Sleep Hygiene Education Manual

For Adults

THERAPIST GUIDE

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Sleep Hygiene Education for Insomnia in Adults

Therapist Materials

Introduction

Sleep Hygiene Education for Insomnia

This Sleep Hygiene Education for Insomnia (SHE) manual was developed using the best available scientific evidence and clinical experience. Although this manual was developed for use by providers for middle- to older-aged adults, the principles and strategies presented here were drawn from use in general samples and are also appropriate to use younger populations. This manual was meant to be used by individuals trained and licensed to provide psychotherapy and trained in emergency management procedures should they encounter a psychiatric emergency. Consistent with American Psychological Association ethical guidelines, providers should not practice outside their scope of expertise and training.

Manual Structure

This manual is intended to be used as an active control condition and/or placebo treatment condition. Though patients may find information contained in this manual helpful, this guide is purposefully absent of evidence-based treatment techniques typically found in Cognitive Therapy for Insomnia active treatment conditions.

The treatment described in this manual is designed to be administered over six 1-hour weekly sessions. The material is presented in a session-by-session format, with the following manuals provided separately:

1. Therapist materials: This manual is designed to optimize treatment delivery, and describes the session structure, flow, and activities, and provides sample text that can be used by the therapist. Additional material (e.g., printable figures, optional patient handouts) are offered in the appendices.

2. Patient materials: This manual is designed to 1) optimize patient receipt and enactment of the topics covered in the session and 2) provide the patient with detailed descriptions of the rationale and instructions, with Home Practice assignments.

3. Fidelity rating scales: This manual is designed to optimize treatment fidelity by providing forms and instructions for conducting treatment fidelity ratings of video recorded sessions.

Citation:
When using the manual for research, please provide the following citations.

Nagy, S.M., Emert, S.E., & Taylor, D.J.(2023). Sleep Hygiene Education for Insomnia: Therapist guide. Retrieved from www.insomnia.arizona.edu/SHE.

Nagy, S.M., Emert, S.E., & Taylor, D.J. (2023). Sleep Hygiene Education for Insomnia: Patient guide. Retrieved from www.insomnia.arizona.edu/SHE.

Nagy, S.M., Emert, S.E., & Taylor, D.J. (2023). Sleep Hygiene Education for Insomnia: Rating scales. Retrieved from www.insomnia.arizona.edu/SHE.

Instructions

The manual is written to be read or paraphrased to the patient, and all patient-directed text is presented in plaintext format. Instructions to the therapist will be **[bracketed and in bold]**, and should not be read aloud to the patient. Important questions to ask the patient will be *italicized*.

Agenda/Checklist for Session 1: History of Medical Issues, Medication Use, Sleep and Insomnia

- ☐ **Introduction**
- ☐ **Sleep Diary Review**
- ☐ **Homework Compliance Rating Scale**
- ☐ **Medical History**
- ☐ **Psychological History**
- ☐ **Medication History**
- ☐ **Sleep History**
- ☐ **Major Life Events**
- ☐ **Miscellaneous (Anything Else?)**
- ☐ **Discussion Review**
- ☐ **Assign Home Practice**
    - ☐ One week of Sleep Diaries

Session 1:
History of Medical Issues, Medication Use, Sleep and Insomnia

Introduction

Since this is our first treatment session together, I want to obtain a better understanding of your history. We will be discussing your medical history, medication use, sleep across your lifetime and your history of insomnia. (Note, goal of this session is to keep the session engaging but inactive. Thus, we primarily provide common factors and build rapport by getting an exhaustive history of their sleep problems.)

Sleep Diary Review

First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log, avoiding deep discussion about any single poor night. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you spend as much extra time as need developing a plan to encourage completion.]

Homework Compliance Rating Scale

How did filling out the sleep diary go this week? Any problems?

[record completion percentage below]

Homework Compliance Rating Scale – Session 1

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

Medical History

[When did the problem start? Did the problem resolve? What impact did it have on their life?]

Are you currently experiencing any medical problems?

Have you ever been diagnosed with any medical problems in the past?

Any major surgeries?

Any history of traumatic brain injury or concussion?

[For people who were assigned female at birth]
Have you ever had any complications with pregnancy? Problems with menopause?

Psychological History

[When did the problem start? Did the problem resolve? What impact did it have on their life?]

Are you currently experiencing any mental health problems, or have you received a diagnosis of a psychological disorder?

Have you in the past experienced any mental health problems or have you received a diagnosis of a psychological disorder?

Medication History

We've talked about some conditions and diagnoses that you're managing currently. I'm curious to know, are you taking any medications for these conditions?

Thank you for sharing! If you don't mind me asking, are you taking any other supplements (vitamins, melatonin, etc.) or using any other substances (caffeine, nicotine, alcohol, etc.) currently?

Have you used any medications or substances in the past that you do not use currently?

Sleep History

During your intake interview, you talked a lot about your typical sleep schedule and some difficulties you may have. I'd like to get more detailed information about that now.

Describe your current typical weeknight bedtime routine.

Is this the same on the weekends?

What are some things that you've tried in an attempt to improve your sleep?

How long have you been experiencing this sleep pattern?

Before that, how was your sleep? What was your schedule and routine like?

Has there ever been a time in your life when you felt like your sleep was satisfactory?

[If not already covered]

Please tell me what you remember about how you slept in the past **[as a child, adolescent, young adult, etc.]**

Major Life Events

[When did the problem start? Did the problem resolve? What impact did it have on their life?]

Sleep problems often start as the result of some precipitant. I'd like to get an idea of any major life events that occurred around the same time as your sleep problems. Can you think of any changes (such as a divorce, death of a loved one, change of jobs, relocation, marriage, graduation, birth of a child, etc.) that could have happened around the time you noticed the changes in your sleep?

Anything Else

Before we wrap up today, is there anything else that you'd like to mention or talk about? Anything else that you think I should know?

I'd also like to ask what questions you have at this point, if any.

Session 1: Information Review

[If needed to fill the session]
Let's recap some of the major points that we talked about today.
[Summarize patient's history as briefly or detailed as possible to use up the entire session. Ask questions as necessary to clarify or fill time in the session.]

Session 1: Home Practice

- Your assignment between now and session 2 is to monitor your sleep habits with your sleep logs.
- Do you have any concerns about doing this consistently?

[Troubleshoot, problem solve, make contingency plans.]

Agenda/Checklist for Session 2: Sleep Basics

- ☐ **Introduction**
- ☐ **Sleep Diary Review**
- ☐ **Sleep Assessment Review**
  - ☐ Review Insomnia Severity Index (if applicable)
- ☐ **Homework Compliance Rating Scale**
- ☐ **Why is Sleep Vital to Life?**
- ☐ **What is Insomnia?**
- ☐ **The 3P Model of insomnia**
  - ☐ Figure 1
- ☐ **Homeostatic Sleep Drive (Process S)**
  - ☐ Figure 2
  - ☐ Figure 3
- ☐ **Circadian Rhythm (Process C)**
  - ☐ Wake up and get out of bed at consistent times every day
  - ☐ Figure 4
- ☐ **Process S and C work together**
  - ☐ Figure 5
- ☐ **Sleep Changes Across Age**
  - ☐ Figure 7
- ☐ **Other Sleep Disorders**
- ☐ **Information Review**
- ☐ **Assign Home Practice**
  - ☐ One week of Sleep Diaries

Session 2: Sleep Basics

Introduction

I want to provide you with a better understanding of sleep and insomnia and explain how this treatment is going to help get your sleep back on track. Our second session today will focus on Sleep Basics. Some of the things we discuss today might be a review or they might be new information for you.

Sleep Diary Review

First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log, avoiding deep discussion about any single poor night. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you may spend as much extra time as necessary developing a plan to encourage completion.]

Homework Compliance Rating Scale

How did filling out the sleep diary go this week? Any problems?

[record completion percentage below]

Homework Compliance Rating Scale – Session 2

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

Why is sleep vital to life?

Why do you think sleep is important? What function does it serve?

- Sleep is important for everyone, regardless of your age.
- Sleep affects the body's metabolism and immune system.
- It allows the body to repair, restore, and heal itself.
- It impacts your mood and well-being.
- Getting enough sleep helps you:
    - Organize and store memories.
    - Perform complicated mental tasks more effectively.
    - Stay alert and concentrate during the day.
    - Perform routine, repetitive tasks with precision.
    - Perform everyday tasks safely.
- In older adults, adequate sleep may also decrease the risk associated with falls.

Essentially, when we sleep well, we wake up feeling ready to take on the day's challenges. When we don't sleep well, little problems can seem much more difficult.

What is Insomnia?

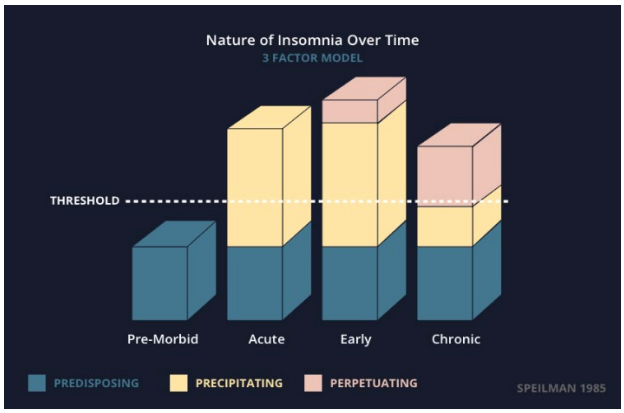
What do you know about insomnia?

