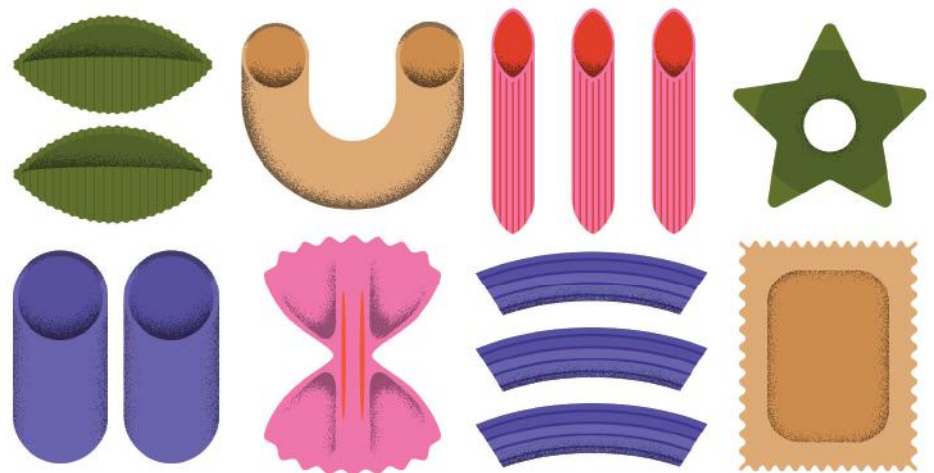


# CARBS



They're the body's main energy source and can help optimise physical and mental performance, so is it time we changed how we look at carbohydrates?

Words Anita Bean Illustrations Vicki Turner



JOHN BROWN	CLIENT:			JOB/ISSUE:		
	PAGE/SPREAD/CT NO:			TRIM SIZE:	PAGES:	PUSH:
RELEASE STAGE:	1	2	3	4	5	
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# CARBOHYDRATE DEBATE



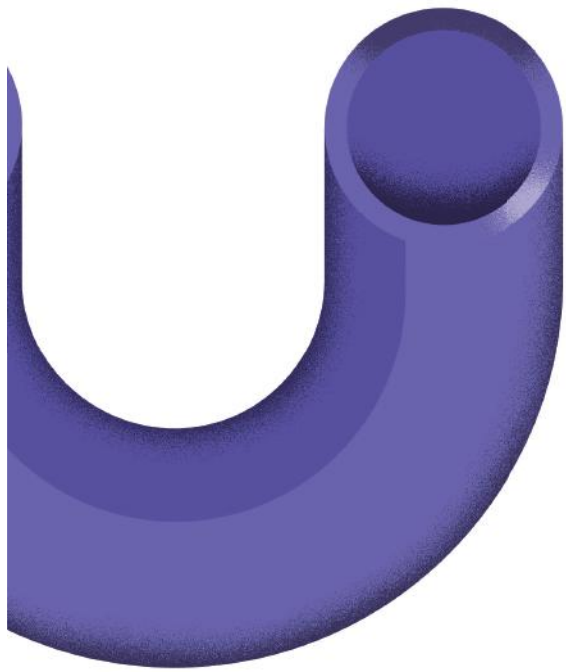
**G**o on, be daring – mention carbs at your next dinner party... It's a no-fail debate starter, with the supposed evils of bread or the virtues of going 'low-carb' bound to come under discussion. Everyone, it seems, has strong opinions about whether carbohydrates are good or bad for you. Either that, or they're thoroughly confused by the whole issue.

The big question at the heart of the debate is whether we really need carbohydrates. Many carbohydrate-rich foods are packed with nutrients, so avoiding them really isn't a good idea. "Carbohydrates are your body's preferred energy source," explains nutritionist Charlotte Stirling-Reed. "They're digested and broken down into glucose, which is a fuel source for every cell. Your brain, nervous system and heart rely heavily on glucose, and when levels drop, your physical and mental performance decreases, too."

