

**Get on the Road to Better Health**  
Recognizing the Dangers of Sleep Apnea

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U.S. Department of Transportation  
Federal Motor Carrier Safety Administration



National  
Sleep  
Foundation

# You Will Learn About

- The importance and benefits of sleep
- Sleep deprivation and its consequences
- The prevalence, symptoms, and treatments for major sleep problems/ disorders
- Tips for healthy sleep
- Information on sleep apnea and commercial driving
- Where to obtain additional materials and information



# Objectives

- Increase driver and industry awareness about sleep apnea and other sleep disorders, including associated dangers, risk factors, symptoms, and treatments.
- Encourage drivers and others in the trucking and motorcoach industries to seek medical help if they are experiencing symptoms of sleep apnea or other sleep disorders.
- Ease driver and industry fears around sleep apnea by communicating that treatment will help reduce crash risk.



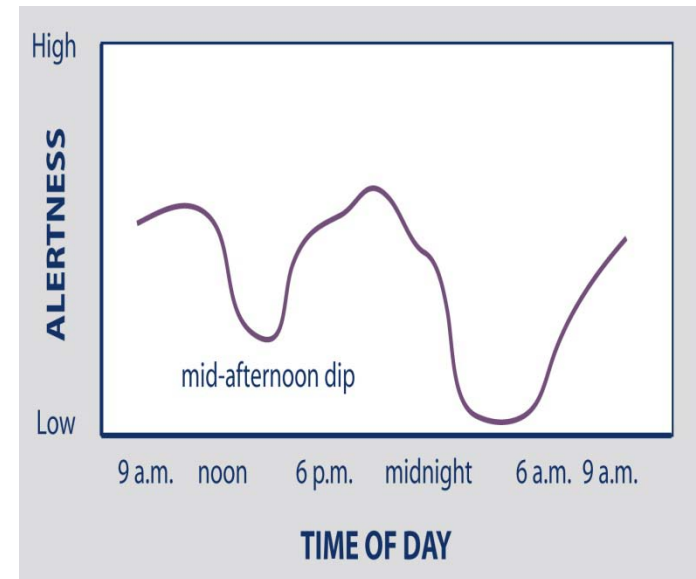
# Why is Sleep Important?

- Key to our health, safety, performance, and quality of life
- As essential to well-being as good nutrition and exercise
- As necessary for human existence as water, air, and food



# Sleep is Regulated by Two Body Systems

- **Sleep/Wake Restorative Process**  
*Balances Sleep and Wakefulness*
- **Circadian Biological Clock**  
*Regulates Timing of Sleep and Wakefulness*



# We Need Consolidated Restorative Sleep for:

- Functioning in a safe, efficient, and effective way
- Cognitive, social, and physical performance
- Emotional enhancement and relating well with others
- Learning and memory consolidation
- Optimal health and prevention of health problems



# Your Sleep Need

The average amount of sleep you must obtain on a daily basis to maintain alertness and avoid building a **sleep debt**—

- Each hour of lost sleep is added to your sleep debt.
- Your sleep debt can be reduced only by getting extra sleep—but you may not be able to reverse the long-term effects to your health.



# Chronically Sleep Deprived

- The average American sleeps less than 7 hours on weeknights.
- 74% of adults experience at least one symptom of a sleep disorder a few nights a week or more.
- 37% of adults say they are so tired during the day that it interferes with daily activities a few days a month or more.





# Why Aren't We Sleeping?

- Volitional sleep deprivation (work, lifestyle)
- Poor sleep habits
- Circadian factors (e.g., shift work)
- Environmental disruptions
- Untreated sleep problems/ disorders

We don't take sleep seriously!!!

