

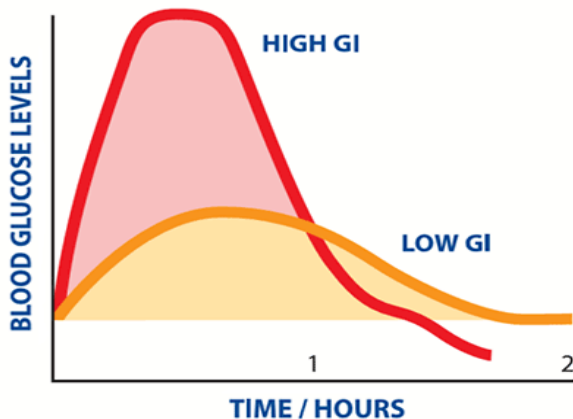
Glycaemic Index (GI)

There are many types of carbohydrates (carbs), but they all behave differently in your body. This is because carbs – or starchy foods – are digested at different rates, which has an effect on your blood glucose (blood sugar) levels. The Glycaemic Index (GI), is a ranking of how quickly these foods make your blood glucose levels rise after eating them.

Which food and drinks contain carbohydrate?

- Starchy foods such as bread, pasta, chapattis, potatoes, yam, noodles, rice and cereals
- Fruit and fruit juice
- Some dairy products such as milk and yoghurts.
- Sugar and other sweet foods
- Non-diet soft drinks
- Pies, pastries, biscuits and cakes

Each time you have a sugary or starchy food or drink, the blood glucose level in your body rises. Some of these foods are quickly digested and cause quick and sharp rises in your blood glucose levels – they are called high GI foods and drinks. Low GI foods and drink, which are more slowly digested, will make your blood glucose rise more slowly. These are sometimes called 'slow release' carbs.



A diagram to show the impact on blood sugar levels of low GI compared to high GI foods.*

* diagram reproduced with kind permission of www.glycemicindex.com

Foods with a high GI are not necessarily bad foods. For example potato crisps have a medium GI but a baked potato has a high GI. Despite this, a baked potato is better for your health than potato crisps, which are higher in fat and salt. And all lower GI foods are not necessarily healthy – chocolate and ice cream have a low to medium GI rating. So, the key is to use GI in the context of balanced eating.

How to use GI

The GI value of a food is tested on the food when eaten on its own, and there are published lists of high, medium and low GI foods. However, it is not helpful to use the GI values in isolation, as we generally eat food in combination with other foods. GI needs to be taken in the context of varied balanced eating for it to be successfully incorporated into a healthy diet.

Here are some everyday carbs with examples of a lower GI choice:

Carbohydrate food	Lower GI choice
Bread	Multigrain, granary, rye, seeded, wholegrain, oat, pita bread and chapatti
Potatoes	New potatoes in their skins, sweet potato and yam
Pasta	All pasta, cook until <i>al dente</i> and noodles
Rice	Basmati rice, long grain and brown rice
Other grains	Bulgur wheat, barley, couscous and quinoa
Breakfast cereals	Porridge, muesli, most oat and bran-based cereals

A healthy way to use the GI principles is to incorporate a range of lower GI carbs that are also low in fat and calories into your meals. So, when you choose a low GI breakfast like porridge, consider making it with skimmed, 1% or semi-skimmed milk and sweetening it with the minimum of sugar and some dried fruit. When you're buying a sandwich, go for granary bread and think about healthier fillings like chicken tikka, tuna, hummus or roasted vegetables.

If you choose pasta, use a flavoursome tomato-based sauce rather than a creamy cheese sauce, which can be high in unhealthy saturated fats, and serve it with plenty of salad or steamed vegetables.

Many low GI foods are a good source of fibre or whole grains. Consider the overall balance of your meals by looking at labels and choosing foods that are lower in saturated fat, salt and sugar, and keep an eye on your portion sizes.

GI and diabetes

There is good scientific evidence to suggest that basing your diet on low GI foods may help to control blood glucose levels for people with Type 2 diabetes.

Choosing low GI foods as part of a balanced lifestyle can help to minimise fluctuations in blood glucose levels. In the long term, this can help reduce the risk of complications of diabetes such as heart and kidney problems. GI is about the physical make-up of a food and it is important to consider the mix of foods you eat, not just the GI value of the carbs. We don't eat single foods, so a lower GI food like granary toast may be digested more quickly if it is smothered with sugar-rich jam! Similarly, a higher GI food like sweet sponge cake will be more slowly digested if it is eaten after a meal. So it's helpful if you think about how a meal (as opposed to a single food) affects your blood glucose levels, and this is called the glycaemic effect of the meal. People with diabetes can enjoy limited amounts of sugary foods when taken at the end of a meal, so the GI principles help to explain why in diabetes you don't need to follow a sugar-free diet. And it makes sense that high GI glucose tablets and glucose drinks are the best form of treatment for hypoglycaemia (low blood glucose levels), as they rapidly get your blood glucose up.

GI and weight management

There is some research to suggest that slow, steady rises and falls in glucose may help control appetite. You may notice a claim "feel fuller for longer" on the label of lower GI foods but this is not a permitted claim so food manufacturers cannot relate GI to fullness on a food label. Although many low GI foods are also filling, there isn't enough evidence to suggest that all low GI foods can help you to feel full.

GI is not a magic bullet for weight loss:

- Lower GI foods can help you to manage your weight if they are eaten as part of a calorie-controlled diet combined with regular physical activity.
- Lower GI foods like wholegrains, fruit, beans, lentils, and vegetables are generally low in calories too: they also have a lower GI.
- Some lower GI foods (such as chocolate cake) may be high in fat or calories and so they are not a healthy choice.

Summary

Carbohydrates come in different physical forms and some are healthier than others. 'Slow release' or low GI carbs have been shown to help stabilise blood glucose levels and this is particularly helpful in diabetes. The amount you eat is also important and all low GI foods aren't necessarily good for you. In general, filling lower GI foods such as beans, peas, lentils, porridge, muesli, fruit and vegetables are good choices and can help you to manage your weight and keep to an overall healthy eating plan.

Further information

Food Fact sheets on other topics including healthy eating, sugar and carbohydrates are available at www.bda.uk.com/foodfacts



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Written by Azmina Govindji, Dietitian.

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