Any glucose that isn't needed immediately for energy is stored as glycogen in your liver and muscles. However, these stores are very small (around 500g, or 2,000kcal) compared to your fat stores. That's enough to fuel your body for just 24 hours, or about two hours of vigorous exercise, such as running or swimming. When →

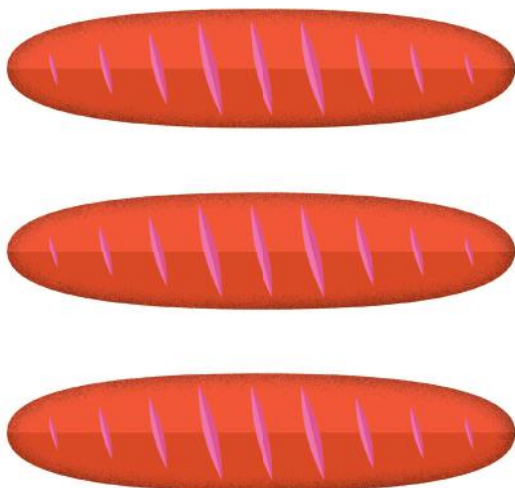
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→ glycogen stores are depleted, you'll feel irritable and foggy-headed, fatigue develops and exercise feels harder. On the other hand, if you eat more carbohydrates than your body can store as glycogen, then some of this surplus will be converted to fat. But this only happens when your overall daily calorie intake exceeds your daily calorie expenditure.

Your carbohydrate needs vary from day to day depending on how active you are; but approximately one-third of your diet should be starchy foods, such as potatoes and wholegrain bread and pasta, and another third should be fruit and



vegetables, government advice says. If you exercise regularly, you'll need to eat more carbs on days when you're more active or before high-intensity workouts – and less when you do low-intensity activities. The key is to adjust your carbohydrate intake to whatever you're doing with your day.

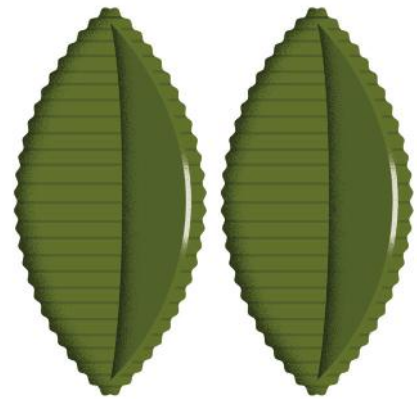
### Simple or complex?

You have probably heard of the terms 'simple' and 'complex' carbohydrates. These just refer to the number of sugar units in the molecules. For those who like their details, simple carbohydrates consist of either one- or two-sugar units, and include glucose, fructose, sucrose and lactose. Complex carbohydrates are much larger molecules, consisting of between ten and several thousand sugar units joined together, and include starches and fibres.

Simple carbohydrates are sometimes regarded as 'bad' because they tend to raise your blood sugar rapidly, while complex carbs are deemed 'good' because they produce a slower rise in blood sugar. In fact, a food's ability to raise blood sugar has less to do with the type of carbohydrate it contains (though the amount of carbohydrate is important), and more to do with the presence of other components – such as fibre, fat and protein – and how much a food has been processed or cooked. For example, apples have less of an effect on blood sugar than apple juice. In addition, many foods contain a mixture of both types, so it's often impossible to classify them into neat categories. Cake, for example, contains both complex carbs (flour) and simple carbs



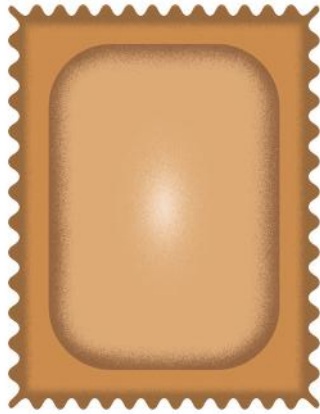
Simple carbohydrates are sometimes regarded as 'bad' because they tend to raise your blood sugar rapidly



(sugar), as do bananas, depending on their degree of ripeness.

For this reason, foods are classified by their glycaemic index (GI). This is a ranking from 0 to 100, relative to pure glucose (this being 100), and is a measure of how quickly food turns into glucose in the bloodstream. Beans, lentils and brown rice have a low GI; white bread and baked potatoes have a high GI. But adding butter or cheese to bread or potatoes will lower the overall number. That's because protein, fat and fibre slow down the absorption and digestion of carbohydrates and produce a smaller rise in blood sugar.

