

# Alcohol & You

Facts &  
Effects





people in New Zealand drink  
alcohol at least weekly



People drink alcohol to:

LET LOOSE, CATCH UP,  
NETWORK, CELEBRATE,  
REWARD THEMSELVES,  
DO SOMETHING SPECIAL,  
CLOCK OFF, HANG-OUT,  
RELAX, UNWIND, GET  
DRUNK, JOIN IN.

This booklet has some facts about alcohol and information about the effects alcohol has on New Zealanders and New Zealand as a whole.



# What is alcohol?

**Alcohol (ethanol or ethyl alcohol) is the ingredient found in beer, wine and spirits that causes drunkenness. In all three, the alcohol is produced by the same chemical process. The sugar and water found in ripe fruits, grains or vegetables is combined with yeast and fermented to produce alcohol and carbon dioxide.**

The yeast builds up a concentration of alcohol and when it reaches about 15 percent, the alcohol kills off the yeast so that it cannot ferment anymore. This means that drinks with more than 15 percent alcohol content have had extra alcohol added, usually obtained by distillation. Beer and cider usually have about four to five percent alcohol. Wine has around 12-14 percent alcohol, and fortified wine such as sherry and port about 18 percent. Spirits such as whisky, gin and brandy have about 40 percent alcohol. Ready-to-drink (spirit-based drinks) are usually five percent but can be up to eight percent.

It is helpful to know how much alcohol is in what we drink. To help us work this out we refer to '*standard drinks*'. Each standard drink contains 12mls (10 grams) of pure alcohol.

Alcohol is a poor source of carbohydrates compared to some

foods, but it has a lot of energy (kilojoules (kJ)/calories) packed into it. It is the alcohol itself that is high in energy. One gram of alcohol has 27kJ compared to one gram of sugar with 17kJ. One standard drink (eg 100ml of wine, 30ml of spirits or 330ml of beer) contains 290kJ/69 calories. If spirits are combined with non-diet mixers, such as lemonade or cola, the energy value increases.

Alcoholic beverages do not contain significant amounts of protein and vitamins, which are vital ingredients of the human diet, and so alcohol cannot be regarded as a substitute for food.

## When not to drink

It's advisable not to drink if you:

- are **pregnant** or planning to get pregnant
- are on **medication** that interacts with alcohol
- have a **condition** that could be **made worse by drinking alcohol**
- feel unwell, **depressed**, tired or cold, as alcohol could make things worse
- are about to **operate machinery or a vehicle** or do anything that is risky or **requires skill**.

If you are not sure or are concerned, check with your doctor.

# Low-risk drinking advice for adults



Reduce your **long-term health risks** by drinking **no more than:**

- 2 standard drinks *a day for women* and no more than 10 standard drinks a week
- 3 standard drinks *a day for men* and no more than 15 standard drinks a week

**AND** at least *two alcohol-free days* every week.

• Reduce **your risk of injury on a single occasion of drinking** by drinking **no more than:**

- 4 standard drinks *for women on any single occasion*
- 5 standard drinks *for men on any single occasion*

**Stop drinking if you could be pregnant, are pregnant, or are trying to get pregnant.**

There is no known safe level of alcohol use at any stage of pregnancy.

## Standard Drinks > Know how much alcohol you're really drinking



### The amount of alcohol

It's not the amount of liquid you're drinking that's important – it's the amount of alcohol. If you drink 30mls of straight spirits or a 100ml glass of wine or a 330ml can of beer – you are drinking approximately 10 grams of pure alcohol, depending on the alcohol percentage (see below). Each of these is a standard drink.

The number of standard drinks shows the amount of alcohol, not the amount of liquid you're drinking – because it's the alcohol content that's important to track.

Because drinks have different amounts of alcohol in them, the number of standard drinks in each bottle, can or cask will be different.

### How many standard drinks are there in what I'm drinking?

You'll find the standard drinks content on the label of each bottle, can or cask. If the label shows that your bottle of beer contains 1.5 standard drinks, then you're drinking 15 grams of pure alcohol. If the bottle of spirits contains 32 standard drinks and you pour it into 16 glasses, each glass will contain two standard drinks, even if you add a mixer to it.

