Drowsy Driving

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What is drowsy driving?

Drowsy driving is the operation of a motor vehicle while being impaired by a lack of sleep. Sleepiness can impair drivers by causing slower reaction times, compromised vision and coordination, lapses in judgment and delays in processing information. Studies show that being awake for more than 20 hours results in an impairment equal to a blood alcohol concentration of 0.08 percent, the legal limit in all states. Like alcohol, fatigue slows reaction time, decreases awareness and impairs judgment.

At times, drowsy drivers may slip into brief "microsleeps," – defined as periods of time characterized by loss of attention to their surroundings and blank stares. Driving simulator studies of such drivers have indicated that driving performance during these brief periods becomes significantly worse, as illustrated by reduced control over vehicle position in the lane and greater likelihood of leaving the lane on a curve. Drivers are often unaware of slipping into microsleeps, and thus may be not aware of their worsening attention and vehicle control.

Drowsy driving can result in high costs – both personal and economic. Apart from the emotional pain endured by victims' families, multi-million dollar settlements have been awarded to families of drowsy-driving crash victims as a result of lawsuits filed against both individuals and businesses. The dangers of driving while fatigued have been known for decades, and it was this awareness that offered the primary reason for highway rest stops, providing a place for travelers to rest in the interest of safety.

How widespread is the problem?

The National Highway Traffic Safety Administration (NHTSA) estimates that drowsy driving is the primary cause behind some 100,000 crashes in the U.S. each year, causing at least 1,500 deaths and 70,000 injuries. According to the U.S. Department of Transportation, male drivers admit to have fallen asleep at the wheel twice as much as female drivers.

A nationwide study by the Texas Transportation Institute in 2010 found that the percentage of fatal crashes happening at night had increased steadily over the previous decade. Researchers attribute the trend in part to increased alcohol and cell phone use, but also to the limited vision and fatigue associated with driving at night.

Fatigue and sleepiness are dangerous conditions for drivers of any age, but the problem is particularly severe for teens and young adults, in part because young people require more sleep than adults, according to the National Sleep Foundation. One 2011 study in Virginia noted that the weekday crash rate for students beginning school at 7:20 a.m. was 41 percent higher than for teens starting their school day an hour later.

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Research conducted by the AAA Foundation for Traffic Safety in 2010 illustrates the severity of the drowsy driving problem:

- More than half (55 percent) of those drivers who reported having fallen asleep
 while driving in the past year said that it occurred on a high-speed divided highway.
- More than half (59 percent) of those drivers who reported having fallen asleep
 while driving in the past year said they had been driving for less than an hour
 before falling asleep; only one in five reported they had been driving for three
 hours or longer.
- More than one in four drivers (26 percent) who reported having fallen asleep while driving in the past year reported that it had occurred between noon and 5 p.m.
- Men (52 percent) were much more likely than women (30 percent) to report having ever fallen asleep while driving; men (14 percent) were also more likely than women (8 percent) to admit having done so in the past year.
- Drivers age 24 and younger were most likely to report having fallen asleep in the past year, but they were least likely to report having ever fallen asleep. This is consistent with other studies that have found younger drivers to have a higher risk of falling asleep at the wheel.

The true extent of the problem, however, is difficult to accurately measure because of several challenges. Among the biggest such challenges is the inconsistency of reporting practices from state to state. There is little or no police training in identifying drowsiness as a crash factor. Every state currently addresses fatigue and/or sleepiness in some way in their crash report forms, but they use different codes to do so, and two states (Missouri and Wisconsin) do not have specific codes for fatigue or sleepiness. Also, crash survivors are often reluctant to report that they may have fallen asleep at the wheel, and there is no means of testing available (as there is, for instance, to determine whether a driver has been drinking). Lastly, drowsiness and fatigue may play a role in crashes attributed to other causes such as alcohol, making it difficult to assign weight to a single cause factor when several may be involved.

What countermeasures are in place?

According to NHTSA, The standard behavioral countermeasures of laws, enforcement, and punishment – which are used successfully for alcohol impairment, seat belt use, aggressive driving, and speeding – are unlikely to be effective for distracted or drowsy drivers. One exception is for young drivers, as nighttime driving restrictions contained in Graduated Driver License (GDL) laws have been effective in reducing young drivers' exposure to the risk associated with driving at night. Nearly all states include nighttime restrictions in their GDLs. In short, getting adequate sleep is the most effective countermeasure against drowsy driving. Experts also point to public awareness and education as important countermeasures, as illustrated by the observance of National Drowsy Driving Prevention Week, sponsored by the Na-

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tional Sleep Foundation. The NSF also offers these suggestions to drivers:

- Get a good night's sleep before traveling. Most adults need seven to nine hours of sleep to maintain proper alertness.
- Do not be too rushed to arrive at your destination. Many drivers try to maximize their time by driving at night or not stopping for breaks. However, crashes caused by sleepiness are among the most deadly.
- Use the buddy system. Just as you should not swim alone, avoid driving alone
 for long distances. Vehicles in which the driver was accompanied by a passenger were nearly 50 percent less likely to be involved in a drowsy-driving related
 crash.
- On long trips take a break from driving every 100 miles or every two hours.
- If you are going to drive, avoid alcohol and sedating medications; check your labels or ask your doctor or pharmacist about side effects.
- Avoid driving at times when you would normally be sleeping.
- Take a nap; if you feel that you are in danger of falling asleep at the wheel find a safe place to take a 15 to 20-minute nap.
- Pack a cooler with caffeinated beverages or keep caffeinated gum and mints in
 the glove compartment. The equivalent of two cups of coffee can increase alertness for several hours. Since caffeine in liquid form takes about 20 to 30 minutes
 to take effect, consume caffeine before taking a short nap to get the benefits of
 both. However, it should be remembered that caffeine does not replace sleep; it
 only delays its onset temporarily.

Summary

The dangers of drowsy driving have been understood for decades. Numerous challenges make the problem difficult to measure accurately, and emerging research suggests that the drowsy driving problem is actually more prevalent than both experts and the general public have realized until now. Traditional countermeasures are effective with regard to unsafe behaviors such as driving while intoxicated and speeding, but the same is not true with regard to drowsy driving. Apart from drivers ensuring that they simply get enough sleep, experts believe that promoting more widespread understanding of the problem is an important step in reducing crash frequency.

Detailed information related to the research used in the development of this brief is available upon request from the research contacts.