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p56

The World Runs in Pegasus.

Mariel González

Marathon Runner, Women's Advocate

IL



ON THE COVER

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Photograph: Pim Rinkes for Nike Runner: Eliud Kipchoge

Eliud wears items from the upcoming Eliud Kipchoge Collection, available this autumn. The image was shot at his training camp in Kaptagat, Kenya



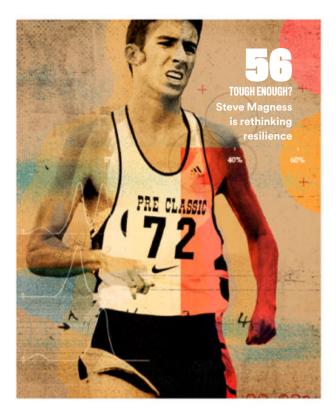


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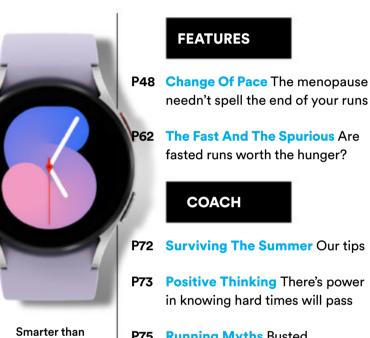
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in knowing hard times will pass

needn't spell the end of your runs

The Fast And The Spurious Are

fasted runs worth the hunger?

- Pre-Run Coffee Is it a good idea?
- **Refuel** Superfoods on a budget
- Abs Fab Brace for the hollow hold

JOIN THE RESISTANCE Scan me!





We put fasted

runs through

the mill, p62

RAVE RUN

Sy line Kit

ISCHGL, AUSTRIA

THE LOCATION

The charming mountain town of Ischgl sits in the Paznaun Valley in Austria's Tyrol region, close to the Swiss border. A snow sports mecca in the winter, it transforms into a trail running paradise when the snows melt away and summer arrives.

THE RUN

The area's signature trail event, the Silvrettarun 3000, takes runners from Ischgl to Galtür through challenging but stunning Alpine terrain, covering 40.1km with 1,800m of ascent over the full 'Hard' distance. But if you fancy a taste of Tyrol that's a bit lighter on the legs, there are also 'Small' (11.2km/306m), 'Light' (19.36km/873m) and 'Medium' (29.9km/1,482m) routes on offer; plus kids' races if you're taking the next generation along for the ride. The 2023 Silvrettarun 3000 takes place on 14 and 15 July. Go to paznaun-ischgl.com for more information.

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Florian Dagn and Johannes Lechner

PHOTOGRAPHER Ronni Lorenz

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EDITOR'S LETTER



ELIUD KIPCHOGE HAS done so many remarkable things in his career - achieving the first sub-2:00 marathon and setting multiple world records - that it became easy to think of him as superhuman. But what makes him a brilliant ambassador,

whose fame has spread beyond the sport, is that he doesn't just care about winning, he cares about runners being the best they can be, whatever their level. As we learn in our interview on page 34, he's driven by a desire to promote running as a tool of improvement for individuals and the wider world.

We spoke to him following his sixth place Boston Marathon finish – a rare disappointment that in some ways makes him more relatable. He says he has bad days in training and races like we all do, and it's how you learn from them that really matters. On page 38, we explain five insights from his training that you can use to become a better runner (120-mile training weeks optional). The good news is, from what he says about his goals, there's more to come from the great Kenyan.

Elsewhere, we welcome new columnist Damian Hall, accomplished ultrarunner, coach, author and co-founder of The Green Runners, on page 27. I imagine he might be humbled to be mentioned in the same passage as Kipchoge, but they're similarly driven about running being a force for good, while he also makes the difficult seem doable - see his description of the insane, hallucination-inducing Barkley Marathons as a 'bimble'.

ANDY DIXON EDITOR-IN-CHIEF

@RW_ed_Andy

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SAM MURPHY

The running coach, author and RW columnist shares some of her personal experiences and delves into the research finally giving the issue some of the focus it deserves to help all those navigating the challenges of Running Through Menopause on p48.



DAVE HOLMES

The runner and Pulitzernominated journalist has written for Esquire, The New Yorker and Rolling Stone. His interview with the marathon GOAT reveals the discipline, focus and positivity needed to achieve the impossible. Eliud Kipchoge's Higher Purpose, p34.









WARM-UPS

The TIPS YOU NEED to GET UP to SPEED

That don't compress me much

A new study suggests there are no benefits to wearing compression socks during a run

NOTHING DIVIDES a group of runners quite like the debate over the merits of compression socks. Some runners swear by them; others swear at them. While there is some evidence for wearing them after a race to speed up recovery, the evidence in favour of their in-race application is mixed at best. A new study* found that runners wearing compression socks on the run experienced increased muscle pressure (a sign of fatigue) and decreased oxygen. A blood test found that the socks did nothing to reduce muscle-damage enzymes, either. Researchers concluded: 'The use of compression socks during running affects the muscles in the lower leg negatively in healthy individuals.' That's not your cue to throw your compression socks in the bin. The overall evidence is mixed, and if you prefer running in them, then by all means continue to do so - but it does raise questions as to whether they're truly a race-day essential.

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Run to the hills

Time spent in the hills may improve 10K performance WE MIGHT DRESS differently and be less likely to live in the Arctic Circle, but runners have a lot in common with crosscountry skiers – which is why the results of a new study* are worth listening to. The subjects were highly trained elite-level skiers, and researchers wanted to identify what type of training made the biggest contribution to their success. Conclusion: 'Time in uphill terrain was most strongly correlated with overall performance [in a 10K time trial].' Body mass and lean body mass were inversely correlated with overall and uphill performance. In other words, time spent training in the hills can make you light and strong. 'These findings emphasise that high aerobic energy turnover to perform well in uphill sections should be development areas for improving skating timetrial performance,' said the study authors. Running translation: hill running can help your 10K time.

HIGH LIFE Take to the hills to raise

your level

The hard road

New Balance performed the noble task of attempting to identify the UK's toughest road marathon, based on DNF (did not finish) rate. It's a misleading metric to use as there are reasons for DNFing other than the toughness of the course. For example, falling behind pace on a flat course when your only goal was to achieve a PB. That said, the winner, Langdale, is a beast. Packing in some 3,400ft of ascent – just less than the height of Snowdon/Yr Wyddfa – this Lakeland classic churns runners up and spits them out. See page 92 for more.

Rank	Marathon name	DNF rate		
1	Langdale Marathon	8%		
2	Southampton Marathon	5.3%		
3	Abingdon Marathon	4.8%		
4	Snowdonia Marathon Eryri	2.5%		
5	Milton Keynes Marathon	2.4%		



Improvement in time when running a long interval session in Nike ZoomX Vaporfly shoes, according to a new study*. The shoes also 'reduced perceived muscle pain' compared with regular running trainers.

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RACE TO THE STONES



warm-ups NUTRITION

Spice up your life

Curcumin is the yellow spice in turmeric and you need it in your spice rack. A new study* found: 'Due to the antioxidant and anti-inflammatory properties of curcumin, it can increase exercise performance and decrease exercise-induced muscle soreness and muscle damage.' Here are three other runner-friendly spices.



Ginger

Why As well as being an anti-inflammatory,

research suggests ginger may also help to boost the production of mitochondria, the energy factories in your cells. <u>Try</u> Sprinkling a little in a banana and pineapple smoothie.



Cinnamon

Why The spice helps to combat exerciseinduced oxidative stress, as well as lowering blood sugar – key in the prevention of diabetes. Try A teaspoon over apple and raisin porridge in the morning.



Cayenne pepper

why This can curb appetite and increase your energy expenditure and circulation, due to its levels of capsaicin, a compound that gives the spice its heat. Try Add to fish tacos for a little kick.

Masters need more protein

Readers in their fifties and above who are planning to run a marathon this year, take note. A new paper* looked at marathon results from 58 master runners (average age: 58) and found that 'higher protein intake is related to better marathon performance times'. This may apply to the pre-marathon period, too. 'Marathon-induced changes in body composition and metabolic blood indices are highly related to protein intake, either during the tapering period or during the race,' the researchers said. PLATE LOSS A set eight-hour eating window can help burn fat – but is it worth it?

Faster fasted?

In a new study on cyclists, time-restricted eating led to 8% quicker times – but is it right for runners?

TIME-RESTRICTED EATING

(TRE) – allowing yourself to eat only between a specific time window – has been used by some people as a weight-loss approach. But a new study* looked into the effects of TRE on endurance performance – with some surprisingly impressive results.

Male cyclists with an average age of 52, who spent nearly an hour a day in the saddle, performed a 10K time trial before and after four weeks of a TRE diet. Afterwards, they were 8% faster. During the experiment, they were allowed to eat whatever they wanted in whatever quantity, with the one stipulation being they had to do so within an eighthour period (eg, 10am to 6pm). In doing so, they lost an average of 5.3lbs. As for runners? The

study's senior scientist said he would expect runners to improve by more than 8%, since cyclists are supported by their bike and, therefore, are less affected by their body weight than runners.

But there are some important caveats. The runners were all male, middle-aged and non-elite. Lighter does not always mean faster, particularly if you're already lean, and a number of other studies have shown that running in a fasted state decreases both performance and enjoyment (see p62). Still, it's food for thought if you're a male runner with weight-loss goals in mind.

JULY 2023 RUNNERSWORLD.COM/UK 015



oon RN Podcast co-host



Per

Jennifacor

Stephenno

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Women can stand the heat

When it comes to staying on pace in warmer conditions, women trump men

STAYING ON PACE during the second half of a marathon can be a challenge in even the most favourable of weather conditions. Add in a little heat and the task becomes harder still - but women are better at it than men. That's what a new study published in the journal Science & Sports found. It assessed **167 recreational runners** (123 women and 44 men). The researchers were interested in examining the degree of slowing (first vs second-half time) genders. The participants were assessed over the another in warm weather. They discovered that 'the degree of slowing differed between cool and warm weather conditions and between males and females... Males slow

more than females during the marathon, and warm weather leads to a greater degree of slowing in both [although more so in men]'. A 2015 study published in Medicine & Science In Sports & Exercise came to the same conclusion: men are more likely than women to slow during a marathon. It found the mean change in paces to be 11.7% in women vs 15.6% in men – with women 1.46 times more likely to maintain their pace. While greater experience was linked to lesser slowing, controlling for this variable did not eliminate the clear sex difference in pacing. The researchers concluded: pacing is robust. It may reflect sex differences in physiology, decision making or both.





Running turns you into a games master

Are you looking to encourage your screen-loving offspring to lace up their trainers? A study from Asics found that when gamers exercise, their button-bashing skills skyrocket. After four months of regular exercise, gamers' rankings improved by 75%, while their cognitive function was boosted on average by 10% and problem-solving abilities by 9%.



Elevated levels of air pollution can slow 5K performance by 1.3% (that's 20 seconds for a 25-minute 5K).

Finish-line collapses

Seeing another runner collapse just past the finish line is always worrying. But the stats suggest they're not usually medical emergencies. Most incidents are in fact a result of exercise-associated collapse – a generally benign condition that results from a sudden drop in blood pressure when runners stop moving their legs after 26.2 miles. In other words, the runner faints. The treatment? The study's authors advise 'oral fluids and assisted walking to designated safe areas'. The runner should be placed in a horizontal position to help with blood-pressure stabilisation.

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Lows and highs

What heelto-toe drop is best for you?

MOST OF THE RECENT

discussion about running shoes has revolved around carbon plates, but the 'heel drop' should not be overlooked. To clarify: heel drop is defined as the difference in height of the midsole from heel to toe on your shoe. The team of physiotherapists at Doctors of Running (doctorsofrunning.com) recently summarised some of the thinking around heel drop - and why different runners might benefit from different drops. Biomechanically, a

higher heel drop (9mm to 12mm) reduces the range of motion required at the ankle and how much the calf muscles have to do. In turn, that work gets passed on to the quads and glutes. Shoes with a lower drop (0mm to 4mm), meanwhile, put greater emphasis on the calf and achilles, but may be kinder on the knees.

> COP A HEEL Finding the right solemate for your runs

Low drop				Medium drop				High drop				
0mm	1mm	2mm	3mm	4mm	5mm	6mm	7mm	8mm	9mm	10mm	11mm	12mm
tha	Suited to those with knee or hip issues that do not have adequate shock absorption abilities in either of those.				Suited to those with short and stiff calf muscles, achilles tendon issues or problems with uphill running.							
×				>		ove C		5	K		X	2th and
<u>Try:</u>	Altra (all), Sa	ucony Kinv	ara 13	Try	: Inov-8 Muc	dclaw, New E	Balance 1080 Y	V12	<u>Try:</u> Nil	ke Pegasus 37	7, Brooks Gh	ost 15

ARCTIC ULTRA p22 + CALL IT A COMEBACK p26 HUNAN() RACE

NEWS, VIEWS, TRENDS and ORDINARY RUNNERS doing EXTRAORDINARY THINGS

A SPARKLING ACHIEVEMENT

Freya Morgan is a human rights lawyer running 2,500km to support refugees – all while dressed as a human disco ball **IT WAS DURING THE LOWEST POINT OF HER LIFE** that Freya Morgan made a connection with refugees struggling in Britain.

'I was very depressed and in a dark place. I tried to take my own life when I was 16. Luckily, it didn't work and I went on to work for refugee, mental health and community charities. Through my volunteering at The Listening Place, I learned about how vulnerable people can suffer in the UK. It really opened my eyes,' says Morgan.

As she came to understand more about the plight of refugees as they arrive in the UK and the high rates of suicide in detention centres, she was able to reflect on her own experience and what she wanted to do with her life.

During lockdown, she decided to try to qualify as a human rights barrister and got a job as a paralegal while studying for the bar. By this point, she'd been running for her own mental health for around eight years.

'My dad is a keen runner and believed that finding some exercise would help me. At first, I was like a grumpy teenager and didn't want to do it, but on 1 January 2012, I made a New Year's resolution. I thought, you know what, if I'm already in so much pain, what difference is it going to make? I'm just going to prove him wrong and it's not going to work.'

Despite being unable to run for more than a minute, she felt an immediate connection with her body. 'You feel your breathing and your legs and you're just completely where you are in that moment. I realised that, when running, I can't think about anything else. Something about that just took me out of the headspace I was in.'

Gradually, Morgan ran from couch to 5K, and by the summer she was running a half marathon every weekend. Before long, she was completing marathons and running became her safe space.

Then, during 2021, Morgan met fellow human rights law student Aaron Rajesh during their studies. Morgan, who had fundraised for years, wanted to do something to support vulnerable immigration detainees.

She was alarmed by a report that found one third of detainees at Brook House detention centre were on suicide watch. Deciding to take action, she set her sights on raising £120,000 for Bail for Immigration Detainees,



SHE'S KEEN TO CELEBRATE The positive impact Refugees have on britain

a charity that provides essential legal protection for refugees and asylum seekers in detention.

She ran her idea past Rajesh, who had fled India to Canada as a child, and he immediately jumped on board. The campaign, which started in December 2022, will see Morgan, now aged 27, run 2,500km by June 2023 via local events, long training runs and a continuous 200km final leg.

'This is to represent the huge journey that refugees go through to get to the UK,' says Morgan, who's running to and from work as part of her training. She's keen to celebrate both the running community who have helped her through mental health challenges, and the positive impact refugees have on British culture.

Morgan has been going to events with RunThrough UK, Coopah Run Coach and London Midnight Runners to lead disco runs, warm-ups and socials. 'I dress as a human disco ball, do the warm-up and then race as well. The trickiest bit has been fitting the helmet so it's not banging around giving me a headache, and not cutting myself on my outfit. But I always have the best time with the runners and many of them have never run before. On 'Blue Monday' in January, it was freezing cold and we still had 100 runners turn up. It was electric.'

Running as a dazzling disco ball helps to create a fun, energetic atmosphere and change the tone of the HAVING A BALL Morgan's cause is serious, but she's eager for her campaign to be fun and vibrant



messaging around asylum seekers and refugees, she says. 'The language that gets used around refugees is at best a bit clinical and at its worst hateful. We want to highlight the fact that these are human beings with so much to offer.'

At the heart of the campaign is a serious message, which is to run in solidarity with those who have been wrongfully detained and in memory of those who have died by suicide. That's why the starting point of her final run, Clifton Suspension Bridge, is so significant. 'Unfortunately, that bridge is one of the country's suicide hotspots. I chose it because of the symbolism of that bridge in relation to what happens in detention centres,' explains Morgan. Brook House was chosen as the end point, due to its notoriety following a Panorama investigation into abuse that led to an independent inquiry, and owing to the large number of detainees there on suicide watch.

But despite the heavy topic and gruelling final run, Morgan wants to make her journey vibrant. Runners will be joining her along the route and she'll be accompanied by live DJ tunes the whole way. 'I've been blown away by the support. I know it's a difficult topic, but people surprise you.'

Visit Morgan's JustGiving site via this shortened URL: t.ly/HshS Samaritans provide support to anyone struggling to cope or at risk of suicide, get in contact by calling 116 123



BY THE NUMBERS NATT NATT S5, FROM ABERDEENSHIRE, TRIUMPHED AT THE YUKON ARCTIC ULTRA

DUBBED 'THE COLDEST and toughest ultra in the world', the Yukon Arctic Ultra is seemingly for those who look at the winter Spine Race and think, 'Got anything longer and more inhospitable?' Matt Weighman is one such person. The marine engineer completed this year's race, which follows an old sled-dog route across north-west Canada, crossing the line as the first foot-powered competitor (other modes of travel are available: see below). 'I've realised that I'm not the fastest guy in the pack, but I do better the longer races go on and if there are added obstacles – for instance, dragging a sled or being out in the cold,' he says.

2000 Control Control

60.7197° N, 135.0523° W coordinates of the start point in whitehorse, canada

PRIZES FOR THE WINNER. ONE DOES THIS FOR THE RUGGED JOYS OF OUTDOOR ADVENTURE (AND CONSIDERABLE BRAGGING RIGHTS)

COLDEST TEMPERATURE

EXPERIENCED DURING

THE RACE

Length in miles of the Iditarod Trail Invitational, an Alaskan odyssey that Weighman is now gazing at admiringly



Number of items athletes must carry with them at all times. Highlights include: a small saw and an avalanche shovel



Modes of travel athletes can choose from: foot, crosscountry ski or mountain bike. (Jessie Gladish finished first on a bike)



Number in miles of the Yukon Ultra

HOURS OF SLEEP Weighman Attempted to Get Each Night



BAGS OF PERCY PIGS PURCHASED AT AN AIRPORT M&S IN THE NAME OF MID-RACE NUTRITION. 'THEY'RE EVEN BETTER WHEN THEY'RE FROZEN,' SAYS WEIGHMAN



The Yukon is twice the size of the UK, but has a population of just over 40,000





IT'S NOT RIGHT THAT WOMEN FEEL UNSAFE WHILE RUNNING



t's not been a great year so far for female runners. Back in February, research by Sport England's This Girl Can campaign found that three in 10 women had faced harassment while exercising. In March, a global survey by Adidas found that 92% of female runners aged 16 to 34 felt concerned for their safety. That same month, *The Guardian* ran a story by Katy Guest, who recounted her own dreadful experience. A lorry driver pulled up on the pavement ahead of her, forcing her into the road. She

swore at him, but he continued to follow her along the pavement, shouting abuse. Guest says that this was not a one-off experience. In fact, she got back from runs so often feeling scared or upset that she's now given it up altogether.

I wanted to rush round to Guest's house and give her a hug. It's just not right that in the 21st century, a woman should feel compelled to give up something she enjoys because of an idiotic stranger. My next action would be to invite her out for a run. My hope would be that as we ran, she'd be reminded of all the positive things and decide it was just too good to forfeit.

It's a risky business commenting on women's personal safety – but I am a woman and a long-standing runner, so I feel qualified to offer my opinion.

Too often, the onus on 'staying safe' gets put on to women – don't go here, don't dress like that, don't go alone – rather than addressing the more pressing issue of how we make public spaces safe. For women to feel safer while running, men can play an active role in calling out inappropriate actions of others.

But I think we need to distinguish between perceived risk and actual danger when we talk about women's safety. The latest Office for National

THE TAKEAWAYS...

Advice on staying safe while running is often geared at women. But there is plenty that men can do to help women feel safer. These tips are based on This Girl Can's advice:

Don't run up behind a woman without warning, even if you are overtaking. Take a wide berth or cross the road Keep your distance. Leave plenty of space or cross the road Don't make comments, even if you think they are flattering Challenge those making inappropriate comments to women Don't just look the other way if you see a woman being

harassed, offer your support • Share these tips with other men in your life Statistics figures showed that 72% of murder victims in the year ending March 2022 (but indicative of previous years' findings, too) were men, and that more incidences of violence were perpetrated against men than women. The statistics also show that women are most at risk in domestic settings at the hands of people they know, rather than strangers. None of this violence is acceptable, but it puts the risk of going out for a run into perspective.

I have been running for 34 years and, in that time, I've had a handful of horrible encounters. One evening, I had a car kerb-crawl alongside me, the driver leaning towards the passenger window to make the sort of kissing sound you might use to call a kitten. Another time, a group of young lads on a suburban London street threw a lit firework at me. I've been hooted at, wolf whistled and heckled – though these things have also happened when I've been walking or sat on a bus.

It's not okay. Please don't think I'm saying that it is. But over the course of the thousands of runs I've clocked up, these experiences have been rare annoyances. Since running is so important to me, I've never considered giving it up as a result.

That's me. Every woman – every person – makes their own decisions about what feels safe and what doesn't. I can understand why so many women feel nervous about running alone. But the more of us who are not cowed by the risk of harassment and report it when it happens, the more men who are good allies, the more we show that we won't be frightened off the streets, the safer those streets become.

sam-murphy.co.uk



LETTER OF THE MONTH



SHOES LOVE

WIN!

My new husband and I incorporated our joint passion for running into our wedding. We met at our running club over 10 years ago, and our running, coupled with our love of travelling, has been at the centre of our relationship. From the early days of him running with me at the track, to lifting my water from the drinks station during a race, we knew we wanted to mark this joint passion on our wedding day. We had a runningthemed cake topper and our table names were places we'd visited, raced or just ran in. But our favourite photo was taken at Benbulben mountain, Co Sligo, Ireland. It makes me smile so much; I hope you love it as much as we do. *Linzi Phair*

We do! A brilliant pic and a brilliant story. We wish you both many more happy miles together.

What's inspired, impressed or annoyed you lately about running or runners? The writer of the winning email or letter receives a pair of Saucony Triumph 20s, worth £155 (available in a colour of your choosing, if in stock).

RUNNER'S WORLD, House of Hearst, 30 Panton Street, London SW1Y 4AJ Email letters@runnersworld.co.uk Twitter and Facebook @runnersworlduk

ONE MORE TIME?

I completed my second London Marathon, having promised never to run another after my first in 2021. I ran for St John Ambulance in memory of my late father, who I lost in 2022. Things, however, didn't go as planned. I got to mile seven and my calf popped. Running was out of the question; I could hardly walk and had to decide what to do (nearly in tears). With the help of the wonderful people at St John Ambulance I decided to carry on, determined to finish by walking the remaining 19 miles. London was amazing: without every person who shouted my name, I probably wouldn't have made it. Having crossed the line in utter relief, I kept saying to myself, can I give it one more go? Jai Gohil

Congrats for carrying on, Jai. And we all know the answer to that final question: of course you can.

RUN ON, REGARDLESS

On the first May bank holiday, on my early morning run on the streets of Islington, I was attacked by a stranger. He punched me in the head, kicked my leg and chased me for 200 metres when I fled. Those intermittent speed sessions saved me from much worse! I was persuaded by a friend to report it to the police, who were really helpful and arrested the man soon after, although not before he'd attacked others. The following weekend I was back on the same running route, determined to put it behind me. The lessons? Keep up the speedwork, always report incidents to the police and keep running regardless. *Sam Tomlinson*

So sorry to hear about your ordeal, Sam. And more power to you for getting back out there. You are an inspiration.

IT'S GOOD TO BE BACK

l'm a born-again runner and loving it more this time around than when I was in my twenties and thirties. In the past, it was running for PBs, to beat the person in front, etc. After 12 years away from running due to having a family and injuries, I rejoined a running club in January. These days, it's all about appreciating the scenery, people and how I feel. I'm falling in love with running all over again and long may it continue. I turn the big 5-0 in a few weeks and am happier and healthier than ever. Runner's World, thanks for having me back. Sarah Dunscombe

Good to have you back on board. But running's like the Hotel California: you can check out any time you like, but you can never leave (cue guitar solo).



