

# **Dr David Unwin**

# Physiology of lower carb T2D reversal

Insulin pushes glucose into; muscle cells (energy) abdominal fat, liver

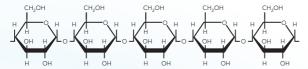
and pancreas cells (triglyceride)

CH<sub>2</sub>OH

H
COOH

Insulin Glucose FAT

## A Starch Molecule



Many glucose molecules are linked together enzymal digestion will break them up again

Carbs like table sugar, bread, cereals, potato digest down into glucose

### Reduced carbohydrate intake

## Reduce circulating insulin



Lose weight



Reduce pancreas fat

Reduce Insulin resistance



Improve beta cell function

**Reversing T2 Diabetes is possible** 

Reversal of type 2 diabetes: Normalisation of beta cell function in association with decreased pancreas and liver triacylglycerol. Lim EL1, Hollingsworth KG, Taylor R. Diabetologia. 2011 Oct;54(10):2506-14. doi: 10.1007/s00125-011-2204-7.

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### Practical steps to reduce blood glucose

Cut out foods that are sugary or digest into sugar like potatoes

Food Item	G Index	Serve size g	How does each food affect blood glucose compared with one 4g teaspoon of table sugar?		
Basmati rice	69	150	10.1		
Potato, white, boiled	96	150	9.1		
French Fries baked	64	150	7.5		
Spaghetti, white boiled	39	180	6.6		
Sweet corn boiled	60	80	4.0	<b>♦ ♦ ♦</b>	
Frozen peas, boiled	51	80	1.3	<b>♦</b> √	
Banana	62	120	5.7	<b>* * * *</b>	
Apple	39	120	2.3	<b>♦ ♦</b> √	
Wholemeal small slice	74	30	3.0	Other foods in the very	
Broccoli	54	80	0.2	low glycamic range would be chicken, oily fish, almonds, mushrooms,	
Eggs	0	60	0	cheese	

Try replacing sugary or white starchy foods like bread, rice or cereals with green veg, nuts, eggs, fish, full fat dairy or unprocessed meat

The Glycaemic Index helps predict how these breakfasts might effect blood glucose, important information if you have type 2 diabetes

glucose, important information if you have type 2 diabetes					
Cereal	G Index	Serve size g	How does each cereal effect blood glucose compared to 4g teaspoons of tablesugar?		
Coco Pops	77	30g	7.3	* * * * * * * *	
Cornflakes	93	30g	8.4	* * * * * * * * *	
Mini Wheats	59	30g	4.4	* * * * * * * *	
Shredded Wheat	67	30g	4.8	* * * *	
Special K	54	30g	4.0	<b>♦ ♦ ♦</b>	
Bran Flakes	74	30g	4.8	* * * *	
Oat Porridge	63	150ml	4.4	<b>♦ ♦ ♦ ¥</b>	

As per calculations to be found in: It is the glycaemic response to, not the carbohydrate content of food that matters in diabetes and obesity. The glycaemic index revisted | Unwin | Journal of insulin Resistance 2016 @lowcarbGP