

MANAGING SLEEP:

Feel Awake & Rested

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

INTRODUCTION: A brief description of the program and the subject that it addresses.

PROGRAM OUTLINE: Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

PREPARING FOR AND CONDUCTING THE PRESENTATION: These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

REVIEW QUESTIONS AND ANSWERS: Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

INTRODUCTION

Fatigue, drowsiness or just simply being too tired—Poor sleep is taking a toll on society. It can affect our productivity, our social life and even our health and safety. Fatigue can be caused by a variety of factors from psychological causes such as stress, anxiety or depression to physical ailments. It can even be caused by certain medications, but it is also caused by our lifestyle habits and work schedules. This program discusses the practices and habits we all can develop to manage these issues so we can improve both the quantity and quality of our sleep in order to lead safer, healthier and more productive lives.

Topics include sleep pressure and circadian rhythm, the various stages of sleep, the importance of managing your sleep, practices and habits for good sleep hygiene, methods for combatting the risks of odd-hour shift work and drowsy driving.

PROGRAM OUTLINE

FATIGUE/INSUFFICIENT SLEEP STATISTICS

- In a recent study, more than half of adults said that poor or insufficient sleep affected their daily activities at least once in the previous seven days.
- Despite sleeping within the recommended number of hours a night, 35 percent reported their sleep quality as “poor” or “only fair.”
- Even more alarming is that 13 percent of injuries in the workplace could be contributed to fatigue and that over 5,000 fatal traffic accidents involve drowsy driving every year.
- We are all susceptible to fatigue and the dangerous effects it can have our work and health, although some of the people most at risk to fatigue include shift workers, especially those with varying or alternating shifts; also, those people who work very long shifts with early morning or evening hours.

BIOLOGICAL PROCESSES THAT AFFECT SLEEP

- Sleep is a necessary and automatic function of our body. While we have very little conscious control over it, it's important to understand the two biological processes that influence our need to sleep.

Sleep Pressure

- The first one is called sleep pressure. When we wake from a good night's sleep, we have very low sleep pressure, or the need to sleep.
- While we are awake, our body begins to build up several chemicals that induce sleep. As we continue throughout the day, the accumulation of these chemicals increases our sleep pressure, a bit like an hourglass egg-timer.
- At the end of a full day, at bedtime, these chemicals will have created a great amount of pressure to sleep. The only thing that relieves the sleep pressure and reduces these chemicals is deep stages of sleep.

Circadian Rhythm

The other process at work here is what's known as our circadian rhythm, which is often referred to as our "body clock" because it acts like an internal 24-hour clock running in the background of our brain and cycling us between sleepiness and alertness.

- For most of us our circadian rhythm has us feeling the most tired late at night. Part of this is because as it becomes dark, our body generates a hormone called melatonin which signals to our brain that it's time to prepare to sleep.
- That's why it's often difficult for shift workers or those who drive long distances at night to sleep during the day and stay awake at night.

STAGES OF SLEEP

- So let's look at some ways we can effectively manage our sleep to get the best quantity and, more importantly, the best quality of sleep. First, we need to understand that we sleep in stages reflecting different levels of brain activity.
- Stage 1, called light sleep or sleep onset, is the transition from being awake to being asleep. Our eyes are closed and we start to lose conscious awareness of our external environment. We can still be easily awakened.
- During Stage 2 sleep, we lose more awareness of our environment and our muscles begin to relax. About half of our sleep time is spent in Stage 2 sleep.
- Stages 3 and 4 are slightly different, but both involve deep sleep. Our muscles relax even more; and, our breathing and heart rate slows. During deep sleep, it's difficult for us to be wakened.
- Deep sleep is very important because that's when a lot of physical fatigue of the body is repaired after all the physical activity during the day.
- Next, we move on to the stage called REM sleep, which stands for rapid eye movement. During REM sleep, our brain activity greatly increases, our eyes move rapidly and most of our dreams occur. At the same time, our voluntary muscles, such as our arms and legs, become somewhat paralyzed.
- REM sleep is important for our brains to repair and restore themselves. REM sleep also helps us process and solidify our memories.
- The cycle of Stage 1 thru REM sleep typically averages about 90 minutes; this is called a "sleep cycle."

IMPORTANCE OF MANAGING YOUR SLEEP

- To manage our sleep and to feel the most rested, it's important that we wake up after REM sleep, when our brains are active and closest to being awake. Waking during Stages 3 or 4, when we are in deep sleep, can leave us feeling unrested for much of the day.
- As we become drowsy, brain activity slows. As we go into deep sleep, the waves are very long and looping.
- Then in REM stage the waves are much more active and similar to being awake. That's why it is much easier and more productive to wake after REM than during deep sleep.
- Let's say you have your alarm set for 5:30 in the morning, but at 5 you wake up, after REM sleep. This is when it's easiest to wake up because your brain is more alert.
- If you decide to get another half hour of sleep before the alarm, there can be a problem. You may slip into deep sleep. When the alarm goes off, you're going to feel groggy and disoriented for quite a while.
- If you had gotten up earlier at 5 a.m., after the REM sleep, you'd feel more alert and rested. That extra half hour of sleep could actually be detrimental.

