



UT Southwestern
Medical Center

**2025 Carolyn P. Horchow
Women's Health Symposium**

What to REMember About Sleep

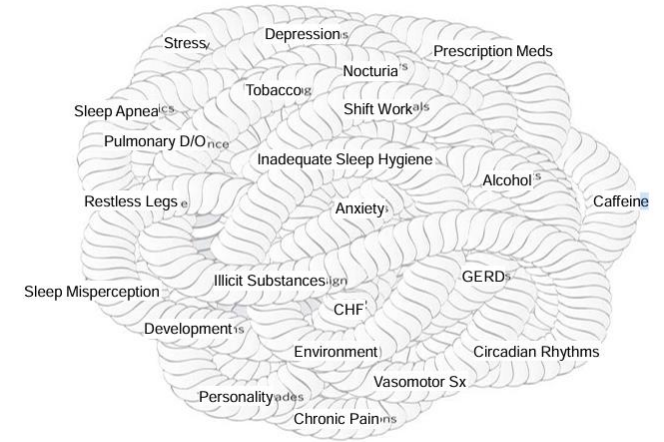
Abha Patel, D.O.

Assistant Professor, Department of Internal Medicine

Director of Sleep Medicine, Dallas Veterans Affairs Medical Center

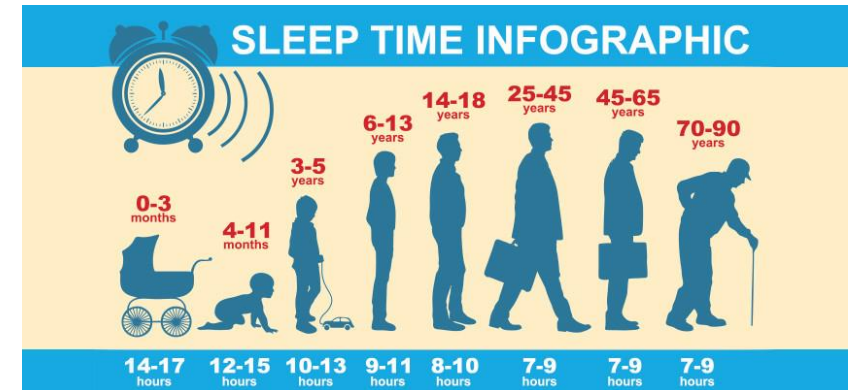
Why Is Sleeping So Hard?

- **Many things contribute to good sleep**
 - Gender, age, habits, health conditions, work, socioeconomic class
- **Women report more sleep disturbances than men**
 - Hormonal changes: Menstrual cycle, pregnancy, menopause
 - ↓ Estrogen levels = ↑ Sleep disturbances
 - ↓ Progesterone levels = ↓ Pharyngeal dilator muscle tone
 - Hormone replacement therapy can improve sleep by decreasing nighttime awakenings



