Tactical Dehydration Increases Speed

Running thirsty actually improves performance.
By
Alex Hutchinson;
Image by
David Brandon Geeting
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Drink after your run to boost your blood.

Up is down. Black is white.

And dehydration makes you faster–if you time it right. It seems crazy, but scientists and coaches have begun experimenting with dehydration as a training tool, using it to trigger endurance-boosting adaptations in athletes' blood. That translates into faster race times when the athletes are fully hydrated. Unlike many techniques used by elite runners, this one's easy to try at home. But it's also easy to get wrong, so approach it with caution.

The best way to dehydrate yourself is to train in hot conditions without immediately replacing all the fluid you sweat out. Runners have a long history of doing this to prepare for summer races, but it was only in 2010 that University of Oregon researchers discovered that dehydration training also boosts performance in cool and comfortable conditions.

The secret? Like muscular fatigue and other stresses, dehydration tells your body to make changes to counteract the stress. If you experience dehydration during workouts for several days in a row, your body responds by increasing the volume of blood plasma pumping through your arteries. That makes it easier to get oxygen-rich red blood cells to your muscles, allowing you to sustain a faster pace for longer. Here's how to harness this effect in your training:

Schedule It

You can get the benefits of dehydration in as little as five days. In a study published earlier this year, New Zealand researchers found 90 minutes of light exercise without midworkout drinking on five straight days boosted plasma volume by 8 percent–enough to lower race times by a few percentage points. They used easy-effort intensity, but you can achieve similar effects with shorter, harder bouts or cross-training.

The best time for a dehydration block is two to four weeks before your goal race, as you transition from heavy training to taper. If your schedule dictates a longer gap, add two dehydration runs per week until a week before the race.

Run Thirsty

The goal is to dehydrate yourself by somewhere between 1.5 and 2.5 percent of your body weight in each session. What it takes to achieve this is a trial-and-error process that depends on your sweat rate, exercise intensity, and local running conditions. Weigh yourself (naked and dry] before and after your runs to assess how dehydrated you're getting. If you're not getting dehydrated enough, wear extra clothing or run longer. If you're getting too dehydrated, drink more. In serious heat, you may need to drink quite a bit midrun to stay in the target range.

Refuel and Recover

Researchers have found that you get twice as big a boost in plasma volume if you refuel with a mix of carbohydrate and protein within 10 minutes after a dehydration workout. Aim for a 4-to-1 ratio of carbohydrate to protein–a glass of chocolate milk, for example. Also be sure to drink enough water to return to normal hydration.

Be Careful

Dehydration has very real risks if you overdo it, so don't stray too far from home, and carry water or cash in case of emergency. If you notice nausea, a headache, dizziness, muscle cramping, confusion, or unusual fatigue or irritability, stop and get water and/or help.

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Read more from Alex Hutchinson on his blog, Sweat Science*, and follow him on Twitter @sweatscience.*