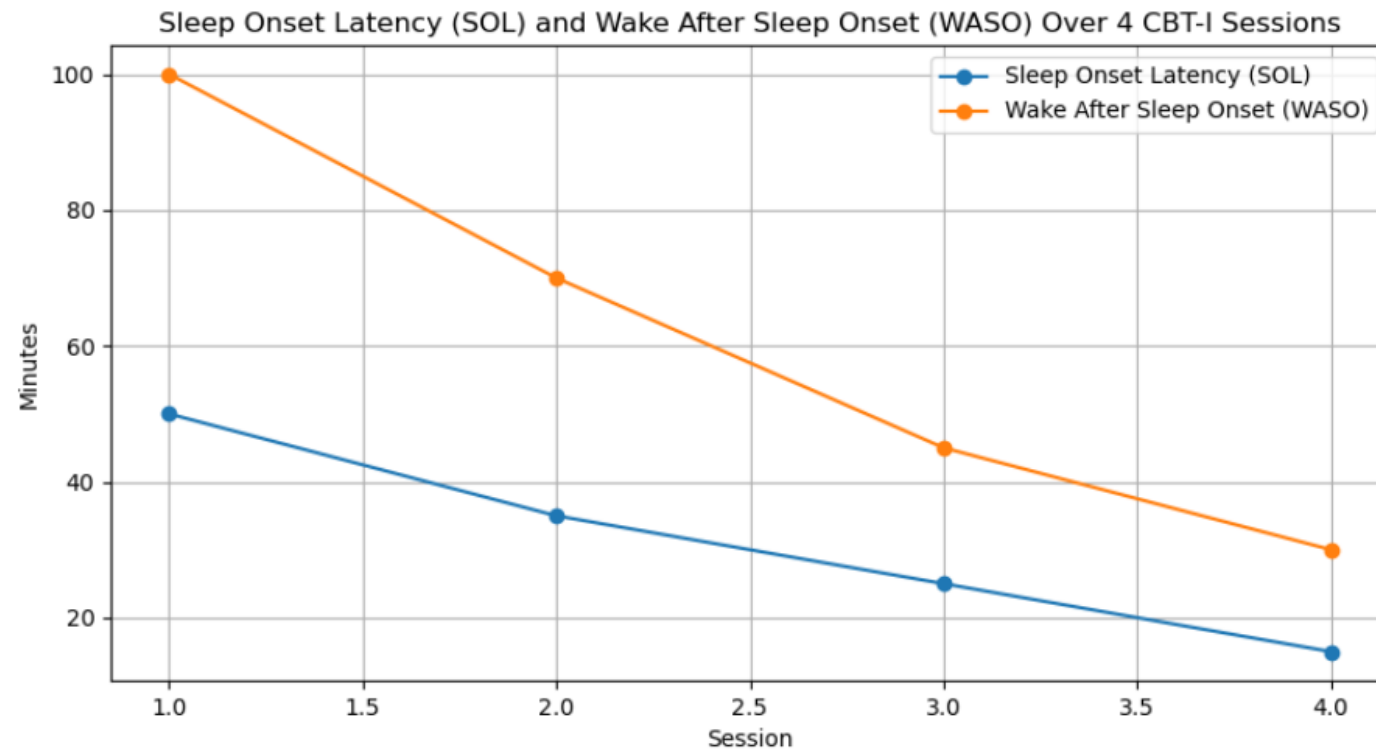
- Time in Bed: 7 hours
- Total Sleep Time: 6.1 hours
- Sleep Efficiency: 87%
- Sleep Onset Latency: 15 min
- Wake After Sleep Onset: 30 min

Outcome

- Improvement in sleep efficiency and quality
- Reduced reliance on alcohol/screens
- Feeling more control over sleep/impact
- Feeling ready to figure out OSA

