

A Good Night's Sleep

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Overview

- **Basic information about sleep**
- **Sleep across the lifespan**
- **Symptoms requiring assessment and treatment by a sleep specialist**
- **Questions and Answers**

**How much sleep did you
get last night?**

How much do you need?

Sleep Basics

Insufficient Sleep

- Amount required for good health is not known
 - U-shaped distribution, insufficient sleep is associated with increased morbidity and mortality. Sleep of ≥ 9 hours/night also associated with increased morbidity and mortality

Insufficient Sleep

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 - U-shaped distribution, insufficient sleep is associated with increased morbidity and mortality. Sleep of ≥ 9 hours/night also associated with increased morbidity and mortality
- Insufficient sleep is common among all age groups

Insufficient Sleep (cont.)

- **Habitually short sleep durations associated with increase in DM in women, increased prevalence of Type II DM, and increased insulin resistance**
- **Numerous studies (both cross-sectional and longitudinal) have shown a dose-dependent relationship between sleep duration and obesity**
- **Independent risk factor for the development of hypertension**

Factors that Affect Sleep



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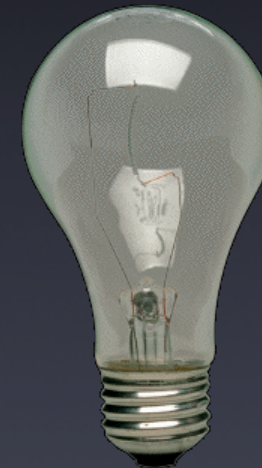
Factors that Affect Sleep



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Sleep Stages

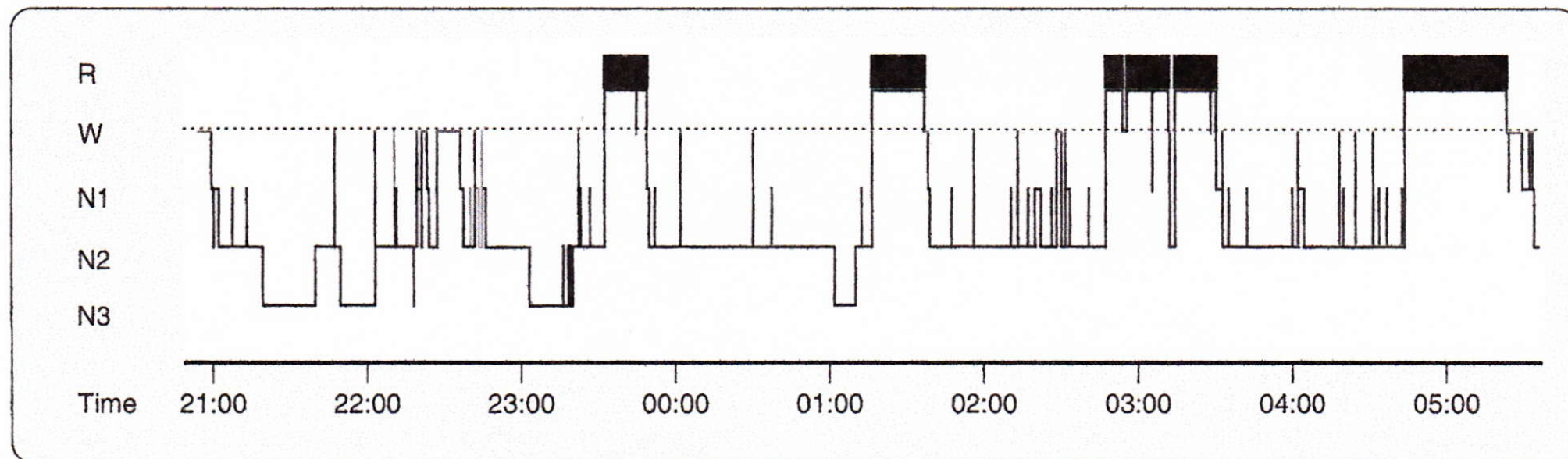


Figure 161-7 Normal sleep histogram illustrating sleep macroarchitecture (stages) for a young adult. N1, N2, and N3, NREM sleep stage 1, 2, and 3, respectively; R, REM sleep; W, wakefulness.

