



Psych Congress

MasterClass

Sound Sleep, Sound Mind: Sleep Medicine Essentials for Psychiatry Clinicians



IN PARTNERSHIP WITH



Sleep Research Society Foundation

Supported by an independent educational grant from Alkermes, Inc. and Harmony Biosciences.

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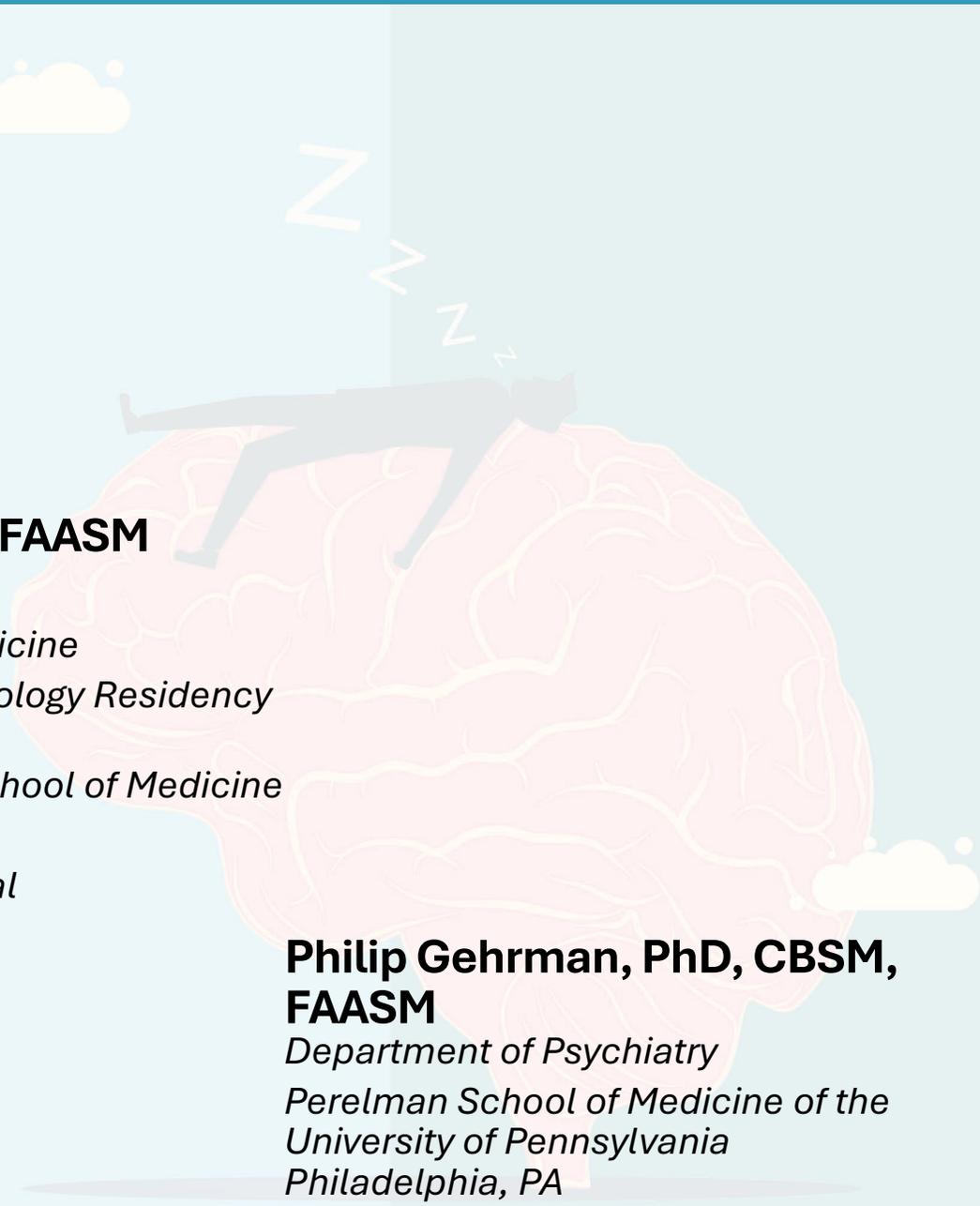
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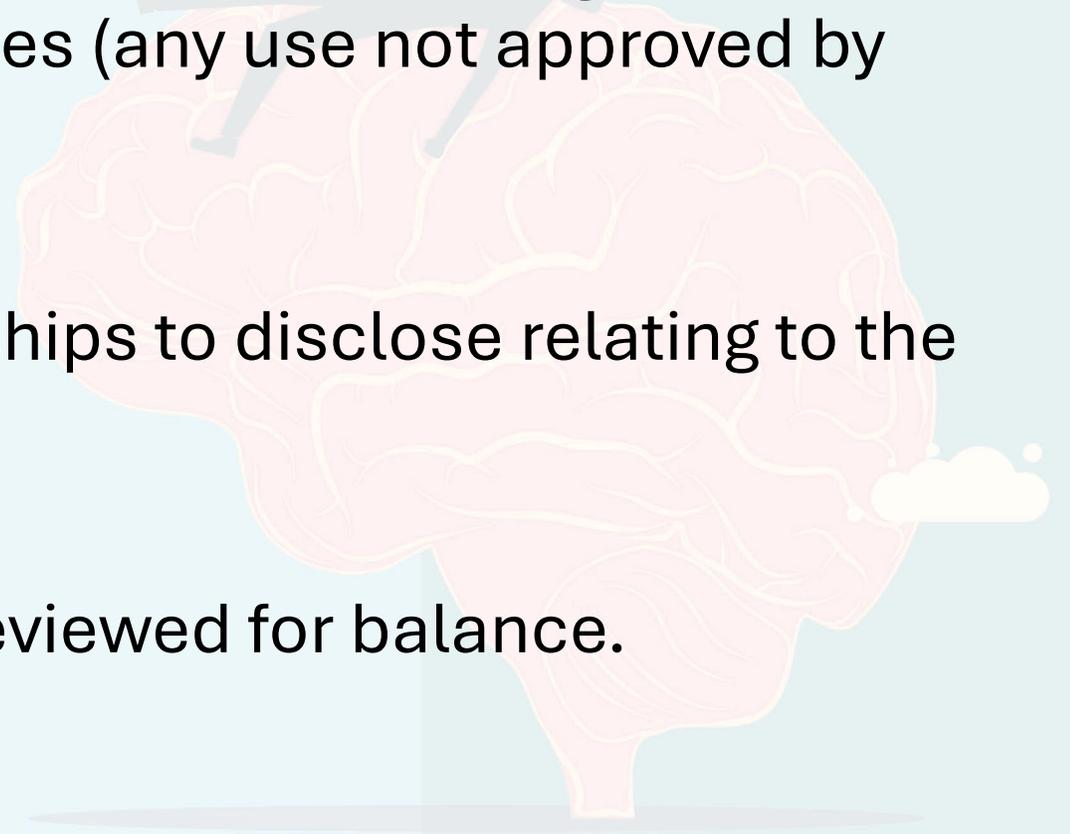


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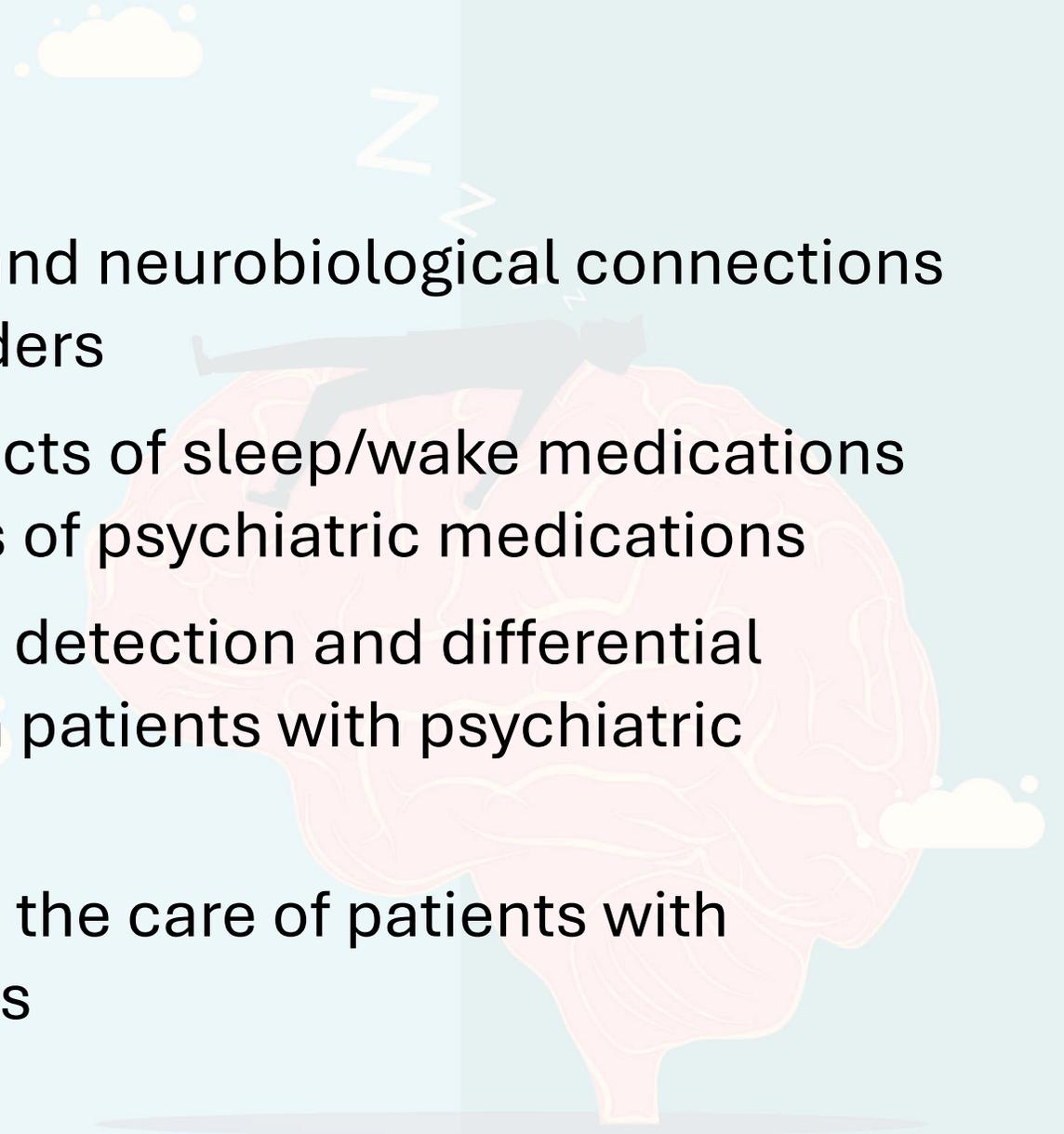
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Learning Objectives

- Describe the bidirectional impacts and neurobiological connections of psychiatric and sleep/wake disorders
- Assess the potential psychiatric effects of sleep/wake medications and the potential sleep/wake effects of psychiatric medications
- Implement strategies to improve the detection and differential diagnosis of sleep/wake disorders in patients with psychiatric disorders
- Collaborate with sleep specialists in the care of patients with psychiatric and sleep/wake disorders



Importance of Understanding Sleep and Wakefulness in Psychiatry

Craig Chepke, MD, DFAPA

Sleep Is the Foundation of Mental Health



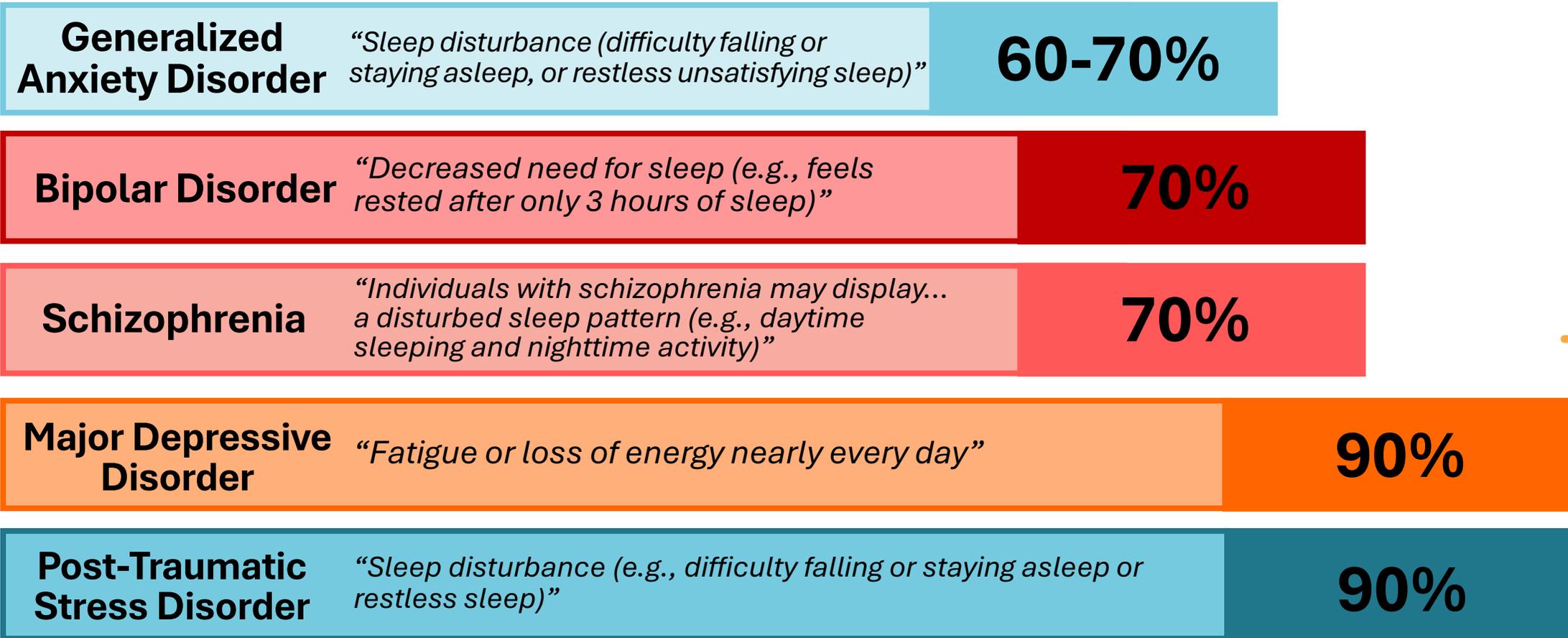
...and without a good foundation,
your whole house will crumble

Sleep disorders are often accompanied by **changes in mood, anxiety, and cognition** that must be addressed in treatment planning and management.

