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Really?

Don't believe everything you hear

BY BONNIE LIEBMAN

Have you heard that gluten causes weight gain? Or that butter is back in favor? Have you heard that just *expecting* to eat a high-calorie food boosts your metabolism? Or that dairy fat makes you lean?

It doesn't matter if the news came from *The New York Times,* "60 Minutes," or Dr. Oz. It doesn't matter if it was based on the latest study or a sweeping new review of the evidence. The information could well be incomplete, preliminary, or downright flawed...and it can create enormous confusion.

Here's a sampling of popular misconceptions. Some are new, while others have been around so long that you probably just assume that they're true.

Continued on page 3.

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MEMO FROM MFJ

Time to Rein in "Big Soda"

When I was a kid, I drank soda pop. But back then there were no 2-liter bottles or Double Big Gulps. Nor were there millions of vending machines and hundreds of thousands of fast-food outlets tempting us to plunk down a buck or two for a 20 oz. bottle...or a 40 oz. bucket. If we still drank 6.5 oz. bottles of "liquid candy" on special occasions, soda wouldn't be a major threat to our health.

I stopped drinking pop in the 1970s, around the time the soda industry was perfecting its marketing machine. As people tripled their gulps of soda, obesity rates tripled in kids and doubled in adults. (Not that soda was entirely to blame.) Type 2 diabetes, which is partly caused by obesity, also shot up.

The Quick Study in this issue (p. 12) is just one drop in the bucket of evidence showing that sugar drinks lead to weight gain. Studies find that people don't compensate for liquid calories by eating less the rest of the day.

Since 1998, Americans have been wising up. Based on data from the industry publication *Beverage Digest*, per capita consumption of "carbonated sugar drinks" (which includes regular soda and energy drinks, but not sports drinks, fruit drinks, ades, teas, and sugary waters) dropped by a remarkable 25 percent. Regular Coke is down by 34 percent and Pepsi by an astounding 51 percent.

The soda giants—no surprise—are doing everything they can to restore their profits. Coke recently said that it was adding $1 billion to its $3 billion annual global advertising budget. Companies appear to be spending more advertising dollars on minority populations. And they're buying up small companies whose flavored waters, teas, and fruit juices fetch higher prices than soda.

Big Soda marches on. Next up: China, India, Brazil, and Mexico.

The industry's largest target is developing countries. Coca-Cola and Pepsi are investing an astounding $25 billion over the next five years in just four countries: China, India, Brazil, and Mexico. Mexico has overtaken the United States in per capita soda consumption—and obesity. In response, that country recently levied an excise tax on sugar drinks (and snack foods) that quickly cut consumption by 5 percent.

Company executives are drooling over potential profits from India and China, each with four times the U.S. population. Per capita consumption is only 13 (8 oz.) servings per year in India and 43 per year in China...compared to 486 in the United States. If those countries boosted their consumption only modestly, the profits would pour in.

It's sad to see developing countries follow us down that road, knowing that sugar drinks will boost obesity, and that obesity raises the risk of diabetes, heart disease, and some cancers (like breast, colon, uterine, pancreatic, and esophageal).

In the United States, warning labels and excise taxes could help curb consumption, supermarkets and restaurants could build in price incentives that encourage people to go for lower-calorie drinks, and cities could restrict portion sizes at restaurants (as New York has been trying to do).

Better yet, the Food and Drug Administration could restrict added sugars in beverages to about one-fourth the current (roughly) 9 teaspoons per 12 ounces, as CSPI petitioned the agency to do in 2013. That would largely solve the soft-drink problem.

Mike Jacobson

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The Center for Science in the Public Interest (CSPI) is the nonprofit health-advocacy group that publishes Nutrition Action Healthletter. *CSPI mounts educational programs and presses for changes in government and corporate policies.*

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CENTER FOR Science IN THE Public Interest

Really?

Don't believe everything you hear

Does it seem like experts disagree about diet and health more often these days? The media have always jumped on man-bites-dog stories. But with more studies being published and publicized, misunderstandings abound. Here are seven.

1 Weight gain is a common sign of gluten sensitivity.

"We're going to reveal the major signs of gluten sensitivity," promised Dr. Oz on a February show. "The symptoms that you may live with every day that now you can blame on something else, because it's not your fault."

The first sign: weight gain. "It's not just eating the gluten that makes us heavy," noted Oz. "It's beyond the actual calories. When you have a gluten sensitivity, it's really getting your hormones out of whack, and that then leads to inflammation and swelling."

That makes you "hold on to fat" that you should have burned off. "And even if you go on a diet, if there's gluten in there, you don't lose weight."

Really?

Oz never explained what he meant by "gluten sensitivity." Did that include celiac disease, the classic, well-studied illness caused by an autoimmune reaction to gluten? If so, weight gain is anything but typical.

"Do people gain weight because they have celiac disease that's not diagnosed?" asks Joseph Murray, a gastroenterologist and professor of medicine at the Mayo Clinic in Minnesota. "Not usually. Usually they tend to be underweight compared to the general population."

That's because their reaction to gluten damages their intestinal lining, so it absorbs less—not more—of the food they eat. "Some people with celiac disease don't absorb as many calories from what they're eating as a normal person would," notes Murray.

What *are* the common symptoms of celiac disease?

"Diarrhea, bloating, gaseousness, abdominal pain, anemia, fatigue, joint pain, headache, skin rashes, and mouth ulcers," says Murray, who is also president of the North American Society for the Study of Celiac Disease. "And in children, growth failure, short stature, and maybe developmental delay."

Oz may have been talking about non-celiac gluten sensitivity. Some people have fewer GI symptoms (like gas or diarrhea) when they stop eating gluten, even though they don't have celiac.

Is weight gain a major sign of non-celiac gluten sensitivity? It's hard to say, for one good reason: "We don't know if there is a true non-celiac gluten sensitivity," says Murray. "It could be wheat intolerance, it could be wheat sensitivity, or it could be something else entirely."

In 2011, Australian researchers reported that 34 patients without celiac had fewer GI symptoms on a gluten-free diet.[1]

"That study was probably the best evidence for non-celiac gluten sensitivity," says Murray. "But the researchers corrected that with their second publication."

In 2013, the Australians put 37 patients without celiac on a diet that was low in FODMAPS (fermentable oligosaccharides, disaccharides, monosaccharides, and polyols). FODMAPS include fructose, lactose, sorbitol, and other short-chain carbohydrates that are poorly absorbed. A low-FODMAP diet is also low in gluten, but it's not gluten-free.

While symptoms lessened when people ate the low-FODMAP diet, adding back gluten produced no more (or fewer) symptoms than adding back a placebo (whey).[2]

"That tells us that their symptoms were probably not due to gluten," says Murray.

"The whole premise that there is a disorder called non-celiac gluten sensitivity is way overblown. There really isn't hard scientific evidence to support it."

His advice: If you think you're sensitive to gluten, find out if you have celiac disease. That means a blood test for three antibodies and, if you have them, a biopsy.[3]

Why test first? Going off gluten can make the antibodies temporarily disappear, which makes celiac harder to detect.

"If you have celiac disease, you need to know it, because you need to be gluten-free completely, and for life," cautions Murray. "And your family members should be tested, because they're at much higher risk for celiac disease."

Dr. Oz used balloons to illustrate his claim that gluten causes weight gain.

Photo: © Kitty/fotolia.com (top).

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What's more, a gluten-free diet can be expensive, and it may be low in fiber or folate or other vitamins.

And you need to know that the treatment is working. "If someone has celiac disease, they have a damaged intestine," says Murray. "We need to make sure that it recovers or you're at increased risk for malignancies."

Just trying a gluten-free diet might delay the correct diagnosis.

"I've seen patients who have had conditions like Crohn's disease, and the diagnosis has been delayed because they were trying out a gluten-free diet," says Murray. "Sometimes they felt better for a few weeks, and then their symptoms started to creep back again."

It's not surprising that some people feel better without gluten, he adds.

"They're eating less, at least for a while, and they may be eating healthier because they're eating less junk food. There's also a placebo effect."

Murray's bottom line: "Test first, test right is the message. This is a chronic disease that requires lifetime treatment. It requires certainty."

2 Your mindset can boost your metabolism.

"You may be able to change your metabolism with your mind," explained a report on National Public Radio and a YouTube video in April.

The story featured a study that gave people a 300-calorie milkshake labeled as either a "Sensi-Shake" with only 140 calories or an "Indulgence" shake with 620 calories.[4] Meanwhile, researchers monitored levels of ghrelin, which is often called the "hunger hormone," in the participants' blood.

Rises in ghrelin signal hunger and slow metabolism, explained the NPR reporter, while a big meal causes ghrelin levels to drop, which starts "revving up metabolism so we can burn these calories we just ingested."

