



10:20 – 10:40 am

GLYCAEMIC INDEX AND CHI

The Glycaemic Index and Hyperinsulinism

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Overview

- What are carbohydrates?
- Where are they found?
- What is their function – how do they behave in the body
- What is the Glycaemic Index (GI)?
- How to use the GI

What are carbohydrates?

Carbohydrates are one of the 3 main nutrients found in foods/drinks (along with protein and fat).

All carbohydrates are broken down (digested) into glucose, and this enters the blood stream.

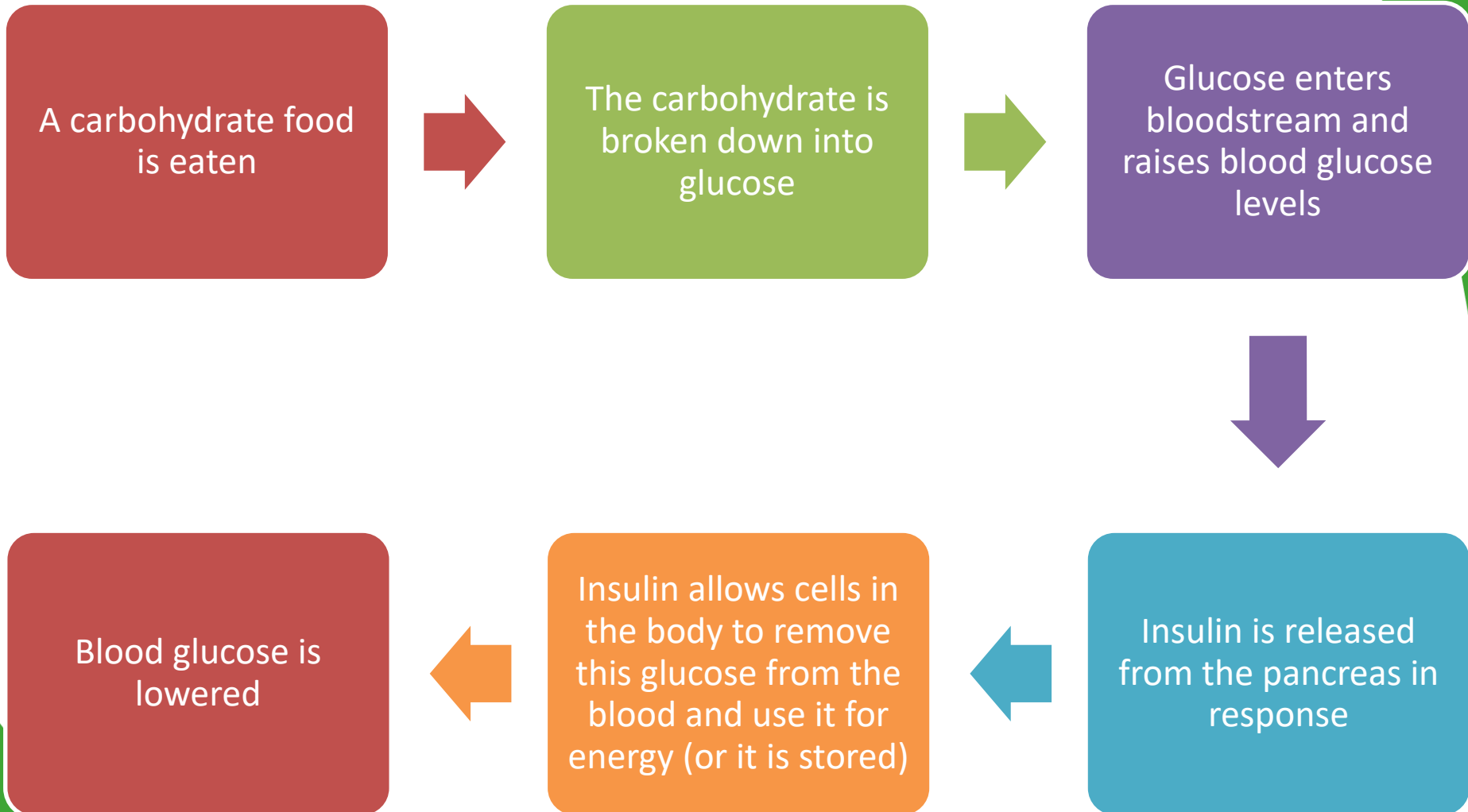
However, there are different types of carbohydrate, and they behave differently in the body.

