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No Proof Energy Drinks Harm Blood Vessels, Unhealthy for Other Reasons

Written by Brian Krans on December 3, 2018

Experts say a recent study claiming one energy drink may hurt a person's blood vessel function is overhyped, though there are many other reasons to avoid them.



Do you know how energy drinks may really be affecting your health? Getty Images

You'd be hard-pressed to walk into a convenience store in the United States and not find so-called "energy drinks" lining the coolers.

Some even have their own specialty branded displays with bright colors and promises of increased performance, whether it be mental or physical.

While the science is still out regarding what's exactly in these drinks and what the health effects are, some new research suggests chugging down a large energy drink could affect your circulatory system through your entire body.

A [recent study](#) — done on a tiny sample of medical students (who are typically younger), presented at a conference, and not published in a peer-reviewed journal — claims even just one energy drink could hurt a person's blood vessel function.

Researchers at the McGovern Medical School at UTHealth in Houston found that an hour and a half after consuming a 24-ounce energy drink — larger than most available at corner stores across the United States — that 44 subjects had their blood vessels constrict to nearly half their size.

This is a problem because the smaller the vessels, the harder the heart has to pump to get blood to parts of the body, including the lungs, brain, and the heart itself.

The researchers say they believe that these effects may be related to the combination of ingredients in the energy drink: caffeine, taurine, sugar, and "herbals."

"As energy drinks are becoming more and more popular, it is important to study the effects of these drinks on those who frequently drink them and better determine what, if any, is a safe consumption pattern," the authors noted.

But the observation in the study is virtually meaningless, warns [Dr. Morton Tavel](#), clinical professor emeritus of medicine at Indiana University School of Medicine.

As to the study itself, he says it doesn't look at health outcomes and we, the readers of the research, are "left in the dark about what ingredients in the energy products, if any, could be responsible for such changes."

The pace at which energy drinks have hit the market have greatly outpaced the research into their short- and long-term health effects as well as regulation into their use.

The [global energy drink market](#) is predicted to reach \$72 billion by 2024. While their consumption is popular among kids, the age group that reports the [highest daily consumption](#) are those ages 30 to 39.

As to energy drinks themselves, Tavel says they're a waste of money. Their power comes from caffeine, the same kind found in coffee. As for ingredients like taurine, Tavel says they're simply marketing jargon.

"Additional ingredients simply provide 'window-dressing' to convey a scientific-sounding aura," Tavel told Healthline. "The amount of caffeine in these products varies greatly, ranging from minuscule to near toxic levels."

Some of the more popular drinks have names like Red Bull, Monster, and Rock Star. There's also one called 51 Fifty, a reference to the California law code justifying the psychiatric commitment of someone because they might be a threat to themselves or others.

That seems to serve more as a warning than a marketing strategy.



...The amount of caffeine in these products varies greatly, ranging from minuscule to almost toxic levels. Getty Images

What's in a can?

Energy drinks are basically sodas with the caffeine content dialed to 11, so there is, of course, sugar.

As health officials and experts have warned and Healthline and other outlets have reported, it's an [addictive part of Western culture that's reached epidemic levels](#).

It's being [heavily marketed towards children](#). And its [propaganda and lobbying arms are incredibly strong](#).

Sugar is pervasive in packaged foods and the majority of drink options at your local store's beverage section. It's the weight behind a can of whatever energy drink is popular this week.

Dr. Jack Springer, FACEP, an emergency physician and educator based in La Jolla, California, says energy drinks contain not only large amounts of caffeine and sugar but various additives and supplements, “none of which have been shown to have any beneficial health benefits in humans.”

The large amounts of liquid sugar alone, Springer says, create a spike in blood glucose levels — or “sugar high” — but once that initial energy burns off, there’s the “roller-coaster release of hormones.”

The high amounts of caffeine in the drinks can cause increased blood pressure and heart rate, while other ingredients in the drink may be responsible for the abnormal heart rhythms, aneurysms, and rarely, unexpected heart attacks.

When the high wears off, the body responds like it’s under stress, Springer says. It’s that “crash” that 5-Hour Energy markets itself as preventing, much like how heroin users keep using to prevent from becoming [dopesick](#).

Springer says the large amounts of sugar and caffeine together have a diuretic effect (i.e., they make you pee a lot). This is important to know for anyone consuming them while exercising outdoors — much like marketing and advertising suggests people do. This increases fluid loss and a person’s chance of becoming dehydrated.

These ups and downs can have long-term effects, including developing coronary artery diseases and type 2 diabetes.

Who should avoid energy drinks?

Energy drinks are yet another example of something not for everyone all of the time.

“The drinks probably won’t hurt many people when used judiciously on an occasional basis,” Springer said, “but children and adolescents, those with diabetes or strong family history, and those with any known abnormal heart rhythm or anxiety should abstain.”

In addition to people with anxiety, insomnia, and known heart problems, [Dr. Niket Sonpal](#), assistant clinical professor at Touro College of Osteopathic Medicine and assistant clinical professor at St. George’s University School of Medicine, says women who are pregnant or trying to become pregnant and those who are breastfeeding should talk with their doctors about limiting caffeine use.

“The rule of thumb is, if you don’t know, ask your doctor,” Sonpal told Healthline. “Although caffeine use may be safe for adults, it’s not a good idea for children. Adolescents should limit caffeine consumption.

We should also say that mixing caffeine with other substances, such as alcohol is definitely not a good idea.”

Sonpal also offered some practical advice. He says if you’re experiencing any of the following symptoms after drinking the equivalent of more than four cups of caffeinated coffee a day, you should think of cutting back:

- migraines
- insomnia
- nervousness
- irritability
- restlessness
- frequent urination or inability to control urination
- upset stomach
- rapid heart rate

- muscle tremors

[Ben Greenfield](#), a professional athlete and nutritionist, says that because of the high levels of sugar in energy drinks and other forms of caffeine delivery, it's best to stick with coffee and tea because of their relatively low caffeine content and high levels of antioxidants and polyphenols. But that doesn't mean you can douse your coffee and tea in sugar and cream.

"It's best to drink these beverages straight," he told Healthline. "Sorry, pumpkin spice latte."

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