Furthermore, persistent sleep disturbances (both insomnia and excessive sleepiness) are established **risk factors** for the subsequent development of mental illnesses and substance use disorders.

They may also represent a **prodromal expression** of an episode of mental illness, allowing the possibility of early intervention to preempt or attenuate a full-blown episode.

Sleep Disturbances Are Highly Prevalent and Part of the Diagnostic Criteria for Most Psychiatric Conditions



Prevalence and Consequences of Sleep Disturbances...

In Major Depressive Disorder



In about 1/3, sleep difficulties do not resolve with antidepressant treatment

sleep difficulty occurs in

as many as 90%

Those with **poor sleep** have:



Lower remission rates



Faster relapse



Slower improvement



Poorer quality of life

Independent of depression severity

At least **32 studies** (as of 2012) have identified that sleep disturbance is **significantly linked to suicidal ideation** or **completed suicide**, even when controlling for age, gender, diagnosis, and severity of depressive symptoms.

Prevalence and Consequences of Sleep Disturbances...

In Bipolar Disorder

Sleep-related functioning was assessed subjectively using data from interviews and 8 nights of sleep diaries, as well as objectively with actigraphy in individuals with:

Bipolar Disorder in euthymia, Insomnia Disorder, and in healthy volunteers with good sleep (N=20 in each group)

70% of those with bipolar disorder who were **euthymic** exhibited a clinically significant sleep disturbance.

Higher levels of anxiety and fear about poor sleep

Lower sleep efficiency

Compared with the other groups, the bipolar disorder group exhibited:

Lower daytime activity levels

A greater tendency to misperceive their sleep

In Schizophrenia

Insomnia
80%

Most people with schizophrenia experience **significant sleep problems**

Nightmare Disorder
48%

Circadian Rhythm Disruptions
40%

Sleep disruption significantly predicts the **onset** and **persistence of psychotic experiences**, such as paranoia and hallucinations

Prevalence and Consequences of Sleep Disturbances...

In Generalized Anxiety Disorder

About **60–70%** of patients with GAD and panic disorder reported prominent sleep disturbances

Up to **90%** of individuals with GAD report **insomnia symptoms**

Insomnia interacts with the **emotional, cognitive, and physiological** processes underlying anxiety

excessive worry

can lead to

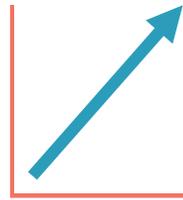
poor sleep

perpetuates

In Post-Traumatic Stress Disorder

In the general population:

More sleep symptomology is associated with **greater PTSD symptom severity**



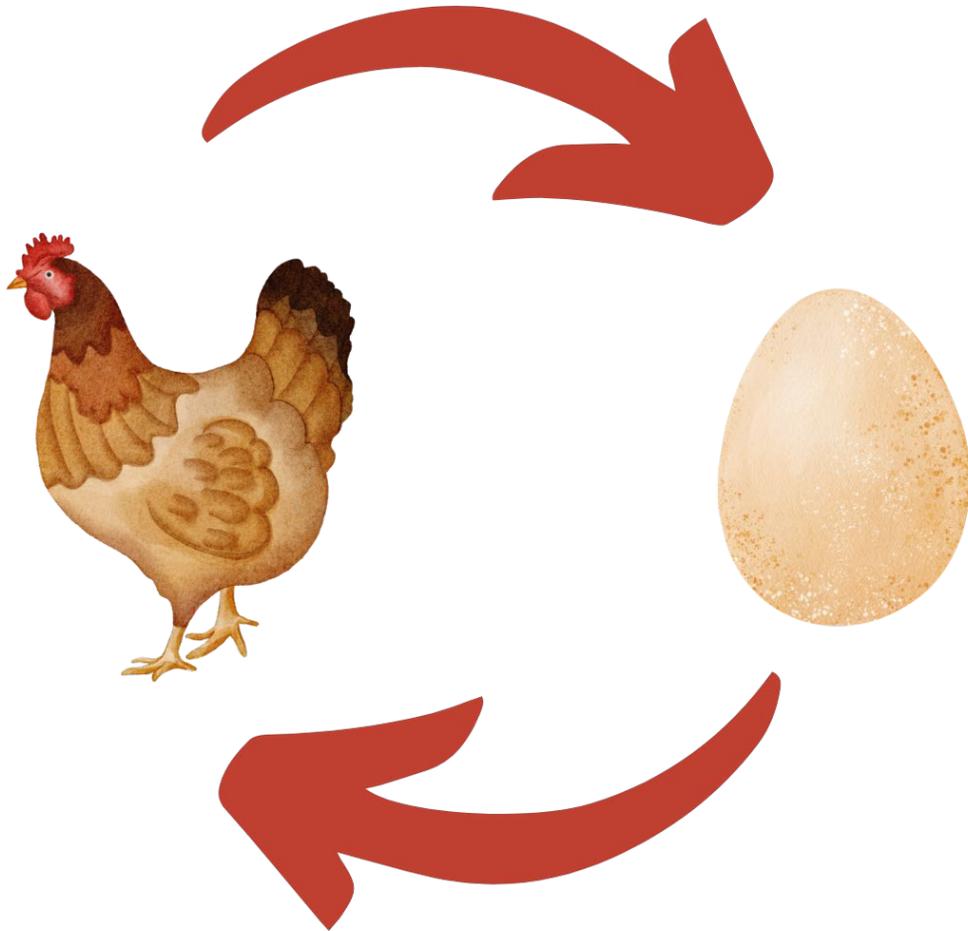
Nearly 40% of participants with PTSD had an insomnia disorder

Dangerous behaviors during sleep (punching, kicking, etc.) occur **10x more often in PTSD**

GAD=Generalized Anxiety Disorder; PTSD=Post-Traumatic Stress Disorder.

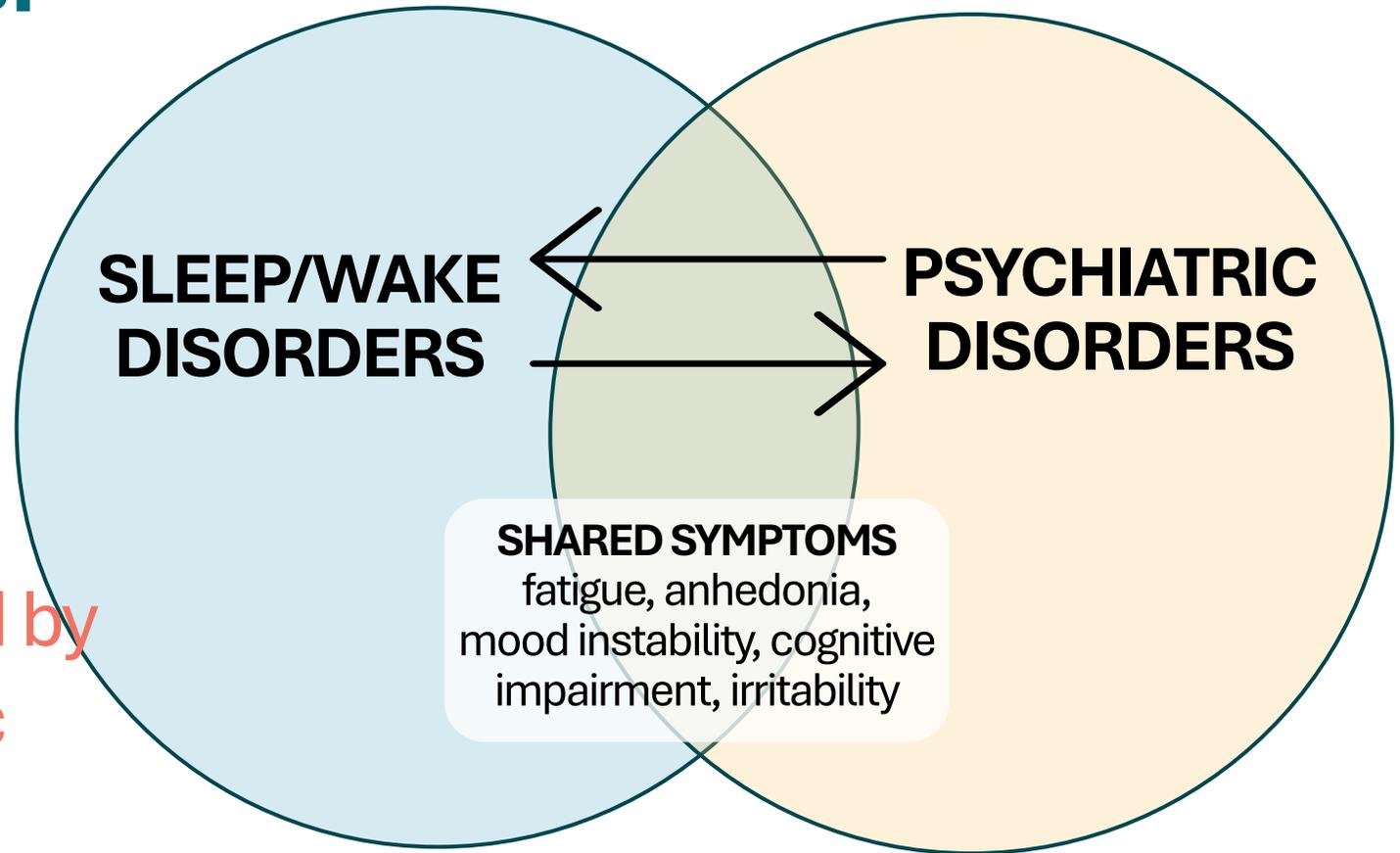
Monti JM, Monti D. *Sleep Med Rev.* 2000;4(3):263-276. Xue Y, et al. *Sleep Med.* 2025;132:106545. Slavish DC, et al. *Sleep Med.* 2023;101:269-277. Koffel E, et al. *Psychiatr Ann.* 2016;46(3):173-176. Ohayon MM, Shapiro CM. *Compr Psychiatry.* 2000;41(6):469-478.

Do Psychiatric Conditions Cause Sleep Disorders? ...or do Sleep Disorders Cause Psychiatric Conditions?



Sleep disturbances are both a **risk factor** and a **symptom** of psychiatric disorders

Also, Each May Exacerbate the Other

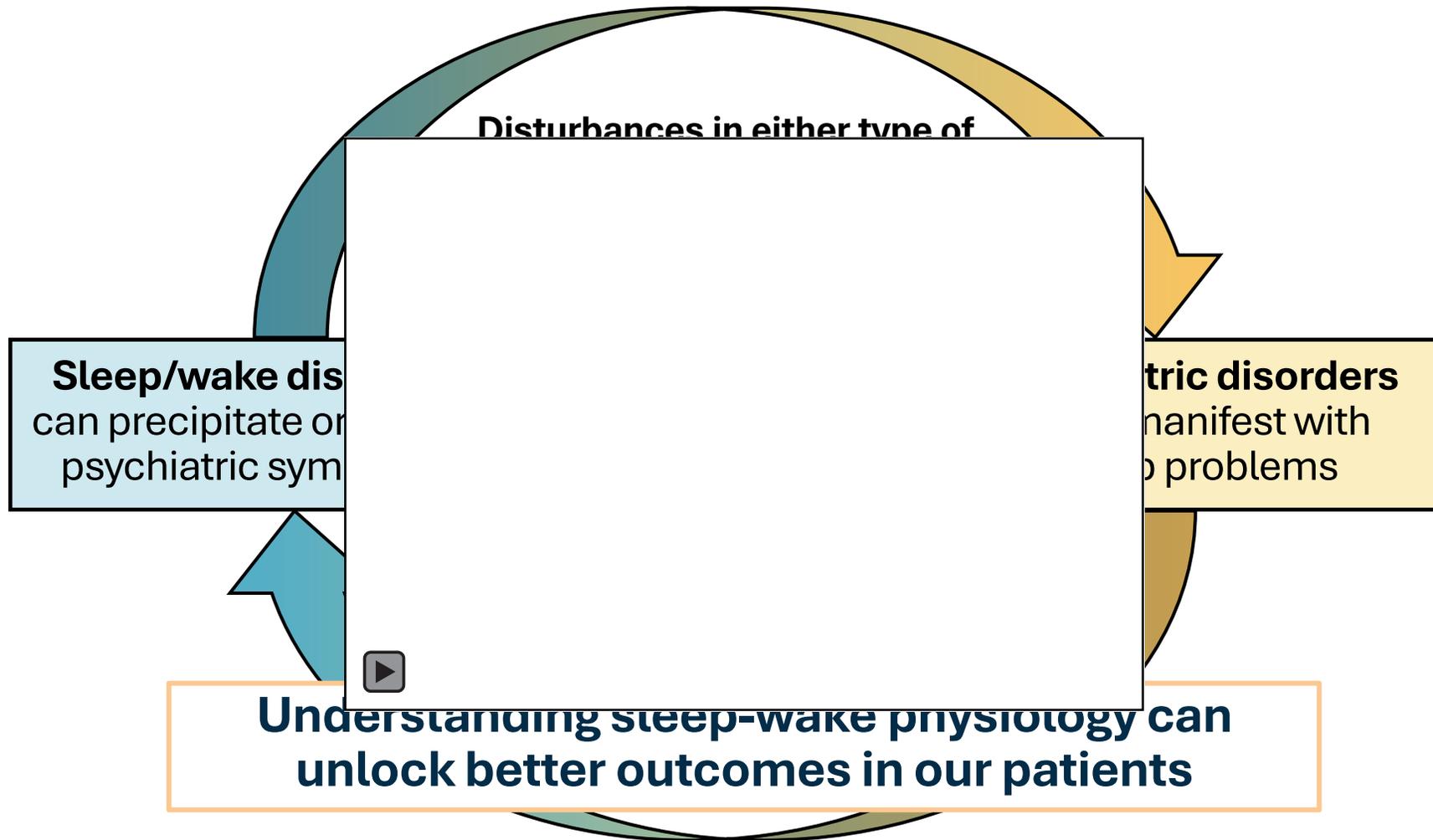


...and can be worsened by
common psychiatric
medications

REM= rapid eye movement; RLS=restless leg syndrome; PLMS=periodic limb movements of sleep; SSRI=selective serotonin reuptake inhibitor.

