

## Sipping Points

The latest research on how to prevent dehydration—and boost your running performance.

By Karen Asp

RUNNERS KNOW it's important to stay hydrated to run their best, especially in the summer. "Being more than two percent dehydrated in warm environments causes a decline in performance," says Robert W. Kenefick, Ph.D., a physiologist with the U.S. Army Research Institute of Environmental Medicine. To keep fluids handy, you probably stash a water bottle in a gym bag or leave [sports drink](#) in your car. But to really improve performance, you need to be more than a casual sipper. A number of recent studies offer runners smarter ways to stay hydrated while also giving their running a boost. Here's how you can apply some of these strategies to your own hydration plan and run your best all summer long.

### PRE-HYDRATE TO RUN FAST

**WHY** In a study in the April 2010 Journal of Athletic Training, runners who started a 12-K race dehydrated on an 80-degree day finished about two and a half minutes slower compared to when they ran it hydrated. Dehydration causes your blood volume to drop, which lowers your body's ability to transfer heat and forces your heart to beat faster, making it difficult for your body to meet aerobic demands.

**DRINK UP** Drink eight to 16 ounces one to two hours before a run. Sports drinks and water are good choices, says running coach Cassie Dimmick, R.D. Iced coffee and tea are fine, too. Didn't plan ahead? Fifteen to 30 minutes before going out, drink at least four to eight ounces of fluid.

### GO COLD FOR LONGER RUNS

**WHY** In a study published in 2008 in Medicine & Science in Sports & Exercise, cyclists who drank cold beverages before and during their workout exercised nearly 12 minutes longer than those who drank warm beverages. And in a study published this year, runners who had an ice slushy ran about 10 minutes longer than when they had a cold drink. In both cases, the drink that was colder lowered body temperature and perceived effort, allowing participants to exercise longer.

**DRINK UP** Before going for a hot run, have a slushy made with crushed ice and your favorite sports drink. To keep drinks chilled while you run, fill a [bottle](#) halfway, freeze it, and top it off with fluid before starting. Running a loop? Stash bottles in a cooler along your route, says Dimmick.

### STAY ON SCHEDULE

**WHY** According to a study in the July 2009 Journal of Sports Sciences, when cyclists recorded their plan for hydrating during workouts—including exact times and amounts—they drank more frequently and consumed more fluid midworkout than their nonplanning peers. "Planning helps people remember how much and when they need to drink," says lead author Martin Hagger, Ph.D., of the University of Nottingham in the United Kingdom.

**DRINK UP** Note your thirst during your runs, and write down how often and how much you drink. Review your notes to help you plan when to drink. Set your watch to beep every 15 minutes as a reminder to consider your thirst. "Drinking smaller amounts at regular intervals can help you absorb fluid more effectively," says Dimmick, "and avoid stomach sloshing."

### JUST HAVE A SIP

**WHY** Don't feel like downing a gallon of Gatorade? You don't have to. According to a study in the April

2010 Medicine & Science in Sports & Exercise, runners who rinsed their mouths with a carb solution right before and every 15 minutes during hour-long treadmill sessions ran faster and about 200 meters farther than those who rinsed with a placebo. "Carbs trigger reward centers in the brain," says Ian Rollo, Ph.D., one of the study's authors. The brain senses incoming energy "which may lower the perceived effort," he says.

**DRINK UP** For shorter runs when you want the benefits of a sports drink minus the extra calories, swishing just might do the trick. It's also good news for runners who get queasy from ingesting a lot of sugar at once. But for runs over an hour, find a drink you can stand to swallow (see "What'll You Have?" below).

## **What'll You Have?**

Your midrun fluid needs depend on how long you're going

### **ONE HOUR OR LESS**

Three to six ounces every 15 to 20 minutes. Water is usually fine. For a tough run over 30 minutes, consider a sports drink to give you a kick of energy at the end.

### **ONE TO FOUR HOURS**

Three to six ounces every 15 to 20 minutes. A sports drink with carbs and electrolytes will replenish sodium. Prefer gels? Chase them with water to avoid sugar overload.

### **OVER FOUR HOURS**

Drink three to six ounces of sports drink every 15 minutes, after which use thirst as your main guide (drinking more if you're thirsty and less if you're not).

### **POSTRUN**

Replace fluids, drinking enough so you have to use the bathroom within 60 to 90 minutes postrun. Usually eight to 24 ounces is fine, but it varies based on running conditions.