Keenan, S & Hirshkowitz, M (2017) Sleep Stage Scoring. In M Kryger, T. Roth, and W.C. Dement (Eds),
Principals and Practice of Sleep Medicine,

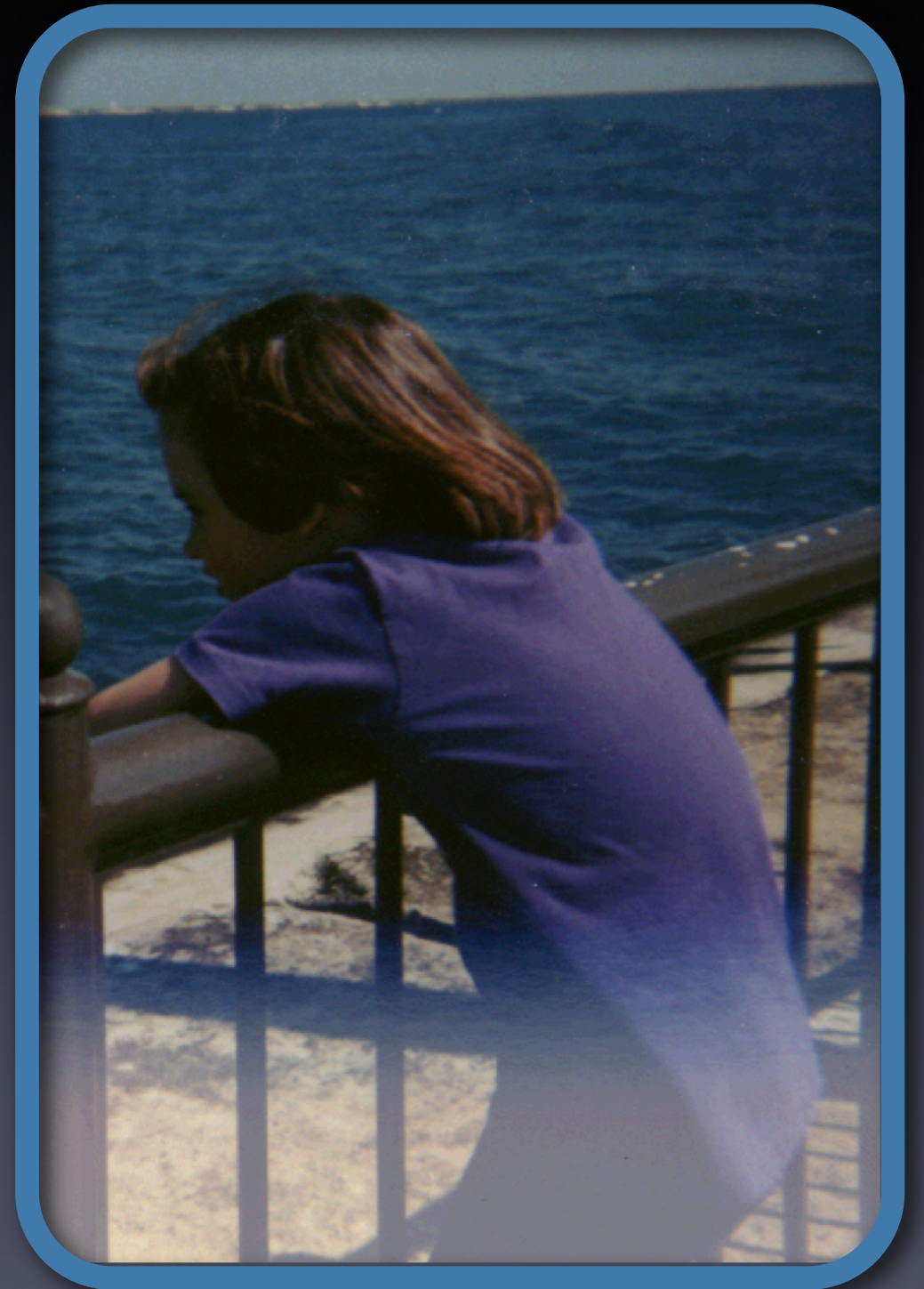
Sleep Across the Lifespan



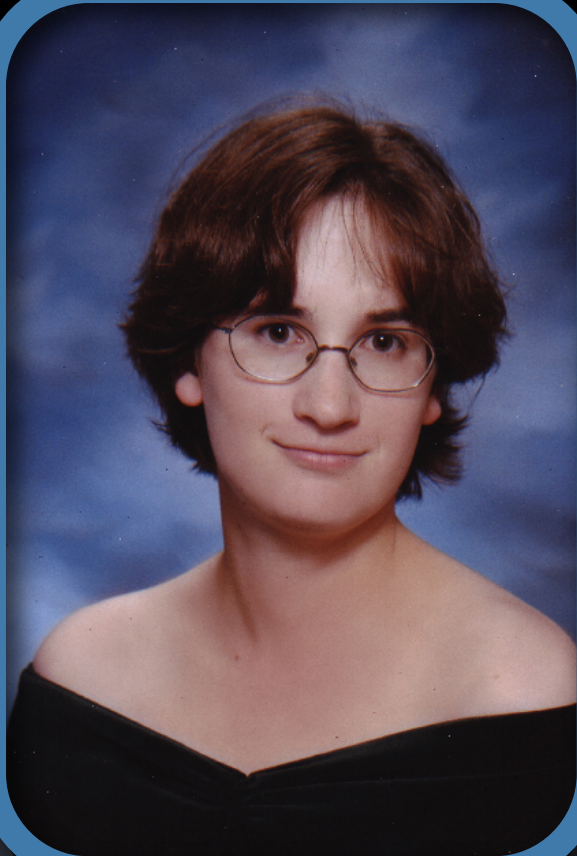
Toddlers and Preschool Aged Children



School-aged Children



Adolescents



What is Normal? (Adults)

- **Falls asleep within 20 minutes**
- **Sleeps approximately 8 hours out of 24**
- **Sleep consolidated into a single block at night**
- **Able to stay awake and alert throughout the day**

What is Normal? (Middle-aged Adults)

- Sleep, particularly among women may be viewed as a “disposable commodity”
- Occurrence of menopause does not lead to disturbed sleep
 - hot flashes do not disturb sleep, HRT is not recommended for treatment of disturbed sleep
 - subjective sleep complaints should be investigated and not written off as being caused by menopause
- Begin to see more frequent occurrence of sleep disorders e.g., sleep apnea and PLMs

What is Normal? (Older Adults)

- Falls asleep within 20 minutes
- Sleeps approximately 8 hours out of every 24 hours
 - Sleep may **not** be consolidated into a single period at night
 - Napping is particularly common among the old-old
 - Napping may or may not be due to an unfulfilled sleep need. Cultural, social (e.g., retirement), and boredom may play a role.

