Healthier Pennine Lancashire

NHS
East Lancashire Hospitals
NHS Trust
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CARBOHYDRATE COUNTING BOOKLET

NAME:

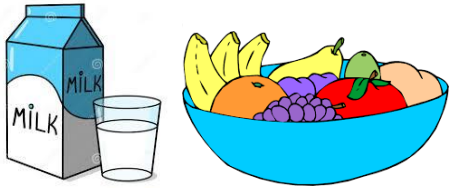
DATE OF SESSION:

TYPES OF CARBOHYDRATES

STARCHY CARBOHYDRATES

Bread, potatoes, rice, pasta, noodles, crackers, breakfast cereals, beans, flour and flour products eg pastry, samosas

SLOW OR MEDIUM RELEASE CARBOHYDRATES

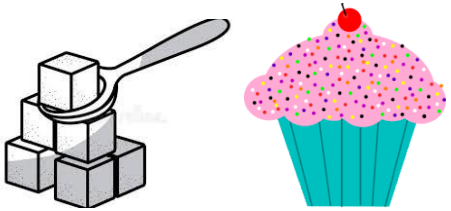


NATURAL SUGARS

Fructose = fruit and fruit juices

Lactose = milk and yoghurts

MIXTURE OF SLOW AND MEDIUM RELEASE CARBOHYDRATES



ADDED SUGARS

Glucose, sucrose, dextrose, fizzy drinks, biscuits, cakes, sweets and chocolate, chutneys, eg mango chutney and table sauces, eg tomato ketchup

FAST RELEASE CARBOHYDRATES

Eatwell Guide

Use the Eatwell Guide to help you get a balance of healthier and more sustainable food. It shows how much of what you eat overall should come from each food group.

Check the label on packaged foods

Each serving contains

Energy	Fat	Saturates	Sugars	Salt
1046kJ 250kcal	5g	1.3g	34g	0.9g
	LOW	LOW	HIGH	MED
12.5%	7%	6.5%	38%	15%

of an adult's reference intake
Typical values (as sold) per 100g: 697kJ/ 167kcal

Choose foods lower in fat, salt and sugars

Eat at least 5 portions of a variety of fruit and vegetables every day

Fruit and vegetables

Raisins

Chopped tomatoes

Frozen peas

Natural sugar - fructose

Choose wholegrain or higher fibre versions with less added fat, salt and sugar

Potatoes, bread, rice, pasta and other starchy carbohydrates

Potatoes

Whole grain cereal

Cous Cous

Bagels

Porridge

Whole wheat pasta

Rice

Spaghetti

Starchy carbs

Beans, pulses, fish, eggs, meat and other proteins

Lentils

Beans lower salt and sugar

Tuna

Lean mince

Plain nuts

Chick peas

Eat more beans and pulses, 2 portions of sustainably sourced fish per week, one of which is oily. Eat less red and processed meat

Dairy and alternatives

Low fat soft cheese

Semi skimmed milk

Soya drink

Plain Low fat Yoghurt

Choose lower fat and lower sugar options

Natural sugar - lactose

Oil & spreads

Veg Oil

Lower fat spread

Choose unsaturated oils and use in small amounts

Added sugars

Sauce

Crisps

Eat less often and in small amounts

6-8 a day

Water, lower fat milk, sugar-free drinks including tea and coffee all count.

Limit fruit juice and/or smoothies to a total of 150ml a day.

Per day 2000kcal 2500kcal = ALL FOOD + ALL DRINKS

Source: Public Health England in association with the Welsh government, Food Standards Scotland and the Food Standards Agency in Northern Ireland

CARBOHYDRATES THAT DO NOT NEED TO BE CARB COUNTED

Sweetcorn – high in fibre

Peas – high in fibre

Beans and pulses – high fibre and protein

Nuts – high fibre, protein and healthy fats

As a general rule, the high level of fibre, protein and fat (in the nuts) in these foods mean that they are slowly digested. This means that **a normal sized portion** of these foods probably won't affect blood glucose levels enough to need rapid acting insulin - your background insulin should be enough to deal with the glucose released into the bloodstream. Large portions may raise blood glucose. Please check how these foods affect your blood glucose

Please note:

- Nuts should NOT be sugar-coated.
- Sweetcorn and peas - fresh, frozen or tinned in water that doesn't contain sugar

MILK AND DAIRY FOODS

Contains the natural sugar **LACTOSE**

MILK

WATERY PART

- **HIGH CARBOHYDRATE** (ie high lactose)
- **LOW FAT**

- **MILK**
- **YOGHURT** (including yoghurt drinks)

CARB COUNT?