Carbohydrates

Breads, rice, cereals, pasta, sweets, sugar, honey, crackers, potatoes, cous cous, fruit, vegetables, sugary drinks.

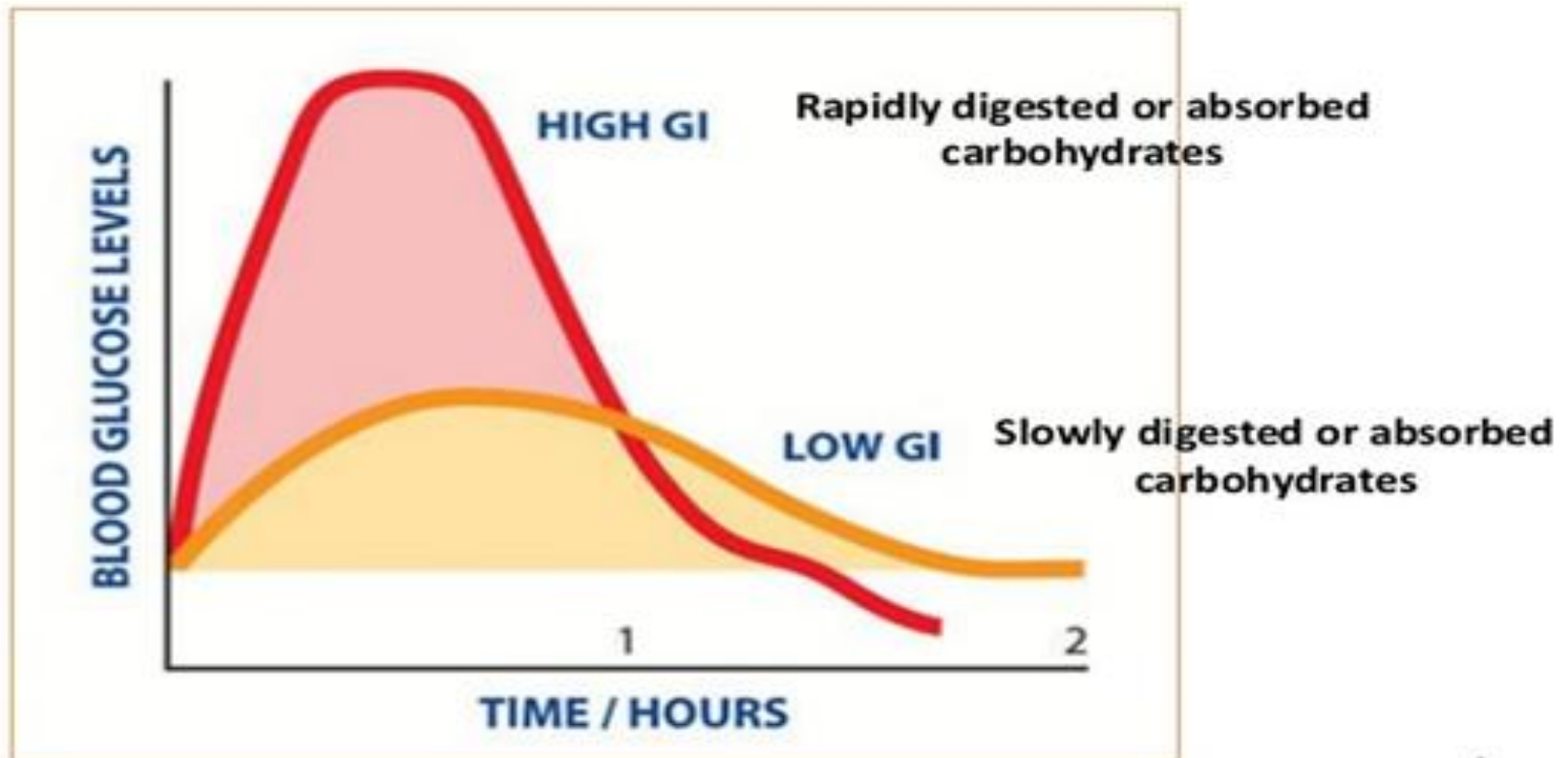


What happens when we eat carbohydrate?



Glycaemic Index

- The glycaemic index (GI) is a guide to how quickly or slowly the blood glucose rises, and how long the blood glucose remains risen for



Why is this useful?

- Each carbohydrate containing food can be classed as low, medium, or high GI. Each of these foods has a GI number.
- Low 0-55, Med 56-69, High 70-100.
- We like to keep it simple and just talk about low/medium/high rather than specific numbers.

