

HEAT SEEKER

Preparation for hot weather can go a long way

Feel slow in hot weather? You're not imagining things. Endurance athletes experience lower power output and reduced performance in the heat. Here's why: In extreme heat, core temperature rises to a point where the body is forced to divert energy from the task at hand — pedaling hard — to cooling itself off. The human body works optimally within a narrow temperature range. If your cycling effort, and the heat, push it outside that range, it will spend as much energy as is necessary to bring it back down.

Our bodies cool themselves primarily by sweating. Because your body cools itself in this way, surface area is important. More specifically, the ratio of surface area (skin) to overall mass is important, since it takes more surface area to cool a larger mass. In this regard, small, thin people have an advantage over larger athletes. They simply have a higher surface area to mass ratio. (Big guys, here's your silver lining: You have a higher power-to-drag ratio.)

But sweating, as you know, can only do so much. Plenty of races are held in weather conditions where there's no way to keep core temperature from rising beyond a healthy level. It's not just straight heat either — humidity adds to the mix.

In humid conditions, the air is close to being saturated and won't let the sweat evaporate from your body. So the folks racing in Georgia in June on a 75-degree day with 80 percent relative humidity are really facing similar heat index issues as the folks in Tucson where it's 95 with 15 percent relative humidity.

Racing speed is also a factor. Short, fast races like criteriums and track events help with sweat evaporation, and thus cooling. But events like hill climbs, mountain-bike races or even extended steep climbs within road races make cooling more challenging because of the slower speeds.

Runners are extreme examples of the low-speed, high-heat problem. Optimal temperatures for a fast marathon are considered to be in the 40s, and many runners will skip an event entirely if the weather is an otherwise pleasant 70 and sunny. Core temperature management is such an issue in running that a recent study showed that among otherwise evenly matched elite marathoners, the one who could maintain his pace while withstanding the highest body core temperature was nearly always going to beat the others.

Here are a few strategies to help you combat the heat.

TRAIN: That's right, fitter aerobic athletes will nearly always have an advantage over their less trained competition when the mercury goes up. We often hear talk about a course being selective, and in addition to hills, wind or corners, heat (plus humidity) can be a selection factor.

GET OUT INTO THE HEAT: If you're going to race in hot weather, train in hot weather. If you're an early bird who usually trains before work when it's cool, try to carve out time to meet the local lunch ride or hit the evening training race. If you live in a milder climate you can prepare to race in the heat by overdressing for rides or riding the trainer.

PREACCLIMATE: What sort of training should you do, and how long will it take to acclimate? In terms of what to do, the jury is still out. Some experts recommend performing one's highest intensity rides in the hottest environment available to speed acclimation, while others believe that method compromises workout quality and recommend longer, lower intensity rides in the heat. The latter strategy has the added benefit of providing more overall time in the heat. Whichever strategy fits best for you, the one clear point is to simulate your target race conditions.

GRAHAM WATSON

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