- Insomnia is defined as having trouble *falling* asleep or *staying* asleep.
- This can result in poor quality sleep and feeling fatigued in the morning.
- Insomnia is not just a nighttime problem but has effects on you during the day.
- Insomnia is a common problem that can be brief or long-lasting.
- Insomnia occurs in all groups but is more common among older adults.
- Chronic insomnia is a widespread problem. A large epidemiology study found that 35% to 40% of adults aged 65 and older reported difficulties initiating and/or maintaining sleep on a chronic basis.

The 3P Model of Insomnia

Insomnia is usually a result of many things that when combined result in difficulty sleeping. Let's talk about now are some of things that can make a person vulnerable to insomnia. You don't need to have all of these, and this list doesn't include everything, but this list should help you see that your sleep problems may be the result of many different things.

[Share Figure 1 with patient]



Predisposing Factors

Some things that can sometimes put people at risk of developing insomnia include:

- Increased muscle tension
- Worrisome thinking style/personality
- Aging
- Being a night owl
- Genetics
- Insomnia often runs in families

Did you have any of these before your insomnia started?

Precipitating Factors

Just because some people are at risk for insomnia doesn't mean they will develop it.
Often times some event brings on the onset of insomnia. Events that can sometimes initiate a period of insomnia include:

- New stressful situations
- Recent hospitalization, onset of illness, etc.

- Grief
- Family conflict
- Work problems
- Medical problems (chronic pain, cancer, etc.)
- Changes in schedules (shift work, retirement, etc.)

Did any of these types of events occur just before your insomnia started?

Perpetuating Factors

Insomnia often goes away on its own once the precipitating event passes or when we get used to it. But for some people, insomnia continues even after the event stops and things improve. This type of insomnia is generally considered chronic, meaning it lasts more than three months. Some of the harmful habits that began as an effort to cope with insomnia perpetuate or keep the insomnia going, like drinking a lot of caffeinated beverages. Changing these perpetuating harmful sleep habits will be the primary focus of this treatment as we move forward.

Before we move on, do you have any questions?

Sleep Drive/Homeostatic (Process S)

Now we're going to talk about some of the forces going on behind the scenes of your sleep so you can start to understand the reasoning behind the sleep plan we're going to develop together.

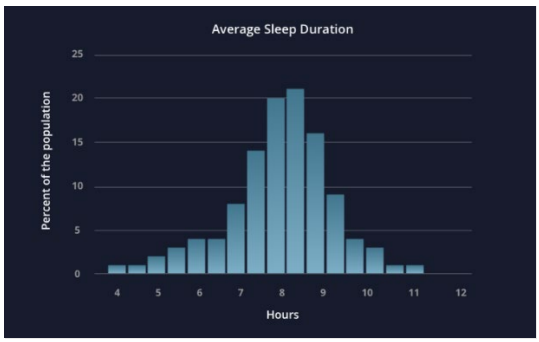
One important force that regulates our sleep is the homeostatic process or the sleep drive. One component of our sleep drive is how much sleep we need.

- There is a common belief that a specific amount of sleep is necessary for everyone.

What have you heard about how much sleep you need?

- Like most things in nature, there is a normal curve in how much individuals need to sleep.

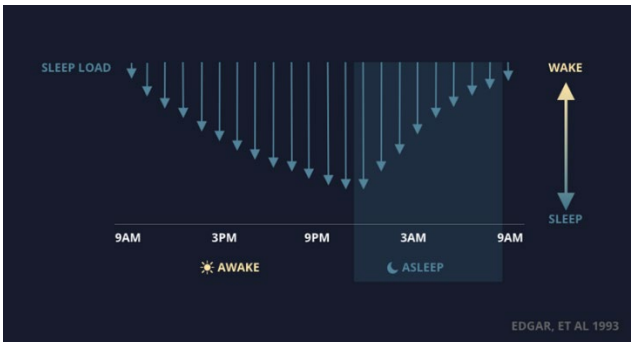
[Share Figure 2 with patient]



- As you can see in this graph, different people average different amounts of sleep, with most getting about 7-9 hours of sleep each night.
- However, this is just like shoe size, where most individuals wear a certain size shoe, but it doesn't mean there is something wrong with people who need a smaller or larger shoe.
- Some people need more sleep and some need less.
  - It's like shoe size: one size does not fit all.
- It's important to determine the amount of sleep you *actually* need to feel and perform your best.
- This might be different than the amount of sleep you needed when you were younger.

- A general guideline is to get enough sleep so that you don't feel fatigued during the day.

[Share Figure 3 with patient]



Another component of sleep drive is how long we have been awake.

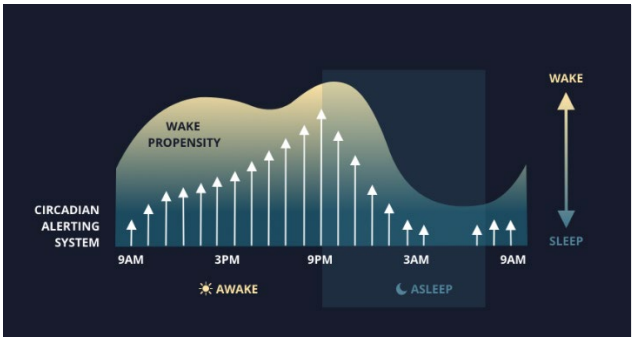
- The longer you have been without sleep, the more your body starts to need it.
- Likewise, the longer you sleep, the less your body needs it.
  - This is similar to the drive for food and water – the more recently you've eaten, the less hungry you feel.
- In the figure, you can see that the arrows representing a typical sleep drive get longer and longer throughout the day as you get further from having slept. At night right before you go to bed is when you have built up the greatest sleep pressure, which is part of what helps you get to sleep.

Before we move on, what questions do you have so far?

- As mentioned earlier, your sleep habits determine your quality and quantity of sleep. The body naturally tries to have a regular sleep schedule.
- However, when sleep problems first start people will often change their sleep habits to try to make up for the lack of sleep or to try to ensure they get enough sleep. This can reduce their sleep drive and make it harder to fall asleep at night.

Circadian Rhythm (Process C)

[Share Figure 4 with patient]



Sleep is also partially controlled by your circadian rhythm**.**

- Humans are programmed to be awake during the day and to sleep at night.
- You can see in the figure that throughout the day, the arrows representing your tendency to be awake get longer and longer and they decrease dramatically at night.
- Some believe this is an evolutionary mechanism to keep us out of harm's way.
- Circadian rhythms can't be easily reversed.

- They help keep us alert during the day and allow us to sleep at night when our sleep drive is normally greatest.
- However, like sleep drive, circadian rhythms vary some from person to person.

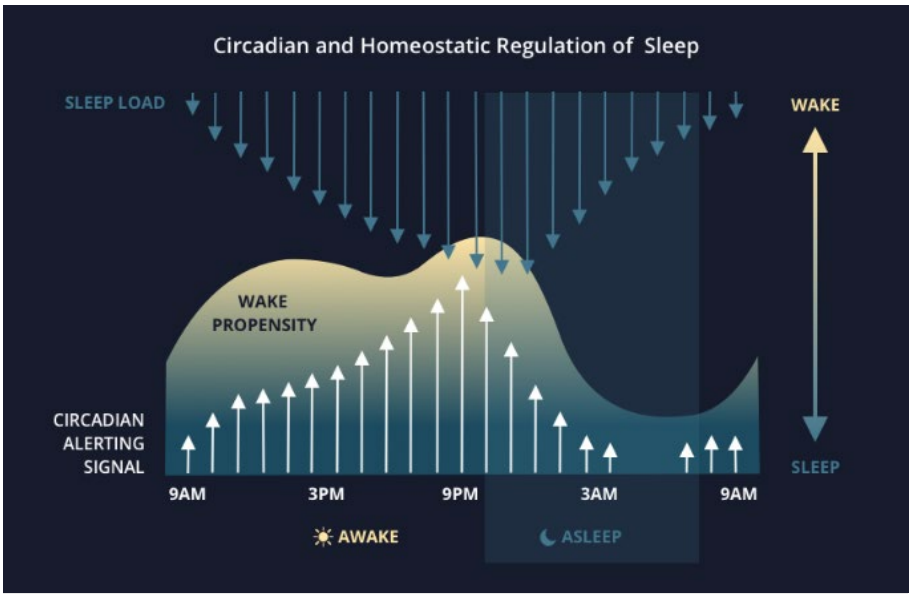
Are you more of a morning person, night person, or somewhere in the middle?

- As we age, the signals controlling our circadian processes weaken and our sleep phase tends to advance or move earlier.
- People usually notice this when they get tired earlier in the evening.
  - Again, this may be a natural part of aging, but it may also be due to behaviors you are engaging in that are serving to move your circadian rhythm.
  - For instance, if you have a tendency to go to be early because you are bored or if you are irregular in your sleep schedule, it can affect your circadian rhythms.

Process S and Process C Work Together

The sleep need process and the sleep timing or circadian process both control sleep.

[Share Figure 5 with patient]



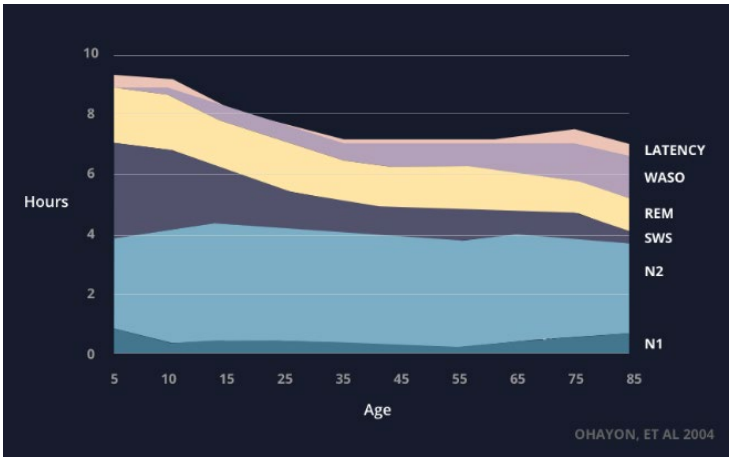
Well, this figure shows how the sleep drive and circadian processes work together to regulate a normal sleeper's day and night.

