TRAIL Running MAGAZINE

Key ingredients

Like a performance sports car, there are essential fuels every runner requires

Find out what works for you and create the correct balance. Your perfect formula should be nutrient-rich in order to help with recovery and muscle repair after a tough run. Think about what you have in store for that run, too. For instance, a long day in the mountains will require sufficient amounts of carbohydrates before, after and during.

Hydration is also massively important, so aim to do every run well hydrated. If you sweat a lot, add salt to your drink.

Key elements to think about – whether you're a vegan, vegetarian or meat eater – include protein, which is necessary in order for your muscles to repair and adapt after exercise, so they're ready to go next time you run.

Carbohydrates are an important fuel source in high-intensity activity and also help maintain brain function.

And certain minerals are key for runners. For example, iron is necessary for moving oxygen around the body. Dairy products, tofu, fortified drinks and cereals provide calcium to help muscle contraction and bone health. Magnesium – from seeds, leafy greens and nuts – aids nerve transmission. Fat is not only an essential ingredient as a source of energy, but also plays a vital role in keeping that finely-tuned engine in perfect condition.

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FAT

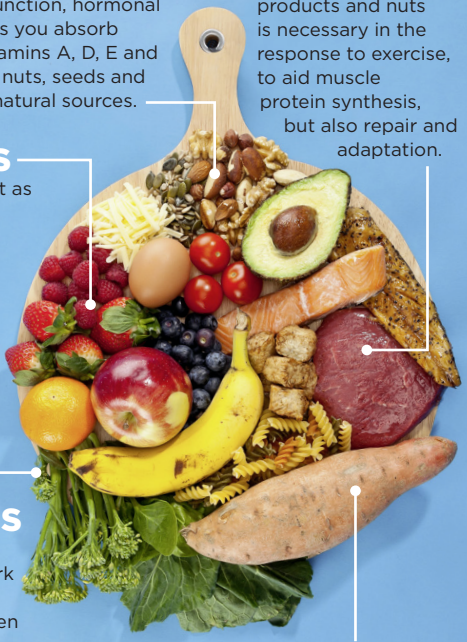
Fat is essential as an energy source, but also plays a very important role in cell membrane function, hormonal control, and ensures you absorb your fat-soluble vitamins A, D, E and K. Avocados, eggs, nuts, seeds and oily fish are good, natural sources.

PROTEIN

Protein from meat, fish, pulses, dairy products and nuts is necessary in the response to exercise, to aid muscle protein synthesis, but also repair and adaptation.

VITAMINS

Vitamins usually act as co-factors. For example, vitamin D is necessary for bone health but also helps muscle recovery. They're found in various foods from fruit and veg to eggs, milk and oily fish.



MINERALS

Iron – in liver, meat, beans, nuts and dark leafy greens – is necessary for oxygen transit. Calcium – from dairy, tofu, fortified drinks and cereals – helps bone health. Magnesium – from seeds, leafy greens and nuts – aids nerve transmission.

CARBOHYDRATES

Carbs are the main currency utilised by the body for all processes that require energy. Sweet potatoes, chick peas, rice, oats and bananas are all high in carbs. They are particularly important as a fuel source in high-intensity activity.

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Your three-day super diet

Kickstart your training week with these amazing recipes

Eating as a runner involves fueling your body for the next workout, but it also helps you recover and repair any damage training can produce. Sore muscles can be helped by eating more protein, preferably soon after the end of your run. It's possible to manage inflammation by ensuring your diet is rich in omega-3 oils, found in oily fish and seeds.

Day-to-day hydration is also important. Drink plenty of water and monitor your urine colour; aim for straw-coloured. For shorter sessions up to an hour, you can get away without drinking, but rehydrate little and often. For longer sessions, also drink little and often; set a reminder on your watch.

A great DIY sports drink is 50% pineapple juice, 50% water and a pinch of salt.

	BREAKFAST	LUNCH	DINNER
DAY 1	**Mashed avocado on toast with poached egg** Loaded with vitamins, antioxidants and beneficial monounsaturated fatty acids, avocados are a great start to your day. The poached egg provides quality protein.	**Smoked mackerel and tomato salad** Packed with inflammation-managing omega-3 oils and protein, mackerel is a great choice. Tomatoes also have anti-inflammatory properties and are rich in vitamins and antioxidants.	**Turkey burgers** are a lean alternative to a beef burger, using turkey mince, quinoa flakes, an egg and some sweated onion and garlic. A brilliant protein source and high in beta-alanine to aid high-intensity training.
DAY 2	**Scrambled eggs and smoked salmon** High-quality protein from both ingredients, and omega-3 oils from the salmon.	**Tinned sardines on toast** High in protein and omega-3 oils, and the tomato sauce is packed with beneficial lycopene.	**Slow-cooker five-bean chilli** ensures that all the essential amino acids are present and that you're providing your body with complete protein.
DAY 3	**Quinoa porridge with coconut milk** It's a complete protein, meaning that it contains all the essential amino acids. Coconut milk is rich in vitamins and minerals.	**Omelette** Eggs are a perfect package of protein, and you can add multiple fillings to bring other nutrients and flavours to the party.	**Turkey is** especially good for dinner, as it's high in the amino acid L-tryptophan, to aid sleep. Serve with sweet potato and green veg like broccoli.

