AAP: Kids Should Avoid Energy and Sports Drinks

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FROM PEDIATRICS

Energy drinks have no place in a young person's diet, and sport drinks are useful only to student athletes who engage in prolonged, rigorous activity, according to a clinical report issued by the American Academy of Pediatrics.

Water should be encouraged as the principal source of hydration for children and adolescents, the report concluded.

Too many children and adolescents consume both types of drinks without any knowledge of their potentially deleterious health effects (Pediatrics 2011;127:1182-9). Carbohydrates and caffeine are the chief concerns in the beverages, according to the report.

"The total amount of caffeine contained in some cans or bottles of energy drinks can exceed 500 mg – equivalent to 14 cans of common caffeinated soft drinks – and is clearly high enough to result in caffeine toxicity. A lethal dose of caffeine is considered to be 200-400 mg/kg," lead authors Dr. Marcie B. Schneider of Greenwich, Conn., and Dr. Holly J. Benjamin of the University of Chicago wrote on behalf of the academy.

Marketing of these products aims to convince young people that sports drinks containing electrolytes and carbohydrates are superior to water for hydration during exercise. Companies also advertise energy drinks as a providing a healthy boost to physical and mental energy in children and teens. Neither claim is accurate, according to the report.

In assessing the composition of these drinks and their potential health effects, the authors reviewed literature published from 2000 through 2009. They concluded that carbohydrates are the chief concern in sports drinks.

The average sports beverage contains 2-19 grams of carbohydrate, yielding up to 270 calories per serving. "This excessive caloric intake can substantially increase the risk for overweight and obesity in children and adolescents and should be avoided." Sports drinks are also often highly acidic, with a pH of 3-4.

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Proponents of sports drinks tout the electrolyte, vitamin, and mineral content as beneficial. Young people should be taught that water is the best beverage before, during, and after exercise. Even "muscle recovery" sports drinks, which contain forms of protein, are not really beneficial. "Heavily marketed effects of specific amino acids in sports drinks have not been supported by appropriate clinical trials," according to the report.

While sports drinks may simply be unhelpful sources of added calories, energy drinks may actually be dangerous if consumed in large quantities, they said. Caffeine is molecularly similar to adenosine and can replace it in cell receptors. "The effects of caffeine on various organ systems include increases in heart rate, blood pressure, speech rate, motor activity, attentiveness, gastric secretion, diuresis, and temperature," the report stated.

The American Association of Poison Control Centers confirms these findings. In 2005, the association reported that its centers had fielded more than 4,600 calls about caffeine. "Of these calls, 2,600 included patients younger than 19 years, and 2,345 patients required treatment, although the number of pediatric patients who required treatment was not defined," according to the report.

Energy drinks may also contain other stimulants touted as "natural," including guarana, a plant extract that itself contains caffeine. "The presence of guarana in an energy drink is a cause for concern, because it increases the total caffeine level in the beverage," according to the report.

All authors have filed conflict of interest statements with the American Academy of Pediatrics. Any conflicts have been resolved through a process approved by the Board of Directors. ■