- Both the sleep drive and wakefulness build up over the day, but at night the sleep drive peaks a little bit later and lets you go to sleep.
- You can see how getting these processes misaligned would interfere with your ability to fall asleep at your desired time.

Sleep Changes Across Age

Research shows there are some changes that occur as we age. This image illustrates some changes in our sleep stages that may occur as we age.

[Share Figure 6 with patient]



Other Sleep Disorders

Sleep Apnea

Sleep apneas account for a large portion of sleep disorders. Apnea is the word for the absence of respiration. Sleep apnea is the temporary cessation of breathing during sleep and sleep hypopnea is a shallow, rapid breathing during sleep. Either one of these conditions will disturb sleep and could trigger an awakening that results in an insomnia episode. A sleep apnea episode may last 10 seconds or several minutes. It may only be present at sleep onset or may occur throughout the night.

- There are two types of sleep apnea: central apnea and obstructive sleep apnea.
- The central type is where the respiratory center in the brain fails to activate the drive to breathe.
- In obstructive apnea, the upper airway is blocked in some way and a person is not able to breathe fully.
- The blocked airway can be caused by several physical obstructions. One way is by the tongue being too far back in the mouth or a big uvula (the tissue that hangs in the back of the throat).
- Symptoms that signal sleep apneas include loud snoring, choking, coughing, or gasping for breath.
- So, in central sleep apnea, the brain isn't telling the body to breathe. But in obstructive sleep apnea, the brain is telling the body to breathe, and the body tries to breathe, but there's something hindering breathing.

Periodic Limb Movement Syndrome

- Periodic limb movements are the name for leg and sometimes arm twitching that can happen during sleep.
- Leg twitching is usually spaced 10 to 60 seconds apart and each twitch lasts from 1 to 3 seconds. Episodes may last only a few minutes or for several hours.
- Periodic limb movements do not cause any physical harm to a person. However, if one is a light sleeper the twitching may wake them up and could trigger a middle of the night insomnia episode.

- Usually, one wakes after the twitches and therefore does not recognize what caused the awakening. In these instances, one may complain of insomnia or daytime sleepiness.
- There's no precise cause for this condition. Some connection has been found between some antidepressants, poor circulation, folic acid deficiencies and limb twitching.
- Limb twitching has been found to increase with age. By about age 65 it is thought that about 33% people experience some degree of periodic limb movement.

Restless Leg Syndrome

- Restless leg syndrome also happens for many people with periodic limb movement. The main difference between restless leg syndrome and periodic limb movement is timing, with symptoms of restless legs occurring prior to sleep.
- It is described as feeling deep within the leg muscles, sometimes as a tingling sensation, which can only be relieved by movement.
- Some people must get out of bed and "walk off" the sensation before they can sleep.
- Restless Leg Syndrome may also trigger difficulties with falling asleep or insomnia at bedtime. Like periodic limb movement, the exact cause is unknown and there is no specific cure for it.
- Restless leg symptoms also appear to increase with age.

Session 2: Information Review

[Complete and review the answers together]

Let's review your answers.

[Any answers that don't correspond with the above instructions should be reviewed until the patient understands the instructions.]

1) Your sleep drive and circadian rhythm rarely interact or work together. –True **False**

2) Some reasons that sleep is beneficial is that it allows your body to repair itself, helps in memory organization, and supports your immune system. –**True** False

3) As we age, the amount of sleep that we need as well as the amount of time we spend in different sleep stages changes. –**True** False

Session 2: Home Practice

- Your assignment between now and session three is to monitor your sleep habits with your sleep logs.
- Do you have any concerns about doing this consistently?

[Troubleshoot, problem solve, make contingency plans.]

Agenda/Checklist for Session 3: Sleep Hygiene

- ☐ **Introduction**
- ☐ **Sleep Diary Review**
- ☐ **Sleep Assessment Review**
  - ☐ Review Insomnia Severity Index (if applicable)
- ☐ **Homework Compliance Rating Scale**
- ☐ **Sleep Hygiene: Guidelines for Healthy Sleep**
  - ☐ Stop drinking caffeine after noon
  - ☐ Cut down or stop alcohol at bedtime
  - ☐ Cut down or stop nicotine at bedtime
  - ☐ Don’t exercise within 3 hours of bedtime
  - ☐ Make bedroom environment comfortable
  - ☐ Eat a light snack at bedtime
  - ☐ Avoid excessive fluids near bedtime
  - ☐ Winddown before bedtime
- ☐ **Information Review**
- ☐ **Assign Home Practice**
  - ☐ One week of sleep diaries
  - ☐ Sleep Hygiene Guidelines

Session 3:
Sleep Hygiene

Introduction
I hope you found the information in the last session useful. Today, we'll discuss more helpful habits for you to apply to your routine that may improve your ability to sleep.

Sleep Diary Review
First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log, avoiding deep discussion about any single poor night. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you may spend as much extra time as necessary developing a plan to encourage completion.]

Homework Compliance Rating Scale
How did filling out the sleep diary go this week? Any problems?

[record completion percentage below]
[Troubleshoot areas it is obvious they did not follow diary instructions.]

Homework Compliance Rating Scale – Session 3

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

Sleep Hygiene: Guidelines for Healthy Sleep
We're hearing more about insomnia these days because more people are having trouble sleeping than ever before. In fact, it's difficult to watch TV for an hour or two without seeing at least one commercial for some type of sleeping pill. While sleeping pills and be helpful for people who experience only a few nights of poor sleep, the type of treatment component you are going to be learn today is a non-drug treatment known as Sleep Hygiene.

Research has shown that this treatment is effective for people who suffer from insomnia. Unlike most drug treatments for insomnia, Sleep Hygiene has minimal side-effects. We cannot guarantee that this therapy will work for every person, but no drug or non-drug therapy can make that claim. However, based on our experience, individuals who follow the instructions given through Sleep Hygiene are successful and see improvements in their sleep.

Next, we are going to talk about how well you practice good sleep hygiene.

- You've probably heard of dental hygiene, which includes habits like brushing and flossing that improve the health of your teeth and gums.

- Similarly, we use the term "good sleep hygiene," for practices that help improve the quality and quantity of your sleep.
- If we identify areas where you are not following these guidelines, we will try to plan out some changes you can make this week to bring yourself more in line with these suggestions.

Helpful Habit #1: Stop Drinking Caffeine After Noon

Do you currently drink caffeine or caffeinated beverages after noon?

- Caffeine is a mild central nervous system stimulant. Because it is available nearly everywhere and is generally safe to consume, caffeine is used often to reduce daytime sleepiness.
- Your brain naturally produces a chemical called adenosine. Research has shown that this chemical is associated with helping you fall asleep.
- Your body's adenosine levels follow roughly the same cycle as your natural circadian rhythm. The chemical slowly builds up during the day and reaches peak levels at night when you're most sleepy and ready for bed.
- Caffeine has been shown to block your brain's adenosine receptors–which means that it can prevent you from feeling sleepy.
- Although small amounts of caffeine may improve alertness, caffeine lasts for hours in the body and can interfere with quality of sleep. It has been shown to increase time spent in lighter stages of sleep while decreasing time spent in deep, restorative sleep. This means sleep can feel overall less refreshing and satisfying when you wake up in the morning.
- Caffeine is one of the most widely used drugs in the world.
- Caffeine is commonly found in coffee, tea, and some medications. It's also found in foods such as candy bars, chocolate and other beverages such energy drinks and green tea.
- Like other drugs, a tolerance to caffeine and other stimulants can be developed, leading many people to use more caffeine products over time.
- Caffeine and other stimulants can also cause the body to enter the "fight-or-flight" fear response by causing adrenaline to be released. When that response wears off, there can be more fatigue and irritability.

Helpful Habit #2: Cut Down or Stop Alcohol at Bedtime

Do you currently drink alcohol at bedtime?

- Many people think using alcohol is a good long-term solution to their sleeping problem. Because it has sleep-inducing effects, many people drink alcohol if they're having problems sleeping. Alcohol has been shown to reduce the time it takes to fall asleep - this is because alcohol depresses your entire central nervous system.
- Although alcohol may help in the very short term, the techniques described in this treatment are the only proven long-term solution.
- While alcohol can help people fall asleep, this effect wears off after a few hours.
- Research has shown that, after drinking in the evening, the second part of the night consists of lighter sleep and increased dream or nightmare activity. Rapid heart rate or sweating during the night could occur, both of which can also negatively affect sleep. Other more common negative effects of alcohol, including upset stomach, full bladder, or headache could disrupt sleep in the latter part of the night. If other "hangover" effects are severe enough, the next night of sleep can also be disrupted.
- Alcohol consumption in the evening can also increase the occurrence of obstructive apnea events, thus having negative impact on individuals with sleep apnea or other breathing problems. We'll talk more about sleep apnea and breathing problems during sleep in a later

session, but for now, it's just important to know that nighttime breathing problems can get worse after drinking in the evening.
- Cutting down or eliminating alcohol at bedtime will help your sleep get back to normal.

Helpful Habit #3: Cut Down or Stop Nicotine at Bedtime

Do you currently use nicotine or vape near bedtime?

