

Boost your ride

Performance Q&A The big cycling questions answered by our team of expert coaches, nutritionists and riders

01

WHAT FOODS BOOST BRAIN HEALTH AND PERFORMANCE?

Many foods nourish your brain, helping to improve health and exercise proficiency. Here are four to digest and enjoy...

Omega-3

Omega-3 is nectar to your brain as it's one of the few chemicals that can pass through the blood-brain barrier to fuel brain development. Omega-3 also benefits brain and muscle function by acting as a blood cleanser, making your blood less sticky and more fluid. This allows more oxygen to reach the brain and muscles; in turn, you'll become a faster and more alert rider. Omega-3 also helps lubricate and reduce inflammation in the joints plus it helps speed up the body's healing process. That's why you should add cold-pressed flax seed oil to dressings

and smoothies. Chia seeds, salmon, nuts and mackerel are also fine sources of omega-3.

Choline

Forgotten the details from your meticulous sportive recce? It's time to increase your egg intake. Not only are eggs packed with protein – omelettes are a WorldTour staple – they're swimming in choline, too.

The brain relies on choline, a B vitamin, to manufacture acetylcholine. This is one of the brain's main neurotransmitters and is crucial for memory and learning. In fact, its importance is such that many of you who know a loved one with Alzheimer's have probably heard that memory loss linked to the disease is associated with a shortage of acetylcholine.

Dopamine

Dopamine is a type of neurotransmitter and one you might know as the 'happy hormone', as it stimulates feelings of euphoria. It also plays a key role in the thermoregulatory centre of your brain, which is

90%

of choline is derived from your diet

Get cracking

Pro riders pack in a lot of eggs, while milk helps with sleep

FAST FACT

There's research to suggest that foods that are high in melatonin – tart cherries, walnuts, tomatoes – may help with sleep.

why changes in dopamine concentrations have been shown to affect core temperature regulation during exercise. As temperature impacts motor behaviour – power output of your limbs, for example – the higher your dopamine levels, in theory the longer and harder you can ride. The problem is that dopamine is synthesised in the body so you can't simply knock back a can of it. But there are foods that are broken down and synthesised into this chemical. These include the amino acids L-theanine and tyrosine, fish oil and the phospholipid phosphatidylserine.

Tryptophan

Sleep is the greatest recovery tool you possess, and nutrition might play a part in improving your performance in this area, too. Milk is a popular bedtime beverage thanks not only to muscle-repairing protein, but also the amino acid tryptophan, which is found in milk and reportedly helps you to sleep. This is not only good for your body but also your cognitive acuity, so you'll make better decisions – in cycling terms, this could equate to better handling – while a good rest also results in perceiving pain, well, less painful, so you can ride longer and harder too. **James Witts, cycling author**

02

SHOULD I GET A PRO BIKE FIT?

A bike fit is essential for anyone planning on cycling regularly to avoid discomfort and ensure the bike is safely sized for you. But when do we need a 'pro' bike fit – an all-singing, all-dancing, heavy on the gadget and technology analysis – and is it something most of us even qualify for? Bryan McCullough, specialist sports physiotherapist and bike fitter of The Bike The Body based in Wiltshire, explains the benefits.

"A comprehensive and individualised bike fit has the capacity to change a bike into your bike," says Bryan. "Most bikes are manufactured for a customer but not you. So you're either lucky enough to be able to afford a bespoke bike build or, for a fraction of the price, you can take your bike along to an experienced fitter and adjust all the contact points until it feels like the custom-made bike that's perfect for you." Here we look at the performance gains of a pro bike fit...

The key benefits

A professional bike fit should leave you with a bike that you truly feel at one with. It'll provide you with better control when cornering and descending; increased comfort and support in the saddle; less pressure on your hands/arms; an ability to fluidly change between riding positions on tops, hoods, drops, aero; and will see your joints and muscles working closer to their optimal ranges for both performance and injury reduction. In short, it's worth the outlay.



