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Sleep Deficiency Often Overlooked

By Tim Butler, M.S., CHES

In response to general economic pressures and rising healthcare costs, more companies than ever are aggressively promoting employee wellness. An estimated 62 percent of all U.S. companies offer some kind of wellness program.¹ Most companies justifiably focus on traditional primary prevention strategies that emphasize good nutrition, exercise, weight control, stress management, and clinical preventive care. Interventions related to sleep deficiency are rarely in the mix.

Yet, the evidence is increasing that inadequate sleep has negative effects on health and productivity management. Despite our abundant and rapidly expanding knowledge of human health, we still don't know why we require sleep. We do know that humans are the only species that routinely try to get along without it. A lack of sleep undermines good health and compromises mental and physical performance.

Consequences of poor sleep include fatigue, emotional instability, and reductions in alertness, concentration, motor response time, memory, and problem-solving abilities. Sleep researcher Dr. Eve Van Cauter from the University of Chicago's School of Medicine noted, "Lack of sleep disrupts every physiologic function in the body. We have nothing in our biology that allows us to adapt to this behavior."²

LACK OF SLEEP AND PUBLIC SAFETY

A 2005 survey by the National Sleep Foundation showed that 60 percent of adults have driven a vehicle while feeling drowsy in the past year and 37 percent have actually fallen asleep at the wheel.³ According to the National Highway Traffic Safety Administration,

drowsy driving causes at least 100,000 police-reported crashes, resulting in 71,000 injuries and 1,550 deaths in the U.S. annually.⁴

A recent report by the Institute of Medicine spelled out the common nature of our modern society's problem with sleep deficiency:⁵

- It is estimated that 50 to 70 million Americans suffer from a chronic disorder of sleep and wakefulness, hindering daily functioning and adversely affecting health and longevity.
- The cumulative, long-term effects of sleep loss and sleep disorders have been associated with a wide range of harmful health consequences, including an increased risk of hypertension, diabetes, obesity, depression, heart attack, and stroke.
- Billions of dollars a year are spent on direct medical costs associated with doctor visits, hospital services, prescriptions, and over-the-counter medications.

LACK OF SLEEP AND WEIGHT CONTROL

Current research also confirms that regular sleep plays an important role in weight control. Sleep deficiency adversely affects the two hormones (leptin and ghrelin) that help regulate appetite. Leptin suppresses appetite while ghrelin increases hunger and food intake. Sleep deficiency lowers the levels of leptin and raises the levels of ghrelin.⁶ Studies have also shown that inadequate sleep increases the risk of obesity for adults and new mothers after delivery.^{4,7,8} Adults working on weight management may have a more difficult time sticking to new eating and exercise behaviors if they are sleep deficient.

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Self-Care Tips

Lullaby and Good Night

Do you struggle to fall asleep at night? Getting regular, quality sleep should be among our highest personal health priorities. The National Institute on Aging provides the following recommendations for a better night's rest:



- **Follow a regular schedule.** Go to sleep and get up at the same time each day, even on weekends. Napping in the late afternoon or evening may keep you awake at night.
- **Develop a bedtime routine.** About 30 to 45 minutes before bedtime each night, do the same things so your body will know that it's time to sleep. Some people watch television, read a book, listen to soothing music, or soak in a warm bath.
- **Your bedroom should be dark, not too hot or too cold, and as quiet as possible.**
- **Be sure you have a comfortable mattress, a pillow you like, and enough blankets for the season.**
- **Exercise at regular times each day but not within three hours of your bedtime.**
- **Make an effort to get outside in the sunlight each day.**
- **Be careful about when and how much you eat.** Large meals close to bedtime may keep you awake, but a light snack in the evening can help you get a good night's sleep.
- **Stay away from caffeine late in the day.** Caffeine (found in coffee, tea, cola, and hot chocolate) is a stimulant that can keep you awake.
- **Drink less liquid in the evening.** Waking up to go to the bathroom and turning on a bright light breaks up your sleep.
- **Remember that alcohol won't help you sleep.** Even small amounts make it harder to stay asleep.
- **Use your bedroom only for sleeping.** After turning off the light, give yourself about 15 minutes to fall asleep. If you're still awake and not drowsy, get out of bed. When you feel sleepy, go back to bed.

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Working the Night Shift

Since an estimated 20 percent of the U.S. labor force works nights or rotating shifts, sleep deficiency has important implications for employers. Night shift workers are more likely to suffer an on-site injury and be overweight than daytime workers doing the same jobs.

LACK OF SLEEP INCREASES RISK OF INJURY

Whether you work the night shift consistently or just every now and then, it is vital to get seven to eight hours of sleep daily. This will allow you to remain alert and work more safely. A recent study on work shifts, safety, and productivity determined the following statistics:

- Your risk of injury is 30 percent higher on night shift compared with morning shift and is highest in the first two to three hours.
- Your risk increases over successive night shifts so that the fourth night shift carries 36 percent more risk than the first.
- With extended working hours, your risk increases exponentially and in the 12th hour of work it is twice what it was during the first eight hours.
- Your risk of injury is increased by not taking breaks and rises linearly and substantially with time from the last break.
- There is twice the risk of injury 90 minutes after your last break compared with immediately after a break.¹

MAINTAINING A HEALTHY WEIGHT

There are several reasons that night shift workers may tend to gain weight more than daytime workers. Many individuals use food to help them stay awake and fight boredom. It is also easy to lose track of calories consumed over a 24-hour period when mealtimes are irregular. Lack of exercise is another problem for people working at night.



