



A Good Night's Sleep Participant's Guide

"Sleep is better than
medicine."
--- English Proverb

"The beginning of health
is sleep."
--- Irish Proverb

"Disease and sleep keep
far apart."
--- Welsh Proverb

Sleep problems can be a serious threat to one's health, safety, and quality of life. Sleep disturbance is a common and complex problem, particularly in older adults. Sleep disorders can range from the merely time-limited and annoying to the potentially life-threatening.

Why do we sleep? The answer to this question is still unknown, but research has provided many theories. Sleep may boost memory and learning, enable mental processing and help new memories become integrated into old memories.

5 Phases of Normal Sleep:

Many people think of sleep as a passive activity, but actually our brains are very active. Nerve-signaling chemicals cause many changes during sleep time.

Prior to Stage 1: relaxed, drifting thoughts, Alpha brain-wave pattern

Stage 1: light sleep, drift in and out of sleep, and can be awakened easily, breathing and heart rates slow, muscle activity slows. Theta brain-wave pattern. Sudden muscle movements, e.g. "sensation of falling" can happen in this phase. About 5% of sleep time.

Stage 2: still more relaxed, light sleep, eye movements stop, brain waves become slower, physical energy is restored. About 50% of sleep time.

Stage 3: Extremely slow brain waves called Delta waves begin to appear, interspersed with smaller, faster waves.

Stage 4: The brain produces Delta waves almost exclusively. It is very difficult to wake someone during stages 3 and 4, which account for 20-25% of sleep time and are considered deep sleep. There is no eye movement or muscle activity. Persons awakened at this stage will be groggy and disoriented, and may not remember being awakened. This is restorative sleep, and more of this type of sleep occurs during the first half of the night.

Stage 5: REM (rapid eye movement) sleep. Breathing becomes more rapid, irregular and shallow, large muscles become temporarily paralyzed. Information is processed and stored, dreams occur, and brain wave patterns are similar to those seen during wakefulness. Stimulation of the brain regions used in learning occurs. About 20-25% of sleep time.