### What is a standard drink?

The standard drinks measure is a simple way for you to work out how much alcohol you are drinking. It measures the amount of pure alcohol in a drink. One standard drink equals 10 grams of pure alcohol.

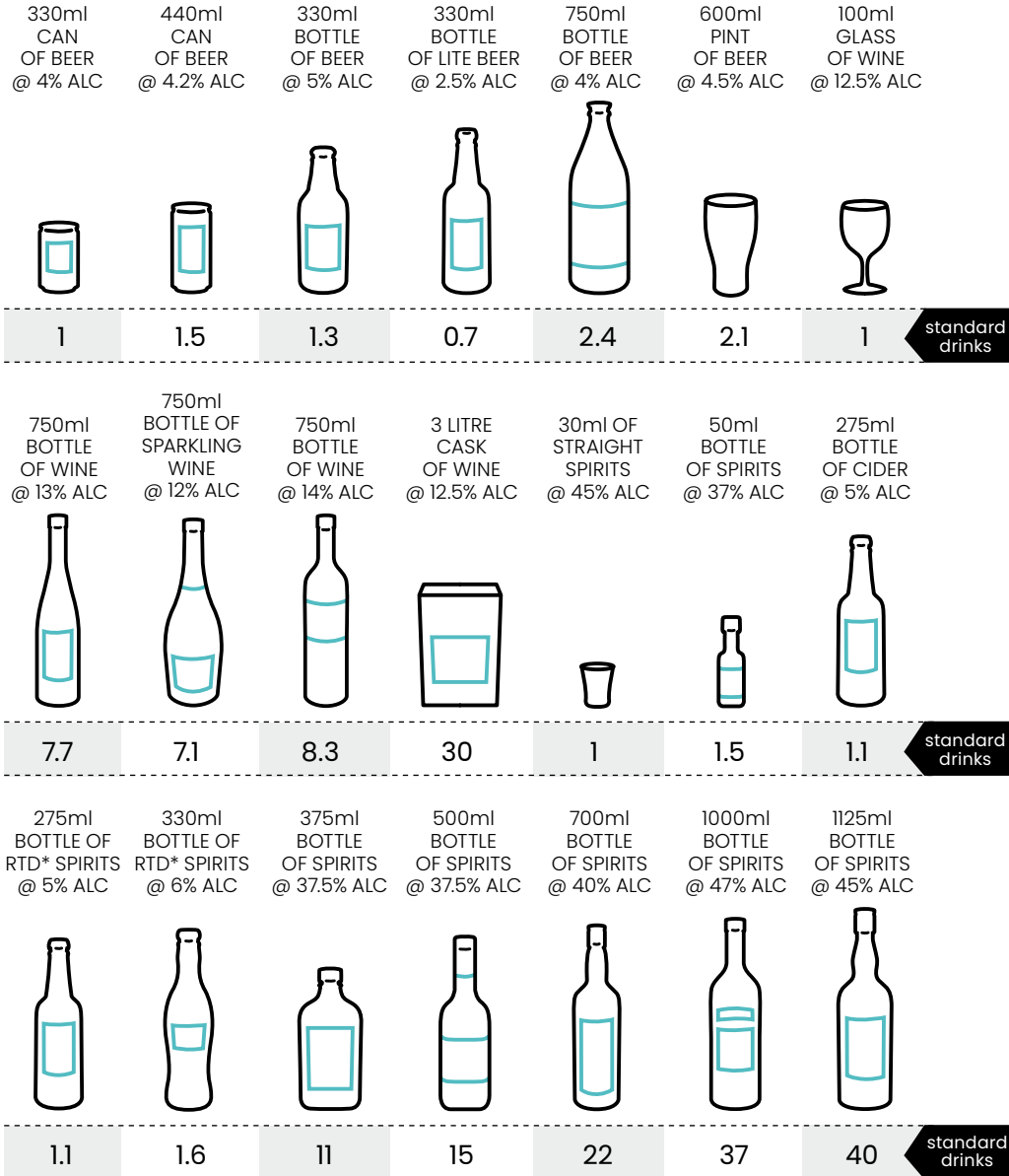


$$\text{No. of Standard drinks} = \text{Amount of drink in litres (Vol)} \times \text{Percent of alcohol by volume (\%)} \times \text{Density of ethanol at room temperature (0.789)}$$

