

# Sodas and energy drinks can supply a surprising caffeine jolt

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Some carbonated sodas and energy drinks are loaded with caffeine and can give an unhealthy pick-me-up to unsuspecting consumers, University of Florida researchers warn.

Because caffeine can pose health risks for people with certain medical conditions, beverages containing the additive should clearly list the amount they contain, a UF toxicologist recommends in a report assessing caffeine levels of cold beverages published this month in the *Journal of Analytical Toxicology*.

Bruce Goldberger, director of UF's William R. Maples Center for Forensic Medicine, said the surprisingly high caffeine content in some beverages could present problems for pregnant women and children, and for adults with hypertension, heart disease or mental health ailments such as anxiety.

"We weren't surprised that there was caffeine in the sodas and some of the other beverages," said Goldberger, who is also director of toxicology and a professor of pathology and psychiatry at UF's College of Medicine. The surprise, he said, was the high concentration of caffeine in some of the energy drinks, which exceeded the government's recommendations for cold beverages.

The Food and Drug Administration recommends a maximum caffeine concentration of 65 milligrams per 12-ounce serving of cola beverages, though it does not regulate caffeine content of these drinks. And

although the agency requires the presence of caffeine be disclosed, it does not mandate that caffeine quantity be specified on labeling for energy drinks and cold coffee beverages.

The UF team tested 10 energy drinks, 19 sodas and seven other beverages and found some energy drinks have up to 141 milligrams in a single serving — more than twice the content of some espresso coffee drinks.

The sodas tested, including Coca-Cola and Pepsi products, ranged from 0 to 48 milligrams a serving, well below the maximum recommended amount. A&W Root Beer, Sprite, 7-Up and Seagram's Ginger Ale were among the caffeine-free drinks. However, the caffeine content of most energy drinks exceeded the maximum recommended limit. One energy drink with the highest caffeine content had a whopping 141 milligrams per serving, more than a double-shot cold espresso drink.

These drinks are often marketed as enhancing performance and stimulating metabolism and are sometimes described as being “highly vitalizing.” Yet in certain people, consumption of caffeine causes serious health effects, such as anxiety, palpitations, irritability, difficulty sleeping and stomach complaints, Goldberger said. Because the amount of caffeine is not labeled on the drinks' packaging, pregnant women, children, infants or people with certain psychiatric diseases or anxiety conditions may unknowingly ingest too much, he added.

The American Dietetic Association suggests women avoid caffeine while pregnant or breastfeeding, citing findings from studies linking caffeine consumption to miscarriage and low-birth weight babies.

“There are many consequences that are relatively unknown to the general public because they consider the consumption of sodas and other beverages to be relatively safe,” Goldberger said. “People with

psychiatric diseases could have manifestations of anxiety when they consume too much caffeine, people with hypertension could increase their heart rate if they consume caffeine.”

Roland Griffiths, a professor of behavioral biology in the Solomon H. Snyder department of neuroscience at Johns Hopkins University School of Medicine, said caffeine is the most widely used mood-altering drug in the world. Although caffeine is not considered highly toxic, physicians often recommend cutting back or eliminating caffeine consumption for patients who are pregnant or who have anxiety, panic attacks, insomnia or some kinds of stomach and heart conditions.

“Daily use of even relatively low doses of caffeine (about 100 milligrams a day) results in physical dependence, with abstinence characterized by withdrawal symptoms such as headache, fatigue, depressed mood and difficulty concentrating,” Griffiths said. “People should then make informed decisions about their caffeine use. Obviously, knowing how much caffeine a given product contains is critical to making an informed decision about use.”

Goldberger said many people are aware of their food’s nutritional content but most know little about the ingredients of their beverage, just whether it is sugar-free or regular. A few energy drinks have labels warning that the product is not recommended for children and pregnant women, but they do not specify the caffeine content.

“This study gives us some enlightenment on the caffeine content of beverages, and the importance of appropriate labeling,” Goldberger said.

Source: University of Florida

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