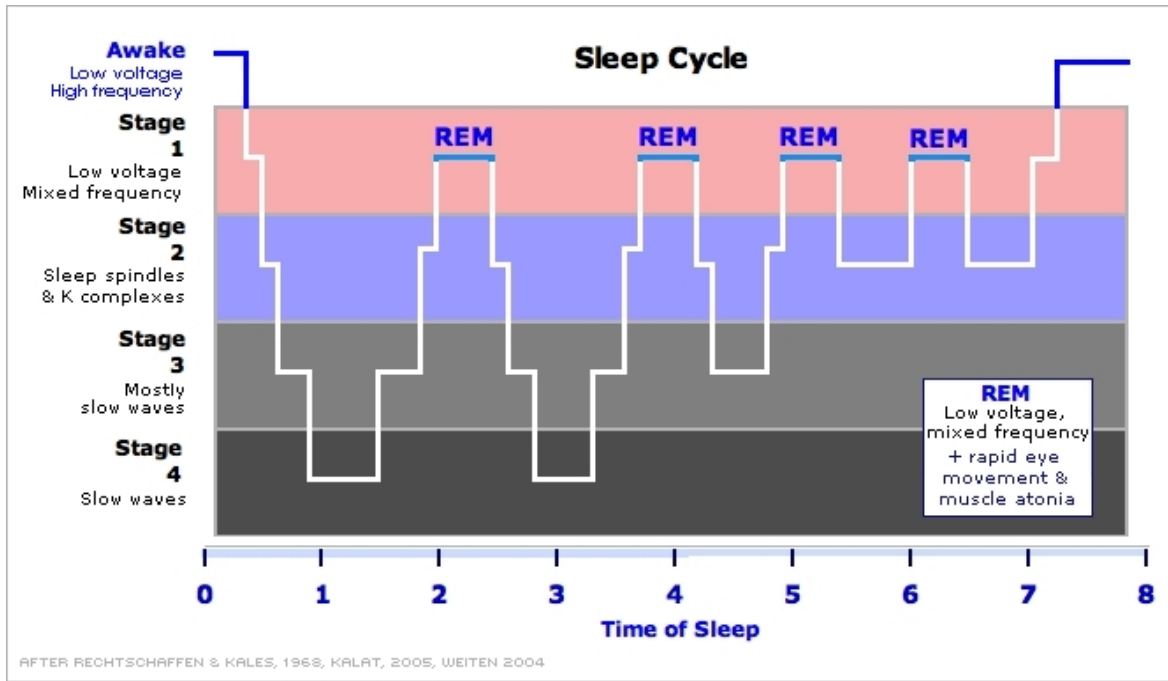


Chart from

<http://web.lemoyne.edu/~hevern/psy340/lectures/psy340.09.02.stages.sleep.html>

Sleep Cycles

We cycle through the 5 stages in about 90 minutes, and may repeat the cycle four to six times during sleep time. During the first half of sleep time we experience deeper sleep, with stages 3 and 4 stages lasting longer and stage 5 only a few minutes during each cycle. The second half of sleep time has lighter sleep and more dreaming, stage 5 REM cycles can last up to an hour. Waking briefly several times during the night is normal and it often happens during the shift to a different sleep cycle.

Sleep Disorders

The most commonly identified sleep disorders are

- Obstructive Sleep Apnea
- Restless Leg Syndrome

- Insomnia
- Narcolepsy
- Circadian Rhythm Sleep Disorders
- Disturbing Parasomnias (nightmares, hallucinations, sleep terrors)
- Sleepwalking and Sleep Talking

Rate Your Sleep

Read the statements below and answer true or false for each one. If you answer true more than twice, you may want to discuss your sleep problem with your healthcare professional.

- | | | |
|--|------|-------|
| 1. I feel sleepy during the day, even when I get a good night's sleep. | True | False |
| 2. I get very irritable when I can't sleep. | True | False |
| 3. I often wake up at night and have trouble falling back to sleep. | True | False |
| 4. It usually takes me a long time to fall asleep. | True | False |
| 5. I often wake up very early and can't fall back to sleep. | True | False |
| 6. I usually feel achy and stiff when I wake up in the morning | True | False |
| 7. I often seem to wake up because of dreams. | True | False |
| 8. I sometimes wake up gasping for breath. | True | False |
| 9. My bed partner says my snoring keeps him/her from sleeping. | True | False |
| 10. I've fallen asleep while driving. | True | False |

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Understanding Some Definitions

Sleep medicine is developing scientific field with much more to be learned. There is scientific disagreement about some aspects of sleep science. With that disclaimer, it might be helpful to understand a couple of concepts that have been developed by Dr. William C. Dement, a pioneer of sleep medicine research, along with other researchers in the field.

Homeostasis -- our body's ability to maintain internal stability -- is an important component of sleep regulation. When our prior night time sleep has been reduced, the body tries to maintain balance by increasing our tendency to fall asleep the next day. When we get "extra sleep", we are less likely to become drowsy the next day and we may not sleep as deeply the next night. The term **sleep debt** refers to the accumulated amount of lost sleep. While we all accumulate some sleep debt every day during our waking hours, at times our sleep debt can become too large. If a person becomes drowsy during the day, it is probable that they have a sizeable sleep debt.

The good news is that some research suggests that the accumulated sleep debt can be worked down or "paid off." This can be done by adding small amounts of sleep each night. For people with insomnia, this can be challenging, but cognitive-behavioral therapy for insomnia (CBT-I) may be helpful. **Sleep latency** is defined as the amount of time it takes to fall asleep, once a person is in bed and the lights are out. If a person tosses and turns and has trouble drifting off to sleep, they have a large sleep latency. **Sleep efficiency** is calculated by comparing the number of hours of sleep to the number of hours spent in bed. A goal is to have 90% or more of the time in bed spent sleeping. **Sleep hygiene** is the practice of following simple guidelines to ensure restful, effective sleep. Some of the suggestions in the following section suggest ways to reduce the amount of sleep latency as much as possible.

Sleep Hygiene Strategies

Timing

- Go to bed and get up at the same time each day, even on the weekends. Sticking to a schedule helps reinforce your body's sleep-wake cycle and can help you fall asleep better at night. Avoid "sleeping in" as an attempt to make up for lost night time sleep.
- If possible, avoid napping during the day. If you must nap, keep it to 30 minutes or less and do it in the early afternoon.
- Don't be awake in bed. If you are still tossing and turning after 20 minutes, get up, go to another room, keep lights low, and do something boring like reading something uninteresting or working a puzzle. When you feel sleepy again, return to the bed.