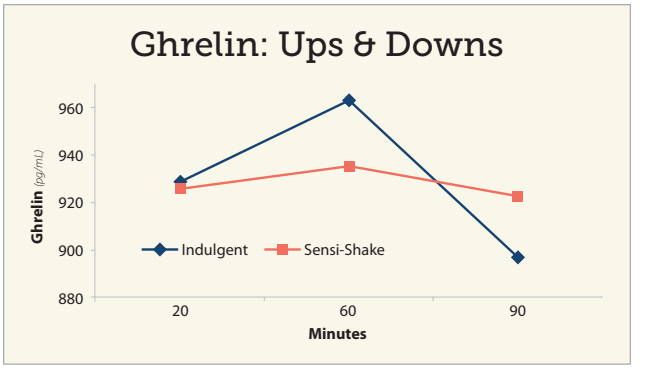
The study's surprising finding: after the participants consumed what they thought was the "indulgent" shake, "ghrelin levels dropped about three times more" than after they drank what they thought was the "sensible" shake.

"So in theory, if you want to lose weight, you could try eating healthy food with an indulgent mindset," says the YouTube video, which was produced by NPR. "You would feel fuller and your metabolism would increase."

Really?

First of all, the study never measured ghrelin's effect on metabolism (or even how much food the participants ate at their next meal). Nor have others.

"If you give animals ghrelin injections either subcutaneously or directly into the brain, they increase their food intake, increase their body weight, and burn less fat," says Jenny Tong, an associate professor of endocrinology and a ghrelin expert at the University of Cincinnati who was not involved in the milkshake study.



Ghrelin fell when people drank the "Indulgent" shake (at 60 minutes), but it had first risen when people looked at the label (from 20 to 60 minutes).

But giving ghrelin to cancer patients who are losing weight doesn't help much, she says.

"In normal humans, we only have very short-term studies measuring changes before or after meals. To say that ghrelin has such a profound effect on metabolism, the evidence in humans is lacking."

Among the uncertainties:

■ **Ghrelin boost.** Ghrelin dropped more when people drank the 'indulgent' shake in part because ghrelin had climbed more during the 40 minutes they spent looking at the labels before drinking (see graph). Odds are, that's because the high-calorie label depicted an ice cream sundae.

In the world outside the lab, might higher ghrelin levels—spurred by the sight of indulgent foods—lead people to eat *more*?

■ **Past a half hour?** The study measured ghrelin levels for only half an hour after people drank the milkshakes.

"Looking for a longer time might be interesting," says Tong. For example, in a recent study, "carbohydrate—that is, glucose—was the most potent ghrelin suppressor, but after two or three hours, there was a rebound. Protein suppressed ghrelin less potently, but it lasted longer."[5]

■ **Other research?** In a similar study, ghrelin levels were no lower after people ate a yogurt that was labeled "high-calorie" than after they ate an identical yogurt that was labeled "low-calorie."[6]

"The findings of the milkshake study are intriguing," says Tong. "But it's not as simple as just saying that ghrelin increases or decreases after a meal and that explains how our body regulates metabolism. That's a bit of a stretch."

3 A meta-analysis is the best way to answer thorny questions.

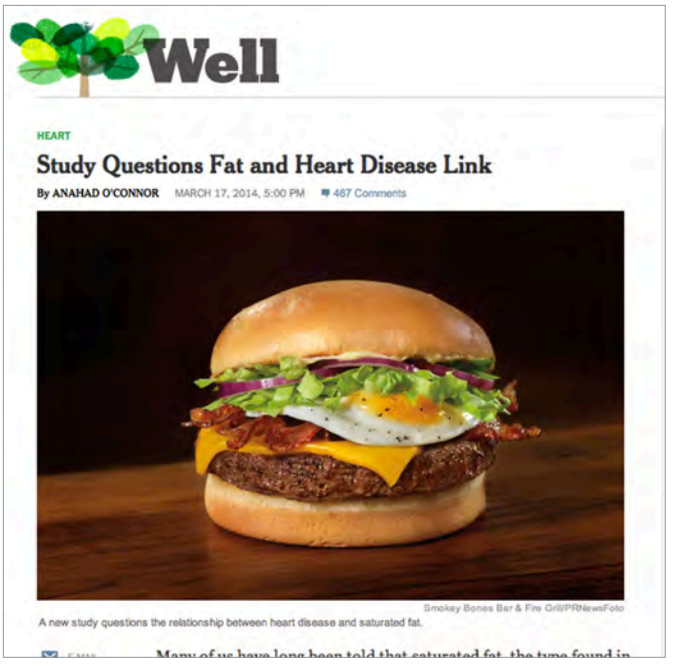
"Butter is back," declared an op-ed by food columnist Mark Bittman in *The New York Times* in March.

"That the worm is turning became increasingly evident a couple of weeks ago, when a meta-analysis published in the journal *Annals of Internal Medicine* found that there's just no evidence to support the notion that saturated fat increases the risk of heart disease."

Really?

Perhaps that was a reasonable conclusion for a food writer to reach. After all, a meta-analysis that combines the results of many (in this case 72) studies sounds like a sweeping review of the evidence. And a meta-analysis can be valuable...*if* the authors know what they're doing.

"Almost anyone with an Internet connection can do a meta-analysis," says Walter Willett, who chairs the nutrition department at the Harvard School of Public Health.


Well

HEART

Study Questions Fat and Heart Disease Link

By ANAHAD O'CONNOR MARCH 17, 2014, 5:00 PM 467 Comments

Smokey Bones Bar & Fire Grill/PRNewsFoto

A new study questions the relationship between heart disease and saturated fat.

A recent meta-analysis got plenty of publicity, despite its flaws.

"It's just pulling data out of the literature. It has the impression of being comprehensive and complete, but it can cause a huge amount of damage."

And the problem is getting worse.

"There are groups of professional meta-analysis people who believe that you shouldn't know anything about the topic you're investigating because that will cause bias," Willett explains.

"That may work for drug trials where it's just pill versus placebo, but for something complicated like human disease and nutrition, it's important that you know what you're doing or else you'll do some very silly things."

The March meta-analysis on fats and heart disease was a perfect example.[7]

"The lead authors have done some good work in the past, but they really didn't know the topic," says Willett. "They corrected some of the gross errors after the paper was published, but it still had major omissions and layers of problems."

One example: the authors concluded that people who were randomly assigned to replace saturated fats with polyunsaturated fats had no lower risk of heart disease. That contradicted an earlier meta-analysis.[8] Why? Because the new meta-analysis added a trial in which people in the polyunsaturated group were given a margarine loaded with trans fat, which raised their risk of heart disease.

"If you look at the trials that replace saturated fat with fats like soybean oil, which have both omega-3 and omega-6 fats, those actually show a lower risk of heart disease," says Willett. "But that was buried in the supplementary tables online and ignored in the paper itself."

What's more, the new meta-anlaysis said not a word about evidence showing that saturated fat raises LDL ("bad") cholesterol and that polyunsaturated fats lower it.

"There's 50 years of work on lipids that the authors didn't even bother mentioning," notes Willett. "Those data make it very clear that the type of fat makes an important difference."

Instead of a meta-analysis, which combines each study's final results, it's far better to pool the original data from each study. That's almost as good as having data from one large study, but it takes far more time and expertise than a meta-analysis.

"In 2009, we pooled the original data from 11 studies—three of which were omitted from the recent meta-analysis," says Willett.[9] "We showed that replacing saturated fat with polyunsaturated fat is clearly related to a lower risk of coronary heart disease, yet the paper got almost no press."

In contrast, the recent man-bites-dog, comprehensive-sounding analysis made headlines around the world.

And it's not just fats and heart disease. Several meta-analyses have reported that eating less salt doesn't prevent—and may even cause—deaths from heart attacks and strokes.

"The salt industry has been paying people to do meta-analyses on salt for years," says Willett. Among their flaws: including people who eat less salt—less food, really—because they are already ill.

The scientists who review the evidence should know what they're talking about.

"It's an abuse of a meta-analysis, because you check your mind at the door and just mechanically throw in numbers," says Willett. "A meta-analysis can provide a valuable summary when it's carefully conducted and the number of studies on a topic becomes large, but at present we have a meta-analysis plague, and it's dangerous."

4 Protein drinks curb appetite.

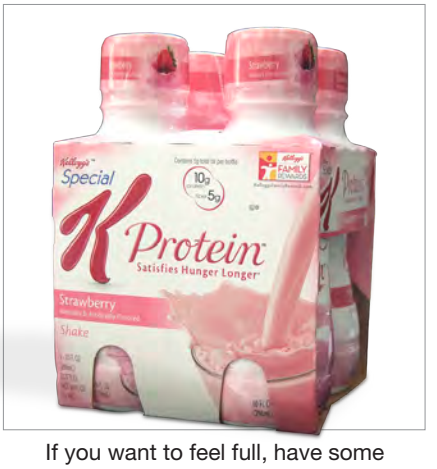
"Satisfies hunger longer," promise Special K Protein Shakes, which are largely blends of water, nonfat milk, whey protein concentrate, soy protein isolate, and sugar.

"With every tasty shake, you'll get the nutritional benefits of 10g protein and 5g fiber that can help satisfy your hunger so you can lose weight."