'The 2018 London Marathon - year of the heatwave. I got so dehydrated I didn't pee until bedtime!' Sarah Kate

'The race of life: it's taken me 46 years, with loads of ups and downs, and I'm not at the end yet'

'Athens Marathon 2013. The hills and heat almost killed me' Nichole D'Anjou

'Parents' race at my daughter's school – tore my hamstring and never lived it down' Steven Blake 'The Great North Run in 2014. Hit the wall at about 10 miles and got overtaken by someone carrying a fridge' Deborah Main

'For me, any race has the potential to be the toughest, whether that's a 5K or an ultra. The toughest race is ran in your head' Cee Jay

'Rat Race Yorkshire Terrier, March 2013. Snowed heavily on the day and had a chest-high river crossing. Thought I had hypothermia and got permanent nerve damage in my hands from it' George Parkinson

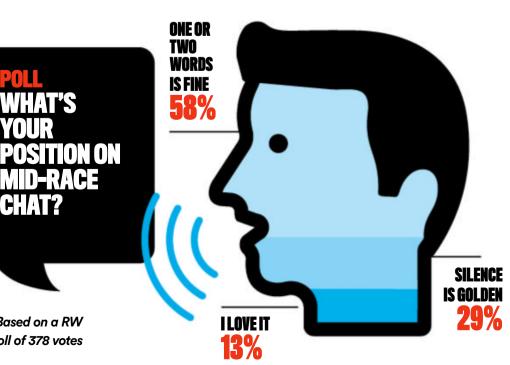
'Bright colours all the way' **Theresa Slater**





'Love bright colours that clash - it makes people chuckle' Paul Davis

*Based on a RW poll of 378 votes





SINFIN LIKE A PHENOMENON

From failing to thriving: Sinfin Running Club's revival is a true comeback story

HOW DO YOU REVERSE the fortunes of a running club? That's the question James Spray had to answer in 2020. He joined Sinfin Running Club in Derby 13 years prior, at the behest of its then chairman Chris Morrison, and discovered an instant love for the sport. But with dwindling numbers, the pandemic and the loss of the clubhouse to contend with, the future of his beloved Sinfin hung in the balance.

Luckily, he's not a man to shirk a challenge and, three years on, the club is a grassroots success story. What's the magic formula? 'The first thing on the agenda was to find the club a new home, which came in the form of The Crossbar,' says Spray. 'It's a local sports club with changing rooms and a bar. They've made us feel really at home, putting pictures of some of the running club on the wall.'

Equally important was positioning Sinfin as a club for everyone. 'My whole ethos was to foster inclusion,' says Spray. 'So when I took over as chairman, I said, "Everyone's welcome at this club, not just the racing snakes." It takes courage for people to join a club, as there's a tendency to think, "I'm not good enough," he says. Spray then initiated a Couch to 5K programme, which resulted in an influx of new members.

Sinfin's open-door policy also attracted two refugee runners, David and Jacob, who are now training to be part of the refugee team at the next Olympics. 'They're a huge asset to the club,' says Spray. 'They run in trainers and clothing donated by members of the club and regularly win parkruns in the local area – so they're an amazing advert for our club.'

Another success story has come in the form of Dan Winter, a runner with autism who joined Sinfin two years ago. 'I think the club – and running in general – has given him that confidence,' says Spray. 'He now has a full-time job, which he loves, and running has given him that momentum.' Spray and Winter ran The York Marathon together in 2022, Winter's first 26.2, finishing in 3:47.

Sinfin members enjoy a packed schedule. Monday is a track night, with interval sessions at a variety of paces. Wednesday offers the chance to run 6K or 10K in different paced groups. Saturday morning sees runners taking part in parkruns and the obligatory coffee and cake afterwards - while Sunday is a longer run day. The first Wednesday of every month is a social gathering, during which Spray awards someone the 'Runner of the Month'. 'It isn't always for the quickest runner,' he says. 'It could be for someone who's helped others or shown improvement.'

For Spray, this is the latest chapter in a decades-long love for running. 'It has given me so much throughout my life,' he explains. So I want to give something back. And to be part of Sinfin club, and to see it doing so well, is the greatest feeling.'

sinfinrc.co.uk



WHAT THEY SAY

'lt's given me motivation, as running through the countryside improves my wellbeing. It's changed my life and given me confidence. I found a job this year because of my increased confidence. It's given me a social life that I didn't have before.' **Dan Winter**

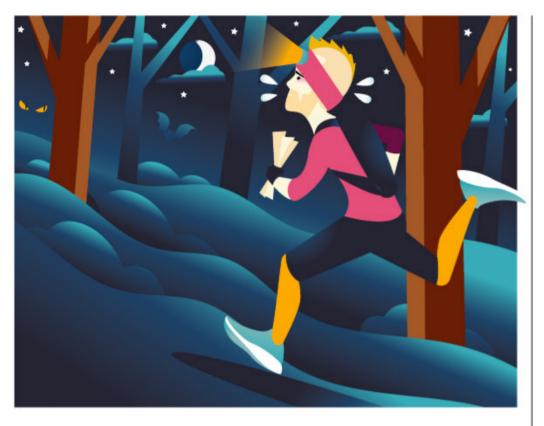
'l've been a member of SRC for over 25 years. What I like is the diversity that the club offers. We have one of the most active teams of runners in Derbyshire. Seeing new, previously non-runners blossom is just so fulfilling.' **Julie Heithus**

> (Left to right) James Spray, Dan Winter and Chris Morrison





FUMBLING AROUND FOR BOOKS IN WOODS AT NIGHT



ello, my name is Damian and I have a running problem. Namely a long-distances-in-lumpy-places running problem. Probably because I have a just-won't-die midlife crisis and low self-worth. But I also just love running.

It started 12 years ago. I ran the Bath Half and just knew I needed more Jelly Babies and DOMS in my life. I ran my first marathon the next year dressed as a toilet. (Yes, I looked a bit flushed.) Soon, I learned that people ran up and down hills on trails, and some even ran further than 26.2 miles.

I got carried away over the next few years. I ran the 105-mile Ultra-Trail du Mont-Blanc a few times, the Spine Race, the Dragon's Back Race and got selected for the GB Trail Running team. I still don't understand how all that happened. I guess if I get into something, I really get into it.

The secret to ultramarathon running is that if you just keep things easy, and keep stuffing cake in your cakehole, you can go on almost indefinitely. Twelve years later, I'm still really into experimenting with running long distances in lumpy places – bimbles, if you will. Recently that took me to Frozen Head State Park, Tennessee, and the Barkley Marathons.

This 'marathon' is a bit different. Instead of noisy crowds and a garish free T-shirt, 40 people aim to run five 26-mile loops in the woods, ripping pages from books to prove they followed the unmarked route, after a man in a hat (Lazarus Lake) lights a cigarette. Despite a 60-hour cut-off, since 1986, only 15 people had completed Barkley, partly because there's approximately 13,000ft climb per loop.

The event sounded so deliciously impossible, I found myself powerlessly drawn towards it. Because who doesn't love glorious failure?

DAMO'S Dictionary

Readers of this column are likely to encounter certain recurring words, the definitions of which are provided below:

Bimble

A leisurely foot-powered journey, often of long distance.

Lumpy

A misleadingly cuddly term for unrelentingly hilly terrain.

Tea A hot beverage that bestows magical powers of endurance.

I stuck with local man and Barkley finisher John Kelly for the first loop, to learn all I could. The terrain looked the same in almost every direction: steep, brown woods, while the books had titles such as *When All Plans Fail* and *Last Will And Testament*.

Like an annoying gnat, I stuck with John for the second loop, too, which was anticlockwise and in the dark. And the third loop, which was anticlockwise but in daylight. I was starting to get a bit seasick.

The madness begins on the second night. We tried power naps, but they failed. We/I got a bit lost. It was getting more confusing and I was suddenly alone. But I finished the fourth loop with minimal hallucinations.

Twelve hours lay between me and history. But I'd had no sleep. That first book on my anticlockwise loop five had been easy coming clockwise, but now it was awol. You must understand: *I* wasn't topographically embarrassed. The book was. I heard people talking, but no one was there. And no book.

I couldn't go on without a page. So I returned to camp to see my friend and The Green Runners co-founder Jasmin Paris record the furthest ever run by a female at Barkley and later, three more finishers, including John.

The Barkley is a Kafkaesque hell. And by 'hell', I mean a confusing outdoor library. It was much more fun than it probably sounds.

My running problem may have become a Barkley problem. If I'm let in again, I'll need to work on my nav skills, sleep-deprivation tolerance and perhaps train as a librarian.

Damian is an Inov-8-supported ultrarunner, coach, author of *We Can't Run Away From This* and *In It For The Long Run*, and co-founder of The Green Runners



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RUNNING HISTORY REMINDS US WE'RE PART OF A GREAT RACE



WORDS TO GIVE You wings

'If you don't think you were born to run, you're not only denying history. You're denying who you are.'

The words of author Christopher McDougall remind us that running is a fundamental part of being human: it's what makes us, us. 'harriers', meaning 'hare hunters', to describe cross-country runners.

But it was New Zealand runner Allison Roe's story I found most enthralling. In 1981, she won the Boston Marathon and New York City Marathon, becoming only the second woman to accomplish the feat in the same year. Her remark of, 'Impossible! Must have been a power cut,' when she saw her time of 2:26 on the clock at Boston made me laugh out loud. As a hypnotherapist, I was delighted to read that she credited a breakthrough in her training to self-hypnosis. 'A record is only a barrier in your mind and a fear of the unknown,' she said.

When I wrote to Roger to say how much I'd enjoyed the book, I shared that, as the slowest runner I know, I initially didn't feel like a 'real' runner. 'It wasn't until I immersed myself in our sport by subscribing to *Runner's World* and reading every running book I could lay my hands on that I began to feel truly part of it,' I wrote.

'I totally agree with you about how to feel like a real runner,' he replied. 'It always disappoints me that people put so much effort into their running but won't do the slightest bit of reading to understand its significance. The history is inspiring because it gives us a sense of contributing to a tradition.'

So as I sit here in Cape Town taking my dad on daily outings to make the most of his final weeks, I reflect with gratitude on the tradition that I'm part of. My ancient ancestors ran, my mum and dad ran, and I'm eternally grateful that I run, too.

Lisa is the author of two bestselling running books, *Running Made Easy* and *Your Pace or Mine?* Her latest books – *Travel Seekness* and *Travel Agents* – both contain chapters about running and have been released as audiobooks

e has weeks or months, not years,' my dad's GP told me. The news that my father's prostate cancer had metastasised to his pelvis was hard to bear. My husband Graham's lung cancer also spread to his bones and he had an agonising few weeks before he died, so I knew a long and difficult journey lay ahead. The thought of my dad not being able to walk was almost unbearable: he'd run 5K a day since boyhood and I braced for the day I'd have to tell him to use a wheelchair. After binge-watching drivel to keep my mind off things,

I remembered that my friend, Roger Robinson, had sent me a copy of his new book, *Running Throughout Time*. Roger is a renowned running historian whom I met at a running congress in Prague. His after-dinner speech where he described hearing the crowd chant Emil Zátopek's name as he won the 10,000m final at the 1948 London Olympics had given me goosebumps. Zátopek's widow, Dana Zátopková, herself an Olympian, was in attendance and we learned that, despite being the only runner to win gold in the 5000m, 10,000m and the marathon at the same Games, her husband had been stripped of his army ranking when he opposed the Soviet-led invasion of Czechoslovakia. Forced into manual labour and poverty, the couple were so poor that Emil used his wife's Olympic gold medal-winning javelin to fashion a broom handle when theirs broke.

I devoured Roger's versions of the greatest running stories, ranging from the Greek mythological character Atalanta, who was raised by bears and vowed to marry only the man who could outrun her, to Roger Bannister's four-minute mile. I learned that the Royal Shrewsbury School Hunt was where cross-country began. Their runs resembled hunting in that they followed a trail, which gave us the term

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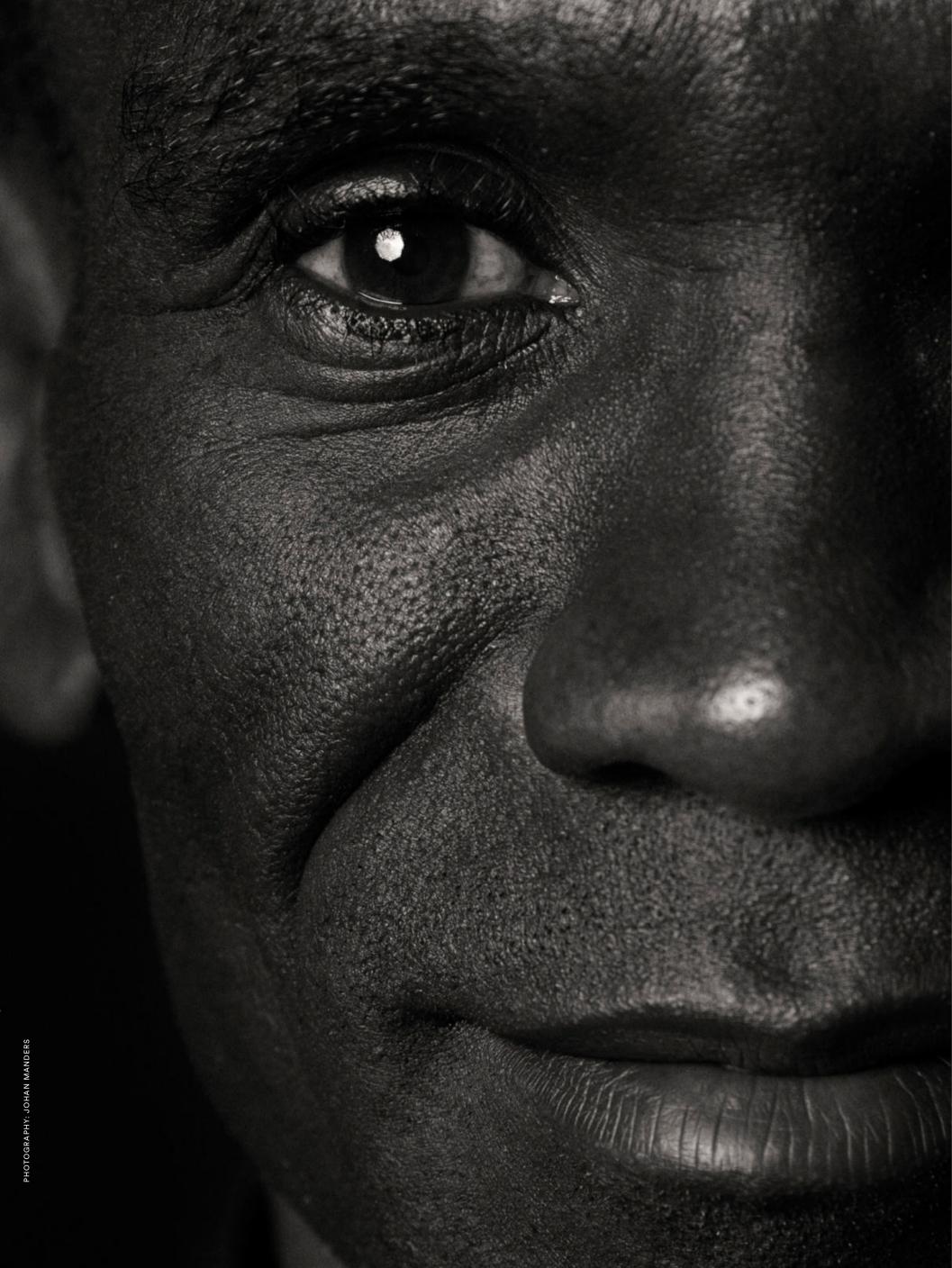
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THE GREATEST MARATHON RUNNER IN HISTORY HAS ALREADY DONE THE IMPOSSIBLE, BUT ELIUD KIPCHORE HAS MORE HISTORY TO MAKE. OVER THE NEXT 16 PAGES, WE LOOK AT KIPCHOGE MIND, BODY AND SOLE TO UNCOVER WHAT DRIVES HIM, THE SECRETS OF HIS TRAINING AND THE TECHNOLOGICAL LEAPS ON THOSE FAMOUS FEET



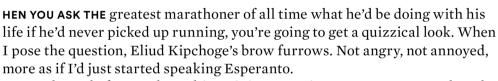
Eliud Kipchoge takes a quiet moment at home in Eldoret, Kenya, to read a book

ELIUD KIPCHOGE'S HIGHER PURPOSE

DESPITE A SINGULAR FOCUS, HE HAS AMBITIONS THAT GO FAR BEYOND RUNNING

WORDS: DAVE HOLMES

034 RUNNERSWORLD.COM/UK JULY 2023



It's the end of a Monday at his training camp in Kaptagat, Kenya, where he arrived this morning after spending most of the weekend with his wife, Grace Sugut, and their three children at home 20 miles away, and where he'll stay until he goes back on Saturday, as he does each week. Monday's work is done (a long-ish run in the morning and an easy hour in the afternoon), and dinner awaits.

So far in our talk, Kipchoge has been affable and polite. In conversation, as on the course, he presents himself as the epitome of clean living, clean training and clean thinking. He is a devout Catholic. He's had the same coach – 1992 Olympic steeplechase silver medallist Patrick Sang – for more than 20 years. He eats well, runs hard and reads those inspirational books you see in airport bookshops (his all-time favourite is the motivational fable *Who Moved My Cheese?*). If not for his wife and kids, we'd call him monastic. His answers rarely stray from the subjects of a positive mindset and dedication to peak performance, and when they do, like a patient coach, he leads them gently back.

In a world where we're used to sportspeople being intensively media-coached, it doesn't take the greatest of cynics to question whether Kipchoge's relentless positivity is merely PR polish. But Eliud Kipchoge exudes positivity in such a natural way that after meeting him, you feel it's all 100% sincere. Talking to him, and experiencing how quickly and reflexively he comes back to it, you don't get the sense that he's working a brand, or even trying to fool himself. It seems that a positive mindset is a thing he has committed his full self to.

This is a man who has done the impossible by running the first sub-twohour marathon, and the merely improbable by becoming a globally famous long-distance runner. He's set the world record multiple times and it seems inevitable he will break it again. Life is running for Eliud Kipchoge. Life has to be running. None of this is possible any other way. It's why the thoughts have to be positive, the stomach has to be full, the wife and kids have to be just far enough away. This life is a good life, and it's the result of singular focus, and positive thinking, and singular focus on positive thinking. Every thought has to be locked in on the here and the now, and the good.

Let the merely great waste their time on thoughts like where else they might have been. To be the best, the very best who ever was (and quite possibly ever will be), you need to be all in on where you are now and where you want to go. Where would he be if he hadn't started running? He says he doesn't really think about it.

Runner's World: You said before April's Boston Marathon that you thought it would be the toughest race of your life. How did it feel on the day?

MIND

Eliud Kipchoge: 'It was a difficult day, but this is sport: you win and you lose. And it was one of the days when I could not succeed. I was feeling good before the race, but struggled after 30km with my leg. I pushed myself to finish the race. I always tell myself to learn from good and bad experiences, so it's up to me now to take lessons from this race. I must say that even though it was, in terms of my performance, not the best experience, I felt massively supported by the crowds along the course and I want everyone to know that that has helped a lot.'

RW: So even though it was a difficult day, you believe you can learn from it? **EK:** 'I learn from every marathon I run, from the successes, but also from the moments when I don't succeed. I'll look back on the race with my team, reflect and take the lessons into future preparations and I'm sure that will help me.'

RW: Now Boston is done, have you decided on your autumn marathon plans? **EK:** 'I'll let it all sink in, relax a little bit with my family and then I'll sit down with my team to make plans for this autumn.'

RW: Whatever the goal race may be, what does a typical week at training camp look like for you in the build-up to a marathon? **EK:** 'Monday, I have a long run for an hour and 20 minutes, and then an hour in the evening. Tuesday, I will have a track session, totalling 15km. And later that day, I'll have easy runs for an hour. Wednesday will be like Monday. Thursday I will have a long run, 30km or 40km. Friday will be similar to Wednesday and Monday. Saturday is a big day with the fartleks and an easy run in the evening. And Sunday is a long run day, it's an easy 30km or 25km. So that's how my week will be.'

RW: What does your nutrition look like throughout the day?

EK: 'I eat normal food, normal Kenyan food. I eat beef and ugali [a traditional Kenyan porridge made from maize or corn meal] in the evening. Lunchtime, I just take beans and potatoes and rice, and I'll take bread and tea in the morning. So it's simple, but a well-balanced meal.'

RW: Obviously, recreational runners don't have the time – or the physiological ability – to train as you do. What's your training advice for amateur runners? ►



I will embark on mentoring the next generation, educating young people on many issues: on investment, on general life, on discipline, on what's required as a human being' **EK:** 'For the social runners I coach, they have limited time because of their work, because of their responsibilities. They should try to devote an hour every single day to train, if their schedule allows. If not, then make sure to run three or four days a week. But make sure to end a week, on Sunday or Saturday, with a very easy long run, an easy two hours to make the body rejuvenate and get ready for another new week.'

RW: Is there a single piece of advice you've been given by your coach, Patrick Sang, that really sticks with you? **EK:** 'One thing that he gave me 20 years ago is that he told me, "You should treat yourself as the best." That's what I'm doing. I respect my training, I respect everything. But when I'm on a starting line, I treat myself as the best one there, the best trained, the best planned and the one who has done more training than anyone else. That's what I'm carrying for the past 20 years.'

RW: Do you instil your work ethic into your kids? Presumably their upbringing has been different from yours... EK: 'Their upbringing is totally different. But I have tried to explain to my kids that I'm away from Monday afternoon to Saturday morning because I want to train hard and compete in higher races, break world records, so all of us will enjoy life. So my children understand that their daddy is working hard all the time in order for them to have food on the table, to go to a good school, to be happy and live in a good way.

I approach them to understand that if you work hard, you can achieve it. And if you work hard, you can set a standard and get something. Because they know that if I win a race, they're happy, and they'll go places, they'll go to school, they'll be comfortable. So they're also working hard knowing that it's a responsibility.'

RW: What if one of them decided to become a marathoner? Would that make you happy? Or worried?

EK: 'It'd make me happy. But if one of them decides to be a tennis player or a footballer, I'll give them my support. I give them autonomy to choose. Sometimes they run, they bike, they go and play football. As the time goes by, they'll choose the sport that they like.'

RW: Do you ever have training days that don't go as well as you had hoped? EK: 'Absolutely. I have had days when my body cannot respond well. But those are the challenges in running. Because all the days are not equal. Today, you have a lot of energy. Tomorrow, it's halfway, the



next day is okay. When the day is not promising, then I try to do what I can. I try to push, and then I call it a day.'

RW: In that whole process, is it just you talking to yourself?

EK: 'I normally talk to myself. I normally audit what has been happening for the past year, to see what's going on. And I know that this is just temporary. So I talk with myself. And the next day, when I wake up, I'm energetic again.'

RW: You're the most famous marathoner of all time. Is that something you think about, or do you try to keep that out of your mind? **EK:** 'I do think about it, but I don't get answers with my thoughts. The beautiful part is that I'm instilling inspiration to many people in this world and that makes me really feel happy.'

RW: What's the most challenging part of your fame?

EK: 'All the responsibility that's on my shoulders, from the race organisers, sponsors, all my fans – physical fans and also on social media channels. There's a lot going on in my life, but I need to move on and show them that together we can make this world a running world.'

RW: You've said that religion is extremely important to you, and that it's kept you from doing things that would take you off the right training path. What did you mean by that?

EK: 'Just being disciplined. It brings me from outside the course and puts me inside the course so that I'll actually enjoy my life by going to sleep, rather than going to a club.'

RW: You do a lot of philanthropic work. Is there a project that you're most proud of? **EK:** 'I'm most proud of the library that's been constructed in my home area. It's a huge library, and I want to build libraries like it across the whole country. Another thing is I adopted a huge forest here in my training area. We have plans to plant 2,000 trees in May. I'm proud of the conservation and education, and I think one day it will spill to the whole country and even across East Africa.'

RW: What do you hope your legacy will be? How do you want to be remembered? EK: 'I want to be remembered by people knowing that no human is limited. Above all, I want to make this world a running world. I'll be a happy man if all citizens of the world can run.'

RW: Unfortunately, it seems doping is still an issue in running. What do you

think needs to change so that athletes don't feel they need to cheat?

EK: 'I need people to know that sport is a career. And it's a career that builds logically, that grows slowly until you get where you want to be. If you go to the gym, you cannot get a lot of muscles if you train for 10 hours. But you can get a lot of muscles when you go for six consecutive months and maintain discipline. What I mean is this: people should train and wait for the money to come slowly. They should not rush for financial gain. What makes people dope is financial. What makes people dope is pushing them about their performance.

It's unfortunate that people are not learning. It's unfortunate that doping is around us, that people are still doing it for financial gains. If all of us can get the knowledge and treat sport as a real profession and treat the sport as a career that you need to build slowly, and understand that the only way to build is to train in a clean way... you'll get a lot of people interested in you.

