

# Nutrition *Action*

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HEALTH  LETTER®  
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

# KICKING



# THE CAN

When food containers become part of your meal

**WHICH FOODS**  
protect your arteries?

Halo Top  
Big doings in the  
ice cream case

What's new in  
**veggie meats?**

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Mail: CSPI, 1220 L Street NW, Suite 300, Washington, DC 20005  
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M E M O

# Big Shoes to Fill



I'm not sure when I first heard of CSPI. Was it the report on saturated fat in movie theater popcorn? Or the petition to restrict antibiotic use in animal agriculture? Or maybe the push to rid the food supply of trans fat?

Regardless, I've held CSPI in high regard for decades, particularly Mike Jacobson, who has carved out a niche unique in the history of the American public interest movement. So imagine being asked to fill his shoes!

Let me provide you with an assurance. CSPI will not stray from Mike's fundamental vision: a healthier, safer diet for all, informed by responsible government and corporate conduct. This vision inspired CSPI at its inception in 1971; it continues to guide us in 2017.

One thing Mike and I share is a belief that public policy should be fueled by data. Indeed, I've spent my career trying to harness scientific

data to serve the public's health. In an era when some claim to be in possession of "alternative facts," this is more essential than ever.

I got my start in public health in 1984, when I took a year off from medical school to work in Washington at the consumer advocacy group Public Citizen. I went on to do residencies in family medicine—seeing patients until about 20 years ago—and preventive medicine.

Starting in 1990, I entered the academic world full tilt at UC Berkeley and the University of Michigan, working primarily on the then-nascent HIV epidemic, both domestically and abroad.

But the call of DC continued to ring in my ears, and in 1998 I returned to Public Citizen. My chief focus was drug safety, but I found myself embroiled in a wide array of other issues, including the ethics of doing clinical trials in developing countries, mad

cow disease, and occupational exposure to hexavalent chromium (the Erin Brockovich chemical!) and beryllium.

At the beginning of the Obama administration, I took a post at the Food and Drug Administration, ultimately becoming Associate Commissioner for Public Health Strategy and Analysis.

As the name suggests, I had a broad mandate, including leading the agency's initiatives on antibiotic resistance and transparency, but also covering international tobacco control, caffeinated beverages, arsenic in rice, conflicts of interest, fish consumption by pregnant and nursing women, and drug shortages.

We also organized a "hackathon" to develop a phone app linking victims of opioid overdoses with people carrying the antidote naloxone, and we streamlined the application process for patients seeking expanded access to unapproved drugs.

Now, I'm back in the public interest world, at a time



when a fully informed citizenry is as critical as ever. I'm excited to be part of an organization with such a long and proud track record.

This country has never before seen the likes of a food advocate like Mike Jacobson. If together we can accomplish half of what he and CSPI have done, America will be a better place for years to come.

I'm thrilled that Mike has agreed to serve as senior scientist while I try to figure out where the fire escapes are and whether there is any healthy food within a three-block radius of the office. My twin 11-year-olds, Ellen and Jonathan, insist that there's an app for that; my wife, Suzanne, and I remain skeptical.

*Peter G. Lurie, MD, MPH, President*  
[Center for Science in the Public Interest](http://CenterforScienceinthePublicInterest)

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# The Heart of the Matter

## Which foods protect your arteries?



**Frank Sacks**

is professor of cardiovascular disease prevention at the Harvard T.H. Chan School of Public

Health and professor of medicine at Harvard Medical School. He has led groundbreaking clinical trials on diet and blood pressure, lipids, and weight loss. Sacks spoke with *Nutrition Action's* Bonnie Liebman.

### THE CASE AGAINST SAT FAT

**Q: How strong is the evidence that saturated fat in foods like meat, butter, and cheese is harmful?**

**A:** The evidence that saturated fat causes atherosclerosis and heart disease is compelling. It's consistent across randomized trials, large observational epidemiologic studies, and animal studies.

Saturated fat [increases LDL](#)—or low-density lipoprotein—cholesterol. And LDL cholesterol is a [cause](#) of heart disease. It's not a risk factor. It's a direct, absolute [cause](#).

