

# HEALTH IN OUR HANDS!

The Arkansas State University Wellness Program Newsletter  
[www.clt.astate.edu/wellness](http://www.clt.astate.edu/wellness)



## Sleep

Sleep is regulated by two brain processes. One is the restorative process that occurs when sleep occurs naturally in response to how long we are awake. This means the longer we are awake, the stronger our sleep drive is. The second process controls the timing of sleep and wakefulness during the day-night cycle. Timing is regulated by the circadian biological clock that is located in our brain. This part of the brain, the suprachiasmatic nucleus or the SCN, is influenced by light so that we naturally tend to get sleepy at night when it is dark and active during the day when it is light. In addition to timing the sleep-wake cycle, the circadian clock regulates day-night cycles of most body functions, ensuring that the appropriate levels occur at night when you are sleeping. For example, important hormones are secreted, blood pressure is lowered and kidney functions change. Research even indicates that memory is consolidated during sleep.

### Appropriate Amount of Sleep

Getting enough continuous quality sleep contributes to how we feel and perform daily, but also has a huge impact on the overall quality of our lives. Getting enough sleep refers to the amount of sleep you

## Sleep

need to not feel sleepy the next day.

If sleepiness interferes with or makes it difficult to do your daily activities, you probably need more sleep. Sleep experts generally recommend an average of 7-9 hours per night, but some people can get along with less while others need up to ten hours to feel alert the next day. Sleep requirements vary over the life cycle. Newborns and infants need a lot of sleep and have several periods of sleep throughout a 24-hour time period. Naps are important to infants and toddlers who may nap up to the age of five. As children enter adolescence, their sleep patterns shift to a later sleep-wake cycle, but they still need around 9 hours of sleep. Throughout adulthood, even as we get older, we need 7-9 hours of sleep. Sleep patterns may change, but the need for sleep remains the same.

### Sleep Quality

Quality of sleep means that it is continuous and uninterrupted. As we get older, sleep can be disrupted due to pain or discomfort, the need to go to the bathroom, medical problems, medications, and sleep disorders as well as poor or irregular sleep schedules. Establishing a regular sleep and wake schedule and achieving

continuous sleep helps you sleep in accordance with your internal biological circadian clock and experience all of the sleep stages necessary to reap the restorative, energizing and revitalizing benefits of sleep.

As we sleep, we pass through different states and stages of sleep – more likely to be experienced with continuous sleep. This sleep style follows a predictable pattern of REM (rapid-eye movement) and NREM (Non-Rapid Eye Movement) sleep throughout a typical 8-hour period. Each of these states alternates every 90 minutes. Both states are important to experiencing quality sleep. Getting the right mix and enough of both REM and NREM sleep will help maintain natural sleep style and have restful and restorative sleep.

### Improving Quality of Sleep

Establishing a regular bed and wake time helps promote sleep by getting you in sync with your circadian clock so that you experience all of these sleep stages. Here are some additional tips for promoting quality sleep:

- Avoid caffeine (coffee, tea, and soft drinks, chocolate) and nicotine (cigarettes, tobacco products) close to bedtime.
- Avoid alcohol as it can lead to disrupted sleep.

- Exercise regularly, but complete your workout at least 3 hours before bedtime.
- Establish a regular relaxing, not alerting, bedtime routine (e.g. taking a bath or relaxing in a hot tub). Create a sleep-conducive environment that is dark, quiet and preferably cool and comfortable.

### **Potential Dangers Associated with Sleep Deprivation**

According to a 2002 poll, over 80 percent of American adults believe that not getting enough sleep leads to poor performance at work, risk for injury and poor health, and difficulty getting along with others. Often, people become irritable due to lack of sleep, resulting in serious consequences. Studies show that lack of sleep leads to problems completing a task, concentrating, making decisions and unsafe actions. Insufficient sleep may also make it difficult to exercise and can reduce the benefit of hormones released during sleep. Just as compelling are the serious consequences of sleep deprivation that lead to approximately 100,000 sleep-related vehicle crashes each year and result in 1,500 deaths.

Long term consequences of sleep deprivation include the following:

- High blood pressure
- Heart attack
- Heart failure
- Stroke
- Obesity
- Psychiatric issues, including depression and other mood disorders.
- Attention Deficit Disorder (ADD)
- Mental impairment

### **Common Sleep Disorders**

More than 85 sleep disorders are recognized by the American Sleep Disorders Association, affecting more than 70 million Americans. Up to one-third of Americans have symptoms of insomnia; however, less than 10% of those are identified by primary-care doctors. Sleep-related breathing disorders represent a spectrum of abnormalities that range from simple snoring to sleep apnea (repeated episodes of cessation of breathing during sleep). As highly prevalent as they are, most cases remain undiagnosed and untreated.

Everyone experiences occasional sleep problems, so how do you know if your sleep problems are minor or a more serious sleep disorder. Answering “yes” to the following questions may be indicative of a more serious sleep problem.

Do you.....

- Feel irritable or sleepy during the day?
- Have difficulty staying awake when sitting still, watching television or reading?
- Fall asleep or feel very tired while driving?
- Have difficulty concentrating?
- Often get told by others that you look tired?
- React slowly?
- Have trouble controlling your emotions?
- Feel like you have to take a nap almost every day?

- Require caffeinated drinks to keep yourself going?

### **References**

- [http://www.helpguide.org/ife/sleep\\_disorders.htm](http://www.helpguide.org/ife/sleep_disorders.htm)
- [http://www.health.harvard.edu/press\\_releases/importance\\_of\\_sleep\\_and\\_health](http://www.health.harvard.edu/press_releases/importance_of_sleep_and_health)
- [http://kidshealth.org/teen/your\\_body/take\\_care/sleep.html](http://kidshealth.org/teen/your_body/take_care/sleep.html)
- <http://www.medicinenet.com/sleep/article.htm>
- <http://www.sleepfoundation.org/>
- <http://www.webmd.com/sleep-disorders/guide/important-sleep-habits?page=2>

### **Upcoming Events:**

- Health Literacy Conference – May 5, 2:00 pm to 4:00 pm, Reynolds Center for Health Sciences
- Grief Seminar – May 13, 9:00 am to 4:00 pm, ASU Student Union Auditorium, Registration required

### **Other News:**

\*\*If you have any suggestions for newsletter topics, please contact Dean Susan Hanrahan at [hanrahan@astate.edu](mailto:hanrahan@astate.edu).

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The Arkansas State University Employee Wellness Newsletter is published monthly during the academic year by the College of Nursing and Health Professions. Health questions can be addressed to Dean Susan Hanrahan, Ph.D., ext. 3112 or [hanrahan@astate.edu](mailto:hanrahan@astate.edu). Produced by Helen Grimes, graduate student in the College of Nursing and Health Professions, Physical Therapy Program.