If all of us can recognise that what we're doing is for our lives and for our next generation, doping will go away. But we need a lot of time to teach the young generation and tell them, "Hey, let's treat ourselves in a positive way, and treat the sport in a positive way, by making it a real profession and building it as a career."

RW: Aside from winning whatever marathon you decide to run this autumn, what's left on your list of things you want to accomplish in life?

EK: 'A lot. I've never run New York. New York's still there. I'll be running other big city marathons in the future, visiting all the countries, even running in Iceland. Running in the Caribbean and, hopefully, one day running across Haiti.'

RW: Have you thought about what your life might look like once you eventually leave running behind?

EK: 'Yes. I will embark on mentoring the next generation, educating young people on many issues: on investment, on general life, on discipline, on what's required as a human being. We are all human, but you need to be a real human being whereby we respect each other.

I'll also put my energy into my foundation, the Eliud Kipchoge Foundation, which deals with education, conservation and health. And above all this, I want to spread the word of positivity and running. I want to have more followers – a billion followers – on social media channels to help me push the idea of running. I always tell people health is our wealth, so I want to make people healthy through running.'



UPGRADE YOUR RUNNING WITH THESE FIVE KEY LESSONS FROM THE MARATHON GOAT AND HIS TEAM

(SORTA)

NEOS

WORDS: SARAH GEARHART

ONE OF THE MOST remarkable things about the fastest marathoner in history is how unremarkable – and accessible – his training is. He has the best resources in the world at his disposal, but rather than relying on treadmills that cost more than a sports car or recovery devices worthy of Nasa missions, he follows simple training tenets that maximise how he recovers, what he eats, his mindset and the conditioning he does after his runs. We talked to Kipchoge and the team at his Global Sports Communication training camp in Kaptagat, as well as outside experts, to find out how anyone can apply his strategies.

Eliud Kipchoge takes an easy morning run through Eldoret, Kenya

SLEEP LIKE YOUR RUN DEPENDS ON IT

ELIUD KIPCHOGE SLEEPS up to nine hours at night, even after taking up to a two-hour midday nap. Most of us don't have either the time or 120-mile weekly workload to justify clocking up 11 hours of sleep, but we can follow Kipchoge's sleep hygiene cues.

At least 30 minutes before bed, he turns off all electronics. The habit reduces his exposure to blue light, known to delay the release of melatonin, leading to a decrease in sleepiness, says Kannan Ramar, former president of the American Academy of Sleep Medicine. Then, instead of scrolling through Instagram or Facebook, he winds down by reading at least two chapters of a book.

'If I have enough sleep, my body and my mind are free of stress and ready to go with the programmes,' says Kipchoge. While you're down, your body is doing more than resting. Crucially, your pituitary gland releases growth hormone, which helps your body to grow and repair, says Dr Ramar.

Most runners don't need a nap if they get the recommended seven to nine hours on a consistent basis, Dr Ramar says. But when you don't hit that target, naps can help counter – but not completely fix – short-term sleep loss and provide an energy boost for a late-day run, he adds. Dr Ramar suggests a 20-minute nap between midday and 3pm to relieve fatigue. Capping the power nap at 20 minutes will prevent you from entering a deep stage of sleep and feeling groggy after waking, he says.



REVIVE SORE MUSCLES WITH AN ICE BATH

TWICE A WEEK, Kipchoge takes a 10-minute plunge in his camp's ice baths to aid his post-run recovery. The science behind cold water immersion (CWI) therapy is still being unravelled, but so far it's promising. 'Most research shows that, over 48 hours, athletes have reported an improvement in delayed onset muscle soreness (DOMS) and sometimes corresponding improvements in strength and/or flexibility,' says Rebecca Stearns, assistant professor of kinesiology at the University of Connecticut, US.

Cold water reduces the body's temperature, which narrows the blood vessels. This flushes metabolic waste from inflammation out of muscles to speed recovery, says Dr Stearns. Water temperature between 10°C and 15°C for 10 to 15 minutes isn't too uncomfortable and yet cold enough to produce the results, she adds.

You can set up an ice bath at home by filling your tub halfway with cold water. Then, depending on your tap temperature, add ice to bring the temperature down. Dr Sterns suggests trying CWI once or twice a week and checking with your doctor to ensure you don't have any medical issues that make ice baths unadvisable.

'It's very intense,' says Kipchoge. 'It's not for everyone. You need to learn to relax and learn to absorb pain.' ►

WHAT IS AVAXHOME?

UPGRADE YOUR DIET WITH PROTEIN AND PROBIOTICS

KIPCHOGE HAS ALWAYS maintained a highcarb diet, but after narrowly missing out on breaking the two-hour barrier, running 2:00:25 on the Monza F1 track as part of Nike's Breaking2 project, he began working with exercise biochemist Armand Bettonviel to improve his nutrition and push his performance. Bettonviel, who develops nutrition plans for elite athletes, sought to up Kipchoge's protein intake to aid his recovery as well as help to build and maintain lean muscle.

'I've noticed a difference since I started to be serious about nutrition,' Kipchoge says. 'Recovery is very fast, I have a lot of energy.' While the precise detail of Kipchoge's protein intake is confidential, Bettonviel suggests runners aim for 1.5g to 2g of protein per kilogram of body weight each day.

Kipchoge's meals feature Kenyan staples such as ugali (corn-flour porridge), potatoes, rice, chapati (wheat flatbread), managu (an iron-rich leafy green), beans, whole-fat milk, eggs, chicken and beef. Meat is only served on about half of the days in the week, so to hit his protein goal, Kipchoge drinks mala, a local sour milk, says Bettonviel. Every 170ml has about 7g of protein, making it comparable to the kefir found in most dairy aisles.

Bettonviel also introduced a highprotein porridge to the menu (Kipchoge eats it with fruit after training), made with whey protein and teff, an ancient grain that offers 10g of protein per cooked 180g. You can DIY by mixing half a scoop of protein powder with wholegrain teff – widely available online – and cook it similarly to porridge.



MEDITATE TO BUILD MENTAL STRENGTH

KIPCHOGE IS AN ESPECIALLY mindful runner, says his coach, Patrick Sang. While training and racing, he focuses on his breath and his movements and aims to minimise outside distractions. It's a skill that helps him embrace the pain and challenges of a marathon.

Mindfulness – a practice of focusing your awareness on the moment with a kind and curious attention and a non-judgemental attitude – can benefit any runner, says Corrie Falcon, director of mindfulness-based training for athletes at the University of San Diego Center for Mindfulness, in the US. Resting your attention on elements of the present moment, such as your breath, heartbeat, or even a drip of sweat, can prevent you from getting caught in an inner dialogue mid-training or competition that may unravel your focus.

'In moments of high stress before or during a race, mindfulness has been shown to reduce the production of stress hormones, reduce blood pressure and heart rate, improve emotional regulation and promote relaxation in the body,' says neuroscientist and meditation teacher Fhatarah Zinnamon.

Kipchoge credits his focused, spartan lifestyle for developing mindfulness, but it can also be cultivated through a consistent mindfulness routine. Even just 12 minutes of guided meditation five days a week for one month can be effective, says Amishi Jha, a professor of psychology at the University of Miami.

If guided meditation seems outside your comfort zone, Falcon recommends a strategy you can try while running. She describes it as a 'sense practice'. Run in silence. For two minutes, focus on what you see, then focus on sound, followed by what sensations you feel and then smell. 'And when you have a thought, label it, "thought" or "thinking" and return to the present-moment experience through the senses,' Falcon adds.



5 BUILD BONUS ENDURANCE ON A BIKE

TO BOOST HIS TRAINING volume without increasing his risk of a running injury, Kipchoge rides a stationary bike for an hour twice a week after his runs. Cycling is a concentric (shortening) muscle-contraction activity, which is easier for muscles to recover from, says coach Bobby McGee, who has worked with runners and triathletes (including Olympic gold medallist Gwen Jorgensen) for more than three decades. In running, the primary loading is eccentric (lengthening), which is more demanding and damaging. 'A one-hour endurance run is limited by leg fatigue, not heart and lung fatigue. A two-hour ride doubles the cardio conditioning, but has minimal leg muscle damage,' says McGee.

Kipchoge spins at an easy pace, which he says also helps reduce muscle soreness. 'Cycling is a far more effective recovery modality than an easy run, especially for bigger runners with a slower cadence,' says McGee. You can have too much of a good thing, though: McGee recommends cycling no more than twice weekly and for less than 20% of your overall training time.

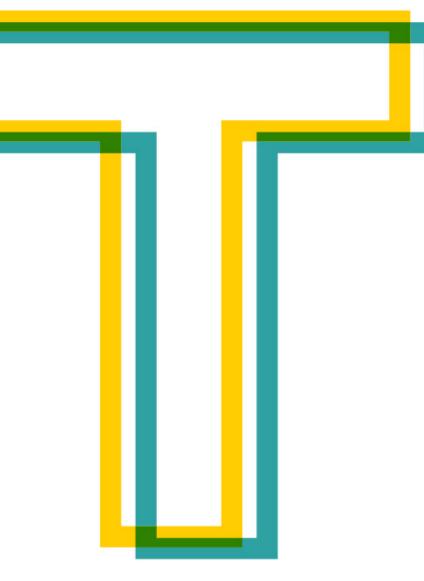
INEC

Eliud Kipchoge wore the Nike Alphafly 2 for his 2022 Berlin Marathon win. His race there lowered the world record to 2:01:09

THE SCIENCE BEHIND THE FASTEST MARATHON SHOE EVER

THERE ARE FEW SECRETS SURROUNDING NIKE'S ALPHAFLY, YET SCIENTISTS STILL STRUGGLE TO EXPLAIN WHY THE ALPHA SUPER SHOE IS SO SUPER

WORDS: JOHN TYLER ALLEN



HE PUBLIC'S FIRST LOOK at Nike's Alphafly wasn't pretty. In August 2018, the anonymous Instagram account @protosofthegram posted a blurry, cropped photo of disembodied ankles sprouting from a nondescript black upper attached to a chunky slab of what looked like the Vaporfly's ZoomX foam. The caption stated that an air unit was hidden in the forefoot and that the legs belonged to Eliud Kipchoge. This was the first hint of how Nike planned to follow up on its record-breaking Vaporfly, though Kipchoge had already been testing prototypes since January.

In the two years leading up to that point, Nike's new Vaporfly, then unique for its thick, bouncy Pebax foam midsole and carbon-fibre plate, had upended the less-is-more maxim governing racing flats by winning – sometimes sweeping – nearly every major marathon it entered. And in the month after those first mysterious photos, Kipchoge, wearing Vaporflys, would claim his first marathon world record in 2:01:39 at the 2018 Berlin Marathon.

More photos of the new prototype, midsole seemingly (and bewilderingly) thicker than the Vaporfly's, surfaced every few months until, in October 2019, in Vienna, Kipchoge wore a polished version of the still-unnamed shoe to clock the first sub-two-hour marathon in recorded history at the Ineos 1:59 Challenge. The following June, the Air Zoom Alphafly Next% was released and, last year, was updated as the Alphafly 2. Meanwhile, Kipchoge has worn Alphaflys to lower his official world record to 2:01:09 and claim his second Olympic marathon gold medal.

While the new shoe, with its added air chambers, is an obvious evolution from the Vaporfly, the Alphafly is mechanically familiar: a generous block of responsive foam stabilised by a heel-to-toe carbon-fibre plate. That's no longer a mystery. But how, exactly, does that system translate physiologically to the fastest marathon(s) ever run? That's what biomechanists are still trying to work out.

THINKING BIG

THE PREMISE OF THE Alphafly is simple, says Carrie Dimoff, the Nike director of innovation who leads the Alphafly development team. 'If we can store more of your energy, we can return more of that energy and you can run more efficiently.'

All of running is energy maintenance, from our shoes to our stride. 'We're essentially giant springs as we run,' says Geoffrey Burns, a sports physiologist at the US Olympic Training Center. In the air, between footfalls, we're gathering potential energy both from the forward motion of our previous step and as gravity pulls us down. When our feet strike the ground, our bodies begin accepting and storing that now-realised potential energy, mostly in our muscles and tendons. Then, in dynamic concert, these muscles and tendons recycle that energy, adding a bit of effort to maintain our kinetic momentum, and push us forwards off the ground and back into the air. Researchers quantify how much energy we each require to run – our 'running economy' – by measuring the amount of oxygen our muscles demand during an effort we can sustain for hours.

In 2017, researchers from the University of Colorado and Nike published a study in the journal *Sports Medicine* showing that runners averaged a 4% improvement in running economy wearing a Vaporfly prototype compared with when they wore Nike's racing flat, the Zoom Streak 6, or the 2016 Boston Marathon-winning Adidas Adizero Adios Boost 2, also a flat. Months later, Nike tied its shoes to this improved running economy when it launched the Zoom Vaporfly 4%.

The highly cushioned Vaporfly was a paradigm shift, sending shoe developers, footwear researchers and runners on a quest for shoes promising biomechanical efficiency. 'We'd been saying forever that minimal was better,' says Dimoff. 'We needed these specific study numbers to explain why people should trust, suddenly, this very tall shoe.'

The idea that a shoe with those attributes could be fast had been a revelation at Nike, too, and in June 2016, almost a year prior to Kipchoge's first sub-two marathon attempt wearing Vaporflys, a development team was already working to see how far they could push this cushioned propulsion. 'We weren't looking to invent a companion shoe to the Vaporfly,' Dimoff says. Instead, they were asking how they could make the system more energy efficient.

'We started thinking about the Nike Zoom Air technology,' says Dimoff, referencing Nike's trademark air-filled rubber cushioning, which debuted in the Air Tailwind running shoe at the 1978 Honolulu Marathon. As a component, they knew these air pods could return more energy to the runner than Nike's springiest foam. 'Our hypothesis was that we could make the system more efficient by swapping some of the foam for air,' says Dimoff.

To find out, Nike researchers conducted mechanical tests on individual components – air units, foam, plates – to answer some initial questions: how much energy was stored? What shape is the deformation curve? Which returns the most energy?

They designed and built the air units first, then began cobbling together prototypes around them. Systems of components came next, with partial builds







Everyone at the time made a huge deal about this carbon-fibre plate, but that foam is the magic, that's the game changer'

put through further mechanical testing. By late 2016, wear-testers were already putting the first of hundreds of prototypes through their paces on treadmills and across Nike's campus. Throughout the process, Dimoff says, they were looking for 'the right balance between what the science told us was performing the best and what the runners told us was the most comfortable; the ones they had the most confidence in'.

Finally, in January 2018, Dimoff and team took the first of at least five rounds of prototypes for Kipchoge to test at his training camp in Kaptagat. 'We think we have something even better,' the design team had told him. Kipchoge was game to try it. 'He just put them straight on and ran,' says Dimoff. 'There was no hesitation. He just saw innovation.'

FOAM TRUTHS

THE HEART OF THE ALPHAFLY – and its Vaporfly cousins – is not the muchdiscussed carbon plate, but the ZoomX foam. ZoomX is Nike's custom formulation of Pebax, a proprietary polyether block amide (PEBA) thermoplastic elastomer (flexible plastic). A PEBA's chemical structure can be precisely ordered to exhibit a staggering range of properties: hard enough to form the top layer on skis, soft enough to be worn as a waterproof jacket, or, as with ZoomX, puffed into a foam. Nike has been deploying it as the hard outsole on the bottom of its cleats since the 1990s and, beginning in 2000, as a foam plate, in the Shox R4 running shoe.

This capacity for precision tuning is also what allows PEBA foams to be made softer or firmer, bouncier or more rigid, depending on the goals of the application. Nike declined to discuss the details of the development of its Pebax foam, but did say it manufactures ZoomX to produce different benefits for different shoe models. 'In the Alphafly and Vaporfly, we're manufacturing [ZoomX] to produce the most energy return,' says Nike Running footwear product manager Elliot Heath. 'Whereas, in the Invincible [trainer], we're manufacturing the same material a little differently to produce cushion for everyday runs.'

Critically, for the Alphafly and Vaporfly, PEBA could be optimised to produce a foam with properties previously thought contradictory: tall but lightweight, plush but springy. In a shoe midsole, all foam – like our legs – acts as a spring: it absorbs and stores potential energy when compressed by the foot (known as compliance) and returns a portion of that energy as the foot rolls on to its toes and pushes off, when the foam rebounds to its original shape (known as resilience).

Midsole foams – EVA, TPU and PEBA – vary in their capacity for compliance and resilience. And none give back as much energy as they get. At its best, the standard EVA foam used in most shoes returns around 65% of the energy put into it, Burns says. The Adidas Boost 2's fairly unique TPU foam, measured in the original Vaporfly 4% study, returns a laudable 76%. And in that same study, the Vaporfly's ZoomX foam was found to return an unprecedented 87%. 'Everyone at the time made a huge deal about this carbon-fibre plate, but that foam is the magic, that's the game changer,' Burns says.

But the amount of energy midsole foams return is only half the equation, Burns says. It depends on how much is stored. Consider the thin rubber soles on minimalist shoes, he says. They return nearly all the energy put into them. But because they're not compliant and can hardly be compressed, they store virtually no energy and return little to a runner.

Likewise, the energy returned by the three foams in the Vaporfly 4% study – 65%, 76% and 87% – was a percentage of the total energy those foams were able to store to begin with. And when the researchers measured this storage capacity, they found the Vaporfly prototype's ZoomX, when compressed, stored nearly twice the energy of the other shoes. When this superior energy storage capacity was compounded by the foam's superior energy return, overall, the Vaporflys returned more than twice the amount of energy per step. The authors credit 'its substantially greater compliance rather than the greater percent resilience'.

The foam's weight, or lack thereof, is what makes all this possible. 'For a very resilient spring, the longer it is – the stack height of a shoe – the more energy you can store,' says Burns. But increasing the stack comes with a weight penalty. Studies have quantified this 'cost of cushioning'. In a pair, every 100g of added weight per shoe reduces running economy by roughly 1%. The Adidas Boost 2's TPU improved on traditional EVA, but that racing flat weighs the same as the Alphafly 2, which stacks its lightweight ZoomX foam twice as high. 'So,' says Burns, 'a super shoe is not just a high-energy return foam, it's not just a compliant foam, it's not just a lightweight foam. A super shoe needs all three of those things.'

But what about that carbon-fibre plate? When the Vaporfly debuted, despite the bouncy, lightweight foam, the running world seized on the plate and armchair biomechanists labelled it a spring that propelled the runner forwards (akin to the carbon-fibre blades used by some Paralympic sprinters).

Cries of technological doping rang out - at least until Nike's competition produced their own super shoes. A 2022 study in which Wouter Hoogkamer, who led the original Vaporfly study and now conducts research at the University of Massachusetts Integrative Locomotion Lab, took a saw to the forefoot of a pair of Vaporflys, making six lateral cuts through the bottom of the shoe and the plate, and then compared subjects' performance in them versus wearing an intact Vaporfly. While the study only tracked 13 participants, the sliced plates worsened subjects' running economy by only 0.5%. And, lining up with previous studies on carbonfibre plates, the intact Vaporflys produced longer ground contact time and a noticeable forward shift in ground reaction forces, suggesting the plate, instead of acting as a spring, is guiding forces into the forefoot, acting like a stiff lever, and increasing the stance's propelling phase.

This fits with Dimoff's description of the plate's purpose. 'It stiffens the shoe to reduce joint work and allow your stride to be more efficient,' she says. Highly pliant cushioning inherently lacks not only stability, but also coordinated forces. The plate brings the centre of pressure to where we need it under the foot, says Iain Hunter, an exercise science professor specialising in running biomechanics at Brigham Young University, US, who, in 2019, published a study in the *Journal Of Sports Sciences* independently validating the findings in the original Vaporfly study. During our ► footstrike, 'the force under the foot drifts forwards, builds and peaks around the middle of the time we're on the ground', he says. The foam compresses, storing energy, and then the plate, because of its rigidity, positions the foam to 'give that energy back close to the time the person needs it'. Imagine a tall, plate-less midsole made of marshmallow. Without the guidance of an internal structure, the edges would cave, the energy would disperse.

The plate's sculpted shape, with a spoon-like dip in the forefoot, makes this choreography possible. 'We want your foot to roll efficiently,' says Dimoff. 'A flat plate would be a slappy experience. That would actually add work.'

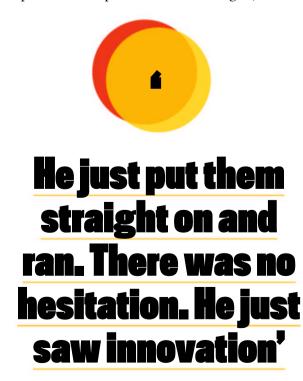
The Alphafly uses the same plate, though its shape has been tweaked to distribute force across the dual Zoom Air chambers. 'When you put your force into the shoe, whether you're striking medially or laterally, the air's not shooting off to the other side and creating a tipping point,' says Dimoff. Tensile nylon fibres aid in channelling your energy back, tethering the bottom of each chamber to its top, creating a flat floor and ceiling, a puck-like shape that loads and returns forces vertically. The energy return of the chambers tests upwards of 90%, Dimoff says.

In summer 2021, Dimoff's team began Alphafly 2 prototyping with a new goal: improve the shoe while making its advantages accessible to more runners, those training to break three, four and five hours in the marathon. Wear-testing was expanded to more types of runners and the Alphafly 2's base was widened by a centimetre, the air chambers now sit on a sliver of foam, the heel drop was bumped from 4mm to 8mm and padding was added to wrap the heel and top of the foot in a closer, softer hug – an overall tune-up that increases lateral stability and smooths the transition into the forefoot.

The shoe's foam, plate and air units remain the same, running just as efficiently as the generation before it. Not that anyone but Nike knows exactly how or why any Alphafly always tests out on top.

SECRET SOURCE

THE ALPHAFLY'S EMINENCE is, theoretically, easy to explain: it's simply a better spring. But the world's top running biomechanists and kinesiologists have taken the shoe, or the Vaporfly, into a lab to define why they're superior to the super shoe competition that's emerged, and the





results are inconclusive. They've essentially admitted as much. 'The better running economy... cannot be currently explained from a biomechanical standpoint,' a group of researchers from the University of Lausanne Institute of Sport Sciences and the Volodalen Swiss Sport Lab wrote in a 2022 *Footwear Science* paper. In the same issue, Benno Nigg, founder of the Human Performance Lab at the University of Calgary, Canada, and textbook-writing titan of the biomechanics field, notes Nike's foam-and-plate story, but concludes, 'They do not (publicly) provide a functional explanation of the mechanism by which these features could improve running performance.'

There are various theories, all backed by some evidence, on how these shoes improve running economy. None of it is conclusive, though some is converging. In both the original Vaporfly study and Professor Hunter's follow-up, subjects wearing Vaporflys showed slightly longer stride lengths. Professor Hunter's study also found those wearing Vaporflys ran with greater vertical oscillation, more bounce in their step, while Hoogkamer's study found they ran with greater ground reaction force. Are faster or heavier runners loading the foam with more energy and getting more returned? Maybe the tall, lightweight midsole is extending the length of the leg with a non-fatiguing material? Hoogkamer's study showed heel strikers saw slightly greater improvement in running economy than midfootstrikers. Are they utilising more of the foam? Several studies adding carbon-fibre plates to traditional midsole foams have shown the same benefits for heel strikers. Maybe these runners are simply leveraging the full potential of the plate?

Another 2022 *Footwear Science* study, by Dustin Joubert, professor of kinesiology at St Edward's University in Austin, Texas, presented results





from head-to-head research that measured the Alphafly against other current super shoes (the Hoka Rocket X, Saucony Endorphin Pro, Asics Metaspeed Sky, New Balance RC Elite, Brooks Hyperion Elite 2, and the Vaporfly Next% 2). On average, the 12 subjects showed the greatest running economy in the Alphafly, though the Vaporfly was a close second. But Professor Joubert doesn't know exactly why.

He found correlations hinting at how the shoes are working and who is benefitting, though with only 12 participants, none of the explanations 'popped out' as much as he would have liked. In agreement with Hoogkamer and Professor Hunter, Professor Joubert's study found the Alphaflys produced the longest stride length, and the shoe's lowest responders, those who saw the smallest gains in running economy, ran with lower vertical oscillation than the other runners. And the subject with the lowest vertical oscillation was the only complete non-responder to the Alphafly.

In a follow-up study, published this year in the *International Journal Of Sports Physiology And Performance*, Professor Joubert, with Burns, measured the running economy gains in subjects wearing Vaporflys while running 8:00 and 9:30-minute/mile pace, in contrast with the 6:00 to 7:00-minute/mile paces typically employed in these studies. The results showed the Vaporflys, at slower speeds, still improved running economy relative to a traditional shoe, but less so, with subjects averaging a 1.4% improvement and 0.9% improvement, respectively.

