WLG 406

WestVirginiaUniversity
EXTENSION SERVICE

Sleep: From A to ZZZ

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Educational Objectives

1. Learn the basics of sleep.
2. Learn the surprising benefits.
3. Learn tips for achieving healthy sleep patterns.

What activity is so important that you need to spend one-third of your life doing it? Sleep! It's vital to help us maintain good health and function at our best. Sleep is more than down time or the opposite of being awake. Because many people don't understand it, they neglect their sleep, being absorbed by daily responsibilities that seem more important. At a time when people are getting less and less sleep, new research shows the power of a good night's rest.

Activity: Share a cup of warm herbal tea with group participants as you learn about sleep, from A to ZZZ.

Basics of Sleep

The sleep cycle involves a natural and predictable pattern of stages that actively involves your brain and body system. There are two basic types: rapid eye movement sleep and non-REM sleep. We sleep in five stages:

1. Sleep begins with stage one: non-REM sleep. While you lightly doze, your eyes move slowly, and you may have sudden muscle contractions. Noises can easily awaken you.
2. Next is stage two: non-REM sleep. Eye movements stop. Brain waves are slower with occasional bursts of activity.
3. Stage three: non-REM sleep is deep sleep. Brain waves slow even more.
4. Stage four: non-REM sleep is also deep sleep when brain waves are extremely slow. There are no eye or muscle movements.

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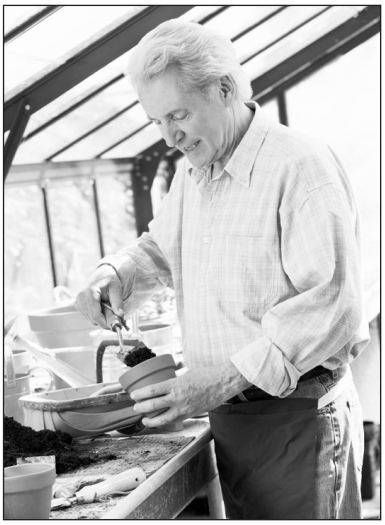
5. The last stage: REM sleep. Breathing is fast, irregular and shallow. Heart rate and blood pressure rise. We dream mostly during REM sleep. Eyes jerk rapidly and arms and legs are temporarily paralyzed to prevent acting or reacting to dreams.

This five-stage cycle repeats throughout the night. Each cycle between one and a half to two hours. Sleep is affected by many factors: your internal biological clock, natural body chemicals and hormones, environmental cues, fatigue and the foods, beverages and medicines we consume.

Surprising Benefits of Sleep



Sleep is linked to health and quality of life. Studies show many amazing benefits to a regular pattern of eight hours of sleep each night.

Activity: Ask participants, "Can you name specific ways you personally benefit from quality sleep?"

- **Health** – Less than seven hours of sleep is associated with greater risk of obesity, high blood pressure, diabetes, heart disease, stroke, mental distress and death. Deep sleep triggers the release of hormones and antibodies that help your body repair cells, build muscle, fight infections and regulate blood sugar and blood pressure.
- **Performance** – Being well-rested increases the ability to learn and improves memory and creative problem-solving. During sleep, the brain forms pathways needed for new learning, memories and ideas. Infants and children need sleep for proper brain development. Lack of sleep slows down reactions and makes it harder to focus and make good decisions.
- **Mood** – Occasionally, irritability occurs after a bad night's sleep. Night after night, this can lead to serious depression.
- **Safety** – Lack of sleep increases the chance of vehicle and transportation accidents, industrial accidents, medical errors and loss of work productivity. The number and severity of accidents increase at night, often due to poor reaction time and unsafe decisions. Examples of this include the nuclear power plant accidents at Three Mile Island and Chernobyl and the Exxon Valdez oil spill.

Myths and Facts

Activity: Can you tell myth from fact? Give each participant two cards, one with the word "Myth" and the other card "Fact." As you read each statement, have them guess if it is a myth or fact by holding up a card.

- People need less sleep as they get older. (Myth: Although we tend to sleep more lightly and for shorter time spans as we age, we still need about 8 hours of sleep. About half of all people over age 65 have sleep complaints. These are not related to aging but more likely due to sleep disorders or medications.)
- Tobacco and alcohol use can rob a person of REM sleep. (Fact: Nicotine is a stimulant that can keep you awake, and while alcohol may make it easier to fall asleep, it wears off and allows only the lighter

stages of non-REM sleep. It is important to understand the chemicals that can prevent quality sleep: caffeine, some medications, pain relievers, decongestants and beta blockers for heart and blood pressure.)

