

DROWSY DRIVING

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THE EFFECTS OF DRIVING WHILE DROWSY

Driving while drowsy is much like driving under the influence of alcohol or drugs. Your reflexes are dulled, reaction time slowed, awareness decreased and judgment impaired.

- Driving while drowsy is a very serious matter.
- According to Pennsylvania Turnpike and New York Thruway estimates, sleepy drivers cause nearly half of the fatal crashes on those roadways.
- The National Highway Traffic Safety Administration (NHTSA) states: In 2014 there were 846 fatalities (2.6% of all fatalities) recorded in NHTSA's FARS database that were drowsy-driving-related. These reported fatalities (and drowsy-driving crashes overall) have remained largely consistent across the past decade. Between 2005 and 2009 there were an estimated average of 83,000 crashes each year related to driving while drowsy. This annual average includes almost 886 fatal crashes (2.5% of all fatal crashes), an estimated 37,000 injury crashes, and an estimated 45,000 property damage only crashes.

- According to the AAA Foundation for Traffic Safety, while official statistics from the U.S. government indicate that only approximately 1%–2% of all motor vehicle crashes involve drowsy driving, many studies suggest that the true scope of the problem is likely to be much greater. This Research Brief describes a study that examined the prevalence of driver drowsiness immediately prior to crashes that occurred in the context of a large-scale naturalistic driving study in which the driving of more than 3,500 people was monitored continuously for a period of several months using in-vehicle cameras and other data collection equipment. Drowsiness was assessed using a validated measure that is based on the percentage of time that a person’s eyes are closed. Using this measure, drowsiness was identified in 8.8%–9.5% of all crashes examined and 10.6%–10.8% of crashes that resulted in significant property damage, airbag deployment, or injury.

Everyone takes the dangers of drinking and driving seriously, but the hazards of driving while drowsy receive little attention. Many experts believe it’s the most serious issue facing the motoring public today.

THE BIOLOGY OF SLEEP

We each have a “biological clock” that tells our bodies when it needs to do certain things – eat, sleep, and wake up. It’s based on the “circadian hormonal rhythm” – a daily cycle with natural high and low periods. Circadian comes from the Latin words “circa,” (about) and “dian” (daily) or about a day.

Although some people can easily adjust their internal clock, most of us suffer when we’re thrown off our regular schedule. Shift work and jet lag are two examples of artificially interfering with one’s biological clock. The consequences can vary from person to person, but common side effects are physical discomfort and disorientation.

There’s a natural tendency for our bodies to slow down in the middle of the afternoon. The risk of accidents increases if one is on the road during this period. In fact, many fatigue related collisions occur between the hours of 1 p.m. and 4 p.m.

Nighttime is also an especially risky time for drivers. Our bodies naturally want to sleep when it’s dark, and sleep becomes almost irresistible late at night. In fact, the rate of fatalities on the road increases between midnight and 6 a.m. according to NHTSA.

WHO IS AT GREATEST RISK? (PER NHTSA)

Some people are at higher risk to driving drowsy.

- Commercial drivers operate their vehicles for a greater number of miles than general motorists, and often have to balance the demands of keeping on a schedule with handling cargo. Many deliveries are conducted in the early hours of the morning to accommodate customer schedules. This puts drivers on the road during the most dangerous time of the day.
- People with undiagnosed sleep disorders such as chronic insomnia, sleep apnea, and narcolepsy are at higher risk due to their biological condition. While these types of disorders affect approximately 30 million Americans, most people don’t realize they have a problem until it’s diagnosed.
- Shift workers, especially those who work at night, are prone to driving while drowsy. Their biological clocks have been altered by working during odd hours. The problem is especially severe if workers rotate from one shift to another with any frequency.
- Young drivers, typically under the age of 25, tend to get less sleep than they need.
- Additionally, they often travel at night when drowsiness is more of a problem.
- Any driver who is sleep-deprived, drives long distances without rest breaks, drives through the night or takes medication that causes drowsiness is at high risk.

WHAT ARE THE WARNING SIGNS OF DROWSINESS?

Most drivers can’t accurately judge their own level of sleepiness, and many nod off for just a couple of seconds. This phenomenon is referred to as “micro-napping.” Many drivers have experienced micro-napping, whether they admit it or not. This is a sign that the driver needs to take a break as soon as possible.

Other warning signs offered by the Centers for Disease Control and Prevention (CDC) include:

- Excessive yawning
- Trouble keeping vision focused
- Disconnected, random thoughts
- Trouble remembering driving the last few miles

- Drifting between lanes
- Tailgating or having trouble maintaining a consistent speed
- Missing traffic signs
- Drifting out of the lane and suddenly correcting to get back into the lane
- Drifting off the road and running on the shoulder

POPULAR WAYS OF DEALING WITH SLEEPINESS MAY NOT BE THE BEST

There are many popular solutions and techniques to help you cope with drowsy driving. Unfortunately, most are myths and should be avoided.

