

“SUPERCHARGED SODAS”

Menu for Health column for 4/24/02

Gary L. Huber, M.D.
400 East Charnwood
Tyler, TX 75701

The now very popular “sports drinks” and related “energy products” in many ways had their origin in Gainesville, FL, one hot Saturday afternoon about three decades ago. A young research apprentice had two tickets to the opening football game for the University of Florida. The friend he was going to the game with became ill, so he invited his mentor, a kidney disease research professor, to go with him.

The professor had never seen a football game and he actually never became that much interested in the contest played on the field. He was intrigued, however, because several players collapsed from the heat. The following Monday morning he obtained permission from the coach and the athletic department to study the players by collecting their urine on a daily basis. By analyzing the urine samples, the professor was able to determine which electrolytes the players were deficient in and what changes were responsible for their potentially collapsing.

The professor created a “concoction” of a drink that was tested on the University basketball team. The basketball players were able to consume copious volumes of this fluid during their games without developing stomach cramps. That was unheard of at that time. Randy Van Camp, of the Stokely-Van Camp food industry, was a spectator in the stands that night and appreciated that drinking a lot of fluid in an athletic contest was unusual.

To make a long story shorter, the Stokely-Van Camp food company purchased the formula of this unusual drink from the University of Florida and the professor, giving rise to the very successful marketing of what came to be known as “Gatorade.” Athletes and the rest of us can now consume as much fluid as we want during physical exertion without fear of complications.

Today, we at times seem inundated with a multitude of these products. First came what some have referred to as the “Gatorade clones” and then “power bars” followed soon thereafter. The latest rage is the “supercharged soda” that sometimes seems to promise nearly instant rejuvenation, enhanced endurance, better performance and greater mental alertness.

Many of these drinks are quite pricey, at about \$2.00, or sometimes much more, for an eight ounce can. It seems consumers should be asking two basic questions: (1) Do they work and (2) are they safe? We have far too few scientific answers.

Why should they work? The early sports drinks were developed on a sound scientific basis and some of them were extensively studied and were well-tested. The newer products also have been created on sound scientific theories, but many of the newest products, for the most part, have not been adequately evaluated.

Humans, especially athletes, have always wanted to be able to consume some type of food or drink that would give them an “edge.” Such a product launched the modern soft drink soda market in the late 19th century, but in 1903 the cocaine was taken out of Coca Cola. It was replaced with caffeine, which is the stimulant now available in most soft drinks. It is not surprising, then, that most of the new supercharged sodas also contain caffeine. It takes one hundred milligrams of caffeine to increase mental alertness in most people, and about 200 to 250 milligrams to enhance cardiovascular function. That is a lot of caffeine, as you can expect some “jittery” side effects.

Some of the supercharged drinks also contain taurine, an amino acid that is a dietary ingredient essential for cats. The human body, however, can synthesize its own taurine. It is normally found in human muscle. At maximal physical exertion, the taurine stored in muscle tissue may be all consumed. The effects of quickly consuming taurine have not been well documented.

The supercharged drinks also may contain one or more stimulating herbs, especially ginseng and guarana. The scientific basis of their efficacy has not yet been documented, although they are intensely marketed as performance enhancers.

Some of these new energy drinks incorporate inositol, a sugar alcohol that may stimulate the liver to metabolize fats, proteins and carbohydrates. Whether or not inositol acutely gives you an energy benefit remains to be established.

The latest addition to these energy products is the “G-push,” so called because of the addition of the sugar galactose. Normally, galactose is found in milk, beans and figs, foods not likely to be consumed during exertional physical activity. Limited studies on soccer players in England indicate that circulating blood sugar levels can be increased if galactose is added to the “power drinks.”

Are the new supercharged energy sodas safe? The older products like Gatorade, have been around now for a relatively long time and are considered not only safe but very effective in preventing dehydration. That is beneficial.

In Europe, there have been a few deaths that may be linked to the new supercharged sodas. When mixed with alcohol, some of the ingredients, such as taurine, may be especially harmful. The best advice we can give athletes is to compete without any chemical stimulant.

Until we have more information, the rest of us should probably get our caffeine, if we want it, from coffee, tea and other time proven sources. Consuming “energy sodas” should probably best wait until their safety has been better established.