



Sleep Hygiene

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Fresh Rx March 2026

Pillars of Lifestyle Medicine



Nutrition

Evidence supports the use of a whole food, plant-predominant diet to prevent, treat and reverse chronic illness.



Physical Activity

Regular, consistent physical activity is an important part of overall health and resiliency.



Stress Management

Managing negative stress can lessen anxiety, depression and immune dysfunction and leads to improved well-being.



Restorative Sleep

Improving sleep quality can improve attention span, mood, insulin resistance and can reduce hunger, sluggishness and more.



Social Connection

Positive social connections have beneficial effects on physical, mental and emotional health.



Avoidance of Risky Substances

Use of tobacco and excessive alcohol consumption have been shown to increase risk of chronic diseases and death.

Why Do We Need Sleep?

- ▶ Improves memory and learning
- ▶ Helps regulate emotions
- ▶ Dreams help with creativity and to process painful memories
- ▶ Boosts immune system, microbiome, lowers blood pressure
- ▶ Regulates glucose and appetite
- ▶ Glymphatic system
 - ▶ drainage system for brain
 - ▶ clears waste products (including beta-amyloid) during sleep

How Much Sleep is Enough?

- ▶ Sleep time that allows a person to be wide awake, alert, and energetic throughout the day
 - ▶ After waking up in the morning could you fall back asleep at 10am?
 - ▶ If you didn't set an alarm would you keep sleeping for a long time?
 - ▶ Are you having trouble remembering what you just read or saw?
- ▶ National Sleep Foundation recommends adults get 7-8 hours per night
- ▶ 2/3 of adults don't get enough sleep
- ▶ 5-8% of adults are “long sleepers”-need >9 hours per night
- ▶ 5% are functional “short sleepers”-need less than 6 hours per night

Risks of Not Getting Enough Sleep

- ▶ Weight gain
- ▶ Worse control of blood glucose (sugar)
- ▶ Car accidents; 1 traffic death per hour in US caused by drowsy driving (more than alcohol and drugs combined)
- ▶ Dementia
- ▶ Depression, anxiety
- ▶ Heart disease
- ▶ High blood pressure
- ▶ Inflammation
- ▶ Higher risk of infections

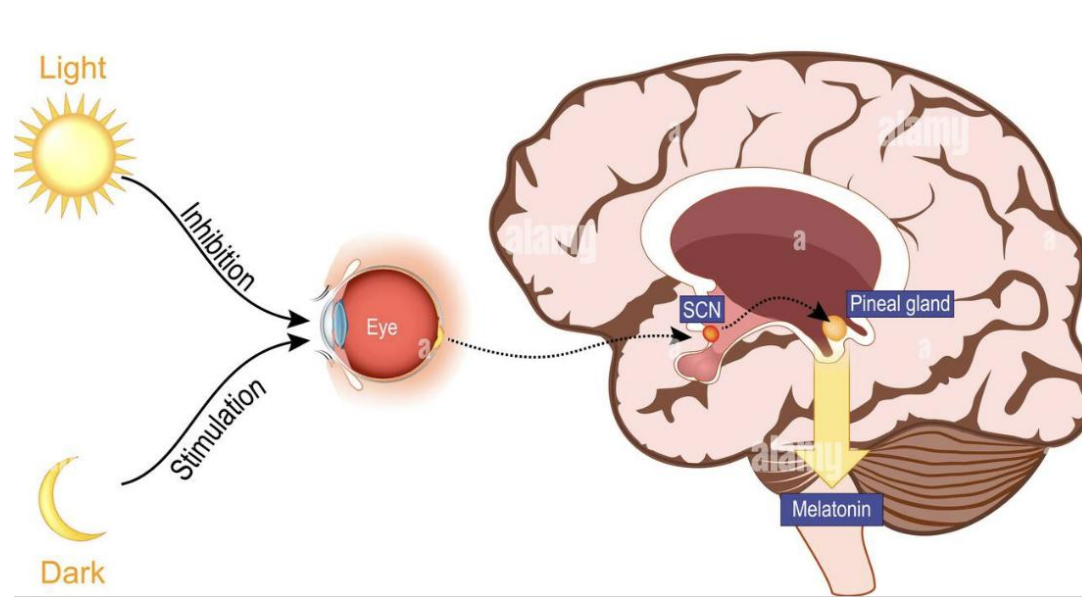
Sleepiness: Adenosine

- ▶ Adenosine is a brain chemical that increases during the day, highest at bedtime; makes you feel sleepy
- ▶ During sleep, brain removes adenosine so you feel awake in the morning
- ▶ Reduced by sleeping (napping in evening makes it hard to sleep at bedtime)
- ▶ Caffeine affects how brain reacts to adenosine (why coffee keeps you awake)
- ▶ When you don't sleep enough, adenosine levels stay high all day so you feel tired