Krystal AD. *Sleep Med Clin.* 2010;5(4):571-589. Krystal AD. *Neurol Clin.* 2012;30(4):1389-1413.

Sleep/Wake and Psychiatric Disorders Are Bidirectional



Key Learning Points



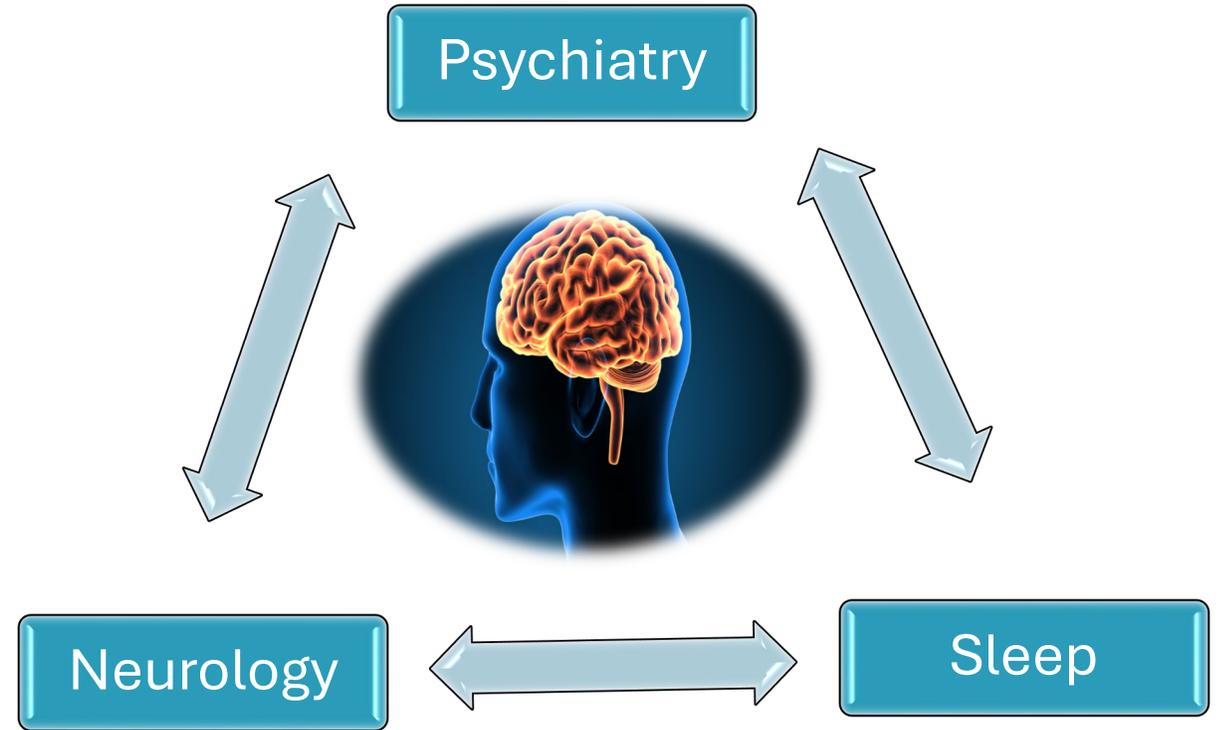
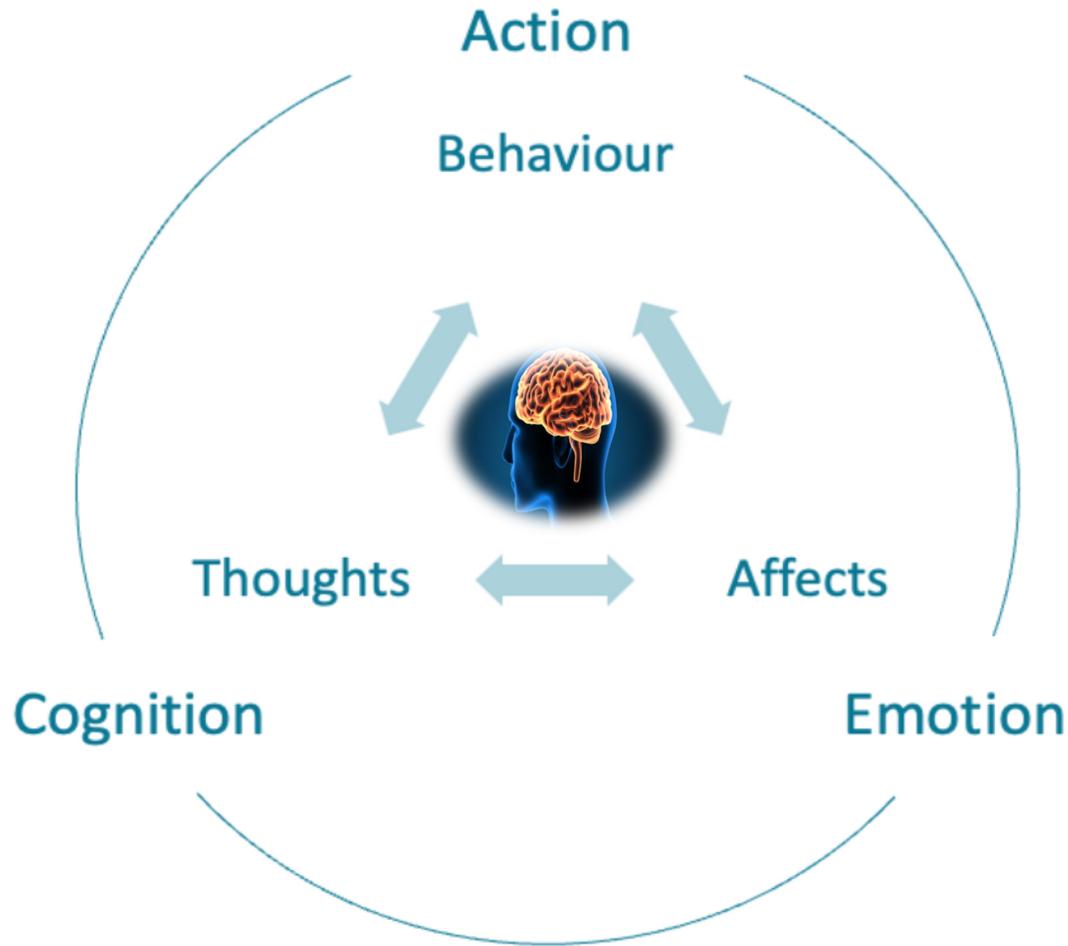
- There is a bidirectional relationship between sleep-wake disorders and psychiatric disorders, so sleep symptoms can give us a glimpse into an individual's psychiatric status
- Sleep/wake disorders and psychiatric disorders are often **not mutually exclusive**, as they frequently co-occur and share overlapping symptoms that can exacerbate each other
 - Example: Sleep disturbances occur in approximately **90% of patients with MDD** and are significantly linked to suicidal ideation and completed suicide
- Sleep disturbances negatively impact an individual's mental health in various ways, regardless of their diagnosis



Why Care About ANYTHING I am About to Present?



Because Brain Function...



is SHARED...

AND ALL 24 HOURS MATTER!

DSM-5 TR Sleep-Wake-Circadian Disorders/Groups

Insomnia Disorder
Hypersomnolence Disorder
Narcolepsy
Breathing-Related Sleep Disorder (eg, OSA)
Circadian Rhythm Sleep-Wake Disorders
Non-REM Sleep Arousal Disorders
Nightmare Disorder
REM Sleep Behavior Disorder
Restless Legs Syndrome
Substance/Medication-Induced Sleep Disorder

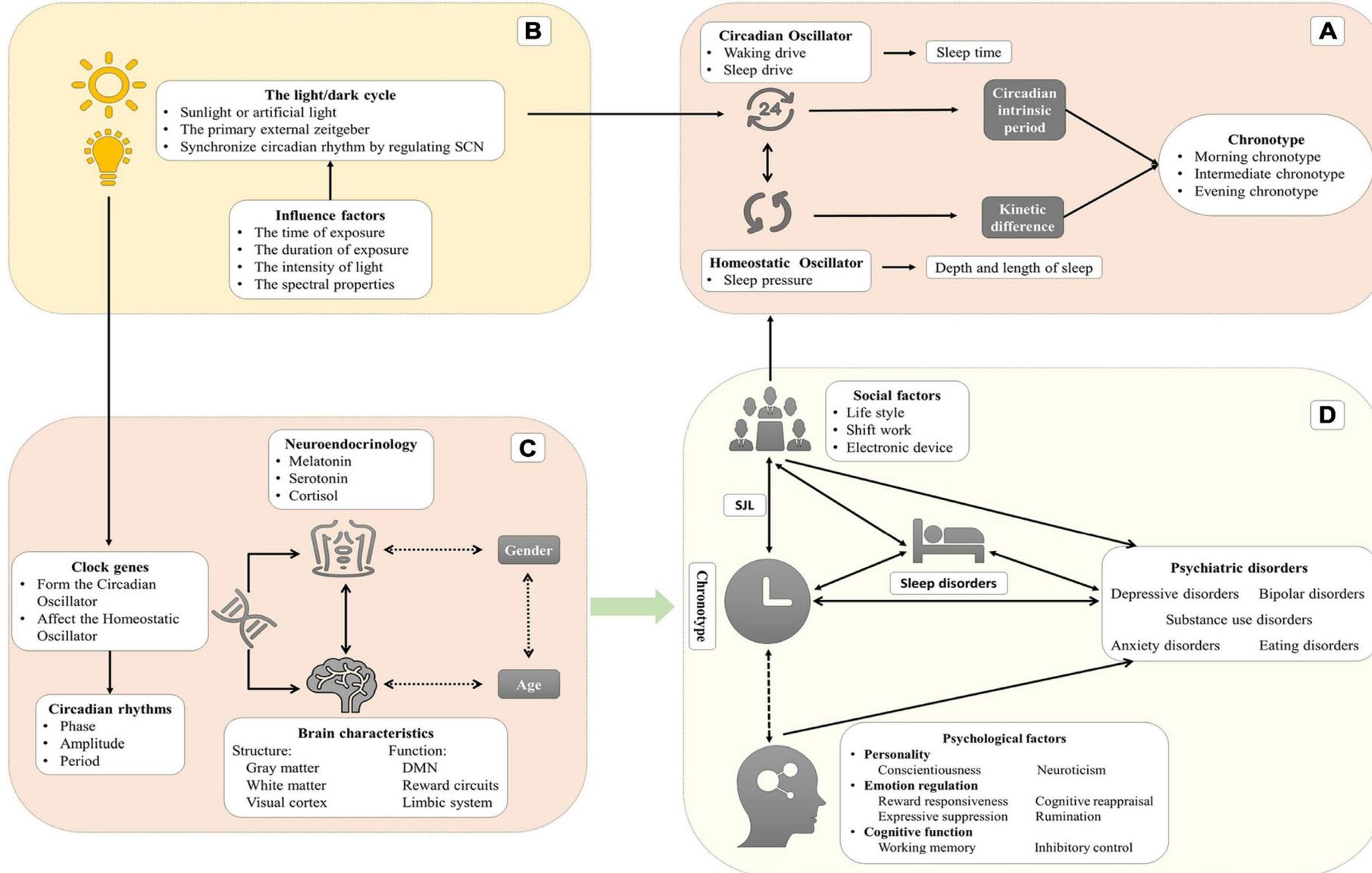
More than Sleep Wake and Circadian Comorbidity

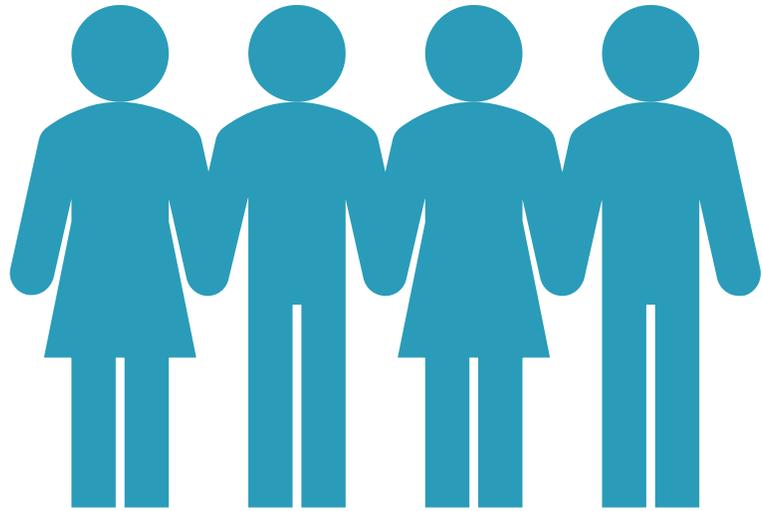
- Consolidation of learning and memories optimizing development and improving academic and professional performance and satisfaction
- Contributes to optimal health and wellness maintenance
- Helps in driving and in sports by optimizing reaction time, speed, judgement and accuracy
- Contributes to recovery after physical or psychological trauma
- Impacts relationship health
- Helps mood, behavior and potentially suicide risk
- Improves judgement and may reduce risk taking behavior

And May Look
Like this in
Practice...



