

Find Your Way to the Best Cholocate They Say

**Five maps to the
best chocolate
restaurants in
New York City
from Union
Square**



Letter from the editor:



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Why Chocolate Is Good for Us

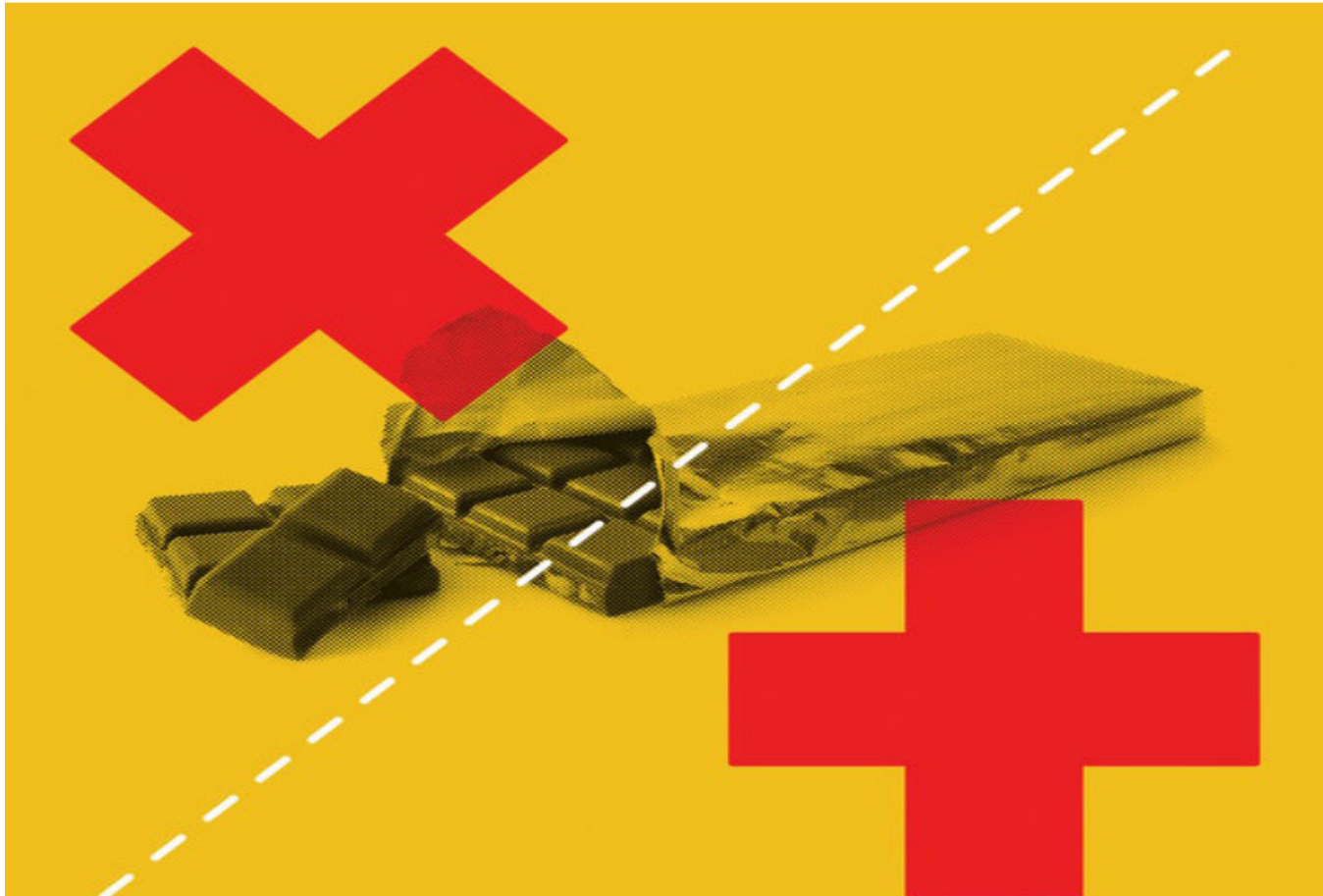


Illustration by Christopher Brand

BY GRETCHEN REYNOLDS APRIL 24, 2014

This column appears in the April 27, 2014, issue of The New York Times Magazine.