- A large meal and exercising in the evening helps you fall asleep. (Myth: Studies show that eating a heavy meal and/or exercise before bedtime delays the body's release of the sleep hormone melatonin. Also, exercise stimulates cortisol, which activates the brain. Avoid big meals and nighttime snacking.)
- The less people sleep, the more likely they are to be overweight and prefer eating high calorie foods. (Fact: Sleep regulates appetite, metabolism and weight control. During sleep, the body makes more appetite-suppressing leptin and less appetite-stimulating grehlin.)
- Snoring is common and nothing to worry about. (Myth: Frequent, loud snoring can be a sign of sleep apnea. It is a serious, yet treatable disorder linked to problem behavior and poor school performance in children and diabetes and heart disease in adults.)

Common Sleep Issues

Unfortunately, about one-third of U.S. adults – 84 million – are at risk because they get too little sleep. There are more than 70 sleep disorders which adds $16 billion in medical costs each year. The four most common issues are:

1. **Insomnia** – Insomnia is the inability to fall asleep, waking frequently during the night or chronically waking earlier than usual.

Acute insomnia is usually the result of travel, jet lag, stress or environmental factors, such as noise, light or temperature issues. Insomnia is considered chronic when it occurs at least three nights each week for more than one month. Chronic insomnia can lead to other health issues and should be treated by a physician.

2. **Sleep Apnea** – Sleep apnea occurs when a person's breathing is interrupted during sleep. Obstructive sleep apnea is typically associated with snoring from a blocked airway. Common risk factors are obesity, a family history of OSA, large neck circumference, large tonsils and excess alcohol consumption at bedtime. Apnea causes drops in blood-oxygen levels and poor quality sleep. This causes additional health problems. Anyone can have OSA – even children. It is more common in men and post-menopausal women. Half of all people with OSA are not diagnosed.
3. **Restless Leg Syndrome** – RLS has recently become a commonly diagnosed sleep disorder, often associated with insomnia. RLS causes tingly and prickly feelings in one or both legs and sometimes the arms. It is relieved by moving or massaging the legs and arms. Often, people with RLS also have periodic limb movement during sleep, a jerking of the arms and legs. Both cause poor quality sleep which leads to insomnia. RLS is often inherited. It is treatable but not curable.

4. **Narcolepsy** – The main symptom is excessive daytime sleepiness, even after a good night's sleep. Other common signs are sudden muscle weakness, lifelike dreams and sudden weakness in the neck, knees, face or whole body. Usually, narcolepsy starts to show up during the teen and young adult years. Most symptoms can be relieved with drug treatments and brief daytime naps.

Talk to your health care provider if you find you're often tired during the day or have sleep problems. Your family doctor or a sleep specialist can help you.

Tips for Better Sleep

- **Be active** – Daily physical activity helps with relaxation and raises the core body temperature, which in turn supports falling asleep and staying asleep. Exercise at least three hours before bedtime.
- **Get morning sunshine** – Natural daylight helps your body regulate sleep. Try to get outside for at least 30 minutes each day.
- **Bedtime routine** – We know children need a routine before bedtime, but adults can benefit from a bedtime routine too. A familiar routine tells our bodies to prepare for sleep. Follow three or four activities: warm bath, a warm drink, brushing your teeth, washing your face, changing your clothes, reading a book every night at the same time and in the same order.
- **Limit caffeine** – Caffeine interferes with falling asleep and also sleep productivity.
- **Limit naps** – Excessive napping may keep you awake later at night. A power nap (resting for 15 to 20 minutes) may recharge your mind and body.
- **Limit noise and light** – Keep your bedroom dark. Have a noisy environment or sleep with a snorer? Use ear-plugs or white noise. Limit screen-time, too. Lights and distractions of televisions, computers and cell phones may keep you from sleeping productively. Make your bedroom environment relaxing and technology-free.
- **Temperature control** – Cooler temperatures are best (around 65 degrees Fahrenheit).

Sleep on It!

We are just beginning to understand sleep and how it impacts our lives. Establishing healthy sleep patterns benefit you in many ways. Parents need to provide children with appropriate sleep routines and environments so children will have healthy lifetime habits. Adults of all ages need to pay attention to their sleep habits for optimal health and quality of life.

Activity: Ask participants, "How do you plan to use this new information about sleep?"

Explore More

www.ninds.nih.gov

www.healthysleep.med.harvard.edu

www.sleepfoundation.org

http://healthysleep.med.harvard.edu

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