



Factsheet



Introduction



In 2010 as many as three million people were estimated to have diabetes in England.¹ The condition can lead to a number of serious health conditions. It has been estimated that Type 2 diabetes, the most common form of the condition, costs the UK economy nearly £9 billion every year – a figure which is set to sharply increase in the future.²

Heavy alcohol consumption is known to contribute to an increased risk of developing some forms of diabetes.^{3,4} There is also some evidence that light alcohol consumption may lower that risk, although the precise causal relationship is unclear.^{5,6} In people who already have diabetes and who are using insulin or tablets to manage it, alcohol can be potentially dangerous in that it can lead to dangerously low blood sugar levels, known as hypoglycaemia.⁷

What is diabetes?

Diabetes⁸ is a condition that causes people's blood sugar⁹ level to become too high, either because their body can't produce enough insulin or because it has become resistant to insulin.¹ Insulin is a natural chemical produced in the body which lowers sugar levels in the blood. If insufficient insulin is available, or it is unable to work properly, sugar will accumulate in the bloodstream, leading to a range of health problems.

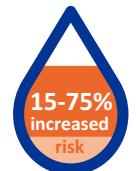
The two most common forms of diabetes are:

- **Type 1 diabetes**, which affects around 10% of the total number of people with diabetes, generally appears during childhood, and is caused by the body attacking its own insulin-producing cells.¹⁰
- **Type 2 diabetes** which affects around 90% of the total number of people with diabetes generally occurs later in life and is often linked to weight gain, although age, a family history of the condition, and ethnic background are also major factors. It occurs when the pancreas cannot produce enough insulin or the body becomes resistant to its effects.¹¹

The symptoms of both of these forms of diabetes include frequent urination, feelings of thirst and tiredness, unexplained weight loss and blurred vision. In the long term, diabetes can lead to a number of serious health problems including an increased risk of heart disease and stroke, nerve damage, kidney disease, poor vision and sexual dysfunction. People with diabetes are also prone to slow wound healing.¹²

Alcohol and diabetes

Heavy alcohol consumption significantly increases the risk of developing Type 2 diabetes, whereas lower alcohol consumption appears to be linked with a small reduction although the causal relationship is unclear. Consuming five or six alcoholic drinks a day raises the risk by between 15% and 75%,^{3,4} – and the risk may be particularly acute in women who can double their chances of developing diabetes by consuming that much alcohol daily.



Drinking pattern

Drinking patterns have been shown to have an influence on the risk of diabetes; consumption of large amounts of alcohol in a short period ('binge drinking') increases the risk.¹³ Consuming 26 units of alcohol – roughly thirteen standard drinks – over three days has been found to increase the risk of developing diabetes five-fold.¹⁴

How does alcohol increase the risk of diabetes?

How alcohol impacts on the development of diabetes is not fully understood. Long-term heavy drinking is linked with chronic pancreatitis – where the pancreas becomes permanently damaged from inflammation and is no longer able to produce insulin.¹⁵ Chronic pancreatitis is a major risk factor for diabetes, which develops in about a third of people with the condition.¹⁶



Heavy alcohol consumption can also lead to weight gain over time due to the calorific content of alcoholic drinks and the role of alcohol as a stimulant to appetite. Weight gain, particularly in the middle body area, brings an increased risk of developing Type 2 diabetes, since excess body fat increases insulin resistance.^{10,17}

¹⁸ Four pints of lager contains approximately 728 calories, the equivalent calorie content of two-and-a-half burgers. Moderating alcohol consumption is therefore an important part of any attempt to reduce diabetes risk through weight management.

Living with diabetes

People with diabetes who use insulin or tablets to treat the condition and who drink alcohol may be at risk of hypoglycaemia – dangerously low levels of glucose in the blood.⁷ Alcohol can inhibit the liver's ability to produce glucose, which means that during drinking the body has less ability to counteract the blood sugar-lowering effect of insulin.