Observationally, to Professor Joubert, the studies converge. In Alphaflys and Vaporflys, larger ground reaction force – stronger, faster, bouncier running – seems to generate greater improvements in running economy. 'You can only get back what you put in,' says Professor Joubert. He thinks a runner's weight, too, could factor, especially in the bulkier Alphafly. 'If you're really lightweight and barely getting off the ground, how are you benefitting from these 40mm of cushy, stacked foam?'

The hypothesis gaining the most traction comes from Nike researchers' 2019 *Footwear Science* abstract, showing that a group of Portland Marathon finishers wearing the Vaporfly 4% exhibited lower blood markers for post-race muscle damage. Anecdotal evidence for this is strong as well: running long in the Alphafly or Vaporfly, your legs seem to last longer, they're not so taxed at the end and they're less sore the next day. 'Exercise physiology is coming to accept that muscle cramping late in the race has a lot more to do with muscle damage than hydration or electrolyte imbalances,' says Professor Joubert. 'From personal experience, the last marathon I ran, in the Alphafly, I was at mile 22 thinking, "What the hell is happening here? I'm not supposed to feel this good. When are things going to fall apart?""

But Professor Joubert and others agree that none of this is evidence that the Alphafly is the superior shoe, or that any super shoe will be super for everyone. Across studies, at all speeds, individual responses to these shoes and their components ranges from 3% detriment in running economy to something like a 6% gain. 'We each have a unique interaction with the ground,' says Burns. And this extends to shoes, too. 'The way you move through the footstrike and load that foam, and move over that plate, is going to differ for every single person.' He sees the leading hypotheses proposing why the shoes are beneficial (the foam is returning more energy to the runner, the plate is guiding contact forces, etc) and why some runners benefit from improved running economy and others don't (heel strikers or runners with higher ground reaction forces) - and he says they're plausible. 'But nothing clear yet.'

NEXT STEPS

IT'S ALREADY HAPPENING again. This time, the first hints of the next Nike super shoe popped up at the December 2022 California International Marathon – six months after the Alphafly 2's release – where a racer was seen wearing a prototype with a more angular chunk of white ZoomX under another plain black upper. At this January's Houston Half Marathon, Conner Mantz was spotted in similar shoes en route to his sixth-place finish. Both pairs appeared to have white tape concealing the air units. And then at the Tokyo Marathon in March, a handful of elites appeared with a polished version, complete with the Swoosh and visible air pods.

Nike remains tight-lipped; spokesperson Erin Byrnes declined to even call it an Alphafly, referring to it instead as the company's 'latest marathon innovation'. But the familiar air units and similar foam contours are compelling evidence for a system update. Compared with the Alphafly 2, the prototypes appear to add a foam midfoot. This could, says *Runner's World* US testing director Jeff Dengate, improve the shoe's transition from heel to toe-off. 'There's also less rubber used in the back half of the shoe. Nike probably didn't see much wear there, so the little patch there may save weight.'

Nike did share one detail, and perhaps it's the only one that matters: the fastest marathon racer of all time is currently training in the shoes. WORDS: SAM MURPHY

Running throug



Menopause can be devastating for runners, but new research and a more open conversation can navigate the challenges, helping you to emerge stronger, healthier and happier in the long run

menopause

When the symptoms started, I had no idea what was wrong. I was experiencing heart palpitations, my joints and muscles ached.

Even easy runs felt laborious, as if I was carrying an unseen weight. I felt low, too. Where had my mojo gone?

Unsurprisingly, the combination of these symptoms wreaked havoc on my running performance, so I began to race less often, and then not at all. I saw my GP, hoping to identify this mystery run-wrecking disease and was sent for tests: thyroid function, iron levels, etc. Nothing appeared to be wrong with me. I'm just past it, I thought.

Now I know different. I wasn't ill, or old; I was menopausal. Of course, the ageing process does impact performance, but the menopause years are particularly ravaging, mentally and physically. In a *Runner's World* poll, 83% of runners who had experienced menopause said it had affected their running. So it's important both we and our loved ones understand what we're up against.

Menopause has only recently begun to get the attention it deserves, after decades of being disregarded by the medical establishment and belittled with terms such as 'women's problems' and 'the change'. In a 2022 survey by the Fawcett Society, 44% of working women reported that their ability to do their job had been affected by the menopause and its symptoms, yet 41% had witnessed it being treated as a joke in the workplace. The upsurge in interest is thanks, in part, to public figures such as Davina McCall, Michelle Obama and Mariella Frostrup talking openly about their experiences. A TV documentary McCall made in 2021, *Sex, Myths And The Menopause*, had such an impact on British women – including a 30% rise in demand for hormone replacement therapy (HRT) – that it was dubbed the 'Davina effect'.

'It's great that, finally, there's now a conversation about menopause so women are educated and informed and can make the right choices about how to navigate it,' says Sam Brown, a GP who specialises in the menopause and co-director of the Bronte Clinic in London.

Kate Muir, producer of the McCall documentary, went on to write *Everything You Need To Know About The Menopause* (*But Were Afraid To Ask*), a book that taught me many things I wish I'd known sooner – what was happening to me? Was it normal? How long would it go on for? How could I mitigate the symptoms? It wasn't so much a matter of being too afraid to ask as simply not knowing that I needed to.

Once I started to discuss what Muir calls the 'sledgehammer' of symptoms with other runners, I realised there was an army of us struggling with joint pain, extreme fatigue, the sudden onset of soft tissue injuries, sleeplessness, heart palpitations, weight gain, loss of motivation and more. 'Longer runs have become a real struggle,' said one. 'I've had to pull out of races because I found the training so tiring.' Another, who had previously run both marathons and ultras, said that she sometimes found it difficult to shuffle around the block due to extreme tiredness, dizziness, nausea, hot flushes and excessive sweating.

The official definition of menopause is when a woman has gone 12 months without a menstrual bleed, signifying that her ovaries no longer produce oestrogen or progesterone. The average age women reach the menopause in the UK is 51, with the normal range considered to be between 45 and 55. The extended period that leads up to that point (known as perimenopause or menopause transition) averages four to seven years, and is a time when fluctuating hormone levels can knock you for six mentally, physiologically and in terms of your musculoskeletal health.

An overwhelming majority of women (estimates range from 75% to 90%) experience menopausal symptoms. According to the British Menopause Society, around a third suffer symptoms lasting seven years or more, while the Fawcett Society survey found 77% of women had at least one symptom they found 'very difficult', and 44% described



three or more this way. Any common menopausal symptoms – bloating, hot flushes, heavy or erratic periods, brain fog or sleepless nights – can affect your running, but some are likely to have a more direct impact.

Running into trouble

Back in my perimenopausal days, I pulled out of a 10K convinced there was something wrong with my heart. The beating was fluttery and irregular, and I felt weak. The St John Ambulance team monitored me briefly but saw no cause for concern. It was only recently I learned that 41% of women experience heart palpitations during menopause transition. 'Declining oestrogen can increase heart activity and lead to erratic beats,' says Dr Brown. 'It can also raise levels of the stress hormone cortisol, leading to palpitations.'

Aching joints and sore muscles – sensations you might associate with DOMS

RUN THE MENOPAUSE



Menopause has begun to get the attention it deserves

- are also common (again, thanks to declining oestrogen), with the Fawcett survey showing 67% of menopausal women experience them. 'Too often, this kind of pain isn't identified as being menopauserelated,' says Dr Brown. 'Partly because it's one of the earliest symptoms, so there aren't other telltale signs.' This is even more likely if you're a fit, healthy runner, as you may not be experiencing weight gain, hot flushes or sleeplessness, leading you to dismiss menopause as a cause. If you're in the ballpark of perimenopause or menopause and start experiencing what Dr Brown describes as 'feeling old in the mornings', it's something worth addressing.

Then there's that overwhelming fatigue. A staggering 84% of menopausal women experience exhaustion and/or sleeplessness. 'Constant sleep problems can lead to a vicious circle of fatigue and subsequent inactivity,' says Muir, a lifelong runner. You're too tired to run, your fitness slides and when you try getting back out there, perhaps having gained weight, it's even harder. It's enough to dent the most committed runner's dedication, but when accompanied by depression or anxiety (69% of menopausal women) or brain fog (73%), it's no surprise that motivation goes awol. 'I've gone from running five times a week to once,' one woman told me. Another said: 'On a good day, only one thing hurts.' ►



'I now look out of the window thinking, "I could go for a run"

Kerry Barnett, 51, from County Durham

'I started running at 41. I've never been fast, but I enjoy the social aspect and the fresh air. After my first marathon, which I loved, I embarked on a challenge to run 50 marathons and ultras before my 50th birthday. I did it – then perimenopause hit. Hot flushes, tiredness, weight gain, fatigue, brain fog... Sleep became a problem, as I would wake with night sweats, my mind racing. And I developed bilateral knee pain, which made running uncomfortable. I struggled to keep up with my younger friends and worried about holding them back, losing confidence and motivation. Running became an occasional activity, limited to 5Ks where I would simply try to run without walk breaks. I started HRT in early 2022, with a 50mcg oestrogen patch. This was gradually increased to 100mcg. My mood improved, my sleep became better and I wasn't so achy, but I still had to have a nap every day and even reduced my hours at work. Now I'm doing much better. I'm no longer exhausted and I now look out of the window thinking, "I could go for a run," which is a great feeling to have again. The combination of HRT, gaining knowledge and respecting my body's changing ability have helped me navigate my menopausal transition.'

Weight gain is a fact of ageing irrespective of menopausal status, but research published in the journal *JCI Insight* in 2019 revealed that while women were gaining weight at 0.25kg per year before perimenopause, this almost doubled to 0.45kg during perimenopause. Their loss of lean muscle mass also accelerated.

These bodily changes and their effect on our physical prowess can have a significant psychological impact, especially on those who have always invested in being fit. 'We've got the physiological changes, musculoskeletal changes, neurological changes – but we also need to talk about the emotional side,' says Amanda Thebe, a personal trainer and affiliated member of the North American Menopause Society. 'Women can lose belief in themselves when a 10K race suddenly takes four days to recover from [plummeting oestrogen levels affect muscle recovery and repair] or running at the same effort produces a slower pace. The effect can be huge.'

Light at the end of the tunnel

It's worth pointing out – and bear with me here – that there's a certain comfort in knowing just how debilitating and widespread menopausal symptoms can be. You're not going mad. You're not becoming decrepit. You're not all washed up. You are menopausal.

What's more, it won't last forever. Polish research shows that while risk of depression is two to five times greater during menopause transition, this is no longer the case post-menopause. As for cognition, a large long-term US study found disturbances to memory, information-processing speed and attentional focus (aka brain fog) during perimenopause resolved post-menopause. Hot flushes and night sweats, collectively known as 'vasomotor symptoms', typically last around seven years in total, persisting for an average of four and a half years postmenopause. And while weight gain and muscle loss accelerate during menopausal transition, the JCI Insight study mentioned above found this slowed post-menopause. 'The menopause isn't a cave, it's a tunnel – with light at the end of it,' says Thebe, who's written a book on the topic called Menopocalypse: How I Learned To Thrive During Menopause And How You Can *Too.* Thebe admits to eight 'shitty' years, with depression, migraines and a nagging achilles injury. However, four years post-menopause, she's now symptom-free. 'I'm back,' she says. 'It's different, but I'm running again, I'm stronger than ever.'

Many women – both with and without HRT – talk of having come out the other



Allow longer for your body to warm up. It might take as much as 15 to 20 minutes of light running to ease stiff joints and prepare sore muscles for exercise

side of menopause feeling better and

state of health and fitness, which not

only seems to have a mitigating effect

long-term wellbeing. A study published

severe menopausal symptoms than active

exercisers suffer less sleeplessness, sleep

disturbance, mood disruption and weight

Research also shows that regular exercise

not only combats midlife weight gain,

but attenuates the characteristic shift

from gynoid (hips, thighs and buttocks)

fat storage to visceral fat storage, which

is associated with increased incidence

of metabolic, cardiovascular and other

chronic diseases. The evidence is

women, while other research suggests

gain during menopause transition.

on symptoms but is also crucial for

in the journal Menopause found that

sedentary women experienced more

The fact that you're already a runner

means you enter menopause in a positive

rediscovering their running mojo.

equivocal regarding hot flushes and night sweats – with some studies reporting that regular exercisers suffer fewer of these, but others finding no difference. (My night sweats were horrendous, but I've never experienced a hot flush to this day.)

Of course, the health benefits of exercise extend beyond menopause: in a 2020 study, post-menopausal women with high levels of physical activity reported better mood, greater life satisfaction and fewer depressive symptoms than their low physical activity counterparts. So you definitely want to keep your running habit as you transition through menopause. But how?

Listen to your body

'Learning to work with your menopausal body is key,' says Thebe. 'Runners love structure, but there's a tendency to stick doggedly to a programme, regardless of how you're feeling. Your plan might include three 10K runs a week, but your body is screaming, "Hey! Will you listen to me, please?"

The most problematic time for symptoms is perimenopause, when oestrogen and progesterone levels are erratic. 'You never know what each day will bring,' says Thebe. This is what prompted her to introduce the concept of 'structured flexibility' into her training. Her structured flexibility chart (see below) prompts you to grade your energy level from one to 10 and adjust your workout accordingly. 'It might mean a walk instead of your planned 5K after a sleepless night, or running drills on days when you're too exhausted to run,' says Thebe. 'When we work with the body, rather than fighting against it, we start to see improvements. We no longer feel like we're failing."

It's not just in exercise that we need to work with our bodies, it's also nutrition. 'In the past, you might have got away with a scattergun approach, but now, appropriate nutrition and rest to support your workouts are non-negotiable,' says Thebe. 'That means not being fearful of carbs – the body's preferred fuel source for long-distance runs – and ensuring that you get adequate protein in your overall diet, and especially postexercise, for repair and recovery.'

The body becomes less efficient at muscle protein synthesis during menopause, which is why European guidelines recommend that women over 50 consume slightly more – 1kg to 1.2kg of protein per kg of body weight per day. They note that optimal protein intake combined with exercise three to five times a week produces a greater degree of muscle protein synthesis than either one alone. For post-menopausal musculoskeletal health, the guidelines also recommend 1,000mg of calcium and 20mcg of vitamin D.

Women who experience heavier or more frequent bleeds as their hormones fluctuate in perimenopause can become low on iron, adding to fatigue. 'Women should look out for symptoms of iron deficiency, which

Many women come out of menopause and find their running mojo

include chronic low energy, irritability and trouble thinking, which may be put down to brain fog,' says Elizabeth Ward, a registered dietitian and co-author of The Menopause Diet Plan: A Natural Guide To Managing Hormones, Health And Happiness. But don't take iron supplements 'just in case'. 'Iron status is most accurately measured through a blood test,' says Ward. And post-menopause, research suggests that iron levels tend to increase, seeing as there's no longer any blood loss through menstrual bleeds. 'Experts advise post-menopausal women to avoid taking supplemental iron because iron needs decrease after the menopause,' adds Ward.

Join the resistance

While aerobic exercise such as running plays an important role in menopausal health (and midlife sanity), there's evidence that strength and resistance training is also vital. 'Strength training enables us to hold on to, or even increase, muscle mass,' says Thebe, 'which helps maintain healthy body composition, reduces injury risk and aids recovery.' A study published in *Climacteric* (the journal of the International Menopause Society) also found that regular resistance training reduced hot flushes and improved quality of life in menopausal women.

Strength training is also key for bone health – vital, as researchers describe the three years spanning the final menstrual period as the 'phase of rapid bone loss'. Though not as beneficial as strength work, running also has a positive effect on bone density, and it's recently been shown that high-intensity work is far more beneficially impactful (pun intended) on bone health than long, steady runs.

Dr Brown is another keen advocate of strength training, along with activities to maintain flexibility and balance, such as yoga and Pilates. Rather than seeing these as yet more things on your to-do list, consider them tools in your armoury. When long runs don't feel doable, focus on short sprints or strength training – which stimulate muscle growth – rather than endurance work, which depletes energy and requires extended recovery. When you're too exhausted to run, build core strength with a Pilates session.

Adding injury to insult?

It was as a running coach that I first noticed women of menopausal age seemed to be getting more than their fair share of injuries. My own menopausal transition was accompanied by a nagging pain high in my hamstring and intermittent plantar fasciitis; and a third of the women I spoke to said they'd experienced unaccustomed injuries, most commonly tendinous ones, such as the damage to their hamstrings, glutes and achilles tendons.

Until recently, evidence of a correlation between menopause and more frequent injuries was mostly anecdotal; something I'd heard physios and runners talking about but not seen supported by science. That's beginning to change. 'There's a growing body of evidence linking reduced levels of circulating oestrogen in postmenopausal women with increased risk of tendinopathy,' says Rachael Mary McMillan, lecturer in physiotherapy at La Trobe University, Melbourne, Australia. 'Research has linked reduced ►





'Running helped me through menopause without HRT'

Helen Nash, 59, from Oxfordshire

'I started running in my mid-forties, aware of menopause looming and wanting to give myself the best chance of getting through it well and into heathy old age. My menopause started when I was 51, and apart from my periods stopping, my only other symptom was hot flushes, which were minor compared with those some non-running friends, and my mother, experienced. I've avoided menopausal weight gain, which I definitely attribute to running. A few years ago, my energy levels dropped and I assumed it was menopause-related, but I was diagnosed with an underactive thyroid, so I would recommend anyone struggling with energy to get that checked. Running gives me energy and joy, and helps me work off the day's stresses, whether it's a chatty run with friends or some me time. It also gives me confidence, which I know can decrease around the menopause. After my first marathon in 2018, I felt I could achieve anything (although stairs were a challenge for a day or two). I've gone on to do more marathons and ultras. I'm not the fastest, but I love running and I'm 100% convinced that it helped me through the menopause without HRT.'

oestrogen levels in post-menopausal women with declines in collagen synthesis and tensile strength.' The prevalence of greater trochanteric pain syndrome (pain at the side of the hip or buttock, often relating to one of the gluteal tendons) has also been shown to be higher in post-menopausal women.

Dealing with symptoms

We've covered the importance of exercise, good nutrition and of listening and responding to your changing energy levels, body and mood. But what if you're doing all of that and still suffering some or (god forbid) all of the 32 menopausal symptoms listed on the Menopause Support Symptom Checker (menopausesupport.co.uk)?

'Don't suffer in silence,' advises Dr Brown. 'I always recommend looking at lifestyle first – including nutrition, exercise, sleep, self-care – but women should definitely consider whether HRT might be a good additional option.'

The Fawcett Society survey found that of the women who go to their GP and are confirmed as being menopausal, only 39% are offered HRT, even though current National Institute for Health and Care Excellence (NICE) guidelines recommend offering it for some specific menopausal symptoms. The guidelines, however, do emphasise the importance of an individualised approach – something Dr Brown fully agrees with. 'It's a very individual decision whether to take HRT, and if so, for how long,' she says. 'Women need at least an annual review to check on dose and symptom relief, and to optimise their lifestyle. We need to review any changes to their medical or family history and ensure we are practising according to the most up-to-date research, which is likely to change in the years to come.'

It's worth taking the NICE guidelines with you to a doctor's appointment about menopause treatment. A list of your symptoms is also useful. Apps, such as Balance (balance-menopause.com/ balance-app), allow you to log and track your symptoms and download a report. Ask if the practice has a menopause specialist, or check the British Menopause Society website, which lists accredited professionals working within the NHS and privately (thebms.org.uk).

It was sleeplessness (accompanied by crushing night-time anxiety) and perpetual exhaustion that compelled me to bring up HRT with my GP. I was prescribed oestrogen as a patch and progesterone as a pill and my symptoms

'Menopause is a life stage and does not represent a deficiency'

are now all either greatly reduced or gone completely. My experience is mirrored by many runners I spoke to. One said that when perimenopause hit, aching joints and weight gain stopped her running altogether. 'Now I'm on the right dose of HRT, running again and feeling better.'

To HRT or not to HRT?

There's still a lot of confusion and negativity surrounding HRT, much of which stemmed from the results of an infamous 2002 Women's Health Initiative study, which found breast cancer risk was doubled among HRT users, causing widespread panic and abandonment. However, critics have argued that the synthetic hormones used in the study are different from those now prescribed and that the average age of subjects was 63 – long past menopause and, due to advancing age, more susceptible to breast cancer. In addition, many were overweight, which also raises breast cancer risk.

Most modern HRT is 'body identical', not synthetic. Derived from yams and with the same molecular structure as hormones produced by ovaries, it's considered safer. 'Body identical HRT uses transdermal oestrogen – in other words, it's applied to the skin, either in a patch, gel or spray,' explains Dr Brown. If you still have a uterus, transdermal oestrogen is accompanied by micronised progesterone (Utrogestan), also derived from yams, taken orally.

HRT patches that contain both hormones – body identical oestrogen plus synthetic progesterone – are also still prescribed, but, says Dr Brown, this doesn't suit all women and won't allow the individual hormone levels to be manipulated separately to tailor to each woman's needs.

Dr Brown says that HRT has been a game changer for her own menopausal symptoms. Among her patients, she's seen improvements in brain fog, sleep, joint pain, hot flushes, libido, training capacity

054 RUNNERSWORLD.COM/UK JULY 2023

Drink more water.

Night sweats and hot

flushes - together with

reduced fluid intake due to

urinary incontinence - can

dehydrate you and increase

heart palpitations

4



and motivation. 'The benefits outweigh the risks for most women,' she says.

Not all women want or are able to take HRT, however. Thebe found it made her symptoms worse. There are many non-hormone prescription medicines available for vasomotor and psychological symptoms, as well as herbal remedies, (though you should discuss using these with your doctor). A high dietary intake of phytoestrogens, which occur naturally in soya products, has shown to be effective in reducing vasomotor symptoms, but the evidence isn't strong enough for it to be recommended in NICE guidelines.

In the long run

The rocky road of menopause doesn't go on forever, but the post-menopausal absence of the associated hormones does, with an unequivocal impact on cardiovascular and bone health. There's a lot of discussion about the potential role of HRT in mitigating these risks in the long term. For example, nine out of 10 studies reviewed by NICE showed a lower risk of fracture, or increased bone mineral density with HRT use; while a *Journal Of Women's Health* study looking at transdermal oestrogen found evidence of possibly protective cardiovascular effects.

'Most of us will live for more than 30 years post-menopause,' says Muir. 'We

need to be much better informed about hormones and safe hormone replacement, and not let the medley of symptoms or the long-term health effects of the menopause bring us down.'

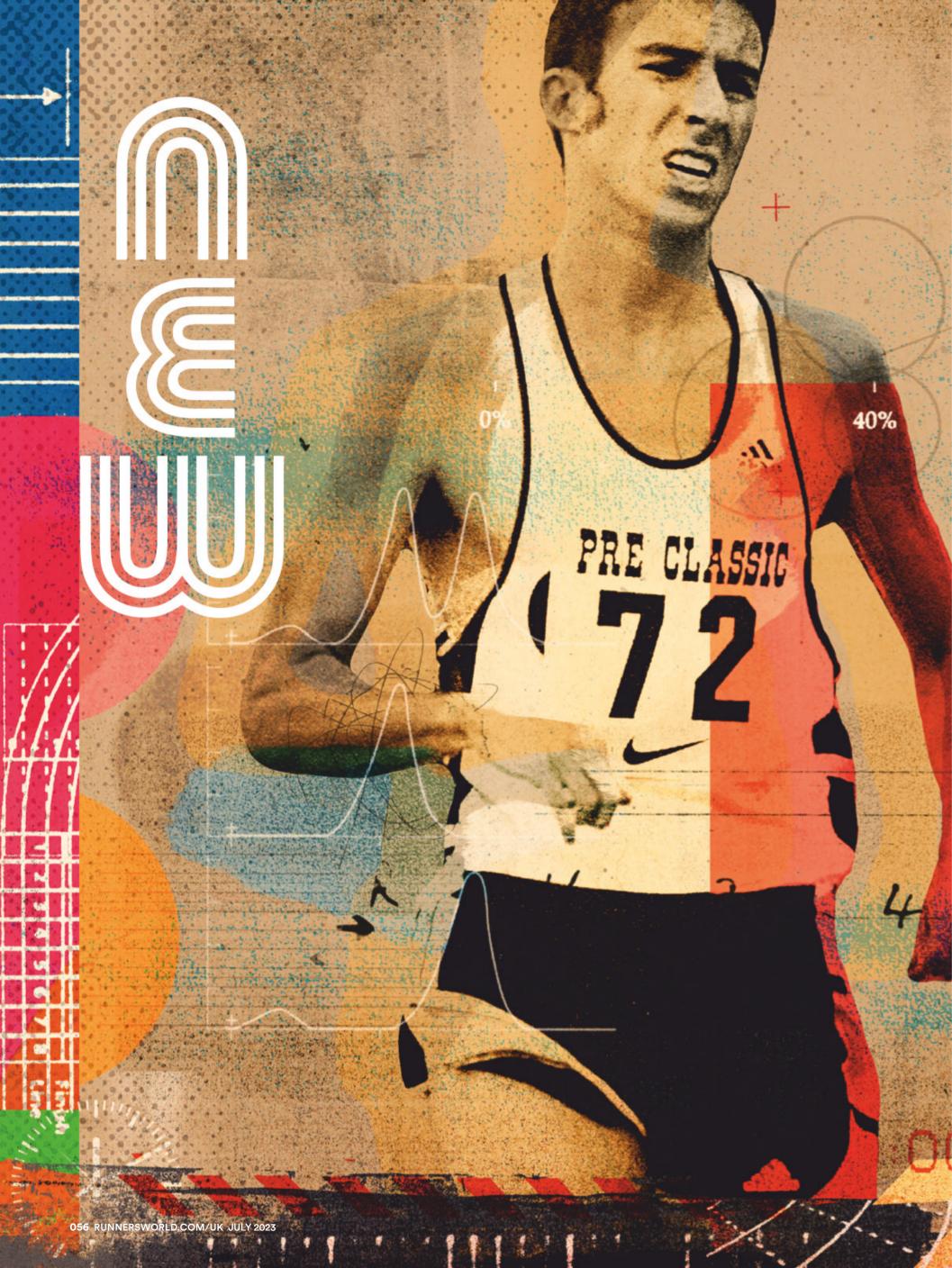
Thebe, however, rejects the portrayal of menopause as a 'long-term hormone deficiency', framing it instead as a natural life transition. This is echoed by the recent Joint Position Statement from the British Menopause Society, Royal College of Obstetricians and Gynaecologists, and the Society for Endocrinology on optimising the menopause transition. It states that, 'For most women, initiating HRT has a favourable benefit/risk profile. However, HRT should not be used without a clear indication and should not be used for the sole purpose of disease prevention. Menopause is a life stage and does not represent a deficiency state.'

