

# Updates in Pediatrics: To Take or Not to Take Soft Drinks, Sports or Energy Drinks?

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**T**he world of beverages is a large and growing industry, but we have to look skeptically even if they are called soft drinks, sports or energy drinks.

The majority of the recent studies regarding the types of beverages mentioned above sustain the negative effect of these on health from sodas to energy drinks (1). The most concerning fact is that in US, for example, the consume of energy drinks in adolescents and young adults is 30 to 50% and this leads to a high percentage of caffeine intoxication in this population (46% under 19 years in 2007 in US) (2).

There are specific differences between these products. A soft drink also called soda or carbonated beverage typically contains carbonated water, a sweetener and a flavoring agent. These may also contain caffeine or fruit juice. The best known in our country are Coca/Pepsi Cola, Fanta (orange) and sparkling lemonade. Sports drinks are some flavored beverages containing carbohydrates, minerals, electrolytes (e.g. sodium, potassium, calcium, magnesium), and vitamins (sometimes). Their purpose is to rehydrate the body and replace the electrolytes after intense sweating during exercise (Gatorade, Powerade). Different from these are the energy drinks which besides carbohydrates, minerals, electrolytes and aminoacids, typically contain stimulants such as caffeine and guarana, also taurine, ginseng, L-carnitine, creatine, and/or glucuronolactone. The purpose of the

energy drinks is to stimulate the body (Red Bull, Burn, etc).

A recent statement of the American Academy of Pediatrics (1) from the COMMITTEE ON NUTRITION AND THE COUNCIL ON SPORTS MEDICINE AND FITNESS sustains that all these beverages are dangerous for children. The sports drinks should be admitted only for those athletes with sustained physical activity, but the energy drinks should not be admitted in children, adolescents and young adults.

The most important issues of these beverages are the content and the changes over the body they induce.

The content of carbohydrates increases the risk for obesity (3), dental cavities (4) due to acidic pH, low nutrient levels and in adults the risk for arterial hypertension (5) and type II diabetes. The excess content of carbohydrates of these beverages is imbalanced regarding the proteins, fat and other nutrients.

The caloric content of soft drinks is 10 to 100 calories per serving, sports drinks is 10 to 70 calories per serving, and of energy drinks ranges from 10 to 270 calories per serving. This excessive caloric content is not necessary and these beverages should be replaced with water or low fat milk (1).

The caffeine effect in children and adolescents is proven to be negative (1) including effects on the developing neurological and cardiovascular systems and the risk of physical dependence and addiction. The parents and

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children should be attentive to the cumulated doses of caffeine contained in sodas, e.g. soda contains 24-50 mg/per serving (240 ml), a cup of coffee 75-150 mg, energy drinks 500 mg/per serving. A lethal dose of caffeine is considered to be 200 to 400 mg/kg (1). One gram of guarana is equal to approximately 40 mg of caffeine (1).

The COMMITTEE ON NUTRITION AND THE COUNCIL ON SPORTS MEDICINE AND

FITNESS encourages pediatricians to explain to children and adolescents and their parents the differences between beverages, to avoid the energy and sports drinks, for mentioned consequences, to educate patients and families to consume sports drinks only for specific limited reasons in child and adolescent athletes, and to encourage the consumption of water for hydration.

## REFERENCES

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