FOCUS

Lack of Electrolytes Makes It "Lights Out"

Photo by Tim Hipps

By Bill Ewing

Sunday morning, April 2, 2006, started out like most of my Sunday mornings when I'm working up to run a marathon. If I had known how it was going to end, though, I would have stayed in bed.

I was training for my fifth marathon, the Cincinnati Flying Pig, set for May 6. Today, I would run 20 miles. I had been sticking closely to my training schedule, so I didn't expect any problems this particular morning. As with most of my long runs, I planned to use the 10-mile course on NAS Patuxent River. It's a great course to run because it has mile markers every two miles and combines flat areas with some inclines, and the scenery (woods and sea) is beautiful.

I planned to keep with my routine of placing water and sports drink at the mileage markers around the course so I could hydrate every two miles. I also planned to use a Power Gel after the first 10-mile lap. As I was getting my gear together, however, I found that I was out of sports drink but had plenty of bottled water. "That'll be enough,"

I thought. "It's only going to be 65 degrees today"—mistake No. 1.

Arriving at the base around 11:30, I drove the perimeter of the course, placing a bottle of water at every two-mile marker. I then drove to the gym and changed into my running gear. When I reached in my bag for a Power Gel, I was surprised to learn I had none. I dismissed this second red flag with, "Not to worry—it's going to be a cool day, so the water will get me through."

I ran the first 10 miles at a comfortable 10-minute-mile pace, stopping every two miles and drinking water as planned. At mile 16, I stopped for some water, but after drinking it, I started feeling nauseated. I kept running to mile 18, where my legs felt like lead, and my stomach was getting worse. By mile 19, I was walking, and when I finally returned to the gym, more than four hours had passed, and I didn't feel good at all.

I went into the locker room and sat on a bench, trying to recover. I wasn't sweating, and my arms periodically were shaking. I told myself I would feel better after a shower—and the stomach ache was gone, along with the shaking, but a headache had replaced these symptoms.

I dressed and went to my truck for the seven-mile trip home. About three miles from my house, though, my right arm started shaking again. "I can make it," I assured myself. "And once I'm home and can lie down, things will be better."

I remember driving past the local tavern another mile down the road before the lights went out. When I awoke, my truck's horn was blaring, all the air bags had deployed, smoke was everywhere, and someone was yelling, "Dial 911—I think he's dead!" I came to realize I had passed out, and my truck had left the road to the right and gone airborne across a drainage ditch on its side. It then had righted itself and stopped six inches short of a large oak tree in someone's front yard. Paramedics rushed me to a hospital, where I spent three days undergoing a multitude of tests that determined I had depleted my system of electrolytes.

My truck was totaled, and I missed the NCAA basketball championships while in the hospital, all because of something I knew but had ignored. I've read many books on hydration and the need for some kind of sports drink with electrolytes or gel when you exercise more than 60 minutes.

On a positive note, I recovered in time to complete my training and run the Cincinnati marathon. I finished with no problems, thanks to water and sports drink every two miles and a Power Gel every eight miles.

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The author is a retired LDO commander, who currently works for Lockheed Martin Aeronautics Company.

Resources:

- http://www.healthguidance.org/entry/57/1/Hydration-and-Athletic-Performance.html *[Hydration and Athletic Performance]*
- http://sportsmedicine.about.com/cs/hydration/a/acsmfluid.htm *[ACSM Clarifies Indicators for Fluid Replacement]*
- http://onhealth.webmd.com/script/main/art.asp?articlekey=50559 *[Hydration: The Key to Exercise Success]*
- http://safetycenter.navy.mil/articles/CRITICALDAYS/2006/heat_exercise.htm *[Dodging Heat Stress Should Be No Sweat]*
- http://safetycenter.navy.mil/ashore/articles/recreation/heatindex.htm *[Heat Index and Physical Exercise—Navy].*

Although the victims in the previous two accounts failed to drink enough water, some people who exercise drink too much (most often a problem with slower runners, who have more time to drink and don't sweat as much). As the water content of the blood increases, the salt content is diluted. Consequently, the amount of salt available to body tissues decreases, which can lead to problems with brain, heart and muscle function. Common initial symptoms of hyponatremia, or water intoxication, include dizziness, nausea, apathy, and confusion—the same symptoms people experience when suffering from dehydration, so it's important to be aware of how much you're drinking. Athletes in extreme cases of hyponatremia may experience seizures, coma or death if not seen by a medical professional. Read the sidebar that follows for some tips to help you know how much water is enough.—Ed.