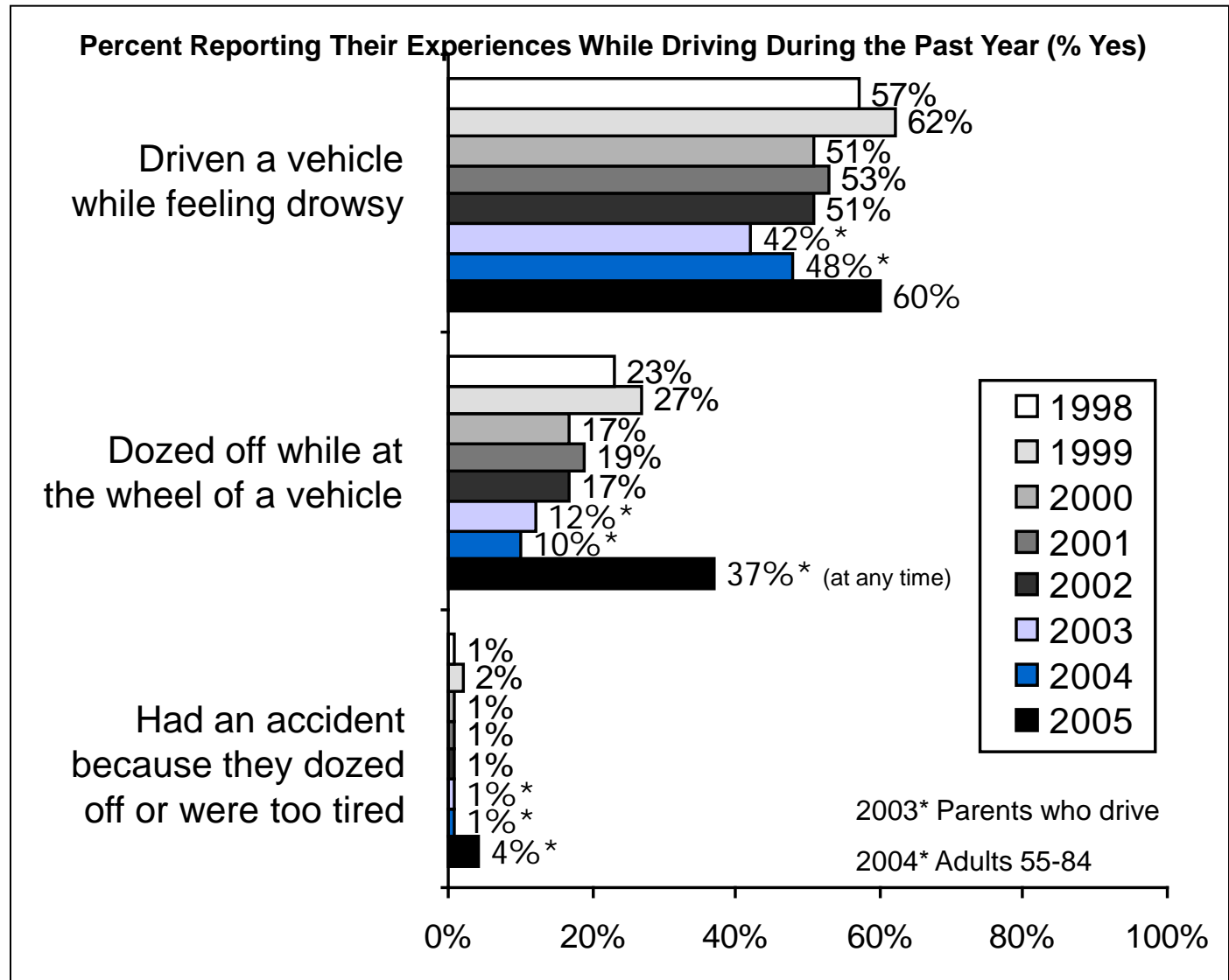


# Safety is Compromised

- 27% report being sleepy at work at least 2 days a week.
- 19% of adults report making errors at work.
- 2% report being injured on the job due to sleepiness.
- The majority of workers say that being sleepy makes work tasks (concentration, making decisions, solving problems) more difficult.