Really?

Some studies—many of them funded by the food industry—report that higher-protein foods make people feel more full than lower-protein foods.[10] But the best studies find no difference.[11]

"Our study gave people real foods, like chicken casserole or shrimp stir-fry, but with 10, 15, 20, 25, or 30 percent of their calories from protein," says Barbara Rolls, director of the Laboratory for the Study of Human Ingestive Behavior at Penn State University. "The entrées looked and tasted the same and had the same fat and calories."



If you want to feel full, have some food, not a drink.

The protein level didn't matter. "Protein had no impact on hunger or how many calories people ate at other meals," says Rolls.

What's more, a

Photo: Jorge Bach/CSPI (bottom).

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drink—with or without protein—may be less satiating than a solid food.

For example, researchers fed 120 lean and 60 obese adults a solid or liquid version of a high-carb food (watermelon chunks or watermelon juice), a high-fat food (coconut meat or coconut milk), or a high-protein food (fat-free cheese or fat-free, low-carb milk). All the foods had the same number of calories.

In each case, the participants ate more calories on the days they got the liquids.[12] Other studies agree.[13]

And longer-term studies find little difference—a pound or two—or no difference in weight loss when dieters eat higher-protein versus normal-protein diets.[14,15]

"To count on a little more protein to satisfy hunger and then translate that to weight loss, that's really a leap," says Rolls. "Even if people say they're less hungry, that doesn't mean they're going to eat less."

Still, if you're cutting calories, it makes sense to cut carbs or fat rather than protein.

But why bother with a Special K Protein Shake? A 10 oz. bottle has 10 grams of protein and 190 calories (thanks, in part, to its added sugar). You can get that much protein in 10 oz. of fat-free milk for only 110 calories.

And the fiber in Special K's shake comes largely from maltodextrin and polydextrose, processed fibers that may have little or no effect on appetite.

Want some protein and fiber? Try a bowl of fat-free greek yogurt and nuts.

5 Low-fat foods have more sugar than full-fat foods.

In the 1970s, "a government commission mandated that we lower fat consumption to try and reduce heart disease," reported "60 Minutes" in 2012.

"And we did," Robert Lustig, professor of pediatrics at the University of California, San Francisco Medical School, told correspondent Sanjay Gupta.

"And guess what? Heart disease, metabolic syndrome, diabetes, and death are skyrocketing. When you take the fat out of food, it tastes like cardboard. And the food industry knew that, so they replaced it with sugar."

Really?

To start with, Americans never ate less fat. Today, we're consuming roughly 20 percent *more* fat than we did in 1970. And while sugar consumption rose by 20 percent between 1970 and 2000, it's now almost back to its 1970 level. What has changed *most* is grains (mostly white flour): consumption rose 45 percent from 1970 to 2000, and we're still eating 30 percent more than we did in 1970.[16]

(Incidentally, the "government commission" that Gupta referred to—a Senate Select Committee chaired by George McGovern, which issued the *Dietary Goals for the United States* in 1977—also urged us to eat less sugar. What's more, contrary to what Lustig told "60 Minutes," death rates have dropped and heart disease death rates have plummeted—not skyrocketed—since the 1970s, when adjusted for an aging population.)

So we're not fatter because we followed advice to eat less fat. Odds are, we're fatter because we're eating *more*—more fat, more sugar, more of almost everything. The food industry has been serving us larger buns, bagels, burritos, cakes, cookies, scones, muffins, doughnuts, pizzas, soft pretzels, pancakes, paninis, wraps, soft drinks, and portions of pasta, lo mein, rice, and more.

What's more, there's no good evidence that the food industry ever replaced fat with sugar. Fat-free (or low-fat) ice cream, yogurt, cookies, almond milk, soy milk, pudding, and muffins, for example, have no more sugar than their full-fat versions.

Clearly, some people have assumed that they can't get fat on fat-free foods. In one study, people ate more yogurt if it was labeled "low-fat."

And that would be a mistake.

"Decreasing the fat content of the diet does not guarantee that you're decreasing calories," explains Alice H. Lichtenstein, director of the Cardiovascular Nutrition Laboratory at Tufts University in Boston.

"If you're going from full-fat milk to skim milk, you're almost halving the calories. If you're going from fatty cuts of meat to very lean cuts of meat, you're decreasing the calories significantly. But if you're going to eat fat-free brownies, cookies, waffles, and pancakes, it's highly unlikely you're saving any calories at all."

Fat-free ice cream, yogurt, cookies, and muffins have no more sugar than their full-fat counterparts.

Photo: Jorge Bach/CSPI.

6 Full-fat dairy foods keep you lean.

"Study links drinking fattier milk to lower weight," reported *USA Today* in February.

"A study by Swedish experts found that, over a 12-year period, middle-aged men who used whole milk, cream, and butter had a lower risk of becoming obese than did peers who avoided fattier dairy products."

Really?

The study's results were based on asking participants only three questions: What do you spread on sandwiches? What type of milk do you drink? How often do you eat whipping cream?[17]

No one was asked if they put butter on foods other than bread. No one was asked how much milk they drank. No one was asked anything about cheese or yogurt.

Even the study's authors acknowledged that they didn't ask about "the vast list of processed dairy products available in the supermarkets of today."

USA Today also cited a European review of 16 studies on dairy and obesity. But many of those studies found *no* link

between full-fat dairy foods and weight.[18] Most didn't follow the participants over time, so it's impossible to know if people were consuming higher-fat dairy *because* they were leaner or if higher-fat dairy *made* them leaner.

In the best of the 16 studies, which collected diet data every four years on 23,500 U.S. men, high-fat-dairy eaters had a *greater* risk of weight gain.[19]

"This whole notion that high-fat dairy is associated with less weight gain isn't

Can high-fat dairy foods keep you lean? The evidence is skimpy.

really grounded in much solid evidence," says Vasanti Malik, a research associate at the Harvard School of Public Health. "High-fat dairy might make you feel more satiated, but there isn't strong data to back that up."

As for young children, low-fat milk may be linked to weight gain because it's chocolate milk or because parents of chubby kids are worried about whole milk. "If a one-year-old is larger than average, a parent might say, 'I'm going to switch over to skim milk,'" says Malik.

7 A Mediterranean diet is Italian or Greek restaurant food.

"Mediterranean diet linked to lowered risk of heart disease for young populations," reported FoxNews.com in February. "A Mediterranean diet is rich in fish, nuts, vegetables and fruits," said the article.

Yet few of the 780 Midwestern firefighters in the study ate much fish, and the researchers didn't even ask the men how often they ate nuts.[20]

Instead, the study's "Mediterranean diet score" was based on just 15 questions that asked the men what type of beverages (soda, wine, beer, etc.), starches (white versus whole-grain), and added fats (butter, margarine, olive oil, other oils, etc.) they consumed, and how often they ate sweet desserts, fast food, fried foods, and fruits and vegetables.

So in this study, a key feature of a "Mediterranean" diet was infrequently consuming sweets, fast food, fried food, and soda.

Really?

"Some researchers just project what they think is good about diet onto the Mediterranean diet," says Tufts' Alice H. Lichtenstein. "It drives me crazy."

So what *is* that healthy Mediterranean diet? If you conjure up visions of pizza, lasagna, fettuccine alfredo, or gyros, think again.

"It's not the food you get in an Italian or Greek restaurant," says Lichtenstein. "There you're getting cheese on almost everything, you're getting white bread, and you're getting meat."

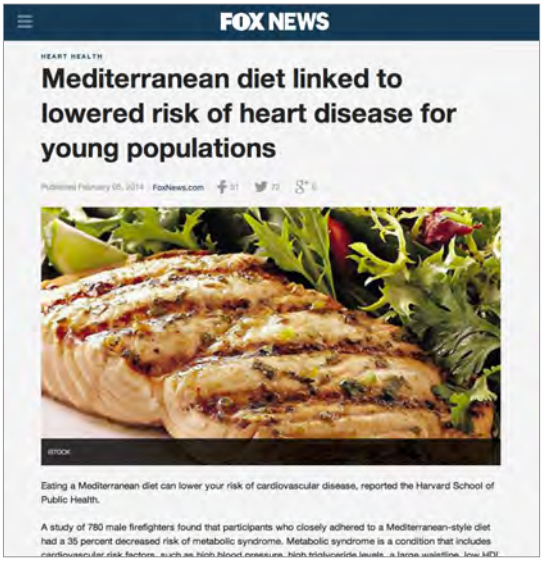
And it's not what people in the Mediterranean eat today.

"If you go to Italy, the bread and the pasta are white," notes Lichtenstein. "And if you go to Greece or Spain, you're not getting brown rice or whole-grain bread."

The "Mediterranean" diet that most researchers talk about isn't much different from the Dietary Approaches to Stop Hypertension (DASH) or other diets that lower cholesterol and blood pressure.

