

Getting Adequate Rest and Sleep

HEALTH GOAL

- I will get adequate rest and sleep.

The alarm clock rings. You jump out of bed, quickly shower and dress, rush through breakfast, and set off for school. Sound familiar? Most teens rush from one activity to the next. It seems like days are not long enough to get everything done. If you skimp on sleep, you will have extra hours to pack everything into your day. You might even want to brag about how little sleep you get. But lack of rest and sleep will catch up with you.

What You'll Learn

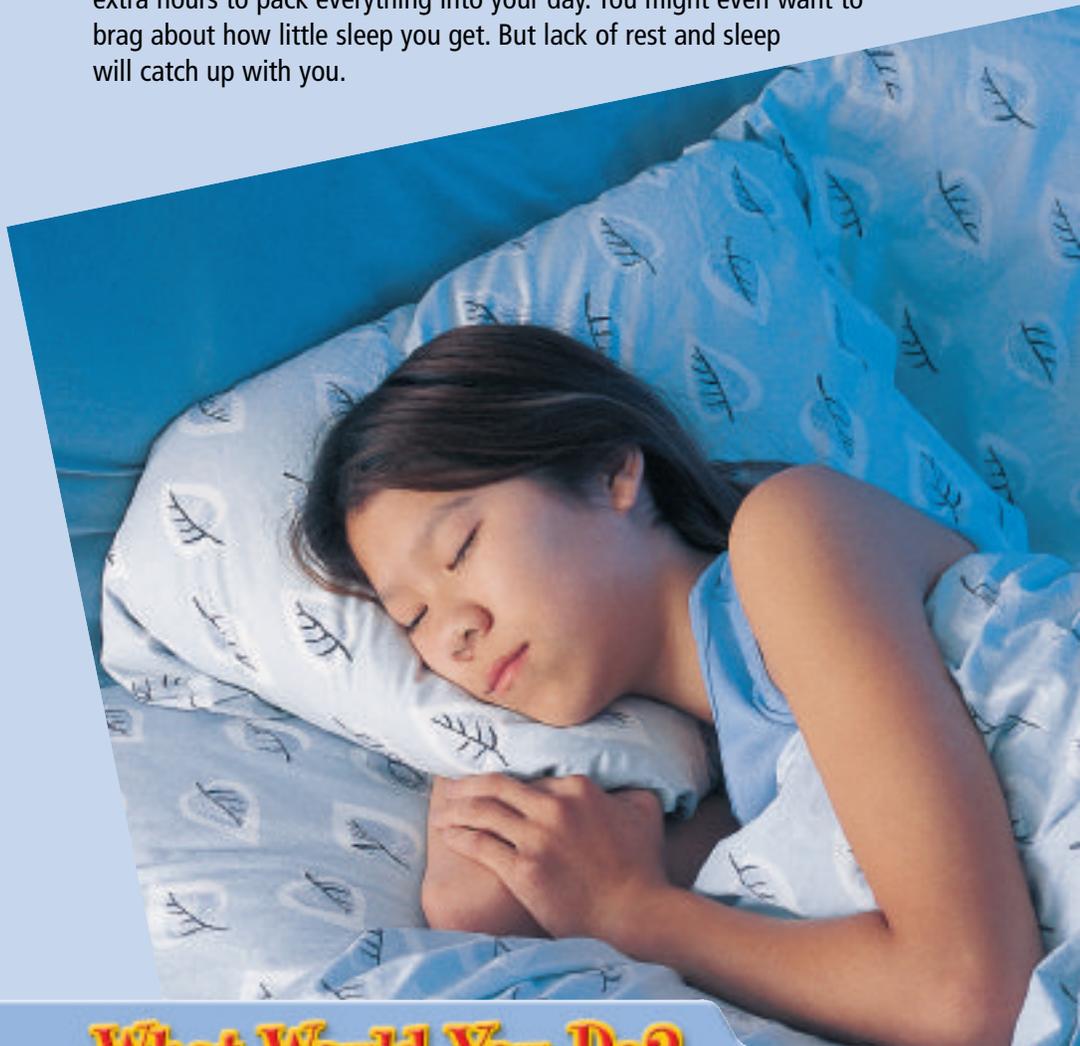
1. Discuss the body changes that occur during the sleep cycle. (p. 361)
2. Explain why you need adequate rest and sleep to protect your health status. (p. 362)
3. Evaluate whether you are getting adequate sleep and rest. (p. 362)
4. List seven tips for getting a good night's sleep. (p. 363)

Why It's Important

When you don't get the rest you need you can feel sluggish, irritable, or stressed. You need to get adequate sleep to grow, concentrate, and stay physically and emotionally healthy.

