

Impaired Driving Prevention

Some of the most deadly consequences of excessive alcohol consumption occur when people drink and get behind the wheel. The impacts of alcohol on driving behavior result in compromised decision making, delayed reaction times, and other impairment issues.

From the statistics, it is obvious that combining alcohol and driving frequently results in crashes and fatalities.

2006 Traffic Safety Facts²⁷

Each year the National Highway and Traffic Safety Administration (NHTSA) publishes a summary of alcohol-related crashes and fatalities. A motor vehicle crash is considered to be alcohol-related if one driver or non-occupant (such as a pedestrian or cyclist) involved in the crash has a BAC of .01 or higher. Thus, a crash or fatality is not assumed to be caused by alcohol by the report, simply that alcohol was involved.

- There were 17,602 alcohol-related traffic fatalities in 2006. This is a slight increase (0.1%) from 2005.
- There was a decline of .08% of alcohol-related fatalities where at least one driver or motorcycle operator had a BAC of .08 or higher, in 2006 (13,470) from 2005 (13,582).
- When broken down by age groups, the younger age groups were the only groups to see increases in the number of crashes with alcohol-related fatalities in which at least one driver had a BAC of 0.08 or higher. For 16-20 year olds, fatalities increased by 4% and for 21-34 year olds, fatalities increased by about 1%.
- An increase of 8.6% in crashes with alcohol-related fatalities in which no driver had a BAC of .08 or higher but where a pedestrian, bicyclist or other non-occupant had a BAC of .08 or higher occurred in 2006.
- Those who are 21-34 years of age represent 31% of all drivers involved in fatal crashes in 2006. However, they are overrepresented, at 43%, of drivers with a BAC of .08 or higher in fatal crashes.
- In 2006, there was a 6% increase in the number of 16-20 year olds with a BAC of .08 or higher in fatal crashes from 2005.
- Although there was a 9% increase in the number of females with a BAC of .08 or higher involved in fatalities, males continue to comprise the majority of those involved in alcohol-related fatalities. In 2006, males were 81% of drivers with a BAC of .08 or higher.

- Weekend fatalities had a higher percentage of drivers with a BAC of .08 or higher at 58%.
- The legal limit for a driving under the influence is .08. However, in 2006, 50% of drivers in fatal crashes had a much higher BAC, at .16.

Note: This manual was published in July 2008, before the 2007 Traffic Safety Facts were available. Please check <http://www-nrd.nhtsa.dot.gov/cats/index.aspx> for information after August 2008.

Source

National Highway Traffic Safety Administration's National Center for Statistics and Analysis. (August 2007). 2006 Traffic Safety Annual Assessment – Alcohol-Related Fatalities. DOT HS 810 821. Retrieved on July 9, 2008 at www-nrd.nhtsa.dot.gov/pubs/810821.pdf

Alcohol's Impact on Driving Behavior

It is estimated that every two minutes the typical person makes 400 observations, 40 decisions, and one mistake while driving.²⁸ This is when the person is sober. When a person is impaired, the number of mistakes dramatically increases as their ability to make observations and safe decisions decreases. The less capable a person is of making a simple decision, from changing lanes to applying the brakes, the more likely it is that they will be involved in a car crash.

Alcohol and Vision

Did you know that 90% of the information the brain receives comes through the eyes? If your vision is impaired from drinking, you are making decisions based on poor and insufficient information. Alcohol relaxes the muscles in the eyes that are responsible for each of the following:

1. The muscle that holds the lens in the retina that helps us focus becomes relaxed causing faulty or fuzzy pictures.
2. Alcohol reduces the sensitivity of the cone cells in the retina, which means the "sharpness" of the picture we see is reduced.
3. Our best vision happens when both eyes are looking at the same thing. Six different muscles coordinate our focus and alcohol can relax these muscles enough to cause double vision.
4. Peripheral vision is critical when we are driving because we see cars next to us and behind us, or someone walking out into the road. When alcohol is consumed, these muscles are negatively impacted.
5. It has been estimated that just a few drinks can reduce the field of vision by up to 30%, impairing the ability to see what is out there.