"Whether you look at a Mediterranean diet or any heart-healthy diet, they're all rich in fruits and vegetables, low-fat dairy, legumes, beans, and fish," notes Lichtenstein. "They're moderate in lean meats and poultry, and they have whole grains as opposed to refined grains or sugar."

To make a diet more "Mediterranean" you add unsaturated fat (largely from olive oil) and subtract carbs. But many people forget to subtract.



What's a Mediterranean diet? In some studies, it's largely one that's low in sweets and fast food.

"Let's say you're going to switch from light to regular salad dressing," says Lichtenstein. "You can't do that without taking something out. Hopefully, it's the croutons, which are high in salt and usually made with white bread. And it's going to mean cutting back on the portions of pasta or rice. Even if they're whole grain, they're adding calories."

The same holds true for the nuts that often are touted as Mediterranean.

"The ads say to add nuts to your salad, add nuts to your cereal, snack on nuts," says Lichtenstein. "But you can't just add. You have to substitute."

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4 *Health Psychol. 30*: 424, 2011.
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15 *Nutr. Metab. Cardiovasc. Dis. 24*: 224, 2014.
16 www.ers.usda.gov/data-products/food-availability-(per-capita)-data-system/.aspx.
17 *Scand. J. Primary Health Care 31*: 89, 2013.
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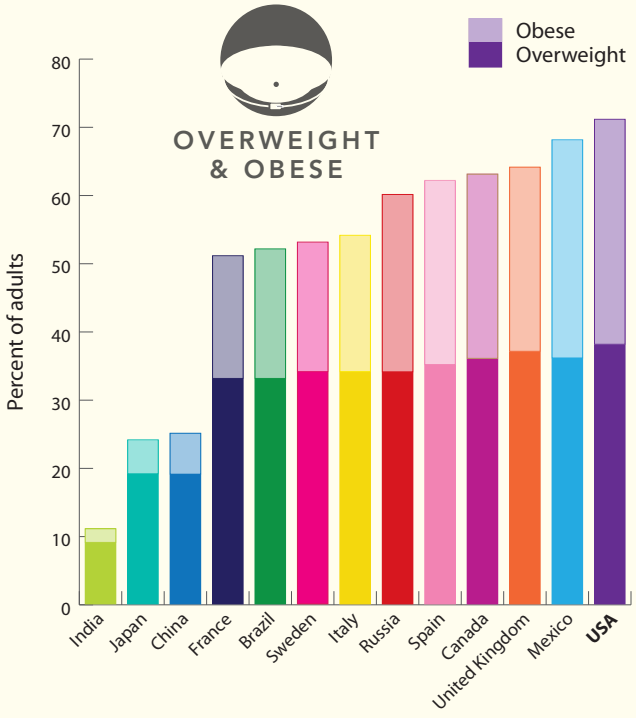
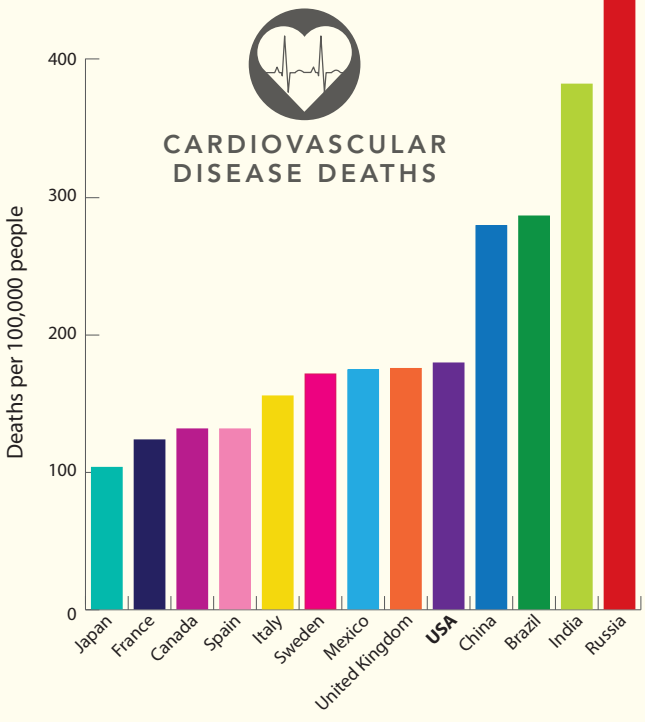
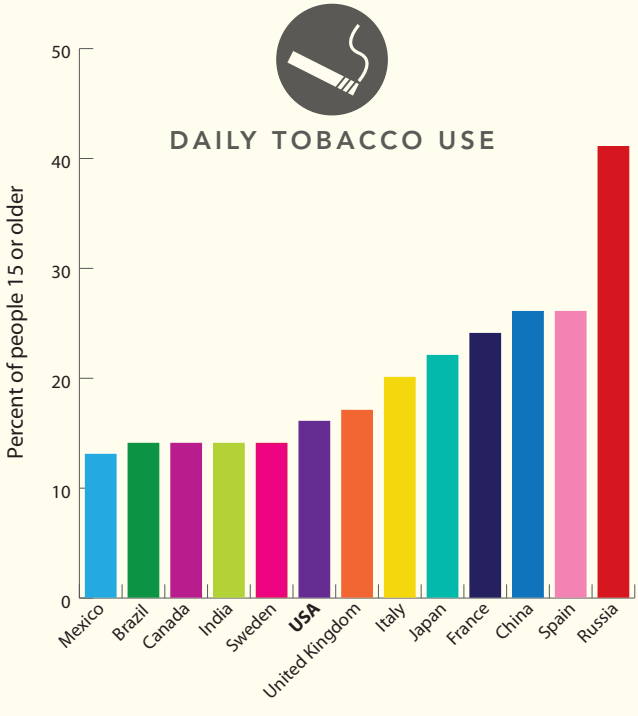
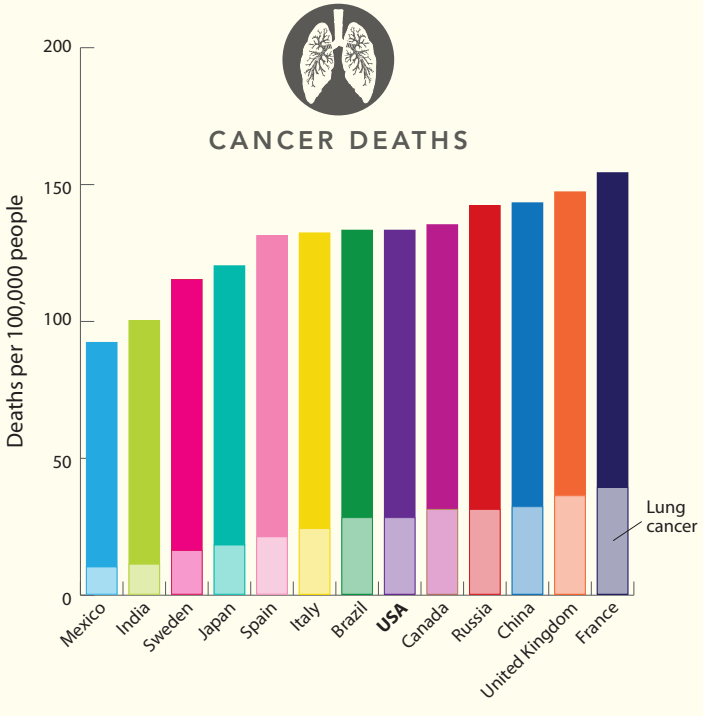
How're We Doing?

Are Americans healthier than people in other countries? We compared some key statistics in a dozen or so (mostly developed) nations using data from 2008 compiled by the World Health Organization. The upshot: we're more overweight, and especially more obese, than most other countries. But our smoking rates have dropped, which has meant fewer deaths from lung cancer, the leading cancer killer in most nations. And less smoking—along with diet and drugs that lower cholesterol and blood pressure—has helped slash heart attack and stroke deaths.









Source: World Health Organization (www.who.int/nmh/countries/en). All data, except for obesity and overweight, are age-adjusted.

OH MY GERD!

A GUIDE TO HEARTBURN AND BEYOND

BY STEPHANIE SCARMO

Heartburn. Acid indigestion. Acid reflux. No matter what you call it, it's annoying...and it could be dangerous. Should you avoid spicy foods? Which over-the-counter medications work best? Here's what helps and what doesn't.

Lazy Sphincter

Heartburn has nothing to do with the heart. It occurs when the lower esophageal sphincter—the bundle of muscles that surrounds the esophagus where it meets the stomach—relaxes when it shouldn't.

That allows what's in the stomach—acid, bile, and enzymes like pepsin—to "reflux" (flow back) into the esophagus. And that hurts.

"Someone who has occasional burning in the chest or acid coming up into the throat 20 to 30 minutes after eating a heavy meal has heartburn," notes Lauren Gerson, a gastroenterologist at the California Pacific Medical Center in San Francisco.

"Somebody who has those symptoms on a more chronic basis has GERD," or gastroesophageal reflux disease. "Chronic" typically means at least twice a week for several weeks.

