

REFERENCES

Available through your local
AAA club:

Alcohol, Vision and Driving

A AAA pamphlet describing visual impairments caused by alcohol consumption.

***You, Alcohol, Other Drugs
and Driving***

A text that describes the effects of alcohol and other drugs on one's ability to make decisions about drinking and driving.



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A black and white photograph of various alcoholic beverages. In the foreground, there's a large, frosty beer mug. To its right is a smaller glass of beer. In the background, there's a wine glass filled with red wine, a martini glass, and another beer mug. The drinks are arranged in a way that suggests a social gathering.

**ONE
DRINK
CAN
BE
TOO
MANY**



IT'S NOT A NEW PROBLEM

The year was 1904. The horseless carriage had only been around just a few years.

Alcohol had been around for centuries. When the two got together there was trouble.

An editorial in the *Quarterly Journal of Inebriety* dated 1904, stated:

"We have received a communication containing a history of 25 fatal accidents occurring to automobile wagons. Fifteen persons occupying these wagons were killed outright, five more died two days later ... A careful inquiry showed that in 19 of these accidents the drivers had used spirits within an hour or more of the disaster. The other six drivers were all moderate drinkers, but it was not ascertained whether they had used spirits preceding the accidents."

That year, 375 more people died in auto crashes, but it's unknown how many had been using "spirits."

Today, there are more than 204 million vehicles on the nation's roads. Approximately 41,000 persons will die in auto crashes this year. Alcohol will be a major factor in almost 40 percent of these deaths.



TYPES OF DRINKERS

It's estimated that two-thirds of the more than 172 million American drivers drink alcoholic beverages at one time or another before driving.

Social drinkers and alcoholics can be "problem" drinkers on the highway. Even one drink can be too many — a "social" drinker can be a menace on the highway.

Extensive evidence indicates people who drink often and heavily are predominately responsible for alcohol-related collisions. It's believed there are approximately 41 million drivers in this category of high-volume heavy "escape" drinkers and alcoholics.



GENERALITIES ARE MISLEADING

The blood alcohol level will not give a true indication of the drinker's ability to drive. In fact, the driver may be much farther down the road to intoxication and impairment than even a breathalyzer, blood or urine test may indicate.

Today's safety specialists make a concerted effort to explain the relationship between blood alcohol level and the probability of a fatal crash. Research data shows drivers under the influence of alcohol are at greater risk of a fatal crash than a personal injury crash. Several factors such as time of day, day of the week, type of crash, miles driven, drinking frequency, marital status, sex and age account for different levels of risk.

Of course, the major factor in determining driver capability is the amount of alcohol consumed. The greater the blood alcohol concentration, the greater the risk of being involved in a fatal crash. For instance, young drivers ages 16 to 19 with a BAC of .02 percent to .05 percent - one to two drinks - are at least seven times more likely to be killed in a crash than a sober driver of any age. At .085 percent BAC — three to four drinks — young drivers are 40 times more likely to be killed than a sober driver and 20 times more likely to be killed than a 55-year-old driver with the same BAC level. By .12 percent BAC — four to six drinks — a 16- to 19-year-old is 90 times as likely to die in a traffic crash as a sober driver. The risk of a crash increases even before drivers are considered legally impaired or intoxicated.

Available research indicates that the level and duration of alcohol's effects on females is greater than it is on males. Women have smaller quantities of the enzyme alcohol dehydrogenase that breaks down alcohol in the stomach. As a result, women absorb about 30 percent more alcohol into their systems. Adjusting for weight, a woman who consumes two ounces of liquor will experience about the same effects as a man who consumes four ounces.



"Women generally get tipsy faster and stay high longer than men matching them drink for drink."

Health Times Magazine, January 22, 1990.

But there are many other variables that enter into the picture, including how tired the driver is, food that was consumed, medication of any kind, and the driver's emotional state. These and other factors help determine how any amount of alcohol affect the driver's ability.

Even under similar conditions, alcohol may have completely different effects each time the driver drinks. There is only one thing a driver can be certain of — the effect of alcohol on his or her ability to operate a motor vehicle is detrimental.

ALCOHOL TAKES EFFECT QUICKLY AND WEARS OFF SLOWLY ...

Ethyl alcohol is used in alcoholic beverages. It has no nutritional value and does not follow normal digestive patterns. Instead, it's immediately absorbed into the bloodstream through the walls of the stomach and small intestine.

Alcohol is retained in organs in proportion to the amount of water each organ contains. Because the brain has a high concentration of blood — which is 90 percent water — the effects of alcohol on the central nervous system are soon apparent, usually within minutes.

Alcohol reduces control, judgement and coordination. In addition, perceptual abilities, speech and speed of reflexes can be impaired.