**Example:**  
 500ml of beer which is 5 percent alcohol by volume.  
 $0.5 \times 5 \times 0.789 = 1.97$   
 (approx 2 standard drinks)



## How many SDs in different drinks?



\* RTD (READY TO DRINK)  
ALC refers to alcohol content by volume

# Effects of alcohol

The kind of alcohol we drink is called ethanol or ethyl alcohol. It is one of the family of alcohols. Most alcohols are highly poisonous to humans, but ethyl alcohol can be tolerated in the human body in small amounts.

When people start drinking they initially feel relaxation and pleasure. As the blood alcohol level rises, it slows the body's reactions down. This is why it's classified as a sedative-hypnotic drug. People can get into trouble when they drink a lot of alcohol very quickly – this may result in alcohol poisoning.

People can and do die of alcohol poisoning, but only if their blood alcohol concentration is over 400mg per 100 millilitres of blood, which is more than five times the legal limit for driving. An average man would reach this concentration if he drank a 750ml bottle of whisky in less than one hour.

When alcohol is swallowed it passes more or less unchanged into the bloodstream through the walls of the stomach and small intestine. Only minutes after drinking, the circulation system begins distributing the alcohol to every part of the body. From the stomach and the intestine, the alcohol travels to the liver where

it is ultimately broken down by enzymes into other products such as water and carbon dioxide.

These products are mainly eliminated from the body in the urine. The liver does this job at a slow, constant rate. It takes the average person one hour to process one standard drink. So when people drink alcohol faster than the liver breaks it down, alcohol concentration increases in the blood.

As the alcohol travels around the body via the bloodstream, it starts to slow down the operation of various sorts of cells. This causes the familiar symptoms of different stages of intoxication and drunkenness – relaxation, laughter, slurred speech, inability to walk straight, and impaired judgement and coordination.

Different people can have different symptoms of drunkenness, even after drinking the same amount of alcohol. A person's reaction to alcohol is influenced by:

- the ability of their liver to break down alcohol
- if they have eaten food or not
- how much alcohol they have had to drink
- how quickly they drink the alcohol
- their body type
- their age, gender and ethnicity.



## Heavy Drinking

# Effects on the body

### Liver

Long term alcohol use can damage the liver, causing alcoholic hepatitis (acute injury to the liver occurring after prolonged heavy alcohol use), cirrhosis (where liver cells are damaged and replaced by scar tissue) and cancer.

### Pancreas

Alcohol use, particularly when heavy, can cause acute or chronic pancreatitis (inflammation and damage to the pancreas) Heavy alcohol use can also lead to dangerously low blood sugar or build up of acids in the body.

### Sexual health

Being drunk increases the chances of having unsafe sex, sex that is later regretted or experiencing sexual assault as alcohol impairs judgment and lowers inhibitions. Chronic heavy alcohol use can lead to impotence in men and reduced fertility in both men and women.

**Chronic and heavy alcohol use increases the risk of death.** Alcohol can cause death directly, eg, from drinking too much in one session which can cause coma, reduced breathing and death or because it causes a fatal disease such as cancer, or indirectly, such as being a factor in violent death or suicide.

### Brain

Being drunk alters mood, impairs judgment and concentration, and in increasing amounts leads to drowsiness and coma. Long term alcohol use can damage the brain and nerves, leading to pain, weakness, difficulty walking, epilepsy (chronic fits), sleep disturbances, memory loss and dementia (loss of mental ability due to death of brain cells).

### Heart

Light to moderate alcohol use may reduce coronary artery disease (which can cause heart attacks) in some people, but heavy drinking may increase the risk of coronary artery disease. Heavy alcohol use is also associated with sudden death, irregular heartbeats and chronic disease of the heart muscle, which leads to heart failure, where the heart can no longer pump blood around the body effectively.