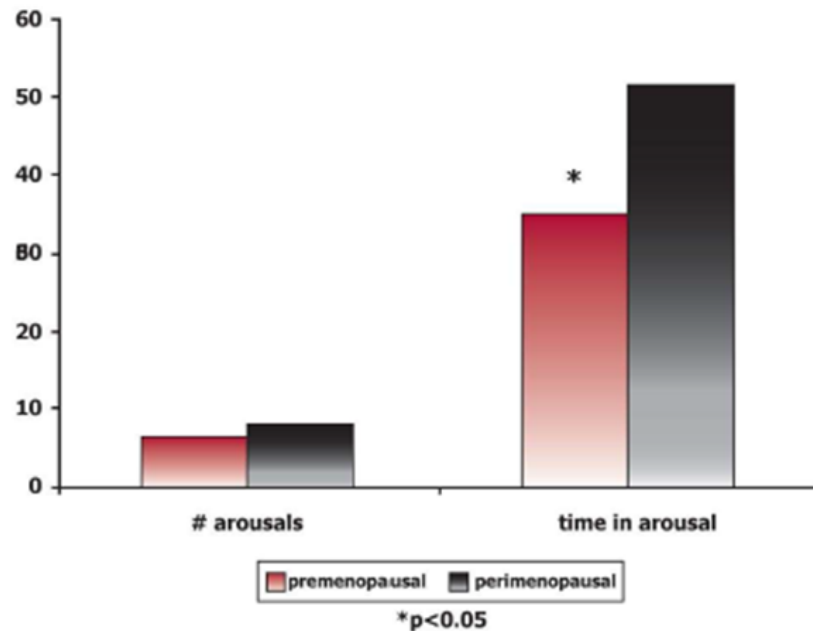
The Ups and Downs of Not Enough Sleep

- **How much sleep do we really need**
 - Typically, 7-8 hours
 - Depends on the person and daytime functionality
- **Effects of sleep deprivation**
 - ↑ Sleepiness
 - ↑ Sympathetic activity
 - ↑ Insulin resistance
 - ↑ Risk of MVA
 - ↓ Vigilance
 - ↓ Pain tolerance
 - ↓ Seizure threshold
 - ↓ Cognition and attention