YES

FATTY PART

- **LOW CARBOHYDRATE** (ie low lactose)
- **HIGH FAT**

- **CREAM**
- **CHEESE –** hard cheeses, cream cheese, cottage cheese

CARB COUNT?

NO

FRUIT

- Fruit contains the natural sugar, **FRUCTOSE.** Fruit also contains fibre and so is slowly digested in normal amounts.
- **ALL FRUIT EATEN AS PART OF A MEAL <u>SHOULD BE CARB COUNTED</u>**
- Fresh fruit may be eaten as a snack but must be a small portion (a handful is a good guide). It probably won't affect blood glucose levels enough to need rapid acting insulin. However, please check your blood glucose after you eat fruit so you know which fruits make your blood glucose rise the most.
- **Always carb count for fruit snacks if you are on a pump**
- Tropical fruits like bananas, pineapple and mango contain more sugar – it's essential to eat these as part of a meal

Natural fruit juices and smoothies and processed fruit snacks (dried fruit, fruit flakes, fruit winders) are **more easily digested, and so will increase blood glucose levels very high and very quickly.**

We would advise that these foods and drinks are avoided. However, if they are, they should be eaten as part of a meal and carb counted for.

FRUIT SNACKS

Fruits that do not need insulin – can be eaten inbetween meals

1 kiwi fruit

1 plum

1 satsuma/clementine

Handful of:

- Blackberries
- Blueberries
- Raspberries
- Strawberries
- Cherries

Fruit – insulin needed, best eaten at mealtimes

Apple

Banana

Pineapple

Mango

Grapes

Melon/watermelon

Peaches/nectarines

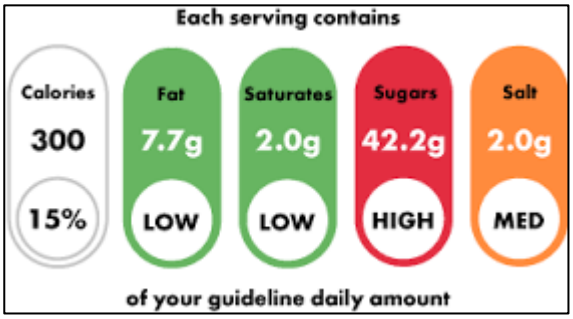
Pear

All other fruit, including dried, tinned etc)

FOOD LABELS

It is a useful skill to be able to read and interpret food labels on manufactured food products accurately.

The Traffic Light system



- The traffic light system for 'front of pack'' labelling shows how many calories are in the food or drink and is also colour coded to show whether a food is low (green), medium (amber) or high (red) in fat, saturated fat, sugar and salt.

- The traffic light system does not include the total amount of carbohydrate (so always check the label on the back) **BUT** it can be an easy way to check at a glance how healthy a food is as it shows the sugar in the portion

- Try to choose foods for your child with more greens and ambers and avoid foods labelled red for sugars. Always check the full label for more information.

TIP: Ignore health claims eg: 'lite', 'low sugar', 'no added sugar' and 'natural sugars', as these are often used to 'sell' the product and could be misleading.

It is always better to read the nutrition label and the ingredients list so you can work out what is in the food and how to manage your blood glucose (BG).

Useful information on a food label for people with diabetes includes:

- The weight of the recommended portion, weight in 100g of the food and total weight of the packet.
- The amount of carbohydrates there are in 100g of the food and in your portion.
- How much sugar is in the food and your portion.

