



Diabetes  
New Zealand

# The facts about sugar and diabetes

Someone may have told you that people with diabetes can't eat any sugar. Some people think that eating too much sugar causes diabetes in the first place. Such ideas make sugar sound like a 'bad guy'. But sugar is just a type of carbohydrate. New Zealand registered dietitian **Alison Pask** explains why a sugar free diet is no longer the norm for people with diabetes.

Sugar (sucrose) is a carbohydrate that occurs naturally in foods. It is the major product of photosynthesis, the process by which plants transform the sun's energy into food.

Sugar occurs in greatest quantities in sugar cane, from which it is separated for commercial use.

## What is the difference between sugars?

The only difference between the types of sugar is the amount of molasses which remains on the crystal.

So brown sugar is not more 'natural' than white sugar, it simply has a different flavour and colour due to extra molasses coating the sugar crystal.

## Different sugars

- White sugar is the most popular and widely used sugar - its high degree of purity means it has no additional flavour other than sweetness
- Caster sugar is the same as white sugar, but has a smaller crystal size
- Icing sugar is granulated sugar ground to a smooth powder and then sifted; it contains about 3% cornstarch to prevent caking
- Golden syrup and treacle are produced by partly breaking down sugar into its components of glucose and fructose which stops crystals forming and creates a stable liquid product
- Honey is just as natural as sugar except it comes from a beehive rather than sugar cane.

## A sugar free diet is no longer the norm

Sugars and other carbohydrates are digested in our bodies and broken down into glucose.

Glucose is essential to our bodies and is carried in the blood to supply fuel throughout the body. Diabetes is the result of a lack of insulin, or insulin not working effectively, which means that

glucose in the blood cannot be used appropriately.

Diets containing little or no carbohydrate (either as sugars or starchy foods) were the common form of treatment for diabetes before the invention of insulin. Advanced medical and nutritional research now allows us to be more liberal in the management of diabetes.

Carbohydrates are important in the diets of people with diabetes.

Until recently, scientists believed sugar was quickly digested and absorbed, resulting in blood glucose levels which climbed too high, too quickly. This resulted in sugar being regarded differently to other carbohydrates.

As a result, people with diabetes were warned to consume little or no sugar. Research has proven this advice to be unfounded. When scientists actually measured the rise in blood glucose which occurs after eating sugar, they found it was similar to many breads and less than some foods such as mashed potato.

## What is the connection between sugar and diabetes?

Diabetes is a condition in which the body does not have the ability to effectively use glucose.

Glucose in the bloodstream comes from carbohydrate foods, which are changed into glucose after we have eaten them.

Glucose is a type of sugar and therefore people with diabetes often become confused about the amount of sugar, if any, they can include in their daily eating pattern.

'Blood sugar' and sugar in food are not the same and this is what creates the confusion. It is important to note that sugar does not cause diabetes.

Research has revealed that the way in which food acts in the body is far more complex than we once thought. Different carbohydrate-containing foods do have different effects on blood glucose levels, but we can now rate them on the effect they actually have in the body.

This is where the glycaemic index or GI becomes a useful tool in the management of diabetes.

### GI in a nutshell

The GI ranks carbohydrate-containing foods depending on the effect each has on blood glucose levels. This rating is now being used by many dietitians as a guide for developing healthy eating plans for people with diabetes.

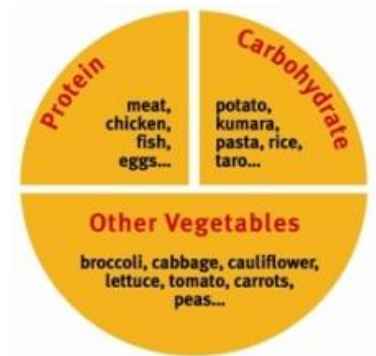
- Foods are identified as: low GI slowly digested carbohydrates; moderate; and high GI quickly digested carbohydrates
- Higher GI foods are best eaten within a meal, ideally along with a low GI food, not as snacks or on their own
- Higher GI foods will cause blood glucose levels to rise steeply and quickly
- Sugar, a moderate GI food, sprinkled on porridge which is a low GI food, will cause less of a rise in blood glucose than sugar sprinkled on a high GI food such as cornflakes
- Low GI foods should form the basis of each meal
- There is no reason for people with diabetes to avoid sugar in diets as it has a moderate GI. Of course, the amount eaten and the total carbohydrate of the food also play a part. That's why concentrated sources of sugar like sweet sugary drinks aren't recommended as it is easy to drink large volumes of these drinks, which certainly will impact on your blood glucose.

### Including sugar in your diet

Our better understanding of the way the body deals with sugar in foods means that people with

diabetes no longer need to exclude sugar, provided it is included as part of the total carbohydrate content of a meal.

**Base your plate on the principle of quarter of a plate of meat or meat alternative, quarter of a plate of carbohydrate, and at least half a plate of free vegetables**



If your diabetes is well controlled, you may be able to include sugar as part of a meal or into a snack. A small amount of sugar, that is, 1-2 teaspoons per person, is generally okay. For example:

- A small amount of honey in a marinade for meat, or
- A teaspoon of jam on wholegrain bread, or
- The small amount of sugar in baked beans.

When making muffins, a quarter of a cup of sugar in a recipe for 12 muffins is acceptable. Sugar will however add extra calories, so if you are watching your weight then the sugar will contribute to your total energy intake and will not add any other nutritional benefits.

Using fruit for sweetness is a successful way to add extra taste and sweetness. However, count the fruit as part of the total carbohydrate eaten.

For more information, make an appointment with your dietitian who will tailor an eating plan for your own individual circumstances.

### Example GI ratings of some cereals and sugars (from [www.glycemicindex.com](http://www.glycemicindex.com))

Food	High (70 or more)	GI	Medium (56-69)	GI	Low (under 55)	GI
<b>Cereals</b>	Rice Bubbles	87	Natural muesli	57	All Bran	30
	Cornflakes	77	Rolled oats porridge	58		
	Instant oat porridge	82	Weet-Bix™	69		
	Sultana Bran	73				
<b>Sugars</b>	Glucose	100	Honey	62	Fructose	19
			White sugar	61		

The formulation of commercial foods can change which can alter the GI. To search for the GI of more foods, visit [www.glycemicindex.com](http://www.glycemicindex.com) and click on GI Database.