Sleep Stages: Changes with Aging

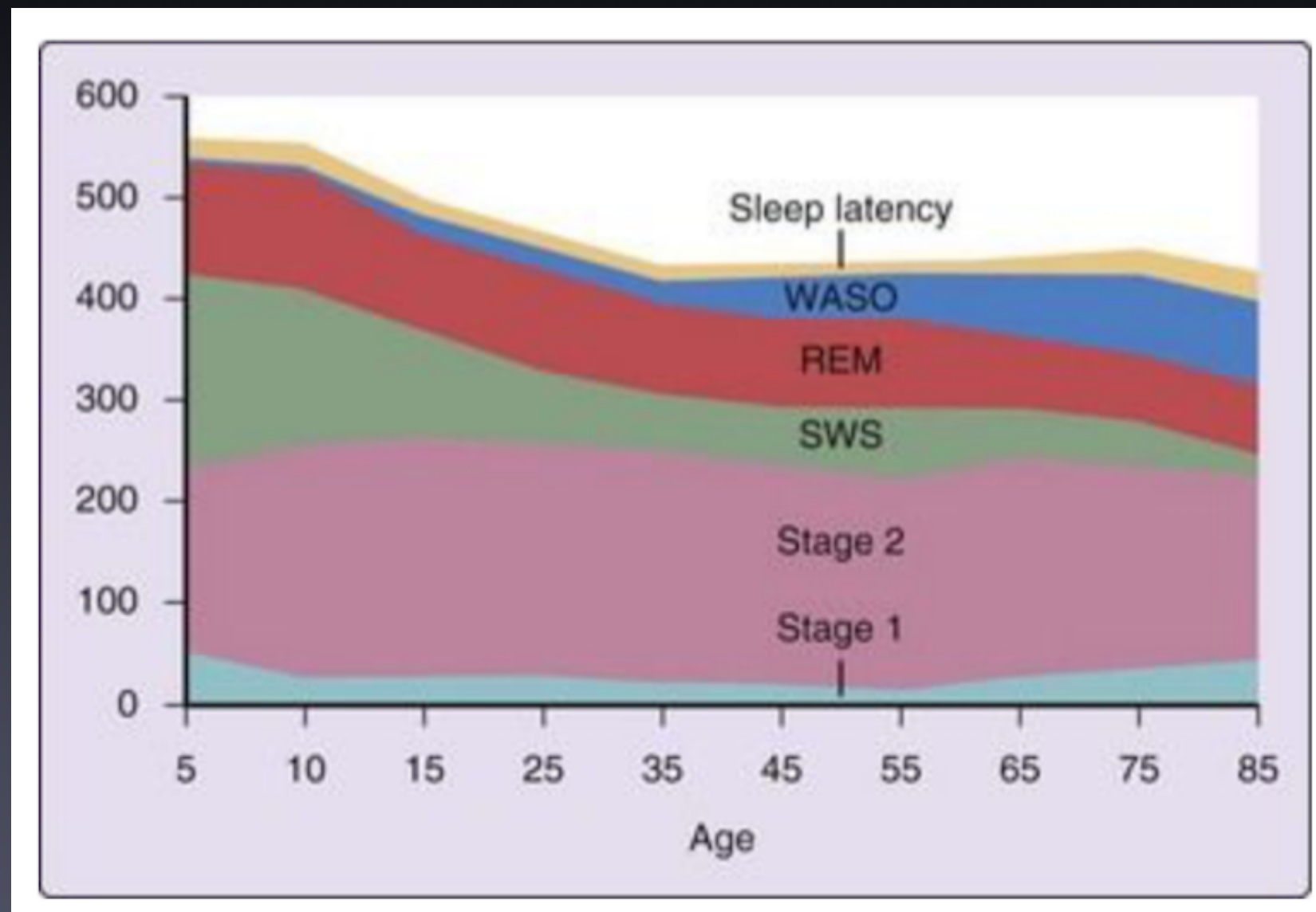