Understanding Nutritional Information

ENERGY
FAT of which saturates
CARBOHYDRATE of which sugars
FIBRE
PROTEIN
SODIUM SALT

Carbohydrate is split into total carbs and the sugars

Total Carbohydrate includes: starch + natural sugar + added sugar

You MUST use the total carbohydrate value to carb count as all types of carbs will affect blood glucose levels

'Of which sugars' includes: natural sugars + added sugars

eg:

Natural yoghurt – contains natural sugar **only** (lactose)

Fruit Flavoured yoghurt – contains natural sugar **AND** added sugar

DO NOT use 'of which sugars' to carb count

How do I tell if foods have added sugar?

Added sugars will make your BG rise high and fast.

- ❖ Check the ingredients list—ingredients are listed in order of weight, starting with ingredients that weigh the most, down to the least at the end of the list.
- ❖ Some foods and drink don't have the word 'sugar' in the ingredients list but still have sugar added.

Common names for added sugar are:

- Honey
- Hydrolysed Starch
- Molasses
- Fruit juice concentrates
- Nectar
- Jaggery
- Anything ending in 'ose' (fructose, dextrose, sucrose, glucose etc)
- Syrups - corn, maize, glucose, fructose

CARB COUNTING FROM A FOOD LABEL

Look at the serving size when calculating carbohydrates.

- A manufacturer's definition of a portion or serving size may be different from your child's. Portion sizes given are suitable for adults over the age of 18.
- Younger children and teenagers may need different amounts.
- Food labels usually give the carbs of the dry weight of these foods. As these foods absorb water when cooked, the carb content of the dried weight will be different to the carb content of the cooked weight.
- So, if you are carb counting cooked foods like pasta, rice, noodles, cous cous etc, always use the carbs and cals book (or app) as this shows the carb values for cooked food
- You can work out the amount of carbohydrate in your (or your child's) portion by weighing their food portion and comparing the amount to how many carbohydrates there are in 100g of that food portion.

Nutrition label from Cornflakes

Nutrition Information	Per 100g (without milk)	Per 30g serving (without milk)
ENERGY	1630kJ 384kcal	489kJ 115kcal
FAT	1.2g	<0.5g
of which saturates	0.5g	0.2g
CARBOHYDRATE	**85.1g**	**25.5g**
of which sugars	4.9g	1.5g
FIBRE	2.5g	0.8g
PROTEIN	7.0g	2.1g
SALT	0.94g	0.28g

If the label gives you per portion or per serving, use this. So 30g of cornflakes gives you 25.5g of carbs

If your portion size is different, see page 12 for how to calculate

CARB COUNTING BY PICTURE MATCHING

Either:

Match the portion on your plate with the closest portion picture shown in the Carbs & Cals book and use the green 'carbs' disc as the carbs in that portion – best used when you are unable to weigh your portion if out for a meal/celebration or not your own house.

Or:

To make it more accurate, weigh the portion shown, eg 330g lasagne and use the carbs shown in the green disc.

HOW TO CALCULATE 1g OF CARBOHYDRATE IN A FOOD

- Every food has its own 1g value of carbs
- The carbs in 1g of a food will always be less than 1 (eg; 0.5g or 0.05g)
- The amount of carbs in 1g of food NEVER changes, only the amount eaten, ie the portion size

Calculating 1g carbohydrate from a food label:

Carbs per 100g ÷ 100 x weight of your portion

So, from the cornflakes earlier, if you pour a 62g bowl of cornflakes:

85.1 ÷ 100 x 62

0.85 (carbs in 1g of the cornflakes) x 62 (portion size)

0.85 x 62 = 52.7g = 53g of carbs in your portion of cornflakes

(you would then need to carb count the milk and add it to the carbs in the cornflakes)

Calculating 1g carbohydrate using the Carbs and Cals book:

Carbs shown in green disc ÷ weight of portion

Practice the examples below using your Carbs & Cals book:

Food	1g
Rice	
Pasta	
Mashed Potato	
Banana	
Pizza (takeaway)	

