

Understanding Glycaemic Index for children with diabetes

Nutrition and Dietetics

Information for Patients

Last reviewed: May 2026

Next review: May 2029

Leaflet number: 1064 Version: 2

What is Glycaemic index (GI)?

The glycaemic index (GI) is a measure of how slowly or quickly carbohydrate breaks down into glucose and is taken into the blood. This shows how slowly or quickly your blood sugar rises.

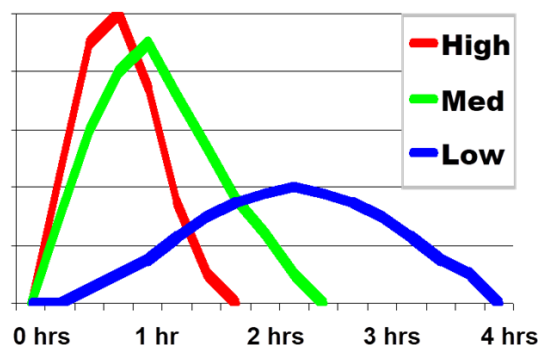
Why use GI?

Choosing lower GI foods can improve blood glucose levels. It can lower the risk of both high and low blood glucose (sugar) levels after meals. Choosing low GI foods is better for managing your blood sugars. It can even improve long term diabetes control (HbA1C). These foods can also be important as part of a healthy diet. It can help children to grow at a healthy rate.

2 meals with the same amount of carbohydrate in grams may affect your blood glucose levels differently depending on the glycaemic index.

Foods with a high GI are absorbed quickly. It can cause a large rise or spike in blood sugars. It can be very difficult to match insulin to high GI foods and drinks. It is best to avoid these unless you are using them to treat a low blood glucose (hypo) or during exercise.

Foods with a low GI are absorbed slowly and may make a smaller rise in blood sugars. You may wish to change some foods with a high GI for foods with a low GI. While low GI foods may be good in keeping your blood sugars stable, some low GI foods such as takeaways and pizzas are not the healthiest choices. They can cause high blood sugars many hours after eating.



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It is important to remember that not all low GI foods are healthy, and not all high GI foods are unhealthy!

What else affects how quickly carbohydrates turn into glucose in the blood?

- **Meal size:** Eating a large amount of any type of carbohydrate will take longer to digest than a smaller amount. You can speak to your Dietitian about the amount of carbohydrate that is thought to be large for your child.
- **Fat and protein:** Foods high in fat (oil, butter, cream, cheese) and high in protein foods (meat, fish eggs) can slow down the rate of digestion when eaten as part of a meal. This means sugar is released more slowly in to the blood. Some people with diabetes find adding a fat and / or protein source with breakfast can be helpful in stopping a 'spike' in blood sugars after breakfast.
- **Fibre:** High fibre foods like whole grain cereals or bread, fruits vegetables, beans or pulses and potato skins are digested very slowly. It can cause a slower increase in blood glucose.
- **Processed food:** The more processed food is, it is more likely have a higher GI. For example, easy cook rice has a higher GI compared to basmati rice. Whole oats have a lower GI compared to instant porridge because of the processing methods.

Carbohydrate	Lower GI Choice	Higher GI Choice
Bread	Multigrain, seeded, granary, rye, wholegrain, pitta, chapatti	White bread, bagel, baguette, gluten free bread
Potatoes	New potatoes with skins, sweet potato, yam	Boiled potatoes, instant mashed potatoes (without added fat and milk).
Pasta	Pasta and noodles	Gluten free pasta
Rice	Basmati rice	Easy cook rice, white rice.
Other Grains	Bulgur wheat, barley, couscous, quinoa	
Breakfast Cereals	Porridge oats, muesli, bran cereal with fruit	Corn flakes, Bran Flakes, Cheerios, Coco Pops, Rice Krispies
Pulses and Beans	Butter beans, kidney beans, chick peas, lentils, peas, sweet corn	Swede.
Fruit	Most fruit; apples, grapes, kiwi, plums, raisins, banana, oranges, pears	Watermelon.
Milk and Dairy	Milk, milkshakes, yoghurt, custard.	Rice milk.

Top swaps for lower GI foods:

Breakfast

- Swap to lower GI breakfast cereals, like porridge and oat based cereals.
- Add fruit to breakfast cereal.
- Swap white and wholemeal bread for wholegrain or sourdough breads.
- Add avocado, egg, baked beans or peanut butter to wholegrain toast.
- If drinking pure fruit juice, give this with a main meal instead of outside a meal time.

Lunch

- Use multigrain or wholegrain bread and rolls for sandwiches.
- Use pitta bread, wraps and flat breads in place of white and wholemeal bread.
- Try rice and pasta salads made with low fat sauces as an alternative to sandwiches.
- Include fruit packs and vegetable sticks as extras in lunch boxes.

Evening meal

- Swap potato for sweet potato and new potatoes.
- Use pasta and rice or noodles in place of potatoes.
- If eating potatoes, keep the skins on where possible.
- Include 2 to 3 servings of vegetables with meals.
- Add beans and pulses to stews/casseroles. You can replace some of the meat with beans and pulses.

Snacking

- All types of fruits are great. Try making fruit skewers.
- Mix fruit and yogurt together for a healthy filling snack.
- Have veg sticks and low fat dips like hummus.
- Before bed try giving full fat milk, yogurt and yogurt drinks.
- Wholegrain crackers or oatcakes with low fat cream cheese.
- Breakfast cereal with full fat milk.



More information

- Glycaemic Index: www.glycemicindex.com/
- Digibete: Strike the Breakfast Spike: www.digibete.org/strike-the-breakfast-spike/

Contact details

You can call these numbers for more help between 8:30am to 4:30pm:

Dietitian Contact details: **0116 258 5400**

Nurse office Contact details: **0116 258 6796**

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