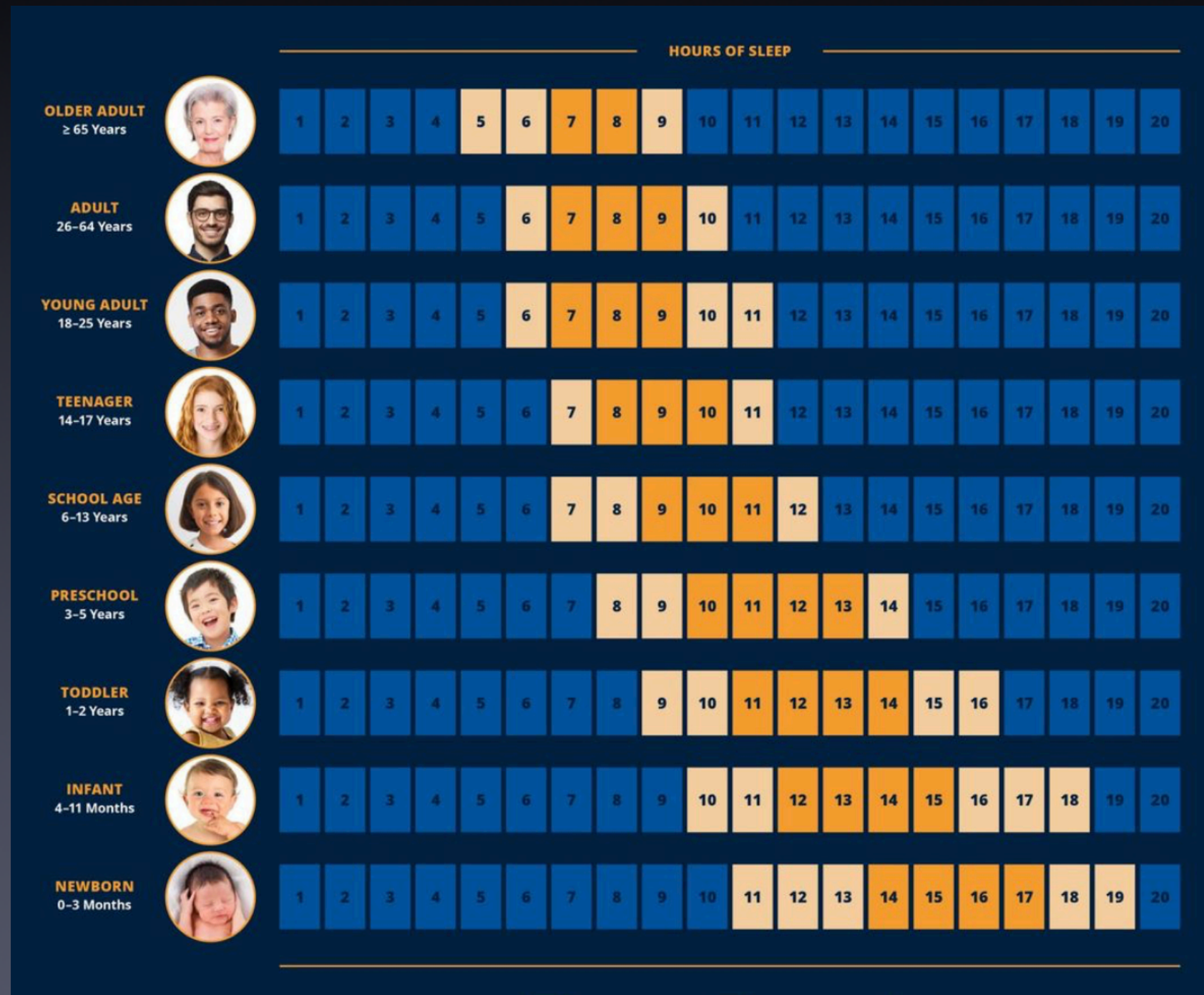