JOHN BROWN CLIENT:		JOB/ISSUE:			
PAGE/SPREAD/CT NO:		TRIM SIZE:	PAGES:	PUSH:	SPINE:
RELEASE STAGE:	1	2	3	4	5
DATE:					
RETOUCH	REPRO	PRODUCTION	DESIGN	EDITORIAL / ACC EX	CLIENT
COLOUR					SIGN
LAYOUT					DATE



Knowing the GI of a food can help people with diabetes, as they need to maintain their blood sugar levels within a critical range. By choosing low-GI carbohydrates or combining high-GI carbohydrates with protein and fat, they can minimise the risk of hyperglycaemia – when blood sugar levels rise too high. Similarly, athletes often make use of the GI values of foods to increase their endurance and to speed recovery. Consuming high-GI carbohydrates, such as jelly sweets or energy gels, during long-duration exercise can help delay fatigue. Conversely, low-GI carbohydrates, such as red kidney beans and brown rice, eaten two to four hours before exercise, will provide sustained energy.

**Carb quality is key**

However, carbohydrates offer more than just fuel. “When it comes to choosing carbohydrates, quality counts,” says Charlotte. “Carbohydrate sources that provide other nutrients, such as vitamins, minerals and fibre, will benefit your health.” Nutrient-dense carbohydrate foods include whole grains, such as oats, wholemeal bread and brown rice, beans, chick peas, lentils, fruit and vegetables. Aim to get most of your daily carbohydrates from these,

while minimising refined carbs such as sweets, cakes, biscuits, sugar-sweetened drinks, chocolate and sugary breakfast cereals. While not devoid of nutritional value, these foods generally contain less fibre and fewer vitamins and minerals. You needn’t avoid them completely – but eat them less often and in small amounts.

Some people demonise carbs and foods that contain them, such as bread or pasta. “The truth is, in nutritional terms there’s a huge difference between carbohydrates in whole grains, which come with other nutrients, and in refined grains, which contain fewer nutrients,” says Charlotte. “There’s also a huge difference between sugars in fruit,

which come with fibre, and the sugars in a can of soft drink. Demonising whole food groups isn’t helpful. We need to remember that we eat foods, not nutrients.”

**Low-carb lowdown**

The debate on the issue of low-carbohydrate diets is rather a lively one. Scientists say there’s insufficient evidence that low-carbohydrate diets are any better than other diets when it comes to losing weight, but that isn’t the whole picture. “In the short term, low-carbohydrate diets may bring about weight loss,” observes dietitian Dr Carrie Ruxton. This is not because there’s anything magical about them, but because they help people create a calorie deficit (consuming fewer calories than the body needs).

“When they cut carbohydrates, people eat fewer cakes, chips and pies, and eat more protein-rich foods such as meat and fish, which keep you full and make you less hungry. However, by 12 months, low-carb diets perform about the same as other diets when it comes to weight loss,” explains Dr Carrie.

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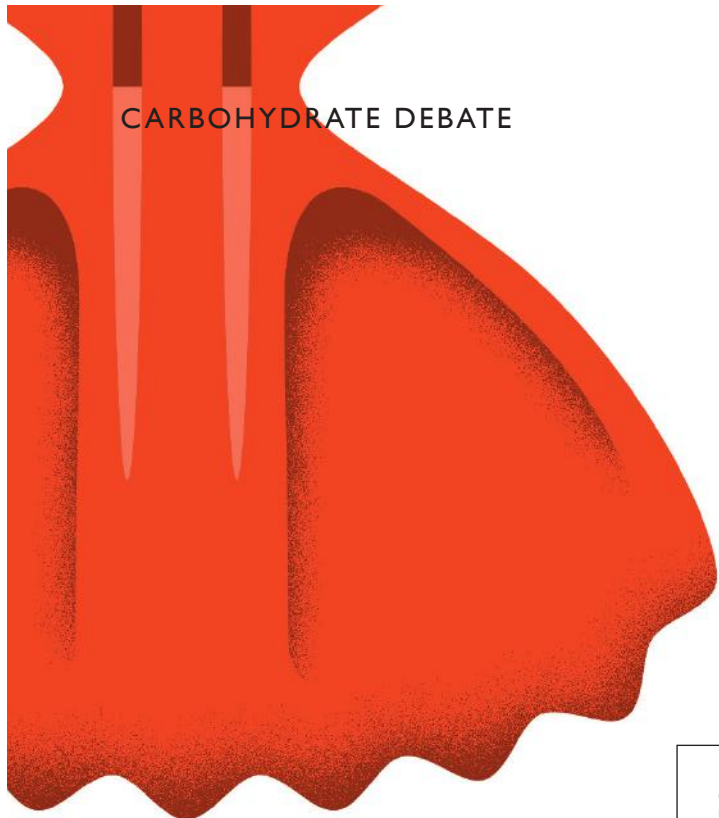