It all fits very, very well. And that builds a powerful case that saturated fat causes heart disease, and it is healthful to replace it with unsaturated fat, especially

**"R**eplacing saturated fat with healthier fat could lower cardiovascular risks," announced a [Presidential Advisory](#) from the American Heart Association in July. We talked to the advisory committee's chair.

polyunsaturated fats like those in soybean oil, mayo, nuts, and fish.

**Q: Why have some people heard that the evidence on saturated fat has gotten weaker?**

**A:** Some of the more recent studies take a standard epidemiologic approach, which is inadequate. Saturated fat seems to be harmless in those studies because it's being compared, by default, to the typical American diet, which is high in refined, junk-food carbohydrates. They're also [linked](#) to a higher risk of heart disease.

**Q: Why inadequate?**

**A:** Let's say you give someone advice to reduce their saturated fat. Well, what do they eat instead? If they just reduced their saturated fat, they'd lose weight, because they'd be getting fewer calories. That's unlikely. So what do they actually do? In many

cases, people who eat less saturated fat eat more refined carbohydrates.

**Q: Like white bread, pasta, rice, sweets, and sugary drinks?**

**A:** Yes. But Walter Willett and Frank Hu—my colleagues at Harvard—devised a new epidemiology based on food substitutions that would occur in real life. And that's really innovative.

**Q: Because they look at what's replacing the saturated fat?**

**A:** Yes. They've designed a method

**LOVE IT** UNSATURATED (POLY & MONO)

Go for oils, salad dressing, mayo, nuts, avocado, fish, etc.

**LEAVE IT** SATURATED

Limit red meat, cheese, butter, coconut oil, fatty sweets, etc.

Source: Adapted from "[The Facts on Fat](#)," American Heart Association.

where, with everything else being equal, they can compare people who have, say, high saturated and low unsaturated fat

## Not Just the Fats, Ma'am

**W**ant to protect your heart? It's not just a matter of eating good fats.

One of the healthiest diets—endorsed by the American Heart Association, the American College of Cardiology, and other health authorities—is called DASH (Dietary Approaches to Stop Hypertension).

A DASH-style diet is low in saturated fat, sugar, and salt, and rich in fruits and vegetables. (It's also rich in nutrients like potassium, magnesium, calcium, and fiber.)

In 1997, a [landmark study](#), co-authored by Frank Sacks, found that a DASH diet could lower blood pressure as well as some prescription drugs. That news was a bombshell, because high blood pressure (hypertension) is a major risk factor for heart attacks and strokes.

One out of three adults have high blood pressure, and another one out of three have pre-hypertension. Blood pressure creeps up with age, so your lifetime likelihood of having hypertension is 90 percent.

Then, in 2005, came another news flash: The [OmniHeart study](#) reported that two variations of the DASH diet were even better than the original:

■ The **higher-protein** variation replaced some of DASH's carbs with protein—half from plant sources (like beans, peas, and nuts) and half from animal foods (like fish, lean poultry, and low-fat dairy).

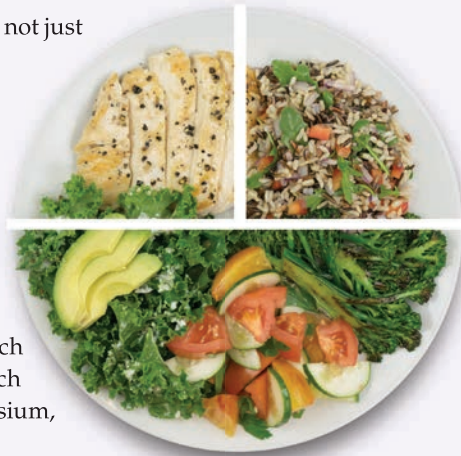
■ The **higher-healthy-fat** variation was a Mediterranean-style diet. It replaced some of DASH's carbs with healthy fats like oils, salad dressing, mayonnaise, nuts, fatty fish, and avocado. (The oils—like canola, olive, and soybean—were polyunsaturated or monounsaturated, not saturated like coconut or palm.)

The two OmniHeart diets beat the original DASH diet because they were better at lowering LDL (“bad”) cholesterol and triglycerides.