The Bedroom

- Keep the bedroom peaceful and comfortable. Make sure the room is well ventilated and the temperature consistent and cool.
- Keep the bedroom as dark as possible and avoid lighted alarm clocks and night lights close to the bed. If necessary, use a sleep mask to block street or yard lights.
- Restrict bedroom use to only sleep and sex. Don't do computer work, television viewing, or eating in bed. Don't read in bed if it keeps you from relaxing. Only sleep in the bedroom, not in the easy chair or other locations.
- Keep your clock hidden to prevent you from focusing on the time (this can aggravate wakefulness!)
- Choose a comfortable mattress and pillow. Features of a good bed are subjective and differ for each person. If you share your bed, make sure there is enough room. In the mattress store, take off your shoes and spend plenty of time on the mattress to evaluate its comfort. If you sleep with a partner, invite them to accompany you to the store so you can both try out the mattress at the same time.

During the Day

- Get regular, vigorous, daily exercise, preferably in the morning. Aerobic exercise can help you fall asleep faster and make your sleep more restful. Avoid exercise within three hours of bedtime.
- Get about 20 minutes of exposure to natural daylight every day, preferably early in the day. On dark, rainy days, a light box like the ones designed for seasonal affective disorder may be helpful.
- Practice some relaxation techniques during the day or before bed. Breathing slowly and deeply into your abdomen can help you relax. So can tensing and relaxing muscles.

In the Evening

- After dinner, sit down and spend 15 minutes in worry time. Use a notebook to write down everything that's worrying you, including future events. If needed, come up with an action plan for what you will do tomorrow. When the 15 minutes are up, don't allow yourself to do any more worrying. You are done worrying for today and your mind is cleared.
- Avoid large meals within one hour of sleep, but a small snack of milk, cheese, bananas or cooked turkey contains tryptophan and may help you fall asleep.
- Avoid alcoholic beverages. Although they may help bring on sleep, it will be a poorer quality of sleep and alcohol use can bring on wakefulness later in the night.
- Avoid stimulants like caffeine and nicotine late in the day. If frequent night time urges to urinate wake you up, it may help to restrict liquids two hours before bedtime.
- Establish a regular bedtime routine, to help your body know it's time to wind down for sleep. A hot bath 90 minutes before bedtime can help allow the body to cool down, which promotes slow wave sleep. Quiet activities like reading, working puzzles, stretching or writing a gratitude list are better choices than watching a stimulating television show right before bed.

A Final Word...

A lack of restful sleep can impact your health in many ways. If you are still experiencing problems, consult with your health care provider, and if needed, request a referral to a sleep clinic. Newer prescribed sleep medications do not have the addictive qualities of the medications of a decade or two ago. Work with your health care provider and be persistent until your sleep problems are resolved. Your health depends on it!

For Further Information:

General:

American Academy of Sleep Medicine <http://www.aasmnet.org/PatientsPublic.aspx>
and <http://www.sleepeducation.com/>

A Brief History of Sleep Medicine <http://www.talkaboutsleee.com/sleep-disorders/archives/history.htm>

Sleep Disorders:

American Academy of Sleep Medicine Fact Sheets
<http://www.aasmnet.org/FactSheets.aspx>

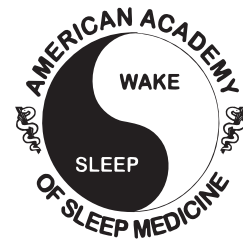
RLS Foundation <http://www.rls.org>

American Sleep Apnea Association <http://www.sleepapnea.org/>

American Insomnia Association <http://www.sleepapnea.org/>

Narcolepsy Network <http://www.narcolepsynetwork.org/what.php>

TWO WEEK SLEEP DIARY



INSTRUCTIONS:

1. Write the date, day of the week, and type of day: Work, School, Day Off, or Vacation.
2. Put the letter "C" in the box when you have coffee, cola or tea. Put "M" when you take any medicine. Put "A" when you drink alcohol. Put "E" when you exercise.
3. Put a line (l) to show when you go to bed. Shade in the box that shows when you think you fell asleep.
4. Shade in all the boxes that show when you are asleep at night or when you take a nap during the day.
5. Leave boxes unshaded to show when you wake up at night and when you are awake during the day.

SAMPLE ENTRY BELOW: On a Monday when I worked, I jogged on my lunch break at 1 PM, had a glass of wine with dinner at 6 PM, fell asleep watching TV from 7 to 8 PM, went to bed at 10:30 PM, fell asleep around Midnight, woke up and couldn't get back to sleep at about 4 AM, went back to sleep from 5 to 7 AM, and had coffee and medicine at 7:00 in the morning.

Today's Date	Day of the week	Type of Day Work, School, Off, Vacation	Noon	1PM	2	3	4	5	6PM	7	8	9	10	11PM	Midnight	1AM	2	3	4	5	6AM	7	8	9	10	11AM
sample	Mon.	Work		E					A				-													

week 1

week 2