

# Energy Drinks

A shot in the arm?  
by Karen Giles-Smith



**E**nergy shots are everywhere: They're constantly touted on TV and stand sentinel by cash registers in nearly every store. Despite the price, sales of energy shots have skyrocketed. A two-ounce energy shot costs around three dollars. Per ounce, that's about 20 times more expensive than pop. The lineup of energy shots includes *5-Hour Energy*, *Red Bull Energy Shot*, *Dr. Pepper's Venom Bite*, *Coca-Cola's NOS PowerShot*, *6 Hour Power*, *Fuel 7 Hour Energy* and *Mr. Energy 8-Hour Energy*.

**What's the draw?** The tiny drinks appeal to those looking for a hefty dose of caffeine without excess volume or calories. Although caffeine content isn't always disclosed, it's estimated that a two-ounce regular-strength energy shot contains about 180 mg of caffeine, similar to the amount in an eight-ounce cup of premium brewed coffee; and an extra-strength energy shot contains about 270 mg of caffeine, similar to the amount in a 12-ounce cup of premium brewed coffee. Most energy shots also contain B vitamins and amino acids, but no sugar. *5-Hour Energy* contains four calories per two-ounce serving. The label on the *5-Hour Energy* reads, "Hours of energy now—no crash later!" noting that "no crash" means no sugar crash.

Energy shots are popular with students cramming for exams, laborers pulling long shifts and drivers trying to stay awake on the road. Scott Griswold, a student at Lansing Community College, uses energy shots before working out and to help him study longer. "They basically have the same effect as coffee, but they're easier to take quickly—much easier than pounding down a ton of hot coffee," he says. "I take them to have the extra energy to push harder and get more out of my workouts. When I study, the extra energy makes me more motivated and focused on the task at hand."

On the product's Web site, *5-Hour Energy* claims that it "gives you a proven blend of B-vitamins, amino acids and essential nutrients to keep you going strong."

Health professionals beg to differ. "Energy drinks are a fake source of energy," says Ronda Bokram, registered dietitian with health education services at Michigan State University's Olin Health Center. "The caffeine in energy drinks causes a physiologic reaction that makes you feel more alert but can also cause shakiness and other negative side effects. Real energy comes from food."

"People don't realize how much caffeine they're getting from energy drinks as well as from other sources," says Bokram. "It's a cumulative effect. I know of people who've experienced diarrhea, nausea, nervousness and dehydration from the caffeine in energy drinks and caffeine pills." Bokram believes these side-effects may negatively affect academic and exercise performance, the opposite of what people are looking for in an energy drink.

For most people, 200-300 mg of caffeine a day (*the amount in 2-4 cups of brewed coffee*) isn't harmful. The Mayo Clinic cautions that too much caffeine can cause nervousness, irritability, increased blood pressure and insomnia. It can also increase the heart rate and trigger abnormal heart rhythms, which is especially dangerous if you have any type of heart disease. Pregnant and nursing women and those who are sensitive to caffeine should limit caffeine intake. Also, certain drugs and supplements may interact with caffeine.

Energy shots and drinks are considered dietary supplements, so they're not regulated by the government and don't require FDA approval. This is reason for caution. Consider the case of ephedra, an herbal supplement used for 5,000 years in China to treat asthma, hay fever and the common cold.

Ephedra, a stimulant, was sold as a dietary supplement in the U.S. and caused serious side effects and many deaths. The FDA finally banned the sale of ephedra-containing supplements in 2004 citing an unreasonable risk of illness or injury.

Bokram says most people aren't concerned about the potential risks of energy drinks. "Even though people don't know what's in the drinks, they're willing to take the risk. People may not know of anyone who has experienced consequences from drinking them, so they don't worry about it."

Other ingredients in energy shots include B vitamins and amino acids such as taurine.