If left untreated, GERD can lead to serious complications. The good news: many people can control reflux symptoms with lifestyle changes and, if necessary, with medications.

"Trigger" Happy?

Chocolate, spicy foods, alcohol, coffee, carbonated beverages, high-fat foods (like cheese, nuts, and red meat). They're all on WebMD's "Top 10 Heartburn Foods" list.

Is avoiding those "triggers" the key to dodging heartburn?

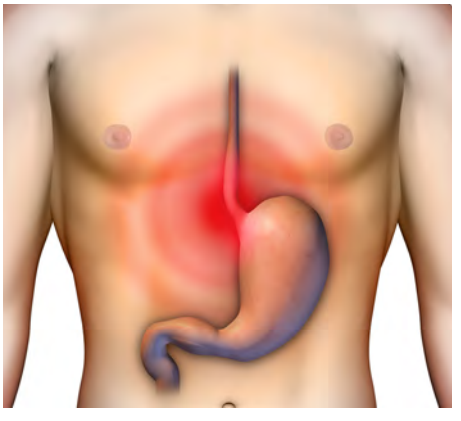
"A lot of patients in my clinic with reflux disease had gone to their doctor, who showed them a list of the trigger foods and told them to stop everything," says Gerson. "The patients were miserable because their heartburn wasn't much better, and they couldn't eat anything.

"I started thinking, 'Is there evidence to support people going on these elimination diets?'"

So Gerson and her colleagues at Stanford University (she was a professor there at the time) screened more than 2,000 studies, looking for evidence that avoiding trigger foods helps curb reflux symptoms.[1]

"There wasn't any data out there to demonstrate that if you stop these foods and drinks, GERD would get any better," notes Gerson.

Take chocolate. Two small trials found that when healthy adults or people with reflux were *given* a chocolate drink or syrup, their esophageal sphincter relaxed (which could trigger reflux) and their esophagus was exposed to more acid (which would make symptoms worse).[2,3]



A relaxed esophageal sphincter can cause heartburn.

"But there haven't been any studies demonstrating that if GERD sufferers *stop* eating chocolate, they are going to improve significantly," says Gerson.

Nor have any studies looked at whether symptoms abate when people stop eating spicy foods (like chili and curry), coffee, carbonated beverages, or high-fat meals.[1]

"Avoiding trigger foods has become less evidence and more expert opinion," says Michael Vaezi, director of the Center for Swallowing and Esophageal Disorders at Vanderbilt University Medical Center in Nashville.

When the American College of Gastroenterology updated its treatment guidelines for GERD in 2013, it concluded that there wasn't enough evidence for doctors to simply tell their patients to cut out a list of foods. Instead, the guidelines advise patients to avoid foods only if that lessens their symptoms.[4]

"If patients say, 'I drank soda or orange juice or coffee, and boy, my symptoms got worse,' they've identified certain triggers," says Vaezi.

"Your trigger may not be somebody else's trigger. Individualized trigger avoidance is what I suggest to people, instead of giving a cookbook, one-size-fits-all laundry list of foods to avoid."

Weight Loss and Beyond

"Being overweight increases pressure around the abdomen, which is more likely to cause reflux," explains Gerson. "There may also be hormones, like estrogen, secreted by the fat cells that cause the esophageal sphincter muscle to relax."

The best evidence that extra pounds increases GERD comes from the Nurses' Health Study. Women who had gained the most weight over the previous 14 years were more than twice as likely to report heartburn as those whose weight remained stable. And women who had lost the most weight reported a 40 percent drop in symptoms.[5]

"If people have gained 10 pounds in the past year, I might suggest they try to lose that weight, even if they're in the normal weight range, because that may curb their symptoms," says Gerson.

When 124 overweight or obese adults

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with GERD lost an average of 29 pounds by cutting calories and exercising for six months, 65 percent of them said that they no longer had any symptoms and 15 percent reported fewer symptoms.[6]

The study wasn't perfect—it had no control group, so people may have felt better because they expected to. Even so, many physicians still tell their overweight patients with GERD to lose weight.

"Of all the lifestyle changes to relieve reflux, weight loss has the strongest evidence," notes Vaezi.

Studies to back up other advice are scant.

"If people have nighttime symptoms, then I recommend that they put a 'bed wedge' that's six to eight inches high under their pillow," says Gerson. In a small trial on 20 people, that exposed the esophagus to less acid.[7]

Some doctors also advise reflux patients to avoid eating two to three hours before bedtime. But there's no good evidence that that helps.

For example, when 20 people with reflux ate a 1,000-calorie meal (a hamburger, french fries, and soda) at 9 p.m., they had no more reflux episodes and no longer reflux episodes than when they ate the same meal at 7 p.m. on a different night.[8]

Nor is there evidence that avoiding high-fat meals late at night helps. "But we know that high fat delays gastric emptying, which can lead to GERD," says Gerson. "So it's really a common-sense recommendation."

The jury's still out on whether quitting smoking eases GERD symptoms. "Obviously, smoking has its own health hazards," says Gerson.

Over-the-Counter Help

When nothing else works, you can try an over-the-counter medication:

■ **Antacids** like Alka-Seltzer, Maalox, Mylanta, Pepto-Bismol, Rolaids, and Tums work the fastest to neutralize stomach acid, but they wear off the quickest.

■ **Histamine-receptor antagonists (H2RAs)** like Pepcid and Zantac reduce the amount of acid your stomach produces. Some people take them along with antacids.

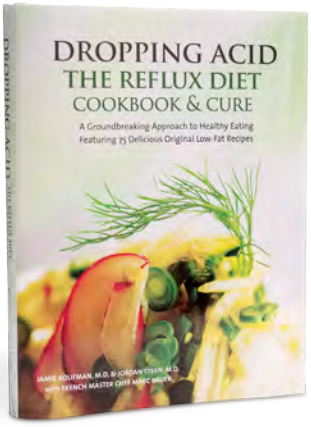
■ **Proton pump inhibitors (PPIs)** like Prilosec and Prevacid (some others are available by prescription only) really clamp down on stomach acid.

"PPIs work by turning off the pumps in the stomach that make acid," explains Gerson. "For these medications to be effective, most have to be taken on an empty stomach before a meal, in order to get to the pumps before they're being stimulated by food. If you take PPIs in between or after meals, you'll probably reduce their efficacy by half."

But if you're taking an over-the-counter PPI more often than the label says—for two weeks once every four months—check with your doctor. Acid-reducing drugs aren't without risk.

In 2010, the Food and Drug Administration warned that people who take PPIs daily for at least a year have an increased risk of bone fractures and low blood magnesium levels.

Because low magnesium can cause irregular heartbeat, seizures, or muscle spasms, the FDA suggests that doctors check blood levels, especially if patients are also taking digoxin, diuretics, or other drugs that can lower magnesium.



Do acidic foods set off silent reflux? The evidence is murky.

"There is also some increased risk of diarrheal-type infections like *Clostridium difficile* with PPIs," notes Gerson. Less acid allows the bacteria to grow.

And both H2RAs and PPIs may increase the risk of vitamin B-12 deficiency, which can cause anemia, dementia, and irreversible nerve damage. That's because you need stomach acid to separate the B-12 that's bound to the protein in foods. But you can dodge that problem by getting B-12 from a supplement or fortified foods, because their B-12 isn't bound to protein.

Shhh!

"Reflux is not just indigestion and heartburn," proclaims physician Jamie Koufman in her best-selling book, *Dropping Acid: The Reflux Diet Cookbook & Cure*.

Koufman coined the term "silent reflux" to describe symptoms like hoarseness, chronic cough, difficulty swallowing, and other throat ailments caused by reflux, even among people who don't have heartburn.

However, nearly everything about silent reflux, or LPR (laryngopharyngeal reflux), is controversial. For example:

■ **Does reflux cause throat symptoms?** "We can use pH monitoring, which uses a probe to measure how high up the esophagus the acid is going," says Gerson. But pH monitoring picks up reflux in many people without symptoms.[9]

"Even if I find that someone has reflux into their throat, it's difficult to prove 100 percent that it's causing the LPR symptoms," notes Gerson.

■ **Do PPIs help?** If silent reflux causes symptoms like hoarseness, drugs that curb reflux should help. But when Vanderbilt University's Michael Vaezi gave 145 people with LPR symptoms a PPI (Nexium) or a placebo for 16 weeks, LPR symptoms disappeared in about 15 percent of both groups, suggesting that reflux didn't cause their symptoms.[10]

Still, it's worth trying PPIs to see if they work. "Reduce that acid," says Vaezi.

■ **Do acid-free diets help?** "There's this belief among ear, nose, and throat doctors that somehow pepsin is the trigger that's causing the damage and symptoms in the throat," says Vaezi.

Pepsin is an enzyme that mixes with stomach acid to break down the protein in foods. Because acid activates pepsin, *Dropping Acid* urges patients to avoid acidic foods like citrus, hot sauce, and carbonated soda.

