



REDUCE THE SPIKE

In an ideal world you could eat what you like - you carb count accurately and give the right amount of insulin before you eat, then your BG would not rise more than 2.5mmol.

However, insulin you inject does not work as efficiently as the insulin you would have produced yourself. Injected insulin works slower (which is why we suggest you give the insulin before you eat, so it has chance to get working before your food starts to digest).

This leaflet has been produced as a guide so you know which foods will digest fast enough to cause a post meal spike in BG and those foods that will cause less of a spike.

We have also tried to offer you some ideas on how to reduce the spike, but still eating some of the foods you like. This is not a precise science as digestion is influenced by a lot of factors - digestion and management of diabetes is different for each person.

If you have found your own ways of managing BG and still eating the foods you like, please let us know so we can share it with others.

Fast release carbs digest so quickly that even giving insulin before you eat is not enough. In the first few minutes after eating, the glucose from your food moves into your blood before the insulin has had chance to move from your skin to your blood. You might be tempted to give more insulin for these foods but that doesn't always help as it can cause a hypo after the meal. It's not the lack of insulin that is causing the high BG, it's the timing - the insulin has not got going before the glucose is released from your food, e.g. sugary breakfast cereals, fresh fruit juice

Medium release carbs raise BG more gradually and need insulin before food, e.g. starchy foods and fruit.

Slow release carbs raise BG more gradually and may need insulin after food (or extend the insulin on a pump) e.g. pasta, pizza

Very slow release carbs digest very slowly, causing a small rise in BG over a few hours, so that if you gave insulin, your BG would drop to hypo, e.g. beans, pulses, nuts

Food Swaps to reduce spikes in BG

Fast absorption		Slower absorption
Breakfast cereals, honey, dried fruit, sugar, jam, chocolate spread, white breads, rusk, breakfast bars and biscuits, pancakes, crumpets, brioche, croissant	Breakfast	Porridge, natural muesli, natural yoghurt, eggs, multi grain bread, peanut butter, cocoa nut butter (low sugar), cream cheese, mushrooms, tomatoes, avocado, spicy eggs, see breakfast leaflet for more ideas
Rice cakes, pancakes, scones, crisps, biscuits, crackers, breadsticks, fruit winders, dried fruit	Snacks	Veg and some fruit-See low carb snack leaflet
Bagel, white bread, baked potato, ketchup, mango chutney, sweet chilli sauce	Lunch	Pasta salad, lentil soup, veg and salads, multi grain breads, rye/granary bread. See pack lunch ideas and 5 a day factsheet
Chips, instant rice or potato, white chapati/bread	Evening Meal	Basmati rice, lentil curry, beans lentils peas, nuts, seeds, noodles, pasta (reheated), baby new potatoes, sweet potatoes, veg and salad, wholemeal pitta/chapati
Milkshake, sweetened drinks, smoothies, slushes, lassi, fresh fruit juice, hot chocolate, coffee syrups	Drinks	Sugar free cordial, water, options/highlights hot choc, sugar free flavoured water
Chocolate, ice-cream, cakes, biscuits	Desserts	Fruit, cream, sugar free jelly, whole yoghurt. Small amount of dark choc (over 70%). See dietitians for recipes.

Factors Affecting the Absorption of Blood Glucose

Factor	Mechanism	Examples
Meal Size	A larger amount of carbohydrate will take longer to digest, and will have a greater impact on your blood glucose	
Food Combination Fat & Protein Content	<p>Adding slow release foods into your meal will reduce the BG spike</p> <p>If fat and /or protein are eaten in a meal, it slows down the rate of digestion of carbs and reduces the spike in BG, e.g. breakfast.</p> <p>With some meals the BG spike can be reduced or even cause a hypo and then BG can rise later, please contact the dietitians</p>	<p>Lentils/beans to recipes e.g. shepherd pie, curries, soups</p> <p>Veg/salad to your meals</p> <p>Peanut butter on toast</p> <p>Scrambled egg with toast. Peanut butter on toast. Avocado on toast.</p> <p>Pasta with creamy sauce, Pizza and fatty takeaways, curries</p>
Physical form of the Food	<p>The fibre in some foods slows digestion and therefore the release of the carbs, reducing the BG spike</p> <p>Processed foods contain no fibre and so the carbs are released faster causing a BG spike</p> <p>Fresh fruit causes less of a spike than dried as the drying the fruit makes the sugars to release faster</p>	<p>Rye bread, beans, seeds, lentils and other legumes. Traditional rolled oats</p> <p>instant oats, ready meals, white carbs, breakfast cereals, fruit juice</p> <p>Fresh fruit</p>
Cooking methods and Timing	Pasta and noodles cooked till they still have a 'bite' will cause less of a BG spike than if you cooked them till they were soggy	Pasta and noodles 'al dente'
Cooling & Reheating Foods	Cooking, cooling reheating can change the structure of the carbohydrate so the BG spike is reduced	Reheated Pasta and potatoes. Bread toasted straight from the

Top tips to slow down the digestion of the carbs:

- If you are eating fast release carbs, have in small amounts with a mixed meal/slow release carbs
- Have mixed meals containing fibre, protein and fat
- Make half your plate vegetables – lentil and pulses count as a portion of vegetables, are low in fat, high in fibre and are cheap!
- Add lentils and beans to your soups, stews, rice, shepherds pie
- Have yoghurt, fruit and a nutty oat bar with a wholegrain sandwich with salad for lunch
- Cooking pasta and potatoes the day before and re-heating them means the carbs are more slow release
- Choose foods that are fresh, whole and unprocessed wherever possible
- Eat foods that are dried (fruit), blended (smoothies), made from processed flours (Quavers, Rice Krispies, Cornflakes, breadsticks), sweetened (cakes sweets), processed (ready meals) in small amounts or swap for other foods or eat with a meal.

Author: Dietetics 01282 804700
Date of issue: September 2022
Version number: 1
Review Date: September 2024
Document ID: PAEDDIAB-001-REDUCE SPIKE-2022