

Marathoners Warned About Too Much Water

By GINA KOLATA Copyright 2005 New York Times

Dr. Lewis G. Maharam, the medical director for the New York City Marathon and marathons in San Diego, Phoenix, Nashville and Virginia Beach, said he was taking every opportunity this year to educate runners about the biggest threat to their lives on race day - drinking too much water.

He knows the danger: in their zeal to avoid becoming dehydrated, runners may end up drinking so much that they dilute their blood. Water rushes into cells, including cells of the brain. The swollen brain cells press against the skull, and the result can be fatal. The resulting condition is known as **hyponatremia** - too much water.

“There are no reported cases of dehydration causing death in the history of world running,” Maharam said. “But there are plenty of cases of people dying of hyponatremia.”

No one knows how many have died, said Dr. Arthur Siegel, the chief of internal medicine at McLean Hospital in Belmont, Mass., and the designated hyponatremia team leader for recent Boston Marathons. But he said that perhaps a dozen hyponatremia deaths had been recognized, according to informal communications among doctors at recent marathons.

So this year, for the first time, the participant handbook for runners in the Nov. 6 New York City Marathon tells them how much to drink - **no more than eight ounces of water every 20 minutes.**

Maharam also makes sure the message is delivered via television shows that feature news about the marathon. He makes an announcement at the start of the marathon about how much to drink. And there will be a flier in the goody bags telling each runner, once again, of the dangers of drinking too much.

Even though Gatorade is one of the sponsors and the race features Gatorade's new sports drink, Gatorade Endurance Formula, Maharam said that sports drinks were no better than water. Eight ounces of fluid every 20 minutes is plenty.

But it is a message that is not always heard. **Last year, one percent of the more than 35,000 New York City marathoners developed hyponatremia**, Maharam said, and although that is a smaller toll than in other cities' marathons, doctors say every one of those life-threatening medical emergencies could have been avoided.

To make matters worse, medical treatments for hyponatremia are often disastrous. Some doctors mistakenly think the runner is dehydrated and give intravenous fluids.

The extent of the problem may go far beyond the number of runners who have been hospitalized for it. A recent study of runners in the 2002 Boston Marathon found that 13 percent who finished the race had hyponatremia. And those were runners who thought they were fine and were just participating in a study. If such a runner continued to drink after the marathon, perhaps thinking that feelings of nausea and malaise were due to dehydration, the runner could end up with seizures or slip into a coma, doctors say.

That is what happened to Mark Robinson, a 27-year-old computer programmer from West Roxbury, Mass., who sees his story as a cautionary tale.

The day of the 2004 Boston Marathon dawned unusually hot. The race was on April 19, but the temperature was projected to reach nearly 90 degrees. Robinson was concerned. It was his first marathon, he had been training for six months, and he wanted to run it in four hours or less. “I

sweat a lot," he said. With weather like that, he worried he might become dehydrated. So he tried to make sure he drank enough.

"I drank more than a gallon of water before the race, and then at every rest stop I would stop and have a couple of drinks of water," he said. He was on pace until Mile 19 when, suddenly, he felt nauseous and his legs began to cramp. He forced himself to continue, but by Mile 23 he could no longer run. "I tried to power-walk it in," Robinson said.

His parents met him at the finish line, bringing water. He drank two quarts, but he felt worse than ever. Not only was he vomiting and having diarrhea, Robinson said, but "I felt spacey, out of it, almost like I was on drugs."

His parents got a wheelchair and took him to the medical tent, where the person doing triage at the entrance asked if he could stand on his own. He could. He said he was told, "We have people here who are lying down," and was sent away. His parents helped him walk to the subway and took him to their home in Wayland, Mass. All the while, Robinson was drinking water and drinking Gatorade and vomiting.

Robinson said: "I felt completely mentally out of it. It was a strange sensation. Deep down, I knew something really, really wasn't right. It was like a feeling of impending doom. My father wanted me to take a bath, but I didn't want to be alone. I looked at my dad and he was talking and his mouth was kind of going," but, Robinson said, he could no longer hear what his father was saying.

Suddenly, Robinson screamed, leaped into the air, and fell down on his shoulder, breaking it. He lay on the floor, unconscious and no longer breathing.

His mother called 911 and a helicopter arrived. On the flight to Boston Medical Center, Robinson received intravenous fluids; the medical team thought he was dehydrated.

He ended up in a coma, on life support, and woke up four days later. His problem? Hyponatremia - poisoned by drinking too much water.

Robinson still runs, but much shorter distances. "I'll never run a long race again," he said. And forget marathons, he added. "My wife would never give me permission," he said.

Dr. Paul Thompson, a cardiologist, a marathon runner and a director of the Athletes' Heart program at Hartford Hospital, said: "Everyone's been told to drink water, drink water, drink water. Water companies want you to drink water like a fish. Then you dilute your blood and your brain starts to swell. You have healthy people running marathons and dying. Has the word gotten out? No."

Even now, more than a year later, Robinson says he is still shaken from his near-death experience after the Boston Marathon. "You would never, ever think that water could kill you," he said.

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