"I think it's a bit shortsighted to blame pepsin because you're not selectively re-

Photo: Stephen Schmidt/CSPI.

fluxing pepsin. You reflux what's in your stomach," notes Vaezi.

"The evidence to support dietary measures in patients with LPR is even weaker than for GERD," adds Gerson.

If you find that certain foods trigger hoarseness, avoid them, says Vaezi. "But the idea of suggesting that everyone should 'drop acid' is a bit extreme."

It's Complicated

For most people, reflux is just a pain in the neck. But if it persists and goes untreated, GERD can lead to serious complications.

Barrett's Esophagus

"The esophagus is not designed to handle acid," notes Christian Abnet of the National Cancer Institute.

When the cells that line the esophagus are repeatedly exposed to acid, "they start to look more like the cells you would see in the stomach or the intestines," he explains. That's called Barrett's esophagus.

"It may be an adaptive response to the acidic insult that's changing a type of tissue that's not used to being exposed to acid," says Abnet.

Only around 5 to 10 percent of people with GERD develop Barrett's.[11] Those most likely to get it, notes Gerson, are "white men who are overweight and over 50."

Barrett's has no symptoms. Doctors typically find it when people seek treatment for heartburn. "In order to know you have it, you have to have an endoscopy and a biopsy," says Gerson.

Why does Barrett's matter? It increases the risk of a deadly cancer.

Esophageal Cancer

If you have Barrett's esophagus, you're roughly 10 times more likely to get esophageal adenocarcinoma, the most common type of esophageal cancer. The other major type, squamous cell carcinoma, is often found in people who smoke and drink heavily.

Neither one is something you want to get. Fewer than 20 out of every 100 people with esophageal cancer are alive five years after being diagnosed.

"Still, even among people with Barrett's, most don't develop cancer," says Abnet. Only one of every 200 people with Barrett's gets esophageal adenocarcinoma.

"Adenocarcinoma is an uncommon cancer, but it's increasing in frequency," says Gerson. "It's probably rising because of obesity."

Too spicy? Avoid the foods that trigger *your* symptoms.

When Abnet and his colleagues tracked more than 218,000 older adults in the NIH–AARP Diet and Health Study for up to 11 years, they found that those who were obese had more than double the risk of esophageal adenocarcinoma than those who were normal weight. People with a larger waist (at least 39 inches for men and 34 inches for women) had a higher risk than people with a smaller waist (no more than 34 inches for men and 28 inches for women).[12]

"It's possible that the effect of obesity on esophageal adenocarcinoma was really just reflecting reflux disease," since people who are overweight are more likely to have reflux, says Abnet.

But it's also possible that the growth factors and hormones that fat cells release are what's raising cancer risk.

And, in a surprising twist, adenocarcinomas may be on the rise because stomach cancers are on the decline.[13]

Helicobacter pylori is a bacteria that can inhabit the stomach without causing any symptoms. Researchers believe that it spreads through dirty food or water.

H. pylori is a major cause of stomach cancer, the second most common cancer in the world. It's only 17th on the list in the United States, though, thanks to clean drinking water and antibiotics to kill *H. pylori* when an infection is diagnosed.

"But there's a dark side" to that success, says Abnet.

"*H. pylori* may damage the glands in your stomach that produce acid. If that happens, the acidity of your stomach will be neutralized. So, even if you reflux, you're only refluxing neutralized stomach contents, which may not damage your esophagus."

But our success in fighting *H. pylori* means more acid reflux.

Abnet's bottom line: If you have GERD, don't panic about adenocarcinoma.

"Reflux is really common, and esophageal cancer is not. I would say that discomfort from the symptoms of GERD is a concern, but very few people with reflux disease are ever going to develop this cancer."

WHAT TO DO

If you have heartburn, GERD, or symptoms of silent reflux:

- Avoid "trigger" foods. Try to figure out which foods cause symptoms. Yours may be different from somebody else's. There's no need to swear off an entire list that you may have read about.
- Try to lose excess weight.
- If you smoke, stop.
- Try a "bed wedge" under your pillow.
- Try an over-the-counter antacid, histamine-receptor antagonist (H2RA), or proton pump inhibitor (PPI).

[1] *Arch. Intern. Med. 166*: 965, 2006.
[2] *Am. J. Dig. Dis. 20*: 703, 1975.
[3] *Am. J. Gastroenterol. 83*: 633, 1988.
[4] *Am. J. Gastroenterol. 108*: 308, 2013.
[5] *N. Engl. J. Med. 354*: 2340, 2006.
[6] *Obesity 21*: 284, 2013.
[7] *J. Gastroenterol. Hepatol. 27*: 1078, 2012.
[8] *Aliment. Pharmacol. Ther. 12*: 1033, 1998.
[9] *Otolaryngol. Head Neck Surg. 121*: 725, 1999.
[10] *Laryngoscope 116*: 254, 2006.
[11] *J. Gastroenterol. Hepatol. 26*: 639, 2011.
[12] *Gut 61*: 1261, 2012.
[13] *Cancer Prev. Res. 1*: 329, 2006.

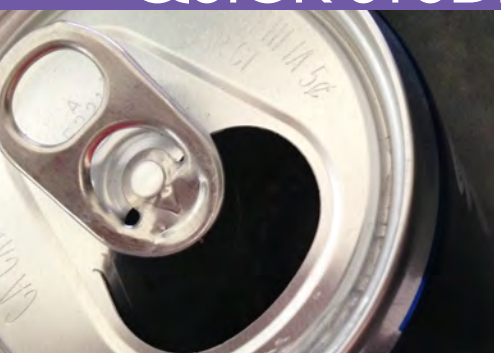


Photo: Jorge Bach/CSPI.

Not So Sweet

Sugar, especially in drinks, leads to weight gain without curbing appetite.

Danish researchers randomly assigned 22 overweight adults to consume beverages (like soft drinks and fruit drinks) or foods (like yogurt and ice cream) that were sweetened with either sucrose (table sugar) or artificial sweeteners. The sugar dose depended on the participant's size, but averaged about 36 teaspoons a day—and 70 percent of it came from the beverages. (For comparison, a 12 oz. can of Pepsi has about 10 teaspoons of added sugars.) No one knew which sweeteners they were getting. In addition to the foods and drinks supplied by the researchers, the volunteers ate as much of other foods as they wanted.

After 10 weeks, the sucrose group had gained about 3 pounds, while the artificial sweetener group had lost about 2½ pounds. The sucrose group didn't eat less of other foods to compensate for the extra sugar calories they were given, so they ended up getting more calories than the artificial sweetener group. Surprisingly, the sugar group also felt less full and had a greater appetite after lunch and dinner.

What to do: Cut back on all added sugars, and skip sugar-sweetened beverages like soft drinks, lemonade, and sweetened iced teas and coffees.

Am. J. Clin. Nutr. 2014. doi:10.3945/ajcn.113.081554.

Saturated Fat & Breast Cancer

Women who reported eating more saturated fat had a higher risk of some types of breast cancer, according to a large European study.

Researchers tracked more than 337,000 women from 10 European countries. After 12 years, those who initially reported consuming the most saturated fat (roughly 48 grams a day) had a 28 percent higher risk of ER+PR+ (estrogen receptor-positive, progesterone receptor-positive) breast cancer than those who reported consuming the least (about 15 grams a day).

Women who ate the most sat fat also had a 29 percent higher risk of HER2- (human epidermal growth factor 2-neu-negative) but not the more-aggressive HER2+ breast cancer.

The most common types of breast cancer are ER+PR+ and HER2-. ER+PR+ tumors are linked to being overweight or taking hormones after menopause, and to other signs of greater lifetime exposure to estrogen.

In a second study, which tracked 88,800 U.S. nurses for 20 years, women who consumed the most animal fat (largely from meat) when they were young adults had an 18 percent higher risk of (pre- and post-menopausal) breast cancer.

In 2006, a large randomized trial (the Women's Health Initiative) found no lower risk of breast cancer in postmenopausal women who reported cutting their intake of all fats. However, the "lower-fat" group trimmed their daily saturated fat only slightly (by about 5 grams).

What to do: Limit your saturated fat to lower your risk of heart disease. This type of study can't say whether that will also lower your breast cancer risk. Something different about women who eat more sat fat could explain their higher risk.

J. Natl. Cancer Inst. 106: dju068, 2014.
Breast Cancer Treat. 145: 255, 2014.

The Cereal Trap

People are likely to eat more of dense breakfast cereals like granola and Grape-Nuts than less dense cereals like flakes.

U.S. researchers offered 41 adults one of four cereals for breakfast once a week—either ordinary wheat flakes or the same flakes crushed so that their volume was only 80 percent, 60 percent, or 40 percent of the ordinary flakes. The participants were allowed to eat as much cereal (from an opaque container), fat-free milk, and calorie-free sweetener as they wanted.

The denser the cereal, the more the volunteers ate. Their breakfast calories rose from 286 for the ordinary flakes to 358 for the densest flakes. However, they all estimated having eaten the same amount of cereal.