'It's so important to stress that women can live long, healthy, vibrant lives with or without HRT,' says Thebe. 'There are amazing athletes out there in their fifties and sixties who are nailing it in both marathons and ultramarathons.'

While the debate continues about how best to deal with the symptoms of menopause and its effects on long-term health, one thing is clear: physical activity is one of the most important tools we have in weathering the storm, playing a pivotal role in maintaining health and preventing disease after menopause, including reduction in cardiovascular disease, breast cancer and diabetes, increasing muscle and bone mass and improving mood, cognitive functioning and overall quality of life.

That doesn't mean you should – or will be able to – keep running in the same way as you transition through menopause and beyond. One friend of mine says she can no longer run in the mornings because her energy levels are too low – she's had to adapt to running later in the day, while another has switched her focus from racing to simply 'getting out there' and has, at last, regained her enjoyment of running.

While I'm back in my racing shoes now, I have a less rigid attitude to running than before: I work with my body, rather than seeing it as an enemy or a let-down. If I'm having a bad day, I'm more accepting of it. I find that knowing what's behind it really helps reduce the angst and self-flagellation. In fact, that's one of the best things about post-menopause life. A more reflective and balanced attitude, following a period of turmoil and change. I'll run if I feel like it, I'll race when I feel like it, and if I don't, then I'll savour whatever I do instead – be it having a lie-in, cake and coffee, a Pilates class or a dog walk – with equal relish.



LEGENDARY PERFORMANCE COACH STEVE MAGNESS ON THE REAL SECRET OF MENTAL STRENGTH

ILLUSTRATION: ALEX WILLIAMSON INTERVIEW: RICK PEARSON

RUNNING CONVERSATION STEVE MAGNESS

100%

60%

AS A HIGHLY PROMISING YOUNG RUNNER, STEVE MAGNESS FULLY EMBRACED THE 'NO PAIN, NO GAIN' PHILOSOPHY ON MENTAL TOUGHNESS

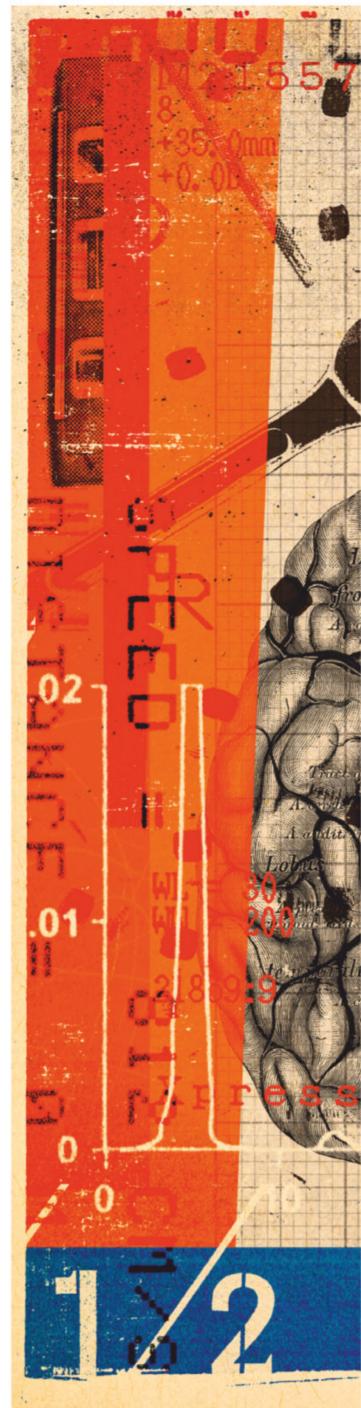
But he learned from bitter personal experience that steeling yourself to push through the pain barrier isn't always the right psychological strategy when he collapsed during a tough training session. Fast-forward 15 years and Magness has become a globally renowned performance coach, who has worked with elite athletes and Olympians. He's also a celebrated author whose books - including Peak Performance and The Science Of Running – have sold more than half a million copies worldwide. One of sport's foremost scientific thinkers, Magness has spent the past five years studying resilience, leading him to an enlightened re-examination of the role of mental strength in performance in his latest book, Do Hard Things - a 'must-read' according to runner and author Malcolm Gladwell. He sat down with *RW* to explore why we've been getting mental strength wrong, what true toughness actually looks like and how you can apply it to take your running to the next level.

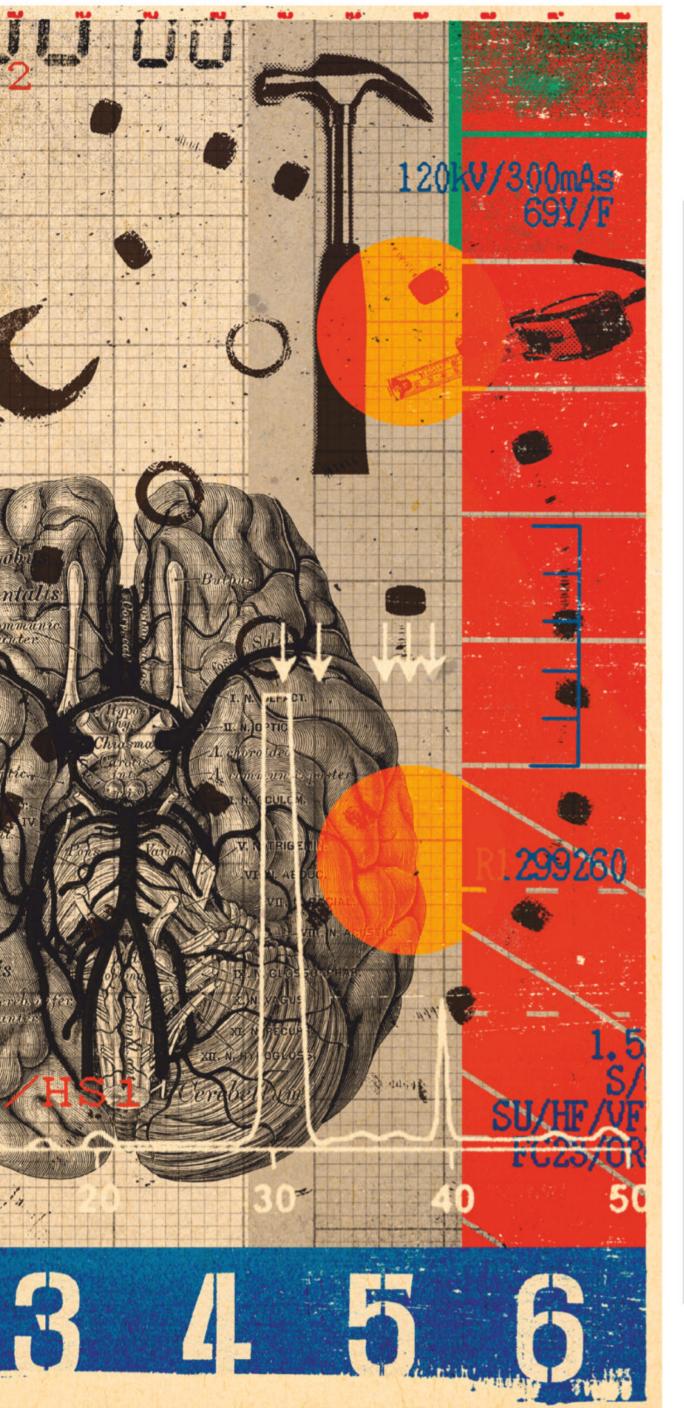
RUNNER'S WORLD: What motivated you to write your new book?

STEVE MAGNESS: 'I think we write the books that we need, on the subjects that we're wrestling with. As a lifelong runner, I've always wrestled with the idea of toughness, because what is running except being alone in your head and fighting those demons that tell you to slow down or drop out? So I've always had this in the back of my mind and what I was seeing in the wider picture is that the view we took in running on navigating these difficult moments was in reality often little better than the common concept of put your head down, push through, ignore all the pain and suffering, grit your teeth and get through it. My experience as a runner was that sometimes I needed to do that, but often I'd try that and it would fail miserably. So it was a topic I'd been wrestling with in the back of my head for years and I just thought it was time to try to bring some clarity to it.'

RW: Where do you think that idea of mental strength - the get your head down, no pain, no gain philosophy - emanates from? SM: 'I went down a long and winding path to try to answer that question, and the best answer I can get to is that it has its roots in a military mindset. You can trace it all the way back in the military ethos, but I think we saw the idea really flourishing after the Second World War. All of a sudden you had these ordinary people who got drafted into the military, put through bootcamp and had to get ready for some extreme situations very quickly. It's not as if they had years to train - or even months - it was train them up, then throw them into the war. I think we got a conceptualisation of that being the way to get tough really quickly. And then in sporting culture, most of the athletics coaches had been involved in the war. When they came home and became the PE teachers and coaches of the era, they brought that military experience and attitude back with them. So this military short-term mindset kind of infiltrated and took over athletics. In fact, in the 1950s and 60s all the sporting metaphors started to change towards war. You know, "We're going to war today!" and that kind of thing.

RW: Was this a philosophy you followed early in your running career? And if so,







what did you feel the consequences were from taking that approach?

SM: 'Yes, absolutely. Like anyone, I thought that was the way - the put your head down, grit your teeth and grind through it approach. It works to a degree, but the consequences come when it *doesn't* work. And it's not going to work all the time, because it puts you in a situation where if you don't run a PB or you don't run as well as you want on every run, you question, "Am I not tough enough?" You start thinking that maybe you're mentally weak. You "fail" and see it as a reflection on your mental ability, which can lead to some striking psychological and also physiological consequences. It's almost like you're training your brain to have just one tool. If all you have is a hammer, then of course the hammer works when you have a nail in front of you, but as we runners know well, situations can vary significantly and we're not always going to get a "nail". Sometimes we're going to need a screwdriver, a saw or whatever is necessary to get through a particular kind of difficult situation. And if we think the hammer is the only solution, then more often than not, we're going to get frustrated and struggle.'

'RUNNERS NEED DIFFERENT TOOLS TO GET THROUGH DIFFICULT SITUATIONS'

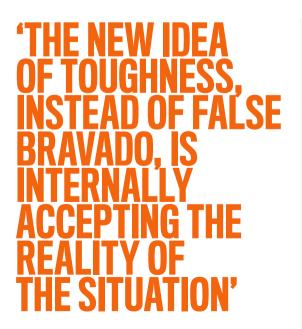
RW: In your book, you say that your emotions are messengers, not dictators. Can you tell us what you mean by that? SM: 'We often think of emotion as something that we should push away, right? You know, push away the pain. In America, we have this famous saying: no crying in baseball. It's all about never showing your emotions, but it turns out that's a complete misunderstanding of the science and psychology of emotions. Emotions and feelings are essentially messengers. They're signals to our conscious awareness that, hey, something is going on, something is interesting. That could be interesting in a good way or a bad way, but they're essentially saying, "Hey! Pay attention to this thing!" They're drawing your attention to something that's a little different from normal that you might need to be aware of. It's like the warning lights on

a car dashboard or in a pilot's cockpit. And if we ignore those signals, then we're ignoring our bodies' communication system. It's not saying "slow down", "stop" or "you're in danger". What it's saying is simply, "There's something to pay attention to." Let me give you the running example: fatigue is essentially an emotion, so if we're running a marathon and we start to experience the kind of fatigue that feels like you're running out of fuel, what that's actually telling us is that if we ignore it and think, "Just tough it out and get through it," then we're probably going to bonk. If we listen to the messenger instead of pushing it away, if we think, "I'm getting a signal that I'm running a bit low, so I'm going to take a sip of a gel or sports drink and get some calories," more often than not, that feeling will ease a little. It may not go away completely, but your brain will process it as the signal has been heard, fuel has been taken on, so we can keep going at this pace.'

RW: There's a famous quote that says running is about winning the conversation with the part of you that wants to quit. Is there a way to have a more nuanced conversation with that voice in your head, rather than simply trampling it down? SM: 'Another way to deal with it is to change how you talk to yourself. One of the things that we know from research is that whenever that negative voice comes in, we actually change how we talk to ourselves. It's always along the lines of, "Why am I a failure?" and "I can't do this." It's all first person, and research and psychology shows that when you talk in the first person your brain interprets it as being more personal and amplifies the negative emotional experience that comes with it. On the flip side, if you talk in the second or third person, it actually creates what psychologists call psychological distance. It decreases that emotional attachment to the voice and it allows us to feel more positive and do something about it. If I'm running and that internal voice is saying, "Come on, Steve, you can do this," my brain interprets it a little bit differently and is more likely to listen to that positive voice than go down a spiral towards negativity. So, sometimes just changing how you talk to yourself can have a big effect.'

RW: What would be an example of oldfashioned mental strength and what would be an example of true mental strength? SM: 'I think the old-fashioned way is a lot of external, meaning you're putting on a show, that you have false bravado. We all know it and we all do it sometimes – you're that person who's projecting that maybe if you act





really confident and talk a big game, then it won't be a big deal. And what the research shows - and what this new science of mental toughness shows - is that often that just sets us up for failure because of how it sets our own expectations. If you go into your first 5K or your first after a long lay-off convincing yourself that it's going to be a piece of cake, with a mindset of this false bravado, then when it inevitably gets difficult, your brain overreacts. It's almost like it says, "Hey, wait a minute... you told us this was going to be a piece of cake but now I'm feeling the difficulty," and your brain freaks out. Even if you're an experienced runner, you can go through this. I did not too long ago, when I was coming back from a long bout of injury. My brain was going with the old Steve, the fit Steve, where it was thinking, "Okay, going





out and doing this moderate workout isn't a big deal." But because I'd been off for so long, the reality was that it was going to be much more difficult than I thought it would be. That mismatch between perception and reality sets you up to freak out. So the new idea of toughness is, instead of this external false bravado, it's more the internal acceptance of the reality of the situation – thinking how difficult might this really be? How fit am I actually? What kind of capabilities do I have right now? You want that match, that alignment between perception and reality instead of the kind of false bravado that we're taught.'

RW: The spectre of the DNF is often in runners' minds as the ultimate failure. Do you think bailing on a race or any run

is a sign of mental weakness? Or are we back in the realm of ego?

SM: 'What really brought clarity to that question for me was when I was talking to some world-class climbers and they were discussing what the toughest part of climbing something like Mount Everest or K2 is. I've never done anything like that, so I had no idea. They told me it's when you're getting close to the summit, it's when you're maybe just a couple of hundred metres or a couple of hours away and you see it and you think, "Here's the goal that I've been training my whole life for, that I've poured tens of thousands of dollars into ... " and it's within reach. But in that moment you have to pause and ask yourself, "Can I make it not only to the top, but turn around and make it all the way to the bottom?" And often the answer to that question is no, you can't, because a large majority of accidents happen in that zone when climbers have made it to the top and are coming back down and simply don't have the energy to do so. In that situation, the really tough decision to make is to quit, to turn around, to be able to pause and say, "I don't have the energy, so I need to get out of here to live and climb another day." In running, although it's not life or death, we often demonise the bailing on the workout, the quitting of the race, but the reality is that it's closer to the climbing example. If there's a logical reason for it, where you're maybe saving yourself for another day, or there's a potential injury coming or you're under the weather and you shouldn't finish this particular workout because it's just going to dig you into a hole that's going to set you back more than push you forwards, those are the moments when we need to put our ego aside and say, "It's just not my day today."

RW: So quitting can sometimes show the right kind of toughness?

SM: 'It's about getting the balance right. We don't want to just say, "Quit whenever you feel like it," but like those climbers, you want to be able to make that wise decision in the moment when sometimes the better choice is to quit. I think that elite marathoners actually do this a little bit better than most of us. Of course, they have an incredible capacity to tough it out sometimes, but then sometimes they're able to recognise and accept that it's not their day. As it's their career, they're able to process the fact that if they're falling apart at mile 15, although they could tough it out and finish, that would probably mean not being able to run another good marathon for six months, so it's not worth it. But maybe if they drop out at 15 miles, they'll be able to come back stronger

in another marathon in two months' time, with a better effort and a better payday and all that good stuff.'

RW Do you think the same issues with ego and that old-school perception of mental toughness also play a role in people not doing their easy runs at a genuinely easy pace, and pushing too much of their training into that middle zone? SM: 'When we run too hard on our easy days, it's all insecurity. There's a wonderful story that I tell in the book about an American marathon runner back in the 1950s called Buddy Edelen. He set the world record in the marathon, so he was at the very pinnacle of the sport, but what was fascinating was the correspondence back and forth with his coach after Edelen had run what was supposed to be an easy run both too long and too fast in the build-up to a race. And his coach wrote back to say, "This is a manifestation of uncertainty. There is a time to rest, not halfway rest." So here was this world-class runner - the marathon world record holder - and even he was struggling with that nagging voice telling him that maybe he would lose fitness if he didn't run this run long enough or fast enough before going into his race. And the coach was saying to him, "This is just insecurity. You're fit. All you can do is get in your own way. And you're getting in your own way here."

I think we often see that insecurity with everyone from novices to experienced runners coming into play on that recovery run, that easy run, that run where we're supposed to be disciplined and keep the effort low. We know the plan but we get a little insecure and think that maybe we shouldn't be letting ourselves off so easily, that maybe we could squeeze a little more fitness if we run this a bit faster or that little

bit longer. We end up deviating from what's best for us because that voice in our head is telling us to just push a little bit more, push a little bit harder, when the reality is if we have the mental strength to ignore the voice and stick to the plan, we would be fitter and faster in the end.' Keep up with the latest from Steve Magness on Twitter and Instagram (@stevemagness), or head over to stevemagness.com. 🏧





Do Hard Things: Why We Get Resilience Wrong And The Surprising Science Of Real Toughness (£20, Harper Collins) by Steve Magness is available now.

RUMMING OM EMPTY

ARE THE SUPPOSED WEIGHT-LOSS AND ENDURANCE BENEFITS OF NOT MUNCHING BEFORE WE MOVE JUST EMPTY PROMISES?

WORDS: CHLOE GRAY

NOT SO FAST...

or some it's down to logistics – getting up early enough to digest a fuelling breakfast before an early run is a challenge. For others, it's a considered choice – heading out with the fuel tanks empty, we've been told, forces the body to turn to fat as a fuel source, boosting endurance and burning off

unwanted wobble. Or does it?

The latest research suggests that forgoing that pre-run bagel might not be the boon you think it is. A recent study found motivation and energy levels before exercise were lower when participants were in a fasted state, while those doing fasted workouts performed worse and enjoyed workouts less than their fed peers. It's the latest study to challenge the value of exercising on an empty stomach; in fact, researchers have long been questioning this received wisdom.

FAST AND THE CURIOUS

First, let's be clear on the meanings. 'Being "fed" refers to your metabolic state after eating food, when the body is digesting and absorbing the nutrients,' explains Renee McGregor, leading sports dietitian and *RW* columnist. She notes that this state typically lasts for up to four hours after eating, although it could last for up to six, depending on the speed of your metabolism and what you've eaten – high-fat or fibrous food, such as whole grains, red meat and seeds will take longer to digest than simple carbohydrates.

As such, when you wake up in the morning after an (ideally) eight-hour slumber, you're probably in the opposite state: fasted. 'What you eat the night before will always influence your energy the following day, but it won't be available as direct fuel because your body will have broken it down and used it for energy,' adds McGregor, dispelling the myth that a bowl of pasta at 7pm will have fully carb-loaded you for a morning outing. It's not just a dawn chorus scenario, either; eating your first meal at noon and hitting the road at 6pm will also land you in a fasted state. For anyone planning a session in which the intensity will be cranked up, the science is pretty clear that fed beats fasted, thanks to the performance benefits of the extra fuel you will have taken in. 'When you work out in the fed state, your body uses the calories consumed as energy,' says sports dietitian Jenaed Brodell, founder of the nutrition consultancy company Nutrition and Co. 'That can maximise performance, helping you work harder and for longer, while also repairing muscle damage post-workout.' Being in a fed state fuels your brain and ►

nervous system, too, adds McGregor. Not only will you feel more alert, you'll also make faster, better decisions, giving you a vital edge if you're an athlete.

But those touting the benefits of fasted-state training aren't completely wrong. There's been plenty of research proving the positives associated with working out on an empty stomach, from an increase in VO₂ max to a ramped-up metabolism. A 2019 study from the University of Bath concluded that exercising before breakfast improves blood sugar control, while a 2020 study published in the journal *Nutrients* found that less muscle protein breakdown occurred in those who ate after strength training than in those who ate beforehand.

The disclaimer? These studies were conducted on men – as 97% of sports science research is. Compare it with the tiny number of studies looking at the impact of feeding in women and the differences are significant. Case in point: a study from the University of Surrey and St George's University, which compared the performance of men and women during a 30-minute treadmill run at 70% of their max speed. The results showed that while male participants benefited from waiting until after the session to eat, women burned more fat both during the workout and at rest for the remainder of the day when they consumed food before exercise.

Adding weight to the female fed state is hormonal health. McGregor explains that women are more sensitive to stress hormones as a result of their reproductive cycles. But fed-state training could be a key weapon in your anti-stress arsenal. 'In the morning, your cortisol levels naturally spike. Layering that with something that causes a greater increase in stress hormones, such as a high-intensity session, will make cortisol levels rise and stay high throughout the day.' In contrast, eat before and you can reduce that spike during the session and throughout the day, with one small study, published in *The Journal Of* Physical Therapy Science, finding that 400 calories of food before a treadmill run reduced circulating cortisol levels after training by 36%, compared with when participants trained fasted. 'It's a multifaceted subject,' adds McGregor. 'But fuelling properly is a key factor that underpins how women's cycles work.'

VICIOUS CYCLES

Another reason for female runners to approach fasted sessions with caution is the potential impact on the menstrual cycle. While a fasted workout, in isolation, is unlikely to affect it, training on an empty stomach on a regular basis could do so. 'In



You can train your Gut to handle food In the morning

women, a lack of carbs is linked with a blunting of the production of the thyroid hormone T3,' explains McGregor. 'That, layered with the excess cortisol, signals to the hypothalamus – the hormone centre in the brain – that the body is in a state of stress, which leads to non-essential systems, such as the reproductive system and, therefore, the menstrual cycle, being downregulated.' While period loss (amenorrhoea) is an extreme outcome of excessive fasted training, it's more common than you may expect and the implications are serious. '[Amenorrhoea] can reduce bone density, reduce cognitive function, impair balance, cause your athletic performance to deteriorate and reduce lean muscle mass gains,' warns McGregor.

It isn't just cortisol that's affected, either. A study published in the journal *Plos One* found that fasting decreases the production of kisspeptin. 'This is a neuropeptide responsible for sex hormones and endocrine and reproductive function,' explains female physiology expert Stacy Sims. 'It also plays a significant role in

NOT SO FAST...



GRIND IT OUT Your body needs fuel if it's going to rack up the miles

maintaining healthy glucose levels, appetite regulation and body composition.' A hit to kisspeptin will disrupt the release of oestrogen and progesterone – the two key female reproductive hormones. 'Women have double the amount of kisspeptin in their brains than men, which explains why women have a greater sensitivity to changes in their energy balance,' explains Dr Sims. 'This energy balance is disrupted through fasted cardio training, as your brain perceives a deficiency in nutrients.' Add exercise into the equation and you'll only exacerbate your hormonal imbalance, adds Dr Sims. Clearly, it's a vicious cycle, but here's the irony: a disrupted metabolism from low thyroid and high cortisol is also associated with your body storing more belly fat and with weight gain, says Dr Sims, so if you're training fasted to burn fat, your efforts won't be rewarded.

