



Energy Drinks: The Truth Behind the Boost

Fact Sheet FS1108



Cooperative Extension

FAMILY AND COMMUNITY HEALTH SCIENCES

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What are “Energy Drinks”?

Energy drinks claim to give you extra energy, increase alertness, and improve mental and physical performance. They come in a variety of brands and are sold at supermarkets, convenience stores, vending machines, and restaurants. Most often these drinks contain high amounts of caffeine and sugar. Caffeine provides the main energizing “boost”.

The other ingredients in energy drinks are generally herbs (botanicals), amino acids, vitamins, and minerals. Some herbal ingredients commonly found in energy drinks are guarana, taurine, green tea and ginseng. Research on these ingredients is ongoing, but evidence of health benefits is limited at this time. Guarana is an herb that contains caffeine. Taurine is an amino acid naturally found in meat and fish with no special benefits. Green tea extract contains caffeine. Studies of ginseng have not shown any benefits. Experts recommend that we consume herbal ingredients in moderation, if at all, until we have more information about their safety.

Are Energy Drinks Dangerous?

Energy drinks consumed in moderation are safe for adults. People vary in their sensitivity to caffeine. Most experts agree that consuming 300 mg of caffeine (about three cups of coffee) per day is fine for most adults.

Although one serving of most energy drinks contains about the same caffeine as a cup of coffee (80 mg), some containers have three servings that add up to about 240 mg caffeine!

Also, energy drink labels do not include the caffeine amount naturally found in some of the herbal or tea ingredients. If more than one can is consumed in a day, it's easy to drink too much caffeine.

What are the Side Effects of Energy Drinks?

While energy drinks provide an initial jolt and increase alertness, there are down sides to high caffeine and sugar consumption. Drinking more than 400 mg of caffeine a day is considered high. If you regularly consume large amounts of energy drinks, you may experience heart palpitations, increased blood pressure, dehydration, sleeplessness, irritability, increased bone loss, upset stomach, and increased urination. The combination of heart palpitations and high blood pressure has also been shown to cause anxiety.

Energy drinks also contain high amounts of sugar. A typical 16 ounce can has 50 to 60 grams, or 12.5 to 15 teaspoons of sugar! Sugar adds calories, and unnecessary calorie intake may result in weight gain. Additionally, research shows that a high sugar intake may make it more difficult for the body to lose weight.

Some concentrated energy “shots” contain an excess amount of niacin (Vitamin B3). The recommended daily intake of niacin is 14 mg for women, and 16 mg for men. Energy shots contain

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about 30 mg in one 2-ounce serving. Niacin intake at about 35 mg or above may cause flushing, and higher doses may cause adverse health problems.

Caffeine and Adolescents

Children under the age of 12 have no need for caffeine in their diets. Parents should avoid giving energy or other caffeinated drinks to children. High school and college students may consume energy drinks to stay up late or study, but they often neglect to notice the total amount of caffeine they get in a day. Studies have shown that high caffeine intake in adolescents can result in difficulty sleeping and tiredness in the morning, as well as the previously mentioned side effects. Adolescents should recognize that energy drinks are no substitute for sleep and rest. It is important for teens and their parents to monitor caffeine consumption and look for healthier options for staying energized, such as getting adequate rest and physical activity.

Do Not Mix Energy Drinks and Alcohol

Never mix alcohol with energy drinks. Consuming these two beverages together greatly increases the possibility of dehydration and reduces a person's ability to realize they are intoxicated. This combination may have adverse health effects and inhibit good decision-making.

People with high blood pressure or heart disease should avoid energy drinks because they could affect their blood pressure and may even alter the effectiveness of their medications.

What's the Difference Between Sports Drinks and Energy Drinks?

Sports drinks are beverages consumed to restore the fluid balance and prevent dehydration after rigorous exercise and sweating. Basically, during and after a strenuous workout, sports drinks aid in replenishing the electrolytes lost in the sweat and perspiration. Most children and adults only need to drink water during exercise because the workout is not overly intense.

Sports drinks and energy drinks contain different ingredients. Sports drinks do not contain caffeine. While caffeine intake before exercising has been shown to increase endurance, it is also banned by the International Olympic Committee for its athletes. There is limited research on energy drinks and exercise. Experts do not recommend people consume an energy drink to enhance athletic performance.

