

Do You Get Enough Sleep?

Many college students do not get enough sleep. In a survey of more than 200,000 first year students, more than 80% say that stayed up all night at least once during the last year. To evaluate whether you are sleep deprived, answer the following questions.

Yes	No	
_____	_____	I need an alarm clock to wake up at the appropriate time.
_____	_____	It's a struggle for me to get out of bed in the morning.
_____	_____	I feel tired, irritable, and stressed out during the week.
_____	_____	I have trouble concentrating.
_____	_____	I have trouble remembering.
_____	_____	I feel slow with critical thinking, problem solving, and being creative.
_____	_____	I often fall asleep watching TV.
_____	_____	I often fall asleep in boring meetings or lectures in warm rooms.
_____	_____	I often fall asleep after heavy meals or after low doses of alcohol.
_____	_____	I often feel drowsy while driving.
_____	_____	I often fall asleep within five minutes of getting into bed.
_____	_____	I often sleep extra hours on weekend mornings.
_____	_____	I often need a nap to get through the day.
_____	_____	I have dark circles around my eyes.

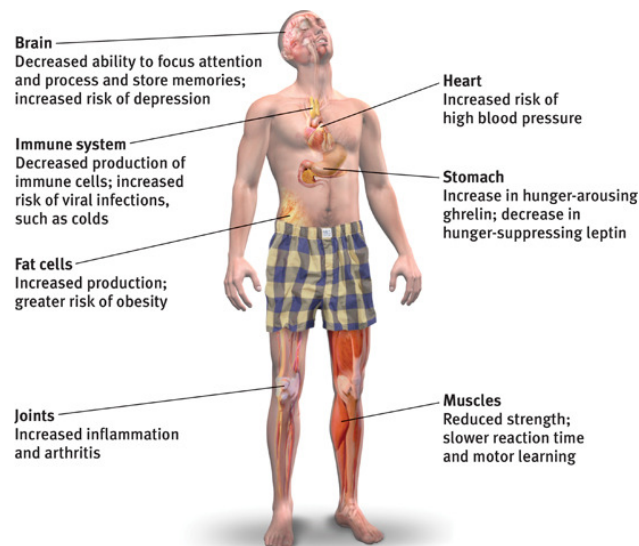
According to sleep expert James Maas (1998), who developed this quiz, if you responded "yes" to three or more of these items, you probably are not getting enough sleep. If you are not getting enough sleep, the following behavior strategies might help you:

1. Sleep only when sleepy.
2. If you can't fall asleep within 20 minutes, get up and do something boring until you feel sleepy.
3. Don't take naps.
4. Get up and go to bed the same time every day.
5. Refrain from exercise at least 4 hours before bedtime.
6. Only use your bed for sleeping.
7. Stay away from caffeine, nicotine, and alcohol at least 4-6 hours before bed.
8. Develop sleep rituals.
9. Have a light snack before bedtime.
10. Take a hot bath 90 minutes before bedtime.
11. Make sure your bed and bedroom are quiet and comfortable.

What are the Consequences of Sleep Deprivation?

There are disruptions in:

Behavior	<ul style="list-style-type: none">• Drooping eyelids• Staring• Trembling hands• Complex motor skills such as decreased reaction time• Weakened immune system• Increased caloric intake
Mood	<ul style="list-style-type: none">• Increased irritability• Paranoia• Increased risk of depression
Mental Abilities	<ul style="list-style-type: none">• Slowed speech and thinking• Poorer judgment• Decreased attention / concentration (on the job or at school)
Perception	<ul style="list-style-type: none">• “Tunnel vision”• Increased sensitivity to pain• Hallucinations



People who are awake for up to 19 hours were compared to those who had a blood-alcohol level of .08%--legal intoxication.

Those who were sleep deprived scored worse on performance tests and alertness scales.

- If a surgeon, pilot, or a person responsible for charging your credit card account has been pulling an all-nighter, they might as well been drunk (as of 2001, pilots are scheduled for up to 18 hours and may be required to work up to 26 hours).

What are the Consequences of Sleep Deprivation? Canadian Traffic Accidents, 1991 and 1992