\$

Research shows that eating before exercise boosts endurance, especially in sessions over an hour, but intensity matters, says Brodell. 'At low intensities, eating first is less important, as your body can fuel the activity using your fat stores. But by getting the right pre-workout nutrition, you can maximise your performance while also repairing muscle damage post-workout.'

Of course, there's a balance to be struck here: eating too much beforehand can cause mid-run GI issues because, during exercise, your body moves blood flow away from your digestive system, halting the movement of food through your gut, to get oxygenated blood to the muscles you're using. But fuelling before your sessions doesn't have to be nauseating. 'At high intensities, your body's primary fuel source is carbohydrates, so it's especially important to have a carb-rich food source before training,' says Brodell, adding that simple foods, such as a banana, which can be quickly turned into fuel, are particularly useful.

FED UP

Still can't stomach a pre-session snack? Start small, says McGregor. 'You can train your gut to be able to handle food in the morning and before exercise. The key is to start eating low amounts and gradually increase the portion size.' McGregor suggests aiming for 0.5g to 1g of carbs per kilogram of body weight, eaten up to three hours – or at least 30 minutes – before working out.

For a 70kg runner, that's 35g to 70g of carbs before a fast or long run, interval session or heavy strength-training day. To avoid muscle breakdown, Dr Sims recommends adding 15g of protein to your pre-run fuel, too, with easy and low-fat protein sources being your best option – think yoghurt, protein powder or a glass of soya milk.

Still don't want to give up on fasted training? It's not entirely off the table. There are no hard and fast rules about how and when to eat and train, and your daily calorie intake, activity levels and stress will all influence how well you tolerate fasted training. If you eat enough throughout the rest of the day to recover well, it's okay, says McGregor, with this caveat: 'Try not to do more than two fasted sessions a week to avoid layering day after day of high cortisol levels. Those sessions should also be less than an hour long and at a pace that allows you to talk.' Feeling stressed, dealing with fatigue or hormone dysregulation? You're better off leaving fasted training off the menu. And if you're planning an intense session first thing, a carb-rich snack will support your workout and your hormonal health. As McGregor puts it, 'a nourished body is a healthy body'.

FOOD TO GO

ONE TO THREE HOURS BEFORE TRAINING

'These small meals contain a good serving of carbs and protein, while being low in fat and fibre, so you'll digest them at pace pre-workout,' says dietitian Jenaed Brodell



Two rice cakes with cottage cheese



Fruit smoothie with one banana, a handful of berries and 150ml of yoghurt, milk or soya milk



40g of granola (with some sugar content for a pre-workout energy spike) served with 150ml of milk

LESS THAN AN HOUR BEFORE WORKING OUT

'These snacks are easy to grab and go, delivering 30g to 60g of simple carbohydrates for fast energy,' says Brodell



A milky coffee and a banana



Two medjool dates with a teaspoon of peanut butter





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TO STEP IT UP Unlock your potential with this leg-strengthening

this leg-strengthening workout – and notice real results across pace, power and performance



MANAGE YOUR ECONOMY

Why running economy is key to long-distance running performance – and how to improve yours



RUNNING ECONOMY (RE) IS ONE

of the cornerstones of physiological performance in distance running, along with lactate threshold VO₂ max. The

latter two are often better understood by athletes and coaches. Lactate threshold is a measure of the effort you can sustain at a steady state for longer periods, while VO₂ max is a measure of the total amount of oxygen you can take in and use. However, running is not just about how much oxygen you can get into your body, but how efficiently you use it, especially at race pace, and that's what RE is.

A range of factors influence your RE, including technique, strength and overall training balance, and as such, it's a difficult concept to neatly link to one particular type of training session. It's typically expressed as the amount of oxygen needed at a given speed. Usually this involves measuring the millilitres of oxygen per kilogram of body weight used per kilometre (ml/kg/km).

• Why is RE important?

Improving RE can have a significant impact on your race performance. The more efficiently you can use oxygen to maintain your pace, the

ECO POWER Running economy has many benefits to performance

longer you might potentially be able to sustain that effort for. Research has shown that runners who have better RE are able to maintain a higher percentage of their VO₂ max during endurance exercise.

In his research as a part of the Breaking2 project, Andrew Jones, a professor from Exeter University, established that the VO₂ max of the participants (which included some of the best distance runners in the world) was actually not as high as they were expecting. Rather, the athletes involved had an



exceptional ability to hold high percentages of their VO₂ max due to their world-class RE.

As we move into a (hopefully) warm summer, it's also important to note that better RE has been shown to help runners manage core body temperature increases during exercise. We know that thermoregulation is a key aspect in running performance, so an improved RE might help you in this area, too.

How do you measure it?

The most valid and reliable method of measuring RE is using a gas analyser, which measures the concentrations of oxygen and carbon dioxide in the air that a person inhales and exhales.

During an RE test, the gas analyser is connected to a mask worn by the subject. As the person runs, usually on a treadmill, the analyser measures the amount of oxygen consumed and carbon dioxide produced by the body.

By measuring the oxygen cost of running at different speeds, coaches and physiologists can determine your RE at a range of speeds and measure the changes over time to assess the impact of alterations to your training routine and biomechanics.

Current wearable tech isn't able to determine RE in isolation as it can't measure gas exchange. However, many watches can collect other data such as heart rate, ground contact time and VO₂ max estimation, which, combined, can give an indication.

Factors that influence it

Some of the genetic aspects that play a role in RE are beyond your control, such as height, lower leg and foot structure and the percentage of fast- and slow-twitch muscle fibres. However, there are also a range of factors that you can influence but which still have some genetic basis, such as VO₂ max, tendon length and 'stiffness', breathing rates and how well you're able to regulate your core temperature.

How do you improve it?

Despite the factors you can't control, and despite RE being a complex and multifactorial measure, the good

news is there are multiple evidencebased ways we can improve it:

Get stronger: Providing it's appropriate and well planned alongside your wider running training, strength work can improve RE. A study published in the Journal Of Applied Physiology showed that a group of runners who replaced 32% of their running training with explosive strength training improved their 5K times without any changes to their VO₂ max. Of course, we're not recommending dropping 32% of your running and following this

FOOTWEAR CAN HELP, BUT FOCUS **ON THE THINGS** *You* can improve

protocol, but it's clear that a strong and more powerful runner can be a more economical one, too.

Reactive force: Your tendons, particularly the achilles, play a critical role in the efficiency of your running. Tendons, which connect muscle to bone, act almost like elastic bands, storing energy as they stretch (for example, through foot flexion) and then releasing it. This process is known as 'elastic return' and can play a big role in reducing your oxygen demands when running - and increasing RE. A common term among coaches is wanting to promote tendon 'stiffness'. You can do this in part through strength training, but also through plyometrics: jumping and hopping exercises that can help improve this tendon stiffness and neural efficiency. A recent sixweek study in the journal Nature found that runners who performed five minutes of a double-legged hop exercise daily saw improvements in their RE at higher speeds.

COACHING TIPS TO HELP YOU RAISE YOUR RUNNING GAME BY TOM CRAGGS

PERSONAL

BEST



Nutrition: Several studies, including one carried out by Professor Jones, have shown that some dietary influences such as nitrates (eg, beetroot shots) and caffeine can reduce oxygen consumption when exercising.

O Working at goal race **pace:** When you train at the pace you're preparing to race at, your body adapts and will become more economical at that pace. Now, it's not simply a case of running every mile in training at marathon pace, as that's a surefire road to injury. But some time spent working at goal race pace, including when you're tired, will be beneficial.

Shoes: There's a non-physiological shortcut - carbonplated shoes (the 4% in the name of one brand's model refers to the promised improvement in RE). So if you wanted to improve your RE tomorrow, you could invest a bit more than usual in your running kicks. That said, everything else is your own work and while footwear can help, you should focus on the things you can improve before splashing the cash.

Training volume and frequency: Provided that you're able to fuel

and recover from it without increasing the risk of injury, increases in your overall volume of running are also likely to result in RE improvements.

So, as you can see, there are a mix of factors that affect RE, some of which might appear contradictory (eg, do you increase your overall running volume or increase the amount of strength training?). The skill is to look at your current plan and identify the areas where you can see room for improvement.

Tom Craggs is a coach and road running manager for England Athletics

GIVE FOR THIS FIVE-MOVE LOWER-BODY

strength workout can build speed, power and resistance to injury



BETWEEN HILL REPEATS, tempo workouts and long

runs, your legs and glutes are regularly pushed to

their limits. So, do you really need a leg strength workout? Covering all that ground should be sufficient, right? 'Wrong,' says Dane Miklaus, a strength and conditioning specialist. Focusing solely on running is a less than optimal training strategy that can hinder performance and eventually lead to injuries, he says. Muscle imbalances (such as strong quads and weak glutes) can cause compensatory movements when we run, Miklaus explains, which can make one muscle perform harder than it should or take on more work when it's not ready for that load. This can not only affect efficiency and how well you perform, but it can also lead

OUT ON A LIMB Strength training reduces the risk of muscle imbalances

to that increased risk of injury, he adds. A well-designed strength-training programme that targets the legs and glutes, however, can help identify and correct injury-causing compensations.

Even if you do avoid getting hurt, not doing leg-specific strength work could be robbing you of speed and power that running alone won't help you achieve. 'Fast-twitch muscle fibre types are primarily responsible for our fastest, most explosive and strongest movements. In your legs, these fibres help you go from a jog pace to a true sprint pace,' Miklaus says. And to strengthen these fibres, you need to add weight training to your workout schedule.

Research supports the benefits of strength training, specifically for the legs. For example, a systematic review

and meta-analysis published in Sports Medicine in 2014 found that improvements in lower-body strength (particularly, squat strength) correlated with improved sprint performance. Another systematic review published in the same journal in 2018 stated that strength training two to three times a week can offer benefits for long- and middle-distance runners. On the injuries front, a study in Physical Therapy In Sport from 2022 found that runners with achilles tendinopathy had weaker knee extension strength and calf strength, compared with those without the injury, suggesting that strengthening these areas may help you sidestep injury. Finally, a narrative review published in Sports last year said that lower-body resistance exercise can



improve running economy and reduce risk of injury (though it does point out the need for more research). The bottom line: adding a leg strength workout to your training schedule can pay off big on the road.

• The leg strength workout

To help you stay healthy and get the most out of your runs, Miklaus developed a leg workout with runners in mind. For those who are completely new to strength training, Miklaus suggests keeping the weights low and reps high for most moves. Go for body weight only on the step-up and Bulgarian split squat, and use very light weights for the deadlifts and swings. Go for two to three sets of 15 to 20 reps, resting as needed. This will help develop your baseline strength while improving your muscular endurance, which is how long your muscles can work without experiencing fatigue, he says.

But if you do have a bit more experience, go for lower reps and higher weights instead, performing three to four sets of six to eight reps of each exercise (per side for the swing, step-up and Bulgarian split squat), resting for up to three minutes between each set.

If you fancy more of a challenge, you'll need a heavy set of dumbbells and a loaded barbell. (If you don't have a barbell, stick with the heavy dumbbells.) Aim for a weight that makes the last one or two reps super challenging, Miklaus says. If you feel like you can keep going after you finish the final rep, it's time to grab a heavier weight.

As for how to programme a leg day into your schedule, Miklaus suggests focusing on maximising strength gains in the off-season and pre-season, doing this leg routine two to three times per week during low-mileage times. As you get closer to racing season, or the start of your training for a target race, reduce the volume of your resistance training as mileage increases. As you approach race day, you can do this workout once a week, reducing sets but keeping weights heavy.

If your schedule is tight, you can pair this workout with a light run day; but as your lifting volume increases, you should aim to do this as a standalone workout, following it up with a recovery or cross-training day.

LEG-DAY WORKOUT PLAN

1. STIFF LEG DEADLIFT

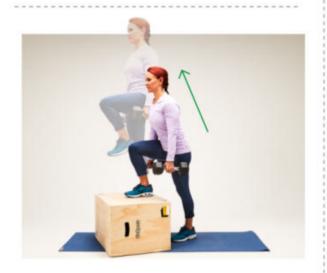
Why / Targets the hamstrings, glutes and posterior core muscles, all of which tend to be neglected by runners who don't strength train, Miklaus says. How / With your feet hip-width apart, hold the bell in front of your thighs. With your knees slightly bent, hinge at your hips, push your bum back and lower the weight. Maintain a flat back; don't round your shoulders. Engage your glutes, drive your feet into the floor and stand up. Repeat.





🔺 2. SWING

Why / Strengthens your posterior chain and develops hip extension and forward propulsion. How / Hold the dumbbell in one hand, hinge at your hips, with the weight between your legs. Extend your hips, engage your glutes and core, and straighten your legs, swinging the bell in front of your body. Allow the weight to come down and back as you hinge. Repeat. Switch sides.



4. STEP-UP

Why / Strengthens your glutes tremendously. How / Make sure the box is high enough, with your knee higher than your hip to start and a dumbbell in each hand. With one foot on the box and the other on the floor, step on the box by driving down through your right foot, keeping your knee over your foot. Extend your knee and hips and lift your left foot to your chest. Pause, then lower your left foot. Repeat. Switch sides.



🔺 3. SUMO DEADLIFT

Why / Adds more emphasis to your glutes while also targeting the inner thighs or adductors. How / Stand with your feet wide, your toes turned out slightly. Hold your weights in front of you. Hinge at your hips and keep a flat back, allowing your knees to bend naturally, facing down and out. Push through your feet to stand up, keeping the weights near your legs. Repeat.



🔺 5. BULGARIAN SPLIT SQUAT

Why / Strengthens your quads, hip flexors, hamstrings, glutes and muscles around the ankle, while challenging stability. How / Hold a dumbbell in each hand, facing away from a box. Rest the top of your left foot on it. Lean forwards, your spine straight. Bend your right knee to lower, keeping it over your toes, until your left knee almost touches the floor. Drive into your right foot to stand. Repeat. Switch sides.

SUMMER Running

Hot weather and holidays can disrupt your training, but there's no need to panic, says sports scientist Ross Tucker



STAYING FIT AND HEALTHY OVER THE SUMMER, paradoxically, can throw up a few challenges. Your first obstacle may be the temperature.

Even without the blistering heatwave that we experienced last year, the swing in temperatures is large enough to affect your training. If you come off a period of running in cooler conditions, then decide to brave the heat, you'll know about it.

But as long as you're training consistently through these seasonal shifts, you can adapt in time. That's because your physiology responds to the heat as an added stress, so over time, you become better at dealing with that – it just takes a while to acclimatise. During this period, your body will make more plasma, improve your ability to sweat (which helps you lose heat) and keep your core temperature under control.

So how long does it take? In lab studies where they tested the sudden imposition of heat on runners, it took 10 to 14 days of exposure to adapt. Those who are comfortable running for an hour at 15°C will give up after only 25 minutes on day one of running the same pace at 30°C. But come the 14th day, they're able to run for the full hour.

However, there will always be outlier days when it's very hot. When that happens, you just have to reassess your objectives. The heat slows you down – it's unavoidable. So just accept that and don't run at your normal pace or aim for the same performance.

Let it go

Dealing with challenge number two is all about your state of mind. The holiday season can mess up many a well-formed plan. Just accept it as part of life, be agile in your training and don't panic if you miss a run.



The good news is that, provided you've earned yourself a decent level of fitness in the months leading up to the summer, disruptions won't set you back nearly as much as you think they will.

There are studies on 'detraining' that consistently show we lose between 2% to 3% of our fitness every week after stopping exercise. Measures such as haemoglobin levels and red blood cell count (crucial for oxygen transport) go down, plasma volume is reduced and muscle strength falls; and as a result, crucial performance variables – such as VO₂ max and time to fatigue – decrease.

While this isn't ideal, it's not a catastrophe – it's just few per cent. Fortunately, you can gain that back in, at worst, the same time as you lost it, if not even faster. That is, if you detrain for two weeks and lose 3% to 4%, studies suggest you'll return to your usual fitness within two weeks – and that's at most, it's often shorter.

Here's the trick, though – you only maintain this ability to regain fitness by doing small amounts where you can. So if you normally run, say, 40km a week, and your holiday plans disrupt that, try to get just 10K in, even if it's two 5K runs. Your physiology will appreciate it and it'll help your retraining go more smoothly.

So rather than panicking about a loss of running fitness this summer, be reassured – enjoy yourself, take time to rest and do some light training when and where you can, and then you'll get back to training where you were pretty quickly.

Professor Ross Tucker is a world-leading sports scientist and the co-host of the *Real Science Of Sport* podcast. Follow him on @scienceofsport

STAY FIT WHEN TIME IS TIGHT

1. Plan ahead

Look at the week ahead with all its disruption and find a couple of half-hour spaces you could run in. Write them down. That's a promise you've made yourself. Don't break it.

2. Get creative

Walk to the shops instead of driving. That's a workout. Take the stairs. That's another one. Football in the garden with the kids (that's a big one). Walk the dog, do some gardening – come on, this is easy.

3. Anything is better than nothing So you missed the

half-hour run you planned. Try to spare 10 minutes for a HIIT routine (and you'll never miss a half-hour run again).







OVER THE YEARS, I've had many frustrating times with injury and found myself having to focus on staying positive. It's taught me that, in some ways, mental strength is just as important as physical when getting back to fitness. This was certainly the case when I was trying to qualify for both my first and my final Olympics.

My childhood dream was to go to an Olympics, and after making my first World Championships in 1997, it felt achievable. But early in 1998, I picked up a knee injury that put me out for two and a half years. Surgery made things worse and my kneecap would

lock when running. A year later, I saw a new specialist who said it was unlikely that I'd ever run competitively again and suggested another op. I declined and tried to battle back. When it became less painful, I walked for miles. I set myself a punishing aquarunning routine and walked an hour and 10 minutes each way to the pool. I did circuit sessions in the gym as well as my rehab exercises. The journey was difficult, with lots of setbacks, but my dream of making my first Olympics in Sydney in 2000 did come true.

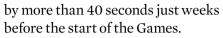
Later in my career, I set myself the goal of qualifying for a fifth Olympics in Rio in 2016. I was nearly 43, but I thought I'd go for it. My training was going in the right direction, but I struggled with injuries and a virus in spring. I ran badly for weeks and I knew things weren't right. I didn't get one of the two automatic places in the trials, so I battled away, hoping to get the remaining place. But the selection policy required me to run a much faster time than those who'd already been selected, so my work was cut out. I had lots of negativity thrown at me, particularly comments that I was too old. Mustering the self-belief that I could run the time kept me going. I stayed focused and beat the qualifying standard



LESSON 2:

Positivity and self-belief

Mental strength helped me through some difficult times in my career



I learned that by keeping the belief you'll come back, you become more motivated to do the right things in other areas. It's pointless to dwell on the injury - instead, it's important to be proactive. Even when you can't run, cross-training sessions that don't exacerbate the injury can keep your routine going, giving you a sense of control. A good mindset also makes it easier to stick to other key recovery factors, such as a healthy diet and rest. Remember that injury happens to almost all runners from time to time, but it makes achieving your goals feel even sweeter when you do get there.

PRACTISE POSITIVITY

So many runners rely on running to boost their mental health, so it's understandable that injury can be stressful, but it's important to focus on the positives rather than fret over things you can't control. Here are some ways to do that:

• STAY ACTIVE Cross-training can help fill the void for both physical and mental health when you can't run.

STAY CONNECTED

Meet friends or stay involved with the running community by socialising at club nights or volunteering at a parkrun.

• TRACK YOUR RECOVERY Keep a log so that you can see the progress you're making day by day and remind yourself not to rush things.

KEEP A SENSE OF

PERSPECTIVE I always felt I had so much to be thankful for when I heard about people caught in terrible situations around the world.



We are thrilled to share Red's latest edit, carefully curated by its team of beauty editors to deliver maximum joy. This limited-edition collection features 11 favourite products from some of the brightest names in beauty, worth an incredible £491, and is yours for just £93.



WHY WE LOVE THIS EDIT

Red's best-ever value for money box, featuring high-worth products from luxe beauty brands
A complete skincare routine arming you with the products you need to achieve a happy, glowing complexion
Adored by our customers, with a 4* FEEFO rating

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A FRESH TAKE ON MAXIMISING YOUR RUNNING ENJOYMENT



BY CORY WHARTON-MALCOLM



THE NUMBER OF MYTHS AROUND RUNNING sometimes does this beautiful sport a disservice. Whether they're perpetuated by doctors, someone at your local club, the media or influencers, hearing them can put people off, which may stop new runners from even starting or hold existing ones back. I've heard it all: running is bad for your knees; you're only a runner if you're a certain body type; it's not a run if you walked for part of it; runners don't need upperbody strength. It's time for a little fact or fiction to dispel some running myths.

You should stretch before you run FICTION

Back in the day, people thought doing static stretches before a run was a good idea as the perception was that runners needed to be more flexible. I'll admit that I'm indeed not super flexible. But I don't do static stretches before a run as you're not warmed up yet. Also, stretched muscles are less responsive and can't hold as much tension. Instead, I do a dynamic warm-up with moves that increase mobility and replicate the running movement - high knees, A-skips, B-skips, leg swings, fast feet and so on. This will get your blood pumping, your heart rate up, your muscles firing and your body run-ready.

MYTH TAKES

Separating the facts from the fiction when it comes to good running advice

02 Endurance runners don't need to strength train **FICTION**

When I first started running, I was told that there was no need to strength train; instead you should run more, faster, for longer and do hills. One coach asked me if I'd ever seen the greatest distance runners of our time near a weights room. But strength training can help with mobility, which decreases the risk of injury and makes you

a more efficient runner. You get the best bang for your buck with compound movements that work multiple muscle groups – such as lunges, squats, deadlifts and press-ups.



11 It's good to vary the surfaces you run on **FACT**

If you're always running on the road, taking to the trails or even just a grassy area is a great way to lessen the impact on your joints. It works different leg muscles, is great for balance and also strengthens your ankles, which can help to prevent injury. This new-found strength in your legs can also lead to quicker race times. Cory is a running coach and founder of Track Mafia running. Instagram: @bitbeefy, @trackmafia_



04 You must race to be a 'proper' runner FICTION

Sadly, this is something I continue to hear from both new and experienced runners – that before you can call yourself a runner, there's some kind of rite of passage that involves signing up for a long-distance race or running fast. That's not the case. A runner is someone who runs – that's the rite of passage, someone who places one foot in front of the other and commits to the process. It doesn't matter about races, times, how often you run or whether it's once a week or every day. It's about how running makes you feel.

You should get out there, even if you don't feel like it FICTION

Some runners panic that if they don't run for a day or so, they'll lose their fitness. But there have been many occasions when I've done more harm than good by either coming back too soon from injury or just training when I was run-down. Time and experience has taught me to listen to my body – even if I might not like what it's telling me. Resting will help you recover far more quickly and you won't start to see any significant drops in your fitness until you've had 10 to 14 days off. So take the break when you need it – your body will thank you.





PERK RUN

Here's what you need to know about your pre-run coffee



LACE UP YOUR RUNNING

SHOES. Shake out your muscles. And down a mug of coffee. For some runners

(pros included), having a cup of coffee before a run is a non-negotiable part of the routine – a ritual so embedded in the norm that a workout just wouldn't feel right without it.

If you're in the daily caffeine camp, good news: drinking coffee prior to a run can offer very real performance benefits. These advantages include decreased fatigue and reduced perceived exertion, among other perks. But it's not one-size-fits-all. Depending on how much coffee you imbibe and your individual sensitivity to caffeine, downing a triple-shot espresso before you hit the trails might do more harm than good.

Amity Lui, a New York-based sports dietitian who works with runners, says clients often pose various coffee-related questions such as, 'Should I be drinking



coffee?' 'How much coffee should I drink per day?' 'How much is too much?' 'When should I be drinking it?'

While the answers to those questions depend on your individual needs, a few general guidelines can help you optimise your pre-run coffee routine. Here's what nutrition experts and research have to say about getting your caffeine fix before you log your miles.

• The benefits of drinking coffee before a run

Most of the advantages you'll gain from having a cup of joe before you hit the road come from the caffeine in coffee, so the pay-offs aren't so present in decaf varieties. 'Caffeine is a legal ergogenic aid,' Lui says. That means it can enhance your performance, according to research.

One review, published in the International Journal Of Sport Nutrition And Exercise Metabolism in 2019, summarises that for endurance running and race-walking specifically, caffeine can lessen perceived effort, tiredness and pain, while boosting alertness and vigilance. Researchers suggest taking in caffeine before a run, but also note that consuming it during a race, when fatigue starts to set in, can lead to an even greater response.