- For most people, the normal sleep cycle is about 90 minutes, so five sleep cycles totals seven and a half hours. Adding 30 minutes for falling asleep gives you the traditional eight hours of sleep.

SETTING YOUR ALARM CLOCK AT THE APPROPRIATE TIME

- An important fatigue management technique is to set your alarm to coincide with the end of a sleep cycle that is nearest to the time you would like to get up.
- This is easiest if you go to bed consistently at the same time, but if your bed time varies for whatever reason, set your alarm to coincide with the end of a sleep cycle.
- Here's an example. Say I need to be out of bed at 6 a.m. to be ready to leave for work on time. To get my eight hours sleep, I would need to be in bed at 10 p.m., but today I stayed up to watch another episode of that TV series I've been binge watching.
- So I actually get to bed at 11 o'clock tonight, giving myself 20 to 30 minutes to fall asleep my first sleep cycle begins at 11:30. Since I need to be up by 6 a.m., I have 6.5 hours available. That allows for four sleep cycles, which will end at 5:30 a.m.
- So I set my alarm clock for 5:30, waking up 30 minutes earlier than my regular time, but I feel better since I did not start into another cycle.
- Cutting your sleep cycles on successive nights may result in what we call "sleep debt" and this debt will eventually need to be repaid. You've heard the term "catching up on your sleep." That's exactly what you need to do.
- The best way to achieve this is to get a regular period of good sleep, meaning going to bed when you are tired without setting an alarm and waking up when you feel rested.

GOOD SLEEP HYGIENE

- It's not important to just get enough sleep; we also need to make sure we get good quality sleep.
- These practices and habits are known as good sleep hygiene. Good sleep hygiene can help you get quality sleep whether you work during the day or have a night shift.
- We've probably all heard this one: avoid stimulants such as coffee, nicotine and alcohol.
- The effects of caffeine can last for six hours. Energy drinks with high caffeine content as well as sugar can have an even stronger effect.
- In fact, if you feel the need for energy drinks throughout your day, it's probably a sign that you're already not getting the right quantity or quality of sleep to begin with.
- Avoid eating several hours before bedtime. If you do have an occasional snack before bed, avoid rich foods. Eat foods that you know from experience won't cause you indigestion.
- It's best to be consistent with your sleep schedule. Going to sleep and waking at the same times each day trains your body to set its clock accordingly. Maintaining the schedule on weekends and days off will help you start your week refreshed and alert as well.
- Your sleep environment is important. Make your bedroom into a sleep inducing space. A dark and cool room around 70 degrees will encourage sleep.
- Even small lights can affect your ability to fall asleep and can disrupt your sleep cycles. Avoid having light from clocks or cellphones interfere with your sleepiness. Set your alarm and turn it away.
- As we approach bedtime, it's important to slow down our physical activities and brain wave activities.

- Exercise can be very beneficial and can help you get a good night's sleep, but don't exercise within three hours of bedtime. Engage in activities that make you relax such as reading.
- If you watch television or spend time on the computer in the evening, you should be aware that the light emitted from these devices can trick our mind into thinking it's time to be awake. That's why it's recommended that we avoid screen time for an hour or more before going to sleep.
- Sometimes it seems impossible to not take your problems to bed with you. If your thoughts are keeping you from falling asleep, don't be a clock watcher. If you are not asleep in 20 or 30 minutes, get out of bed, go to another room and do something relaxing until you feel tired enough to go back to bed.

RISING FROM SLEEP

- Good sleep hygiene also extends into rising from sleep. If you use a snooze button, make sure it's only set for a few minutes. Any longer and you will run the risk of falling into deep sleep.
- Drinking cold water and getting sunlight as soon as we rise can help to increase our alertness and signal to our body that it is time to be awake.
- If you can fit it into your schedule, some brief exercise is a good way to start your day and increase your alertness.

NAPPING

- For some of us, napping at times can be beneficial, but there are a few important considerations that can affect the quality of sleep we get later.
- First, limit your nap to no more than 20 or 30 minutes, a power nap. Remember our sleep cycles? We want to prevent going into the deep sleep stages.
- Also, avoid napping within four or five hours of bedtime. The goal of a nap is to refresh your mind. You don't want to reset your body clock.
- Practicing good sleep hygiene habits can greatly improve your quality of sleep, but if your problems with sleeping and fatigue persist, by all means, talk to your doctor. Many people suffer from a variety of sleep disorders.

SHIFT WORK RISKS

- People who are involved in shift work are especially susceptible to fatigue. Working at night and sleeping during the day is at odds with our body's natural circadian rhythm. So it's especially important to learn to manage your sleep if you work at night or work variable shifts.
- Shift work involves a wide swath of our working population, from factories and warehouses to on the road with truck drivers and transit drivers. Hospitals, police and fire departments all have important functions to perform 24/7.
- On average, those people who sleep during the day, get 2.5 hours less sleep than those who sleep during the night. They also spend much less time in deep sleep compared to those who sleep at night. This inequality of sleep patterns brings about increased sleep debt which can affect our health and safety as well as the safety of those around us.
- Not only are there more accidents per work hour during the evening, night and early morning shifts, there are more traffic accidents involving drowsy driving on commutes home from the night shift.