Circadian Rhythms

- ▶ Powerful internal clock that affects sleep/wake pattern and how you feel
- ▶ How can you help this clock work well?
 - ▶ Exposure to light during the day
 - ▶ Try to have a regular schedule for bedtime and waking up every day

Melatonin



- ▶ Night darkness leads brain to release melatonin; helps you fall asleep (doesn't help you stay asleep)
- ▶ Level drops during sleep
- ▶ Causes warming of hands and feet and cooling of core body temperature and signals body to sleep
- ▶ Blue light (from phones and tv and computer screens) can interfere with melatonin release
- ▶ Production decreases as you get older

Melatonin Supplements

- ▶ Helps some people fall asleep if taken in early evening (when not expected by body)
- ▶ not regulated, many have contaminants
- ▶ Higher doses not more effective (more side effects)
- ▶ Can interact with other medications so check with your primary care provider before taking
- ▶ Foods with melatonin can be better option (will discuss at end of presentation)

Sleep Hygiene

- ▶ What are some things you can do to sleep better?

Sleep Hygiene

- ▶ Go to bed and get up at the same time (bedtime alarm)
- ▶ Quiet, dark, cool bedroom
- ▶ Avoid eating before bed
- ▶ Go to bed only when tired
- ▶ No screen time or eating in bed
- ▶ If you can't fall asleep after 15-20 minutes, leave room and only return when tired
- ▶ Exercise (not just before bedtime)
- ▶ Avoid caffeine after noon
- ▶ Avoid alcohol before bed
- ▶ Don't nap after 3pm
- ▶ Relaxing bedtime routine
- ▶ Warm bath/shower
- ▶ Sunshine exposure at least 30 minutes daily

What is Insomnia?

- ▶ Most common sleep problem
- ▶ More common in women than men
- ▶ When you can't sleep well even when you spend 7-9 hours in bed
- ▶ Can be a problem falling asleep or staying asleep or waking up too early

Insomnia Treatment: CBT-I

- ▶ Best first choice treatment for insomnia (better than medicine)
- ▶ Identify negative attitudes/beliefs that interfere with sleep and replace with positive thoughts
- ▶ Reinforce helpful sleep habits and discourages unhelpful behaviors
 - ▶ Sleep hygiene
 - ▶ Can include sleep restriction technique
- ▶ 6-8 weekly sessions individual or group—based (National Sleep Foundation)
- ▶ Free app CBT-I Coach

Sleep Apnea

- ▶ Sleep disorder when people stop breathing during sleep, blocked airway
- ▶ Symptoms:
 - ▶ Night-time: loud snoring, stop breathing during sleep, wake up frequently
 - ▶ Day-time: headache, tired, feeling grumpy, hard to concentrate
- ▶ Who is at risk?
 - ▶ Family history, heart disease, large tonsils, obesity, more common in men than women
- ▶ Complications: atrial fibrillation, high blood pressure, heart failure, harder to control blood sugar
- ▶ Treatment: weight loss, stop smoking, oral appliances, CPAP, surgery
- ▶ Talk to your PCP if you think you might have sleep apnea (sleep study needed)

Supplements for sleep

- ▶ Lemon verbena helped with insomnia in some trials
- ▶ Chamomile can improve sleep quality
- ▶ Vitamin D can improve sleep quality and duration
- ▶ Lavender scent; small effect
- ▶ Talk to your PCP!! Supplements can interfere with medicines and aren't regulated



Prescription sleep medications

- ▶ Mostly help to fall asleep faster
- ▶ Quality of sleep isn't as good as natural sleep
- ▶ side effects: memory loss, next day feeling tired, slow reaction times
- ▶ Many are addictive
- ▶ Some can cause insomnia when you stop taking them
- ▶ Association with falls at night, infection, cancer, fatal car crashes, heart attack, stroke, premature death
- ▶ ***Talk with your PCP about medicines as sometimes they are needed

