

## Are Energy Drinks Really That Bad?

Experts don't recommend the beverages, but concur most adults can handle up to one a day.



Energy drinks have been linked to heart and neurological problems, poor mental health and substance use among teens.

By [Anna Medaris Miller](#)

Jan. 16, 2015, at 12:38 p.m.

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It all started with three or four cans of Mountain Dew a day. That was in high school. Then, in college, it was 5-Hour Energy. Two shots a day, to be exact. Later, it was a 20-ounce can of Monster each morning. At one point, Aaron Templin, now 36, had to stop – at least temporarily.

"I don't even know how to describe it. It was too much energy – way too much energy," says the customer service worker in Gaithersburg, Maryland, who now mostly drinks coffee and water. "It was like an out-of-body experience. It was pretty crazy."

Sales of [energy drinks](#) and shots such as Red Bull, Monster and 5-Hour Energy are higher than ever – growing 60 percent between 2008 and 2012 to a market worth more than \$12.5 billion, according to a [report](#) from the market research company Packaged Facts. The report predicted sales will eclipse \$21 billion by 2017.

It's easy to see why: From working moms to doctors on the night shift, Americans' supply of good old-fashioned energy seems to be wearing thin. For Templin, the artificial type helped him do it all in college. "I was staying up late and partying with my friends and trying to keep up with everything I had going on, from sports to my friends and studying," he says. On a "good night," he'd sleep only three hours. Later, when Templin was working on construction projects in the mornings and as a volunteer firefighter [overnight](#), he and colleagues turned to Monster to stay alert.

For Zack Higbee, a patent lawyer in Charlotte, North Carolina, the [lure of energy drinks](#) was their cool factor. He drank up to one can of Red Bull each day during law school after getting hooked on the company's videos of extreme sports. "I thought it was so freaking cool that I just started carrying cans around and drinking them," he says.

But concerns about the drinks – which have been linked to heart and neurological problems, as well as poor mental health and substance use among teens – are rampant, too. Between 2007 and 2011, emergency room visits involving energy drinks doubled to more than 20,000, according to a [report](#) from the Substance Abuse and Mental Health Services Administration. Even some of the products' biggest fans don't endorse them. "It definitely makes you feel pretty amazing because you get a boost of energy that you don't currently have," Templin says. "Would I recommend them? No. They are terrible for you. Terrible in so many ways."

### **Labeling Confusion**

One of the major critiques of energy drinks is that not all are well-regulated by the U.S. Food and Drug Administration. That means energy drink companies can market their products as [dietary supplements](#) and forgo a nutrition facts label, leaving consumers to wonder whether what they see is what they get, says Ruth Litchfield, an associate professor in the Department of Food Science and Human Nutrition at Iowa State University.

"When a product has a supplements facts label, it has not gone through the FDA approval process to be on the market as a food item," she says. "Whereas a nutrition facts panel goes through the FDA process of proving safety and efficacy before it goes on the market as a food product."

Even FDA-approved energy drinks aren't required to disclose how much caffeine and other stimulants they contain, she adds. "That's the biggest problem I see: It's not required on the label, and in most cases, they are not disclosing the total stimulant dose in the product for people to make an educated decision."

But such arguments are moot for about 95 percent of energy drinks – including Red Bull, Monster and Rockstar – since they're promoted as conventional beverages, not supplements, and therefore subject to FDA regulation, says Chris Gindlesperger, a spokesman for the American Beverage Association, a trade organization that represents nonalcoholic beverages.

"The leading energy drink manufacturers, the ones that we represent, they voluntarily go beyond all federal requirements when it comes to labeling and education," he says, explaining they list caffeine content as well as warnings for children and [pregnant women](#) on their cans.

### **Sugar, Caffeine, Guarana, Oh My!**

Of course, transparent labeling doesn't change what's in the energy drinks themselves, including loads of sugar – often as much as a [can of soda](#), says Kelly Pritchett, a dietitian and spokeswoman for the Academy of Nutrition and Dietetics.

The caffeine content of energy drinks, meanwhile, can range from 80 milligrams in an 8-ounce Red Bull to over 350 milligrams in 16 ounces of the no-calorie energy drink Bang, according to the [Center for Science in the Public Interest](#).

