

FACT SHEET FORTY ONE

ALCOHOL METABOLISM & NUTRITIONAL CONTENT

Counting Calories

Although alcoholic drinks have a high calorie content they actually provide little in the way of nutrients such as protein, fats, carbohydrates, vitamins or minerals. Detailed below is more information on the nutritional content of some popular alcoholic beverages.

Bitter (4%ABV)

Per 100ml

Alcohol	3.1g
Calories	32.0kcal
Carbohydrates	2.3g
Fat	0g
Fibre	0g
Protein	0.3g

Calories per half pint serving = 91kcal

Lager (4%ABV)

Per 100ml

Alcohol	3.1g
Calories	28.9kcal
Carbohydrates	0g
Fat	0g
Fibre	0g
Protein	0.3g

Calories per half pint serving = 83kcal

Guinness (4.1%ABV)

Per 100ml

Alcohol	3.2g
Calories	30.0kcal
Carbohydrates	1.4g
Fat	0g
Fibre	0g
Protein	0.3g

Calories per half pint serving = 86kcal

Dry Cider (5%ABV)

Per 100ml

Alcohol	3.9g
Calories	35.9kcal
Carbohydrates	2.4g
Fat	0g
Fibre	0g
Protein	0g

Calories per half pint serving = 103kcal

Medium White Wine (10%ABV)

Per 100ml

Alcohol	7.8g
Calories	74.4kcal
Carbohydrates	1.4g
Fat	0g
Fibre	0g
Protein	0g

Calories per 125ml serving = 93kcal

Red Wine (13%ABV)

Per 100ml

Alcohol	10.1g
Calories	68.0kcal
Carbohydrates	0g
Fat	0g
Fibre	0g
Protein	0g

Calories per 125ml serving = 85kcal

Sweet Sherry (20%ABV)

Per 100ml

Alcohol	15.6g
Calories	136.0kcal
Carbohydrates	6.9g
Fat	0g
Fibre	0g
Protein	0.3g

Calories per 50ml serving = 68kcal

Spirits – Gin, Vodka, Whisky, Brandy, Rum etc (40%ABV)
Per 100ml

Alcohol	41.2g
Calories	208.0kcal
Carbohydrates	0g
Fat	0g
Fibre	0g
Protein	0g

Calories per 25ml serving = 52kcal

Alcohol can cause extensive damage to the stomach and intestines so even if someone who was drinking heavily did eat healthily, which is rare, their ability to absorb nutrients from their food would be greatly reduced. Weight loss, malnutrition and disorders relating from both of these can have serious lasting effects, so it is vital for people who are drinking heavily to consult with their doctor regarding their nutritional needs.

Alcohol Metabolism

Alcohol is absorbed from the stomach and small intestine, the length of time it takes to get into the bloodstream is usually quite short, once it is absorbed it is carried all round the body by the circulation, which is why it has such varied and wide spread side effects.

Between 2-10% of the alcohol consumed is lost through sweating or breathing it out, but the vast majority is removed from the body through the liver. The liver is like a huge factory, playing a number of important roles within the body, it removes toxins such as alcohol (or ethanol to give it the chemical name) by breaking them down so they can be excreted along with the rest of the body's waste.

Ethanol

Acetaldehyde

Alcohol dehydrogenase


The main chemical process for the break down ethanol in the liver cells is as follows:



Acetate

Acetaldehyde

Acetaldehyde dehydrogenase



Acetate

Carbon Dioxide

Water



40% of the Oriental population have an inactive form of the enzyme acetaldehyde dehydrogenase, which means when they drink alcohol they get a build up of

Acetaldehyde in their circulation, which results in facial flushing and several other side effects, outlined below.

As well as modifying the ethanol, the first step in the process of alcohol metabolism also leads to the modification of another chemical in the liver cell that needs to be recycled for the break down process to continue. In people who are drinking heavily, there is a lot more ethanol around to be metabolised and the liver cell's ability to recycle this other chemical is reduced. This leads to a build up of acetaldehyde and the other altered Chemical, both of which have knock on effects in the cell itself.

The increase in levels of the other altered chemical can effect the body's balance of other essential elements such as fats and sugars (glucose), leading to increased fat levels and decreased glucose levels. This leads to changes in the structure and function of the liver as well as affecting other organs such as the brain, the pancreas, the heart and the circulatory system.

An increase in acetaldehyde damages the cell itself, which further reduces the cell's ability to remove the acetaldehyde and so the levels continue to increase. Once elevated the acetaldehyde can leak into the bloodstream and travel to other organs in the body and start to damage them. Acetaldehyde has been implicated as a cancer-causing agent and it has been suggested that it may also play a role in alcohol addiction.

If you would like to talk to someone about your own or someone else's drinking please call us on 0845 762 6316 (Lo-call)