

Sleepy drivers make dangerous drivers—how to stay awake behind the wheel

May 3 2017, by Katherine Shonesy

DROWSY DRIVING

To stay safe behind the wheel, you have to be alert. Drowsy driving is especially common among shift workers (particularly night-shift workers) and people with circadian rhythm disruptions.



21% of fatal crashes involve drowsy driving



7 HOURS

minimum amount of sleep associated with safe driving

MORE CRASHES

Compared to drivers with more than 7 hours of sleep within the past 24 hours, drivers who have less sleep have a significant increase in crashes:



Conservative estimates show that 21 percent of fatal crashes involve drowsy driving.

"Drowsy driving can be considered a form of distracted driving," said Benjamin McManus, a Ph.D. candidate in the University of Alabama at Birmingham Lifespan Development Psychology graduate program in the College of Arts and Sciences. "Like in distracted drivers, cognitive resources are directed away from the task of driving in drowsy drivers."

Where other forms of distracted driving are externally influenced, like interacting with a cellphone, drowsy driving is an internally influenced distraction; but the result is the same—cognitive and visual resources are withdrawn from driving.

In drowsy driving, alertness is drastically reduced and attentional resources become less available for driving.

McManus compiled research on the topic through his work in UAB's Translational Research and Injury Prevention laboratory, which focuses on the prevention and control of unintentional injuries, particularly those resulting from motor vehicle crashes.

"The statistics are pretty jarring," McManus said. "Compared to drivers who report typically getting seven or more hours of sleep nightly, those who typically sleep only four to five hours per night are 5.4 times more likely to be involved in a crash."

Knowing the signs of becoming drowsy behind the wheel, many of which are similar to distracted and drunk driving, could potentially be lifesaving.

Signs of drowsy driving



WATCH4

Be alert for these signs of drowsy driving, which are similar to those seen in distracted or drunk drivers:

- ⚠ **Increased frequency of blinking**
- ⚠ **Longer blink durations**
- ⚠ **Slower eye movements**
- ⚠ **Poor decision making**
- ⚠ **Falling asleep while stopped in traffic**
- ⚠ **Poor lane maintenance (swerving)**
- ⚠ **Slowed reaction time**

- Increased frequency of blinking
- Longer blink durations
- Slower eye movements
- Falling asleep while stopped in traffic or at a traffic light
- Swerving
- Slowed reaction time
- Poor decision-making

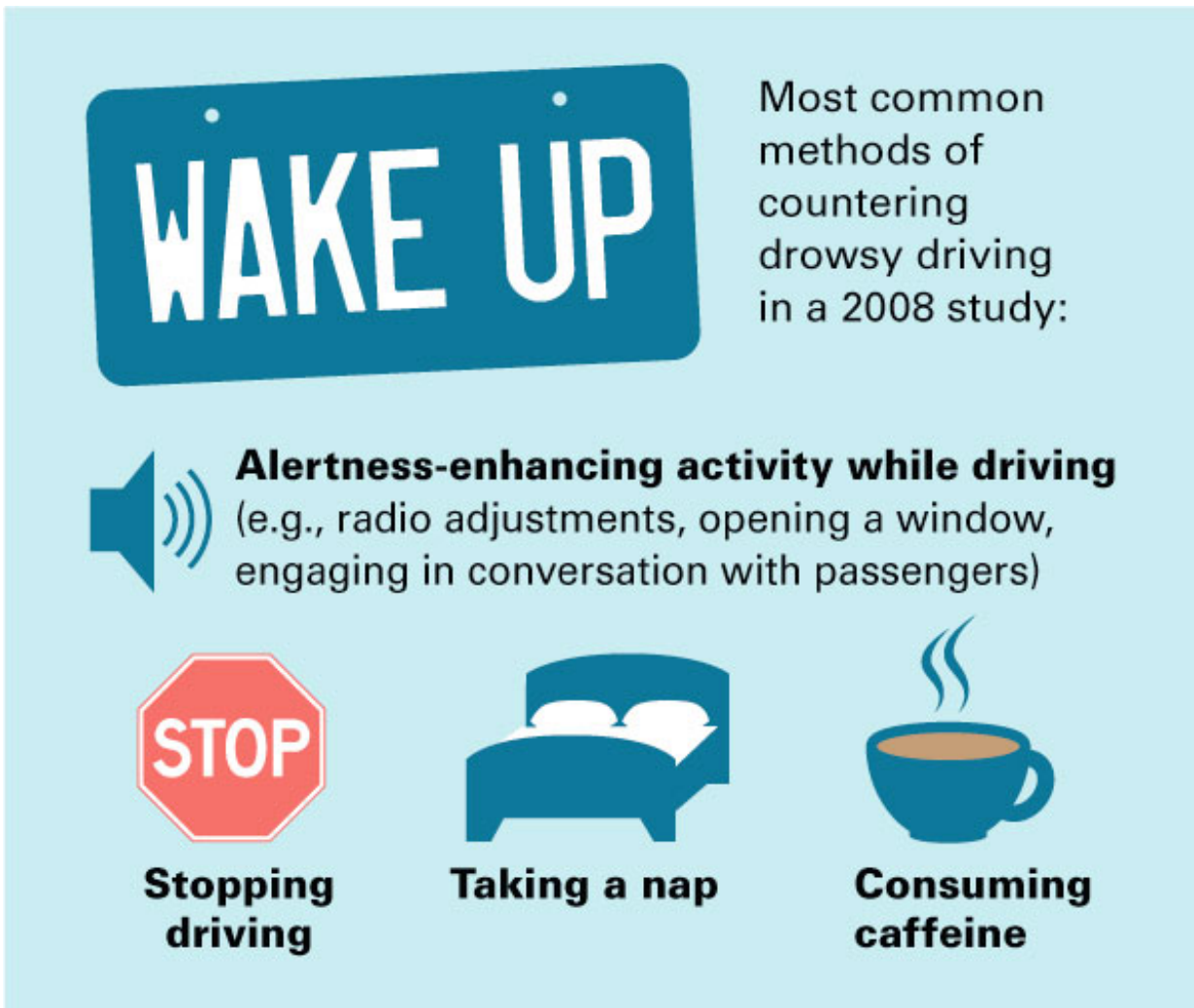
"Recognizing the signs is the first step in prevention," McManus said. "Following recognition of those indications, you can employ a few different tactics prior to and during driving to help you stay awake."