We have created a hybrid of the two OmniHeart diets, with a “wild card” that lets you eat one extra serving of carbs, protein, or healthy fat each day. (See “DASH, in a Dash,” p. 5.) Compared to what most people eat, it has:

- **MORE** fruits and vegetables,
- **LESS** red meat, and
- **LESS** sugar and white flour.

Not eager to start counting servings of this or that? Fill half your plate with fruits and vegetables, shrink the unhealthy carbs, replace fats (like butter) with oils, and [cut back on salt](#). That'll get you most of the way there.



Rule of thumb: Fill half your plate with vegetables and/or fruits.

as whole grains, vegetables, fruits, and beans. But not if they're rich in refined, junk-food carbohydrates.

**Q: Didn't you re-examine the clinical trials from the 1960s that assigned people to diets with different fats and then measured heart disease rates?**

**A:** Yes. We separated them into core and non-core trials, because some were superb in quality, and some were kind of dreadful. So we set out uncontroversial criteria for a good clinical trial.

For example, core trials had to keep people on diets for at least two years and had to use a biomarker like blood cholesterol to show that people were sticking to their assigned diets.

**Q: What did the core trials find?**

**A:** The risk of heart disease was about 30 percent lower in people who ate polyunsaturated fats instead of saturated fats. If you include the non-core trials, you see only about a 20 percent lower risk of heart disease, but that is still statistically significant.

### LDL & BEYOND

**Q: How do we know that LDL cholesterol causes heart disease?**

**A:** We know that LDL is the main carrier of cholesterol in the blood, and it enters into the walls of major arteries and deposits cholesterol there. And that sets off a chronic inflammatory reaction, which helps lead plaque to build up in arteries.

Also, people who inherit genes that raise their LDL have a higher risk of heart disease. That's not true for people with genes that lower HDL, which is sometimes called good cholesterol.

And pretty much any class of drugs that reduces LDL—like statins, ezetimibe, PCSK-9 inhibitors, or resins like cholestyramine—also reduces heart disease.

**Q: How do the drugs work?**

**A:** They vary, but statins and PCSK-9 inhibitors increase the number of LDL receptors. Many people have high LDL levels because they have too few LDL receptors, which clear LDL from the blood.

intakes with people who have low saturated and high unsaturated fat intakes.

When they do that, it's clear that higher saturated fat *and* lower unsaturat-

ed fat is a bad dietary pattern.

**Q: Can a lower-fat diet be healthy?**

**A:** Yes, if the foods are healthful, such

**Q: Is large LDL safer than small LDL, as some people argue?**

**A:** No. It's basically a non-issue. If you have a lot of big LDL, it's no better than a lot of little LDL. In fact, big LDL is probably worse, because it's loaded up with more cholesterol.

**Q: Do high triglyceride levels cause heart disease?**

**A:** We don't have proof with triglycerides the way we have proof that LDL cholesterol causes heart disease. But the evidence linking triglycerides to heart disease is getting stronger.

A high level of triglycerides means a high level of VLDL—very-low-density lipoproteins. Like LDL, VLDL can get into the artery wall, deposit cholesterol, and set off an inflammatory reaction.

And Apo C-III, a protein that's part of VLDL, damages the artery wall.

But triglycerides have less influence on heart disease than LDL cholesterol. That's partly because VLDL carries much less cholesterol.

**Q: Is low HDL a risk, since HDL takes cholesterol out of arteries?**

**A:** We know that people who have low levels of HDL cholesterol have higher rates of heart disease. That's incontrovertible. As a risk factor, it's totally solid.

But if you raise HDL levels, can you increase cholesterol removal from the artery wall and reduce heart disease?

That's where the HDL story breaks down. We've got several instances where that doesn't occur.

**Q: HDL-raising drugs haven't protected against heart disease?**

**A:** Right. HDL is a hot area of research. We're in the early stages of trying to understand it. My lab is focused on HDL because there's so much to learn.

## WHICH FATS ARE BEST?

**Q: Why recommend polyunsaturated fats over monounsaturated fats?**

**A:** The data are stronger for polyunsaturated fats—not just the omega-3 fats in fish oil but the omega-6 fats in soybean

of all the press coverage and criticisms. But the evidence is straightforward.

Some of the short-chain saturated fatty acids in coconut oil don't raise LDL cholesterol. But they don't counteract the effects of the oil's longer-chain fatty acids, which do increase LDL cholesterol. So coconut oil raises LDL cholesterol in the same way that, say, butter does.