Circadian Health and Mental Health

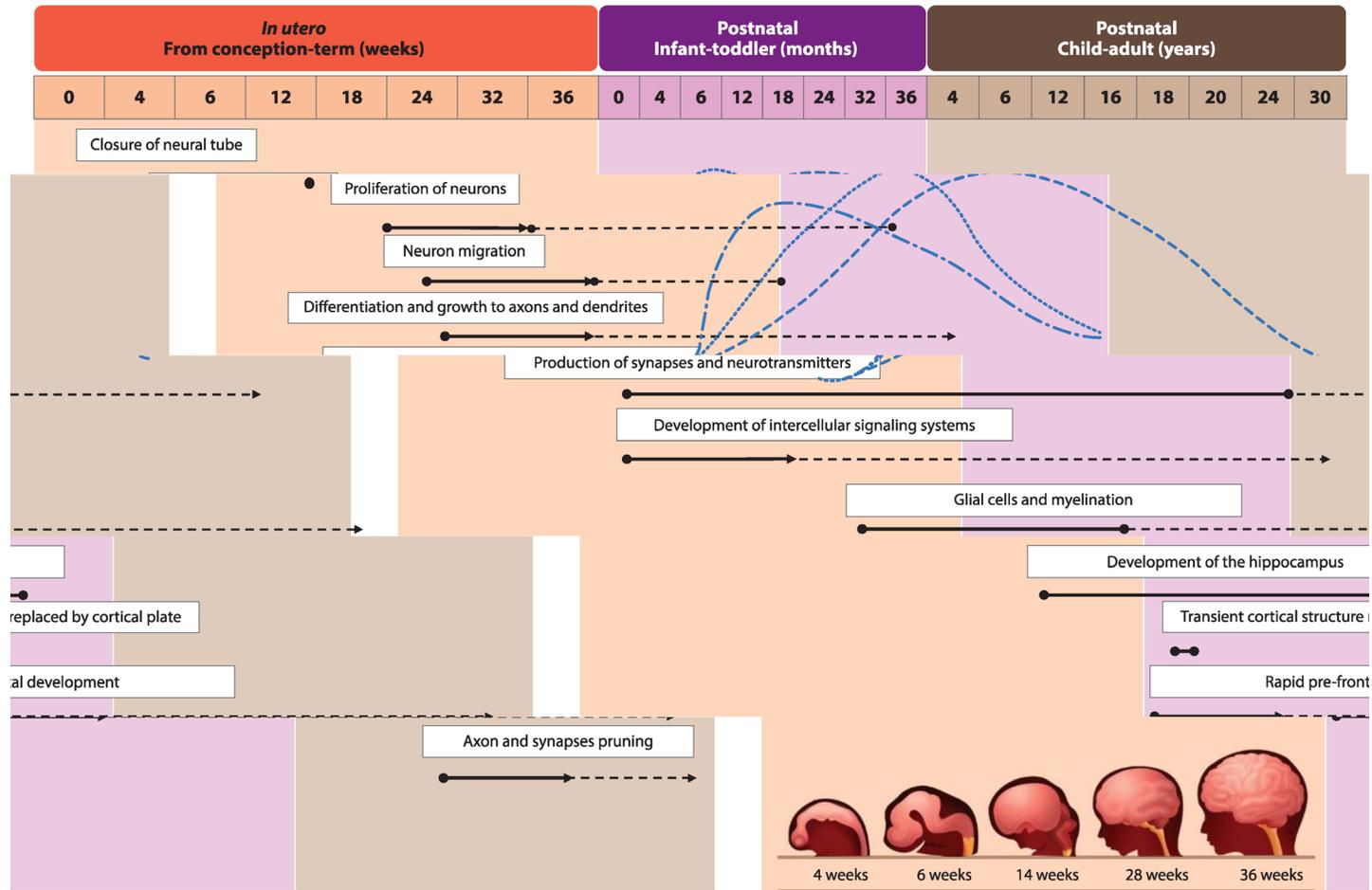
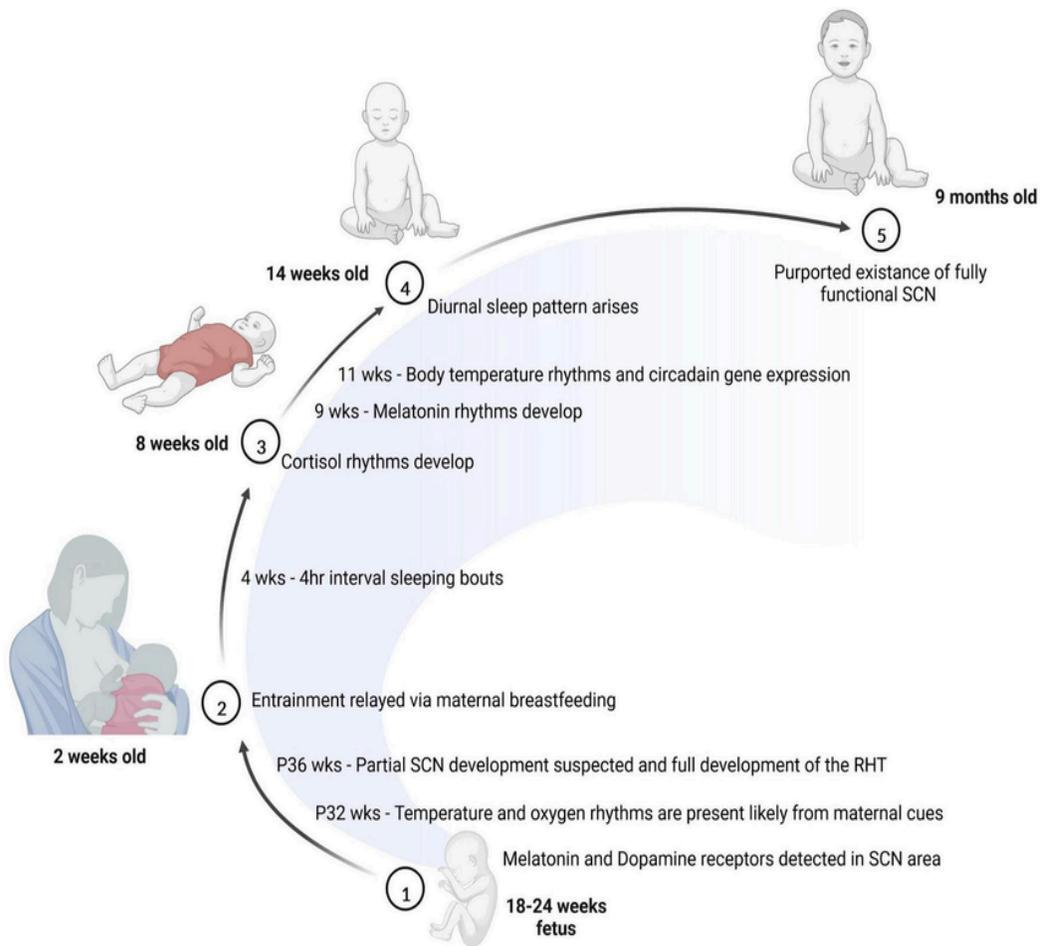




Building Towards A
Whole Person,
Whole Day
MENTAL HEALTH &
WELLNESS

You Have to Crawl Before You Can Walk



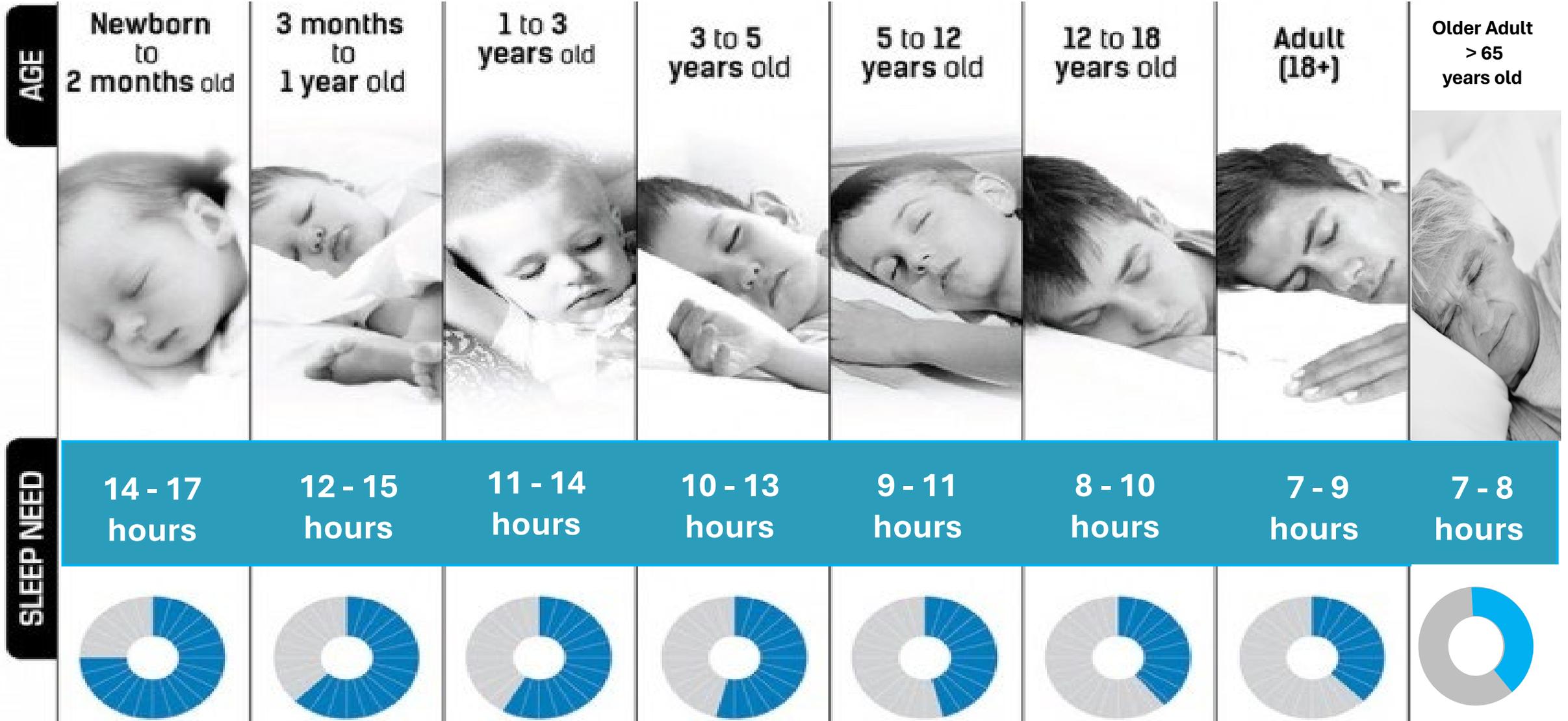


the timelines for experience-dependent synaptic development:

