

Are Energy Drinks **SAFE?**

By Steven Nissen, M.D. and Marc Gillinov, M.D.



Since the 1997 introduction of Red Bull, energy drinks have seen exponential market growth, outpacing nearly every other offering in the beverage market. From supermarkets to gas stations to drug stores, Red Bull, 5-hour ENERGY, Monster, Rockstar, and other similar products dominate prime display space on shelves and in coolers. Responding to this placement and extensive advertising, consumers now spend more than \$9 billion a year on energy drinks.

But do we really know what we're buying? Are these drinks safe? Do they carry health risks?

Before you reach for that magic bottle that promises enhanced alertness, concentration, and physical performance, you need the facts.

Precise recipes for energy drinks vary, but the common element is caffeine.

A standard cup of coffee contains about 100 milligrams of caffeine, a cup of tea 50 milligrams, and a can of cola 35 to 55 milligrams. Energy drinks usually contain at least as much caffeine as coffee; a single serving of an energy drink can boast anywhere from 50 to 500 milligrams of caffeine. Adding guarana (a South American plant extract that contains caffeine) ups the caffeine dose further. Although the Food and Drug Administration (FDA) regulates the amount of caffeine in soft drinks (which may contain a maximum of 71 milligrams per 12-ounce serving), no such limit exists for energy drinks.

Caffeine is a stimulant. Scientific studies in adults show that caffeine can increase alertness, improve concentration, and enhance mood. Modest caffeine intake (less than 400 milligrams per day) is safe for most adults. But too much caffeine can cause problems, including restlessness, irritability, and difficulty sleeping. Massive caffeine overdoses can cause reduced blood flow to the heart and abnormal heart rhythms.

Many energy drinks also contain sugar. Sugar is "real energy"—your body can use the sugar as fuel to do work. But don't forget that extra sugar means excess calories. Steady consumption of sugar-filled energy drinks can lead to weight gain.

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Other ingredients, including the amino acid taurine, ginseng, and assorted vitamins, probably have little to no impact on a person's perceived energy level. Although manufacturers tout the importance of these additives, their purported benefits are unproven. A note of caution, too: ginseng can interact with a variety of prescription medicines.

Energy Drinks versus Sports Drinks: Know the Difference

Although often displayed in the same section of the store or even right next to each other, energy drinks (e.g., Monster, 5-hour ENERGY) and sports drinks (e.g., Gatorade, Powerade) are not interchangeable. Containing water, carbohydrates, and electrolytes, sports drinks help athletes to rehydrate and replenish the electrolytes and carbohydrates lost during strenuous athletic activity; these products have a legitimate place in sports training.

Energy drinks are different. They contain stimulants and do not replenish electrolytes. Furthermore, caffeine can be dangerous for a dehydrated athlete who already has an elevated heart rate and blood pressure from physical exertion. Do not use energy drinks during sports; they do not provide the real energy you need, but they can do real harm.

Energy Drinks Are Not for Kids

More than half of the energy-drink market consists of children and young adults. Although endorsed by sports stars and targeted toward younger people, energy drinks are not for kids. The American Academy of Pediatrics summed it up well, stating that "energy drinks have no place in the diets of children and adolescents."

Energy Drinks and Alcohol: Danger!

On November 17, 2010, the FDA ruled that premixed drinks including both alcohol and caffeine (alcoholic energy drinks) are unsafe and banned their sale. The ruling did not, however, curtail the practice of combining alcohol with energy drinks; people simply mix the drinks themselves. Surveys have found that 25 to 50 percent of college students regularly consume combinations of energy drinks and alcohol. This is a dangerous practice.

Energy drinks have not been proven safe.

In fact, because they are classified as supplements, they are not even regulated by the FDA.

The caffeine in energy drinks can counteract the drowsiness normally caused by alcohol. As a result, drinkers stay awake longer and often drink more, which increases the risk of alcohol poisoning. In addition, the stimulant effect of the energy drink can create the sense that the drinker is not impaired by the alcohol; the drinker may feel more "alert" and believe that his reflexes (and driving ability) remain intact. This false perception can lead to serious problems behind the wheel. Energy drinks do not counteract alcohol's reflex-dulling effect.

If you are of age, drink alcohol responsibly. Don't mix alcohol and driving—and don't mix alcohol and energy drinks.

Are Energy Drinks for You?

In a court of law, we presume that a person is innocent until proven guilty. When it comes to medicine, we take the opposite approach. A drug or supplement is considered dangerous until proven safe.

Energy drinks have not been proven safe. In fact, because they are classified as supplements, they are not even regulated by the FDA. This means that their ingredients are not tightly controlled and their health effects are largely unstudied.

We do think that an adult who consumes an occasional energy drink (i.e., up to one a day) is unlikely to suffer harm. But too much can lead to caffeine overdose and health problems, and mixing energy drinks and alcohol is a bad idea. And remember—there is no justification for giving these drinks to children and teens.

Seek simpler and safer ways to maintain your energy and stay

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