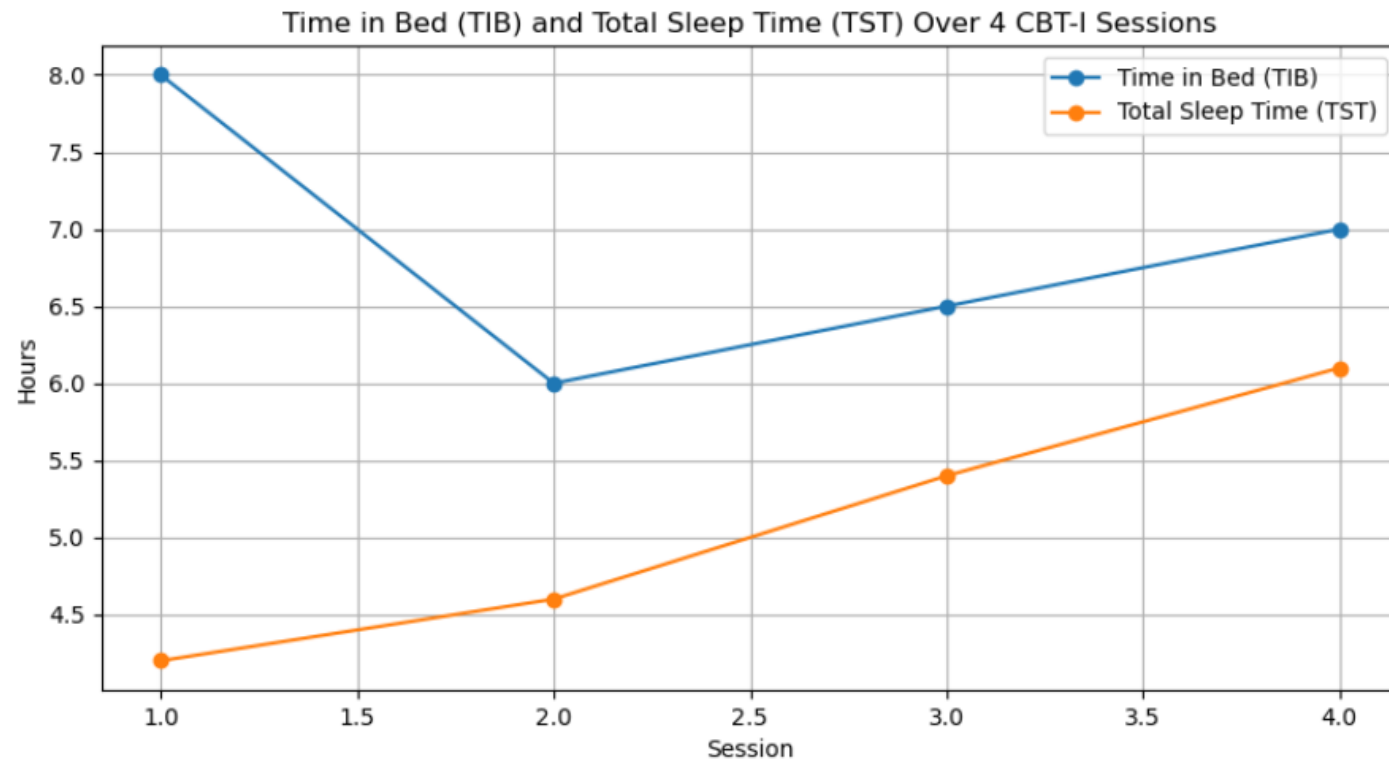
Case Study - Laura

Sleep Onset Latency (SOL) and Wake After Sleep Onset (WASO):