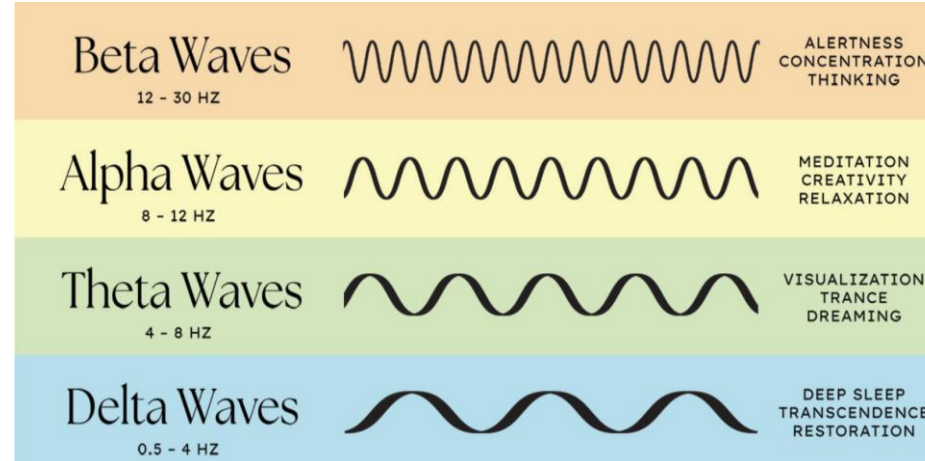
Napping

- ▶ Short naps 15-30 minutes fine if very sleepy
- ▶ Best time to nap is 7-9 hours after morning wake up time (mid-afternoon)
- ▶ Nap at same time each day if possible
- ▶ Nap in bed (associate bed with sleep) and set alarm to avoid sleeping too long
- ▶ Avoid if have insomnia



Non-Sleep Deep Rest (NSDR)

- ▶ Benefits of Yoga Nidra:
 - Improved sleep and overall well-being
 - Reduced stress, anger, anxiety, and depression
 - Lower blood pressure
 - Increased immune function and reduced inflammation
 - Less tension headaches and pain
 - Boosts energy/alertness



Physical Activity and Sleep

- ▶ Exercise 4-8 hours before bedtime can help with sleep
 - ▶ Fall asleep faster
 - ▶ Wake less in middle of night
- ▶ Can increase levels of adenosine which helps with sleep
- ▶ Improves quality of sleep
- ▶ Gentle stretches before bed can be helpful
- ▶ People exercise less after bad night of sleep



Risky Substances and Sleep

- ▶ Caffeine
 - ▶ Lowers adenosine so you don't feel tired
 - ▶ Stays in your system for more than 5 hours, longer in older people
 - ▶ Decaf coffee still has some caffeine (don't drink at night)
- ▶ Alcohol: can help you fall asleep but less deep sleep; avoid within 3 hours of bedtime
- ▶ Nicotine: Don't smoke! Can keep you awake at night

Stress Reduction and Sleep



- ▶ Gentle yoga
- ▶ Relaxing music
- ▶ Gratitude journal
- ▶ Worry journal
- ▶ Breathing exercises (box breath, belly breathing, longer exhales)
- ▶ Mindfulness/meditation

Bedtime Meditation/Breath Practice



Nutrition and Sleep

- ▶ Sugary foods and eating a lot of meat can cause worse sleep
- ▶ Avoid late night eating, especially large meals close to bedtime; can lead to indigestion or reflux which interfere with sleep
- ▶ Ideally stop eating 2-3 hours before bedtime
- ▶ If at risk for low blood sugar, a small snack with protein and fiber ok between last meal and bedtime (nuts, apple with peanut butter, hummus and cut vegetables)
- ▶ Not sleeping enough makes you hungrier and can cause weight gain

Snack Before Bed?

- Tryptophan a protein found in certain foods is sleep promoting
- Nuts, seeds, bananas, honey, eggs and milk are high in tryptophan.
- Calcium may play a role in sleep
- Magnesium (in almonds and bananas) may play a role also.



Melatonin: Food Sources

- ▶ Fruit: tart cherries, bananas, grapes
- ▶ Orange bell peppers
- ▶ Mushrooms
- ▶ Tomatoes
- ▶ Nuts: pistachios, walnuts, almonds
- ▶ Flax seed
- ▶ Spices: fenugreek, mustard seeds
- ▶ Fatty Fish: salmon, sardines



Golden Milk

Almond, soy and cow milk all have tryptophan

Spices: increase melatonin, help with digestion, reduce inflammation:

- Cinnamon (increases melatonin)

- Cardamom (phytomelatonin)

- Turmeric (less inflammation)

- Ginger (aids digestion)

- Cloves (decrease pain)



SMART Goals

- ▶ Specific - What are you going to do?
- ▶ Measurable - How often/for how long? Able to track progress
- ▶ Achievable - Do you have what it takes to follow through?
- ▶ Realistic - What can you actually do? (improvement over perfection)
- ▶ Time-Bound - How frequent? How long will you commit?