

ALCOHOL AND DRIVING

What is alcohol?

Alcohol is an intoxicating substance made from fermented starches. It is the most widely used psychoactive, or mood-changing, recreational drug in Australia.

Alcohol is often mistakenly believed to be a stimulant. This is because drinking a small amount of alcohol may initially reduce tension or inhibitions, making a person feel more relaxed or excited. For this reason, people often drink alcohol at social occasions.

However, alcohol is actually a central nervous system depressant that affects almost all a person's cells and systems. Increasing alcohol concentrations in the body inhibits many of the brain's functions, dampening the motor and sensory centres, and rapidly making judgement, co-ordination and balance more difficult, and slowing one's reflexes.

The active drug in all alcoholic drinks is ethanol. This drug is produced as a result of the fermentation of grains (beer), vegetables (vodka), and fruits (wine), changing sugars into ethyl alcohol. Pure alcohol has no taste and is a colourless liquid. Alcoholic drinks vary in appearance and taste due to the other ingredients contained within them and as a result of the method by which they are manufactured.

How does alcohol affect driving ability?

It is safest not to drink alcohol at all if you are going to drive. Alcohol is involved in about one-third of all serious motor vehicle accidents.

Alcohol affects all drivers. It is extremely quick acting. Alcohol only takes a few minutes to reach the brain. It is absorbed directly into the bloodstream through the walls of the stomach and small intestine, and is then quickly distributed to all parts of the body, including the brain.

As alcohol inhibits the brain's ability to function effectively, it takes longer to receive messages from the eye, processing information becomes more difficult, and instructions to the muscles are delayed. The result is that alcohol may slow down a person's reaction time by 10 to 30%, it will impair their vision, reduce their ability to judge speed and distance, and reduce their ability to perform two or more tasks at the same time.

Alcohol reduces a person's ability to see distant objects, to use peripheral vision to perceive what is happening at the roadside, and may reduce night vision by 25%. Blurred and double vision may also occur.

Alcohol may also give a person a sense of overconfidence, with the result that they may be prepared to take greater risks, such as speeding. Impaired judgement may also alter a person's perception of how fit they are to drive.

Finally, as alcohol is a depressant drug, it may make a driver sleepy, and affect their sense of balance.

A person who drives after they have had only one drink is still five times more likely to have a motor vehicle accident than a driver who has not drunk any alcohol.

What is Blood Alcohol Concentration?

Drink driving legislation is based on blood alcohol concentration (BAC). This is a measure of the amount of alcohol in the blood. A BAC of 0.05 means that in every 100ml of blood there is 0.05 grams of alcohol.

In Australia it is illegal to drive with a BAC over and including 0.05. By law, probationary drivers (P-platers) and motorcyclists in their first year of riding must maintain a zero BAC while on the road. Drivers of heavy trucks, buses, trains and trams must also maintain a zero BAC level while on the road in most of Australia.

In order to stay below 0.05 BAC, drivers are advised to limit their drinking to:

- **Men** – No more than two standard drinks in the first hour and no more than one standard drink every hour after that.
- **Women** – No more than one standard drink in the first hour and no more than one every hour after that.

These estimates are designed to minimise the risk of exceeding the legal limit to drive. It is important to be aware that these are guidelines, not rules. It is safest not to drink alcohol at all if you plan to drive. This guide is based on advice from the Australian Transport Safety Bureau.

In addition, as everyone is different some people would need to drink less to maintain a BAC level below the legal limit.

What affects Blood Alcohol Concentration?

The more alcohol a person consumes, the higher their BAC. However, the BAC can also be affected by a range of factors including:

- **how much and how quickly the alcohol is consumed**
- **body build – size and weight**
- **age and gender – young people and women are usually more affected by alcohol than adult men, mainly due to body weight and percentage of body fat**
- **condition of general health**
- **whether food has or is being eaten**
- **whether other drugs have been taken with the alcohol**
- **the type of drink (the amount of pure alcohol in drinks can vary from 2% to 60%. Generally alcohol can appear more rapidly in the bloodstream depending on the alcohol concentration by volume).**

For these reasons it is almost impossible to know whether you are under the legal limit by counting drinks alone.

How can you reduce the level of alcohol in your blood?

Once a person has consumed alcohol there is absolutely nothing that they can do to reduce the level of alcohol in the blood.

Sobering up takes time. The liver is the main organ of the body responsible for removing alcohol from the bloodstream. The liver can only work at a fixed rate, taking about an hour to break down the alcohol in a standard drink. Cold showers, exercise, black coffee, fresh air or vomiting will not speed up the process.

It is quite possible for a person who has drunk a lot at night to still be well over the legal limit to drive the next morning.



What is the impact of alcohol on road deaths and injuries?

The influence of alcohol has a major impact on the number of deaths and injuries that occur every year on Australia's roads.

According to the Australian Institute of Health and Welfare's report, 'Statistics on Drug Use In Australia 2000', in 1998 there were 440 deaths on Australian roads that were attributed to alcohol. Of these, 273 were within the 15-34 year old age range. One in three (27%) fatally injured drivers or motor-cycle riders (around 224 in 1998) had a blood alcohol reading above 0.05gm/100 ml.

The report also shows that there were 5,846 hospital episodes recorded which were attributable to alcohol and resulting road injuries in the same year. Once again, the 15-34 year old age range accounted for the majority of admissions, with 3,711 being within that age bracket.