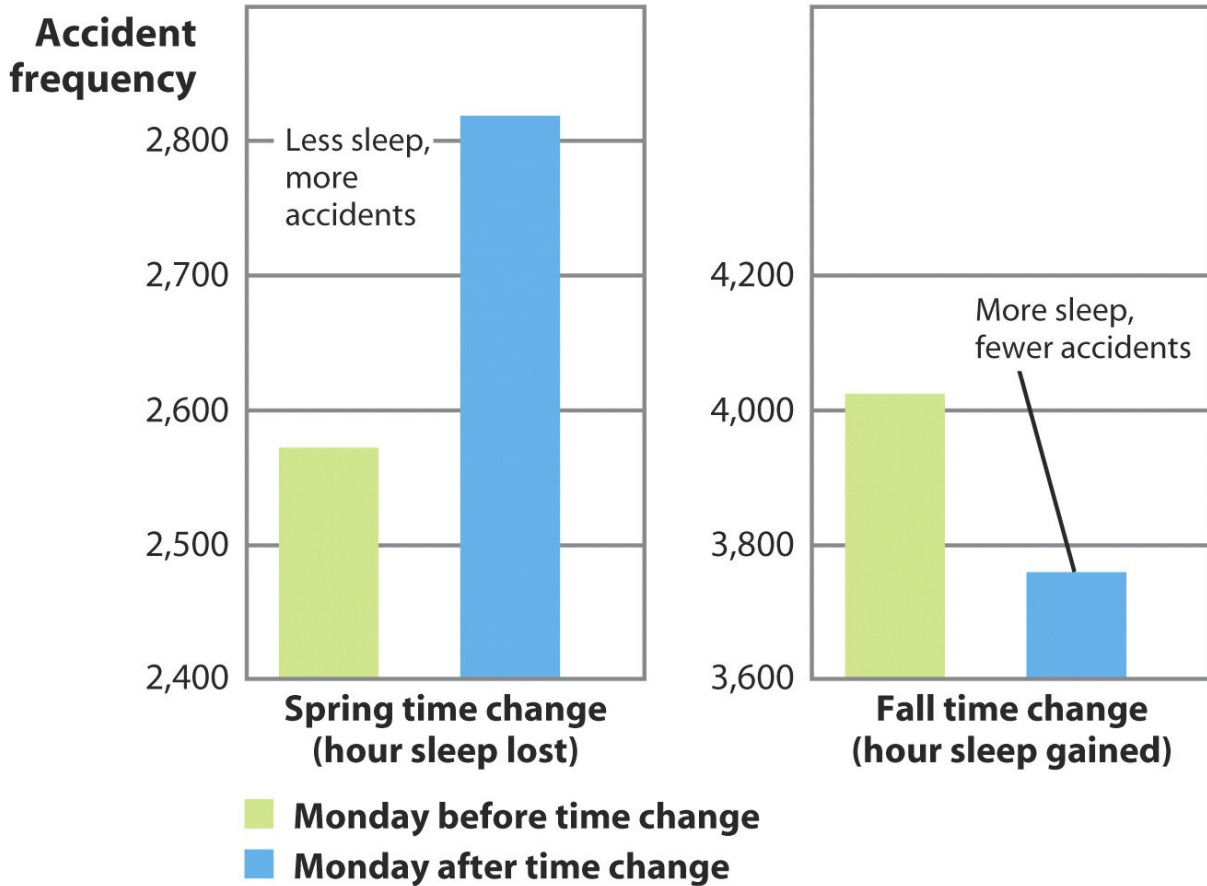


Image source: Myers

Spring time change	Fall time change
Chronologically, it is 8:00 Biologically, it is 7:00	Chronologically, it is 8:00 Biologically, it is 9:00

The Monday after the spring time change, when people lose sleep, accidents increased as compared with the Monday before. After the fall time change, they dropped when people got more sleep.

Costs of Sleep Deprivation and Benefits of a Good Nights Rest

According to the National Sleep Foundation,

- four in ten young adults say they are sleepy at work two or more days a week.
- Teenagers typically need 8 to 9 hours of sleep, but they now average 2 hours less sleep than their great-grandparents 80 years ago.

Sleep researcher William Dement reports that 80% of students are “dangerously sleep deprived”.

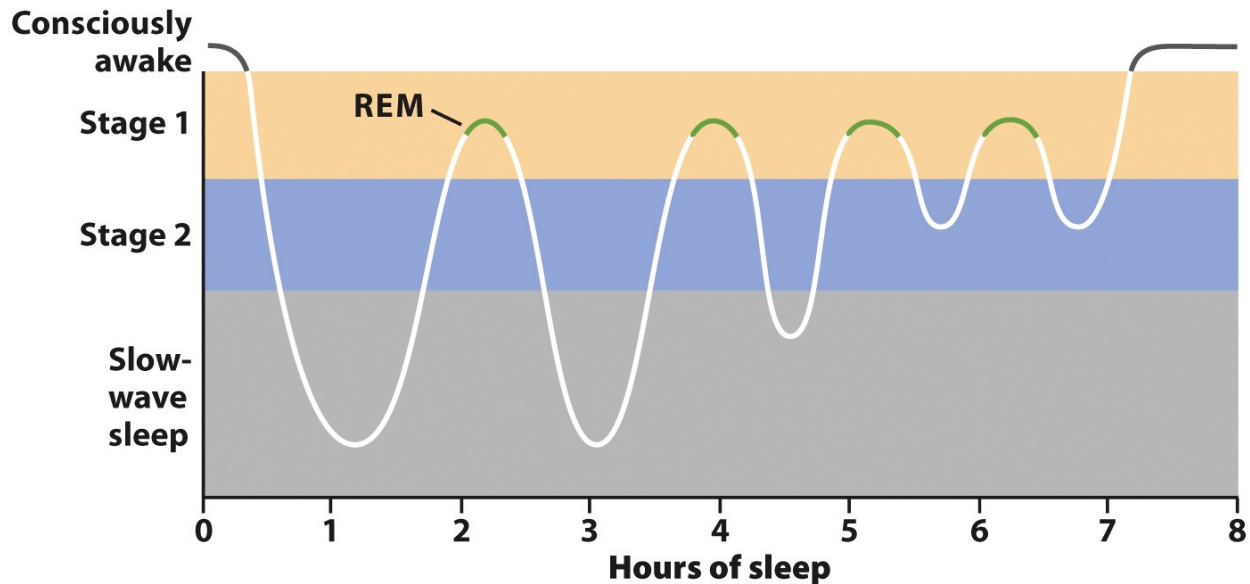
Such individuals “are at high risk of some sort of accident...sleep deprivation entails