Complex carbohydrates are deemed ‘good’ because they produce a slower rise in blood sugar



JOHN BROWN	CLIENT:			JOB/ISSUE:		
	PAGE/SPREAD/CT NO:			TRIM SIZE:	PAGES:	PUSH:
RELEASE STAGE:	1	2	3	4	5	
DATE:						
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LAYOUT				SIGN	DATE	

# CARBOHYDRATE DEBATE



→ One of the main problems with low-carbohydrate diets is that they are difficult for many people to stick to for longer than a few months. In addition, people who follow low-carbohydrate diets often have low intakes of fibre, which can have a negative effect on their gut health.

Fibre – the indigestible complex carbohydrates found in grains – helps to keep the gut healthy by encouraging the smooth passage of food through the digestive system, as well as feeding the population of healthy micro-organisms (microbiota) that live in your large intestine. Following a high-fibre diet can help reduce the risk of obesity, type 2 diabetes, heart disease, stroke and constipation. As for intake, the UK’s Scientific Advisory Committee on Nutrition recommends 30g of fibre a day for adults, which is considerably



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## SHOULD YOU CARB IT UP TO COMPETE?

Many athletes increase carbohydrate intake before a race or match to boost performance. ‘Carbohydrate loading’ aims to increase glycogen stores above normal. It’s beneficial when you’re active for longer than an hour-and-a-half to two hours, as it can improve endurance.

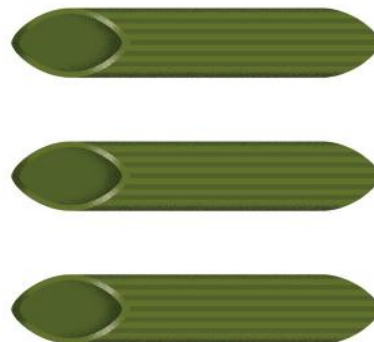
You carb-load by tapering training in pre-competition week and increasing carb intake for the final two or three days. But don’t exceed your daily recommended calorie allowance. Just tip the balance so you eat more carbs and less fat. Focus on carb-rich foods such as pasta, potatoes, sweet potatoes, rice, noodles, bananas and bread.

Carb-loading meals include rice pilaff, pad Thai with tofu, paella, and sweet potato and chick pea curry. Find these dishes at [waitrose.com/recipes](http://waitrose.com/recipes).

more than the average of 19g per day that it’s believed we’re eating. “If weight loss is your long-term goal, the key to success is to follow a diet that you can stick to in the long term, and which provides adequate nutrients,” advises Dr Carrie.

So if you want to have the last word in that dinner table debate, you can point out that the advice is to turn your focus to eating the right type of carbohydrates in the right amounts, rather than cut out carbohydrates completely. Swap those ‘white’ and processed carbohydrates for nutrient-packed, fibre-rich options – vegetables, whole fruit, pulses, whole grains, potatoes and sweet potatoes. Doing this can help you keep healthy, manage your weight and power up energy levels. **WH**

‘FOLLOWING A HIGH-FIBRE DIET CAN HELP REDUCE THE RISK OF TYPE 2 DIABETES AND HEART DISEASE’



JOHN BROWN	CLIENT:			JOB/ISSUE:		
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