



## Impairment Begins with the First Drink

In 49 U.S. states, the blood alcohol concentration at which a driver is legally impaired is 0.08.\* For a majority of drivers, driving performance has already deteriorated significantly by the time they reach this level. In Utah, the limit is 0.05, and other states are considering lowering the alcohol concentration to 0.05 as well.

Alcohol, Drugs and Impairment Division (ADID) members of the National Safety Council, conducted an extensive scientific literature review in 2014 that examined crash risk at low alcohol concentrations. The review provides ample support that crash risk involving alcohol impairment begins at very low alcohol concentrations and rapidly rises:

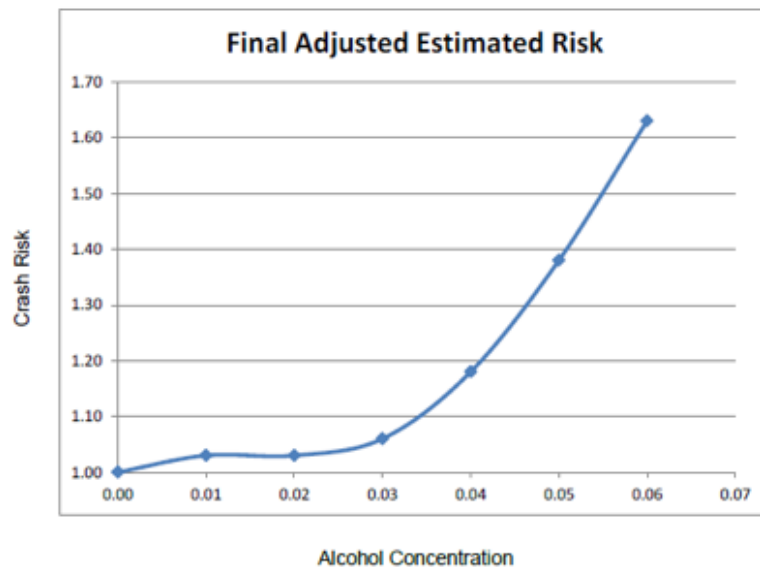


Chart adapted by ADID from: Blomberg RD, Peck RC, Moskowitz H, Burns M, Fiorentino D: The Long Beach/Fort Lauderdale relative risk study; J Safety Res 40:285; 2009.

Each drink of alcohol consumed increases the risk of crashing, beginning with the first drink.

## What Happens When You Are Impaired

Most crash risk charts show risk of alcohol concentrations beginning at 0.08 and upwards, but the dramatic increase in crash risk also occurs at low alcohol levels. The above chart reflects crashes of all severities.

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\*The limit is lower for some drivers. For commercial vehicle drivers, the limit is 0.04 and for drivers under age 21, all states have zero tolerance limits.

Crash risk for alcohol concentrations below 0.08:

- After 0.03, crash risk rises rapidly.
- At 0.04, there is an 18% increased risk.
- At 0.05, risk is 40% higher than it is at zero alcohol concentration.

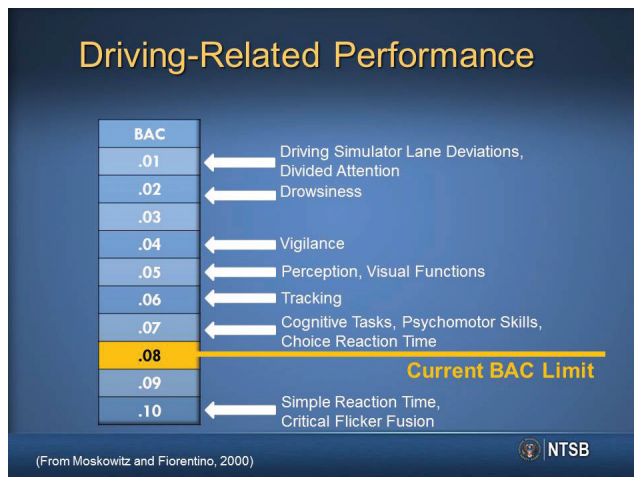
The ADID review found that:

- Each drink of alcohol consumed increases the risk of crashing, beginning with the first drink.
- It's more than just the drivers. People who consumed only one drink were more likely to ride in a car with an alcohol-impaired driver, increasing their risk of crash involvement by almost four times.

To explain the increased crash risk at these low levels, ADID members reviewed studies on alcohol impairment at low alcohol concentrations. Research shows that alcohol impairment begins at very low alcohol concentrations, as low as 0.015.

In its 2013 report "Reaching Zero: Actions to Eliminate Alcohol-Impaired Driving," the National Transportation Safety Board (NTSB) summarized research findings of driver impairment, showing performance decrements beginning at 0.01.

## Alcohol Goes Up, Driving Skills Go Down:



### Significant impairment occurs in the following ways among drivers under .05 alcohol concentration:

Visual acuity, vigilance, drowsiness, psychomotor skills and information processing.



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Some of the most significant effects occur with divided attention when drivers must attend to several aspects of driving at once, such as controlling the vehicle while paying attention to stimuli that require a response. We are using this ability nearly constantly for safe driving, yet divided attention shows impairment at very low alcohol concentrations. This dangerous risk begins at .01.

Fifty years of scientific evidence shows a direct relationship between increasing alcohol concentrations and crash risk by 0.048. There are significant decrements in speed of information processing, reductions in working memory, and increases in errors of commission. The body of evidence show driving performance deteriorates for most drinking drivers by the time they reach 0.05 alcohol concentration.

## What People Don't Know About Drinking

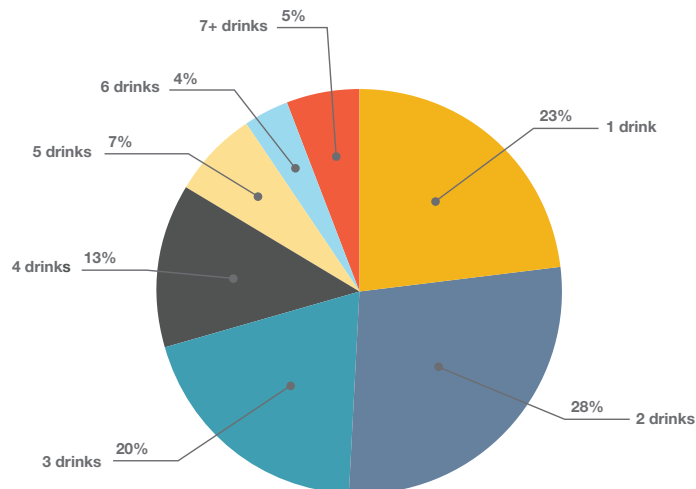
Most people cannot gauge their alcohol level based on drinks they've consumed. Only very rarely are people aware of their alcohol concentration when drinking.

## What People Do Know About Drinking

Some people understand the number of drinks they have consumed could potentially affect their driving ability, but many do not. National Safety Council asked adult drivers in a February 2017 survey: How many drinks do you think you can typically have before you are not safe/too impaired to drive? Despite not being legally intoxicated, drivers report "feeling impaired" at low levels of alcohol consumption:

- 23% said that they can typically have one drink before they feel "not safe/too impaired to drive"
- 28% reported they are "not safe/too impaired to drive" after only two drinks

For many people, one to two drinks could place them at 0.05 alcohol concentration or lower.



Sources:

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