



Sugars and Type 2 Diabetes

What is type 2 diabetes?

Diabetes is a lifelong condition that causes a person's blood sugar to be too high. There are two forms of diabetes: type 1 and type 2¹. **Insulin** is a hormone that is key in regulating blood glucose levels. Type 2 diabetes can occur either as a result of insulin receptors becoming desensitised and as a result no longer responding to insulin; or, due to the beta cells of the pancreas no longer producing insulin. Often it is a combination of these two factors that leads to this condition known as type 2 diabetes.

Type 2 diabetes is by far the most common – of all the adults who have diabetes, 90% of them have type 2. Diabetes is an increasing health problem in the UK with **3.2million** people diagnosed with diabetes and a further 850,000 estimated to be undiagnosed¹. Diabetes is a growing health burden and it is estimated that by 2025, 5 million people will have been diagnosed in the UK². Diabetes is the leading cause of blindness in the UK and the disease's complications cause more than 100 amputations to take place each week. Each year, 24 000 people die early from diabetes-associated complications³. Its total cost is estimated at **£13.8billion** each year⁴. It is predicted that the annual NHS cost of the direct treatment of diabetes in the UK will increase to £16.9 billion over the next 25 years, which is 17% of the NHS budget⁵, believed to potentially bankrupt the NHS.

What are the causes of Type 2 diabetes?

There is a complex combination of genetic and environmental risk factors that play a part in the development of diabetes – it tends to cluster in families, but there is also a strong link to environmental risk factors. Ethnicity also plays a major role in its development, with people of South Asian descent being six times more likely to contract the disease¹.

Obesity is the most potent risk factor, accounting for 80-85% of the total risk of developing type 2 diabetes⁵. Given that almost 2 in 3 people in the UK are obese or overweight; their chances of developing Type 2 diabetes at some point are high⁶.

Other risk groups include¹:

- ✓ People over the age of 40
- ✓ People with cardiovascular disease
- ✓ Women with polycystic ovary syndrome (PCOS)
- ✓ People who are taking medication for schizophrenia or bipolar disorder

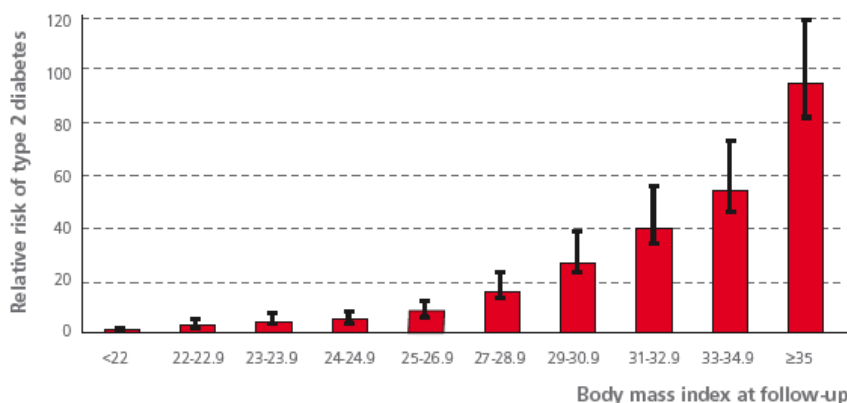


Image source: The Scottish Government, 2007.¹⁰

How does sugar contribute to the risk of Type 2 diabetes?

Type 2 diabetes occurs as a result of a lack of insulin production or an increased resistance to insulin¹. Insulin is a hormone produced by the pancreas that allows for the regulation of the uptake of glucose. It

is released in response to increased glucose levels in the blood and allows for individual cells to take up glucose from the blood to metabolise it.

A **high-sugar diet** has been linked with an increased incidence of type 2 diabetes due to the links between high sugar intake and obesity. The Scientific Advisory Committee on Nutrition (SACN) also conducted a meta-analysis, which includes nine cohort studies in 11 publications that suggest that there is a relationship between sugars-sweetened beverages and the incidence of type 2 diabetes⁷. The link between sugar consumption and diabetes is both direct and indirect – with sugars-sweetened beverages being directly linked to the incidence of type 2 diabetes, and equally sugar consumption leading to obesity, one of the main risk factors for type 2 diabetes.

Complications associated with type 2 diabetes:

There are several complications associated with type 2 diabetes. The most common are⁵:

- Kidney disease
- Eye disease including blindness
- Amputation
- Depression
- Neuropathy
- Sexual dysfunction
- Complications in pregnancy
- Dementia

Current sugar intake and advice on how to prevent type 2 diabetes:

The current recommendation for sugar intake is that it does not exceed 5% of daily energy intake (**=30g for adults, 24g for children aged 7-11 and 19g for children aged 4-6**). At present, we consume a much higher proportion of sugar each day, with percentage sugar consumption between 1.5 to 3 year olds at 11.9%; 4 to 10 year olds at 14.7% and 11 to 18 year olds at 15.6%⁸.

It is also important to maintain a healthy lifestyle and diet by⁹:

- ✓ Eating a low calorie diet – **2,000 calories** per day for women and **2,500 calories** per day for men.
- ✓ Reducing sugar intake to a maximum of **7 teaspoons/cubes per day (30g)**.
- ✓ Reducing the consumption of sugars-sweetened beverages.
- ✓ Exercising a minimum of **150-300 minutes per week**, or half an hour a day, doing moderate intensity exercise.
- ✓ Maintaining body weight at a healthy BMI (between 18.5kg/m² and 24.9kg/m²).

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