

Carb loading for runners | Why you should carb load before a race

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Jonathan Knowles

Everything you need to know about carb loading before running a marathon

Keep the pasta coming

By [Alice Barraclough](#) Published: 11 April 2024

Carb loading – aka eating [pasta](#) and [pizza](#) the night before a big race – has become something of a tradition in [running](#) communities. [IronMan](#) is known for hosting ‘pasta parties’ to prepare its athletes, while run coaches up and down the country will suggest their team or squad members consume a large amount of [carbohydrates](#) (and avoid anything too fibre-heavy) the night before a [long race](#). But does carb loading *actually* work, or is it just a placebo? We reached out to the experts to get the 101....

What is carb loading?

Scientifically speaking, carbohydrates are the most efficient source of energy production. 'By definition, carbohydrate loading – or carb loading for short – is when we are trying to optimise our energy stores before an event by consuming more carbohydrate than normal,' explains sports nutritionist with Science in Sport [Dr Emily Jevons](#).

Carb loading essentially involves gradually increasing the amount of carbohydrates you eat before an athletic event, so that you have excess glycogen in your liver for your muscles to tap into for endurance events.

Why do runners carb-load?

'Runners are among many different types of athletes to follow this protocol to try and delay fatigue during an event,' says Dr Jevons – since carbohydrates in the form of glycogen are your body's preferred energy source when it comes to running. '

'Carb loading maximises our glycogen stores and can help runners to increase their endurance, delay fatigue and avoid hitting the wall,' explains [Anita Bean](#), sports nutritionist for the London Marathon and author of [The Runner's Cookbook](#).

Basically, by loading up your glycogen stores before a big event, you ensure that you are taking advantage of a full tank of energy.



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When should you carb-load before a race?

In order to get the most benefit from carb loading before a race, you'll need to increase high-carb foods in the days leading up to your race.

'For most runners, increasing their carbohydrate intake two or three days before the race (as well as tapering their training during the final 2 – 3 weeks) will ensure glycogen stores are full,' says Bean.

But, it is important to note, that you only need to carb load for running events longer than 90 minutes – 2 hours, adds Dr Jeavons; 'So marathon or half marathon for some depending on your estimated finish time. For exercise longer than 90 minutes, carbohydrate loading has been shown to increase time to exhaustion by up to 20 per cent.'

2 – 3 days before the race

You don't need to go mad and start eating two extra-large Domino pizzas every night – by lowering your mileage (tapering) you'll naturally be carb-loading. Just add an extra couple of potatoes or an extra handful of pasta to your evening meals.

TOP TIP: Carb-loading doesn't mean eating as much as possible or indulging in whatever you want. If you over-load, then you risk feeling bloated and lethargic on race day.

The day before the race

Make your last big meal at lunchtime, not late in the evening, SUGGESTS E?

'This will ensure enough time to digest your food, so you won't feel bloated on the morning of the race'.

Good options ?? 'I recommend eating a simple pasta dish, rice with chicken or beans or jacket potato with hummus or tuna. Avoid any new foods in case they upset your stomach.'

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How much carbs should you actually eat?

A 2011 study in the *International Journal of Sports Medicine* found that sub-elite marathon performance was significantly improved in athletes who consumed greater than 7 grams per kilogram of carbs in the day before racing.

Bean suggests eating 8–12g of carbs per kg of body weight per day, for the final 2–3 days before the race.

For a 65kg runner, that means a range of 520-780g of total carbohydrates per day in the 2-3 days leading up to an event. (For reference, each gram of carbohydrates is 4 calories.)

'The upper end of this range is more relevant to elite runners – in practice, most runners should aim to eat slightly larger portions of carbs than normal,' she says. 'Suitable meals include baked potatoes with hummus or cheese, simple pasta dishes, noodles (such as Pad Thai) or rice with peas or chicken.'

Dr Jevon says it's important to remember that these guidelines (consuming 8–12g of carbohydrate per kg of body weight per day) are based on research conducted in males. But says; 'There is evidence showing females are able to store muscle glycogen (the storage form of carbohydrate) as effectively as men, so this should be the same regardless of gender and just adapted to your body weight.'

TOP TIP: If you are prone to gut problems, then you may wish to limit your intake of fibre during the 48 hours before the race.



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Which carbs should runners eat more of?

'Simple carbohydrates (such as white rice, white bread, bananas, oats) are best as they are digested quickly so are less likely to cause gastrointestinal issues,' says Dr Jevons, who reminds us to keep fats and fibre to a minimum.

'I recommend runners include a source of healthy carbs like porridge, rice, potatoes, sweet potatoes or bread with each meal and add two or three high carb snacks, such as bananas, fruit and nut bars or flapjacks,' adds Bean.

What about the morning before the race?

Even if you've been carb-loading all week, you still want to make sure you eat the morning before your race. 'Aim to have your pre-race meal 2 – 4 hours before the event,' says Bean. 'The aim is to top-up carbs to ensure your liver glycogen stores are full before the start. Porridge or overnight oats with bananas, granola with fruit, or toast with jam are all great options. Drink plenty of fluid to ensure you are hydrated (your urine should be pale yellow), then sip as needed.'

Dr Jevon agrees, adding that the exact timing will depend on your schedule and taking into account factors such as travel to the race. 'You will need enough time to digest the food and for your stomach to settle so you're not starting the race feeling too full or too hungry. Depending on the start time you might not be very hungry at this point, but it is vitally important to ensure you are fuelled beforehand.'

'This meal should be high in carbohydrates (1-4g of carbohydrate per kg of body weight), moderate in protein and low in fat and fibre. It should be something you're familiar with and often have before your training runs to minimise any stomach discomfort and gastrointestinal symptoms.'

'In the final 30-60 minutes before the race, a carbohydrate-rich snack is recommended. Good examples include a sports drink, banana, energy_gel or dried fruit. You might not feel you need it though so it's important to work out what works for you in training before the race.'

TOP TIP: Stick to what you normally eat before a long run, don't try anything new.

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What are the common mistakes when carb loading?

Leaving it to the last minute is a common error, says Bean. 'If you don't allow enough time to carb up you won't start the race with a full tank of fuel, risking early fatigue and hitting the wall during the race.'

'Another common error is over-loading or eating too much carbohydrate the night before. Carb-loading isn't an excuse for eating as much and whatever you want. If you over-eat before bedtime, then you may wake up feeling heavy, lethargic and bloated on race day.'

Dr Jevon adds that consuming the majority of your carbohydrates in the evening can also negatively impact your sleep. 'It is better to try and 'front load' your carbohydrate intake from the beginning of the day.'

Not drinking enough water is also a common mistake. 'Every 1g of glycogen storage (i.e. carbohydrate) requires ~3g of water, so hydration is also key during a carbohydrate load to ensure we can actually store the glycogen,' says Dr Jevon.

The bottom line: Carb load with foods you're familiar with and have practising eating the day before some of your long runs – so you know how it feels and what works for you before race day.