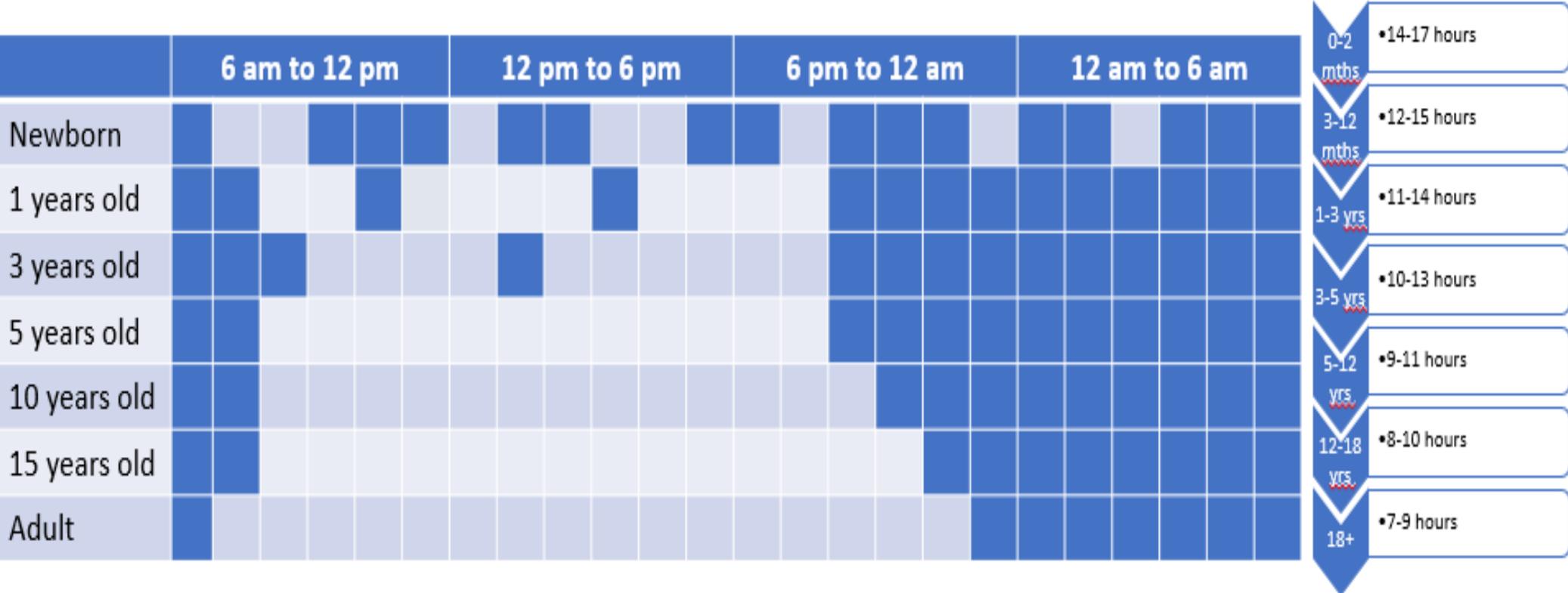
- — — — — (dashed line) Prolonged development
- — — — — (dotted line) Angular gyrus/Broca's area (language and speech); Visual and auditory cortex (sensory functions)
- — — — — (dash-dot line) Prefrontal cortex (higher cognitive functions)
- — — — — (solid line) Rapid development

Depicts approximate

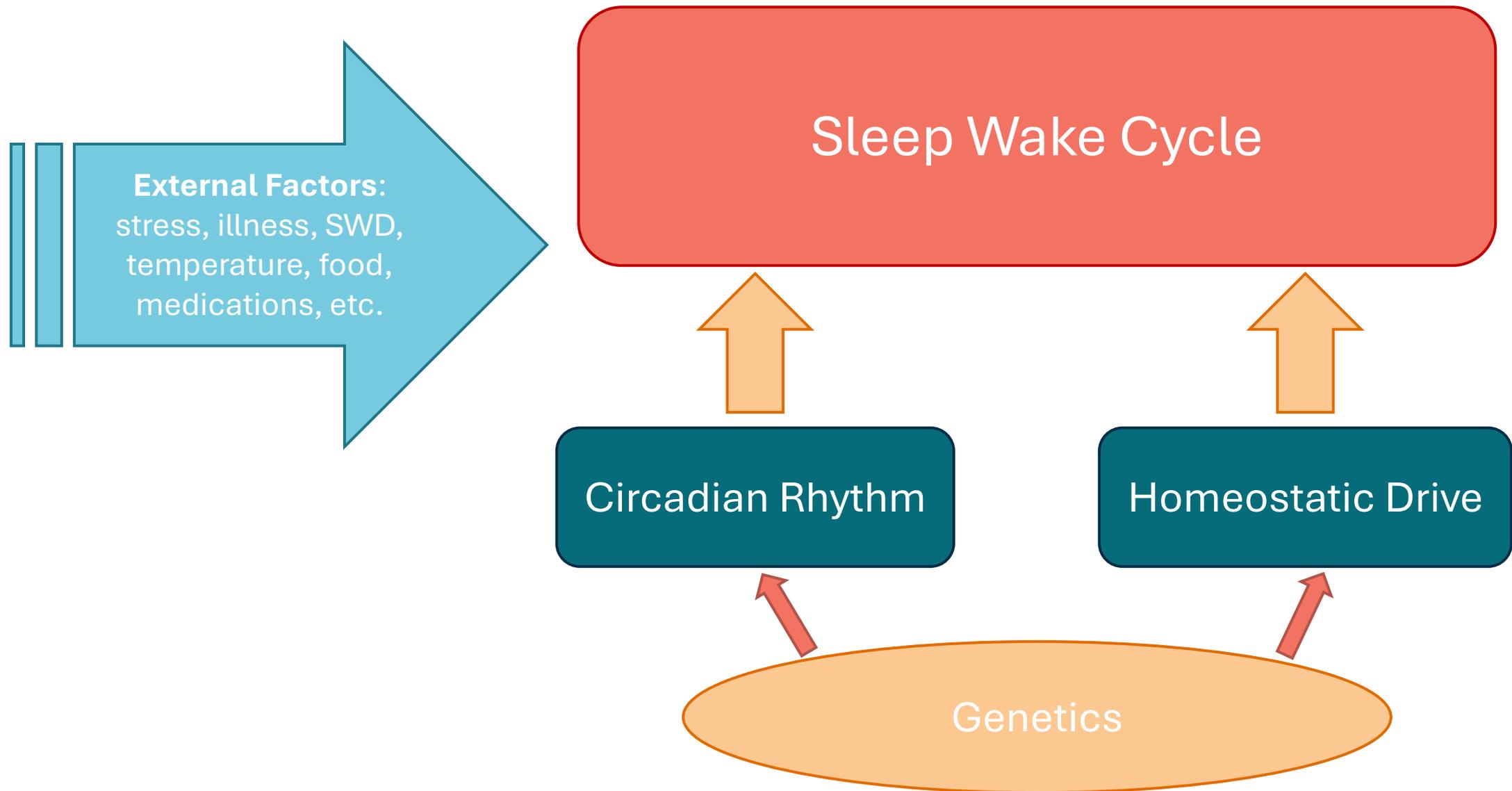
Developmental Sleep Needs



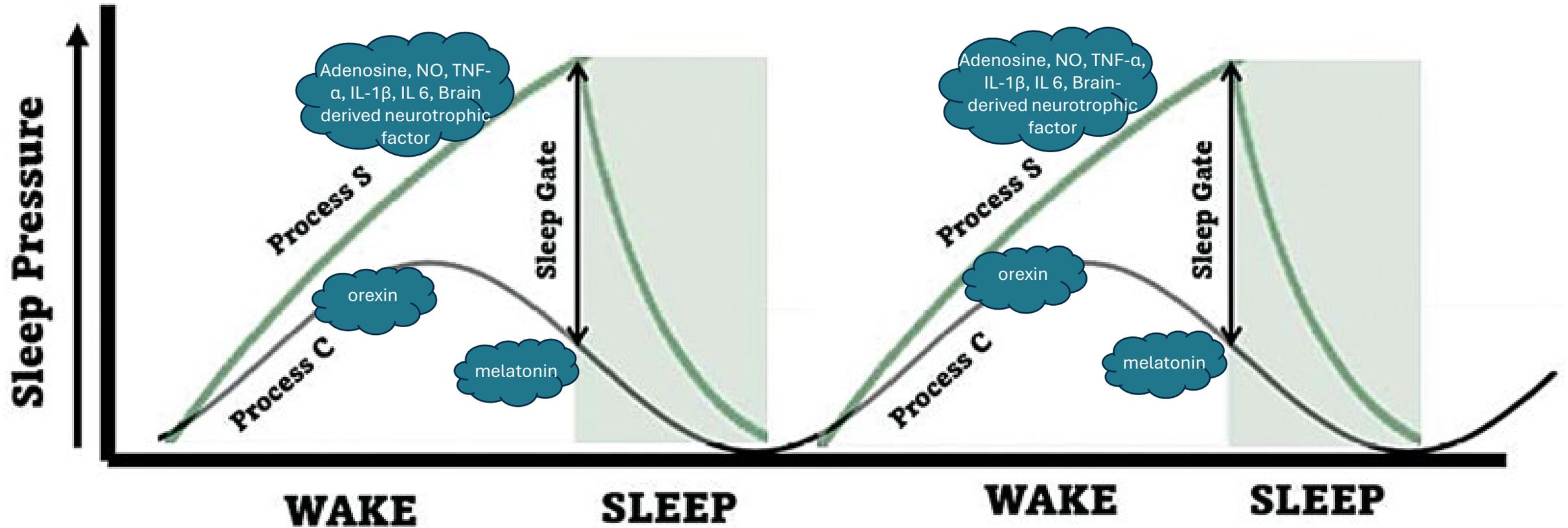
Developmental Sleep Wake Patterns



Sleep Wake and Circadian Regulation



Process C and Process S Evolved?!



NO=Nitric Oxide; TNF- α =Tumor Necrosis Factor-Alpha; IL=Interleukin

Adapted from Morse, A.M., 2025, May. Enhancing the management of hypersomnia: Examining the role of the orexin system. In *Seminars in Neurology*.

Circadian Rhythm... More than What Meets the Eye?

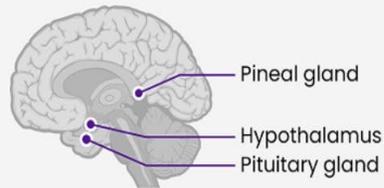
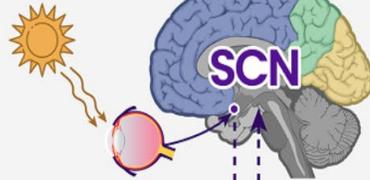
The Suprachiasmatic Nucleus (SCN) Our "Master Clock"

Suprachiasmatic Nucleus (SCN)
The Central or "Master" Clock

Light Zeitgeber

Zeitgeber comes from two German terms: *Zeit*, meaning "time," and *Geber*, which means "giver."

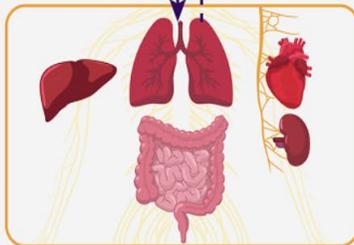
They are cues that help entertain our Circadian Rhythm.



Region of the brain that receive signals from the SCN and help regulate the circadian rhythm include pineal gland, hypothalamus and pituitary gland

Nonlight Zeitgeber

- Physical activity
- Eating
- Sleep-wake patterns
- Social interactions



Circadian rhythm is part of the body's **internal clock**; it follows a 24-hour schedule, and regulates the sleep-wake cycle, hormone production, other bodily functions and our behaviors.



Jeffrey C. Hall

Born: 1945, New York, NY, USA

Affiliation at the time of the award: University of Maine, Maine, ME, USA

Prize motivation: "for their discoveries of molecular mechanisms controlling the circadian rhythm"



Michael Rosbash

Born: 1944, Kansas City, MO, USA

Affiliation at the time of the award: Brandeis University, Waltham, MA, USA, Howard Hughes Medical Institute

Prize motivation: "for their discoveries of molecular mechanisms controlling the circadian rhythm"



Michael W. Young

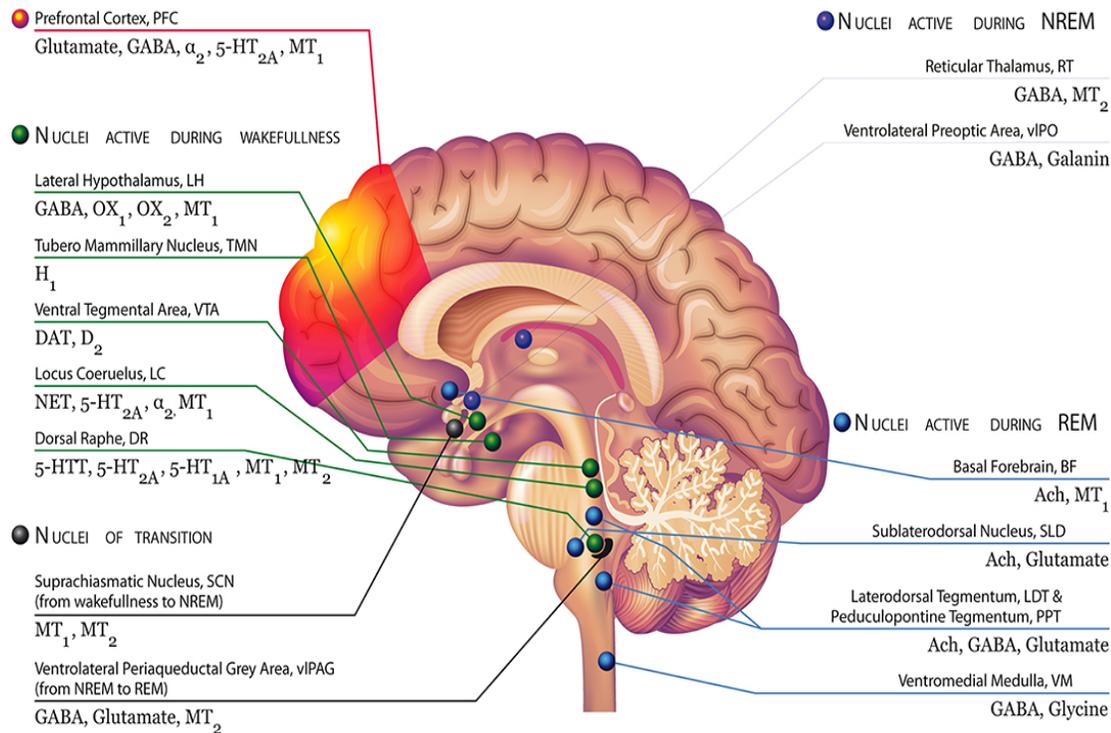
Born: 1949, Miami, FL, USA

Affiliation at the time of the award: Rockefeller University, New York, NY, USA

Prize motivation: "for their discoveries of molecular mechanisms controlling the circadian rhythm"