- Energy shots contain large amounts of several B vitamins such as B6, B12 and niacin. Although B vitamins aren't generally toxic in large amounts, high doses of B6 can cause nerve damage, tingling, and numbness in the arms and legs and those sensitive to niacin may experience a "niacin flush" or reddened and prickling skin that may last up to 30 minutes.
- Taurine is found naturally in meat, fish and breast milk. According to the Mayo Clinic, some studies suggest that taurine supplements may improve athletic performance and some suggest that taurine and caffeine may work together to improve athletic and mental performance, but the research isn't conclusive. Although up to 3,000 mg of supplemental taurine is considered safe, little is known about the effects of heavy or long-term taurine use.

**Red flag:** The exact amount of taurine in 5-Hour Energy is not specified on the label or on the product's Web site.

Most people get enough B vitamins and amino acids in their regular diet. Excess amounts have not been proven to be beneficial.

Griswold wouldn't recommend energy shots to friends. "They're not very good for you," he says. But, for his own health, Griswold sees the drinks in a different light. "I know it's not the best thing for me long-term," he says. "I guess the short-term effects outweigh the long-term consequences. I don't really know of a confirmed study proving that energy drinks have negative health consequences, so I just try to use them in moderation."

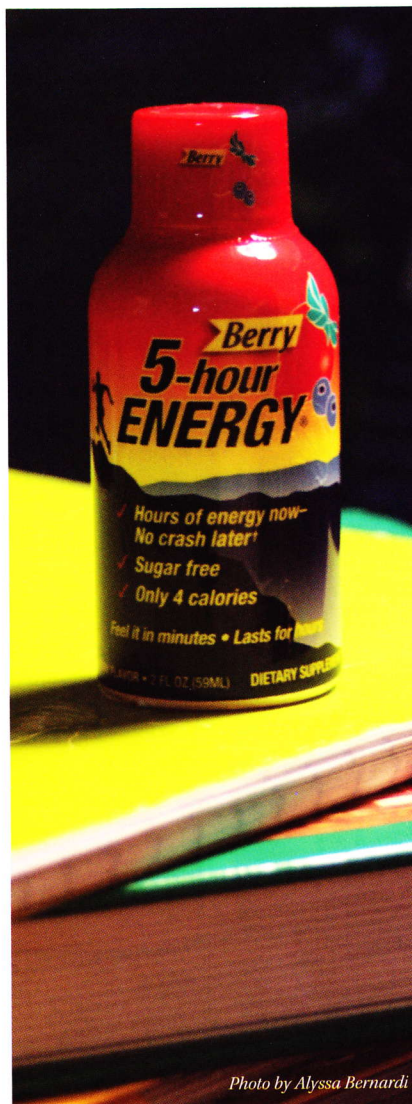


Photo by Alyssa Bernardi

Energy shots are the rage with students trying to stay on top of their studies, but side effects may actually hinder academic performance.

"Honestly, for a lot of people who drink them once in a while, it's not going to be a problem," says Bokram. "But don't assume a product is safe just because it's on the market or because the label claims it's natural or herbal. Check out the product and the ingredients from a reputable source such as Gatorade Sports Science Institute's Web site, not the product's Web site."

Instead of energy shots and drinks, Bokram suggests healthier ways to boost energy: eat right, drink plenty of fluids to stay hydrated, get moving and get enough sleep. "Don't skip meals, and take a nap if you need it," she says.

## The 5-Hour Energy Experiment

I decided to try an energy shot for the sake of science even though I'd read that they taste terrible (*some people hold their nose while drinking them*). I figured my two-cup-a-day coffee habit had built up my tolerance to caffeine so I might not experience caffeine-induced side effects. I didn't want to be seen buying the stuff, so I asked my husband to get the goods.

**3:00 p.m.** Drank one 2 oz. bottle of berry flavor 5-Hour Energy shot (regular strength). Not bad.

**3:10 p.m.** Feel "floaty."

**3:12 p.m.** Head feels like it's expanding slightly.

**4:45 p.m.** Feel more wide-eyed than usual. Husband notices my eyes are dilated.

**6:00 p.m.** Run on treadmill. Nothing unusual except for dry mouth.

**6:30 p.m.** Feel lightheaded while running last 10 minutes, but this happens sometimes.

**8 p.m.** Nothing unusual. Overall, I didn't experience significant results: The energy shot didn't seem to increase my energy or endurance. Some may say this proves nothing—and they're right—but it was enlightening.

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