The effects of consuming caffeine seem to most consistently provide moderate to large benefits for aerobic endurance activities, according to a 2021 paper published in the *Journal Of The International Society Of Sports Nutrition.* That said, 'small to moderate benefits of caffeine use' are seen in sprinting, muscular endurance and muscular strength, among other sport activities, per the paper.

Another effect of coffee: it can make you go to the toilet. Both caffeinated and decaffeinated coffee can trigger a reflex that leads to bowel movements, Lui says. This can be a pro or a con of coffee, depending on the context, she says. For example, if you're trying to empty your bowels before you leave home (with the comfort of a nearby toilet), then coffee may help. But if you gulp coffee and start running before you've gone for a number two, well, things could quickly backfire.



FOOD TO GO

EXPERT NUTRITION ADVICE TO FUEL YOUR RUNNING



Nutritional value

Stock up on these staples to support your performance without breaking the bank



THE TERM 'SUPERFOOD' has been around

for some time. It refers to those foods that are extremely high in a particular nutrient, which is thought to have a benefit to health and performance. But you'll often be hard pressed to find research that shows that one food item has the ability to transform your health. In addition, labelling something 'super' leads to a false promise that if you eat these foods, it somehow eliminates the risk of illness.

We can also fall into the trap of

believing that we have to buy food with hefty price tags in order to have a superior diet. But by making some savvy choices and creating a diet high in nutrientdense foods, you can support your health and running performance without superfoods. Here are my go-to everyday items that create simple, tasty and nutritious meals – without breaking the bank.

1/ Eggs

Eggs really pack a punch when it comes to nutritional value – two medium eggs provide you with around 12g of protein and 100% of your daily requirement of vitamin B12, essential for the formation of red blood cells, as well as being packed with selenium, a powerful antioxidant. A lot of people still avoid eggs due to the concern over cholesterol, but a medium

2

egg only contains 4.6g of fat, of which only 1.3g comes from saturated fat.

2/ Greek yoghurt

I'm a fan of yoghurt as a recovery option, but I particularly favour the Greek variety due to its high protein content. Most natural Greek yoghurt provides 10g of protein per 100g, which is double the amount found in standard yoghurts. Protein is key to the recovery process in order to repair and rebuild muscles.

3/ Oats

We've been told time and again how porridge is a nutritious start to the day. It's low in fat, high in soluble fibre and also a great source of complex carbs. This means it releases energy slowly throughout the day, preventing blood sugar fluctuations or energy crashes.

5

6

4/ Frozen fruit and veg

We know that fruit and vegetables are integral for optimal health. They're high in micronutrients, which have key roles to play as antioxidants, vitamins and minerals that are involved in biological processes at a cellular level. Frozen fruit and veg are generally cheaper, more convenient and equally nutrient-dense.

5/ Milk

Milk is the ideal choice for post-run recovery. The lactose and whey protein are easily digestible and hit that ideal carbs-to-protein ratio of 3:1 required for replenishing glycogen stores and repairing muscle breakdown.

6/ Tinned fish

Current guidelines encourage the consumption of oily fish at least once a week to ensure that you're getting sufficient omega-3 fatty acids, which provide anti-inflammatory benefits and protect brain health. Tinned oily fish, such as salmon, mackerel and sardines, are nutritionally dense, versatile and budget-friendly.

7/ Tinned pulses

The humble baked bean, when served on wholegrain toast and topped with cheese, makes a great recovery option. But chickpeas, black beans, kidney beans and lentils are also important additions to your store cupboard. They're high in soluble fibre, a great source of protein and can be added to casseroles, curries and soups to help bulk out a meal, while providing a great source of B vitamins and iron. My favourite go-to meal is a chickpea and vegetable curry served with rice.

And more

- A few others I'd add to this list include:
- Wholegrain pasta, rice, pitta bread
- Potatoes
- Tinned tomatoes
- Herbs and spices
- Nut butter

Renee McGregor is a leading sports dietitian with over 20 years' experience. reneemcgregor.com

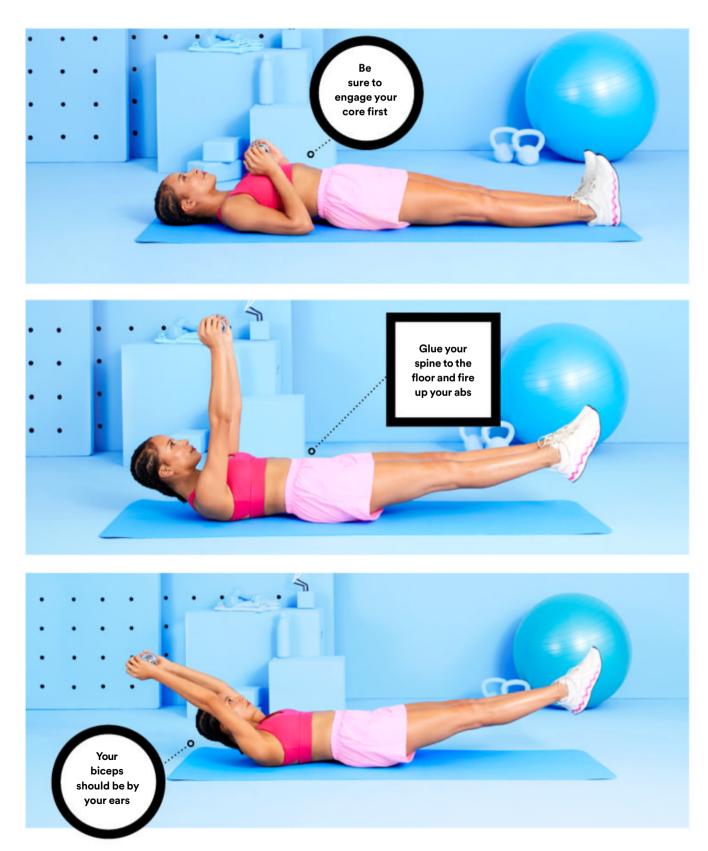


MASTER THE MOVE

HOLLOW HOLD

Soup up this traditional core challenge with an overhead extension to ignite your arms, shoulders and abs

WHY WE LOVE IT: when you think of core moves, you probably think of crunches and sit-ups. But don't miss out on the hollow hold. The notoriously challenging pose is an isometric exercise, says trainer Taylor Rae Almonte, which means you hold a position rather than doing reps. This puts your engaged muscles under constant tension. Also, when you load it with a dumbbell, the difficulty level shoots up. Not only does your trunk have to work harder, but your triceps and shoulders also get in on the action. How to do it
1/ Start by lying flat on your back, holding a dumbbell at your chest.
2/ Push the weight up towards the ceiling and lift your head, shoulder blades and legs off the floor. **3/** Extend the dumbbell overhead. Hold for 20 secs (or for as long as you can), then return to the starting position.





WORK IT IN Try it in an upper-body or core workout. Do 3 sets of 20-sec holds, resting for 10 secs in between.



LEVEL UP Calling advanced exercisers: add narrow chest presses with the weight during the hold.



BODY-WEIGHT BENEFITS

First, execute the standard hold with flawless form for 20 secs, 3 times. Now grab a weight.



MODIFY THE MOVE

Lower back arching when you extend your legs and arms? Bend your knees until you're stronger. GIVE YOURSELF THE EDGE

01

RUNNER'S

Running with the pack

From laptop-laden commutes to epic trail adventures, a running-specific backpack means running freedom. To help you find the perfect fit for your body and your needs, our expert testers put their backs into testing the latest models, and you'll find the best of the bunch here

01 BEST FOR FEMALE FIT RUN COMMUTING

Sweaty Betty Commuter Running Backpack

Women-specific fit £95, sweatybetty.com

PADDED SHOULDER STRAPS AND A MESH

back combined with elegant design mean this commuter pack scores on both style and substance. Designed for women, the body and hip straps are easily adjustable and the chest band fits comfortably across most bust sizes. It's deceptively roomy, with space for a 13-inch laptop, plus toiletries and a change of clothes at a push. Subtle details include reflective eyelets, an outside bottle pocket and bungee cording to strap your jacket to the back. Mud splats wipe off easily, so you can segue straight into office mode.

Weight: 300g Capacity: 13L Soft flask compatible: Yes, not included Bladder-friendly: Yes, not included Waterproof: No

02 BEST FOR HIGH-CAPACITY RACING

02

Nathan Pinnacle Series Vapor

Unisex + women-specific fit £179.99, nathansports.eu

NATHAN'S CLOSE-

FITTING hydration vest is surprisingly spacious. This versatile packhorse is light and compact enough for shorter runs, but the 12L capacity and impressive 13 pockets provide excellent storage for longer days, too. The main compartment's easy-access diagonal zip makes it simple to stow and retrieve in a hurry. Waterresistant chest pockets and a zippered pill pocket - with integrated whistle - add to the stash space. The included 1.6L bladder has magnets to fix your hydration tube in place and height-adjustable chest and sternum straps provide a fine-tuned fit.

Weight: 312g Capacity: 12L Soft flask compatible: Yes, not included Bladder-friendly: Yes, included Waterproof: Water-resistant pockets

05 BEST FOR FEMALE FIT VERSATILITY

Osprey Tempest 20

Women-specific fit

£130, ospreyeurope.com **DESIGNED FOR WOMEN,** this robust pack offers 20L capacity and holds 3L

04

05

of water in an external bladder sleeve. Its considered multiple adjustment points, from shoulder to sternum to hip, make it comfortable on both commuter runs and longer trails. The internal frame, with its Airscape system, helps heavier loads (such as laptops) sit stably and comfortably, while keeping the pack breathable. There are multiple pockets, too, including at the hip, making it easy to get to a phone or snack, as well as external attachment points. The fit comes up narrow, but there's an extended fit option for the broader-framed.

Weight: 900g Capacity: 20L Soft flask compatible: No Bladder-friendly: Yes, not included Waterproof: No (but rain cover available)

03 BEST FOR MULTI-DAY ADVENTURING

OMM Phantom

Unisex £180, theomm.com

MADE FOR SERIOUS

WEEKEND adventures and extreme multi-day races, OMM's Phantom combines big-pack capacity with racevest accessibility. The sevenpoint adjustable harness spreads weight with excellent control over the fit and load. The substantial storage includes two large zippered hip pockets for mid-run essentials, two front 750ml bottle pockets, two front mesh drop-ins for gels and snacks, plus stretch mesh back pockets that extend the capacity beyond the 25L. There's also a removable sleeping mat, it can take a 3L bladder and the durable Cordura nylon offers good weather protection for your kit.

Weight: 725g Capacity: 25L Soft flask compatible: Yes Bladder-friendly: Yes Waterproof: Water-resistant

04 BEST FOR DAY-LONG EXPLORATION

03

Adidas Terrex Aeroready Speed Hiking Backpack

Unisex £130, adidas.co.uk

BUILT FOR MOVING FAST

over tough trail terrain, this 15L pack is comfortable, cleverly designed and compact. And though it won't take larger laptops, it has plenty of run commute potential, too. Zip and roll-top entry offers easy access to gear stowed in the main compartment, and the roll-down closure compresses your payload when you're carrying less. pockets on the wide harness happily holster soft flasks or larger hard bottles. Big, elasticated back stash pockets boost convenient capacity, while a 'Z' wire chest strap and cinch system keeps everything in place. The unique Aeroready ridged back is also brilliant for boosting back-ventilating airflow.

Four stretch

Weight: 550g Capacity: 15L Soft flask compatible: Yes, included Bladder-friendly: Yes, included Waterproof: No

06 BEST FOR FEMALE FIT IN-RUN HYDRATION

Thule Vital 8L

Women-specific fit		
£125,	thule.com	

WITH 8L OF EXPANDABLE CARGO STORAGE, there's room for a jacket, gloves, food, phone, keys and other essentials - plus a generous 2.5L of water in the Hydrapak bladder. The women-specific design provides a secure fit, with the adjustable sternum strap sitting comfortably just above the breasts keeping the bag secure against the body without feeling restrictive. The excellent ReTrakt magnetic hose-return system snaps the water hose back in place after use, making drinking on the move fuss-free. Grabbing gels is also easy, thanks to jersey-style pockets on each side. We

also appreciated the softlined, quick-access front pocket, keeping your phone and sunglasses accessible but protected.

Weight: 550g Capacity: 8L Soft flask compatible: No Bladder-friendly: Yes, 2.5L included Waterproof: No

07 BEST FOR TRAIL RACING

Salomon Sense Pro 10

Unisex + women-specific fit £150, salomon.com

DESIGNED FOR MULTI-

DAY ultras, the highperformance Sense Pro is made from lightweight, breathable, quick-drying mesh. An impressive array of pockets carry hydration, nutrition, clothing and other must-haves. There are front flask pockets (designed for 500ml Salomon soft flasks), three secure zipped pockets (ideal for keys and phone), an expandable back compartment, an extra zipped back pocket and a wide tunnel pocket, which you can access from either side. Elastic ties that you can attach to the back add even more storage. While snug, the women-specific fit offers more space around the chest, so it's noticeably more comfortable. But if you have a bigger bust, we recommend sizing up.

07

08

Weight: 166g Capacity: 10L Soft flask compatible: Yes, included Bladder-friendly: Yes, not included Waterproof: No

BEST FOR MULTI-STAGE RACING

Instinct XX 20-24L

£195, instincttrail.com

Unisex

DESIGNED FOR MULTI-DAY ULTRAS and self-

sufficient adventuring, the Instinct XX combines high volume with clever, segmented storage and a vest-style harness, plus triple chest straps, for a bouncefree fit that feels like you're carrying less weight. The expandable roll-top pouch and clip-on pocket flexes capacity when you need to carry more (hence the 20-24L in the name). The harness stretch pockets can take 650ml soft flasks (which you can buy with the pack for just over £20) or 750ml hard bottles, though there's also room for a bladder. With eight zippered pockets, it's easy to separate clean and mucky kit. Perfect for running long in reliable comfort.

Weight: 620g Capacity: 24L Soft flask compatible: Yes Bladder-friendly: Yes, not included Waterproof: Waterproof pocket

BEST FOR SAFETY

ProViz Reflect360 Hydration Pack Unisex £42.49, provizsports.com

THIS HIGHLY DURABLE

hydration pack offers racevest-style storage and maximum safety. A great option for boosting selfsufficiency on longer, lowlight training runs, it comes with two harness-holstered 500ml soft flasks and a removable 1.5L bladder. It has five pockets with plenty of room for your run essentials. But the standout feature here is how much you, er, stand out. The generous use of reflective fabric lights you up when the headlights hit. It's also waterresistant and the heightadjustable front strap helps dial in a bounce-free fit.

Weight: 400g Capacity: 2.5L Soft flask compatible: Yes, included Bladder-friendly: Yes, included Waterproof: Water-resistant

10 BEST FOR HEAVY-LOAD TRAILS AND COMMUTES

Camelbak Octane 22 Hydration Hiking Pack

Unisex

09

£170, camelback.co.uk

THIS LARGER-CAPACITY

pack offers impressively flexible storage and excellent versatility. It's equally capable on long, remote run adventures, city run commutes and wild hikes. The 2L bladder is removable, so when carrying kit trumps hydration, there's ample space for a 15-inch laptop and other necessities. A 360-degree opening and a row of small internal compartments make it easy to organise your kit. A broad harness – packed with pockets to keep your on-run essentials in easy reach – works with two adjustable sternum straps and a hip belt to reduce bounce. We also loved the ridge-padded back that boosts airflow while softening lumps and bumps.

AMELBAN

10

Weight: 890g Capacity: 22L Soft flask compatible: Yes, not included Bladder-friendly: Yes, included Waterproof: No



RW tips its hat to these unsung heroes that provide on-the-**Peak** provide on-ine-run protection from the elements performance

£30, THEOMM.COM

Made from the same waterproof, breathable material as OMM's jackets, this cap will keep both the sun and the rain at bay. Tested during the **Original Mountain** Marathon race, it's earned the approval of hardy mountain runners in the most inclement conditions.

£9.99, DECATHLON.CO.UK

This does the trick on wet runs when you want to keep the rain out of your eyes. It also has built-in sun protection for days when our local star takes centre stage. An adjustable tab caters for a wide range of head sizes and quick-dry fabric wicks sweat well.

£27.99, ATTAINRUNCAPS.CO.UK

Headgear that performs brilliantly and makes the world a better place. It's made with lightweight, breathable materials and is easily adjustable for a great all-round fit. What's more, all profits go to suicideprevention charities.

£32, ON-RUNNING.COM

Super lightweight and fast-drying with excellent ventilation, ensuring you won't feel like you're overheating, no matter how hot it gets. A gap at the back for a ponytail to fit through is a major plus for any runners with flowing locks to tie back. Performs well in a downpour, too.

5 £22.95, NIKE.COM

This pays homage to the classic Nike 5 panel running cap, but with a few smart performance upgrades. Well-vented and comfy thanks to the Dri-Fit lining, it also has reflective details to keep you visible in low light. A simple but effective touch to save weight sees the inner section of the peak removed, leaving just the outer edge to keep the shape.

6 Ciele Go Cap £40, RUNNERSNEED.COM

Ciele's injection of cool led a running cap renaissance, but there's substance to go with the style. Quality materials deliver comfort and stand up to repeated sweating and spinning in the wash. There's great attention to detail, too, such as the ability to neatly tuck away the strap at the back.



Don't miss a beat

The ECG-enabled Fourth Frontier X2 offers heart tracking way beyond your standard chest strap

Fourth Frontier X2 £429, FOURTHFRONTIER.COM

What is it?

You wouldn't expect to pay much over £100 for a good heart-rate chest strap, so the X2's price tag might set your ticker racing. But this isn't your average BPM tracker. It's the first smart heart-rate monitor to record ECG during exercise, designed to monitor heart health during and after performance. It covers all the chest-strap basics, such as heart-rate-zone training, but also offers 24-hour ECG tracking with ECG spot checks. It even beams your data in real time and you can pay an extra £38 for one-to-one expert consultations.

The 25g sweat- and swim-proof tracker spots changes in your heart rhythm, so it can detect atrial fibrillation. It also monitors oxygen deprivation to assess heart strain during your tougher sessions, giving you a smarter way to manage workout intensity and avoid overstraining your pump for prolonged periods. It also measures breathing rate, heart rate variability and periodic training load, plus cadence and ground impact. And when paired with the smartphone app, it'll track your runs and overlay ECG data on your routes.

There's built-in memory, so you can run phone-free, it can sync with three Bluetooth devices – including most running watches – at once, and there's even a dedicated app on the Apple Watch.

Who's it for?

The significantly cheaper Garmin HRM-Pro Plus or Polar H10 chest straps offer enough insight for most runners' training needs, but if you're interested in tracking heart health or just very serious about laser-focused heart-rate training, the X2 delivers the broadest and deepest heart stats you'll find.

How does it perform?

Despite the bigger, blockier sensor, the X2 is as comfortable as chest straps get, though you'd probably only want to wear it 24/7 if you had a health need. The bright colour display shows useful summary stats, while lights and vibration alerts make it easy to see when it's switched on and tracking. Connection to the watch was reliable, too.

The partner app is well presented and easy to navigate. The main stats are colour coded so you can see at a glance if you're in good or risky zones, and each metric comes with an explanation. There are also full ECG charts, but with no supporting insights they're hard to interpret. Allimportant accuracy matched the Garmin HRM-Pro Plus and the Polar H10, and a two-hour run burned 7% battery, just short of the listed 24 hours' continuous recording, but you'll still get close to a fortnight, training an hour a day.

RW VERDICT 8/10

This is the most capable heart-rate monitor you can buy. It does the basics – reliability, accuracy, comfort, ease-of-use, battery life – brilliantly and offers insights far beyond the running metrics offered by standard chest straps. If you have a heart condition that needs close monitoring or want to know how your training affects your heart health on a deeper level, this is a powerful running partner.



Smart moves

RW's expert-tested guide to the best smartwatches for running your life

THERE'S WRIST TECH that doubles down on tracking every running metric known to science and/or navigating you through the wildest corners of the world; and then there are watches that track the basics of your runs, but also assist with your health, fitness and life when you're not clocking the miles. But with a huge choice of devices across a gaping price range, making the smart choice can seem hard. To ensure the stress doesn't spike your wristmonitored heart rate, our testing team have done the work for you.

HOW WE TEST

Smartwatches from leading brands were put through their paces, with testers wearing them for running and other activities (walking, CrossFit, strength training, etc), and also for going about their daily lives. Watches were judged on their accuracy, battery life, recharge time, comfort, practicality and design. We also looked at their healthand sleep-tracking features.

Garmin Venu Sq 2 Music Edition £259.99, GARMIN.COM

OVERALL SCORE: 81/100 DESIGN: 4.1/5 COMFORT: 5/5 ACTIVITY TRACKING: 3.8/5

GARMIN IS RIGHTLY renowned for its runspecific watches, but the array of health features really stood out here. It offers heaps of stats, including heart rate, stress, respiration and hydration, along with a 'body battery' monitor to help you decide whether to have a rest day or push harder. You can track over 25 sports, choose from a variety of preset workouts or create your own. Plus, the watch can store up to 500 songs, so you can soundtrack your morning miles while leaving your phone at home. Beyond the extensive health and recovery insights, this watch boasts smartphone notifications, contactless payment, Spotify playlists and a workout screen that's a cinch to navigate. An excellent all-rounder and very good value.

• • File • File • Strength • Strength • File • Run •

KEY SPECS WEIGHT: 38G SCREEN SIZE: 3.5CM BATTERY LIFE: UP TO 11 DAYS WORKS WITH: APPLE, ANDROID

23:04.16 ZONE 3 147 BPM • 10:01 TIME IN 20NE 136 BPM HR

RUNNER'S

10:09

BEST FOR IPHONE USERS

Apple Watch Series 8

£419, APPLE.COM OVERALL SCORE: 76/100 DESIGN: 4.4/5 COMFORT: 4.5/5 ACTIVITY TRACKING: 3.5/5

APPLE'S LATEST BITE at the smartwatch excels when it comes to in-depth health monitoring. There's a blood oxygen monitor and the ability to take an ECG, plus REM, deep and core sleep tracking. There's also a skin temperature sensor - handy for period and fertility tracking - and even car crash detection via which, if you're unfortunate enough to need it, the device will contact emergency services on your behalf if you're unresponsive. Fitnesswise, new metrics include heart rate zones, running power and customised interval workouts. It doesn't come cheap, and the battery life is mediocre, but the Series 8 offers a seamless experience. It's slick, responsive and its tech means you can pretty much run your life from your wrist.

KEY SPECS

WEIGHT: 38.8G SCREEN SIZE: 3.8CM OR 4.6CM BATTERY LIFE: UP TO 18 HOURS WORKS WITH: APPLE

GEAR SMARTWATCHES

Fitbit Sense 2

£269.99, FITBIT.COM	
OVERALL SCORE: 74/100	
DESIGN: 3.5/5	
COMFORT: 5/5	
ACTIVITY TRACKING: 3.5/5	

IF YOUR APPROACH to health and fitness is holistic, this is the watch for you. The Sense 2 is big on stress management, with an EDA sensor that measures tiny electrical changes in your skin to work out how stressed you are. Our tester loved the daily readiness score, which uses your data - including sleep, heart rate and skin temp to tell you how prepped your body is for exercise. If it is, there are 41 modes to choose from and a handy in-workout display that gives the low-down on your performance. The screen was a tad glitchy when scrolling, and it can't compete with the likes of Apple or Samsung when it comes to smart features, but it's still a good choice for those looking to live more mindfully.

OCT 9

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> BEST FOR WELLAESS FEATURES

KEY SPECS

WEIGHT: 37.6G SCREEN SIZE: 2.8CM BATTERY LIFE: 6 DAYS WORKS WITH: APPLE, ANDROID

BEST IN TEST

Samsung Galaxy Watch5

E289, SAMSUNG.COM OVERALL SCORE: 89/100 DESIGN: 4.4/5 COMFORT: 4.5/5 ACTIVITY TRACKING: 4.5/5

COMBINING CUTTING-EDGE fitness tracking tech and in-depth health stats, this sleek Samsung model was an instant hit with testers. Not only does it offer over 90 workout modes, but those dedicated to their S&C work can also track individual exercises. The bioactive sensor measures heart rate, blood oxygen levels and body composition, while the sleep coach will help you understand your slumber with a view to helping you get more of it. A strong choice for anyone on Android, but the absolute dream for Samsung users, who can enjoy added features such as blood pressure and ECG measurements. It provides all the data you need on a neat, responsive screen and takes just 30 mins to go from 0% to 45% battery charge.