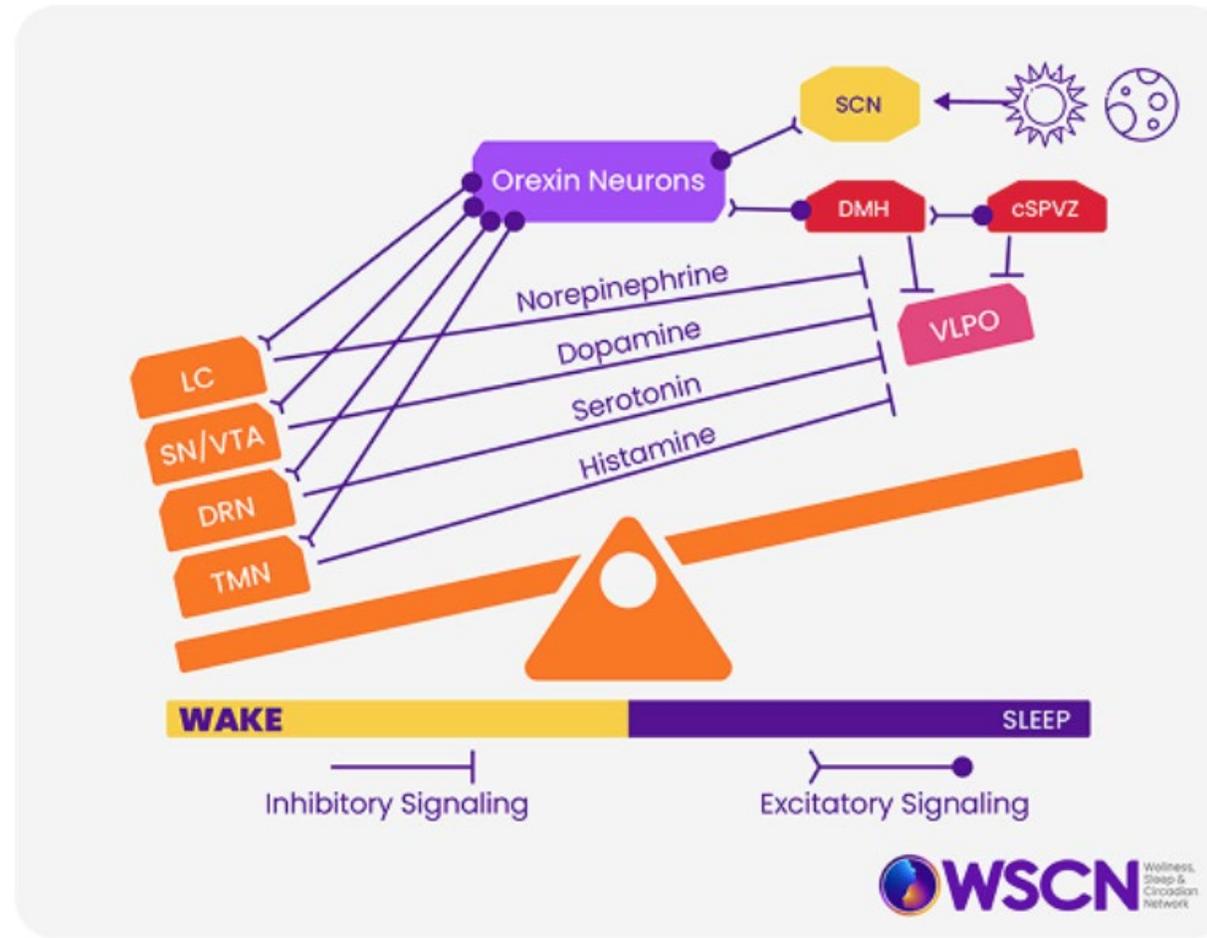
2017 Nobel Prize in Physiology or Medicine

Areas of the Brain in Which Wake- and Sleep-Promoting Neurotransmitters are Produced



Area of the Brain	Neurotransmitter	Side of the Sleep Switch
Ventrolateral Preoptic Nucleus	GABA Galanin	Sleep
Locus Coeruleus	Norepinephrine	Wake
Substantia Nigra	Dopamine	Wake
Dorsal Medial Nucleus	Serotonin	Wake
Tuberomammillary Nuclei	Histamine	Wake

An Evolved Flip-Flop Switch Theory for Sleep-Wake Control with Circadian Factors



LC=Locus Coeruleus, SN=Substantia Nigra, VTA=Ventral Tegmental Area, TMN=Tuberomammillary Nuclei, SCN=Suprachiasmatic Nucleus, DMH=Dorsomedial Hypothalamus, cSPVZ=Subparaventricular Zone, VLPO=Ventrolateral Preoptic Nucleus

Sleep & Circadian Basics. SleepHealth.org. Accessed September 10, 2025. <https://www.sleephealth.org/sleep-circadian-basics/>

The Orexin System: An Integrator of Sleep, Circadian, and Overall Health and Wellness

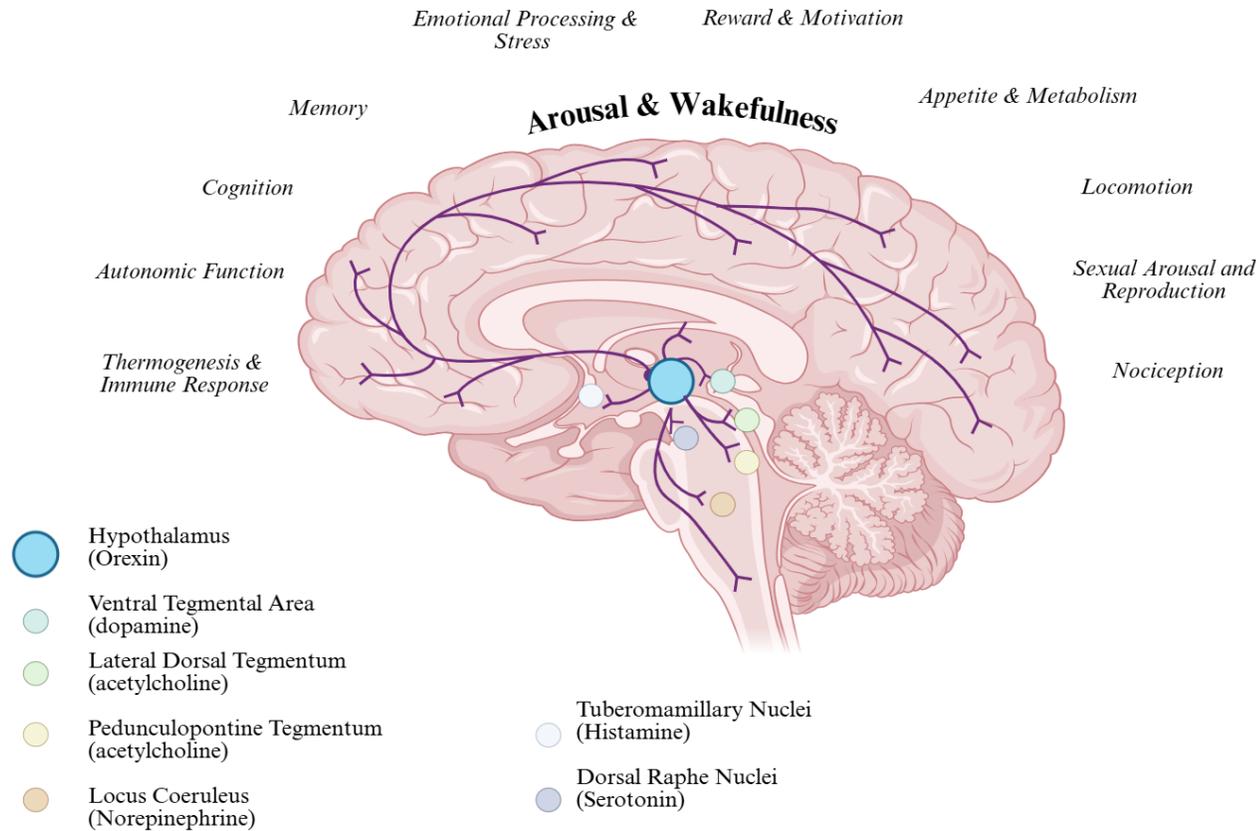
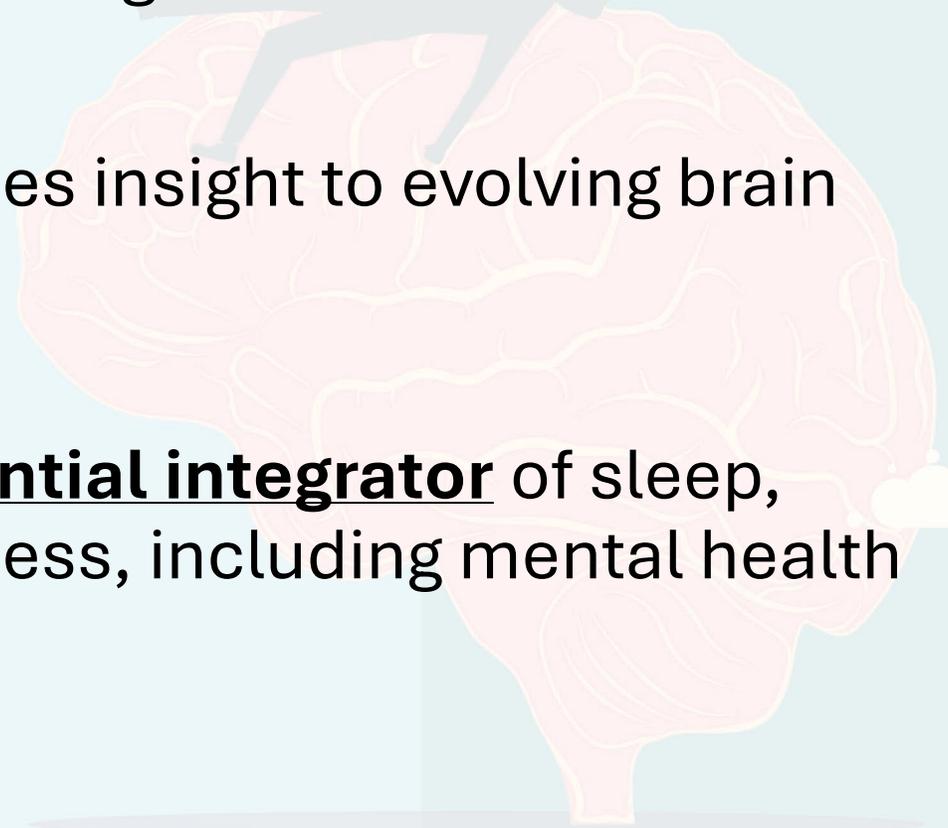


Image created by Dr. Morse and is part of a pending publication

Key Learning Points



- **Sleep and Circadian Health are Key Factors in Mental Health**, necessitating a 24-hour approach in management considerations
- The **Natural Ontogeny of Sleep** provides insight to evolving brain development and brain health
- The **Orexin system serves as an essential integrator** of sleep, circadian, and overall health and wellness, including mental health



Detection of Sleep/Wake Disorders in Psychiatry

Philip Gehrman, PhD, CBSM, FAASM

Sleep-Wake Disorders in DSM-5-TR

DSM-5 Sleep-Wake-Circadian Disorders/Groups

Insomnia Disorder
Hypersomnolence Disorder
Narcolepsy
Breathing-Related Sleep Disorder (eg, OSA)
Circadian Rhythm Sleep-Wake Disorders
Non-REM Sleep Arousal Disorders
Nightmare Disorder
REM Sleep Behavior Disorder
Restless Legs Syndrome
Substance/Medication-Induced Sleep Disorder

} Parasomnias

Complaints are of dissatisfaction regarding the quality, timing, and amount of sleep.
However, resulting **daytime distress and impairment** are core features shared by all sleep-wake disorders.

Sleep disorders are often accompanied by **depression, anxiety, and cognitive changes** that must be addressed in treatment planning and management.

Furthermore, persistent sleep disturbances (both insomnia and excessive sleepiness) are established **risk factors** for the subsequent development of mental illnesses and substance use disorders.

They may also represent a **prodromal expression** of an episode of mental illness, allowing the possibility of early intervention to preempt or attenuate a full-blown episode.

- OSA=obstructive sleep apnea; REM=rapid eye movement.
American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition-Text Revision*. American Psychiatric Association Publishing; 2023.

