



# POSITION STATEMENT AND RECOMMENDATIONS FOR THE USE OF ENERGY DRINKS BY YOUNG ATHLETES

National Federation of State High School Associations (NFHS)  
Sports Medicine Advisory Committee (SMAC)

**Background:** Energy drinks have become increasingly popular among adolescents and young adults in recent years. In 2006, nearly 500 new brands were introduced to the market place, and over 7 million adolescents reported that they had consumed an energy drink. These beverages are particularly popular among young athletes who see the consumption of energy drinks as a quick and easy way to maximize athletic and academic performance.

## **The NFHS Sports Medicine Advisory Committee's position on energy drinks:**

The NFHS SMAC strongly recommends that:

- 1) Water and appropriate sports drinks should be used for rehydration as outlined in the NFHS Document "**Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness.**"
- 2) Energy drinks should not be used for hydration.
- 3) Information about the absence of benefit and the presence of potential risk associated with energy drinks should be widely shared among all individuals who interact with young athletes.
- 4) Energy drinks should not be consumed by athletes who are dehydrated.
- 5) Energy drinks should not be consumed without prior medical approval, by athletes taking over the counter or prescription medications.

**WARNING:** There is no regulatory control over energy drinks, thus their content and purity cannot be insured. This may lead to adverse side-effects, potentially harmful interactions with prescription medications (particularly stimulant medications used to treat ADHD), or positive drug tests.

## **Frequently Asked Questions**

### **What is an energy drink?**

●An energy drink is a beverage marketed to both athletes and the general public as a quick and easy means of relieving fatigue and improving performance. In addition to water, nearly all energy drinks contain carbohydrates and caffeine as their main ingredients. The carbohydrates provide nutrient energy while the caffeine acts as a stimulant to the central nervous system.

### **What are the differences between an energy drink and a sports drink?**

●Sports drinks are designed to provide re-hydration during or after athletic activity. While contents vary, most sports drinks contain a 6-8% carbohydrate solution and a mixture of electrolytes. The carbohydrate and electrolyte concentrations are formulated to allow maximal absorption of the fluid by the gastrointestinal tract.

- Energy drinks contain a higher concentration of carbohydrate (usually 9-10%), and thus a larger number of calories than sports drinks. They also contain high amounts of caffeine and, in some cases, other nutritional supplements. **Energy drinks are not designed to re-hydrate athletes during activity and should not be used in such circumstances.**

### **What ingredients are found in energy drinks?**

- Carbohydrates- Most energy drinks have from 18g to 25 g of carbohydrate per 8 ounces. The high carbohydrate concentration will impede absorption of fluid in the gastrointestinal tract.

- Caffeine- Nearly all energy drinks contain some amount of “natural” or synthetic caffeine. The caffeine concentration may range from the equivalent to an 8 ounce cup of coffee (85mg) to more than twice that amount.

- Herbs- Many energy drinks include herbal forms of caffeine such as guarana seeds, kola nuts, and Yerba mate leaves, in addition to synthetic caffeine. The “performance enhancing” effects and health benefits of other herbs like Astragalus, Echinacea, Ginko biloba, ginseng, and countless other herbs have not been well established by scientific studies.

- Vitamins- Athletes with even reasonably good diets should be assured that they are not at risk for vitamin deficiency and do not need supplementation. There is no evidence to suggest that vitamin supplementation improves athletic performance. Female athletes may benefit from iron and calcium supplementation, but these are more easily and inexpensively obtained in pill form rather than energy drinks.

- Protein and amino acids- Only a small amount of protein is used as fuel for exercise. Carbohydrates are utilized as the primary fuel source. No scientific evidence exists to support claims that amino acids enhance athletic performance. Protein, and the amino acids which compose it, are available less expensively in food.

- Other ingredients- With the hundreds of energy drink brands that are available, the potential ingredients which they may contain are virtually unlimited. Possible additions include pyruvate, creatine, carnitine, medium-chain triglycerides, and even oxygen.

### **What are the possible effects of using energy drinks?**

- Central nervous system- Caffeine often has the effect of making a person feel “energized.” Studies have shown some performance-enhancing benefits from caffeine at high doses (6mg/kg of body weight). Such high doses of caffeine may produce light headedness, tremor, impaired sleep and difficulty with fine motor control, and may exceed drug testing caffeine thresholds.

- Gastrointestinal system- The high concentrations of carbohydrates found in energy drinks may delay gastric emptying, resulting in a feeling of being bloated. Abdominal cramping may also occur. Both carbohydrates and caffeine in the high concentrations found in most energy drinks can cause diarrhea.

- Dehydration- Energy drinks should not be used for the purposes of hydration or re-hydration. The high carbohydrate concentration results in slow absorption from the gastrointestinal tract and may cause diarrhea. Caffeine acts as a diuretic and, therefore, results in increased fluid loss.

- Positive drug tests- Like all nutritional supplements, there is little or no regulatory oversight of energy drinks. The purity of the products cannot be assured and it is possible that they may contain banned substances.

## **References:**

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**Approved October 2008**