U DECIDE

Alcohol and Hand-Eye Coordination

When police do a roadside sobriety test, a person is asked to walk a straight line, hold their arms out at their sides, and touch their nose with their fingers. People who are impaired can do neither. The reason for this is because the person's coordination between the eyes, the brain, and the muscles are not functioning correctly. This same concept also holds true when driving a car. The brain tells the foot to step on the brake or the gas pedal—and it tells it how hard to push. The brain tells the hands to steer between the lines or when to start turning the wheel. When a person has been drinking, one of the results is a slowed reaction time between the message the brain sends and the execution of that message. For instance, a person does not notice they have wandered over the centerline and there is a delayed reaction to bring the car back into the correct lane.

Alcohol and Judgment

Perhaps the most significant impairment caused by drinking is not physical, but mental. In fact, the judgment center is most affected when a person has been drinking. When a person's judgment is affected, that person might believe he or she is able to drive a car after drinking, stating, "I'm just fine" or "I have no other alternatives".

Impairment and Concentration

When people drink they can only focus and concentrate on one task at a time. Driving involves doing three to four tasks simultaneously. So, a person who is impaired might focus so much on watching their speed limit that he or she does not notice they are driving on the shoulder. Drivers may be so focused on checking the rear view mirror for a police car that they do not notice the stoplight they are approaching has turned red. The lack of hand-eye coordination and muscle control, matched with a limited scope of concentration, makes driving a car after drinking very dangerous.

Keeping Your Friends and Yourself Safe

All of these physical effects, from lack of vision and hand-eye coordination to impaired concentration and judgment, make drinking and driving dangerous. For these reasons, it is very important that people:

- Make the commitment not to drink and drive
- Do not mix alcohol and any drug
- Plan a safe, sober ride home before going out
- Take turns being a substance free, designated driver
- Always wear a seatbelt
- Never ride with a driver who has been drinking or using any other drug

How to Spot The Impaired Driver

Exaggerated or unusual driving can be a good warning signal that a driver is impaired. If you suspect someone is impaired, drive defensively, allowing plenty of space between you and the suspected car to avoid a collision.

Look for these signs:

- Unreasonably fast or slow speeds or inconsistency in speeds
- Frequent lane changing
- Swerving when passing
- Ignoring traffic signals and signs
- Jerky starts and stops
- Driving at night without lights
- Approaching traffic signals and signs unreasonably fast or slow
- Sitting at stop signs for long periods of time
- Driving too close to the curbs and shoulders; hugging the edge of the road or straddling the center line
- Driving with the windows down in cold weather
- Driving with the head partly or completely out the window

If you are concerned about a driver:

- Do not confront the driver
- Get the license plate number and description of the vehicle
- Call 911, local authorities or state patrol to report your concern (many states have a special number you can dial from your cell phone to report suspicious driver activity)

Drugged Driving³⁰

- Often in combination with alcohol, drugs are used by 10 to 22 percent of drivers involved in crashes.
- Marijuana limits learning, memory, perception, judgment, and complex motor skills, all of which are skills needed to drive a vehicle.
- Often in combination with alcohol, drugs are used by 10 to 22 percent of drivers involved in crashes
- In the 2006 National Survey on Drug Use, 10.2 million Americans over the age of 12 reported driving under the influence of illicit drugs during the year prior to being surveyed. The rate was highest among young adults age 18 to 25 (13%).
- Drinking and drugged driving are often linked behaviors. Studies have found that many drivers who test positive for alcohol also test positive for THC, the active ingredient in marijuana.

Safety Belt Use—Buckle Up!³¹

Fatalities caused by reckless and impaired driving are often deaths that occur because drivers decide their time or fun is more important than the safety of themselves and those around them. Unfortunately, there is little we can do to influence the actions of others once they are behind the wheel. We can only hope that the continuous educational efforts to reduce reckless behavior concerning motor vehicle travel weighs heavily in the consciousness of drivers at every start, stop and turn. However, regardless of the unpredictability of the open road and those who accompany it, the use of safety belts in our own vehicles is one sure, easy way to help prevent serious injury and even death.

- Lap-shoulder belts reduce the risk of fatal injury to front-seat occupants by 45% and the risk of moderate-to-critical injuries by 50%.
- In 2006, 31% of unrestrained people were totally ejected. In fatal crashes, 75% of passenger car occupants who were totally ejected from the vehicle were killed. Safety belts are effective in preventing total ejections—only 1% of the occupants reported to have been using restraints were totally ejected.
- From 1975 through 2006, it is estimated that safety belts saved 226,567 lives. 15,386 of those lives were saved in 2006.