While experts believe it's safe for most healthy adults to consume up to 400 milligrams of caffeine a day – about the equivalent of one venti 20-ounce Starbucks coffee or two shots of 5-Hour Energy, CSPI reports – downing multiple energy drinks daily could quickly put someone over that limit, increasing their risk for headaches as well as boost blood pressure and heart rate, Litchfield says.

What's more, the drinks' advertised caffeine counts could be underestimates, since they may not take into account caffeine from ingredients like guarana. "In combination," Pritchett says, "it could be a double whammy."

It also matters what you drink your energy drink with. If it's alcohol, be careful: [Research](#) compiled by the Centers for Disease Control and Prevention suggests that caffeine can mask some of alcohol's effects and raise drinkers' chances of [binge drinking](#). One study published last year in the journal

Alcoholism: Clinical and Experimental Research found that participants who drank a cocktail with Red Bull and vodka had a greater urge to keep drinking than those whose drinks included soda water instead of Red Bull.

But recommendations against mixing alcohol and energy drinks might simply be erring on the side of caution. Patrice Radden, a spokeswoman for Red Bull, maintains that her company's products are safe to consume with alcohol. "Red Bull promotes the functional benefits of its own product, and there is no scientifically substantiated reason why Red Bull Energy Drink should not, like any other drink, be mixed with alcohol," she wrote in an email. Indeed, a 2012 [review](#) of 23 studies in the International Journal of General Medicine concluded that there's no direct or reliable evidence that mixing the two masks feelings of drunkenness or boosts booze intake.

### What's the Worst That Can Happen?

A few years ago, Fahad Ali, an internal medicine resident at [Guthrie Robert Packer Hospital](#) in Sayre, Pennsylvania, saw a couple patients with the usual symptoms – chest pain, irregular heartbeat and, in one case, cardiac arrest – but without the usual causes. There were no clogged arteries, significant [family history](#), complications from medications or illicit substance use. Both men were young and otherwise healthy. Then the doctors discovered a link. "We [dug] down more in the history and found that those patients were consuming energy drinks every day," Ali says.

In his [research](#) out this month in the journal Postgraduate Medicine, Ali and his colleagues reviewed 43 studies on the adverse health effects of energy drinks. They found that most cases involved [heart abnormalities](#) like irregular heartbeat, while some documented neurological problems like seizures. Why? Animal studies have shown that caffeine and taurine, both common energy drink ingredients, intensify each other's effects. That may cause calcium to build up in the heart cells, which can cause those vessels to constrict, Ali says.

But it's hard to know how much is too much since few of the case reports included in the study specified how many energy drinks the patients consumed, Ali says. But he and other experts recommend most adults drink no more than one a day. [Guidelines](#) from the Mayo Clinic concur.

Some groups, including children and adolescents, pregnant and breastfeeding women, and people with [heart conditions](#), are advised to avoid them altogether. Athletes, too, might be at higher risk for complications if they guzzle energy drinks [before a race or game](#). One 2014 [study](#) in the British Journal of Nutrition, for example, found that while energy drinks improved athletes' performance, they were more likely to experience [insomnia](#), nervousness and stimulation hours after the competition.

"Energy drinks have all those stimulants, and if the person is going through some kind of physical stress or physical exercise, those stimulants will further exaggerate or exacerbate the electrical activity going on in the heart," Ali says.

Of course, not all energy drinks are the same. The natural sports drink company Golazo, for example, includes 100 milligrams of caffeine in its products, but none of the other common energy drink additives such as taurine and B vitamins. "What we did was say, 'What's the absolute minimal amount of ingredient that you need to provide sustained energy?' And that's caffeine," says Todd Olsen, Golazo's product lead. "So we don't put any of that stuff in because you just don't need it."

Still, experts say there are probably better ways to [get an energy boost](#). For instance, getting good sleep, exercising or eating a snack packed with protein and complex carbohydrates can help [ward off that afternoon slump](#), Pritchett says.

If all else fails, there's always [coffee](#). "If you need a pick-me-up, I would recommend black coffee," she says. "At least you know what you're getting."

TAGS: food and drink, FDA, diet and nutrition, supplements

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