



Energy on the move

To keep riding strongly on a long ride, you must keep your carbohydrate stores topped up. Coach **Joe Beer** has some suggestions

Fuel is essential to complete a long day-ride like a typical sportive or audax event. And the fuel that cyclists need is carbohydrate. Forget calorie counting or a low-carbohydrate Atkins diet: you'll be running on empty with either. You need to build up muscle stores of

carbohydrate the week before the event and to graze on carbohydrate during the ride. That way you'll feel strong from start to finish.

The best-laid plans are put down months in advance, not bleary eyed on event morning. You've probably got the event in your diary already. Count back from that six to ten

weeks. As well as using this time for training rides to build up your comfortable riding distance, you can use this time to experiment to find out what carbohydrate foods you like before, during and after long rides. What did you eat on those rides when you felt better? How much carbohydrate did you



Left: Dan Joyce. Previous page: iStockphoto.com

consume? Literally add this up. It'll be on the label, or if not, just Google 'carbohydrate content' to find out the amounts for other foods.

As a rule of thumb, you'll need (and can digest) about 60 grams of carbohydrate per hour of cycling. You may actually need as little as 30 grams per hour or as much as 100g, as it depends on your weight, average speed, riding time and the fuel efficiency of the food. You can get by on less, since you've got a store of carbohydrate in your muscles and liver as glycogen, and then fat reserves. But the aim is to enjoy your ride, not endure it.

Finally, make sure you arrange your social calendar so that the night before your big ride will be a sober or low-alcohol evening. For at least eight hours after boozing, you reduce how many carbs can get crammed into cycling muscles.

On the day

By now you will know the carbohydrate foods you like when riding. Let's be clear: these are the foods that you enjoy and that efficiently deliver energy. You're fuelling your muscles. You're not looking for perfectly balanced nutrition or gastronomic delights. In fact, some of the drinks and snacks you might use on a ride would be easy to over-indulge in off the bike.

On the day, you'll be burning through these carbohydrates at quite a rate, even if you're cycling at a steady pace. If you didn't take on board extra energy, you'd completely expend your glycogen stores (the carbohydrate in your muscles) in anything from 90 minutes to three hours. At that point you'd slow down or be thoroughly fatigued.

So you need an intake of

carbohydrate, and specifically you need carbohydrate that gets to your muscles quickly. High-fat pasties, alcoholic drinks, steak-and-chips pub meals, even high-fat flapjacks are all bad choices: they will slow down your digestion, and the fat, protein or alcohol content means that they will deliver proportionately lower levels of carbs as well.

Foods that take a lot of chewing but are relatively low in carbohydrate aren't great either. To get 50g of carbohydrate from oranges, you'd have to eat half a kilo of them – not easy in a hour on the bike! This is why jelly babies and sports nutrition gels are better bike food than strawberries or chocolate.

It's fine to eat both 'real food' and energy gels, energy bars and the like on a ride. The latter will keep up a steady delivery of carbs; the former will keep your taste buds and need for 'proper' food satisfied.

If you do use anything from the very broad range of sports nutrition products, be sure to look for powdered drinks designed for carbohydrate delivery – key words include 'carbohydrate', 'sports' or 'isotonic'. Recovery or high-protein drinks are not ideal during rides.

Concentrated sachets of carbohydrate gel are an excellent source of fuel for cyclists, being compact to carry and requiring only a small amount of water to be easily absorbed by the body. If your event has a sponsor's products being handed out, or is likely to, it's wise to try these products beforehand.



Refuelling strategies don't have to be exclusive. You can stop for coffee and sandwiches (above) and still consume energy products on the bike (below)

Ride fuel: go or stop?

This isn't an exhaustive list, but should point you the right way.

	Food	Drink
Green	Energy bars Malt loaf Bananas Jelly babies Jam sandwiches Beans on toast Energy gels Sorbet/ice lollies	Carbohydrate sports drinks Coffee (with sugar) Coke & similar sugary soft drinks
Amber	Apples, pears, oranges Flapjacks Salad Doughnuts	Plain water Low-cal soft drinks Tea (no sugar)
Red	Roast dinner Hamburger Croissants Crisps	Beer, wine Protein drinks Milkshake

Getting it right

Even if you've fed at a rate you thought was sufficient, the ride's pace, terrain, weather, or your fitness – or all four – can still make you run very low on muscle carbohydrate levels. You'll find yourself slowing down significantly. You've bonked, hit-the-wall, blown-up.

Don't despair. Keep feeding regularly (using the 'green' options above), even if the hypoglycaemia has blurred your judgment and you're convinced you don't need anything and can just keep going. Adjust your finish time – don't try to make up time by riding even harder. And learn the lesson for next time.

So long as you follow the basic rules on consuming the carbohydrate you need to fuel your ride, you can pick and choose what works best for you. For some, gels or malt loaf are a high-carb revelation. Others will carry a bottle of energy powder to fill up their other water bottle with energy drink multiple times. Ask others what they use and try their approach...

remembering to experiment before your big ride and not during it. With the right refuelling formula, challenge rides are much easier.