Sleep-Wake Disorders in DSM-5-TR

- Insomnia Disorder
 - Difficulty initiating or maintaining sleep or early morning awakenings
 - Clinically significant distress or impairment
 - At least 3 nights/week for at least 3 months
 - Despite adequate opportunity for sleep
 - Not better explained by other factors

Sleep-Wake Disorders in DSM-5-TR

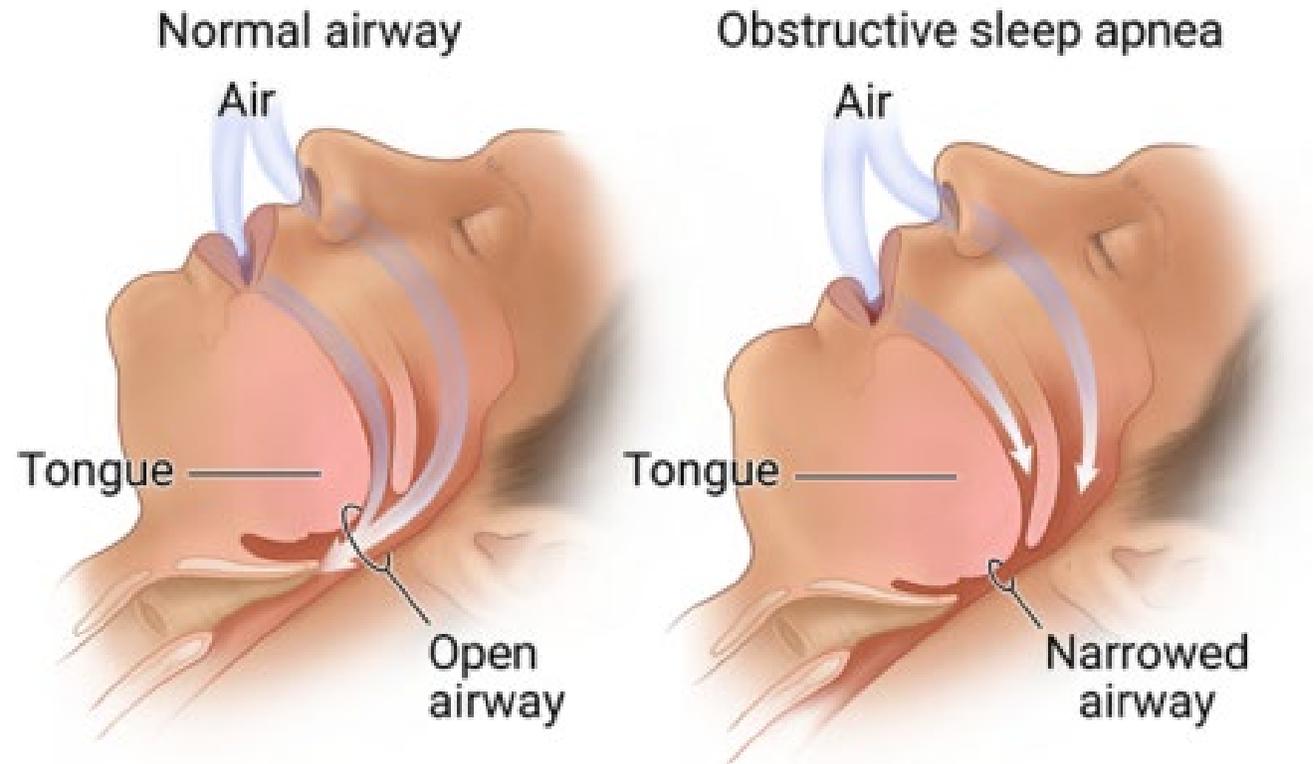
- Disorders of Hypersomnolence Disorder
 - Excessive sleepiness despite adequate sleep time
 - At least one of the following:
 - Recurrent period of sleep during the day
 - Prolonged main sleep period (9 hours +)
 - Difficulty waking up
 - At least 3 times/week for at least 3 months
 - Clinically significant distress or impairment

Sleep-Wake Disorders in DSM-5-TR

- Narcolepsy
 - Recurrent period of irrepressible sleep need
 - At least one of the following:
 - Episodes of cataplexy
 - CSF hypocretin deficiency
 - Short REM latency on polysomnography or multiple sleep latency test

Sleep-Wake Disorders in DSM-5-TR

- Breathing-related sleep disorders
 - Obstructive sleep apnea hypopnea
 - Central sleep apnea
 - Sleep-related hypoventilation



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Sleep-Wake Disorders in DSM-5-TR

Circadian Rhythm Sleep-Wake Disorders

- Delayed sleep phase type
- Advanced sleep phase type
- Irregular sleep-wake type
- Non-24-hour sleep-wake type
- Shift work type

Sleep-Wake Disorders in DSM-5-TR

Restless Legs Syndrome (RLS)

- Urge to move the legs in response to uncomfortable sensations
 - Worse while resting / inactive
 - Relieved by movement
 - Worse in the evening or at night

Optimal Use of Available Assessment Tools

Think about the DIMS and the DOES

- DIMS: Difficulty Initiating or Maintaining Sleep (ie, insomnia)
 - Useful questionnaires: Insomnia Severity Index, PROMIS Sleep Disturbance, Pittsburgh Sleep Quality Index, daytime functioning measure
- DOES: Disorders Of Excessive Sleepiness
 - Useful questionnaires: Hypersomnia Severity Scale, STOP-BANG to screen for sleep apnea

Optimal Use of Available Assessment Tools: Sleep Diaries

Today's Date	10/15			
In total, how long did you nap or doze yesterday?	1:30-2:45 pm			
1. What time did you get into bed?	11:00 pm			
2. What time did you try to go to sleep?	11:30 pm			
3. How long did it take you to fall asleep?	40 min			
4. How many times did you wake up, not counting your final awakening?	2			
5. In total, how long did these awakenings last	1 hour, 5 min			
6a. What time was your final awakening?	6:30 am			
6b. Did you wake up earlier than you planned/desired?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
6c. If yes, how many minutes earlier?	30 min			
7. What time did you get out of bed for the day?	7:15 am			
8. How would you rate the quality of your sleep?	Poor			
9. Comments (if applicable):	I have a cold			

Optimal Use of Available Assessment Tools: Self-Report Scales

PSQI

- 19 self-reported items in 7 categories
- Score of 0-4 indicates good sleep, 5-21 indicates poor sleep
- 5 additional questions (unscored) completed by roommate/bed partner

ESS

- Self-reported rating of likeliness to doze off or fall asleep in 8 situations such as watching tv, as a passenger in a car, or while sitting and talking to someone
- Score of 0-7 indicates normal wakefulness, 8-9 average daytime sleepiness, 10-15 situational EDS, 16-24 strongly indicates EDS

ISI

- Self-reported likert ratings of 5 questions related to the severity and interference of insomnia in daily functioning, as well as how noticeable to others or distressful to the patient their insomnia has become
- Score of 0-7 indicates no clinical significance, 8-14 indicates subthreshold insomnia, 15-21 moderate clinical insomnia, and 22-28 severe clinical insomnia

PROMIS-SD

- 27 total likert scale questions, available in short form and computerized adaptive test (CAT)
- PROMIS measures are scored using the T-score metric, with 50 being the mean reference population
- Any score above 50 indicates a higher clinical significance—for example, a score of 60 would be one SD higher than the reference population

PSQI = Pittsburgh Sleep Quality Index; ESS = Epworth Sleepiness Scale; ISI = Insomnia Severity Index; PROMIS-SD = Patient-Reported Outcomes Measurement Information System-Sleep Disturbance; SD = standard deviation.

Buysse DJ, et al. *Psychiatry Research*. 1989;28:193-213. Johns MW. *Sleep*. 1991;14(6):540-545. Bastien CH, et al. *Sleep Medicine*. 2001;2:297-307. PROMIS. PROMIS Sleep Disturbance Scoring Manual. Available at: https://www.healthmeasures.net/images/PROMIS/manuals/PROMIS_Sleep_Disturbance_Scoring_Manual.pdf. Accessed October 25, 2024.

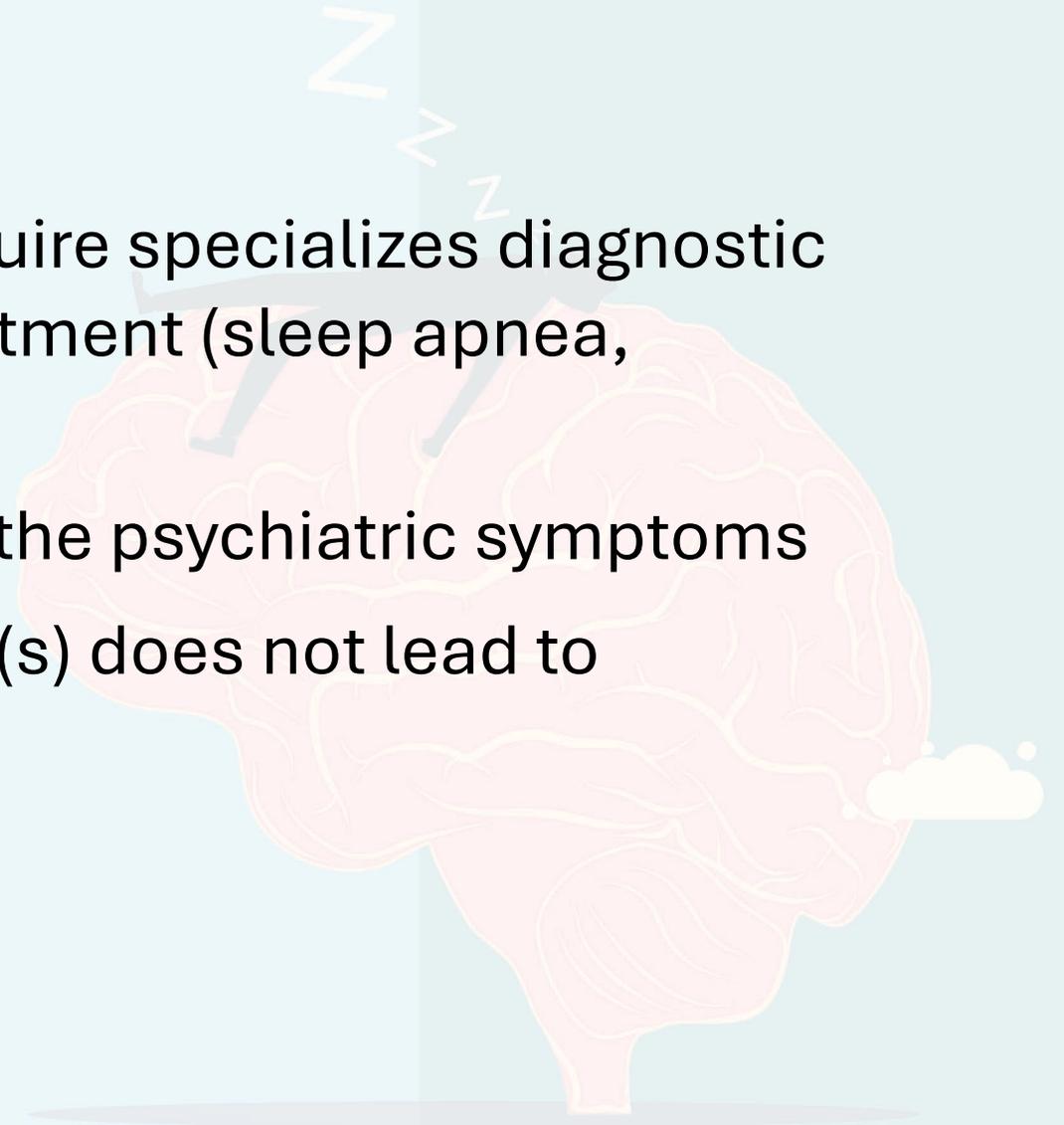
Utility and Limitations of Consumer Actigraphy

- Actigraphy: devices that measure movement (and heart rate, skin temp, etc) to estimate sleep/wake patterns
- Pros: objective, can collect data over long periods of time
- Cons: unknown validity, less accurate with worse sleep