STAYING AWAKE DURING ODD-HOUR SHIFTS

- Let's talk about some good practices for staying awake, alert and safe when you are working on the evening or night shift.
- If possible, take a walk or get some exercise before going to work a late shift, especially if the sun is out. Sunlight will tell your body it is time to be awake.
- Drink plenty of water. It increases the oxygen level in your blood, which can increase alertness.

- Avoid eating one large meal during your shift. Eat healthy, smaller meals on breaks. It will boost your metabolism and decrease that after lunch sluggishness.

ACTIONS TO TAKE UPON COMPLETION OF YOUR SHIFT

- As you near the end of your shift, you need to help your body begin the transition to your upcoming period of sleep. Avoid caffeine near the end of your shift and on your commute home.
- If the sun is up when you leave your workplace, wear sunglasses to minimize the light and help your body feel it is time to wind down for the day.
- Go to bed as soon as possible after arriving home. Make sure your bedroom room is dark, quiet and cool. Some people find white noise machines or fans help to drown out external noises.

DROWSY DRIVING

- Whether you are commuting to or from work or driving a long stretch on the highway, your ability to drive safely can be greatly affected by fatigue or drowsiness.
- Drowsy driving is involved in over 20 percent of traffic collisions and over 16 percent of fatal crashes.
- Studies show that being awake for more than 17 hours is similar to having a blood alcohol level of .05. Going without sleep for 24 hours has the same effect as a BAC of .1, double the legal limit.
- Watch for symptoms of fatigue while driving: yawning, lack of concentration on driving, day dreaming.
- Have you ever been in a vehicle and felt your head droop and suddenly pop back up? You probably thought you almost fell asleep.
- If you were driving, it was an important wake up call, because you actually had fallen asleep. You were probably asleep for a time as short as a second and up to several seconds. When your muscles relaxed enough that you were unable to hold your head up, you nodded off and then woke yourself up.
- This is called a “microsleep” and most of the time we don’t realize it is occurring. In fact, they can even occur while your eyes are open.
- Depending on your speed, your vehicle may have traveled hundreds of feet while you were unconscious. This is why it’s so important to be aware of our level of fatigue while we’re on the road.
- If you do feel drowsy, pull over and get out of the vehicle and stretch to regain your alertness. If you are very drowsy, take a 15-minute power nap.

PREPARE FOR THE SAFETY MEETING

Review each section of this Leader’s Guide as well as the program. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Copy the review questions included in this Leader’s Guide and ask each participant to complete them.

Make an attendance record and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your video equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the program.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to discuss the practices and habits we all can develop to manage the factors that cause fatigue so we can improve both the quantity and quality of our sleep in order to lead safer, healthier and more productive lives.

Introduce the program. Play it without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about jobs and tasks at your facility that may be affected by worker fatigue and the habits employees can develop to stay alert and safe during their shifts and on the way home.

After watching the program, viewers should be able to explain the following:

- How sleep pressure and circadian rhythm influence our need to sleep;
- What the stages of sleep are;
- Why it is important to manage our sleep;
- What practices and habits to follow and develop as part of our good sleep hygiene;
- How to stay awake and alert during odd-hour shifts;
- Why drowsy driving is so dangerous and why we must always be aware of it.

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REVIEW QUIZ

The following questions are provided to determine how well you understand the information presented in this program.

Name _____ Date _____

1. A recent survey found that _____ of workplace injuries could be contributed to fatigue.
 - a. 3 percent
 - b. 10 percent
 - c. 13 percent
2. When we wake from a good night's sleep, we have very _____ sleep pressure.
 - a. High
 - b. Low
3. _____ sleep is also called light sleep or sleep onset.
 - a. Stage 1
 - b. Stage 2
 - c. Stage 3
 - d. Stage 4
4. About half of our sleep time is spent in _____ sleep.
 - a. Stage 1
 - b. Stage 2
 - c. Stage 3
 - d. Stage 4
5. The cycle of Stage 1 through REM sleep typically averages about _____.
 - a. 30 minutes
 - b. An hour
 - c. 90 minutes
6. To manage our sleep and to feel the most rested, it's important that we wake up after _____ sleep.
 - a. Stage 3
 - b. Stage 4
 - c. REM
7. It is recommended that you avoid TV, computer and mobile device screens for _____ or more before going to sleep.
 - a. 15 minutes
 - b. 30 minutes
 - c. An hour
8. If your thoughts prevent you from falling asleep after going to bed, you should check your clock frequently to help you get to sleep.
 - a. True
 - b. False
9. After arriving home from a night shift, you should take 30 minutes to an hour to wind down before going to bed.
 - a. True
 - b. False
10. Drowsy driving is involved in over _____ of traffic collisions.
 - a. 10 percent
 - b. 15 percent
 - c. 20 percent

ANSWERS TO THE REVIEW QUESTIONS

1. c
2. b
3. a
4. b
5. c
6. c
7. c
8. b
9. b
10. c