- While nicotine can help you feel relaxed, nicotine is a *stimulant* that activates your mind and body, making it harder to sleep.
- Although the stimulating effects of nicotine vary across people, what they smoke, and the method in which they smoke (e.g., the way they inhale), cigarettes in general increase physiological arousal and make it difficult to fall and stay asleep.

Helpful Habit #4: Don't Exercise Within 3 Hours of Bedtime

Do you currently exercise within 3 hours of bedtime?

- A common belief is that getting tired out from exercising before bedtime will help with sleep.
- However, in addition to maintaining the alertness that exercise requires, exercise can interfere with falling asleep because of the way that it affects body temperature.
- Your body temperature rises and falls throughout the day and is closely tied to your sleep.
- When your body temperature is high, you're most alert and active.
- As your body temperature decreases, you become less active and sleepier.
- This rhythm happens whether or not you got a good night's rest.
- Since it takes your body temperature a few hours to cool down, it's best to exercise at least 3 hours before bedtime.
- This drop in temperature can help you fall asleep and stay asleep longer.
- Exercising in the morning or daytime can help regularize your sleep cycle.
- If you're a very busy person, it can be difficult to schedule exercise.
- As you go through your day, think of creative options for fitting in exercise as early in your day as possible.

Helpful Habit #5: Make Bedroom Environment Comfortable

- Control the temperature so it is comfortable for you.
- If you and your bed partner require different comfort levels, try to develop a compromise that makes you both as comfortable as possible (e.g., electric blankets with dual controls, the person who is cold use more blankets or wear warm pajamas and/or a knit hat to bed).
- Having quiet during your desired sleep time also helps.
- Noises can be masked with background white noise (such as the noise of a fan, a white noise machine, or an FM radio set between stations with the volume turned low), or with earplugs.
- If your bed partner insists on watching TV or listening to music in bed, ask them to use headphones or temporarily move to another room until you get your sleep problem corrected.
- Darkness will also help promote sleep.
- Bedrooms may be darkened with black-out shades or sleep masks can be worn.
- Turn your clock away from your bed since clock-watching can increase worry about the fact that you are not falling asleep as fast as you may want or think you should.

Helpful Habit #6: Eat a Light Snack at Bedtime

- A light bedtime snack such as a glass of warm milk, cheese, or cereal can promote sleep.

- Avoid the following foods at bedtime: peanuts, beans, most raw fruits and vegetables (since they may cause gas), and high-fat foods like potato or corn chips.
- Avoid snacks in the middle of the night since regular "midnight" snacks just teach your body to be hungry at night and will cause you to wake up to satisfy that hunger.

Helpful Habit #7: Avoid Excessive Fluids Near Bedtime

- While it's important to stay hydrated, excessive fluids prior to bedtime can cause you to wake up from the sensation of a full bladder.
- This can then result in you having difficulty going back to sleep.
- Avoid drinking more than one glass (i.e., 8 oz) of fluids within 2-3 hours of bedtime.

Helpful Habit #8: Take at Least 1 Hour to Unwind Before Bed

The brain is not a light switch that you can just turn on and off. Most of us cannot expect to go full speed until 10:00 PM then easily fall asleep at 10:30 PM. It helps to do something to wind down before your planned bedtime. This will also help you be sleepy at your planned bedtime.

What do you currently do during the hour before bedtime?

One very effective way to unwind before bedtime is to create a sleep routine. Sleep routines are things you do before bed that become signals to your body and mind that it's time to wind down and sleep. If you do the same routine before going to bed for a week or two, your mind and body will learn automatically to switch into sleep mode. For example, darkness and quiet are signals that it's time to sleep, so a sleep routine would be to turn down the lights and any forms of auditory stimulation such as music, television, and so on. Let's take some time now to develop a sleep routine to use in the hour before bedtime.

Activities: There are things you can do to help yourself relax before bed, outside of the bedroom. For instance, you could:

- Watch a relaxing TV show/movie
- Read something boring or calming
- Take a warm bath
- Pray or meditate
- Do some light stretching or yoga
- Do a puzzle or put together Legos

Can you think of any other things? Which of these things would you be willing to do?
Remember that your goal is to switch your mind and body into sleep mode.

Environment: There are also several things you can do to cue your body and mind to rest by making your sleeping environment as soothing and comfortable as possible. For instance, you could:

- Dim the lights
- Turn on a box fan, soft relaxing music, or a white noise machine
- Light a scented candle or spray some essential oils

Can you think of any other things? Which of these things would you be willing to do?

Remember: make it your goal to reduce activity and stress before bedtime to help your mind and body switch gears and prepare it for sleep.

Before we move on, do you have any questions?

Information Review

[Give patient the "Post-Session-3 Information Review" to complete then review the answers together]

Let's review your answers.

[Any answers that don't correspond with the above instructions should be reviewed until the patient understands the instructions.]

4) It's a good idea to exercise or do something active that fatigues the body in the hour before you go to sleep. True **False**

5) Alcohol may help you go to sleep initially but it interferes with sleep after the first couple of hours. **True** False

6) Drinking caffeine after noon should have no effect on sleep. True **False**

7) Cutting down or stopping nicotine at bedtime may improve sleep. **True** False

8) Caffeine stimulates the central nervous system. **True** False

9) A light snack at bedtime can interfere with sleep. True **False**

Session 3 Home Practice

- Your assignment between now and session four is to monitor your sleep habits with your sleep logs and to continue to improve your sleep hygiene.
- Do you have any concerns about doing this consistently?

[Troubleshoot, problem solve, make contingency plans.]

Agenda/Checklist for Session 4: Nutrition

- ☐ **Introduction**
- ☐ **Sleep Diary Review**
- ☐ **Sleep Assessment Review**
  - ☐ Review Insomnia Severity Index (if applicable)
- ☐ **Homework Compliance Rating Scale**
  - ☐ **Nutrition Information**
    - ☐ What Is Nutrition?
    - ☐ How Does Nutrition Affect Sleep?
    - ☐ What Is the Best Diet for Sleep?
    - ☐ Does an Unhealthy Diet Affect Sleep Disorders?
    - ☐ How Does Sleep Affect Nutrition?
  - ☐ **Information Review**
- ☐ **Assign Home Practice**
  - ☐ One week of sleep diaries
  - ☐ Sleep Hygiene Guidelines

Session 4: Nutrition

Adapted from Suni & Truong, 2023

Introduction

I hope you found the information and skills in the last session useful. Today, we'll discuss some information about nutrition and health, as well as how they relate to sleep.

Sleep Diary Review

First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log, avoiding deep discussion about any single poor night. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you may spend as much extra time as necessary developing a plan to encourage completion.]

Did you follow your new sleep plan this past week?

- **[Troubleshoot and encourage if necessary. Check in about specific elements of the sleep plan to ensure they are not being skipped.]**

What were the major challenges you faced?

- **[Troubleshoot and encourage if necessary]**

Homework Compliance Rating Scale

I'm going to ask a few questions regarding your assigned homework over the course of the past week.

[record completion percentage below]

[Troubleshoot areas it is obvious they did not follow stimulus control instructions or if you have questions]).]

CBTi-OA Homework Compliance Rating Scale – Session 4

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

2. To what extent did they follow sleep hygiene instructions (avoid caffeine after noon, limiting/stopping alcohol/nicotine in evening, exercise within 3 hours of bedtime, light snack, limit liquids near bedtime)?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Followed most instructions or followed most correctly						Followed completely and accurately

Nutrition Information

It's no secret that both nutrition plays a fundamental role in our health, but the complex and important relationships between nutrition and sleep are frequently overlooked.

Diet and nutrition can influence the quality of your sleep, and certain foods and drinks can make it easier or harder to get the sleep that you need. At the same time, getting enough sleep is associated with maintaining a healthier body weight and can be beneficial for people who are trying to lose weight.

Recognizing the connections between sleep and nutrition creates opportunities to optimize both in order to eat smarter, sleep better, and live a healthier life.

What are your thoughts on nutrition?

What Is Nutrition?

Nutrition is made up of the food and other substances that allow the body to have energy and function properly. Human nutrition is composed of macronutrients, vitamins, and minerals.

- Macronutrients include carbohydrates, protein and amino acids, fats, fiber, and water.
- Vitamins play specific roles in a multitude of bodily processes, and there are 13 essential vitamins.
- Numerous minerals are needed to power different systems of the body. Minerals are classified as either macro minerals or trace minerals depending on how much of them we need.

Proper nutrition requires obtaining a healthy balance of macronutrients and the necessary intake of vitamins and minerals. Most nutrition comes from food, but other sources, like drinks and dietary supplements, are contributors as well.

How Does Nutrition Affect Sleep?

"You are what you eat" may be a cliche, but it reflects the fact that nutrition serves as a backbone for health, providing the energy we need and other inputs that make the body function properly. The links between nutrition and obesity, diabetes, and heart health are well-known, but many people are unaware that their diet can also affect sleep.

What Is the Best Diet for Sleep?

As a general rule, a balanced diet made up largely of a variety of vegetables and fruits is able to provide the recommended daily intake of vitamins and nutrients, contributing to better sleep while promoting a healthy weight.

Because both sleep and nutrition are extremely complex and involve multiple interconnected systems of the body, it is challenging to conduct research studies that conclusively demonstrate a single diet that is best for sleep. Instead, what appears most important is that a person gets adequate nutrition without overconsuming unhealthy foods.

A central role of nutrition is having a high enough intake of a broad range of vitamins and minerals that enable almost all types of bodily systems and processes.

Have you read or heard anything specific about what kind of diet you should follow? Has your doctor recommended that you eat a specific diet?