Distracted Driving

- Too often drivers forget that concentrating on the road and driving safely should be the number-one priority of any trip, short or long.

- Distractions like food, phones, and stereo settings can prevent travelers from reaching their destination by resulting in speeding, red light and stop sign running, and collisions that may cause injury or death.

What you can do:

- Let your passengers adjust the stereo settings. If you are alone, adjust them while you are parked or at a complete stop.
- Pull over when using your cell phone. Any use of the phone is a distraction to your driving.
- If you must use your phone while driving, use a hands-free phone or get to know your current phone so you are familiar with its redial and auto call options, or dial when at a complete stop.
- Position your phone so that it is within reach.
- Suspend your calls under stressful conditions. If you come to a hazardous area that may require more concentration, hold off on the call until the situation has cleared.

Drowsy Driving³²

- Sleepy drivers cause approximately 100,000 crashes every year in the United States.
- 55% of drowsy driving crashes are caused by drivers less than 25 years old.
- Being awake for 18 hours is equal to a blood alcohol concentration (BAC) of .08 and leaves you at equal risk for a crash.
- Sleepy drivers cause more than 1,550 fatalities and 71,000 injuries every year.

Signs of drowsy driving:

- Yawning and nodding off
- Closing your eyes (at 60 mph if you close your eyes only for one second, you have traveled 88 feet!)
- Suddenly jerking the wheel to get back in your lane
- Missing road signs or exits
- Having disconnected thoughts

What you can do:

- Avoid alcohol and medications that might interact with fatigue and make it worse.
- Get a good night's sleep before the drive and avoid driving during your body's own down time. Take breaks every 2 hours to nap and stay somewhere overnight, rather than driving through the night. Try to limit your naps to 15–20 minutes. Any longer than 20 minutes can make you groggy for 5 minutes after waking up.



U DECIDE

- Drive with other people. Engaging conversation may help keep you focused, and they may notice when you are too tired to keep driving. Take turns driving when you start feeling tired.

Speeding ³³

- When speed increases from 40 to 60 mph, the energy released in a crash more than doubles.
- Speeding related crashes resulted in 13,543 fatalities in 2006.
- The economic costs of crashes that involved excessive speed were \$40.4 billion each year—\$76,865 per minute or \$1,281 per second.

What you can do:

- Leave earlier so that you are not in a rush to get to your destination.
- Do not think that your time is more important than the safety of those around you.
- Control feelings of anger and frustration.
- Use the “cruise control” option in your vehicle, if possible.

Red Light and Stop Sign Running ³⁴

- On an average each year about 2,982 fatalities in crashes, roughly 31%, occur at intersections controlled by traffic signals; 3,643 fatalities, about 38%, occur at intersections controlled by stop signs and 2,593 fatalities, or about 27%, occur at intersections with no traffic control devices.
- On an average each year, there were 5,589 fatalities to occupants of vehicles and 794 fatalities to non-occupants in intersections controlled by traffic signals and stop signs.

What you can do:

- Do not rush through yellow lights. When you enter an intersection after the light turns yellow, you are putting yourself and others at risk so obey traffic signals and signs.
- If you have not entered an intersection, adjust your speed to stop.

Bicyclists and Pedestrians ^{35, 36}

- 773 bicyclists were killed in crashes with motor vehicles in 2006, and an additional 44,000 were injured.
- One-third of the traffic crashes resulting in cyclist fatalities involved alcohol. In 32% of the crashes, either the driver or the cyclist was reported to have a BAC of 08 g/dL or higher.
- In 2006, 4,784 pedestrians were killed in traffic crashes and an additional 61,000 pedestrians were injured.
- Thirty-nine percent of the 369 young (under age 16) pedestrian fatalities occurred in crashes between 3 p.m. and 7 p.m.

What you can do:

- If either walking or biking, wear reflective gear so drivers can see you.
- Be cautious in intersections; make sure to check for people crossing against traffic signals.
- If someone is intoxicated, find him/her a sober ride rather than letting him/her walk home.

Interested in More Impaired Driving Prevention Information?