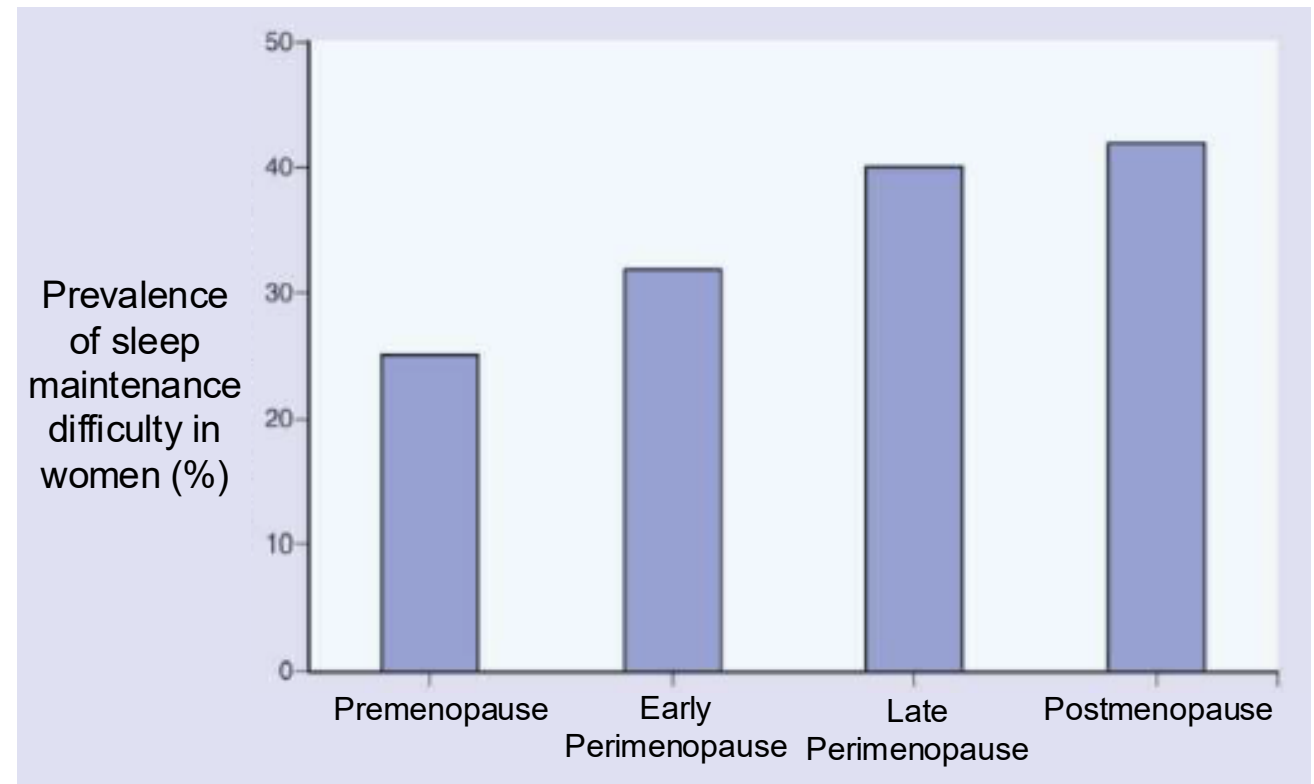


What Happens to Sleep As We Age

Sleep Architecture Changes with Menopause

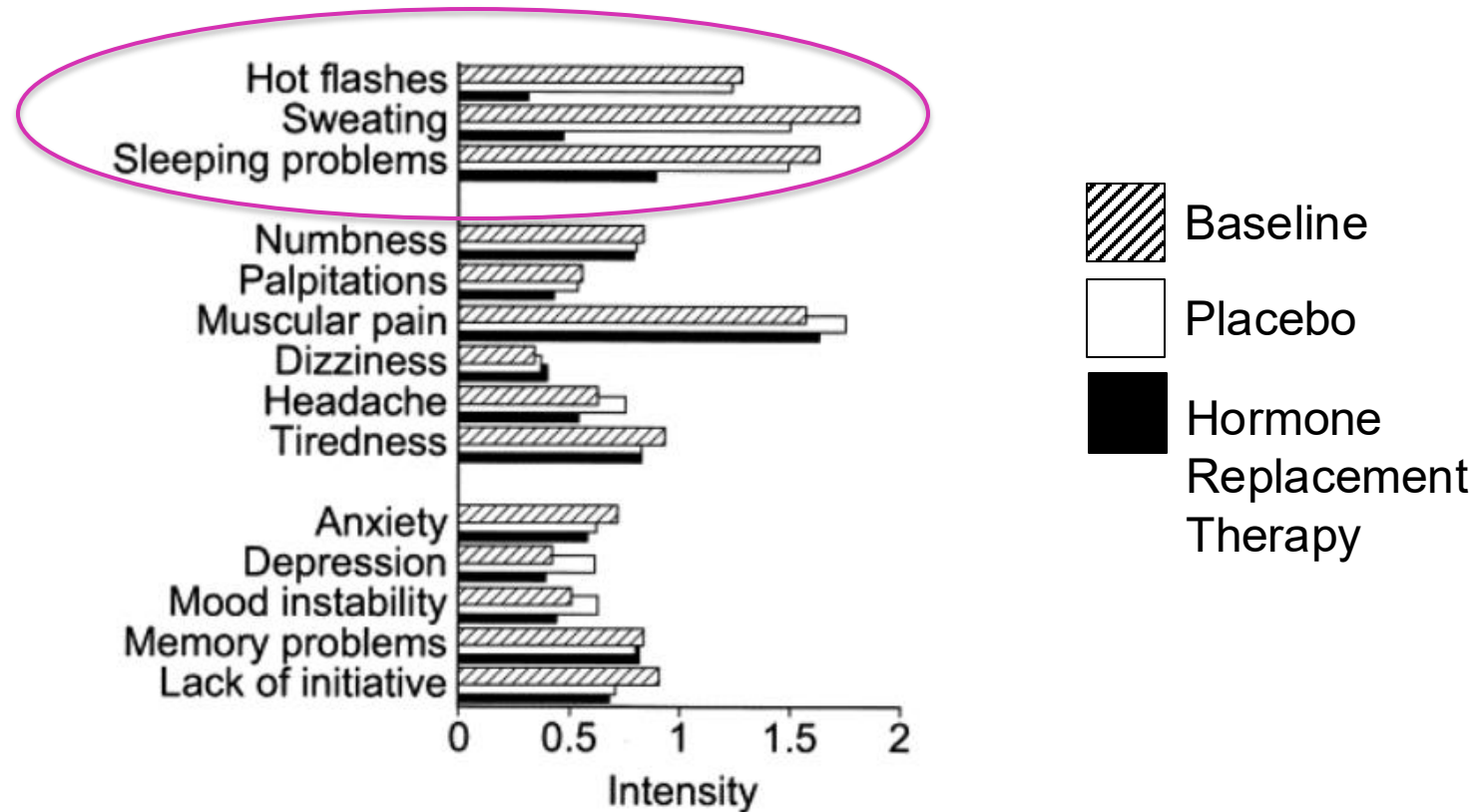


J Psychosom Res, Volume 43, Issue 4, 1997

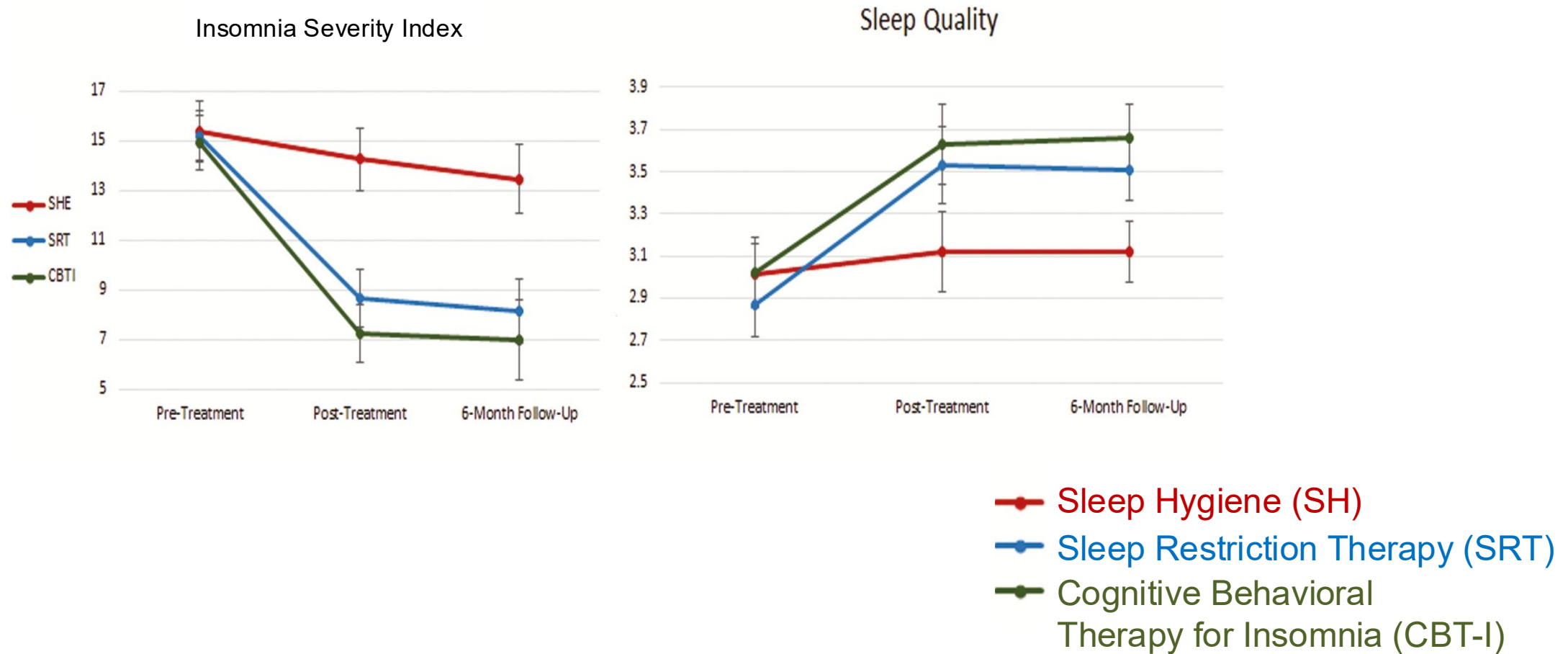


Kryger, Roth 6th Ed.

Hormone Replacement Therapy Effects on Sleep



Treatment Effects of CBT-I, SRT, and SH



Sleep, Volume 42, Issue 2, February 2019

Improving Sleep Times

Treat Underlying Sleep Disorders

- Obstructive Sleep Apnea
- Restless Leg Syndrome
- Circadian Rhythm Disorders

Improve Sleep Hygiene

- Bedtime routine
- Caffeine consumption
- Alcohol consumption

CBT-I

- Cognitive behavioral therapy aimed specifically at improving insomnia

Medications

- Prescription
- Off Label
- Over-the-counter

What Is Good Sleep Hygiene?

Sleep Hygiene Habits



Establish a
nighttime routine



Sleep and get up
at the same time



Create a healthy
sleep environment



Turn off electronics
an hour before bed



Limit caffeine



Exercise



Reduce stress



Avoid large, fatty
meals before sleeping

CBT-I Therapy for Insomnia



Cognitive therapy

Addresses dysfunctional attitudes and reframes negative beliefs about sleep.