# Drowsy Driving



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# The Effects of Sleepiness and Fatigue

- Impaired reaction time, judgment, and vision
- Problems with information processing and short-term memory
- Decreased performance, vigilance, and motivation
- Increased moodiness and aggressive behaviors
- More “microsleeps”—brief (2–3 seconds) sleep episodes



# Health Consequences of Inadequate or Poor Sleep

- Body systems associated with major diseases (such as diabetes) function less effectively.
- Hormonal changes can accelerate the “paunch process” and lead to obesity and diabetes.



# Recognizing Sleep Problems & Disorders

- Sleep problems/disorders can be serious.
- Symptoms and experiences of sleep problems should be discussed with a doctor.
- Insomnia, snoring, sleep apnea, and Restless Legs Syndrome are all treatable.



# Insomnia

- Inadequate or poor quality sleep
- Difficulty falling asleep
- Frequent waking during the night
- Waking too early and being unable to go back to sleep
- Unrefreshed or non-restorative sleep



# Prevalence of Insomnia

- Approximately 40% of American adults experience occasional insomnia; 10–15% experience it on a chronic basis.
- Those most at risk:
  - Women
  - Older adults
  - Depressed persons





# Causes and Types of Insomnia

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Cause	Type	Duration
<p><b><u>Change:</u></b> acute illness; jet lag, emotional stress</p> <p><b><u>Stress:</u></b> loss of loved one or job</p>	Acute	<p><b><u>Transient:</u></b> few nights a week</p> <p><b><u>Short Term:</u></b> 1–2 weeks</p>
Variety of physical, medical, psychiatric, or environmental conditions	Chronic	> 1 month (at least 3 nights a week)
Not associated with underlying or known cause	Primary	> 1 month
Chronic stress, hyperarousal, or behavioral conditioning may contribute	Chronic	



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# Treatment of Insomnia

- Pharmacological Treatment
  - Over-the-counter medications
  - Prescription medications
- Behavioral Management
  - Stimulus response
  - Sleep restriction
  - Cognitive behavioral therapy
  - Relaxation training



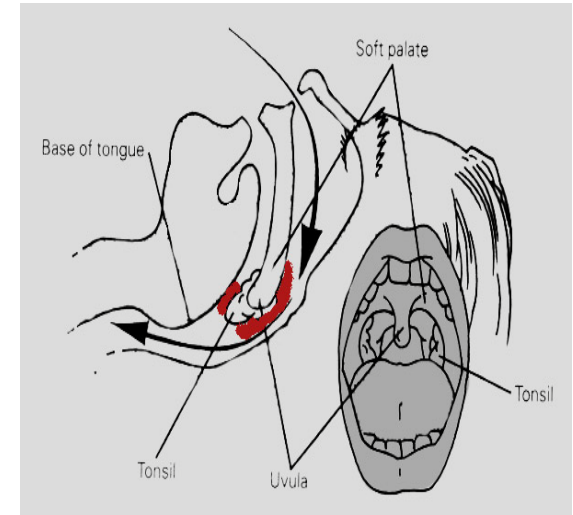
# Restless Legs Syndrome

- Affects about 12 million Americans
- Unpleasant, tingling, creeping feelings or nervousness in legs during inactivity and sleep with an irresistible urge to move; 80% may have involuntary jerking of limbs
- A neurological movement disorder leading to daytime sleepiness; can be associated with other medical conditions/problems