KEY SPECS

WEIGHT: 28.7G SCREEN SIZE: 3CM BATTERY LIFE: UP TO 40 HOURS WORKS WITH: ANDROID

Amazfit Bip 3 Pro

£69, AMAZFIT.COM	
OVERALL SCORE: 75/100	
DESIGN: 4.1/5	
COMFORT: 5/5	
ACTIVITY TRACKING: 3.5/5	

FOR DECENT FUNCTIONALITY at a lower price point, this lightweight model is a savvy buy. With 60 workout modes (you can even track fishing, which may or may not be a selling point), heart rate reports, sleep and stress analysis, plus menstrual cycle tracking, it offers a good range of features. Our tester found the in-workout data screens highly detailed, providing useful stats to optimise training and recovery - including telling you if your session was fat-burning, aerobic or anaerobic. The heart rate monitor's accuracy was questionable and the sleep data slightly lacking. But the bright screen is responsive, the battery life holds up well and it's a doddle to use. Great value at the price.

> **!** 6200

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HU FEB

BEST VALUE

KEY SPECS

WEIGHT: 33G SCREEN SIZE: 4.3CM BATTERY LIFE: UP TO 14 DAYS WORKS WITH: APPLE, ANDROID

RACE

LET YOUR RUNNING LOOSE



MAJOR PLAYER

Epic in scale, iconic in stature and destructive to records, the Berlin Marathon more than lives up to the hype, finds Joe Mackie



THERE WAS NO SURPRISE CALL-UP for a World Cup date

with Messi last summer. No Wimbledon wild card materialised to knock up with Federer. But thanks to the uniquely egalitarian nature of running, on a chilly September morning, I found myself sharing the start line of one of the world's great races with the greatest marathoner of all time. Well, sort of. As I watched the elite field being introduced on the giant screen above my Berlin Marathon start pen, Eliud Kipchoge was a fair way ahead, and my chances of catching him were rather slim. But I figured if I stuck somewhere near the race line I would literally follow in his carbon-plated footsteps at some point.

Of course, chasing the GOAT wasn't the only reason I was in Tiergarten park on that particular Sunday morning. Berlin had long been top of my love-to-do list. The beautiful course through the historically fascinating city, with its showstopping Brandenburg Gate finish, is renowned as the fastest of the World Marathon Majors and had been the setting for

the past seven world records. I wanted the Berlin experience, and to have a crack at a record of my own. Surveying the scene of intent-signalling split shorts and sinew in the expansive, perfectly organised start area, I sensed many shared my ambition. The friendly atmosphere was tinged with purpose, while club logos and name-printed vests revealed the global pull that had drawn 157 nationalities to join the 45,000 starters.

Back in the pen, we watched Kipchoge go, then followed along the wide boulevard that bisects the Tiergarten, flowing around the enormous Siegessäule statue. I took the golden figure of the Roman goddess of victory looking down on us as a good omen. More prosaically positive was the total absence of gradient and turns for the first mile.

The road narrowed and the field tightened as we crossed the river Spree and swung back to the city centre. As it would be throughout, support was warm and fairly plentiful, but not quite New York or London in number, volume or energy. Our

THE RUNDOWN

Berlin Marathon 2022 **First man: Eliud Kipchoge** 2:01:09 **First woman:** Tigist Assefa 2:15:37 Last finisher 7:53:05 No. of starters/ finishers 45,527 / 34,751



Finishing stats: < 3:00 7% **3:00-3.29:59** 15% **3:30-3:59.59** 24% 4:00-4:29.59 21% **4:30-4:59:59** 16% >5:00 17%

collective rhythm settled, we moved almost as one through the big-hitting architecture of the city centre, criss-crossing the river before heading to Mitte and Kreuzberg, formerly areas of East Berlin. It was a fascinating rolling tour, but with the course still densely packed, my sightseeing was limited by the need to spot gaps and avoid coming-togethers.

As the kilometre markers and slick, well-stocked aid stations rolled by, a tentative sun appeared to gently usher out the race-perfect chill of the early miles. We pressed on through the wide expanse of Strausberger Platz, past grand residential blocks punctuated by squares and historic buildings. After the halfway mark, we reached the city's outskirts, before the course led us back inwards through the Kurfürstendamm shopping district and the famous Potsdamer Platz where the crowd cranked up.

Beginning to feel that all-consuming fatigue unique to the business end of marathons, I could see the same battle lines etched on the faces around me. Shared struggle always creates a bond

BERLIN MARATHON

RACE

The Berlin Marathon is a truly global event, with 157 nationalities among the 45,000 race starters, and everyone has their eye on a PB

Like this? Try... three other World **Marathon Majors**



NEW YORK CITY MARATHON

Starting on the Verrazano-Narrows Bridge, the course takes runners through all five New York boroughs and finishes in Manhattan's Central Park. The bridges and a few hills mean it's not a go-to PB course, but it makes up for it with the mind-blowing atmosphere. New York, US, 5 November 2023, nyrr.org

BOSTON MARATHON

The world's oldest 26.2 is steeped in history and just achieving the required qualifying time for your age and gender is a serious badge of honour. The course is a hilly point-to-point, with the (in)famous Heartbreak Hill notoriously sapping legs and spirit at mile 20. Boston, US, 15 April 2024, baa.org

TOKYO MARATHON

The newcomer to the club was given Major status in 2012 and is the only one outside Europe and the US. It follows a city-centre route through all Tokyo's central districts and is relatively flat, with big crowds, but the jet lag probably won't enhance your PB potential. Tokyo, Japan, 5 March 2024, marathon.tokyo



on a marathon course, but there seemed an added poignancy on the streets of a city with such a troubled history, among strangers who had travelled from all corners of the world to join this celebration of humanity.

Dragging my mutinous lower limbs into Pariser Platz, I finally saw the Brandenburg Gate looming ahead. Not the finish, but close enough that I managed a smile, savouring a special running moment before grinding out the final few hundred metres to the finish back in Tiergarten, where a glance at my wrist confirmed the fast

HISTORY IN THE MAKING You can't help but feel a sense of occasion at the **Berlin Marathon** especially when **Eliud Kipchoge is** there to break the world record

of Kipchoge's world record drifted to me via the excited chatter of a passing group of American runners. I looked at the engraving of his face on my medal

flat course had helped me to make my

own personal bit of marathon history.

Under the imposing gaze of the

Reichstag, I sipped my alcohol-free

Erdinger, watching fellow finishers

shuffle by, each with their own story

to add to the grand narrative of what

is a truly incredible event. Then news

and silently thanked him for sprinkling an extra bit of stardust on an already memorable day for me and tens of thousands of runners he'd never meet. I'm sure he'll be back in Berlin and I would dearly love to join him.

THE LOW-DOWN

GET THERE Sports Tours International offers brilliantly organised three, four and five-night packages to run the Berlin Marathon, including guaranteed race entry and a choice of four-star and five-star hotels. Staying at the Novatel Berlin Am Tiergarten means you're walking distance or a couple of U-Bahn stops from the start/finish. For more info, see sportstoursinternational.co.uk

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LUNDY ISLAND RACE

10

North West Point

North End

RACE

ROUTE RECCE

LUNDY **ISLAND** RACE

Race director Mark Brooks guides you through this 13.5miler around the tiny isle, which lies in the **Bristol Channel**

'I WAS MARKING OUT

ANOTHER RACE in North Devon when I chatted to a chap about Lundy, which got me thinking that it would be an ideal setting for a race,' says Brooks. 'The island is off the Devon coast and is only three miles long and half a mile wide; it's rugged but very beautiful. We can only take 250 runners on a chartered boat over on the race morning, but some other entrants make their own way there and often camp. We held the first race in 2018 and it has always sold out. The weather has been glorious so far and there's a great sense of camaraderie on the boat back to the mainland afterwards.'

This year's race is taking place on 2 July. For more details, visit outeredge-events.com/lundy



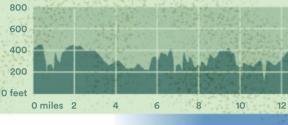
START

After a two-hour boat journey from Ilfracombe, runners walk from the jetty to the village and race HQ. On the green outside the island's only pub, the Marisco Tavern, you head north on the first of two long loops followed by a much shorter one.

O	1st loop (clockwise)
0	2nd loop (clockwise)
	3rd loop

(anticlockwise)

Course Profile



- MILE 1

You're running on a gravel path along the spine of this granite island with views out to sea on both sides. It's a diverse wildlife haven, so look out for wild ponies, highland cattle and its population of puffins; in Old Norse, Lundy means 'puffin island'.



- MILE 2.5

After passing Brazen Ward, the remains of a former military gun battery, you reach your first turning point at the aid station above one of the island's three lighthouses.

- MILE 5

Take care on this undulating and technically challenging section along the rugged east coast of the island. The seas here are a Marine Conservation Zone, so look out for seals on the rocks.

→ MILE 8

Runners are now strung out along the west coastline, which is in stark contrast to the eastern side. Here, you're running along grassy paths above the cliffs where the colony of puffins nest, making it a twitcher's paradise.

- MILE 10

On reaching the island's northern tip, you descend about 100 or so steep steps to the lighthouse. Once you're there, collect a wristband to prove you did it, before climbing back up the same punishing flight of stone steps.

- MILE 12

After neading back along the island's central track, you complete a smaller loop just south of the airstrip and close to Old Light lighthouse.



Halfway Wall Bay

Lundy Marine Conservation Zone

> Acklands Moor **Beacon Hill**

3rd loop

Landing Bay

Jetties

South West Point



🕽 FINISH

Following a final climb back up to the village, you will have ascended 515m in total along the course. Collect your distinctive puffin medal and enjoy the post-race buffet before hopping on the MS Oldenburg ferry to the mainland at 6pm.

JULY 2023 RUNNERSWORLD.COM/UK 091

STILL GOING Strong: Langdale Marathon

The UK's toughest road marathon has stood the test of time

HOW DID IT START?

THERE WOULD BE NO Langdale Marathon without the 'Rocket', Rod Berry. The Manchester-born lad moved to the Lake District in the mid-1980s and set about righting a major wrong: the area had no marathon. Berry scouted around Langdale, measuring with a metre wheel – and the route remains largely the same today. For decades, Berry was the race director in his spare time; he'd keep a note of runners' favourite numbers to make sure they got them and even hand-wrote letters to every entrant in its early years. It's no surprise that the Langdale Marathon has a fiercely loyal field of runners – and Berry, now in his eighties, shows up when he's well.

WHAT'S IT LIKE?

UNUSUALLY FOR A RACE in the Lake District, this one is almost entirely on roads - certainly making it the toughest road marathon in the country. Pacing yourself is absolutely essential here, as marathon runners do two loops of the 21.1km route. The first uphill comes just before the 2km mark - and it's a big one, ascending around 120m in just 1km. That might be tough enough, but you'll be facing this hill once again when you begin your second loop. All in all, marathon runners ascend around 860m on this challenging course.



WHO RUNS IT?

A LOT OF fell runners dust off their road shoes especially for the Langdale Marathon and line up alongside the race's loyal group of fans who are there just about every year. There is also a surprising number of first-time marathoners who boldly start their long-distance running careers in perhaps the most difficult way possible. Jarlath McKenna holds the course record of 2:41:34, which he set in 2021 – and, remarkably, completed his first lap faster than the eventual half marathon winner.

THREE REASONS TO RUN

A PSYCHOLOGICAL CHALLENGE

Marathon runners complete two loops of the course, making this race an enormous mental test as well as a physical one. Remember the treacherous hill climb that almost ended you right at the start of the run? It'll come back to test you once again in 21km and so will all the others. 1 / Runners climbing up Blea Tarn Hill 2 / Rod Berry and Scott Umpleby 3 / Langdale's route map 4 / Runners on the UK's toughest 26.2 5 / Marathon winners from 2018 to 2022

THE SCENERY

You don't need us to tell you that the Lake District is nice, although there aren't many races that showcase it as well as this one does. In a fell race, you'll always have at least one eye on the ground to avoid a tussle with gravity, but here the terrain is surer, freeing up some eye capacity to take in all those views. If you're coming from further away, it's hard to imagine a better race to combine with a holiday than this one.

LANGDALE MARATHON





• THE SENSE OF ACHIEVEMENT

With PBs totally out of the question, merely finishing the Langdale Marathon is a truly impressive achievement. And since it's so tough, there's a real sense of a shared experience with marshals, supporters and fellow runners, who encourage and cheer along anyone who is struggling. Which, for the record, is everyone.

ANYTHING NEW?

THERE HAS BEEN one small tweak to remove a section of gravel, so that the race is almost entirely on road. Otherwise, the Langdale Marathon has hardly changed in its 35 years.



WHAT THEY SAY

THE RACE DIRECTOR

'It's a road event that really appeals to fell and mountain runners because it's hilly. The route is on single-track tarmac, passing places in stunning scenery - and it goes quite high. So when it's cloudy and raining, it literally just feels like you're running in the fells even though you're on the tarmac.' - Scott Umpleby

THE STALWART

'There's a steep hill, about 25% gradient, really soon after the start. I didn't know it was coming and was pretty naive the first time I did it. You start off and there's all the normal banter, then you run along this little lane and come around a corner and there's this absolutely - excuse my language - f***-off hill in front of you. It's so hard. I remember coming around the corner and laughing. I've got to run up that? But it's absolutely beautiful. The race is in October, so sometimes you get those beautiful autumnal days when it's golden.' – Damian Hall

WHO KNEW?

THERE WAS A FLURRY of news articles recently claiming that the Langdale Marathon is the country's toughest marathon because of its very high 15% DNF rate. Umpleby is baffled by these reports. 'I don't know where that figure of 15% has come from,' he says. He checked the numbers over the past five years and found that 5% to 8% of runners did not finish every year.

WAY BACK WHEN

1989 George H W Bush was sworn in as 41st President of the USA. Student-led demonstrations were violently suppressed in Tiananmen Square in Beijing.

The Langdale Marathon takes place on on 21 October. Brathaychallenges.com

JULY 2023 RUNNERSWORLD.COM/UK 093

RACE

STA

START LIST

THE START LIST

RACE

Our selection of the best, fastest, toughest, quirkiest and most enjoyable UK races this month



Yr Wyddfa, Snowdon24 Llanberis, Caernarfonshire, 8 July The route for this

event is 15.3km in length and ascends 1,085m up Yr Wyddfa from Llanberis and back. Tough, but not impossible, right? Well, you're not doing it just once. Probably not even twice or thrice, for that matter. You're doing it as many times as you can in 24 hours. There's a scaled set of goals to aim for: the Snowdon Triple is for three ascents and descents, Mont Blanc is five, Kilimanjaro is seven and Everest is all yours if you manage to complete a magnificent 10 rounds of the route. *alwaysaimhighevents.com*

Beat The Boat

Eton, Berkshire, 16 July This race takes the concept established by the famous Race The Train event in Tywyn and expands upon it brilliantly. There are five boats that effectively function as pacemakers (if pacers could somehow carry dozens of people, including your family and friends, on their shoulders), and you can choose which one to race. The boats cover the 10K in 40, 50, 55, 60 or 70 minutes, so this is an event that is suitable for the majority of runners. *runface.co.uk*



The Wales Swimrun East Freshwater, Pembrokeshire, 22 July

It was the Swedes who originally came up with this simple but punishing concept: a seemingly never-ending series of alternating swims and runs. You'll complete seven of each, spending 24km on land and 7km in water. You can tackle it solo or with a teammate, but you'll need to stay near each other. Anyone who takes part will earn our respect. thewalesswimrun.com

The Quantock Beast

Broomfield, Somerset, 2 July Somerset is a hot spot for sightings of big cats roaming the countryside, but we think that runners are safe from these evasive predators: we're too sinewy, see. Not tasty enough. And we're quick! There's easier prey out there than a runner. And you can consider yourself a pretty darn tough runner if you manage to finish this event, a 9.2km loop with plenty of hills and a variety of terrains, from road to trail, then grass to mud. quantockharriers.co.uk



Harris Half Marathon

Borve, Inverness-shire, 8 July There's a decent chance that you'll be so distracted by the achingly gorgeous landscape of Harris that you might not even notice the five-ish kilometres of pure uphill in the middle of this race. While it's not as mountainous as you might expect, it has dreamy windswept hills that'll bring out the poet in every single runner and reinforce the conviction that, yes, we do have the best hobby in the world. harrishalfmarathon.org



Great North 10K Newcastle, Tyne and Wear, 2 July

We're not exactly sure what it takes to qualify as a British institution, but surely the Great Runs must be at that point by now. As mass-participation urban events go, they are unrivalled. This 10K run features a brand-new route through Newcastle, showcasing many of the city's best sights. Veterans of this event will be pleased to know that the uphill right at the end, nicknamed 'the slog on the Tyne', is no more. *greatrun.org*

Lyme Park Half Marathon

Disley, Cheshire, 2 July This trail half marathon has an early kick-off of 7am, which may sound unreasonable now, but it will be most welcome once the July temperatures kick in. Your already-good chances of spotting some wildlife in Lyme Park will be improved even further by the early hour. The route is nicely planned, throwing some uphills, downhills and decent scenery your way from the very start, before levelling out along the Macclesfield Canal. bigfeatevents.com



Abersoch Half Marathon

Abersoch, Gwynedd, 15 July This event is probably best known for its tough finish along Abersoch beach, but focusing on just that does the race an injustice. The route, which follows winding country roads, is a real treat, but with plenty of undulations along the way. You'll need to pace carefully to make sure you're not running on empty by the end. This event can be combined with a 10K and a triathlon over the course of the summer to complete the Abersoch Triple Crown. abersochtriplecrown.com

Dawn on the Downs

Washington, West Sussex, 23 July An 8am start isn't quite the crack of dawn, but you'll still benefit from the crisp morning sunshine on the South Downs, hopefully with a nice clear day to admire the views available in all directions. Both the 10K and the 10-mile routes take place on the most scenic parts of the South Downs Way, veering off the trail to give you some extra uphills and downhills. Canicross is encouraged on this excellent event. rawrunning.co.uk

Hever Castle Festival of Endurance Hever, Kent, 9 July

RW POLL

There's a race photographer up ahead. What do you do?

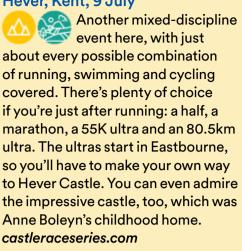


34% An understated

wave or smile
41%
Run with



Ignore them Based on a Twitter poll with 332 votes



Giant's Trail Race

Belfast, Antrim, 28 July Here's an up-and-down six-miler on trails though the southern outskirts of Belfast that squeezes a few interesting views into a relatively short route. It follows sections of the River Lagan before it matures into the larger waterway that passes through Belfast, and you'll also pass a Neolithic structure consisting of five upright stones and a monstrous capstone called The Giant's Ring. It's thought to be nearly 5,000 years old. dubrunners.club



RW ONLINE Race Listings

Thirsty for more? Go to runnersworld. com/uk and click 'Events' for our comprehensive race database, powered by our events partner Find A Race, where you can search

hundreds of races by location, terrain, distance and more.

Kirkbride Half Marathon & 10K

Kirkbride, Cumbria, 2 July This is it – the race that will be written in the history book of your running career. The course is made for PBs, with quiet, flat country roads that reach one small hill around 17km in, which gives you a thundering downhill to the finish. You won't be crowded out in the small field, and with the morning start, you'll most likely be done and dusted before midday. You've been training hard all winter and spring for this. sportinaction.co.uk

The Age Grader

Oldbury Naite, Gloucestershire, 23 July

The older we get, the more we think that all races should be decided like this. The winner of this five-miler is unlikely to be the person who crosses the line first. Different age categories start in different waves, and whatever time you log will be modified based on an algorithm that it's easier to trust than question. This is the perfect race for runners with whippersnapper kids who need taking down a peg or two. Search RogueRuns

Advertisement

Steve stays on track with **TURMERIC+ GOLD**

Landscape gardener and former triathlete, Steve Chalk, 60, from Weymouth, turned to Turmeric+ Gold when he began to experience discomfort in his inner right knee.

'The discomfort was especially noticeable at night when I was turning over from my left to right side.' Steve remembers.

'It was starting to wear me down and prevent me from running, which I love to do.

'I was looking for something to help me and I read about the Turmeric+ Gold capsules.

'I was interested that it had helped other people and I liked the science behind the supplement. I thought I'd give it a try, as frankly I had nothing to lose.

After about three months, I was sleeping better, I realised I was no longer feeling the discomfort in my knee.

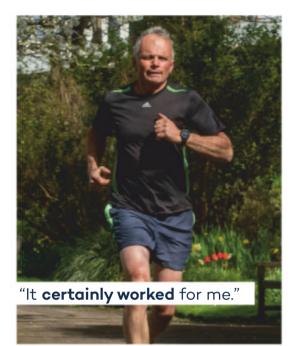
I love my sport and am back to competing in park runs on a regular basis - it certainly worked for me.'

Turmeric contains compounds called curcuminoids, the most notable of which is curcumin.

Not only is curcumin responsible for turmeric's distinctive yellow colour but it's also what makes it such a powerful spice.

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contributes to normal collagen



formation for the normal function of cartilage and vitamin D, which contributes to the maintenance of normal bones and maintenance of normal muscle function.

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The products were formulated by FutureYou Cambridge, well-known for its science-backed health supplements. The company, based in Cambridge, regularly consults with highlyregarded scientific and nutritional experts and

has also developed close ties with world-leading educational institutions.

Turmeric+ Gold is the most advanced and purest turmeric formulation yet, providing the same 100mg of curcumin as its counterpart but delivering it using sunflower lecithin which makes it allergen-free.

It also comes in an easy to swallow capsule rather than a tablet.

Both versions contain the patented Curcuma Phospholipid Complex which makes them 30 times more absorbable



than standard turmeric.

They also contain vitamin C which contributes to normal collagen formation for the normal function of cartilage and vitamin D, which contributes to the maintenance of normal bones and maintenance of normal muscle function.

'I can't think of a better way to convince people. If they like it, they will stick with it. Tens of thousands

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of customers already do.' says Adam Cleevely, Chair FutureYou Cambridge.









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IM A RUMER JENNI FALCONER THE RADIO PRESENTER AND PODCASTER, 47, ON COASTAL RUNS AND LAUGHING WHILE RUNNING

I HAD FOUR MONTHS

of being injured last year, which was gutting. Having run for quite a while, I know there's nothing worse than sitting at home, hearing about people's runs and dreaming of running yourself, but you just can't.

THE INJURY WAS CALLED gluteal tendinopathy, which is basically just a swollen backside – it was really annoying. I always get problems with my glutes and it's clearly because I'm not strengthening enough. So, I did gym work for months and loved it, but it's not running is it? When I was given the go-ahead to run again, I was delighted.

UNFORTUNATELY, I WORE HEELS

and danced like an idiot on New Year's Eve at a ski resort, which isn't great when you're about to start a 16-week marathon training plan. I had a balloon-sized ankle, so my training got pushed back by a week.

EVERY TIME

I RUN, I have a big cheesy grin on my face. If you see me out running, please smile back because I smile at everyone, but no one else smiles!



MY FAVOURITE PLACE

TO RUN is the south of Spain – there's a stretch near Marbella that goes

on for 10 miles along the coast. If you go out in the morning, you see the sunrise, and in the evening, you see the sunset – there are loads of people out there running and walking.

I'M IN MY MID-FORTIES, and with that, things change in your body as a female. I've been told the ideal thing to do is lift heavy weights – so I've started working with a trainer twice a week, focusing on running moves



with heavy weights, such as lunges, squats and deadlifts. It's really benefitting me.

IT'S HILARIOUS

how we can moan about going out for a run, but then brag about how brilliant it was once we get home. We know we won't regret it, but it's just about getting off the sofa – sometimes you just can't be bothered.

YEARS AGO WHEN I GOT MY PB

for the London Marathon, I was weight training twice a week. I was strong and ran the race in almost exactly the time I wanted, 3:30, and I got 3:31, so I was only one minute out – but I ran at the same pace pretty much the whole time.



'l used to do my radio show on race morning and go straight to the race'



I'VE DONE THE LONDON

MARATHON eight times for different charities and am also an ambassador for the race. I used to do my radio show on race morning and go straight to the race – I'd be on-air in my kit from 5.30am, leave the studio at 9am and head to the start as quickly as I could.

ONE TIME, YEARS AGO, after going

to a running event, I remember getting home late because I'd been chatting to people in a pub about running.

My husband asked, 'What did you do?' And I said, we drank Diet Coke and talked about running. He said, 'That sounds like fun.' But if you're not a runner, you won't get it.



IF YOU'RE ANYWHERE IN



THE WORLD and meet someone who runs, you can chat for hours. You have

that common bond – I think it's lovely.



not listening to a podcast. I like listening to something because it's my time out.

I RUN TO MUSIC if I'm

My day is pretty busy, so it's a good way of relaxing because I wouldn't get a chance to otherwise.

BUT IT'S HARD to watch or listen to something and laugh while running. It's not the most hilarious thing in the world, but I once watched an episode of *Friends* – the one with Brad Pitt – when I was on the treadmill running at 14km/hour and something funny happened, I fell off the treadmill! So I'm now very cautious – running and laughing is hard work.

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