**Q: Have large trials tested coconut oil's impact on heart disease?**

**A:** No. So, in the absence of any 10,000-person study, we have to go on the best available evidence, which shows that coconut oil raises LDL cholesterol. Coconut oil has no demonstrated benefits to offset the rise in LDL.

**Q: What about dairy fat?**

**A:** Butter increases LDL cholesterol just as you'd expect from its saturated fat. It's like coconut oil, except there's a lot more data linking dairy fat to heart disease because it was pitted against polyunsaturated fats in clinical trials. And dairy comprises much of the fat eaten by people who have a high saturated fat intake.

**Q: How can people avoid confusion?**

**A:** If you want to sort out what is good scientific knowledge and what is speculation or biased, look at guidelines produced by the American Heart Association, American Diabetes Association, or American Cancer Society.

Those well-established organizations carefully vet their advice. Individual studies that have contrarian implications don't

come close to the scientific merit of their advice and guidelines.

For the media, established knowledge is boring. The media wants something new. But that's not necessarily good for your health.

You're better off with established scientific knowledge, and if it's boring, that's fine. You won't be healthier because the media sells more newspapers.

## DASH, in a Dash

A DASH-like diet can help lower your risk of a heart attack or stroke. Here's a 2,100-calorie version. (Note: The serving sizes are small.)

	Daily Servings
 <b>Vegetables &amp; Fruit</b> 1 serving: ½ cup (or 1 cup greens) or 1 piece fruit	11
 <b>Grains</b> 1 serving: ½ cup pasta or rice or cereal or 1 slice bread	4
 <b>Low-fat Dairy</b> 1 serving: 1 cup milk or yogurt or 1½ oz. cheese	2
 <b>Legumes &amp; Nuts</b> 1 serving: ½ cup beans or ¼ cup nuts or 4 oz. tofu	2
 <b>Poultry, Fish, Lean Meat</b> 1 serving: ¼ lb. cooked	1
 <b>Oils &amp; Fats</b> 1 serving: 1 Tbs.	2
 <b>Desserts &amp; Sweets</b> 1 serving: 1 tsp. sugar or 1 small cookie	2
 <b>Wild Card</b> Poultry, Fish, Meat or Oils & Fats or Grains or Desserts & Sweets	1

and other oils—than for the monos in olive oil and canola oil. [See "Oil in the Family," p. 6.] And polyunsaturated fats lower LDL more than monos and have anti-inflammatory effects.

