

## Sugar rush: Kicking the sweets habit

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Is the friendly neighborhood Girl Scout actually a pusher of one of the most addictive substances on earth?

While she may not be culpable of ill intent or dealing anything illicit, some would say her cookies are the edible equivalent of drugs.

Perhaps it's no joke. People talk about sugar highs and call themselves chocoholics. There's even a 12-step program called Overeaters Anonymous, with 54,000 members worldwide. But do sweets actually have addictive properties? Does sugar affect the brain in the same way that drugs such as nicotine and heroin do?

The evidence of the food's addictive properties is growing, and it is convincing if not quite conclusive, said Ashley Gearhardt, whose food addiction research appeared last year in the *Journal of Addiction Medicine*.

What's been studied most so far is sugar, said Gearhardt, a doctoral student in psychology at Yale University. It's commonly understood that an initial sugar "high" or period of elevated

energy, precedes a "crash" that leaves people wanting more sugar. However, those physiological changes are due not necessarily to an addiction but to an imbalance.

Evidence of sugar's addictive properties arises from animal studies and brain-imaging research in humans showing that sugar acts on the brain much like morphine, alcohol and nicotine, but with weaker effects.

Let's be clear, though, that sugar isn't evil. It occurs naturally in every fruit and vegetable and is an important source of carbohydrates, our body's primary energy source.

"It's a necessary fuel, but it's sort of like gasoline — you can flood the engine," said Dr. Jacob Teitelbaum, a Kona, Hawaii-based physician and author of "[Beat Sugar Addiction Now!](#)"

Unlike the sugar in an apple, which is bound up in fiber, refined white sugar (which does not occur naturally in the environment) rapidly converts to blood sugar. This adversely affects the mind and body, Teitelbaum said.

Too much sugar is linked to obesity, which in turn is linked to heart disease

and diabetes, he adds. The American Heart Association therefore recommends women consume no more than 100 calories in added sugars per day and men not exceed 150. Four grams of sugar equal about 20 calories.

But are there some people for whom these restrictions mean nothing because they truly can't help themselves around sugary snacks?

Studies suggest sugar addiction is real and powerful. Rats fed an intermittent diet of sucrose tripled their daily sugar consumption, possibly exhibiting a tolerance to the effects of sugar-rich foods, Gearhardt said. Another study found that when access to sugar was removed from animals on a high-sugar diet, body temperature dropped and there were behavioral changes typically associated with withdrawal, such as anxiety and agitation.

After binge-eating sugar for a month, rats will exhibit other signs of dependence, including physical withdrawal symptoms, cravings and cross-sensitization to other "drugs of abuse," namely amphetamines and alcohol, said Nicole Avena, a medical research professor at the University of Florida, Gainesville.

These behaviors coincide with neurological changes in the reward center of the brain that support the hypothesis that the rats are sugar junkies.

Neurobiological evidence for food addiction is compelling, but the diagnostic criteria for dependence, such as tolerance, withdrawal and loss of control, also must be looked at. "There is some evidence of tolerance and withdrawal for high-fat sweets in humans, but further research is needed," Gearhardt said.

However, there is substantial evidence that some people lose control over their food consumption, suffer from repeated failed attempts to reduce their intake, and are unable to abstain from or cut back on certain foods even in the face of negative consequences, she added.

Inasmuch as sugar is like a drug of abuse, is quitting cold turkey the best way to kick the habit?

"If you're an alcoholic you can say I'll never drink again, but it's harder with food," Gearhardt said.

See **SWEETS**, page **B2**

Start by getting rid of "potent, highly processed, unnatural forms of sugar," including fast food and sodas, she suggests. Study food labels, and as



a general rule of thumb, don't eat anything that lists sugar in any form — sucrose, glucose, fructose, dextrose, corn syrup — as one of the top three ingredients on the label. Avoid the white flour found in many breads and pastas, too, because the body rapidly converts it to sugar, Teitelbaum said.

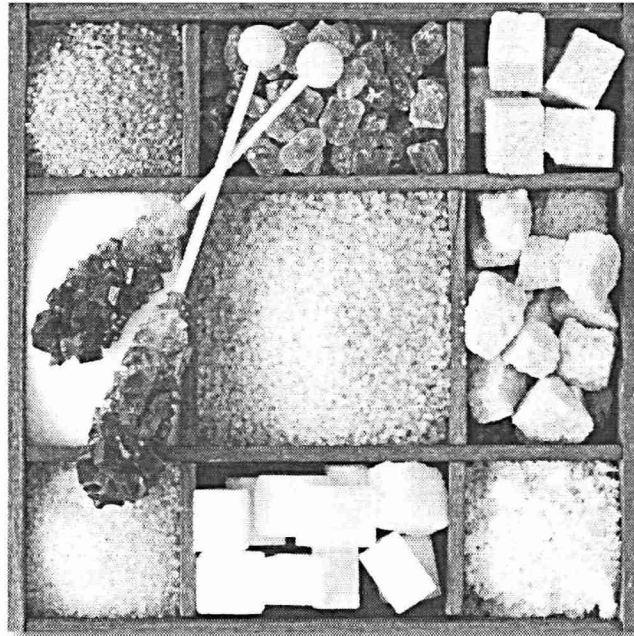
Milk aside, "If a food contains more than 10 grams of sugar, put it down. That's a party food," said Sharon Zarabi, a dietitian in New York City.

Look out for stealth sugars. "A lot of food manufacturers add fiber because it's healthy, but very often they add sugar, too, to make it appealing," she said.

Give into an indulgence every once in a while, Zarabi said. But remember, not all sweets are created equal. If a cup of sweetened tea, a piece of fruit or a stick of sugarless gum doesn't satisfy

your hankering, opt for dark chocolate instead of milk chocolate, or a small handful of peanut M&Ms (more healthful nut, less chocolate). It's also a

good idea to keep sugar-free frozen fudge bars on hand, Zarabi recommends. Some brands have as few as 40 calories per serving.



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**There's hope for even the sweetest tooth in the battle against sugar addiction.**