Figure 2 Changes in Sleep with Age.

Carskadon, M & Dement, W. C. (2011). Normal Sleep in Humans. In M.H. Kryger, T. Roth, and W.C. Dement (Eds) Principles and Practice of Sleep Medicine

Recommended Sleep Durations



Symptoms Requiring Attention

Sleep Disorders: Overview

- Chronic sleep disorders affect 50–70 million Americans, costing the nation billions of dollars each year in medical expenses, lost productivity, and accidents (National Institute of Medicine, 2006)
- Over 80 distinct sleep disorders
 - insomnia
 - sleep-related breathing disorders
 - hypersomnias of central origin
 - circadian rhythm sleep disorders
 - parasomnias
 - sleep related movement disorders
 - isolated symptoms and normal variants
 - other sleep disorders

Sleep Disorders: Overview (cont.)

- **Most patients remain undiagnosed and untreated, including an estimated 75% of the patients who have obstructive sleep apnea (Institute of Medicine, 2006)**

When to Seek Attention: Acting Out Dreams

- If your partner reports swearing, shouting, arm flailing, violent or kicking movements that occur during sleep, even if you are not aware of them.
- Movements may take the form of punching, kicking, leaping or jumping out of bed while dreaming. Patients often report dreaming of being attacked and defending themselves.
- If you are injured or your partner is injured
 - self-injury occurs is reported in 32%–76% of patients, with 11% of these injuries requiring medical attention
 - 64% of bed partners reported being assaulted and many report being injured

REM Behavior Disorder: Risk Factors

- Male gender
- Age greater than 50 years
- Often associated with neurodegenerative diseases such as Parkinson's disease, multiple system atrophy, Lewy body dementia, and Shy-Drager syndrome
- May be associated with alcohol, sedative/hypnotic withdrawal, as well as the use of tricyclic antidepressants (e.g., imipramine), or SSRIs (e.g. fluoxetine or sertraline)

REM Behavior Disorder: Diagnosis

- Sleep history, health history, medication usage, farming or occupational exposure to pesticides, and habits e.g, alcohol usage or smoking. Very useful if bed partner attends appointment.
- Will need an overnight sleep study with video recording

REM Behavior Disorder: Treatment

- **Medication**

- low dose of clonazepam nightly; caution advised because of potential for sedation, dizziness, sexual dysfunction, and worsened sleep disordered breathing
- melatonin (may cause sedation)

- **Safety measures**

- remove or pad all bedside furniture with sharp corners
- minimizing fall-related injuries by moving mattress to floor, installing guard rails, putting pillows beside bed
- putting pillows between patient and bed partner
- removing firearms from the bedroom

When to Seek Attention: Insomnia

- If difficulties falling asleep or staying asleep persist more than 4 weeks
 - difficulties sleeping in response to an acute stressor e.g., illness or hospitalization, can become chronic, especially if lengthen time in bed, start clock-watching and become anxious about being able to fall asleep
- If your difficulties sleeping at night interfere with your daytime activities or ability to function

Insomnia: Risk Factors

- Female gender
- Age greater than 60 years
- Mental illness including depression, anxiety and PTSD
- Stress
- Shift work



Insomnia: Diagnosis

- Sleep history, health history, medication usage, habits e.g, caffeine, alcohol and smoking
- Does not require a sleep study unless some other sleep disorder suspected

Insomnia: Treatment

- Sedatives and hypnotics
- Stimulus Control
- Cognitive Behavioral Therapy (CBT-I)

When to Seek Attention: Snoring

- If your snoring is loud enough to disturb your partner's sleep
- If someone tells you that you stop breathing or gasp when you're sleeping
- If you have excessive daytime sleepiness
- If you have any of the following conditions
 - high blood pressure
 - heart disease
 - a history of stroke
 - nocturia (frequent urination at night)



Co-morbidities associated with Obstructive Sleep Apnea

Category	Condition	Prevalence (%)
Cardiac	Treatment-Resistant Hypertension	63-83
	Congestive Heart Failure	76
	Ischemic Heart Disease	38
	Atrial Fibrillation	49
	Dysrhythmias	58
Respiratory	Asthma	18
	Pulmonary Hypertension	77
Neurologic	First-Ever Stroke	71-90
Metabolic	Type II Diabetes Mellitus	36
	Metabolic Syndrome	50
	Hypothyroidism	45
	Morbid Obesity	50-90
Surgical	Bariatric Surgery	71
	Intracranial Tumor Surgery	64
	Epilepsy Surgery	33
Others	Gastroesophageal Reflux Disease	60
	Nocturia	48
	Alcoholism	17
	Primary Open-Angle Glaucoma	20
	Head and Neck Cancer	76

Sleep-Related Breathing Disorders: OSA

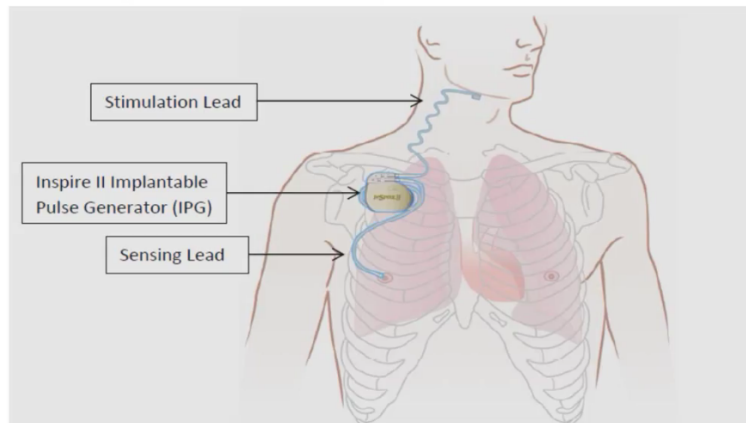
- **Most common sleep-related breathing disorder; estimated to 4% of men and 2% of women over age 18**
- **Only 10% of patients with OSA are estimated to be receiving adequate treatment, majority with symptoms have not received diagnosis of sleep apnea**