- tendency to make mistakes,
- diminished productivity,
- difficulty studying,
- irritability and
- fatigue.”

To manage your life with enough sleep to awaken naturally and well rested is to be more

- alert,
- happy,
- sociable,
- productive and
- resistant to stress.

What do Psychologists Know about the Function of Sleep?



Psychological Science, 4/e Figure 5.14
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The restorative theory of sleep suggests that sleep promotes physiological processes that restore and rejuvenate the body and mind. Psychologists know that if we don't sleep, our immune system is compromised. Mice that are deprived of sleep die of causes related to a weakened immune system.

- NREM sleep is thought to be important for restoring the body. NREM sleep is increased following sleep deprivation, starvation, and strenuous athletic activity. It lasts about 50-70 minutes.
- REM sleep is thought to restore mental and brain functions. Both animal and human studies have shown that REM sleep increases after learning a novel task and that sleep deprivation following training disrupts learning. It lasts 5-15 minutes (depending when it is in the sleep cycle).

Sleep and the Brain

During REM sleep:

- the frontal lobes (planning and decision making area) and
- parts of the primary visual cortex (processing visual information from the environment) are inactive
- the amygdala, hippocampus and other visual association areas are active

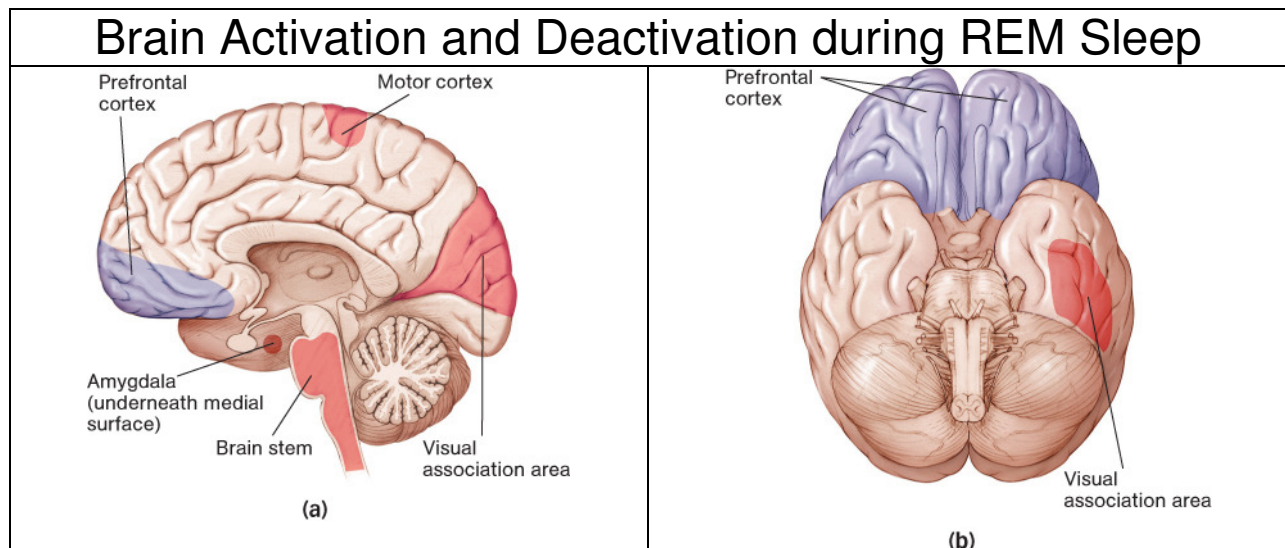


Image source: Schacter et. al.

What are the consequences of working irregular shifts?

About 6% of Americans are night shift-workers and an additional 25% are engaged in various patterns of shift work (1994).

How do variable shift workers differ from non-variable shift workers?

- Shift workers average 5.6 hours of sleep compared to regular shift workers average 7.5 hours of sleep.
- There was no difference in heavy cigarette smoking, coffee drinking between those working a variable work schedule compared to those working a non-variable work shift.
- Men who work variable work schedules had higher rates of heavy drinking, job stress, and emotional problems compared to men working non-variable work schedules.
- Women who worked variable shifts report more use of sleeping pills, tranquilizers, and alcohol as well as more job stress and emotional problems.

- Who are the irregular shift workers at risk of sleep deprivation?
- What are the specific risks of sleep deprivation for these irregular shift workers?