Alcohol-related hypoglycaemia is particularly dangerous because the symptoms can easily be confused for drunken behaviour, and so people nearby may not recognise the need to intervene and assist. The symptoms include blurred vision,

dizziness, sweating and irrational behaviour, and are usually a sign that urgent medical help is needed.¹⁹

The risk of hypoglycaemia can be reduced by never drinking on an empty stomach, and by consuming carbohydrates throughout the evening and before going to sleep. Carbohydrates both raise blood sugar and stop alcohol being absorbed as quickly into the blood stream.²⁰

Generally, people with diabetes who take tablets or insulin for the condition can minimise their risk of hypoglycaemia by regularly checking their blood glucose levels and sticking within the recommended government alcohol guidelines.

Final word

Consuming large amounts of alcohol – particularly through binge drinking – may increase the risk of developing Type 2 diabetes. While people who have developed diabetes do not necessarily need to give up alcohol, those treating it with tablets or insulin should monitor their blood glucose levels whenever they are consuming alcohol.

References

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³ D Baliunas et al, "Alcohol as a risk factor for type 2 diabetes: a systematic review and meta-analysis", *Diabetes Care*, (2009), Vol 32, pp. 2123 - 2132

⁴ S G Wannamethee, "Alcohol consumption and the incidence of type II diabetes", *Journal of Epidemiology & Community Health*, (2002), Vol 56, pp. 542 – 548.

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⁷ Diabetes.co.uk, "Alcohol and hypoglycemia", (2015), < <http://www.diabetes.co.uk/alcohol-and-hypoglycemia.html> >, [accessed 5/5/15]

⁸ Diabetes is properly termed "diabetes mellitus", so as to distinguish it from the less common pituitary condition "diabetes insipidus"

⁹ The terms "blood sugar" and "blood glucose" are often used interchangeably – glucose being the specific type of sugar found in the bloodstream. We generally consume sugar as the more complex sucrose (table sugar) and then break it down into simpler glucose.

¹⁰ NHS Choices, "Type 1 diabetes – causes", (August 2014), < <http://www.nhs.uk/Conditions/Diabetes-type1/Pages/Causes.aspx> >, [accessed 1/5/15]

¹¹ NHS Choices, "Type 2 Diabetes", (June 2014), < <http://www.nhs.uk/conditions/Diabetes-type2/Pages/Introduction.aspx> >, [accessed 1/5/15]

¹² NHS Choices, "Type 2 diabetes – complications", (June 2014), <

<http://www.nhs.uk/Conditions/Diabetes-type2/Pages/Complications.aspx> >, [accessed 1/5/15]

¹³ NHS Choices, "Type 2 Diabetes", (June 2014), < <http://www.nhs.uk/conditions/Diabetes-type2/Pages/Introduction.aspx> >, [accessed 1/5/15]

¹⁴ AM Hodge et al, "Alcohol intake, consumption pattern and beverage type, and the risk of type 2 diabetes" *Diabetic Medicine*, (June 2006), Vol 23 No 6, pp. 690 - 697

¹⁵ Cancer Research UK, "Pancreatic cancer risks and causes", (June 2014), < <http://www.cancerresearchuk.org/about-cancer/type/pancreatic-cancer/about/pancreatic-cancer-risks-and-causes#alcohol> >, [accessed 1/5/15]

¹⁶ NHS Choices, "Chronic Pancreatitis", (March 2015), < <http://www.nhs.uk/conditions/Pancreatitis-chronic/Pages/Introduction.aspx> >, [accessed 1/5/15]

¹⁷ S G Wannamethee, A G Shaper, "Alcohol, body weight and weight gain in middle aged men", *American Journal of Clinical Nutrition*, (2003), Vol 77, pp. 1312 - 1317

¹⁸ NHS Choices, "Type 2 diabetes – causes", (June 2014), < <http://www.nhs.uk/Conditions/Diabetes-type2/Pages/Causes.aspx> >, [accessed 11/5/15]

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