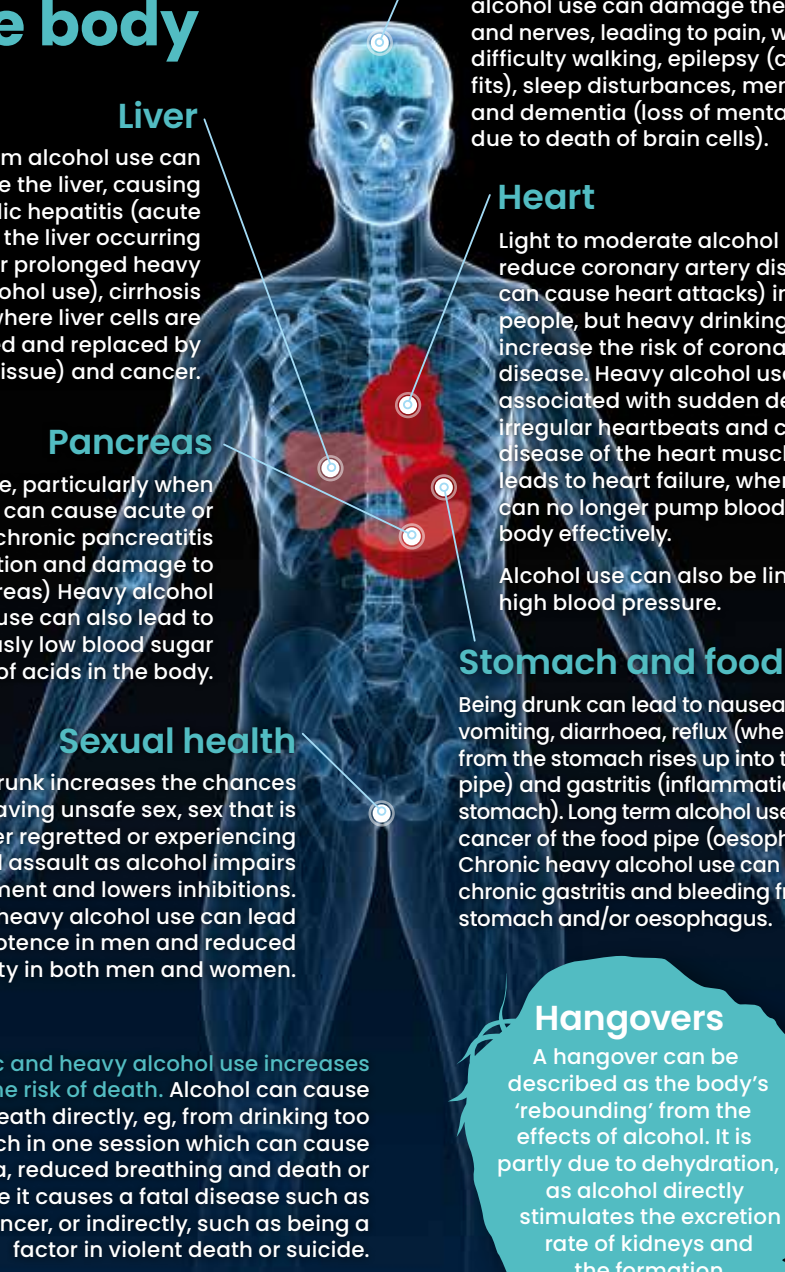
Alcohol use can also be linked to high blood pressure.

### Stomach and food pipe

Being drunk can lead to nausea and vomiting, diarrhoea, reflux (when acid from the stomach rises up into the food pipe) and gastritis (inflammation of the stomach). Long term alcohol use can cause cancer of the food pipe (oesophagus). Chronic heavy alcohol use can lead to chronic gastritis and bleeding from the stomach and/or oesophagus.

### Hangovers

A hangover can be described as the body's 'rebounding' from the effects of alcohol. It is partly due to dehydration, as alcohol directly stimulates the excretion rate of kidneys and the formation of urine.



# Costs

There can be two main costs of alcohol consumption – problems caused by drunkenness that occur soon after drinking, and those that occur as a result of heavy drinking over a long period of time.

Both these types of problems can affect not only the individual but also other people and organisations, such as families, hospitals and police.

## Acute harm

In New Zealand, estimates indicate between 600 to 1000 die each year due to alcohol-related causes.

Half of all deaths attributable to alcohol are through injuries caused by accidents such as drowning, falls, sports injuries, work related injuries, violence (domestic and social) and self inflicted injuries. Most alcohol-related deaths before middle age are due to injuries.