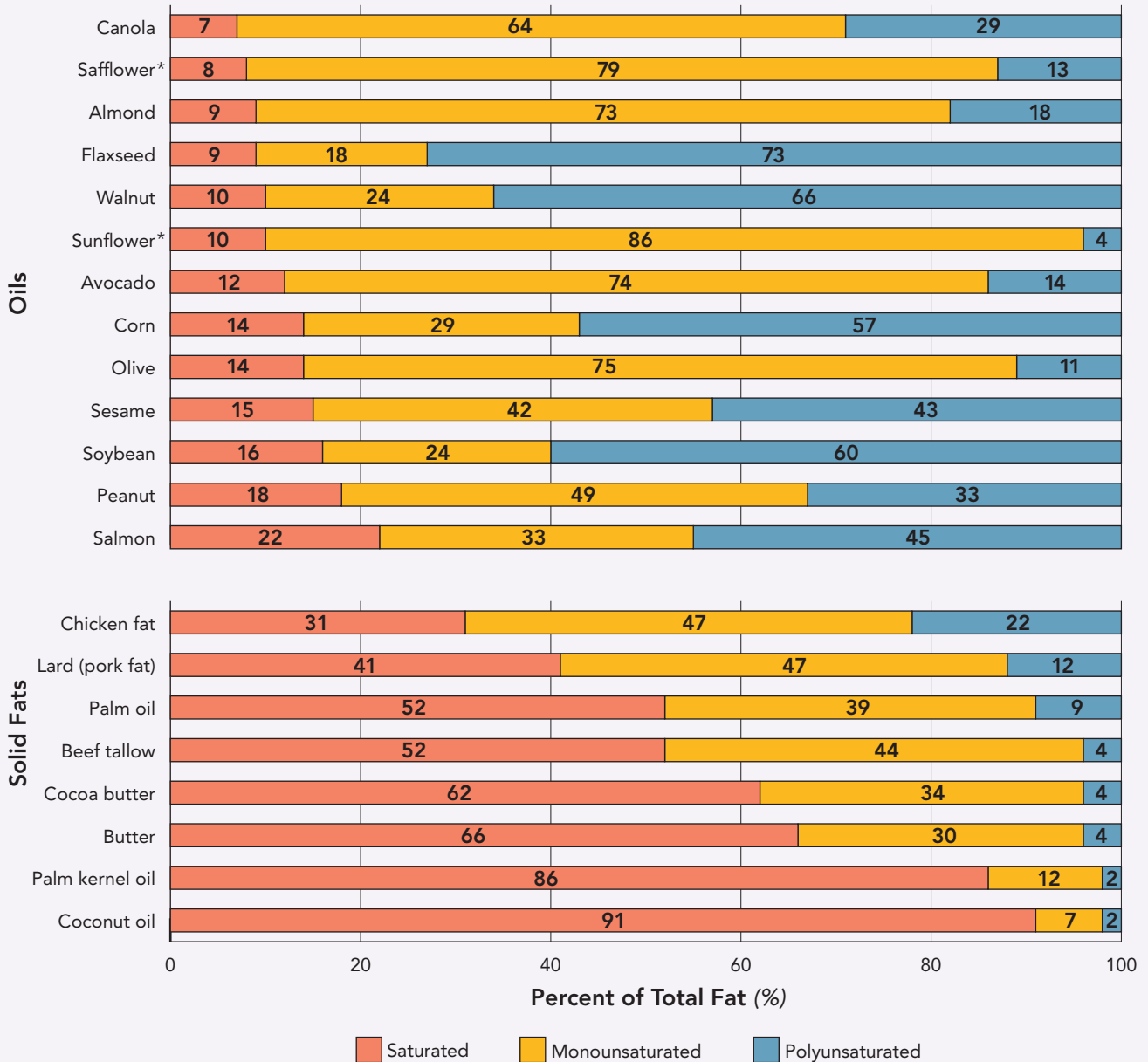
**Q: What about coconut oil?**

**A:** Coconut oil comprised about 3 percent of the American Heart Association's advisory and generated about 95 percent



# OIL in the FAMILY

All fats are a mix of saturated, monounsaturated, and polyunsaturated fatty acids (though people usually categorize each by the fatty acid that predominates). Odds are, you get mostly soybean oil in prepared foods (like salad dressings, mayonnaise, and margarine) and restaurant foods. So you'll probably end up with a good mix of unsaturated fats if you use canola oil and olive oil (when you want its flavor) for cooking. 🍴



\*Sunflower seeds are higher in polyunsaturated fat and lower in monounsaturated fat than most sunflower oils. Some health food stores sell high-poly sunflower or safflower oils.

Note: The fatty acids in meats, nuts, chocolate, and other foods are similar to their respective oils, butters, etc., shown above.

Sources: USDA National Nutrient Database for Standard Reference (Release 28), National Sunflower Association, Flax Council of Canada.

# Quick Studies

A snapshot of the latest research on diet and exercise

## Cutting Back on Diabetes Meds



**C**an diet and exercise keep a lid on blood sugar without drugs if you have type 2 diabetes?

Scientists studied 99 overweight or obese people who had had diabetes for less than 10 years and were taking blood-sugar-lowering medications like metformin, but not insulin. Each was randomly assigned to either:

■ **Intensive intervention.** Aerobic exercise (30 minutes) five to six times a week, strength training (30 minutes) two to three

times a week, a goal of at least 10,000 steps a day, and a weight-loss diet (rich in whole grains, fruits, vegetables, nuts, and beans and low in refined grains, red and processed meats, and sugar drinks), or

■ **Standard care.** Lifestyle advice and medical counseling about diabetes.

After one year, the intensive group had become more physically fit and had lost more weight (13 pounds) than the standard group (4 pounds). What's more, blood sugar levels fell enough to allow 73 percent of the intensive group—but only 26 percent of the standard group—to cut back on their diabetes medicine. Roughly half (56 percent) of the intensive group—but only 15 percent of the standard group—were able to stop taking diabetes meds altogether.