Key Terms

- sleep
- rapid eye movement (REM) sleep
- nonrapid eye movement (NREM) sleep
- tryptophan
- insomnia
- sleep apnea
- restless legs syndrome (RLS)
- narcolepsy



What Would You Do?

Writing About Adequate Sleep Suppose that you have been asked to try out for the school play, but you already have numerous time commitments this semester. Although it sounds like fun, you would have to give up lots of sleep to keep up with your other school activities, studies, and part-time job. After you read the information about getting adequate rest on page 362 write a response to this situation in your health journal.



The Sleep Cycle

A state of deep relaxation in which there is little movement or consciousness is called *sleep*. There are two kinds of sleep. **Rapid eye movement (REM) sleep** is the period of sleep

characterized by rapid eye movements behind closed eyelids. Most dreaming occurs during REM sleep and is very vivid. **Nonrapid eye movement (NREM) sleep** is the period of sleep in which the eyes are relaxed. NREM sleep can range from very light to very deep sleep.

What to Know About the Sleep Cycle

Sleep is an active state in which the brain continues to process information and the body continues to undergo changes. There are certain stages of sleep that you go through during each night.

The first stage is a transition between being awake and asleep. Each stage progresses to deeper sleep and unresponsiveness. Heart rate slows by about 10–15 beats per minute, blood pressure decreases, fewer breaths are taken per minute, muscles lose tension, and brain waves become much slower. It takes about one hour to get to the stage of deepest sleep.

When you are in the deepest stage of sleep, you begin REM sleep. Brain wave activity increases to the level of your brain when you are awake even though you are asleep. Muscles in your face, arms, legs, and torso remain relaxed, and your eyes dart back and forth in rapid motion. If you are awakened during REM sleep, you will recall a very vivid dream.

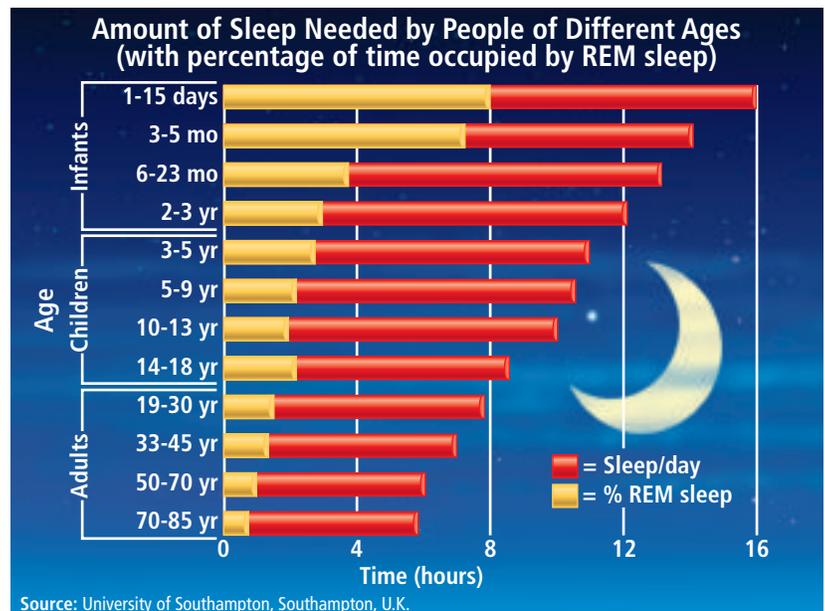
Adults spend about one-fourth of a night's sleep in REM sleep. Infants spend half of their sleep in REM

sleep. It takes about 90 minutes to go through the stages of sleep. After REM sleep, you start the sequence again. Throughout the night, you repeat the stages of sleep.

Infants sleep about 16 hours a day. From age two until puberty, children need about ten hours of sleep per day. Teens need about eight hours per day, adults need about seven hours per day, and older adults need about six hours per day.

Did You Know?

Record Rockers The record for the longest period without sleep is 18 days, 21 hours, 40 minutes during a rocking chair marathon. The record holder reported hallucinations, paranoia, blurred vision, slurred speech, and memory and concentration lapses.





Getting Adequate Rest

Rest and sleep are essential to good health. You need adequate rest and sleep, or your ability to concentrate is affected. This influences your performance in school, in sports, and in other activities. Your immune system becomes weakened when you do not get enough sleep. People who lack sleep also become more accident-prone. Sleep is needed to restore your physical, emotional, and mental energy. Sleep is even critical to your growth. The growth hormone is released so that growth occurs during rest and sleep.

