

Sports Safety Guidelines: Energy Drinks & Caffeine

Washington County Schools Athletic Training

Beth A. Funkhouser, MEd, ATC
276.274.0572
bethf@wcs.k12.va.us

Brad Bussey, ATC
276.356.3642
bbussey@wcs.k12.va.us

What are energy drinks?

An energy drink is a beverage marketed as a quick means of relieving fatigue and improving performance. All energy drinks contain sugar and caffeine as their main ingredients. The caffeine acts as a central nervous stimulant while the sugar provides immediate nutrient energy.

What ingredients are in energy drinks?

Caffeine- Nearly all energy drinks contains some form of caffeine. The amount may range from 80mg to upwards of 500mg per serving. Soft drinks contain between 23-56mg of caffeine per serving and an 8-ounce cup of coffee has about 85 mg. The FDA does not regulate caffeine levels in energy drinks and does not require all ingredients to be listed on the product container making it difficult to know what you are consuming. Caffeine and stimulants may be also be listed as: Guarana, Ma-Huang, Gaurinine, or Ephedra.

Carbohydrates- Primarily simple sugars, most energy drinks contain 18-25g/8oz serving. This can impede fluid absorption and promote dehydration and abdominal cramping.

Protein & Amino Acids- Only a small amount of protein is used as fuel for exercise. No scientific evidence exists to support claims that amino acids, such as Taurine, enhance athletic performance. Proteins and amino acids are available less expensively in food.

What are the Health Risks?

There is no regulatory control over energy drinks!

Their content and purity cannot be insured, which may lead to adverse effects such as:

- Insomnia & Restlessness
- Nervousness & Anxiety
- Irritability & Mood Swings
- Nausea, Diarrhea, Abdominal Cramping, and Bloating
- Fast & Irregular Heartbeat which can lead to cardiac arrest
- Muscle Tremors & Cramps
- Increased Fluid Loss & Dehydration
- Headache & Light Headedness
- Blood Sugar Swings
- Blocked Vitamin Absorption
- Difficulty with fine motor movements

Energy drinks are not sports drinks!

Sports Drinks have a 6-8% carbohydrate and electrolyte solution, in addition to water, designed to promote fluid absorption by the GI tract. These drinks are designed to prevent dehydration and replace fluid and mineral loss due to activity. Energy drinks are not designed to rehydrate athletes during activity and should not be used as such.

4% dehydration decreases performance by 20%!

Are certain people more at risk for caffeine side effects?

Yes, though we should all be aware of our caffeine consumption.

- Males tend to be more sensitive to caffeine than females
- Individuals with cardiac conditions including high blood pressure
- Individuals on medication for ADD or ADHD
- Some antibiotics, asthma medications, birth control pills, weight control medications, and supplements can interfere with the body's ability to breakdown caffeine, or may have a potentially fatal interaction.

Comparison of Energy Drinks:

The FDA regulates the caffeine content in soft drinks, however it does not regulate the caffeine contained in energy drinks.

Drink	Coffee	Soft Drinks	Red Bull	Wired X	Fixx	GNC Speed Shot	Boo Koo Energy	Rockstar & Monster	Full Throttle	Amp	SoBe No Fear	SoBe Adrenaline Rush
Caffeine content	80-100 mg	23-56 mg	80 mg	344 mg	500 mg	250 mg	360 mg	160 mg	144 mg	143 mg	174 mg	152 mg
Serving size	8 oz	12 oz	8.5 oz	16 oz	20 oz	8.5 oz	24 oz	16 oz	16 oz	16 oz	16 oz	16 oz

The high caffeine content in many of these is not recommended for youth or adolescents. Caffeine's effects are more pronounced in younger populations and because of this many school systems have banned energy drinks from school property and some jurisdictions are attempting to restrict energy drink sales to children.

For more information, talk to your Athletic Trainer or Healthcare Provider

Sources:

National Federation of State High School Associations (NFHS) Sports Medicine Advisory Committee (SMAC)
"Position Statement and Recommendations for the Use of Energy Drinks by Young Athletes"

United States Sports Academy

"Energy Drinks' Effects on Student-Athletes and Implications for Athletic Departments"