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.
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.

“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 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.”

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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’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.”

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.

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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.”

■ 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.”

“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.”

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


“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.
“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 even ask anyone 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-analysis 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. “And that’s essentially because they’re talking to each other.”

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.”

“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.”

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...
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. Other studies agree.

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. 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. (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.

“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.”

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?

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. 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 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 make them leaner.

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.