What to Know About Getting Adequate Rest

The amount of rest and sleep needed varies from person to person according to a person's level of physical activity and usually decreases with age. As a teenager, you often will require extra rest and sleep because of your rapid physical growth. Feeling rested and energetic during the day is a good sign that you have had enough sleep.

Ways to relax and rest Take time for enjoyable activities, such as hobbies, interests, and entertainment, which can energize you. These activities can take your mind off of your problems and worries, therefore reducing stress and promoting relaxation. Participating in physical activities promotes relaxation by providing an outlet for stress and tension. If you feel uptight, try going for a walk, shooting some hoops, or kicking around a soccer ball.

Your biological sleep clock Your body is programmed by your biological clock to feel sleepy during the nighttime hours and to be active during the daytime hours. People who work at night and sleep during the day must constantly fight their biological clocks. The same is true for people who fly to other time zones. They get jet lag because they do not maintain a regular sleep/wake schedule. They feel tired and sluggish and may have difficulty falling asleep.

Signs That You Need More Rest and Sleep

You may need to get more rest and sleep if you answer yes to any of the following questions.

- Do you always have to have an alarm clock to wake up?
- Do you have trouble waking up in the morning?
- Do you feel tired and irritable most of the day?
- Do you think about and crave more sleep during the day?
- Do you rely on caffeine to stay awake during the day?
- Do you find yourself dozing off during class?
- Do you doze off while watching television in the evening?
- Do you get more sleep on weekends?
- Do you wake up during the night? If so, what is the cause (dreams, noise, trips to the bathroom)?

TABLE 32.1 Seven Tips for Getting a Good Night's Sleep

Sleep Tips	Encouraging Sleep
Establish a sleep schedule.	Encourage sleep by establishing a regular time to go to bed at night and to get up in the morning.
Engage in activities and nightly rituals that encourage sleep.	Read, take a warm bath, listen to relaxing music. Nightly rituals, such as brushing teeth, setting the alarm clock, and organizing materials for the next day, also encourage sleepiness.
Avoid napping too long.	Restrict naps during the day to 20 or 30 minutes. Avoid naps if you have difficulty falling asleep at night.
Create a comfortable place to sleep.	A medium-hard mattress that supports a person's back, carpets and rugs that muffle sounds, a dark room, and earplugs may make it easier to fall asleep and sleep restfully.
Avoid substances that can interrupt your sleep.	Limit liquid intake before bedtime in order to avoid needing to get up to empty the bladder. Avoid caffeine during the evening. Alcoholic beverages and some sleeping medications suppress REM sleep and cause restlessness. Nicotine in cigarettes is a stimulant.
Watch what you eat before you go to bed.	Do not eat large amounts of food just before going to bed. Hunger pangs can keep you awake if you go to bed hungry.
Get out of bed if you cannot sleep.	If you can't fall asleep after about 30 minutes, get out of bed and go into another room. Try reading, listening to relaxing music, doing a simple task, or having a glass of milk. Milk contains <i>tryptophan</i> , which is an amino acid that helps promote relaxation.

Sleep Disorders

According to the National Institutes of Health, at least 40 million Americans each year suffer from long-lasting sleep disorders, and 20 million others have occasional sleeping problems. Sleep disorders interfere with a person's ability to work, drive a motor vehicle, and many other activities. There are more than 70 different sleep disorders.

Insomnia At times, not being able to fall asleep is normal. *Insomnia* is the prolonged inability to fall asleep, stay asleep, or get back to sleep once a person is awakened during the night. Insomnia becomes a pattern and can cause problems during the day, such as tiredness, a lack of energy, difficulty concentrating, and irritability. Insomnia affects people of all ages.

Sleep apnea A disorder of brief interruptions of breathing during sleep is called *sleep apnea*. Air cannot flow into or out of the person's nose or mouth at times while asleep, because the person's windpipe (trachea) collapses when muscles relax during sleep. These breathing pauses are usually accompanied with loud snoring and gasping for air. The risk of developing sleep apnea is higher for people who are overweight and increases with age. Sleep apnea is a dangerous medical condition because it deprives a person of oxygen. Sleep apnea can lead to headaches, a decline in mental functioning, breathing disorders, and irregular heartbeats. Sleep apnea is associated with increased risk of heart attacks, stroke, and automobile accidents.

Mini-Review

1. Describe sleep apnea.
2. Who has a higher risk of developing sleep apnea?

Activity: Using Life Skills

Using Goal-Setting and Decision-Making Skills: Keeping a Sleep Journal

1 Write your health goal and make an action plan to meet your health goal. Record the number of hours you sleep every night for two weeks. Draw a chart that displays the amount of sleep you got each night and any naps you took during the day.