Sleep restriction

Sets strict limits on the time spent in bed with adjustments over time.



Stimulus control

Creates a positive, relaxing response to going to bed each night.



Sleep habits

Improves or corrects habits that disturb sleep.



Relaxation techniques

Teaches how to relax mind and body through muscle relaxation and deep breathing.



Phone Applications for CBT-i

FDA-Approved Medications for Insomnia

• Benzodiazepines

- Triazolam
- Estazolam
- Temazepam
- Quazepam
- Flurazepam



• Non-Benzodiazepine Receptor Agonists

- Eszopiclone (Lunesta)
- Zolpidem (Ambien)
- Zaleplon (Sonata)



• Tricyclic Antidepressants

- Doxepin



• Melatonin Agonist

- Ramelteon



• Orexin Antagonists

- Suvorexant (Belsomra)
- Lemborexant (Dayvigo)
- Daridorexant (Quviviq)



Off-Label Medications for Insomnia

- **Antidepressants**

- Trazodone
- Mirtazapine

- **Tricyclic Antidepressants**

- Amitriptyline
- Nortriptyline
- Imipramine

- **Atypical Antipsychotics**

- Quetiapine
- Olanzapine
- Risperidone

NOT ideal without co-morbid
psychiatric indications for
medication due to side effects



Anticholinergic effects,
orthostatic hypotension, slowed
cardiac conduction

Metabolic syndrome &
extrapyramidal symptoms



Over-the-Counter (OTC) Sleep Aides

- **Antihistamines**

- Diphenhydramine
 - Tylenol PM, ZzzQuil
- Doxylamine
 - Unisom sleep tabs

- **Melatonin**

- **Herbal Medications**

- Valerian root, Kava, CBD



OTC: Antihistamines

Diphenhydramine

- Randomized Controlled Trial Data
 - Tolerance develops quickly to sedative effect (by 3 days)
 - Day 1: Sleepiness increased in diphenhydramine group
 - Day 4: No difference in sleepiness compared to placebo
- Effects on sleep
 - Minimally effective at inducing sleep
 - May reduce sleep quality
 - May cause residual drowsiness, dry mouth, confusion



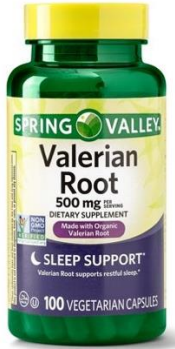
OTC: Melatonin

- FDA indicated for treatment of insomnia due to Circadian Rhythm Disorders
- Randomized Controlled Trial Data
 - Associated with improvement in sleep and daytime parameters
 - Sleep length, sleep quality, morning alertness → acute improvement, but not long term
 - Restored sleep efficiency in normal adults with insomnia
 - Adverse Effects:
 - Nightmares, vivid dreams, decreased core body temperature
- Dosing: 3-10 mg for insomnia



OTC: Herbal Medications

• Valerian



- Used since Greek and Roman times
- Acts on GABAergic neurotransmission → sedating effect
- Adverse Effects: stomach upset, mental dullness, excitability



• Kava



- Acts on GABA & benzodiazepine binding sites → sedative, anticonvulsive, antispasmodic, and central muscular relaxant effects
- Uses: Anxiety, stress, restlessness → indirect causes of insomnia
- Adverse Effects: Severe liver injury



OTC: CBD

- **Sleep Effects**

- Clinical studies have contrasting results
- Most effective as an anxiety reducer, sedative, or pain reducer

