

How Underhydrating Affects Tomorrow's Run

Replacing 75% of sweat losses leads to slower run the following day.

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You've no doubt heard that not rehydrating adequately after running in the heat will hurt your future performance. But by how much? And what level of rehydration is too low? A new study has some interesting real-world details.

Thirteen well-trained, heat-acclimated runners did a 75-minute run on two evenings. Both runs were done in typical summer weather, with a wet bulb globe reading, which takes into account humidity and radiation as well as temperature, of just more than 80 degrees.

After one run, the runners replenished 75% of their sweat losses by drinking water, sport drink and orange juice. The researchers conducting the study called this amount of fluid replacement "reasonable but low." It's an amount similar to what many busy runners might consume--enough so that you don't feel thirsty, but not tracked precisely.

After the other run, the runners drank a volume equivalent to 150% of their sweat losses. This is the amount recommended by the American College of Sports Medicine. It accounts for some of the fluid you drink being used for other bodily processes.

In both instances, the runners followed their 75-minute evening run with a hard 10-K the following morning. They ran about 3% faster when they had rehydrated to 150% of sweat losses (an average of just under 46:00 for the 10-K) compared to when they replaced only 75% of their sweat losses (an average time of 47:14). Moreover, despite running slower, the runners said the run after they'd rehydrated 75% of sweat losses felt harder.

There were, however, a couple of issues after the runners rehydrated 150% of sweat losses. First, they had, as the researchers put it, "copious urine production." They also found it difficult to drink that much, especially if they were heavy sweaters.

"An alternate fluid intake prescription below 150% may be ideal and practical, as well as more easily tolerated, particularly for heavy sweaters," the researchers concluded. A happy medium would be rehydrating to a bit more than 100% of sweat losses after most hot-weather runs, but aiming more toward the 150% figure when pace really matters on your next run, such as before a track workout.