When to Refer to a Sleep Specialist

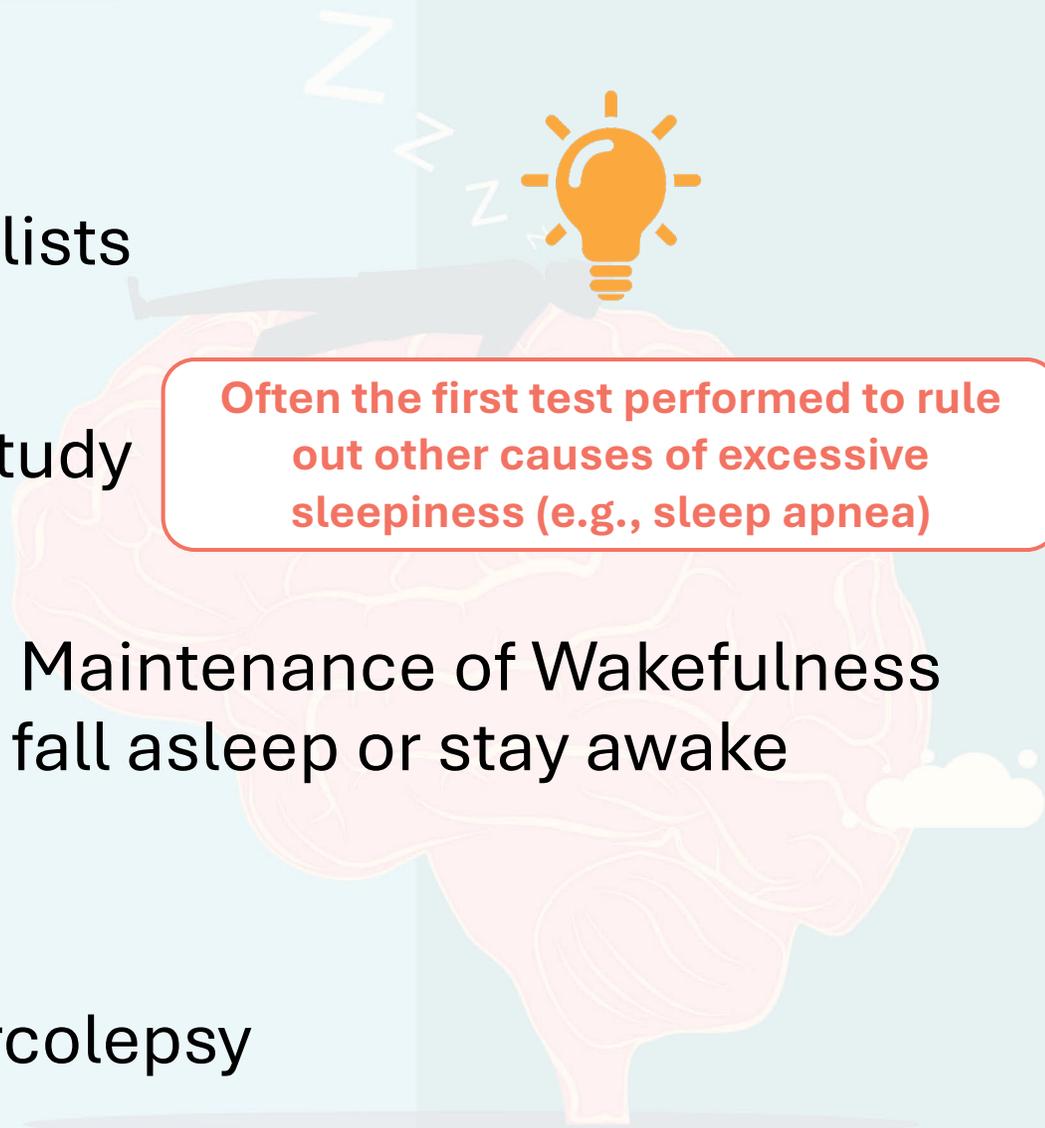
- If you suspect sleep disorders that require specialized diagnostic assessment or non-mental health treatment (sleep apnea, narcolepsy, etc.)
- If a sleep disorder seems to be driving the psychiatric symptoms
- If treatment of the psychiatric disorder(s) does not lead to improvement in sleep



When to Refer to a Sleep Specialist

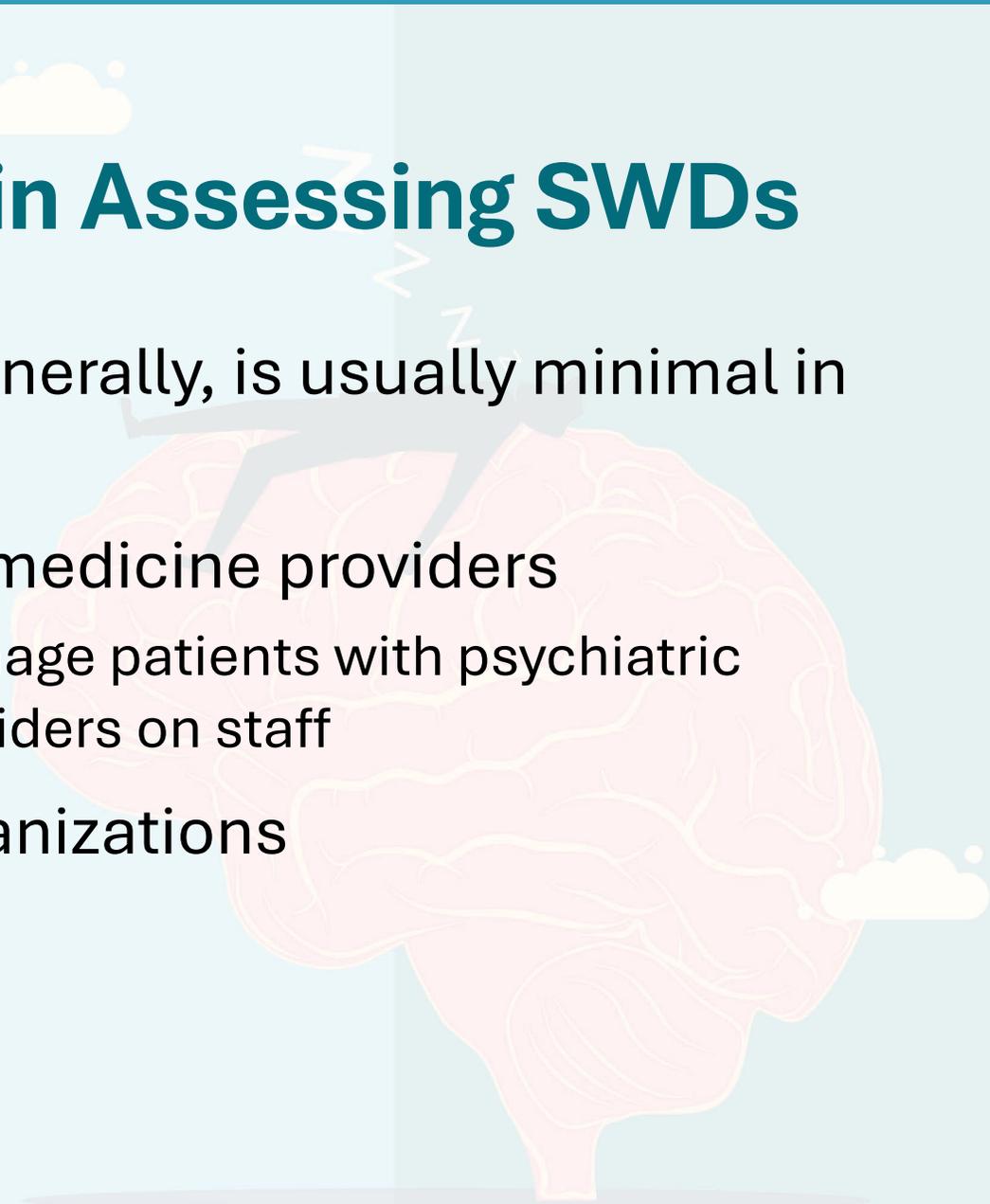
Further tests conducted by sleep specialists

- Polysomnography (PSG) – i.e. a sleep study
- Multiple Sleep Latency Test (MSLT) and Maintenance of Wakefulness Test (MWT) – repeated opportunities to fall asleep or stay awake across the day
- Orexin-A CSF test – for diagnosis of narcolepsy



Often the first test performed to rule out other causes of excessive sleepiness (e.g., sleep apnea)

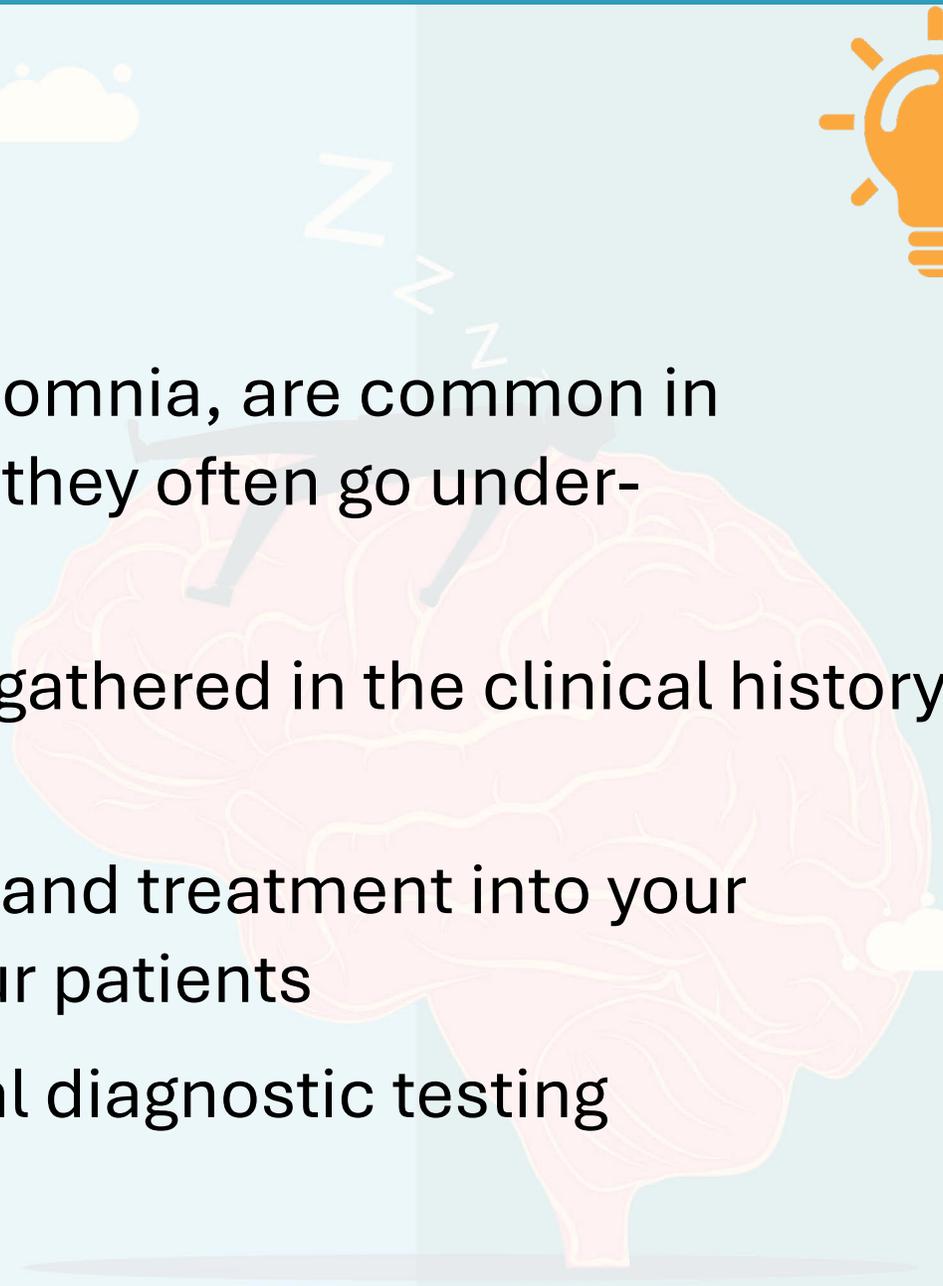
Developing Competence in Assessing SWDs



- Education in SWDs, and sleep more generally, is usually minimal in psychiatry education
- Develop connections with local sleep medicine providers
 - Most sleep docs have no idea how to manage patients with psychiatric disorders and have no mental health providers on staff
- Consider connecting with relevant organizations
 - Sleep Research Society
 - American Academy of Sleep Medicine

Key Learning Points

- SWDs, especially insomnia and hypersomnia, are common in patients with psychiatric disorders but they often go under-recognized and under-treated
- Basic information about SWDs can be gathered in the clinical history and using self-report measures
- Integrating sleep-focused assessment and treatment into your practice can improve outcomes for your patients
- Refer to a sleep specialist for additional diagnostic testing (e.g. Polysomnography (PSG))



**Faculty Discussion:
Integration of Sleep Medicine
and Psychiatry**

Individualizing Treatment for Patients with Comorbid Psychiatric and Sleep/Wake Disorders

Case-Based Challenge: Initial Evaluation for Depression

Case-Based Challenge:
Patient Not Responding to
Antidepressants

What to do When the Medications Fail the Patient?

Incorporating all 24 hours into practice

- Linda is a 25-year-old woman with history of depression, anxiety, ADHD, and OCD who is currently treated with lisdexamfetamine 60 mg and Fluoxetine 40 mg daily
 - She describes minimal improvement with ongoing difficulty to even perform ADLs, on most days struggles to even be able to get out of bed and continues to have a high dependence on her parents for support
 - She continues to be almost ritualistic with any activities she does engage in because of fear of "not having enough hours in a day to get it all done" and the only way she can get some things done without failure
 - She expresses fear of not being able to stay employed, even part time and asks what other options might help her?

Developing Competence in Addressing Sleep/Wake Disorders

Building a Support Network and
Collaborating with Sleep Specialists

Accessing Further Education/Consultation

Practical Take-Aways

- Sleep/wake disorders are common in individuals with psychiatric conditions, and each may worsen the other
- The neurobiology of sleep and wake is complex, and the orexin system is a key integrator of sleep, wake, circadian, and overall health and wellness
- Integrating sleep-focused assessment into your practice can improve outcomes for your patients; this can be done with a variety of screening tools, but a simple sleep diary can be very helpful as well!

Psych Congress 2025

Sleep Track

IN PARTNERSHIP WITH



Thursday

- Neurobiology of Orexin Agonism: The Final Frontier of Sleep-Wake Disorders in Psychiatry
- Mastering Insomnia: Evidence-Based Strategies for Psychiatry

Friday

- New Solutions for Excessive Daytime Sleepiness and Obstructive Sleep Apnea: The Silent Killer of Better Outcomes in Psychiatric Practice

Saturday

- Sleep-Wake Symptoms in MDD as Potential Biomarkers for Precision Treatments: Moving Beyond Agent Selection Based on Activating or Sedating Effects
- Disorders of Wakefulness: Understanding Hypersomnia, Narcolepsy, and Beyond in Psychiatric Patients

Sunday

- Treatment-Resistant or Something Else? Finding Hypersomnolence Disorders in Psychiatric Practice and Managing them with Heart-Healthy Strategies

Q&A