What About Herbal Products?

When a product makes a claim that it is "herbal", the consumer is led to believe that it is more natural and therefore safe. Many times, dietary supplements in the form of pills, powdered

mixes, and drinks contain ingredients that do not undergo strict safety evaluations. These products may include high doses of vitamins, minerals, amino acids, and herbal ingredients. In fact, these products do not meet Federal Drug Administration (FDA) approval to be sold to the consumer because they are considered food supplements, not drugs! For example, dietary supplements containing Ephedra (also known as Ma Huang) were sold for over 25 years before the FDA prohibited its use in 2004 due to the serious risk of high blood pressure, irregular heartbeat, heart attack, stroke, and even death.

Research shows teens that use herbal products and supplements are more likely to engage in substance abuse, such as tobacco, alcohol and marijuana. Before you assume that a product is more natural or healthier just because it is labeled "herbal", keep in mind that those claims have no scientific basis!

What's a Better Way to Feel Energized?

- **Eat well.** If you eat a complete and balanced diet, chances are your energy levels will not need any extra boost! Specific diet needs vary by the individual. To make your own customized diet and exercise plan, check out www.mypyramid.gov. Here are some other energy tips:
 - A large meal may make you feel drowsy.
 - Foods high in fat may make you feel groggy.
 - Eating some protein at each meal or snack will give you longer lasting energy, than just eating a high carbohydrate meal such as pasta, bread or sweets.
 - Fresh fruits and veggies and whole grains are healthy and may make you feel "fresh" too!
- **Get plenty of sleep.** If your body gets the rest it needs, you're less likely to feel drowsy during the day. While individual needs vary, most teens need eight to 9.5 hours of sleep each night and most adults need seven to eight hours. You will feel more alert and concentrate better with adequate sleep.
- **Drink water to stay hydrated.** Dehydration will make you feel tired and it is dangerous for health.
- **Move it.** If you feel yourself growing tired while studying or working, go for a quick 10-minute walk or do some exercises to make you more alert. Regular physical activity will also improve your energy level. Children need 60 minutes of physical activity each day and adults need at least 30 minutes.
- **Drink coffee and/or tea in moderation.** Coffee and tea both contain caffeine. Try having just one 8-ounce cup and see if your body really needs more caffeine. You may want another cup, but you certainly won't need an energy drink!
- **Cut back on caffeine slowly.** If you find yourself dependent on highly caffeinated drinks, reduce your consumption slowly. Taking caffeine completely out of your routine can result in withdrawal symptoms that include headaches, body aches, and depressive symptoms.



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What's in Your Drink?

Drink	Amount	Caffeine for Listed Amount	Calories for Listed Amount
Coffee & Tea			
Brewed coffee ¹	8 oz	40-180 mg	2*
Instant coffee ¹	8 oz	30-120 mg	5*
Starbucks® coffee ²	20 oz (Venti®)	415 mg	5*
Starbucks® Espresso ²	1 oz	75 mg	5*
Dunkin' Donuts® coffee ³	14 oz	81 mg	10*
Dunkin' Donuts® Mocha Spiced Latte ³	16 oz	97 mg	330
Brewed tea ¹	8 oz	47	2*
Soda			
Caffeinated soda ¹	12 oz	30-90 mg	140-150
Energy Drink			
Red Bull ¹	8.3 oz	76 mg	115
Monster ⁴	16 oz	160 mg	200
Amp Energy Shot (jakfruit citrus) ⁵	2 oz	80 mg	40
Sports Drink			
Gatorade (orange) ⁶	20 oz	0 mg	130

*Note: calorie information does not include addition of milk, cream or sugar.

¹www.nal.usda.gov/fnic.foodcomp

²www.starbucks.com/retail/nutrition_beverages.asp

³Dunkin' Donuts® Customer Support: 800-859-5339

⁴Nutrition and Health Info Sheet Energy Drinks, University of California

⁵Supplement fact label from purchased product.

⁶Contact Gatorade: 1-800-88-GATOR

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July 2009

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