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Los Angeles County Sheriff's Department*

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Should You Limit Your Intake of Water When Exercising?

By Matt Brzycki, Assistant Director of Campus Recreation, Fitness, Princeton University

One of the latest debates in fitness has to do with drinking fluids while exercising. But the basis of the current squabble goes back nearly a decade.

My introduction into the fray came on Thursday, April 14, 2005. I was eating breakfast and skimming through *The New York Times* when I spotted a front-page article that was titled "Study Cautions Runners to Limit Intake of Water." My day quickly took a turn for the worst.

Much of the article was based on a study that appeared in *The New England Journal of Medicine*. In the study, 488 runners provided blood samples and completed a questionnaire after finishing the 2002 Boston Marathon. The researchers found that 62 of the 488 runners (12.7%) had hyponatremia, a condition that's characterized by a low concentration of sodium in the blood. Three of the runners had critical hyponatremia.

The primary risk factor for hyponatremia is thought to be an excessive intake of fluids (which is why hyponatremia is sometimes referred to as water intoxication). This dilutes the level of sodium in the blood, creating an electrolyte imbalance that impairs neural and muscular function. Most importantly, hyponatremia can be life-threatening.

The take-home message of the article was that people should limit their intake of water when exercising. No doubt, many individuals were frightened into the extreme, thinking that they should refrain from drinking fluids altogether.

Knowing that the media often sensationalizes things and/or selectively reports information, I intended to look up the study at work. My office at Princeton University is in the fitness center that I manage. No sooner did I arrive when a guy who was exercising nearby spotted me and yelled, "Hey, Matt. Did you see the article in today's *New York Times*?" I replied "yes" and had a general idea of what was coming next. He said, "Your trainers have been telling me to drink water when I exercise. What gives? I could die from that."

An interesting sidebar is that this particular individual has multiple degrees in aeronautics and astronautics from an elite university and also designs satellites for a living. So he's literally a rocket scientist. If someone who's that intelligent interpreted the content of the newspaper article that way, there's a good chance that thousands of others would as well.

In reading the study, the thing that struck me the most was that nearly 35% of the 488 runners drank so much fluid that they actually *gained weight during the marathon*. One individual was *nine pounds heavier* at the end of the race. Do you know how much fluid you'd have to drink to gain even one pound after running for several hours let alone nine pounds? The short answer is "a lot." To gain nine pounds, an individual would have to drink about a gallon of fluid or more and that's in addition to replacing the weight that was lost from running for several hours. What put those runners at risk for hyponatremia wasn't drinking fluids; it was drinking *excessive amounts of fluids*.

Without question, athletes who compete in extreme tests of endurance must be aware of the potential for overhydration. But for most people who are simply exercising, the risk of overhydrating is very low. In hot, humid weather, proper hydration is absolutely critical. It's recommended that you weigh yourself before and after activity and adjust your fluid intake as needed. After an activity, you should drink 16 ounces of fluid for every pound of weight that you lost.

Bottom line: Those who exercise should drink water but must know the dangers of an excessive intake of fluids, especially during prolonged efforts.

Matt Brzycki is the Assistant Director of Campus Recreation, Fitness at Princeton University in Princeton, New Jersey. A former Marine Drill Instructor, he has authored, co-authored and edited 17 books including his latest, the fourth edition of A Practical Approach to Strength Training.