- **Confounders**

- Many different formulations, dosages, and sources of CBD

- **Side Effects**

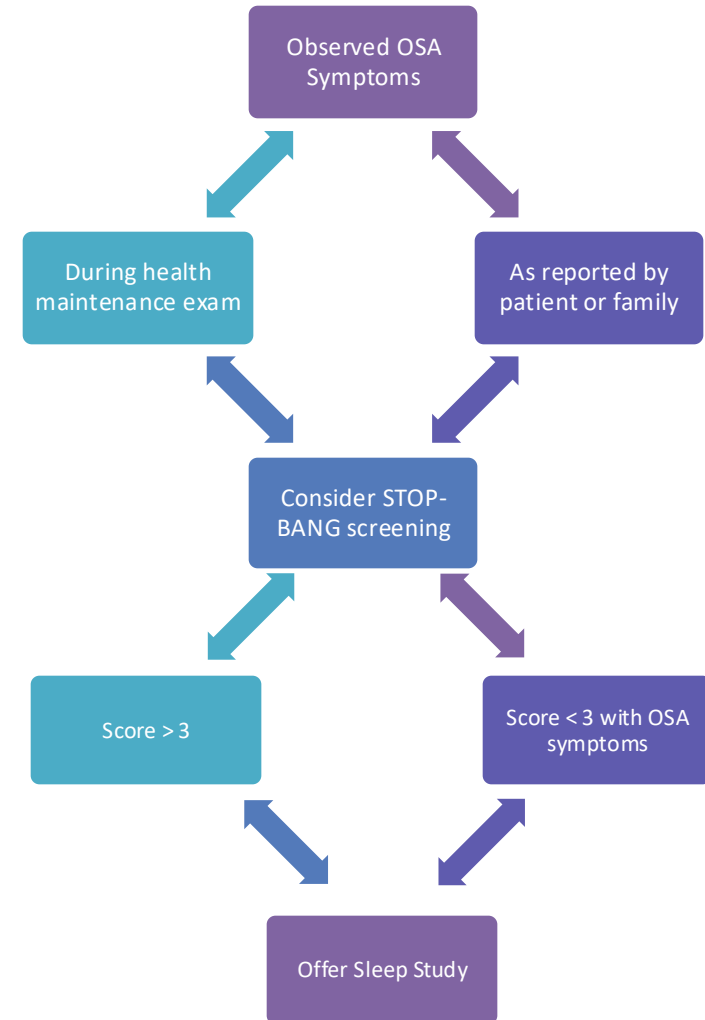
- Excessive drowsiness, cognitive impairment, memory impairment, paranoia



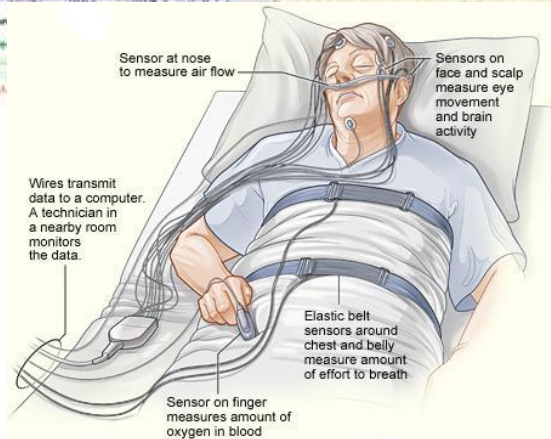
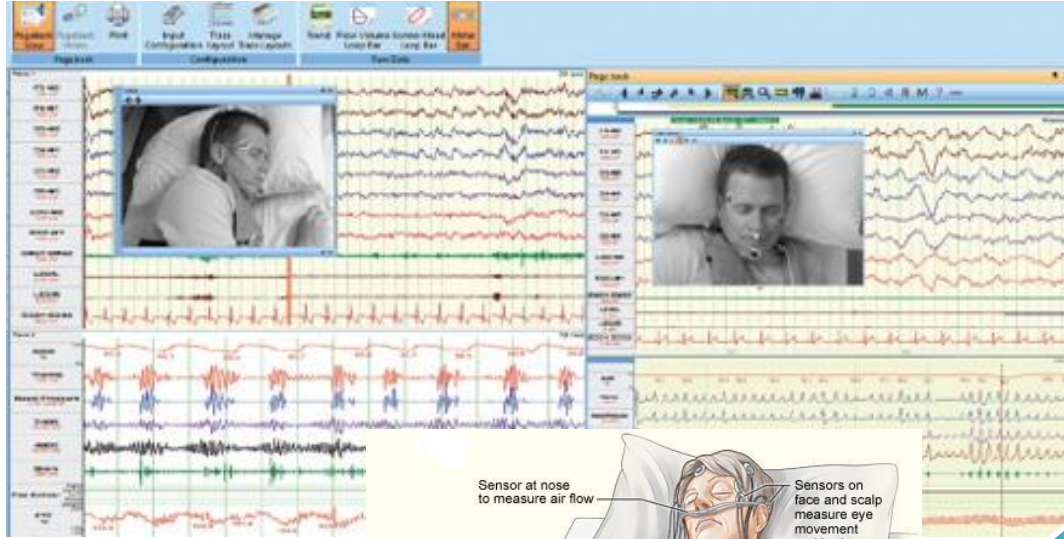
Obstructive Sleep Apnea (OSA)

Who needs to be tested?

