

## Introduction

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Shift workers perform critical functions in hospitals, on police forces, as emergency personnel, and in the transportation and manufacturing industries, meeting the demand for “round-the-clock” service in an age of global interaction. More than 22 million Americans are shift workers, and that number is growing by 3 percent each year! These employees usually work at times other than the usual “nine to five” business day. They work when most people are asleep and attempt to sleep when everyone else is awake.

## ... and Sleep

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Unfortunately, when it comes to sleep, most shift workers usually don't get enough. When shifts fall during the night (For example, 11 p.m. – 7 a.m.), the worker is fighting the natural wake-sleep pattern. It may be hard to stay alert at night and just as hard to fall asleep and stay asleep during the day. Night shift workers get less sleep than daytime workers do, and the sleep is usually less restful. Sleep is more than just “beauty rest” for the body; it helps restore and rejuvenate the brain and organ systems so that they function properly. Chronic lack of sleep can affect a person's health, memory, mood, and work performance, which effects workplace safety.

## Sleep and the Circadian Clock

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All creatures need sleep — even plants appear to have rest periods. The human body naturally follows a 24-hour period of wakefulness and sleepiness that is regulated by an internal circadian clock. In fact, the circadian clock is linked to nature's cycle of light and darkness. The clock regulates cycles in body temperature, hormones, heart rate, and other body functions. For humans, the desire to sleep is strongest between midnight and 6 a.m. Many people are alert in the morning, with a natural dip in alertness in the mid-afternoon. It is difficult to reset the internal circadian clock. It is not surprising that 10 - 20 percent of night shift workers report falling asleep on the job, usually during the second half of the shift. That's why shift workers who work all night may find it difficult to sleep during the day, even though they are tired.



Photo by Andrea Booher/Courtesy FEMA News Photo

## When You Don't Get Enough Sleep

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According to a National Sleep Foundation poll, 65 percent of people report that they do not get enough sleep (most adults need 8 hours of sleep). When sleep deprived, people think and move more slowly, make more mistakes, and have difficulty remembering things. These negative effects can lead to lower job productivity and cause accidents, which cost U.S. businesses an estimated \$18 billion each year! Lack of sleep is associated with irritability, impatience, anxiety, and depression. These problems can upset job and family relationships, spoil social activities, and cause unnecessary suffering.

Shift workers can experience more stomach problems (especially heartburn and indigestion), menstrual irregularities, colds, flu, and weight gain than day workers. Heart problems can be more common too, along with higher blood pressure. The risk of workplace and automobile accidents rises for tired shift workers, especially when driving to and from work.

## Getting Ready for Successful Shuteye

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A shift worker can set the stage for sleep by preparing their mind and body for sleep.

- Wear wraparound dark glasses when traveling home from work. This will prevent the sunlight from activating the workers' internal “daytime” clock.
- Follow bedtime rituals and try to keep a regular sleep schedule — even on weekends.
- Go to sleep as soon as possible after work.

- Ask family and friends to help create a quiet and peaceful setting at home during sleep time. Have family members wear headphones to listen to music or watch TV. Ban vacuuming, use of the dishwasher, and noisy games during sleep time.
- Put a “Do Not Disturb” sign on the front door so that delivery personnel and visitors will not knock or ring the doorbell.
- Schedule household repairs around the sleep time.



## Tips for Successful Shuteye

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There are several steps a shift worker can take to successfully fall asleep and stay asleep. The key is to make sleep a priority!

### **Bedtime Rituals**

- Take a warm bath or soak in a hot tub.
- Lower the room temperature (a cool environment improves sleep).
- Don't “activate” the brain by balancing a checkbook, reading a thriller, or doing other stressful activities.

### **Light**

- Darken the bedroom and bathroom.
- Install light blocking and sound absorbing curtains or shades in the bedroom.
- Wear eyeshades.

### **Sound**

- Wear earplugs.
- Use a white noise machine, like a fan, to block other noises.
- Install carpeting and drapes to absorb sound.
- Unplug the telephone.

### **Food**

- Avoid caffeine less than five hours before bedtime.
- Don't stop for a drink after work; although it may bring the feeling of relaxation, alcohol disturbs sleep.
- Eat a light snack before bedtime. Don't go to bed too full or too hungry.

## **Exercise**

- If exercising at the workplace, do so at least three hours before going to bed. Otherwise, exercise after sleep. Because exercise is alerting and raises the body temperature, it should not be done too close to bedtime.

## **Sleeping Pills and Aids**

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Prescription sleep medications do not cure sleep problems, but may be recommended for short-term use. A shift worker should inform their doctor of their work schedule, because these medications may be helpful for one or two sleep cycles after a shift schedule change.

Melatonin is a chemical that is produced by the body to help induce sleep. Melatonin supplements have been advertised as a sleep aid. However, studies have not shown that melatonin helps shift workers. Also, questions about safety and dosing have not been answered. The U.S. Food and Drug Administration considers melatonin experimental.

## **Napping**

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It is important for shift workers to keep a regular sleep schedule, even on days off and weekends. However, if they cannot get enough sleep or feel drowsy, naps as short as 20 minutes can be helpful. Naps can maintain or improve alertness, performance, and mood, even though people may feel groggy or sleepier after a nap. These feelings usually go away within 1-15 minutes, while the benefits of the nap may last for many hours. The evening or night shift worker can take a nap to be refreshed before work.

Studies show that napping at the workplace is especially effective for workers who need to maintain a high degree of alertness, attention to detail, and who must make quick decisions. In situations where the worker is working double shifts or 24-hour shifts, naps at the workplace are even more important and useful.