The following are several ways to improve nighttime nutrition and physical activity.

- Pack your own healthy snacks to eat throughout the night; vending machines rarely offer healthy choices. Options may include fresh fruits and veggies, yogurt, pretzels, cottage cheese, whole-grain crackers, and air-popped popcorn.
- Eat your biggest meal of the day during the middle of your shift. This will reduce the need to snack too much.
- Use breaks to exercise and move around. This will help you burn extra calories to maintain your weight.²

While night shift workers have to make certain sleep and weight control adjustments, it is possible for you to have a healthy lifestyle.

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While sleep needs can vary significantly between individuals and populations, there are some generally accepted guidelines that are based on age.⁹ Most adults need seven to nine hours of sleep each day. Infants, children, and teenagers definitely need more sleep than adults.

According to Dr. Chris Drake, senior scientist at the Henry Ford Hospital Sleep Disorders and Research Center in Detroit, “The group of people getting optimal sleep is getting smaller and smaller. When a person’s sleep drops to six hours or less, that’s when a lot of things become very problematic.”¹⁰

Adults with persistent sleep deficiency should consult their doctor. They may have one of the more than 70 recognized sleep disorders, such as sleep apnea, that can warrant medical attention. Dependency on sleep medications to solve the problem should be avoided. While these may be helpful for temporary insomnia, they do not address the real cause of sleep deficiency.⁴

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Take a Walk



This is a great time of year to encourage your employees to be active through walking. SelectHealth has created an effective turnkey walking program, called Walk A Day, for you to implement with your employees.

According to Hippocrates, “walking is man’s best medicine.” Implementing the Walk A Day program with your employees can help them lose weight, enhance their mood, lower their risk for heart disease, help prevent osteoporosis, and improve their sleep.

Walk A Day comes complete with a physical activity tracker for your employees to record their exercise during the program, educational materials on walking, and quizzes. It is flexible enough to fit any work site environment. You can offer the tracker and the educational pieces, or you can just provide your employees with education on walking.

In addition, you can award prizes to those who track the most miles, or you can have your employees walk to a specific location and have each minute of exercise represent one mile on their journey. For example, SelectHealth has implemented Walk A Day with our employees using a virtual walk through all the national parks in Utah, beginning in Logan and ending at Zion National Park in St. George. Every minute of exercise an employee participates in equals one mile on their trek through the parks. Participants are eligible for prizes based on the number of miles they complete.

For more information on the Walk A Day program, visit www.selecthealth.org.

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Walking for Health

Walking is an easy, low-impact exercise that can help you attain a higher level of fitness and health. Whatever your age, it's a safe, inexpensive, enjoyable way to stay fit and improve your overall health and quality of life. Walk for health, weight loss, companionship, or time alone.

The following are some benefits to a good walking program:

- Reduced stress, anxiety, and depression
- Decreased risk of heart attack, high cholesterol, high blood pressure, and stroke
- Decreased risk of developing type 2 diabetes
- Increased calorie expenditure and weight maintenance
- Reduced risk of injury

When walking, it is important to wear comfortable shoes and to dress in loose-fitting clothes and layers that can be adjusted in various temperatures. If you walk at night, wear bright colors or carry a light so motorists will be able to see you.

START OUT ON THE RIGHT FOOT

Spend roughly five minutes walking slowly to help warm up your muscles and decrease your risk of injury. After warming up, stretch your muscles for about five minutes before walking, holding each stretch for ten to 30 seconds. Do stretches that work the calves, quadriceps, hamstrings, lower back, and chest. For information on how to stretch these muscles, visit www.selecthealth.org/getfit and refer to the stretching section.

AVOID WALKING PLATEAUS

If you already have a regular walking program, keep it up and try to continually change your routine. If you've been inactive, start slow and steady. In the beginning, walk only as far as or as quickly as you



feel comfortable. If you are able to walk for a few minutes, make that your starting point. For example, try short, daily sessions of three to five minutes and then slowly build up to two sessions of 15 minutes each. After a number of weeks, you can increase to one session of 30 minutes of walking, most days each week. Use the FITT (Frequency, Intensity, Time, and Type) principle to alter your workouts. Adjusting any of these factors can help to alleviate boredom and prevent plateaus. A complete description of the FITT principle is available at www.selecthealth.org/getfit.

KNOW YOUR LIMITS

As you get stronger by walking regularly, you will be able to increase your intensity. By realizing your capabilities, you will improve steadily. Listed below are two ways to help you measure the intensity of your walk:

- **Talk test method.** If you are unable to carry on a conversation with the person that you are walking with, you may be going too fast for your ability. Consider slowing down.
- **Monitor your heart rate.** To find out whether or not you are exercising within your target heart rate, stop and check your pulse. It is recommended to stay within 60 to 90 percent of your maximum heart rate (220 minus your age).

The content presented in this newsletter is for your information only. It is not a substitute for professional medical advice, and it should not be used to diagnose or treat a health problem or disease. Please consult your healthcare provider if you have any questions or concerns.