STOP-Bang screening tool for OSA		
S	Snoring	
T	Tiredness	
O	Observed apnea	
P	High blood pressure	
B	Body mass index > 35kg/m ²	
A	Age > 50 years	
N	Neck circumference > 40 cm	
G	Male gender	
Scoring	0-3	Low risk
	4+	High risk



What Does a Sleep Study Entail?



PSG

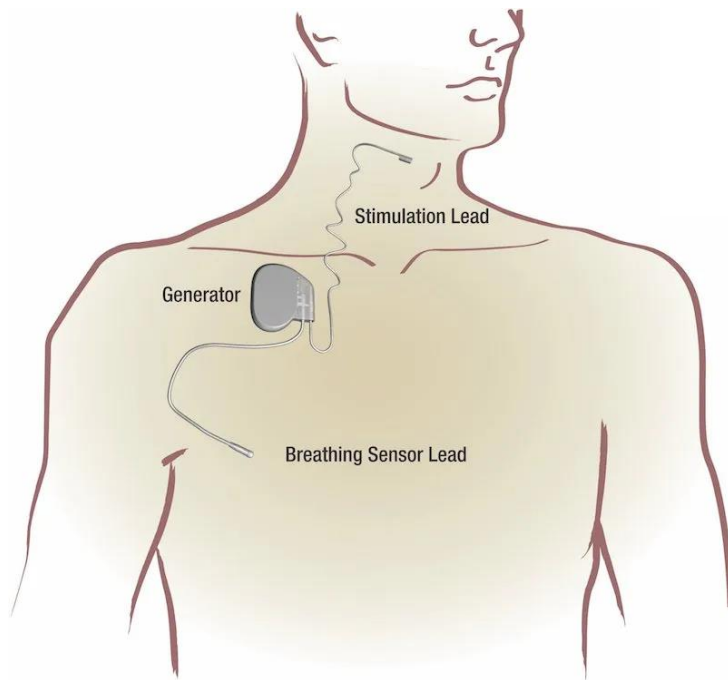
HSAT

In-lab sleep testing, i.e., Polysomnography (PSG)

Home sleep apnea testing (HSAT), i.e., WatchPAT

Treatment Options for OSA

INSPIRE



EXCITE OSA



CPAP



MAD



New and Upcoming Treatments for OSA

ZEPBOUND



AD109



Wearable Sleep Tracking Devices



Apple Watch



Fitbit



Oura Ring

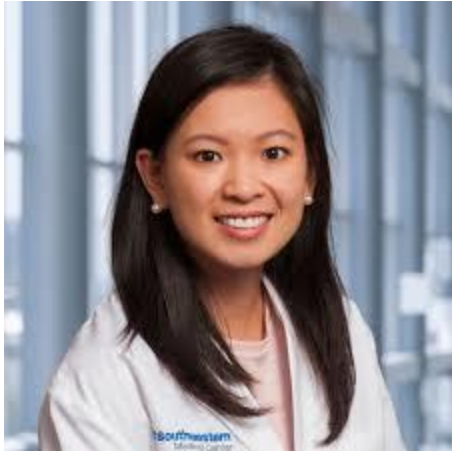


WHOOP 4

What To Do

- **Insomnia**
 - Download CBT-I Coach or Explorer phone applications
 - Work on improving sleep hygiene and good sleep behaviors
- **When to See a Doctor?**
 - Significant impairment to daytime functioning
 - Concern for sleep apnea or other significant sleep disorders
 - When behaviors changes alone are not helping

Sleep Providers at UTSW



Katie Tran, M.D.



Safia Khan, M.D.



UT Southwestern Clinical Center for Sleep and Breathing Disorders

214-645-5337

Questions

