

## Energy from a Bottle

**O**n a super-hot day last summer, I was hiking in the Woodhull Lake area and came across two parties, several of whose members were carrying bottles of sports/energy drinks. I wasn't sure if this was a trend I was missing, so I did a little research.

All of my favorite online gear distributors offered powdered versions of various energy drinks, some with glowing recommendations for their benefits in the backcountry. A usually reliable source of information, rei.com, touted them. My local purveyor of camping goods also carried them. A number of hiking blogs have also started to comment favorably on these products. I guess that I have been missing something!

So, should you add Gatorade®, Powerade®, or similar items to your shopping list along with mac 'n' cheese and coffee?

Don't bother.

This question opens a door onto a rather unsavory story, which was recently uncovered in an investigation reported in one of the world's foremost medical journals, *The British Medical Journal* (BMJ). The entire matter is a rather disgusting example of the way in which corporate money can provide a veneer of respectability to flimsy science, while enticing consumers to pay ridiculous prices for products they don't need. While hikers are probably a niche market for them, sports and energy drinks cost U.S. consumers nearly \$2 billion annually.

The advertised rationale for "energy drinks" is deceptively simple. Vigorous exercise causes us to burn energy and lose electrolytes and water. These losses can cause diminished performance. Replacing the losses with a carefully researched formula of water, electrolytes (mainly sodium and potassium), and a ready source of energy (basically sugar) maintains performance and en-

hances health.

As is often the case with "simple" explanations, this one lacks scientific foundation, although the casual reader could be duped into thinking otherwise. There are plenty of "statements" by important-sounding organizations like the U.S. National Athletic Trainers' Association, the American College of Sports Medicine, and even the Gatorade Sports Science Institute. There are even "research" articles in journals such as the *Journal of Sports Science and Medicine* and *Science in Sports and Nutrition*.

The problem that the investigators for the BMJ uncovered is that the sports beverage industry has been the major sponsor of virtually all of this work, and that many of the rather "low profile" medical journals in which the research has been published also have ties to the industry through their editorial boards.

In an effort to bring some objectivity to the analysis, the investigators had a team of experts in evidence-based medicine review the science behind hundreds of claims for these performance-enhancing products. Three of these—that's right, three—were judged to be high-quality science with a low risk of bias.

Other than wasting money, is there a downside to all these drinks? One big one is the caloric content. Although marketed as "health" products, many sports drinks have calorie contents close to those of "unhealthy" soda.

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increasingly recognized problem of "hyponatremia"—basically water intoxication with severe brain complications—from overhydration during exercise. There are many well-documented deaths from overhydration during exercise, especially in marathon running. A study in a "real" medical journal (*The New England Journal of Medicine*) showed that the risk is unrelated to the beverage consumed (water versus sports drinks). The "sports medicine" industry has promoted the entirely unsubstantiated mantra that dehydration is a dangerous complication of exercise and that athletes must be encouraged to drink even when they are not thirsty.

Readers who are aware of my minimalist tendencies will not be surprised by the quote I provide in closing, from Tim Noakes, a distinguished (independent) sports scientist from South Africa: "...[dehydration] is a normal biological response to exercise. You lose water; you get thirsty; you drink. End of story."

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