STIMULANTS

The use of caffeine to combat drowsiness is not a reasonable solution. In the short term, two cups of coffee will increase alertness, but it usually takes 30 minutes to be effective. Over time, the body adapts to the level of caffeine consumed, requiring more to obtain the same results. Plus, caffeine has no effect on the severely sleep-deprived.

SEDATIVES

Using alcohol to fall asleep during nightly rest time is not a good idea. Alcohol acts as a depressant and interferes with our normal sleep cycle. It also suppresses the Rapid Eye Movement (REM) stage of sleep, the most restful part of the sleep cycle. Although sleep may come more quickly with alcohol, the quality of beneficial rest is diminished. Note that the Federal Motor Carrier Safety Regulations prohibit commercial drivers from consuming alcohol prior to operating commercial vehicles.

SLEEP DEBT

Because of our fast-paced society, the average person often gets fewer hours of sleep than he needs - usually one to one and a half hours less per night. This chronic shortage (or "debt") of sleep builds up over time, and the body remembers that you've been getting too little sleep.

A consistent night's sleep is the best defense against sleep debt. To awaken refreshed, most people require seven to eight hours of sleep per night - every night. Furthermore, sleeping five to six hours a night during the week and then 10 to 12 hours during the weekend does not balance out your need. Sleep debt cannot be "made up."

HOW TO DEAL WITH DROWSINESS

Drivers need to examine their schedules at home and at work to see if there's a way to get the proper amount of sleep on a more consistent basis. Some rescheduling or prioritizing may be necessary.

- A regular sleep routine is very important. Going to bed at the same time and getting up at the same time each day, regardless of the day of the week, trains the body to fall asleep and wake up effectively.
- Certain nighttime rituals can lead to sleep. Remember bedtime stories when we were young? They helped prepare us for sleep. The same idea applies to adults. Routines such as checking locked doors, turning off lights, setting the alarm clock, are all done routinely at bedtime help let the body know that it's time to sleep.
- Diet may affect sleep. We all know people who can drink coffee all night long and still fall asleep when their head hits the pillow. But most of us have to watch caffeine intake throughout the day to avoid insomnia.
- Sometimes medication, either prescription or over-the-counter type, or in combination, may cause sleep problems. Many analgesics contain caffeine. Check with your doctor or pharmacist about the possible side effects of any medication you're taking, and ask if there's a better time of day to take your meds that might help minimize potential sleep related issues.
- Avoid using the bedroom to watch TV, read books or magazines.
- Look for psychological or stress-related issues. Personal and/or professional problems can interrupt sleep. Be sensitive to the issues that could impact your drivers. If your company sponsors an Employee Assistance Program (EAP), drivers can get professional assistance from an EAP provider or a recommended resource.

See the doctor. Sometimes people can't sleep because of medical problems. Regular visits to the doctor can help. An annual physical is always a good idea, and it's definitely the time to address drowsy driving concerns, especially if a driver is in the risk group.

Encourage drivers to tell their physicians about drowsy driving experiences and to request remedies for common sleeping disorders. Actual sleep disorders require a formal diagnosis, and are treatable with proper medical assistance.

Get plenty of exercise. Regular exercise can help make the time asleep more beneficial. But, beware – rigorous exercise prior to bedtime can interfere with sleep.

Involve the families of drivers who have drowsy driving problems. Direct communication with a spouse can be most helpful. Talk about the effects of driving while drowsy and the means to overcome the problem. A driver's family may be the company's best ally in addressing this issue. After all, they have the greatest stake in the driver's safety.

Take an "antidote" while on the road. Let your drivers know that if they experience drowsiness while on the job, it's acceptable to take remedial action. In fact, make recommendations to help overcome the urge to fall asleep. Have your drivers follow these suggestions:

- Take a brief, moderately paced walk. This can do more to refresh the mind and body than a strong cup of coffee or a caffeinated soda.
- Take a short nap, especially during the afternoon "lull." Tests have shown a 15-20 minute nap can be very refreshing. Longer naps often lead to sleep inertia, that groggy, "out of it" feeling we've all experienced after napping too long.

Encourage drivers to find a quiet, protected rest area where they can safely park and take either a walk or a nap. At first, it may feel awkward to take an exercise break or a nap while on the job. However, it's certainly preferable to being involved in an accident.

Everyone views a coffee break as acceptable, but, as mentioned above, the effects of caffeine requires 30 minutes to get into the system. A 15-20 minute walk or nap can refresh more quickly with better results.

Help your drivers recognize that there are better alternatives to the drowsy driving problem than just that cup of coffee.

RESOURCES

Several sites you may want to check out include:

- AAA Foundation for Traffic Safety:
<https://aaafoundation.org/prevalence-drowsy-driving-crashes-estimates-large-scale-naturalistic-driving-study/>
- National Highway Traffic and Safety Administration:
<http://www.nhtsa.dot.gov>
- American Medical Association:
<http://www.ama-assn.org/>
- National Institutes of Health:
https://www.nhlbi.nih.gov/files/docs/resources/sleep/dwydrv_y.pdf
- Centers for Disease Control and Prevention:
<https://www.cdc.gov/features/dsdrowsydriving/index.html>

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