Growing evidence indicates that sufficient nutrient consumption is important for sleep. One large study found a lack of key nutrients, such as calcium, magnesium, and vitamins A, C, D, E, and K to be associated with sleep problems. While this research does not prove cause-and-effect, it supports the likelihood that diet affects hormonal pathways involved in sleep.

High-carbohydrate meals with high glycemic indexes can also affect one's energy level and sleep quality. It has been well established that high-carbohydrate meals often can make you feel drowsy. High-carbohydrate meals can also impair your sleep quality. In fact, high carbohydrate intake has been shown to increase the number of awakenings at night and reduce the amount of deep sleep you get. It is not a surprise that frequent consumption of energy drinks and sugar-sweetened beverages is associated with poor sleep quality.

Many different types of diets can offer this kind of nutritional balance, and some have been evaluated more closely for how they affect sleep. For example, the Mediterranean Diet, which is plant-based while incorporating lean meats and high-fiber foods, has been found to improve heart health and sleep quality for some people.

The Dietary Approaches to Stop Hypertension (DASH) diet involves reduced salt and saturated fats along with a focus on whole foods with high levels of fiber, potassium, and magnesium. The DASH diet was designed to reduce blood pressure, but research has found that people who closely follow it tend to report better sleep.

While the Mediterranean and DASH diets have shown benefits for sleep, other dietary approaches that balance macronutrients and ensure adequate vitamins and minerals may have similar effects. It's more likely that a focus on whole, quality foods is responsible for the observed benefits of this diet, rather than one "simple trick" or single food item or food group. Further research will be necessary to identify the sleep benefits of different diets and to test the comparative effects of those diets on sleep.

What kind of foods do you already incorporate into your diet that may help your sleep?

Because of the effects of dietary changes on numerous systems of the body, it's important for anyone who is considering starting a new diet to talk with a doctor or nutritionist who can review their nutrition plan and its benefits and downsides in their specific situation. We cannot recommend you start a particular diet without consulting your doctor first.

Does an Unhealthy Diet Affect Sleep Disorders?

Some sleeping problems are directly due to sleep disorders. One of the most serious sleep disorders is obstructive sleep apnea (OSA),which we discussed during Session 2. As a reminder, this is a sleep disorder which includes impaired breathing and can result in numerous nighttime awakenings. Obesity is a key risk factor for OSA, which means that an unhealthy diet that contributes to excess body weight may cause or worsen this sleep disorder. Reducing body weight by as little as 10% can cause OSA to decrease by 50%.

Alcohol is known to worsen obstructive sleep apnea as it further impairs airway muscle tone throughout the night. This leads to increased blockage of the upper airway during sleep.

How Does Sleep Affect Nutrition?

Sleep is essential for the body to function properly. It allows the brain and body to rest and recover, and an increasing amount of evidence points to its role in maintaining proper nutrition and a healthy body weight.
The effect of sleep on weight and body composition may be tied to how it affects appetite and nutrition. Multiple studies have found that people who don't get enough sleep are more likely to increase their food consumption without an equivalent increase in energy expenditure. Making this worse is that sleep deprivation also appears to provoke a tendency to select high-calorie foods that offer less nutritional benefit and create a greater risk of weight gain.

Certain hormones (like leptin and ghrelin) are considered to be driving factors behind these poor nutritional choices associated with sleep deprivation. Other chemicals in the brain that help guide food choices may also be impacted by a lack of sleep. In addition, sleep is known to affect concentration, decision-making, and mood, all of which can play into the types of foods we incorporate into our daily diet.

Lighten Up on Evening Meals
Finish dinner at least 4 hours before bedtime and avoid foods that cause indigestion. If you get hungry at night, snack on foods that (in your experience) won't disturb your sleep.

Eating well can help ensure restful, deep sleep every night. If you have trouble falling asleep or just want to sleep a bit better, there are foods you should incorporate into your diet, and some that you should avoid before bed. Below we review the best and worst foods for sleep, as well as dietary considerations for gastroesophageal reflux disease and insomnia.

Foods rich in tryptophan, carbohydrates, calcium, magnesium, melatonin, and vitamin B6 can all help promote quality sleep. Theses can include items like bananas, almonds, oats, dairy, turkey.

Note. *Information on dietary requirements, allergies, and medications or conditions is variable from patient to patient - highlight the need to consult their doctors if any significant changes occur or questions arise.*

Do you have any questions or thoughts about what we discussed today?

Session 4: Information Review

[Show the "Post-Session 4 Information questionnaire online" Complete and review the answers together]
Let's review your answers.

[Any answers that don't correspond with the above instructions should be reviewed until the patient understands the instructions.]

1) Macronutrients include over 13 essential vitamins and minerals. –True **False**

2) As a general rule, a balanced diet made up largely of a variety of vegetables and fruits is able to provide the recommended daily intake of vitamins and nutrients, contributing to better sleep. –**True** False

3) Carbohydrates are a macronutrient that can help promote sleep/increase sleepiness. –**True** False

4) You should aim to eat very heavy meals close to bedtime in order to make your body as sleepy as possible. –True **False**

5) There is little connection between sleep and nutrition. –True **False**

Session 4 Home Practice

- Your assignment between now and session five is to monitor your sleep habits with your sleep logs and to continue to improve your sleep hygiene.
- Do you have any concerns about doing this consistently?

[Troubleshoot, problem solve, make contingency plans.]

Agenda/Checklist for Session 5: Exercise and Lifestyle

- **Introduction**
- **Sleep Diary Review**
- **Sleep Assessment Review**
  - Review Insomnia Severity Index (if applicable)
- **Homework Compliance Rating Scale**
- **Exercise Information**
- **Lifestyle and Hobbies**
- **Information Review**
- **Assign Home Practice**
  - One week of sleep diaries
  - Sleep Hygiene Guidelines

Session 5: Exercise and Lifestyle

Adapted from Pacheco & Singh, 2023

Introduction

I hope you found the information and skills in the last session useful. Today, we'll discuss some information about exercise and lifestyle that might help you improve your ability to sleep.

Sleep Diary Review

First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you may spend extra time developing a plan to encourage completion.]

[Review each day with patient, focusing on sleep efficiency]

Did you follow your new sleep plan this past week?

- **[Troubleshoot and encourage if necessary. Check in about specific elements of the sleep plan to ensure they are not being skipped.]**

What were the major challenges you faced?

- **[Troubleshoot and encourage if necessary]**

Homework Compliance Rating Scale

How did filling out the sleep diary go this week? Any problems?

[record completion percentage below]

[Troubleshoot areas it is obvious they did not follow stimulus control instructions or if you have questions (e.g., they were up for >30 min at night; ask if they got out of bed and went to another room).]

Homework Compliance Rating Scale – Session 5

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

2. To what extent did they follow sleep hygiene instructions (≥1 hour wind down, avoid caffeine after noon, limiting/stopping alcohol/nicotine in evening, exercise within 3 hours of bedtime, light snack, limit liquids near bedtime)?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Followed most instructions or followed most correctly						Followed completely and accurately

Exercise and Sleep

The relationship between exercise and sleep has been extensively investigated over the years. Previous studies have noted that proper exercise can alleviate sleep-related problems and help you get an adequate amount of rest. Recent research also suggests insufficient or poor-quality sleep can lead to lower levels of physical activity the following day.

For these reasons, experts today believe sleep and exercise have a bidirectional relationship. In other words, optimizing your exercise routine can potentially help you sleep better and getting an adequate amount of sleep may promote healthier physical activity levels during the day.

What kind of exercise/physical activity do you do currently?

What time of day do you typically exercise?

How Does Exercise Impact Sleep?

There are many benefits to exercising regularly. These include a lower risk of diseases like cancer and diabetes, improved physical function, and a higher quality of life. Exercising can also benefit certain groups. For example, pregnant women who engage in routine physical activity are less likely to gain an excessive amount of weight or experience postpartum depression, and elderly people who exercise are at lower risk of being injured during a fall.

Exercising also improves sleep for many people. Specifically, moderate-to-vigorous exercise can increase sleep quality for adults by reducing sleep onset – or the time it takes to fall asleep – and decrease the amount of time they lie awake in bed during the night. Additionally, physical activity can help alleviate daytime sleepiness and, for some people, reduce the need for sleep medications.

Exercise can also improve sleep in indirect ways. For instance, moderate-to-vigorous physical activity can decrease the risk of excessive weight gain, which in turn makes that person less likely to experience symptoms of obstructive sleep apnea (OSA). Roughly 60% of moderate to severe OSA cases have been attributed to obesity.

Numerous surveys have explored sleep and exercise habits among adults. These include the National Sleep Foundation's 2003 Sleep in America poll, which surveyed adults between the ages of 55 and 84.

- Among that survey's respondents, about 52% said they exercised three or more times per week and 24% said they exercised less than once a week. Respondents in the latter group were more likely to sleep less than six hours per night, experience fair or poor sleep quality, struggle with falling and staying asleep, and receiving a diagnosis for a sleep disorder such as insomnia, sleep apnea, or restless legs syndrome.
- The 2013 Sleep in America poll, which surveyed adults between the ages of 23 and 60 and focused on "Exercise and Sleep," produced similar results. Roughly 76-83% of respondents who engage in light, moderate, or vigorous exercise reported very good or fairly good sleep quality. For those who did not exercise, this figure dropped to 56%. People who exercised were also more likely to get more sleep than needed during the work week.

Similar studies and surveys have focused on the effects of exercise for subjects in other demographic groups. One study noted that sleep and exercise are "dynamically related" for community-dwelling older adults. Another study found that regular, mostly aerobic exercise reduced symptoms for people with OSA, even if they didn't lose any weight in the process.