Sleep-Related Breathing Disorders: What is OSA?

- Diagnosed when AHI > 5 events/hr (adults), or AHI > 1 events/hr (children)
- Often accompanied by oxygen desaturations and sometimes arrhythmias
- https://www.youtube.com/watch?v=UwjeVRdy5u4&feature=player_e

Sleep-Related Breathing Disorders: Treatment of OSA

Upper Airway Stimulation



Hypoglossal nerve stimulator

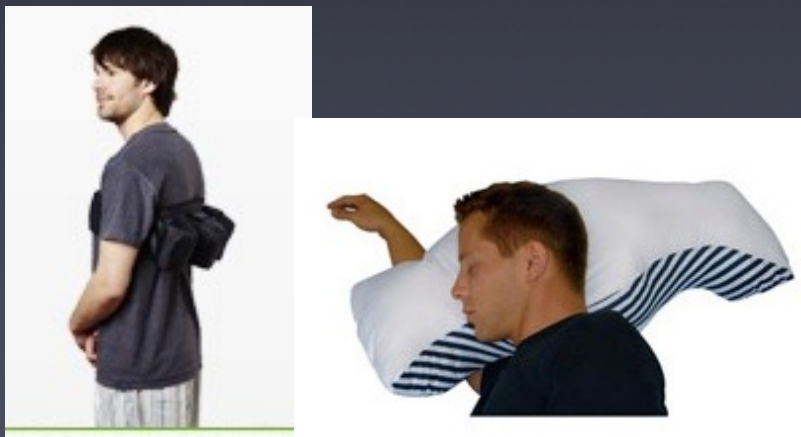
weight
loss



eXciteOSA



surgery (UP3)



positional
therapy



nasal CPAP



oral
appliance

Emory Sleep Disorders Center: How to Schedule an Appointment

- **Phone: 404-712-7533**
12 Executive Park Drive NE, Atlanta, GA
- **If you are not in the Atlanta area use this [link](#) to find an accredited sleep disorders center in your area.**

Emory Sleep Disorders Center: Providers



Nancy Collop MD
Pulmonologist and Clinic Director



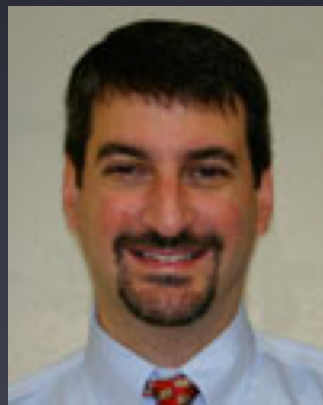
David Schulman MD
Pulmonologist and Lab Director



Donald Bliwise PhD
Psychologist



Corrie Harrell NP
Nurse Practitioner



Scott Huff MD
Pulmonologist



Romy Hoque MD
Neurologist



Victoria Olivera DNP, ARPN-BC
Nurse Practitioner



Cameron Kirkwood NP
Nurse Practitioner



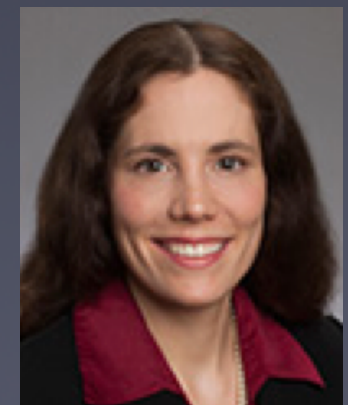
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Questions?