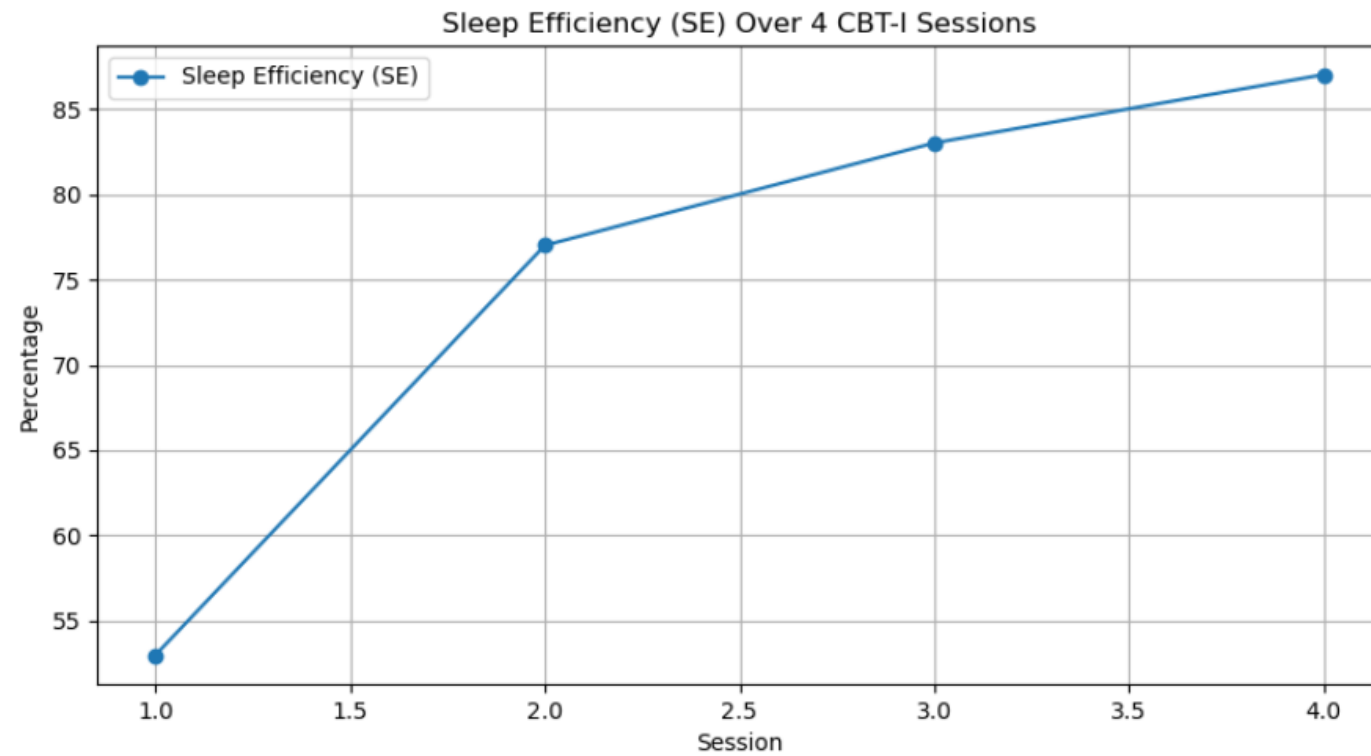
Case Study - Laura

Time in Bed (TIB) and Total Sleep Time (TST):



Case Study - Laura

Sleep Efficiency (SE):



Medication Considerations in COMISA

- Medications may be considered when CBTI is unavailable, insufficient, or when patients prefer pharmacological options
- Symptom-driven approach recommended:
 - **Sedative-hypnotics** (like zolpidem or eszopiclone) may be cautiously used in patients with **mild OSA** and **no significant daytime sleepiness**, but are generally avoided in severe OSA.
 - **Melatonin receptor agonists** and **low-dose doxepin** are preferred for **sleep maintenance insomnia** due to their minimal respiratory effects.
 - **Orexin receptor antagonists** (e.g., suvorexant) are promising due to their **neutral or potentially beneficial effects on sleep-disordered breathing**, though more research is needed.
 - **Comorbid conditions** (e.g., depression, anxiety) also guide medication choice, with agents like **trazodone** or **mirtazapine** considered when mood symptoms are prominent.

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Questions, Concerns, Comments?

wilkersa@musc.edu
smartclinic@musc.edu