Though the goal of exercise for sleep health shouldn't be to "tire yourself out," it is true that levels of activity during the day impact our circadian rhythms and sleep drive. The more your cells use their "energy currency" to help your body function, the stronger your rest signals will be once it's time to go to bed.

Is It Harmful to Exercise Before Bed?

The question of whether exercise in the hours before bedtime contributes to poor-quality sleep has been hotly debated over the years. Traditional sleep hygiene dictates that intensive exercise during the three-hour period leading up to sleep can negatively impact sleep because it can increase your heart rate, body temperature, and adrenaline levels. On the other hand, some studies have noted exercising before bed may not produce any negative effects.

One survey found that most people who exercise at 8 p.m. or later fall asleep quickly, experience an adequate amount of deep sleep, and wake up feeling well-rested. Respondents who exercise between 4 and 8 p.m. reported similar percentages for these categories, suggesting late-night exercise may benefit some people.

Other studies have yielded similar results. In one, subjects who exercised in the evening reported more slow-wave sleep and increased latency for rapid eye movement sleep compared to the control group, as well as less stage 1 (or light) sleep. However, researchers also noted that a higher core temperature – which can occur after intensive workouts – was associated with lower sleep efficiency and more time awake after sleep onset. So, while exercising before bedtime may not be inherently harmful, vigorous workouts in the hour leading up to bed can affect sleep efficiency and total sleep time.

That said, some surveys have found most people do not exercise in the hour before bedtime. One example is the National Sleep Foundation's 2005 Sleep in America poll, which surveyed adults 18 and older. Of these respondents, 4% said they exercised within an hour of bedtime on a nightly basis, 7% said they did so a few nights a week, and 5% said they exercised before bed a few nights per month. The remaining respondents either rarely or never exercised an hour before bedtime or refused to answer.

Since survey results among people who exercise late at night have been variable, you should base your exercise times and intensity on what best suits your sleep schedule. Certain exercises may be more beneficial for sleep than others. These include yoga, light stretching, and breathing exercises.

How Does Sleep Impact Exercise?

The role sleep plays in our physical activity levels has not been studied as thoroughly, and much of the research has focused on differences in physical activity between people with sleep disorders and healthy individuals.

However, most of these studies have concluded that those who experience poor sleep are less active than those with healthy sleep cycles. In particular, people with certain sleep disorders are not as likely to exercise during the day. Adults with insomnia tend to be less active than those without insomnia. Some studies have noted that nightly shifts in sleep quality, latency, and efficiency can be used to predict physical activity levels. For example, one study found that a 30-minute increase in sleep onset was associated with a one-minute decrease in exercise duration the next day.
A person's preference for morning or evening activity may also play a role. People who are early risers or "morning people" are more likely to engage in physical activity than those who sleep in or are more

active in the evening. In fact, some studies have suggested that exercise can essentially alter one's diurnal preference over time, and may even shift their circadian rhythms.

Although many studies to date have established a relationship between high-quality sleep and healthy physical activity levels, the research to date has not conclusively proven that better sleep leads to an increase in physical activity levels.

One series of studies noted that one to six months of continuous positive air pressure (CPAP) therapy – a first-line treatment for OSA – did not have any noticeable effect on a person's physical activity levels, even though the therapy alleviated OSA symptoms and promoted better sleep. Another study explored the effect of CPAP therapy combined with modified eating habits. At the conclusion of this study, the subjects had successfully retooled their dietary patterns but had not adjusted their physical activity levels to a meaningful degree.

The takeaway here is that a good night's sleep can help you feel well-rested and more motivated to exercise the following day, but healthy sleep alone may not be enough to spontaneously change how and how often you engage in physical activity.

What sort of exercise could you see yourself incorporating to support your health and sleep? What sort of routine do you think you might continue or start?

REMEMBER: Before starting a new exercise routine, we recommend talking to your doctor first!

Lifestyle and Hobbies

Now I'd like to talk about some things that you enjoy doing and hobbies that you engage in.

What types of hobbies do you have?
Do you do those with others or alone?
When and how often do you do those things?

Having activities that you find engaging and pleasurable can support a well-rounded and healthy lifestyle. They can also make getting out of bed in the morning more enjoyable.

Session 5: Information Review

[Show the "Post-Session 5 Information questionnaire online" Complete and review the answers together]

Let's review your answers.

[Any answers that don't correspond with the above instructions should be reviewed until the patient understands the instructions.]

1) Insufficient or poor-quality sleep has no effect on levels of physical activity the following day. –True **False**

2) Most people exercise in the hour before bed, so the research is very clear on the helpfulness of doing so. –True **False**

3) All types of exercise (e.g., mild, or vigorous) are equally beneficial to participate in within a few hours before your bedtime. –True **False**

4) Certain exercises, like yoga, light stretching, and breathing exercises, may be more beneficial for sleep than other types. –**True** False

5) Having activities that you find engaging and pleasurable can support a well-rounded and healthy lifestyle. –**True** False

Session 5 Home Practice

- Your assignment between now and session six is to monitor your sleep habits with your sleep logs and to continue to improve your sleep hygiene.
- Do you have any concerns about doing this consistently?

[Troubleshoot, problem solve, make contingency plans.]

Agenda/Checklist for Session 6: Review and Wrap Up

- **Introduction**
- **Sleep Diary Review**
- **Sleep Assessment Review**
  - Review Insomnia Severity Index (if applicable)
- **Homework Compliance Rating Scale**
- **Review of Previous Sessions**
- **Revisiting Information**
- **Going Forward**

Session 6:
Review and Wrap Up

Introduction

I hope you found the information and skills in the last session useful. Today, we'll review the information presented over the course of this treatment, and revisit anything you'd like to talk about before we wrap up.

Sleep Diary Review

First let's review your sleep diary.

[Praise the patient for completing the sleep log. Review the sleep log. Discuss any questions and troubleshoot any difficulties with completion. If the participant did not complete the sleep log at all, you may spend extra time developing a plan to encourage completion.]

[Review each day with patient, focusing on sleep efficiency]

Did you follow your new sleep plan this past week?

- **[Troubleshoot and encourage if necessary. Check in about specific elements of the sleep plan to ensure they are not being skipped.]**

What were the major challenges you faced?

- **[Troubleshoot and encourage if necessary]**

Homework Compliance Rating Scale

I'm going to ask a few questions regarding your assigned homework over the course of the past week. How did filling out the sleep diary go this week? Any problems?

[Administer Homework Compliance Rating Scale for Session 6]

[Troubleshoot areas it is obvious they did not follow stimulus control instructions or if you have questions (e.g., they were up for >30 min at night; ask if they got out of bed and went to another room).]

Homework Compliance Rating Scale – Session 6

1. To what extent did they complete the sleep diary?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Completed about half of expected days						Completed all expected days

2. To what extent did they follow sleep hygiene instructions (≥1 hour wind down, avoid caffeine after noon, limiting/stopping alcohol/nicotine in evening, exercise within 3 hours of bedtime, light snack, limit liquids near bedtime)?

0%	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
Did not attempt				Followed most instructions or followed most correctly					Followed completely and accurately	

Review of Previous Sessions

We discussed a lot of information in the past few weeks! I hope you have found it valuable in addressing your sleep concerns. What, if any, improvements have you seen with your sleep during this treatment?

During our first session together, we talked about your past experiences and medical history to try to get a better understanding of your sleep when you started treatment.

In our second session, we discussed sleep basics and the basics of insomnia. We talked about how our sleep needs change over our lifespan. We also investigated Process S (our sleep drive) and Process C (our circadian rhythm) and how they work together to regulate our sleep patterns. We also talked about some predisposing, precipitating, and perpetuating factors of insomnia that can make it more likely that we develop sleep problems, start the problems, and even maintain those problems over time.

In our third session, we discussed sleep hygiene, or the habits that we have that can improve or worsen sleep. We discussed avoiding caffeine after noon, limiting/stopping alcohol/nicotine in evening, no exercise within 3 hours of bedtime, having a light snack, limiting liquids near bedtime, and making our bedroom environment cool, dark, quiet, and comfortable.

In the fourth session, we discussed how nutrition and diet impact our sleep habits, and how maintaining a balanced diet full of macro and micronutrients can support our health and our sleep.

In the fifth session, we discussed the impact that exercise and other lifestyle factors have on our sleep, once again seeking a balanced and active lifestyle to support our health.

What questions or comments do you have about these topics?

Revisiting Information

Are there any topics in particular that you'd like to revisit or discuss in more detail?
[refer to appropriate patient/therapist materials on desired topics]

Going Forward

- Some of these new habits will be more important to maintaining good sleep than others. It all depends on what works for you. Things like maintaining a healthy diet and activity level may be longer-term changes, while addressing caffeine use may not be.
- You don't have to keep tracking your sleep on the sleep log now that you're done with treatment. However, if your insomnia comes back or worsens in the future it can be helpful to start using the sleep log again to help you get back on track.

What to do if Insomnia Returns

- Insomnia is a chronic illness and may return, especially during times of stress.
- Remember, there are a lot of factors that go into a bout of insomnia.
    - Perhaps there is a new stressor in your life.
    - Perhaps you are not following healthy sleep habits as closely as before.
    - It is likely a combination of factors.
    - To prevent mistakes or "relapses" from getting out of control, remember to go back and start practicing the components we've discussed.