Check out BACCHUS' friendsdrivesober.org site, devoted entirely to impaired driving prevention. You will find comprehensive information about the scope of the impaired driving problem, tips on what steps you can take to prevent it, relevant facts and statistical information, and what you can do to make a positive difference in your community.

Most College Students Make Healthy Choices

National College Health Assessment, Spring 2007, and Core Alcohol and Drug Survey 2005 ^{4, 10}

67.3% of female and **52%** of male college students have NOT had 5 or more drinks in one sitting during the last 2 weeks.

92.3% of college students did NOT list alcohol use as an impediment to their academic performance for last school year.

73.7% of college students have NOT driven a car while under the influence.

98.6% of college students have NOT been arrested for driving while intoxicated or under the influence (DWI/DUI).

References

1. National Institute on Alcohol Abuse and Alcoholism. (2005). *A call to action: Changing the culture of drinking at U.S. colleges*. Retrieved on June 27, 2007 from www.collegedrinkingprevention.gov
2. DeJong, W. & Vehige, T. (2008). The off-campus environment: Approaches for reducing alcohol and other drug problems. *Prevention Updates*. The Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention, Washington D.C.
3. National Institute on Alcohol Abuse and Alcoholism. (2008). *What colleges need to know now: An update on college drinking research*. Retrieved on June 3, 2008 from www.collegedrinkingprevention.gov/1college_bulletin_508_361C4E.pdf
4. American College Health Association (2008). *American College Health Association – National College Health Assessment (ACHA-NCHA) Reference Group Executive Summary Spring 2007*. Retrieved June 3, 2008 from www.acha-ncha.org/pubs.rpts.html
5. National Highway Traffic Safety Association (2005). *The ABC's of BAC: A guide to understanding blood alcohol concentration and alcohol impairment*. Retrieved June 27, 2008 from www.nhtsa.dot.gov/people/injury/alcohol/stopimpaired/ABCsBACWeb/page2.htm
6. Go Ask Alice!, Columbia University's Health Q&A Internet Service. (2005). Suddenly drinking alcohol makes me sick! Retrieved June 27, 2008 from www.goaskalice.columbia.edu/2630.html
7. McMillen, M. (2006) Risky Mixers. *The Washington Post*. September 12, 2006, HE02.
8. Substance Abuse and Mental Health Services Administration. (2008). *Results from the 2006 national survey on drug use and health: National findings*. Retrieved June 27, 2008 from <https://nsduhweb.rti.org/>
9. Go Ask Alice!, Columbia University's Health Q&A Internet Service. (2005). Mixing alcohol and acetaminophen. Retrieved June 27, 2008 from www.goaskalice.columbia.edu/3508.html
10. Core Institute. (2006). *The 2005 core alcohol and drug survey: Results*. Retrieved June 21, 2008 from www.siu.edu/departments/coreinst/public_html
11. U.S. National Center for Health Statistics. (2006). *15 leading causes of death in the U.S.* Retrieved June 22, 2008 from www.cdc.gov/nchs/fastats/deaths.htm
12. National Institute of Mental Health. (2004). *Imagining study shows brain maturing*. Retrieved June 1, 2008 from www.nimh.nih.gov/press/prbrainmaturing.cfm
13. Kelly, A.E., Schochet, T., and Landry, C.F. (2004). *Risk taking and novelty seeking in adolescence: Introduction to Part I*. Retrieved August 4, 2005 from <http://www.annalsnyas.org/cgi/reprint/1021/1/27>
14. Brownlee, S., Hotinski, R., Pailthorp, B., Regan, E., and Wong, K. (1999). "Inside the teen brain." *U.S. News and World Report*. August 9, 1999, 127, i6, 44.
15. American Cancer Society. (2005). *Alcohol and cancer*. Retrieved June 2, 2006 from www.cancer.org/downloads/PRO/alcohol.pdf
16. Kuhn, C., Swartzwelder, S., and Wilson, W. (2003). *Buzzed: the straight facts about the most used and abused drugs from alcohol to ecstasy*. The Duke University Medical Center. New York, NY: W.W. Norton & Company.