2 Identify obstacles to your plan and set up a timeline to accomplish your health goal. Answer the questions on page 362.

4 Build a support system. Enlist your family's help in achieving your health goal. For example, you could ask your parents not to buy soda so you will not be tempted to drink it at night.

3 Keep a chart or diary in which you record progress toward your health goal. Based on your answers, write a paragraph on how you can improve your sleeping habits. For example, you could write, "When I drink soda with dinner, I fall asleep later than I should. I will avoid caffeine after 3 p.m."

5 Revise your action plan or timeline, if necessary, and reward yourself when you reach your health goal. Adjust your schedule if you are not getting adequate sleep.



▲ Sample sleep journal page.

Restless legs syndrome (RLS) A sleep disorder in which there are unpleasant sensations in the legs and feet and an urge to move them for relief is called **restless legs syndrome (RLS)**. People with this sleep

disorder usually describe feeling a creeping or crawling feeling or sometimes a tingling, cramping, burning, or painful sensation in the legs and feet when trying to sleep.

They feel that they need to move their legs to relieve the discomfort. The moving might be stretching, bending, or rubbing the legs. It might cause a person to toss and turn in bed or get up and pace. RLS can occur at any age, but occurs most often among the elderly. The cause of this disorder is not known. It is sometimes the result of diabetes or pregnancy.

Narcolepsy People with narcolepsy are unable to resist falling asleep regardless of how much sleep they have had. **Narcolepsy** is a disabling condition in which a person experiences "sleep attacks" at inappropriate and various times of the day. "Sleep attacks" can last several seconds or for more than half an hour and include loss of muscle control, hallucinations, and temporary muscle paralysis upon waking. This sleep disorder makes activities like driving or using heavy machinery dangerous for people with the disorder. The sleep attacks also are very embarrassing for people suffering from the disorder. Narcolepsy is often the result of brain damage from head injury or disease. The symptoms of narcolepsy often begin during the teenage years. Drugs, such as stimulants and antidepressants, can be used to control the narcolepsy and prevent the embarrassing and dangerous effects of falling asleep at inappropriate times. Doctors also recommend taking naps at certain times of the day to reduce the excessive daytime sleepiness.

insomnia
narcolepsy
nonrapid eye
movement
(NREM) sleep
rapid eye movement
(REM) sleep
restless legs
syndrome
sleep
sleep apnea
tryptophan



Key Terms Review

Match the definitions below with the lesson Key Terms on the left. Do not write in this book.

1. an amino acid that helps promote relaxation and is found in milk
2. a state of deep relaxation in which there is little movement or consciousness
3. the period of sleep in which the eyes are relaxed
4. a disabling condition in which a person experiences sleep attacks at inappropriate and various times of the day
5. the period of sleep characterized by rapid eye movements behind closed eyelids and when most dreaming occurs
6. prolonged inability to fall asleep
7. people with this sleep disorder usually describe feeling a creeping or crawling feeling or sometimes a tingling
8. a disorder in which there are brief interruptions of breathing during sleep

Recalling the Facts

9. Describe a "sleep attack."
10. How many hours of sleep do children, teens, and adults need?
11. List the tips for getting a good night's sleep.
12. How long should you stay in bed if you are having trouble falling asleep?
13. Explain why sleep apnea is a dangerous medical condition.
14. Why do people get jet lag?
15. How do people describe restless leg syndrome?
16. Discuss the body changes that occur during the sleep cycle.
17. What substances can interrupt your sleep?
18. What shouldn't you eat before trying to sleep?

Critical Thinking

19. List long-term health problems you could develop if you continually did not get adequate rest and sleep.
20. Why is it not helpful to take long naps when experiencing insomnia at night?
21. Explain how adequate sleep protects your health.
22. Describe the last vivid dream you remember having. Which sleep cycle were you in?

Activities

Responsible Decision Making

27. **Decide** It has been a difficult week for you. You've been up late every night and feel drained. It is Friday, and your best friend has invited you to a party. You want to go, but know that you also need to catch up on your sleep and that you have to work all day Saturday and Sunday. Write a response to this situation. Refer to the Responsible Decision-Making Model on page 61 for help.

Real-Life Applications

23. What nightly rituals do you participate in that encourage sleep?
24. What symptoms do you experience when you do not get enough sleep?
25. How much sleep do you need to feel rested and energized during the day?
26. What time is your "biological clock" set for going to sleep and waking up?

Sharpen Your Life Skills

28. Analyze Influences on Health

Ask a pharmacist about advertisements in magazines and on television for over-the-counter medications to help you get a better night's sleep. How accurate are the claims? How effective are the medications? What risks do the medications pose? Explain why a person should or should not believe the advertisements.