In recent years, large-scale epidemiological studies have found that people whose diets include dark chocolate have a lower risk of heart disease than those whose diets do not. Other research has shown that chocolate includes flavonols, natural substances that can reduce the risk of disease. But it hasn't been clear how these flavonols could be affecting the human body, especially the heart. New findings from Virginia Tech and Louisiana State University, however, suggest an odd explanation for chocolate's goodness: It improves health largely by being indigestible.

Researchers at Louisiana State reached this conclusion after simulating the human digestive system in glass vessels. One represented the stomach and the small intestine, with their digestive enzymes, and a second reproduced a large-intestine-like environment, with gut microbes from human volunteers. The scientists then added cocoa powder to the stomach vessel.

The "stomach" and "small intestine" broke down and absorbed some of the cocoa. But while many of the flavonols previously identified in chocolate were digested in this way, there was still plenty of undigested cocoa matter. Gut bacteria in the simulated colon then broke that down further into metabolites, small enough to be absorbed into the bloodstream and known to reduce cardiac inflammation. Finally, the last undigested cocoa matter, now mostly fiber, began to ferment, releasing substances that improve cholesterol levels. And there was another health-giving twist to this entire process: The gut microbes that digested the cocoa were desirable probiotics like lactobacillus. Their numbers appeared to increase after the introduction of the cocoa, while less-salutary microbes like staphylococcus declined in number.

These findings are broadly consistent with those from Virginia Tech, published in March in The Journal of Agricultural and Food Chemistry. Researchers there began by feeding healthy lab mice a high-fat diet. Some of the mice were also given unsweetened cocoa extract; others were fed various types of flavonols extracted from the cocoa. After 12 weeks, most of the mice had grown fat and unwell, characterized by insulin resistance, high blood sugar and incipient diabetes. A few, however, had not gained weight. These animals had ingested one of the flavonol groups whose chemical structure seems to be too large to be absorbed by the small intestine.

What the results suggest, says Andrew Neilson, an assistant professor at Virginia Tech and the senior author of the mouse study, is that "there is something going on with cocoa in the colon," but what that means for chocolate lovers is not clear. Future experiments, he hopes, will tease out why one flavonol group impeded weight gain and the others did not. Do not hold your breath for a cocoa-based diet pill anytime soon, though. Cocoa's biochemical impacts are "extremely complex," he says.

Sadly, Dr. Neilson also points out that cocoa is not a chocolate bar, something whose added ingredients and processing reduce the number and type of flavonols, increase calories (cocoa itself has very few) and possibly change the response of gut bacteria to the cocoa. "The evidence does not show that you can eat a chocolate bar every day and expect to improve your health," he says. A few tablespoons of unsweetened cocoa powder sprinkled onto oatmeal or a handful of cocoa nibs — bits of the cacao bean, available at natural-food stores — would be better, he says less than sweetly.

Max Brenner

841 Broadway, New York, NY 10003



To get to Max Brenner's facing west in Union Square:

- Turn left
- Walk straight towards e. 14th St.
- Once you reach e. 14th St., walk straight towards onto Broadway
- Walk 500 feet down Broadway and you will reach Max Brenner's

Duration:

Walking: 2 min

Driving: 30 sec

Subway: No subway available

Best Food at Max Brenner:

- S'mores Pizza

Other Options:

- Chocolate Surprise Tiramisu
- The Melting Chocolate Truffle Cake & Shake
- Chocolate Surprise Tiramisu
- O.m.g. Chocolate Chunk Cookies
- Deep Fudge Chocolate Cake & Shake



Serendipity

Dylan's Candy Bar

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Fun!**

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