17. Center for Disease Control. *STD Surveillance 2006 Special Focus Profiles: Adolescents and young adults*. Retrieved July 22, 2008 from www.cdc.gov/std/stats/adol.htm
18. American Social Health Association. (2006). *STD/STI statistics: Fast facts*. Retrieved June 22, 2007 from www.ashastd.org/learn/learn_statistics.cfm
19. Center for Disease Control. (2007). *HIV/AIDS surveillance in adolescents and young adults (through 2005)*. Retrieved July 22, 2008 from www.cdc.gov/hiv/topics/surveillance/resources/slides/adolescents/index.htm
20. The Henry J. Kaiser Family Foundation. *The global impact of HIV/AIDS on youth: Fact sheet*. Retrieved June 6, 2006 from www.kff.org/hiv/aids/6039-02.cfm
21. Goldhammer, Amy. (2002). *Cocktails and calories: Beer, wine and liquor calories can really add up*. Retrieved June 23, 2008 from www.findarticles.com/p/articles/mi_m0846/is_5_21/ai_82333620
22. The Fast Food Nutrition Fact Explorer. (2006). *Search for calories*. Retrieved July 22, 2008 from www.fatcalories.com
23. Food and Nutrition Information Center, USDA. (1995). *Report of the dietary guidelines advisory committee on the dietary guidelines for Americans, 1995*. Retrieved July 22, 2008 from www.cnpp.usda.gov/Publications/DietaryGuidelines/1995/1995DGConsumerBrochure.pdf#xml=http://65.216.150.153/texis/search/pdfhi.txt?query=alcohol&pr=MyPyramid&sufs=2&order=r&cq=&id=4592b6e60
24. Go Ask Alice!, Columbia University's Health Q&A Internet Service. (1999). What's more important: Calories or fat grams? Retrieved June 27, 2008 from www.goaskalice.columbia.edu/1450.html
25. T. B. (2004). *Nutritional effects of alcohol*. Retrieved June 22, 2007 from <http://alcoholism.about.com/cs/heal/a/aa990908.htm>
26. Grayson, N. (2000). *Nutrition recommendations for those who consume alcohol in moderation, in excess, now or in the past*. Retrieved June 22, 2007 from www.bouldermedicalcenter.com/Articles/Alcohol_Nutrition.htm
27. National Highway Traffic Safety Administration. (2007). *Traffic safety facts 2006 data: Alcohol*. Retrieved June 25, 2008 from www-nrd.nhtsa.dot.gov/pubs/810801.pdf
28. Gladwell, M. (2001). Wrong turn: How the fight to make America's highways safer went off course. *The New Yorker*. June 11, 2001. Retrieved June 27, 2008 from www.gladwell.com/2001/2001_06_11_a_crash.htm
29. National Center for Chronic Disease Control and Prevention and Health Promotion (2007). *Healthy Youth! Health Topics: Sexual Risk Behaviors*. Retrieved June 27, 2008 from www.cdc.gov/HealthyYouth/sexualbehaviors/index.htm
30. National Institute on Drug Abuse. (2008). *InfoFacts: Drugged driving*. Retrieved July 15, 2008 from www.nida.nih.gov/Infofacts/driving08.pdf
31. National Highway Traffic Safety Administration. (2007). *Traffic safety facts 2006 data: Occupant protection*. Retrieved July 8, 2008 from www-nrd.nhtsa.dot.gov/pubs/810807.pdf
32. National Sleep Foundation. (2007). *Detection and prevention: Drowsy driving*. Retrieved June 6, 2008 from www.drowsydriving.org/site/c.lqLPIROCKtF/b.3338887/k.57A3/Detection_and_Prevention.htm
33. National Highway Traffic Safety Administration. (2007). *Traffic safety facts 2006 data: Speeding*. Retrieved July 8, 2008 from www-nrd.nhtsa.dot.gov/pubs/810814.pdf
34. Subramanian, R. & Lombardo, L. (2007). *Analysis of motor vehicle traffic crashes and fatalities at intersections, 1997 to 2004*. National Highway Traffic Safety Administration National Center for Statistics and Analysis. Report No. DOT HS 810 682
35. National Highway Traffic Safety Administration. (2007). *Traffic safety facts 2006 data: Pedestrians*. Retrieved July 8, 2008 from www-nrd.nhtsa.dot.gov/pubs/810810.pdf
36. National Highway Traffic Safety Administration. (2007). *Traffic safety facts 2006 data: Bicyclists and other cyclists*. Retrieved July 8, 2008 from www-nrd.nhtsa.dot.gov/pubs/810802.pdf