Injury prevention

At the heart of a good bike fit there needs to be an understanding of the individual rider, not just their age, height, weight, plus the type of riding they do. Humans are asymmetrical, while bikes are largely restrictive symmetrical (left/right) contraptions. We need to understand which of these asymmetries matter and what can be done about them. It's about digging into the details of each rider's strengths and weaknesses, restrictions, previous injuries, current aches/pains, objectives and more. Even seemingly minute load discrepancies captured through technological analysis in a bike fit can play a big part in injury – asymmetrical loading repeated multiple times in a long ride will cause overload issues at some point.

Comfort, speed & power

A comfortable rider can put down the power on the

Tailor it

A pro bike fit will boost on-bike comfort

pedals with more control and stability. A position that offers rider comfort and support will also facilitate an opportunity to ease into a more aerodynamic position. Additionally with a pro bike fit, potential weaknesses will be identified and a bespoke strengthening programme can be delivered, meaning that there'll be an increase in your power potential. However, it's important to remember that it may not be an overnight fix and some of these rider-oriented adaptations take time, so patience is needed to achieve the associated changes and gains. **Anna Gardiner, Level 5 soft tissue therapist**

"A comprehensive and individualised bike fit has the capacity to change 'a' bike into 'your' bike"

03

HOW DO I RECOVER BETWEEN RIDES?

Time spent out of the saddle can be as beneficial to your cycling performance as that spent riding – if you use it wisely and effectively – and enjoying the best-quality recovery between rides is essential.

For pro athletes, team coaches, sleep specialists and physiologists focus on discovering the optimum means of restoring energy levels, resting muscles, recuperating the mind, and returning the athlete to action in prime condition and ready to compete.

When thinking about improvement, athletes are always concerned about the training, but often pay little attention to the recovery process. To adapt to training, and thus improve, you must follow this simple formula: training plus recovery equals adaptation.

To recover properly, the body needs fuel. The two most important macronutrients for this when you step off the bike are carbohydrate and protein.

Take a 'food first' approach, which means eating a meal that is high in carbohydrate with up to 20g of protein. A recovery drink is a good plan B if the meal is not possible. For example, after a race.

Plain water isn't enough when it comes to recovery because when you sweat, you will also lose electrolytes – which you need



“There’s little in terms of physiological evidence to say that massage speeds up recovery. Even so, most riders report feeling better the next day”

20g

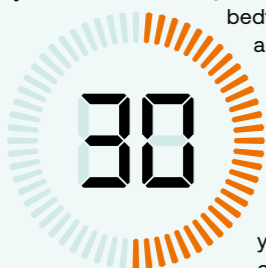
Aim to have this much protein in a recovery meal

Message it Having a massage may help recovery

to replace in order to maintain the body's mineral balance. The main losses will come in the form of sodium, so make sure your recovery beverage is high in this. Aim to sip, rather than 'down' the drink. That way, it will be better absorbed by the body.

Sleep really shouldn't be underestimated. This is where the bulk of the recovery will come from. It's important that you have a good

bedtime routine with a consistent wake and sleep time. Having a big lie-in on the weekends can be counter-productive as it'll interfere with your sleep cycle come Monday morning. A nap is very beneficial but limit it to around 30 minutes so as not to



Half an hour is the recommended maximum time for a nap

interfere with your sleep-wake cycle.

Alongside rest, refuelling and rehydration are the basic recovery techniques. However, when competing in a stage race or multi-day gran fondo, further recovery can become necessary. Massage is a common practice amongst the pros. However, its effects aren't fully understood and there's little in terms of physiological evidence to say that it speeds up recovery. That said, most riders report feeling better the next day.

Compression garments are another good option. Cyclists report less delayed onset muscle soreness (DOMs) – the ache from your muscles 24-48 hours after a gruelling ride – ahead of the following session, and these items are relatively cheap to buy and not bulky to pack. **Liam Holohan, cycling coach**

FAST FACT

Pick rapidly absorbed carbohydrates, such as rice, to replenish your muscle glycogen levels. A great recovery meal is white rice, lean chicken breast and a small portion of cooked vegetables.



04

HOW CAN I IMPROVE MY POSTURE?

Long bike rides and too much time spent scrolling on your phone can give you a hunched posture, which can cause aching or tight muscles around your neck, chest, back and shoulders. Road cyclists, who inevitably spend hours leaning over their handlebar, are also vulnerable to upper crossed syndrome (UCS) – a particular combination of postural issues that can cause nagging pain and tightness.