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Recover in style

It's not about the training, it's how you recover from the hard work that really counts. Here's how

PALEO PACK-UP

What Your fave deli meat, peppers/carrots/cucumber, nut butter, apple, bread.
How Slice crunchy veg and wrap in meat. You could use a chive to tie them together too. Slice an apple, spread with nut butter and sandwich together. Add bread for more carbs.
Bonus A paleo diet isn't ideal for runners due to carb constrictions but if planned carefully can work (concessions should be made for high-mileage athletes). Paleo bread provides carbs needed for recovery or, if short on time, add sweet potato.

ZOONAR GMBH/ALAMY STOCK PHOTO*

RAINBOW SALAD PROTEIN JAR

What 3tbsp avocado & spinach dressing, 8 cherry tomatoes, sweetcorn, 30g orzo pasta, 1 grilled chicken breast, 1 grated beetroot, ½ shredded courgette, 3 handfuls rocket, pumpkin seeds.
Dressing ½ clove garlic, 4 handfuls spinach, 100g low fat plain yogurt, 1 avocado, 1tsp lemon juice, 2tbsp olive oil.
How Stack your salad with dressing at the bottom of the jar followed by the heaviest, least absorbent items, ending with greens at the top. At lunch, shake into a bowl, toss with a fork and hey presto!
Why Packed with carbs, protein and antioxidants to help energise you post-run and get you ship-shape for the afternoon ahead.

PORTABLE VEG FEAST

What 250g plain flour, 2tsp baking powder, ½tsp bicarbonate of soda, 1tsp salt, 1 carrot, 80g butter, 2 eggs, 270g low fat Greek yoghurt, 60g cheese, 4tbsp seeds.

How Mix flour, baking powder, bicarb, salt and carrot (grated) into a bowl. Melt butter and mix with eggs and yoghurt. Add wet ingredients to dry and add cheese and seeds. Split into muffin cases, cook for 20min at 180°C.

Why So portable you can eat them on the way back to the office. Have with veg soup or salad to bulk out. For high protein use Greek yoghurt – it has almost double that of regular yoghurt.

SHUTTERSTOCK, MAGDALENA BUJAK/ALAMY STOCK PHOTO*

VEGAN LUNCHBOX

Ingredients 100g quinoa, 2tbsp non-dairy yoghurt, ½ butternut squash (diced), 4 shallots, ½ tbsp tahini, 1tbsp olive oil, 1 lemon, 1 handful dried fruit, 40g flaked almonds, 40g mixed seeds, handful mint, 1 avocado.

Method Heat oven to 200°C. Roast shallots and squash for 30min. Cook quinoa. Mix yogurt, ¾ lemon juice & tahini to make dressing. Mix quinoa, nuts, seeds, fruit, mint and avocado in large bowl. Pour over remaining lemon juice. Add veg when cool.

Verdict Energy-dense and perfect post-run. Vegan athletes need protein-rich plant foods. This lunch readily meets that brief.

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Secret ingredients

Include these superfoods for a super run

PRE-RUN PREP

Caffeine

Best in hot coffee, canned drink or cold capsule form. Coffee lovers can breathe a sigh of relief as research continues to highlight how caffeine helps runners in many ways, including greater focus and mental alertness. Research from Leeds Metropolitan University found a caffeine hit an hour before endurance exercise resulted in trial subjects enjoying their exertions more. In other studies, it's been linked to greater stamina and muscle glycogen conservation.

BACK-TO-BACK RUNS

Beta-Alanine

This naturally occurring amino acid found in poultry and soya beans reduces fatigue and improves performance during high-intensity exercise.

RUN LONGER

Branched-Chain Amino Acids

BCAAs consist of three essential amino acids: leucine, valine and isoleucine. Leucine in the bloodstream signals the body to start the protein synthesis – repairing and rebuilding muscle after exercise. Research suggests BCAA supplementing may delay mental fatigue.

RUN FASTER

Nitric Oxide

Nitric oxide (NO) sourced from nitrates in foods increases blood flow to muscles. Researchers from the University of Exeter are among an increasing number who've found that drinking high-nitrate beetroot juice not only improves sprint performance, but may also speed up decision making.

Most effective In liquid form, by drinking a beetroot supplement.

RUN STRONGER *Casein*

Casein is an insoluble component of milk, but with higher leucine content than plant-based protein supplements. It's digested slowly in the gastrointestinal tract and has been shown to be an ideal 'slow-release' muscle repair option for athletes while sleeping.

RUN AWAY FROM PAIN: *Glucosamine & chondroitin*

Many runners swear by glucosamine supplements, but study results are very mixed. Claims that it can cure osteoarthritis are unfounded, but some studies – including one recently published in *The Cochrane Database of Systematic Reviews* – found that knee pain sufferers recorded a 28% improvement in their condition when given glucosamine. Chondroitin has been shown to reduce inflammation in test subjects and help joints remain fluid.

RUN INTO OLD AGE *Iron*

Iron is an essential component for oxygen-carrying red blood cells. Older runners are at greater risk of iron deficiency due to training demands. Iron from food increases aerobic capacity. And supplementation may be advisable if you have a deficiency. Endurance athletes – especially vegan and vegetarian – have been known to be more prone to low iron levels, often due to a focus on carb loading over high-quality protein.

RUN, REST, RUN AGAIN *Magnesium & vitamin D*

Magnesium plays a crucial role in optimal muscle contraction, bone strength and energy production, helping sustain the high-energy output necessary for endurance. Vitamin D is essential for optimising bone mass, muscular performance and immune function.