## Pregnancy

Pregnant women who drink are at increased risk of giving birth to children with lifelong effects – fetal alcohol spectrum disorder (FASD). Women should stop drinking any alcohol during pregnancy or while trying to get pregnant.

## Motor vehicle crashes

In 2010 driver alcohol was a contributing factor in 105 fatal traffic crashes, 385 serious injury crashes and 991 minor injury crashes. These crashes resulted in 120 deaths, 518 serious injuries and 1,747 minor injuries. The total social cost of crashes involving driver alcohol was about \$725 million that is about a fifth of the social cost associated with all injury crashes.

# Benefits

## Other costs

Relationship problems, financial worries, crime, depression, disease – all of these can result from drunkenness or heavy drinking.

In terms of productivity, in a year, 147,500 adults take one or more days off work or school due to their alcohol use. 84,400 adults per year experience harmful effects on their work, study or employment.

There have been a number of studies that estimate the cost of alcohol harm in New Zealand. No matter what methodologies are used, they mostly agree that the annual cost of harmful alcohol use is in the billions. Previous estimates have ranged from \$735 million to \$16.1 billion.

## Long-term heavy drinking

This can cause major damage to the brain, the central nervous system, the digestive system, the heart and the liver. There is also an increased risk of some forms of cancer. As a result, heavy drinkers can die earlier than moderate drinkers or life-long abstainers.

There is some evidence to suggest that alcohol can have some benefits to health, such as reducing risk of heart disease in older people, but it is difficult to attribute these benefits directly or solely to alcohol consumption due to other confounding factors.

The beneficial health effects of alcohol are controversial and are far outweighed by the detrimental effects of alcohol on disease and injury (Rehm et al., 2009)



### Did you know

- In one year we drink 34 million litres of pure alcohol – that is 9.7 litres for every person 15 years and older.
- Black coffee, cold showers or fresh air do not sober you up. There is no way to increase the rate at which the body gets rid of alcohol.

FOR ONLINE TOOLS, GO TO:

[alcohol.org.nz](http://alcohol.org.nz)

# A few facts to think about...

**\$85** million  
per  
week

New Zealanders  
spend on alcohol



**1.37**  
million  
people



in New Zealand drink  
alcohol at least weekly.

More than **575,000**

adult drinkers consume a large  
amount of alcohol at least monthly.

In New Zealand, estimates indicate between

**600-1000**

\*\*\*\*\* DIE EACH YEAR \*\*\*\*\*

from alcohol-related causes

**38%**  
of drinkers



have NOT consumed  
large amounts of alcohol  
in the last year.

**1 in 5** x

adult drinkers

has a  
potentially  
hazardous  
drinking  
pattern.



**10g**  
of PURE alcohol

One  
standard  
drink  
equals



**73%**

of adult drinking  
happens at home  
or at someone  
else's home.



NZ Police estimate that

**HALF**  
**HALF**

OF SERIOUS VIOLENT CRIMES   
ARE RELATED TO ALCOHOL

**1**

Nearly a third of the  
population thinks that it  
is okay to get drunk

**3**

**270**

The amount of  
kilojoules in 10g  
of alcohol.

The beneficial health  
effects of alcohol  
are controversial and  
are far outweighed  
by the detrimental  
effects of alcohol on  
disease and injury

(Rehm et al., 2009)

For help, contact the  
Alcohol Drug Helpline on

**0800 787 797**

Free confidential information, insight  
and support for you and your family.

**Māori line**

**0800 787 798**

Free confidential information, insight  
and support for you and your whānau.

**Whaka-tu-tangata  
stand tall – it's your call**



**Pasifika line**

**0800 787 799**

Free confidential information, insight  
and support for you and your family.

**It's your call**



For up-to-date statistics and information check out:

**alcohol.org.nz**



## **Health Promotion, Health New Zealand – Te Whatu Ora**

Email: [enquiries@hpa.org.nz](mailto:enquiries@hpa.org.nz)

For help contact the Alcohol Drug Helpline on **0800 787 797**

To order resources visit [resources.alcohol.org.nz](https://resources.alcohol.org.nz)