“Muscles that are primarily used in holding your body still tend to become excessively tight, which can increase pain and tension in that area,” explains Laurence Plant, specialist

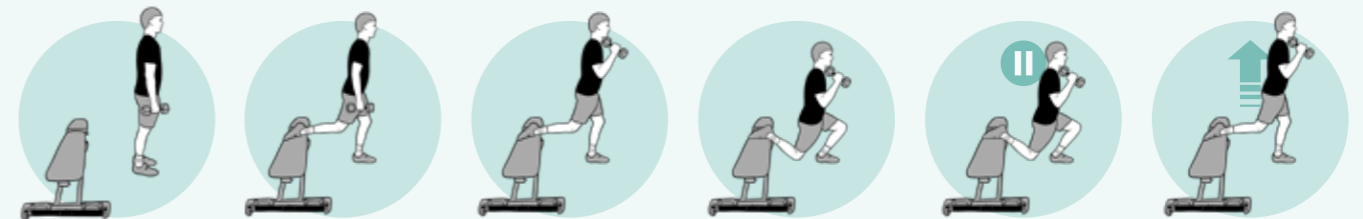
chiropractor and clinic manager at Henley Practice and a Meglio physiotherapy expert (mymeglio.com). “The cause of upper crossed posture is tight muscles across the front and top of the shoulder girdle along with weak and loose muscles around the posterior and inferior portion of the shoulder.”

So what is the best way to deal with postural issues like this? “Stretch out the pectoral muscles and strengthen the muscles that pull the shoulder back and down,” advises Plant. He recommends two exercises. Start with pectoral stretches. Place your arm against a door frame with your hand just above head height. Allow the arm to straighten as you turn away from that side. Feel a stretch across the front of the shoulder and chest. Do three reps of 30sec holds each side every day. Move on to scapular retractions. Secure a resistance band at waist height, grasp both ends with your hands and pull the band slowly towards you while squeezing your shoulders back and down, working the mid to lower part of your shoulder blades. Do three sets of 12 reps two or three times per week. **Mark Bailey, sports journalist**



BULGARIAN SPLIT SQUAT

This power booster helps correct leg-muscle imbalances and is also good for balance and stability plus hip-flexor flexibility and the glutes



01 Hold a dumbbell in one hand. Make sure it's of a weight that'll test you when you squat but not break you!

02 Stand in front of a gym bench or platform and place the same leg as the arm you're holding the dumbbell on the bench.

03 Raise the arm holding the weight to around shoulder height. Keep your back straight.

04 Then squat down, keeping the weight on your heel and the middle of your foot.

05 Hold this position for a few seconds, again keeping your back as straight as possible and looking forward.

06 Then drive straight up. Do four sets of six to eight reps on each side.

Q&A



How can I improve my bike handling?

Practise one of the key skills of handling – cornering – by entering the corner wide, cutting in, then exiting wide (paying attention to traffic!). Scrub speed before rolling through the corner rather than during. Once this is comfortable, ask a cycling pal to ride into the corner ahead of you and follow them.

What kit should I never forget?

Okay, it's not for everyone but a good-quality pair of padded mitts or gloves will do wonders for your upper-body fatigue, especially if your route's rough.

What fuelling advice can you offer during the menstrual cycle?

During the luteal phase (the second half) of the menstrual cycle, hormonal changes crank up the female cyclist's metabolism plus their daily energy expenditure. It's why you should be aware of feelings of lethargy and even apathy caused by insufficient caloric intake. Frequent periods of under-fuelling has been linked with menstrual cycle dysfunction. Increasing good-quality carb consumption is a simple way to boost daily calorie intake. Try foods such as quinoa, brown rice and organic pasta.

Help, I can't afford a bike computer!

A bike computer is a worthwhile purchase and not one that needs to break the bank. Yes, top-end models from the likes of Garmin and Wahoo generate enough data to satiate the most committed techophile's appetite. But there remain more affordable options such as the sub-£40 CatEye CC-MC200W Bike Computer, which has 10 features including current speed and trip distance.



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