Choosing lower GI foods can reduce the risk of high and low BG's, especially after meals

Choosing lower GI foods is associated with a more stable glucose profile - fewer "peaks and troughs!"

Can help you choose the right food/drink at the right time...

If you need to treat a low blood glucose level or push blood glucose up during exercise, choose high GI foods

If you want to prevent low BG during the night, choose a low GI supper.

What affects the GI of a food?

Fat and Protein

- Slows down digestion, slows release of glucose into bloodstream.

Fibre

- Foods containing soluble fibre are digested more slowly e.g. oats, fruits, veg, beans.

Processing

- Easy cook rice has higher GI than basmati. Instant porridge has a higher GI than using oats

Type of carbohydrate

- Different chemical structures. This is why pasta has a lower GI than rice.

Cooking methods

- Pasta boiled for 10mins has lower GI than pasta boiled for 30mins.

Ripeness

- A riper banana has higher GI than an unripe banana, as the carbohydrate has already broken down into simpler sugars

Remember!

- Foods that do not contain any carbohydrate will not have a GI value e.g. meats, fish, eggs.
- Foods with a high GI are not necessarily “bad foods”- for example, potato crisps have a medium GI, and baked potato has a high GI.
- Low GI foods are not necessarily healthier, for example chocolate and ice cream have a low to medium GI.
- Adding a low GI food or a protein, to a high GI food will slow down how quickly the BG's rise after eating

	Low GI	Medium GI	High GI
Bread, biscuits, cakes & crackers	Multigrain or granary bread,	50/50 bread	Brown/wholemeal/white bread
	Rye bread	Crumpet	French stick
	Pitta bread	Ryvita	Bagels
	Chapatis	Oatmeal biscuits	Morning coffee biscuits
	Fruit loaf	English muffin	Water biscuits
	Rich tea biscuits	Digestive biscuits	Crispbreads
	Corn tortilla	Taco shells	Rice cakes
	Sponge cake	Pizza (cheese + tomato)	Vanilla wafer biscuits
	Banana cake	Shortbread	Pop Tarts
		Croissant	
Pasta and rice	Pasta – most types	Macaroni	Instant rice
	Noodles		Brown rice
	Basmati rice		White rice
Cereals	All bran	Weetabix	Instant oat porridge
	Muesli	Shredded Wheat	Cornflakes
	Porridge	Cheerios	Cocopops
	Special K	Sustain	Rice Krispies
	Sultana bran	Shreddies	Puffed Rice
	Oat/Wheat flakes	Grape nuts	Puffed wheat
	Fruit and Fibre type cereal		

Potatoes, roots and tubers	Yam Sweet potato	Gnocci New potatoes Boiled potatoes	Waffles Mashed potato Instant potato Chips Jacket potato Swede
Fruits	Apple Banana Cherries Cantelope melon Grapefruit Grapes Kiwi Mango Orange Peach Pear Plum	Apricots (canned) Pineapple Papaya Cantaloupe melon Sultanas Raisins	Lychee (canned) Watermelon
Vegetables	Carrots Peas Sweetcorn	Beetroot	Parsnips Pumpkin

Legumes and grains	Baked beans Butter beans Black eyed beans Chick peas Haricot beans Kidney beans Lentils Soya beans Pearl barley Buckwheat Bulgar wheat Semolina (cooked)	Cous cous Cornmeal Millet	Broad beans Tapioca
Confectionary/snacks	Most chocolate Popcorn Crisps Peanuts Strawberry Jam	Some chocolate bars e.g. mars bars. Ice cream	Jelly babies/beans Corn chips Pretzels Pancakes Skittles Fruit bars
Dairy	Whole milk Low fat milk Yoghurt Custard Low-fat ice cream Fromage frais Fruit smoothies	Full-fat ice cream Soya yoghurt	Rice milk
Drinks	Small amounts apple, orange or pineapple juice. Sugar-free drinks	Cola Fanta Ribena	Isotonic sports drinks Lucozade Glucose drinks

Summary

- Using the glycaemic index helps us to understand the effects of different carbohydrates on BG levels and insulin release.
- Even just some simple swaps to everyday foods can reduce the GI of meals or snacks and improve BG control.

More information on GI:

- www.glycemicindex.com
- <https://www.nhs.uk/common-health-questions/food-and-diet/what-is-the-glycaemic-index-gi/>

Any Questions?