## **The Ride Home**

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Driving home after work can be risky for the night shift worker, particularly since they have been awake all night and the body needs to sleep. For the evening worker coming home around midnight, the risk of meeting drunk drivers is higher. People think that opening the car windows or listening to the radio will keep them awake. However, studies show that these methods work for only a short period of time. If the worker is sleepy when the shift is over, they should try to take a nap before driving home.

Remember, sleep can quickly overcome a driver even when they don't want it to.

Follow these steps to arrive home safely:

- Carpool, if possible. Have the most alert person do the driving.
- Drive defensively.
- Don't stop off for a "night cap."
- When sleepy, stop to nap, but do so in a locked vehicle in a well-lit area.
- Take public transportation, if possible.

## Promoting Alertness at Work

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Just as a worker can take steps to ensure a good night's - or day's - sleep, steps can be taken to stay alert on the job.

- Take short breaks throughout the shift.
- Try to work with a "buddy." Talking with co-workers can help keep a worker alert. Also co-workers can be on the lookout for signs of drowsiness in each other.
- Try to exercise during breaks. Use the employee lounge, take a walk, shoot hoops in the parking lot, or climb stairs.
- Try to eat three normal meals per day. Eat healthy snacks, avoiding foods that may upset the stomach.
- If drinking caffeinated beverages (coffee, tea, colas), do so early in the shift, e.g., before 3 a.m. for the night shift worker.
- Don't leave the most tedious or boring tasks to the end of the shift when feeling the drowsiest. Night shift workers usually hit their lowest period around 4 a.m.
- Exchange ideas with colleagues on ways to cope with the problems of shift work. Set up a support group at work to provide support and learn from other workers.

## Seeking Medical Help

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If after trying some of these tips a shift worker still cannot get enough sleep, it may be time to seek professional help. If problems persist, the shift worker needs to talk to a doctor. Remember, when a worker is not getting the sleep they need, they are at risk... and so are those around them. Inadequate sleep increases the risk for falling asleep at the wheel, accidents on the job, and problems at home. A doctor can help identify the cause, which can be successfully treated or managed. A doctor

can evaluate sleep problems and determine whether the worker may have a sleep disorder.

Sleep specialists have additional training in sleep medicine and can both diagnose and treat a variety of sleep disorders. Many sleep specialists' work at sleep centers.

## Operating Equipment Safely

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If a shift worker operates heavy equipment or drives a vehicle during their shift work, they must pay careful attention to signs of sleepiness or fatigue. To ignore signals such as yawning, frequent blinking, a sense of tiredness, or a failure to make routine safety checks may put them and others at risk. If they feel sleepy, they should stop work as soon as safely possible. They should contact their supervisor and request a break or nap, or have a caffeinated product in order to help increase alertness. Remember, caffeine is not a long-term substitute for sleep.

## Balancing Life and Work

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The shift worker faces special problems in trying to maintain family relationships and social and community ties. It becomes difficult to balance work, sleep and personal time. The need to sleep during the day (or, for the evening worker, to be on the job during the dinner hour and the family-oriented part of the day) means that the shift worker often misses out on family activities, entertainment, and other social interaction. That is why it is important to talk with family members and friends about concerns. With their help, schedule special as well as regular times with spouse, children, and friends. Remember that sleep loss and feeling at odds with the rest of the world can make the worker irritable, stressed, and depressed. As one expert puts it, "Blame the shift work - not your kids!"

## For the Employer

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There are a number of ways employers can make the workplace safer and more productive for shift workers.

- Educate managers and shift workers about the need for sleep and the dangers of fatigue.
- Install bright lights in the work areas. A well-lit workplace signals the body that it is time to be awake and alert.
- Provide vending machines with healthy food choices and a microwave oven.
- Schedule shifts to allow sufficient breaks and days off, especially when shift workers are re-assigned to

different shifts. Plan enough time between shifts to allow employees to not only get enough sleep, but also attend to their personal life.

- Don't promote overtime among shift workers.
- Develop a napping policy. Encourage napping by providing a sleep friendly space and time for scheduled employee naps. A short break for sleep can improve alertness, judgment, safety, and productivity.
- Encourage the use of carpools, public transportation, rested drivers, and even taxis to provide safety for employees traveling to and from work.

### **Shift work is not all bad; there are some advantages such as:**

- shopping in less crowded stores;
- attending daytime events, such as school events;
- participating in sports such as golf or tennis, during off peak hours;
- having less supervision while working night shifts which creates a more relaxed atmosphere;
- dressing more comfortable/causal when working off shifts;
- forming unique bonds with other shift workers doing the same job;
- enjoying the variety in life style that shift work provides, and productivity;
- encouraging the use of carpools, public transportation, rested drivers, and even taxis to provide safety for employees traveling to and from work; and
- enjoying the variety in life style that shift work provides.

### **Review Questions:**

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1. What is the recommended amount of sleep that adults should have in a day/night?
2. Caffeine helps a shift worker stay awake when they get sleepy. True or False?
3. What hour is considered the most dangerous for the shift worker to stay awake?
4. An alcoholic drink at bedtime will help a shift worker get to sleep. True or False?

### **Answers**

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1. Eight hours is recommended.
2. False. Caffeine will not keep a shift worker awake if they are sleepy.
3. 4 a.m.
4. An alcoholic drink may relax a shift worker, but it can disturb their sleep.

Remember to practice safety, don't learn it by accident.

This training program was published with information from the National Institute for Occupational Safety and Health, the [www.SleepFoundation.org](http://www.SleepFoundation.org), and the Texas Department of Insurance, Division of Workers' Compensation.

### **Resources**

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The Texas Department of Insurance, Division of Workers' Compensation (TDI/DWC) Resource Center offers a workers' health and safety video tape library. Call (512) 804-4620 for more information or visit our web site at [www.tdi.texas.gov/wc/safety/employers.html](http://www.tdi.texas.gov/wc/safety/employers.html).

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