FOOD DIARY EXAMPLE TO CARB COUNT

Food and Drink eaten	Portion size or weight of portion	Carbs using 1g conversion or label reading	Carbohydrates in portion
Breakfast			
Weetabix	2 bisks		
Semi Skimmed Milk	179g		
Wholemeal medium toast	2 slices		
Butter	2 teaspoons		
Banana	137g		
TOTAL CARBS			
Lunch			
Tuna Salad Bap/T-cake	1 bap/teacake		
Mayonnaise	2 teaspoons		
Tortilla Chips	30g		
Low Fat Fruit Yoghurt	125g pot		
Diet Coke	1 can		
TOTAL CARBS			
Snack			
Apple	150g		
Tea			
Fish Fingers	3 fish fingers		
Oven Chips	91g		
Garden Peas	50g		
Corn on the cob	1 cob		
Sugar free cordial	1 glass		
Strawberries	100g		
Cream	30g		
TOTAL CARBS			

HANDY MEASURES

Try and compare food portions to a shape to help you when you are unable to weigh the food, for example:

1 x egg sized potato = 10g carbs

 =  = 10g carbs

Hand with fingers together = pizza slice = 30g carbs

 =  = 30g carbs

Fist of hand sized jacket potato = 40g (see carbs & cals book)

 =  = 40g carbs

Digestive biscuit size of pastry discs = 10 g carbs (how many ‘discs’ in your portion?)

 =  = 10g carbs

Fist of hand sized portion of pasta = 30g (see carbs & cals book)

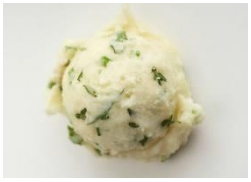
 =  = 30g carbs

You would then visualise how many ‘fists’ of pasta are on your plate and you can estimate how many carbs are in that food

Tennis ball sized piece of fruit = 10g carbs

 =  = 10g carbs

Ice cream scoop of mashed potato = 10g

 =  = 10g carbs

Small tubs, zip lock bags, bowls or cups can be used as a standard measures

<u>Breakfast example</u>:

1. Weigh your breakfast cereal and calculate the amount of carbs in your portion.
2. Find a cup or tub that fits your portion exactly to the top.
3. Make a note of the amount of the cereal, the carbs and the container you used.
4. Use that cup or tub to measure the cereal every time as you know how many carbs there are in it.
5. Repeat for the milk

You now don't have to keep weighing your cereal every morning!

For more help, watch this video: https://www.youtube.com/watch?v=cnsc1SlLRIY

CARB COUNTING SUMMARY

Use the food label to carb count	No need to carb count	Avoid
• Bread products eg loaves, naan bread, crumpets, pittas, baps, wraps, bagels, croissants chapattis, roti's etc • Crackers – eg ryvitas, oat cakes, breadsticks etc • Tinned ravioli • Fresh pasta's & filled ravioli/tortellini • Tinned spaghetti and hoops or other shapes • Baked beans • Ready meals • Breakfast cereals • Chicken and Fish products coated in batter or breadcrumbs, eg fishfingers and nuggets, kievs etc • Shop bought pizza • Potato waffles, hash browns, potato smiles, veggie burgers coated in breadcrumbs • Sausage rolls, pasties, pies • Crisps and corn snacks • Yoghurts and pot desserts • Pot Noodles and Pot Rice • Quiche • Yorkshire puddings (shop bought) • Carb count sauces made from jars of sauce eg pasta and stir fry sauces	• Eggs • Meat – lamb, beef, pork, chicken (uncoated) • Tinned tuna, mackerel, sardines etc • Vegetables • Salad • Mayonnaise • Sugar free jelly • Sugar free fizzy drinks and cordial • Butter and spread • Cooking oil • Cream • Cheese • Salsa • Nuts • Sugar free nut butters • Meridian chocolate spread – (limit) • Casseroles from scratch - just veg and meat (no potatoes) • Stir fry from scratch– just meat and veg • Curries from scratch - just meat and veg (no potatoes)	• Jams, honey, Nutella, marmalades, syrups, nut butters with added sugar • Full sugar fizzy drinks and energy drinks • Fresh fruit juice • Milkshakes from fast food outlets, Friij etc, slushes • Cakes, biscuits, cupcakes, doughnuts • Sweets, chocolate etc **Please refer to our other factsheets for alternatives to these foods**

NOTES

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