What to do: Beware of dense cereals. Don't just check a cereal's calories per serving. Check the serving size, which can range from ¼ cup to 1¼ cups.

J. Acad. Nutr. Diet. 2014. doi:10.1016/j.jand.2014.01.014.

Milk for Knees?

Drinking milk may slow the progression of osteoarthritis of the knee.

U.S. scientists studied 2,148 people who had osteoarthritis in at least one knee. After four years, women who reported drinking 1 to 3 glasses of milk a week had a 33 percent lower risk of arthritis progression—based on X-rays of their knee cartilage—than those who said they drank none. Women who reported drinking at least 7 glasses of milk a week had a 44 percent lower risk of progression. There was much less evidence that milk had an impact on knee arthritis in men.

In contrast, women (but not men) who reported eating at least 7 servings of cheese a week had a *higher* risk of progression than those who said they ate no cheese. Yogurt had no impact on arthritis progression.

What to do: It's too early to know if milk can slow arthritis. Something else about the milk drinkers may explain why their knees fared better than those of non-milk drinkers or cheese eaters. Stay tuned.

Arthritis Care Res. 2014. doi:10.1002/acr.222972014.

That's a Wrap!

BY KATE SHERWOOD

As the weather heats up, perfect-for-summer lettuce wraps start to work their way onto my menus. You can fold the lettuce around the fillings and eat with your hands, or dig in with a knife and fork. Softer, foldable lettuces like butter or leaf work best.

Got a question or suggestion? Write to Kate at healthycook@cspinet.org.

Chicken Shawarma Lettuce Wraps

Serves: 2 | Total Time: 20 minutes

- 1 Tbs. tahini
- 1 small clove garlic, finely minced
- 1 Tbs. lemon juice
- ½ cup non-fat plain yogurt
- ½ lb. boneless, skinless chicken breast
- ½ tsp. cumin
- 1 tsp. coriander
- ¼ tsp. kosher salt
- freshly ground black pepper
- 2 Tbs. extra-virgin olive oil
- 1 cup chopped cherry tomatoes
- 1 cup sliced seedless cucumber
- ¼ cup diced red onion
- butter or leaf lettuce leaves

You can add or substitute almost any sliced or shredded vegetables or herbs. Try carrots, radishes, parsley, cilantro, and mint.

In a small bowl, mix the tahini, garlic, lemon juice, and yogurt. • Put the chicken in a zip-lock bag and pound to an even ¼-inch thickness. • Mix the cumin, coriander, salt, and pepper in a small bowl and sprinkle over the chicken. • Heat the oil in a medium, non-stick pan over medium heat. Sauté the chicken until cooked through, 2-3 minutes per side. Remove to a cutting board, allow to cool for 5 minutes, then slice into strips. • Put a few slices of chicken on a lettuce leaf and top with some tomato, cucumber, red onion, and a spoonful of the yogurt sauce.

Per Serving: calories: 310 | sodium: 440 mg | total fat: 15 g | sat fat: 2.5 g | carbs: 14 g | protein: 31 g | fiber: 3 g

Fish Lettuce Tacos

Serves: 2 | Total Time: 20 minutes

- ¾ lb. tilapia
- ⅛ + ¼ tsp. kosher salt
- 1 Tbs. canola oil
- 1 avocado, finely chopped
- 4 sprigs cilantro, minced
- 1 cup cherry tomatoes, chopped
- ½ jalapeño, seeded and minced
- 2 Tbs. lime juice
- 2 cups shredded red cabbage
- butter or leaf lettuce leaves

For a bit of crunch, break up a few tortilla chips and sprinkle them over the tacos. Prefer mild? Leave out the jalapeño.

Season the tilapia with ⅛ tsp. of salt. • Heat the oil in a large, non-stick pan over medium heat. Sauté the fish until lightly browned, about 2 minutes per side, then remove the fish from the pan. • In a bowl, combine the avocado, cilantro, tomatoes, and jalapeño with the lime juice and up to ¼ tsp. of salt. • Put some red cabbage on a lettuce leaf and top with a piece or two of fish and a dollop of the avocado mixture.

Per Serving : calories: 440 | sodium: 490 mg | total fat: 25 g | sat fat: 3.5 g | carbs: 21 g | protein: 39 g | fiber: 10 g

Tofu Lettuce Cups

Serves: 2 | Total Time: 20 minutes

- 14 oz. extra-firm tofu, drained
- 1 Tbs. canola oil
- 2 scallions, sliced
- 1 cup edamame
- 1 Tbs. reduced-sodium soy sauce
- 1 Tbs. balsamic vinegar
- 2 Tbs. hoisin sauce
- ¼ cup basil leaves
- ¼ cup cilantro leaves
- 1 cup shredded carrot or radish
- ¼ cup unsalted roasted peanuts, chopped
- butter or leaf lettuce leaves

Not in the mood for tofu? Try ¾ lb. chopped shrimp or chicken.

Cut the tofu into ¼-inch cubes and blot with a paper towel. Heat the oil in a large, non-stick pan over medium heat. Sauté the tofu until golden brown on at least two sides, 2 minutes per side. • Toss in the scallions and edamame and sauté for another minute. Remove from the pan and set aside. • Whisk the soy sauce, vinegar, and hoisin sauce into the pan. Simmer until the sauce is sticky, about 1 minute. • Put some herbs and a bit of tofu mixture on a lettuce leaf and top with some carrot, peanuts, and a drizzle of sauce.

Per Serving: calories: 480 | sodium: 580 mg | total fat: 30 g | sat fat: 4 g | carbs: 26 g | protein: 34 g | fiber: 8 g

Photos: Kate Sherwood/CSPI.

WATER, WATER, EVERYWHERE...

What's in *your* bottle?

BY DAVID SCHARDT

1960 Put glass under spigot. Turn on tap. Fill glass. Turn off tap. Drink.

2014 Enter store. Proceed to water aisle. Scratch head.

What do you want in your water: Powder or drops? Sugar or no-cal sweeteners? Natural or artificial colors and sweeteners? Vitamins and minerals? Herbs? Electrolytes? Caffeine? If it's legal, someone's probably selling it mixed with water in a trendy bottle.

If there's no tap within reach, here's how to stay afloat in the water aisle.

The information for this article was compiled by Lindsay Moyer.

Safely Flavored or Sweetened

Looking for flavor in your water? If a fresh squeeze of lemon or lime isn't handy, some brands offer natural flavors and/or safe sweeteners like stevia or erythritol, or just a little sugar.

■ **Carbonated.** Stores are stocked with unsweetened, naturally flavored carbonated waters like Dasani Sparkling and LaCroix. For diet-soda-like sweetness, R.W. Knudsen Spritzer Zero Calorie uses erythritol and rebiana (stevia), while Something Natural Sparkling Water (30 calories in an 11 oz. bottle) contains stevia and about 1½ teaspoons of sugar.

■ **Non-carbonated.** Looking for flavor but no sweetness? Take a Hint—Hint water, that is. If you like exotic flavors like Ginger Lemon Peel or Lemongrass Mint Vanilla, try Ayala's Herbal Water. (Hint and Ayala also make carbonated waters.)

■ **Drops.** Like MiO, most brands use artificial food dyes and the questionable artificial sweeteners acesulfame potassium and/or sucralose. Two that don't: SweetLeaf Sweet Drops Water Enhancer (stevia) and Skinnygirl Water Enhancer (stevia plus 5 calories' worth of sugar in a half-teaspoon squeeze). Both add a subtle sweetness to the water.

■ **Powders.** True Citrus's line of citrus-flavored sweetened and unsweetened powders delivers no more than 10 calories per packet. We liked the refreshingly tart True Lemon Original Lemonade (stevia and about half a teaspoon of sugar). Crystal Light's Pure line of flavored powders (30 calories per packet) also uses rebiana and about 1½ teaspoons of sugar.

Product photos: Lindsay Moyer/CSPI.

Electrolytes

"Stay balanced with our electrolyte water!" says the Whole Foods 365 Electrolyte Water bottle. "Electrolytenment starts here," quips Resource Natural Spring Water.

Should we all be guzzling water with electrolytes?

"Most people get all they need from their diets," says Robert Kenefick, who studies hydration at the U.S. Army Research Institute of Environmental Medicine in Natick, Massachusetts. "For recreational activities, most people don't need more."[1]

Among those who *may*: very heavy sweaters, "salty" sweaters (their sweat leaves a whitish residue on their clothing), and people working or competing strenuously for more than an hour (running a marathon, for example), especially in hot or humid weather.

Electrolytes help keep water in the bloodstream and in cells for a longer time before it's excreted by the kidneys, Kenefick explains. That could help keep those people from becoming dehydrated.

The catch: waters may not have enough electrolytes to matter. The electrolytes in Whole Foods 365, Resource, and Glacéau Smartwater, for example, are there just "for taste," as the small print on the label notes. If you *need* electrolytes, you're probably better off with a sports drink.

[1] *Nutr. Rev. 70 (Suppl 2)*: S137, 2012.