Most common prevention and countermeasure techniques

- Take a nap
- Drink a caffeinated beverage
- Engage in alertness-enhancing activities while driving (radio adjustments, opening a window, engaging in conversation with passengers, etc.)
- Stop driving





"While these activities can help, they aren't necessarily perfect solutions," McManus said. "The countermeasures that involve continuing to drive after noticing signs of drowsiness carry several risks. For instance, several alertness-enhancing activities may be distracting."

Although caffeine and other stimulants reduce subjective sleepiness and improve reaction time, decision-making is still impaired. A cup of coffee or an energy drink may effectively increase alertness in a drowsy driver, but the driver is still at risk for driving errors and poor judgment.



WAKE UP

Most common methods of countering drowsy driving in a 2008 study:

-  **Alertness-enhancing activity while driving**
(e.g., radio adjustments, opening a window, engaging in conversation with passengers)
-  **Stopping driving**
-  **Taking a nap**
-  **Consuming caffeine**

Another countermeasure that is being studied is infrastructure-related. Rumble strips on the sides of roads, for example, are effective at alerting drivers once they first start veering off the road. But even there, the effect is very short-lived, and research has shown that sleepiness signs re-emerge in about five minutes. Additionally, subsequent rumble strip hits after the first hit do not effectively increase alertness.

"Ceasing driving to take a nap may be the best of these commonly implemented countermeasures, as naps have been shown to reduce driving impairment in such situations," McManus said. "Research tells us that, as a supplement to sleep, naps can be effective for maintaining sustained attention, learning and memory."

"Taking into consideration these limitations, the preferred countermeasure to drowsy driving is prevention," McManus said.

In countering drowsy driving, prevention would include obtaining enough sleep as well as good-quality sleep. Individuals who may have conditions impacting sleep quality such as insomnia and sleep apnea should seek treatment to improve [sleep quality](#). For instance, [obstructive sleep apnea](#) is significantly associated with crash risk for a variety of populations.

According to McManus, although research shows that a minimum of seven hours of sleep is associated with safe driving, it is not always the amount of sleep everyone needs for every situation.

Those who have unique sleep schedules that change from day to day or run contrary to the body's natural circadian rhythm should account for this with increased efforts toward obtaining adequate high-quality sleep. Blue-enriched light has been utilized to improve sleep, circadian entrainment and daytime alertness in astronauts, who have extreme disturbances in circadian regulation.

"A culture change regarding the importance of sleep might make the biggest impact of all," McManus said. "Currently, we tend to view sleep as one of the first things to sacrifice when we face impending deadlines or busy schedules. Recognizing just how dangerous [drowsy driving](#) can be is an important step in making us all safer on the road."

Provided by University of Alabama at Birmingham

Citation: Sleepy drivers make dangerous drivers—how to stay awake behind the wheel (2017, May 3) retrieved 20 April 2024 from <https://medicalxpress.com/news/2017-05-sleepy-drivers-dangerous-drivershow-wheel.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.