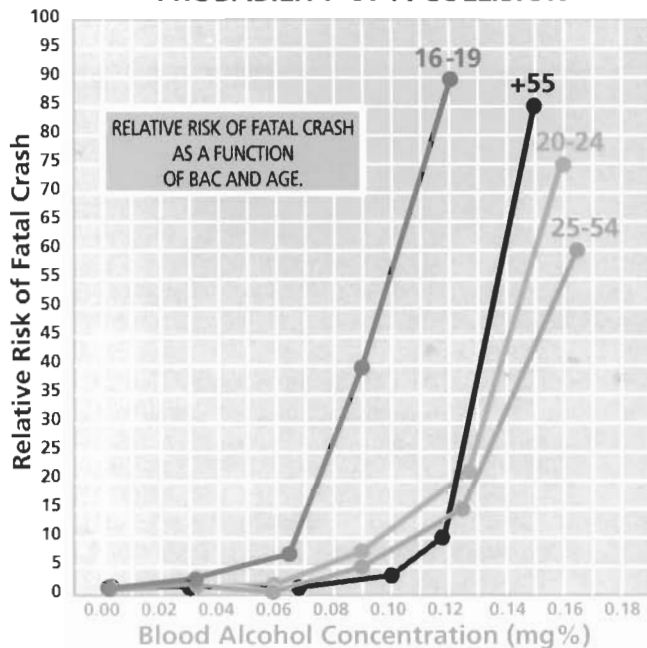
Although alcohol is rapidly absorbed into the system, it takes a long time for the body and brain to return to normal. All the age-old remedies — black coffee, cold showers, fresh air and exercise — are useless and only result in a more wide-awake drunk.

Once in the bloodstream, alcohol must be broken down by the liver and oxidized — turned into water and carbon dioxide. The liver converts less than one-half ounce of alcohol per hour. For example, a 160-pound man, having one 1 1/2-ounce drink per hour during a six-hour period, would have blood-alcohol levels of .05 percent — still legally sober in some states. Taking other factors into consideration, the man may already be greatly impaired.

Increase alcohol intake to two bottles of beer or two 1 1/2-ounce shots of bourbon each hour for six hours, and the blood alcohol level would be .191 — definitely an impaired level.

At two drinks per hour, the drinker's blood alcohol level would be .047 percent at the end of the first hour. But because the rate the body absorbs alcohol is higher than the rate the body oxidizes it, the cumulative effect causes a person to be intoxicated in a short time. With all the other variables eliminated — the man has taken no medication, had plenty of rest the night before, got along well with his boss and his family, ate a full meal and was in perfect physical and mental condition — he could still become impaired after consuming one or two drinks in a short period of time.

PROBABILITY OF A COLLISION



THE EFFECTS OF "SPIRITS"

It's a scientific fact that alcohol has a definite effect on a person's motor abilities. Medically classified as a depressant drug, alcohol acts like an anesthetic on the central nervous system slowing activities of the brain and spinal cord. The drug causes a person to relax and produces a feeling of euphoria — that "everything-is-pleasant-and-the-world-is-good" feeling.

This may not be bad in itself, but it can make dangerous situations seem less dangerous and make a driver feel more capable than he or she really is.

Reactions are slower after several drinks. The time required to move one's foot from the accelerator to the brake pedal increases by a fraction of a second. With more alcohol, a driver may miss the brake pedal completely — a sometimes fatal mistake.

One of the most dangerous effects of alcohol is impaired vision. Human vision is controlled by a delicate system of muscles that move and focus the eyes. Slowing these responses sends a fuzzy picture from the eyes to the brain.

Alcohol also reduces the muscles' ability to control the amount of light entering the eye. And like camera film, too much or too little light spoils the picture. These factors can cause such impairments as faulty depth perception, poor peripheral vision, distorted color vision and reduced night vision.

NONE FOR THE ROAD IS BEST

A clear mind, excellent reflexes and good vision are essential to being an alert, safe driver. Under the best circumstances — excellent physical, mental and emotional conditions — alcohol clouds the mind, delays reactions and blurs vision. Any of these can result in a crash with grave consequences.

The best advice is don't drink and drive. But even in the face of tragic statistics, there are those who still drive after drinking.

Despite how well they control their drinking, it is important for those people to realize they are likely to have had one drink too many — even after just one drink.

ANOTHER SOLUTION

DWI schools do not attempt to persuade people to stop drinking but give practical alternatives to drinking and driving. DWI schools also provide drivers accurate information about alcohol's effects on their driving performance and help them assess their own drinking and driving behavior, with the goal of developing personal plans to avoid future DWI arrests.