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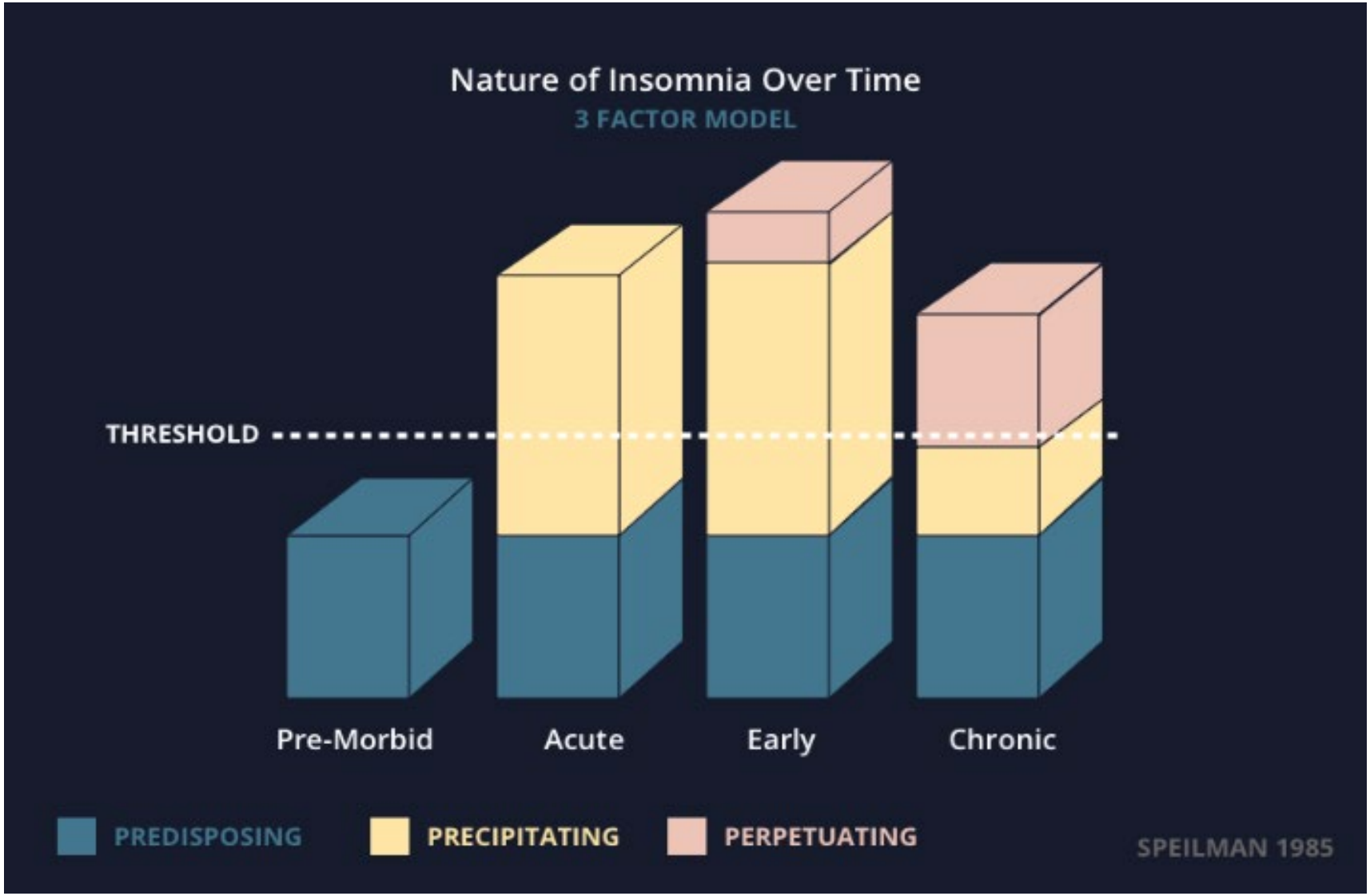
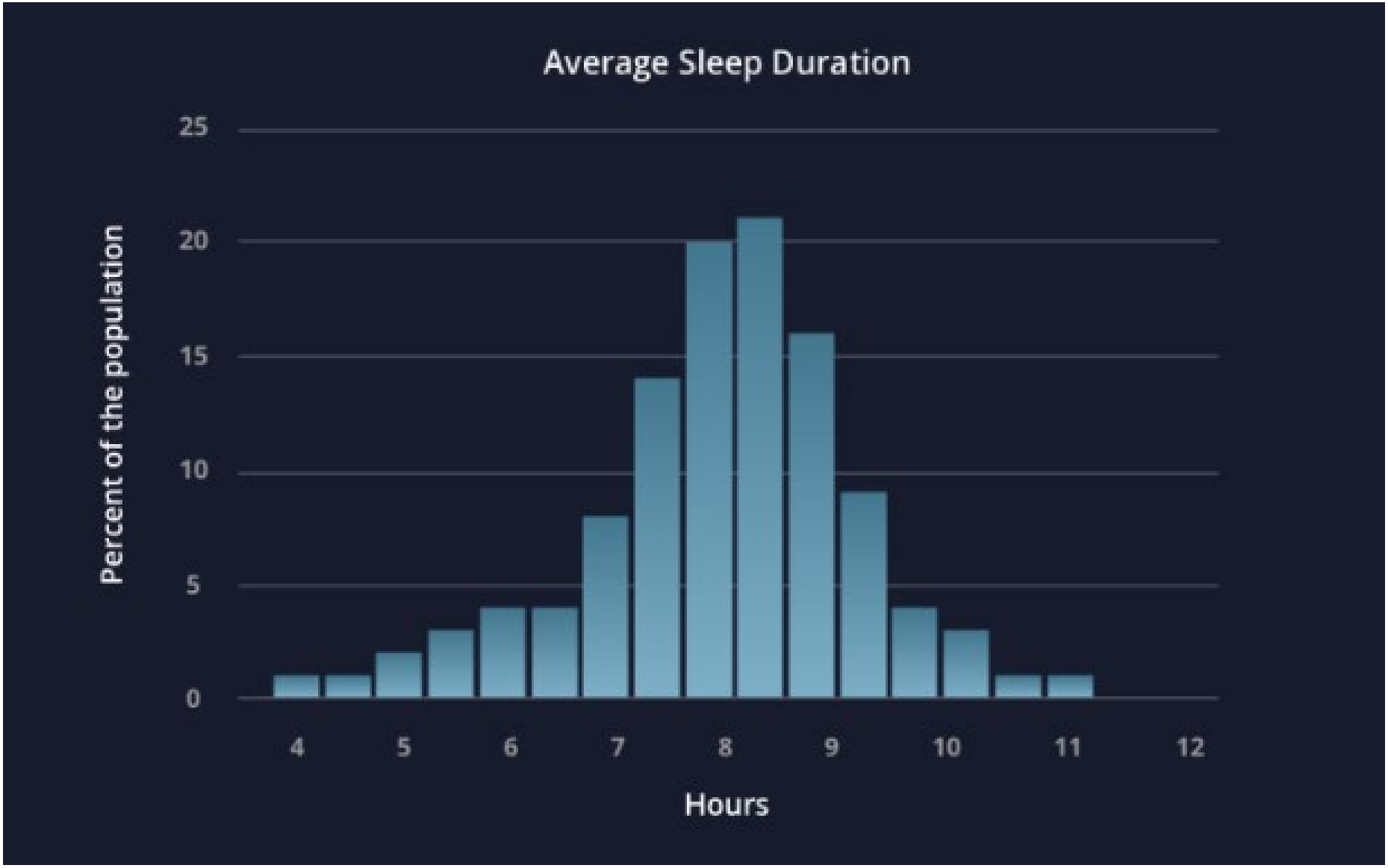
All figures and images adapted from Proactive Life, Inc. (DBA SleepSpace), New York, NY, United States (Mueller, M).