Vitamins & Minerals

Adding vitamins or minerals is an easy, dirt-cheap strategy to make water appear healthier. A ten-year supply of a day's worth of vitamin C from China, for example, runs only about $1 wholesale.

B vitamins are especially popular. Just about every 20 oz. bottle of Glacéau Vitaminwater and Vitaminwater Zero, for example, delivers the Daily Value for B-5 (pantothenic acid), B-6, and B-12. Yet in dozens of studies, people who took B vitamins—or high doses of other vitamins—every day for years were typically no better off than people who took a placebo.[1]

[1] *Ann. Intern. Med.* 2014. doi:10.7326/M14-0198.

Stress

"Helps reduce stress." "Enhances mood." "Provides focused concentration." You'd expect nothing less from an enhanced water called Neuro Bliss.

Bliss's "combination of chamomile and L-theanine works with the body's natural chemistry to help you relax and feel good," notes the bottle. The company wouldn't tell us how much of each is in its "proprietary blend," but that's okay, since there's little evidence that even high doses will give you a bliss boost.

■ **Chamomile.** People have been drinking chamomile tea to relax for centuries. But concentrated doses of chamomile—Neuro Bliss uses whole leaf powder—bombed when researchers tested them on people with insomnia or anxiety disorder.[1,2] No good studies have tested chamomile extracts or powder in people who just want to take the edge off.

■ **L-theanine.** Supplement manufacturers claim that the amino acid, which is found primarily in tea leaves, is a relaxant. That's because large amounts increase alpha wave activity in the brain, which could signal a more relaxed mental state.

"Marketing folks want a simple story to give to the public, but it's terribly simplistic to say that you will feel relaxed and stress-free from taking theanine," notes John J. Foxe, professor of pediatrics and neuroscience at Yeshiva University's Albert Einstein College of Medicine in New York.

Theanine studies are small, don't all look at the same kinds of people, and don't always measure the same things. But studies that give people theanine or a placebo and then ask how relaxed they feel typically come up empty.

For example, when researchers gave 250 mg of theanine (probably far more than Bliss contains) mixed into iced tea to 24 college students, the students reported feeling no more or less alert, content, calm, relaxed, jittery, tired, tense, or mentally fatigued 1½ hours later than they did after drinking an iced tea without theanine. They also scored no better on 26 of 27 cognitive tests. (The theanine takers scored *worse* on one—subtracting 7 sequentially from a large number.) And they were more likely to report getting a headache.[3]

Foxe's bottom line: "I don't think we can say right now that theanine promotes relaxation."

1 *J. Clin. Psychopharmacol. 29*: 378, 2009.
2 *BMC Complement. Altern. Med. 11*: 78, 2011.
3 *Biol. Psychol. 77*: 113, 2008.

Weight

Want to drop a few pounds? Fuze Slenderize is spiked with vitamins plus three popular weight-loss supplements.

Never mind that Slenderize delivers just a tiny fraction of the amounts that have been tested. And never mind that two of the three—chromium and L-carnitine—haven't helped people lose weight in the eight studies that looked.[1,2]

Only three studies have tested the third ingredient—Super Citrimax, an extract of the fruit of the *Garcinia cambogia* plant. Among 35 overweight Mexican women, those who took 1,500 mg a day of *Garcinia cambogia* (six times what's in Slenderize) for eight weeks lost six more pounds than those who took a placebo.[3] But in two other studies, on a total of 90 people in India, those who got 11 times the *Garcinia* in Slenderize lost no more weight than those who got a placebo.[3] However, the researchers reported otherwise.[4,5]

1 *Int. J. Sport Nutr. Exerc. Metab. 10*: 199, 2000.
2 *Nutrition 23*: 187, 2007.
3 *J. Obes.* 2011. doi:10.1155/2011/509038.
4 *Diabetes Obes. Metab. 6*: 171, 2004.
5 *Nutr. Res. 24*: 45, 2004.

Energy

Hi-Ball Energy Sparkling Energy Water, MiO Energy, Neuro Sonic, Vitaminwater Energy. Some "energy" waters (or powders or drops) list green coffee extract or guarana extract on their labels, but any "lift" you get from those ingredients comes from their caffeine. Some also add unproven energy boosters like taurine, B vitamins, and ginseng.

The caffeine in most products ranges from about 50 milligrams (Starbucks VIA Refreshers), which some people would barely feel, to 160 mg (Hi-Ball Sparkling Energy Water), about what's in a "short" (8 oz.) coffee or two shots of espresso at Starbucks. Most labels list caffeine, often in small print.

Sleep

The "tasty blend of good night nutrients like melatonin and magnesium" in Neuro Sleep is "specially formulated to give you the most golden of slumbers," promises the bottle.

The amount of magnesium in Neuro Sleep (50 milligrams) has never been tested, but a larger dose (320 mg) didn't help older people who had sleep problems.[1]

And in 19 studies on a total of 1,683 healthy adults and children with insomnia, those who took 2 to 5 milligrams of melatonin shortly before bedtime fell asleep seven minutes faster and slept a total of eight minutes longer than those who took a placebo.[2] A bottle of Sleep contains 3 mg of melatonin. (Neuro told us. The number isn't on the label.)

Would you drink 14½ ounces of liquid just before bedtime in exchange for the promise of an extra eight minutes sleep?

1 *Magnes. Res. 23*: 158, 2010.
2 *PLoS One 8*: e63773, 2013.

Photos: Lindsay Moyer/CSPI.

RIGHT STUFF

SALAD IN A SEC

If there's one thing experts agree on, it's that we should eat more vegetables. But sometimes it's hard to come up with a new, interesting, and easy dish.

Eat Smart to the rescue.

Its **Sweet Kale Vegetable Salad Kit** "contains 7 superfoods," as the label says. That would be broccoli, brussels sprouts, green cabbage, kale, chicory, dried cranberries, and roasted pumpkin seeds.

Your job: toss with the packet of poppyseed dressing and serve.

And enjoy. The mild sweetness of the dressing is a perfect complement to the sharper-flavored veggies. And these aren't just *any* vegetables. You're talking nutrient-rich leafy greens and their cruciferous cousins.

Each 3 oz. serving of dressed salad (1 cup) has 150 calories, 2 grams of fiber, 70 percent of a day's vitamin C, and 20 percent of a day's vitamin A. Sodium? Just 150 milligrams.

Taylor Farms Sweet Kale Salad Vegetable Salad Kit, which is sold at some Costco stores, is virtually identical.

For variety, try Eat Smart's **Ginger Bok Choy Vegetable Salad Kit**—sugar snap peas, carrots, napa cabbage, broccoli, bok choy, red cabbage, and peanuts with a ginger sesame dressing. Mmm.

Okay, there's no guarantee that either salad's "superfoods" will ward off illness. But they *are* super nutritious and super delish.

Who said it's hard to eat more veggies?

eatsmartsalads.com—(800) 626-2746

Photos: Lindsay Moyer/CSPI (top), Kate Sherwood/CSPI (bottom).

dish OF THE MONTH

Spa Water

Fill a pitcher with ice water. Add some thinly sliced citrus fruit (lemons, limes, oranges), thinly sliced cucumber, and a few sprigs of mint. Store in the refrigerator. Top up with ice and water as needed, and you'll have a refreshing drink on hand all day.

FOOD PORN

HÄAGEN-DOOZY

"The **Häagen-Dazs Dazzler** is the ultimate portable three-scoop sundae!" boasts the online description. "We take three scoops of ice cream, add a layer of topping between each scoop and put it into a large cup for a sundae that is truly decadent."

Just what we need: a large plastic cup filled with sugary, fatty ice cream layered with things like sugary, fatty cookie pieces, whipped cream, and hot fudge or caramel sauce that we can carry around the mall, swallowing calories as we shuffle along.

And not just a few. With the **Banana Split**, **Mint Chip**, or **Rocky Road Dazzler**, you can polish off 1,080 to 1,180 calories by the time you're a dozen stores past the eatery. (If you order the **Dulce Split Dazzler** and its 1,340 calories, make sure you stop on your way out of the mall for some pants with an elastic waist.)

Are Dazzlers convenient or what? You get all your saturated fat for the next two days (44 grams) in one Mint Chip. A 10 oz. ribeye steak with a baked potato from Outback Steakhouse has about the same calories and sat fat...*if* you top the potato with half a stick of butter.

The other Dazzlers chip in roughly 35 grams of sat fat. And don't forget the added sugar. (Apparently, Häagen-Dazs has. The company wouldn't even tell us how much *total*—added plus naturally occurring—sugar is there.)

Can't pass Häagen-Dazs by? Get the smallest size frozen yogurt or sorbet. It still has too much sugar, but at least the calories stop at about 150 per half cup.

Better yet: skip the phony-Scandinavian-name feedlot entirely.

haagendazs.com/Shops—(800) 767-0120

quick tip

At the salad bar, make sure that the hot foods are *good and hot* (look for steam) and that the cold foods are *refrigerator cold*. Anything in between is a breeding ground for potentially nasty bacteria.