

TRAIN WITH ALL YOUR KIT

"The most important thing with a hot-weather race is to train with the kit you'll be using. At the Marathon des Sables I saw people turn up with a 10kg pack who had never worn a rucksack in training. Your shoulders will suffer, but it also increases pounding through the joints, so you need to condition your body. Test your running shorts and your underwear to see if it causes problems in the heat. You'll ideally want a light top with long sleeves to protect from the sun."

ACCLIMATISE EARLY

"In hot conditions your perspiration changes – in terms of the sodium concentration of your sweat and how soon you start sweating. Arrive early and you will need less salt as your body adapts to the heat. That's why elite runners like the Moroccans in the Marathon des Sables drink less. They are fully acclimatised and have minimal sweat losses."

BUILD YOUR STAMINA

"When you get tired in hot weather your gait and biomechanics can suffer, putting you at risk of injury. So for a single-stage event you should train at high intensity and do big distances once a week. For multi-dayers, you need to be able to recover fast, so mirror that in your training by doing consecutive days: 5km then 10km then a half-marathon."

KNOW YOUR OWN SWEAT RATE

"There is a lot of misinformation about hydration, with people claiming you need so many litres per hour. But actually hydration needs can fluctuate from person to person from 200ml an hour to 2 litres an hour – a huge difference. Gauge what you need by weighing yourself before and after an hour-long run: the decrease will suggest your own specific sweat rate and how much fluid you need to drink. If possible, do this in a hot climate – and keep a log of how much liquid you consume, too."

ADD A PINCH OF SALT

"You need to have salt with your water. When you sweat you lose salt too, and if you replace it with water alone you'll keep diluting your blood. You can get hyponatremia not just from over-consuming water, but from replacing normal water losses without salt. The correct amount is around 0.3–0.5g per litre, so it's just a pinch."

EAT SMALL, REGULAR MEALS

"You have to force the food down in a hot environment, as your appetite is repressed. Think less about protein, as meat is less easily digested when you're dehydrated. You do need fat and carbs over long distance, though. Eat regularly during the race so you don't use up too much stored energy, then pig out in the evening to make sure you're ready for the next day."

HOT

If you've booked a warm-weather training camp, plan a desert challenge or just want to prepare for the next British heatwave, Mark's wisdom will help

Tune up for the dunes by training with a pack and weighing your sweat

KEEP A STEADY PACE

"Humid conditions are the hardest for exercise: you generate heat from muscle contractions but all your normal cooling systems fail. Sweat needs to evaporate on the skin, creating an energy exchange which has a cooling effect. But in humidity up to 100% that doesn't happen, so you just lose fluids with minimal cooling and your body temperature keeps on rising. Easing off when it gets hard doesn't work – it's better to run at reduced pace and stay in control of your body temperature rather than over-heating."

KEEP COOLING DOWN

"I saw people hospitalised in the Jungle Marathon, and one guy went into a coma: he got so hot it started causing brain damage as his control centres for managing temperature stopped working. It's important to stop and recover, allowing your body to cool down. You should also use water crossings to submerge yourself and allow heat to dissipate."

PLAN YOUR FOOD STRATEGY

"In humid conditions the body doesn't crave food, so eat stuff you know will work without upsetting your stomach. I like baby food from Ella's Kitchen – basically organic smoothies in a pouch. They're not as sweet as energy gels and are more natural to take on board. In humid climates I take on fruit juices every half an hour, too."

HUMID

Struggle in steamy conditions? Planning to race or train in tropical climes? Either way, Mark has plenty of tips to keep you cool, calm and in control

WATCH OUT FOR WARNING SIGNS

"Managing hydration is even more important in humid jungles than in the desert, as you are losing a lot of water. It only takes a 1% drop in hydration to suffer a reduction in performance, and after 2–3% it starts affecting coordination. I'm aware that if I scuff my feet or stub my toes three times I must be dehydrated. So look out for those signals and stop and take on water and electrolytes, even if you don't feel thirsty. If you don't feel thirsty but know you must be dehydrated, you're probably down on salt – so top up your sodium too."

RECOVER WELL

"Even if you're distracted by tiredness, make sure you take care of your feet – they can really suffer in hot and humid conditions. You can also help your recovery after each stage of an event by keeping moving – walk around if you can, and make sure you take on some food as soon as possible after finishing."

WEAR MINIMALIST KIT

"Wear the absolute minimum, like shorts and a running vest, and keep them tight to the skin – there are lots of bitey things in jungles! The skin heals, so it's better to get a few cuts than wear heavy clothing. Footwear is important too: jungle terrain can be uneven, so look for lots of stability and cushioning. Research the terrain and weather before you set off."

Mark will be giving a lecture on nutrition and hydration for endurance sports at the British School of Osteopathy in London, 10th December. Tickets cost £15, visit markhines.org