

## Parents: Watch what you're putting in that sippy cup, experts warn

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Juice boxes look harmless enough, with those kid-size, bendable straws and promises of 100 percent vitamin C. As healthy as juice seems, parents need to be wary of doling out too much to children, especially during the summer when kids need plenty of fluids to stay safe, a University of Florida expert says.

Unlike water and low-fat milk, fruit juices and sodas are laden with fructose, a type of naturally occurring sugar that could trigger obesity in humans, said Dr. Richard Johnson, the J. Robert Cade professor of nephrology in the UF College of Medicine.

“Studies in humans have linked drinking excessive amounts of fruit juice and soft drinks with an increased risk for not only obesity, but also diabetes and high blood pressure,” said Johnson, also the college’s chief of nephrology, hypertension and renal transplantation. “In terms of obesity, fructose actually may set you up to not turn off your satiety response, so you will continue to eat.”

Unlike glucose, fructose does not signal the body to produce insulin, the hormone that turns sugar into energy and lets the brain know it’s time to stop eating. Fructose actually seems to do the opposite — causing resistance to insulin and blocking the “do not eat” order from making it to the brain, Johnson said.

Because fructose doesn’t stimulate insulin, consuming too much over a long period of time could trigger weight gain, said Peter Havel, a

research endocrinologist at the University of California at Davis who studies fructose.

“If you consume fructose, it’s more like you’re consuming fat,” Havel said.

Parents should limit their child’s intake of fruit juice to about 6 ounces per day, Johnson said. Studies have shown that children who drank more than 12 ounces of juice each day were heavier on average than kids who drank less, he said.

“We should not be increasing our (juice and) soft drink ingestion during the summer just because we’re hot and thirsty,” Johnson said. “Water, sports drinks, low-fat dairy such as milk — these are all better ways to keep hydrated.”

Opinions vary on the effects of fruit juice. Findings from a nutrition survey presented last week at the Pediatric Academic Societies’ annual convention show that drinking 100 percent fruit juice isn’t associated with obesity in children. The findings are not yet published.

But some juices actually have more sugar than sodas. Apple juice contains more fructose than a similar serving of soda, Havel said. And a cup of apple juice actually contains 20 more calories than a cup of soda, according to the U.S. Department of Agriculture Nutrient Data Laboratory.

“The question is how much is too much?” Havel said. “You don’t want kids to consume too many calories.”

Pure juice has more nutrients than juice cocktails — which often contain high-fructose corn syrup as an added sweetener — but even 100 percent juice contains a large amount of fructose, Johnson said. And to

the body, fructose is fructose, whether added or natural, Havel said.

Whole fruit also contains fructose, but it's offset by other nutrients, such as vitamin C and fiber. That balance is tipped in juice, which has the same amount of fructose as several pieces of fruit.

Fructose and high-fructose corn syrup, a sweetener used in most soft drinks, also cause the body to produce more uric acid. In 2005, Johnson and other UF researchers showed that feeding a high-fructose diet to rats raised uric acid levels, leading to insulin resistance. When they lowered the amount of uric acid in rats, their rates of obesity and insulin resistance fell too. Glucose doesn't seem to cause the same problems in the body, Johnson said. However, table sugar, or sucrose, is half fructose and could also activate pathways that increase the risk for obesity and insulin resistance.

Drinking too much juice or soda poses other health concerns. The phosphoric acid in sodas could lead to cavities, put children at risk for bone fractures and affect their growth, said Vasanti Malik, a doctoral student in nutrition at the Harvard University School of Public Health. Constant exposure to sweet drinks may also affect a child's taste for less-sweet foods, Malik added. Diluting juices with water helps cut down on the sugar, she said.

Aside from water and low-fat milk, active children can drink sports drinks after sports or exercise, Johnson said. These drinks contain fructose but less than juice or soda.

"It's critical to keep hydrated but with the correct kinds of fluids," Johnson said.

Source: UF

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