Appendix A:
Full-Size Figures

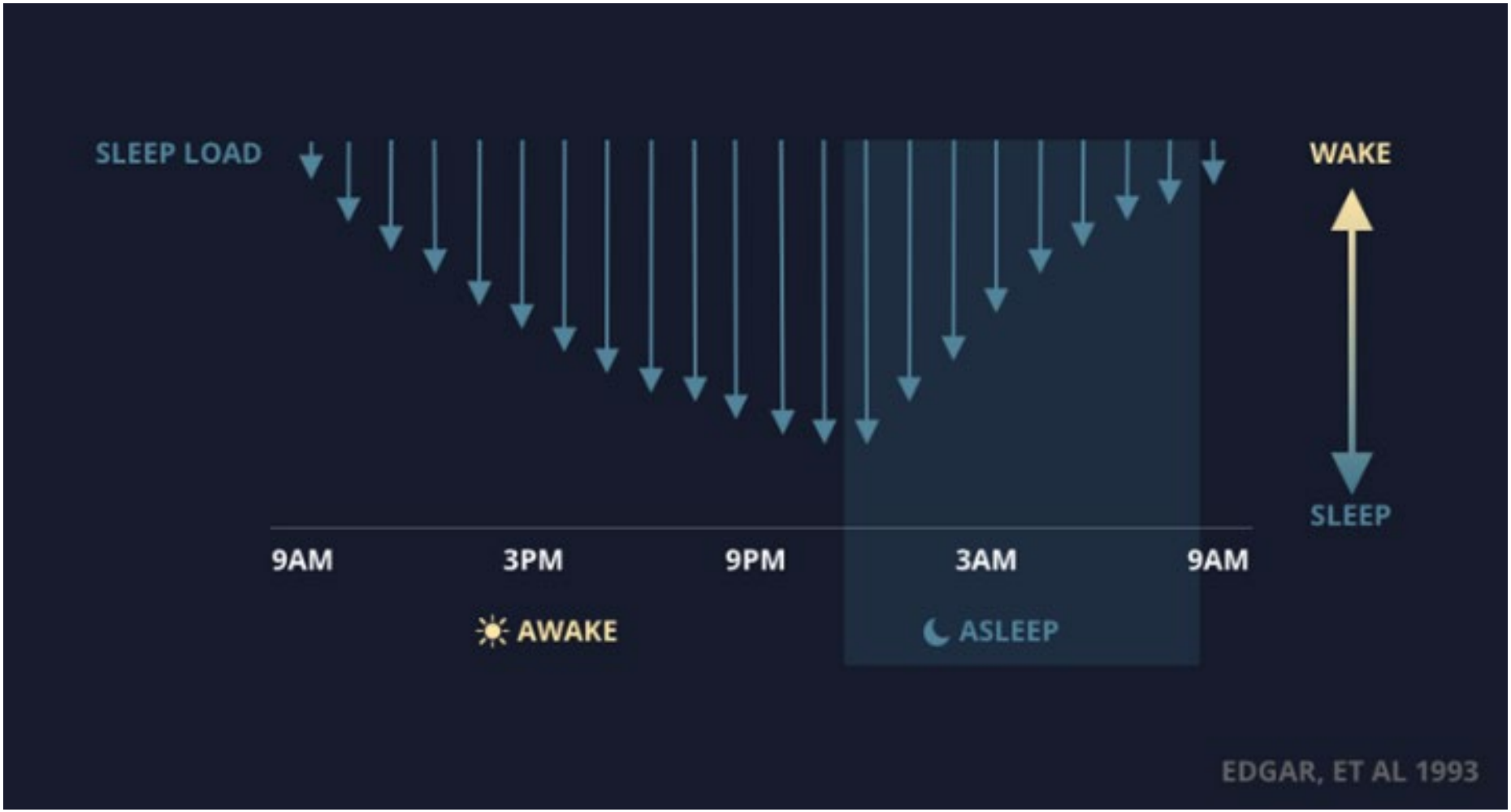
The Three “P” Model



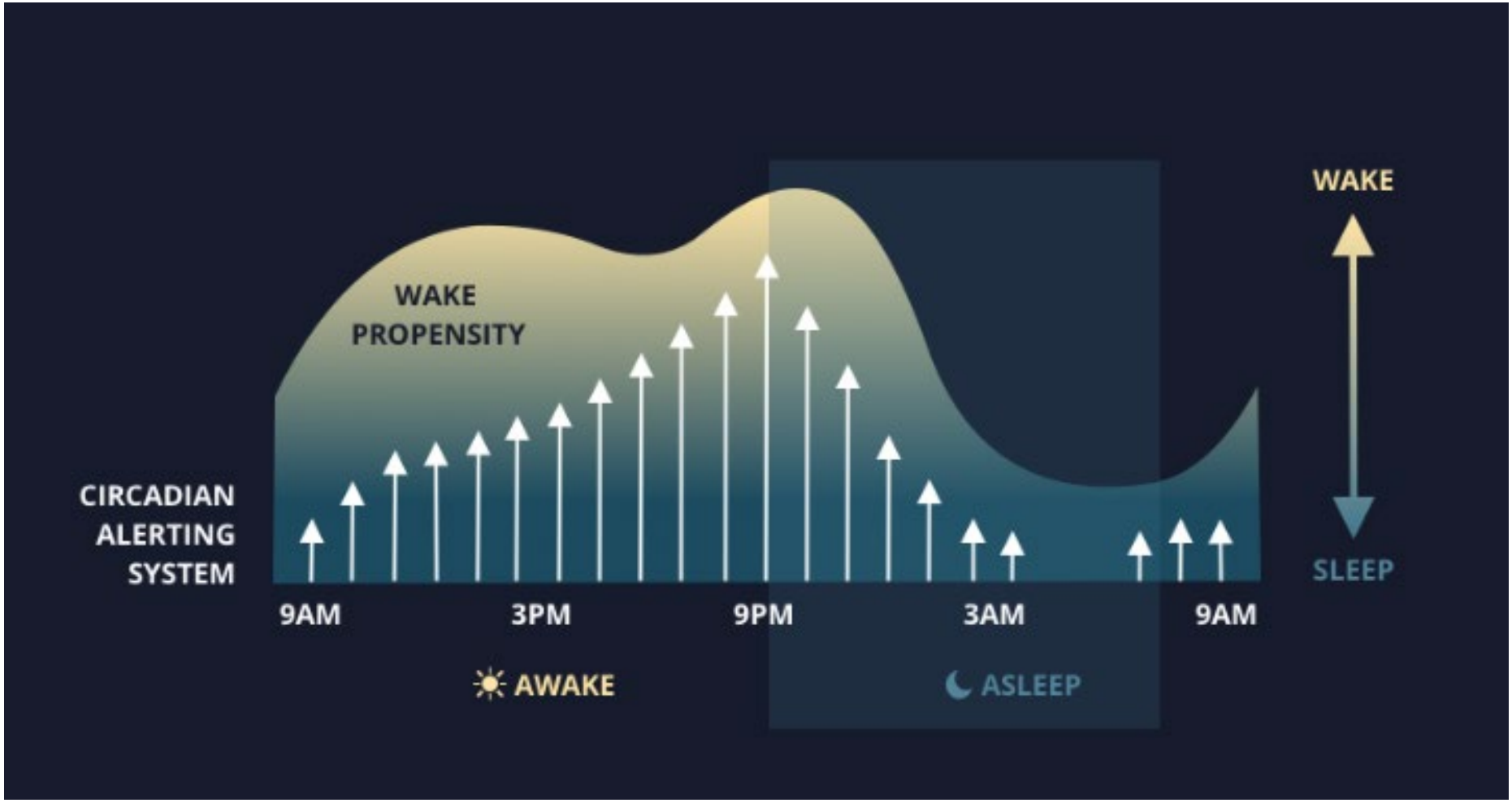
Homeostatic Process: Sleep Need



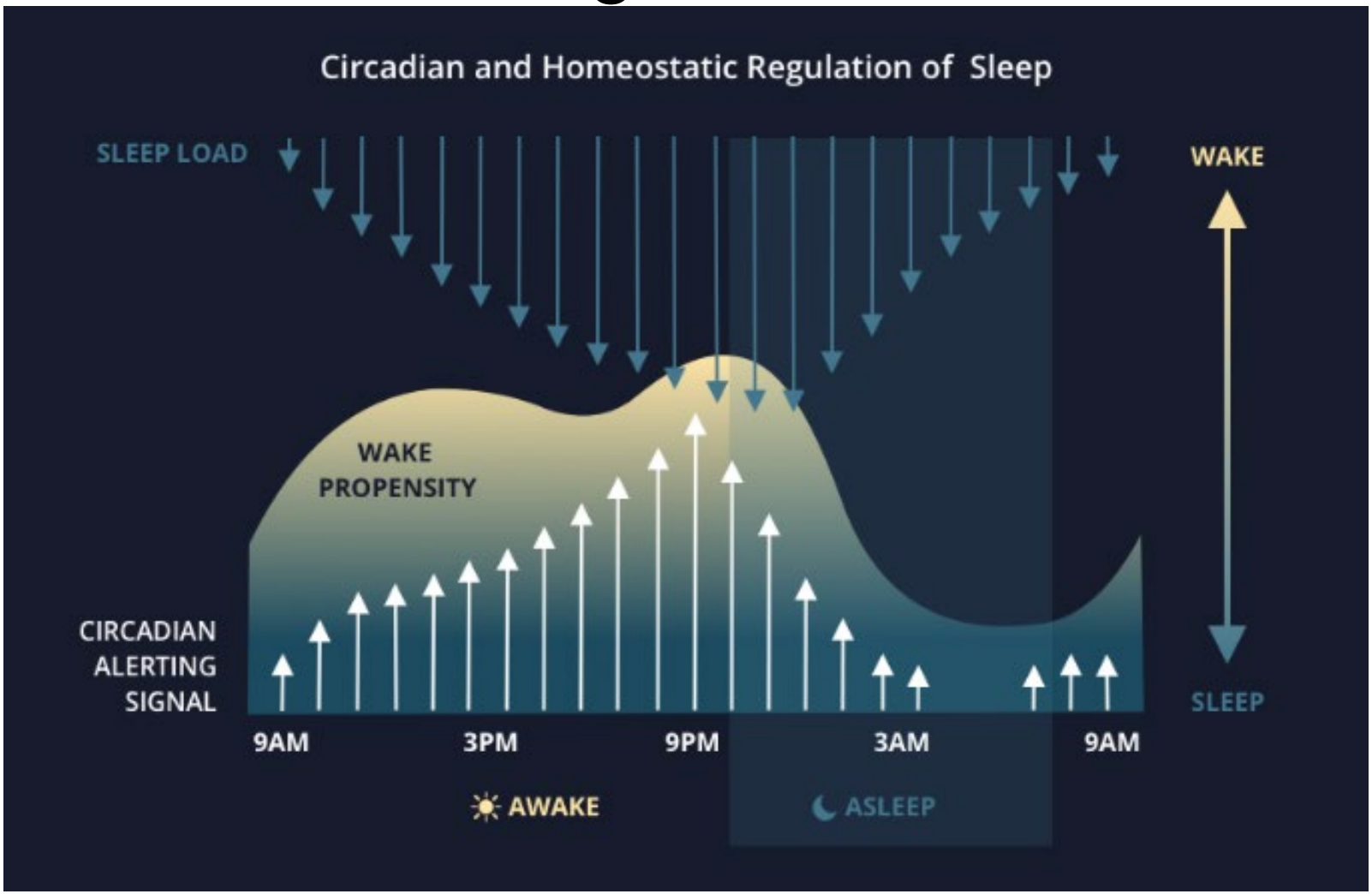
Homeostatic Process: Sleep Drive



Circadian Process



Sleep Drive and Circadian Process Work Together



Sleep Changes Across the Lifespan