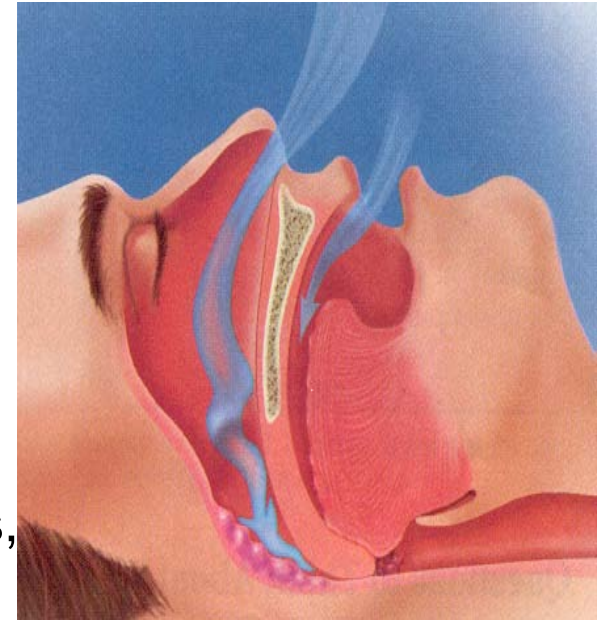
# Snoring

- Partial blockage of airway causing abnormal breathing and sleep disruptions
- 90 million snore; 37 million experience it on a regular basis
- Most at risk: Males, those who are overweight and have large neck size
- Loud snoring can be a symptom of sleep apnea and can be associated with high blood pressure



# Sleep Apnea

- Pauses in breathing due to obstruction in airway that causes gasps and sudden awakening from sleep
- 18 million; mostly males, those who are overweight and/or have high blood pressure, and persons with upper airway physical abnormality
- Lowers blood-oxygen levels, puts a strain on the heart, and is associated with cardiovascular problems and daytime sleepiness



# The Prevalence of Sleep Apnea Among Commercial Drivers

Research sponsored by the Federal Motor Carrier Safety Administration and American Trucking Associations found:

- Almost one-third (28%) of commercial truck drivers have some degree of sleep apnea
- 17.6% have mild sleep apnea
- 5.8% have moderate sleep apnea
- 4.7% have severe sleep apnea



# Treatment of Sleep Apnea

- **Behavioral Therapy**
  - Avoid alcohol, nicotine, and sleep medications
  - Lose weight if overweight
- **Physical or Mechanical Treatment**
  - Continuous positive airway pressure
  - Dental appliance
- **Surgery**



# Diagnosing and Treating Sleep Disorders

## For Diagnosis:

- **Polysomnography**  
measures brain waves, heart rate, body movements, and breathing in an overnight sleep study
- **Multiple Sleep Latency Test**  
measures daytime sleepiness

## For Treatment:

- Behavioral therapy
- Medications
- Devices or appliances
- Surgery





# What Should a Driver with Sleep Apnea Do?

- The driver and the diagnosing practitioner should contact the medical qualifying examiner to determine the driver's fitness to operate a commercial motor vehicle (CMV).



# What Level of Sleep Apnea Disqualifies a CMV Driver?

- A medical examiner must qualify and determine a driver's fitness to operate a CMV safely.



# What are the Obligations of a Motor Carrier?

- A motor carrier may not require or permit drivers to operate a CMV if the drivers have a condition, including sleep apnea, that would affect their ability to operate the vehicle safely.



# Tips to Promote Sleep

- Maintain regular bedtime and wake time schedule, including weekends.
- Establish a regular, relaxing bedtime routine.
- Create a dark, quiet, comfortable, and cool sleep environment.
- Sleep on a comfortable mattress and pillow.
- Use your bedroom only for sleep, not work or other stressful activities.



# Tips to Promote Sleep (cont'd.)

- Finish eating at least 2–3 hours before your regular bedtime.
- Exercise regularly. It is best to complete your workout at least a few hours before bedtime.
- Avoid caffeine, nicotine, and alcohol close to bedtime. They can disrupt sleep later in the night.
- Avoid napping if it will disrupt your sleep later that night.



# Summary

- Sleep is a basic biological need that is essential to our health, performance, safety, and quality of life.
- Sleep deprivation has serious negative consequences.
- Establishing healthy sleep practices prevents sleep problems and promotes optimal sleep.
- Signs and symptoms of sleep difficulties need to be identified and discussed with a doctor.
- Most sleep disorders can be treated successfully and need not affect your job.



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# For More Information

[www.fmcsa.dot.gov/sleep-apnea](http://www.fmcsa.dot.gov/sleep-apnea)

[www.sleepfoundation.org](http://www.sleepfoundation.org)

[www.drowsydriving.org](http://www.drowsydriving.org)



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