**What to do:** If you have type 2 diabetes, try stepping up your exercise and eating a healthier diet to see if that lowers your hemoglobin A1c (a long-term measure of blood sugar). In this study, doctors cut the dose of diabetes meds in half when A1c levels fell to 6.5 percent or below and cut the meds entirely if A1c levels were no higher at a follow-up visit.

[JAMA 318: 637, 2017.](#)

## When to Eat Protein

**W**ould dieters lose less muscle if they spread their protein evenly over breakfast, lunch, and dinner, as some studies have suggested?

Researchers randomly assigned 41 overweight or obese people in their 30s to eat 90 grams of protein a day in either an “even” pattern (30 grams at each meal) or a “skewed” pattern (10 grams at breakfast, 20 grams at lunch, and 60 grams at dinner). Each also cut 750 calories a day and did strength training three days a week.

After four months, there was no difference in how much muscle or fat each group lost (which may have disappointed the funders, including the meat, egg, and dairy industries).

**What to do:** Until these results are confirmed by other studies, especially in older people and non-dieters, aim for getting some—but not necessarily a third—of your protein at every meal. 🍳

[Am. J. Clin. Nutr. 2017. doi:10.3945/ajcn.117.158246.](#)

## Diet & Pancreatic Cancer

**E**ating less fat and more fruits, vegetables, and whole grains may lower the risk of pancreatic cancer if you're overweight or obese.

For 15 years, scientists tracked roughly 46,200 postmenopausal women in the Women's Health Initiative who had been randomly assigned to one of two diets—“lowfat” or “usual”—for nine years.



Among women who were overweight or obese (but not normal weight) when the study started, the risk of pancreatic cancer was 30 percent lower in those assigned to the lowfat diet—which advised them to replace fat in foods with fruits, vegetables, and whole grains—than in those who ate their usual diets.

**What to do:** This kind of study can't prove that diet can lower the risk of pancreatic cancer. But it's one more reason to eat more fruits and vegetables and to make your grains whole, not refined.

[J. Natl. Cancer Inst. 2017. doi:10.1093/jnci/djx117.](#)



Meat, cheese, and eggs for breakfast? Not necessary.

# KICKING THE CAN

When food containers become part of your meal

BY DAVID SCHARDT

While we're most vulnerable to endocrine disruptors in the womb or in infancy, "no matter what your age, you have to be concerned any time you may be interfering with a hormone," says Heather Patisaul, a professor of biology at North Carolina State University.

"When we talk about estrogen, for example, we usually think about

Endocrine disruptors are chemicals that can interfere with estrogen, testosterone, thyroid hormone, insulin, or other hormones. At very low levels, they can turn on, shut off, or alter the signals that the hormones send throughout our bodies. And that can spell trouble.

reproductive health. But estrogen does a lot of other important things, such as keeping the heart, brain, and bones healthy."

And for people who have—or have a higher risk of—hormone-sensitive cancers, like breast or prostate, adds

Patisaul, "you certainly don't want a chemical in your body that's mimicking or interfering with hormone activity."

Endocrine-disrupting chemicals can end up in what we eat and drink because they're used in food processing equipment and food packaging.

Here's what we know about three key disruptors and how to avoid them.

## PERCHLORATE

"Perchlorate is pretty much all around us, so everybody has it in their urine," says Maricel Maffini, a toxicologist formerly with the Natural Resources Defense Council. "But we'd all be better off not being exposed to it."

Why? Perchlorate can block the thyroid gland from taking up iodine, which it needs to make thyroid hormone.

"The hormone is essential for fetal and infant brain development, as well as for normal metabolism in people of all ages," explains Maffini.<sup>1</sup> "If you're not making enough thyroid hormone, any amount of perchlorate is a problem."

Perchlorate can occur naturally in soil. It's also manufactured for use in rocket fuel and explosives and to reduce static in carpets, electronic equipment, and, since 2005, plastic materials used to transport and store dry food ingredients.

"The Food and Drug Administration apparently didn't realize at the time how much perchlorate food can pick up as it rubs against the plastic," says Maffini. According to the FDA, infants are consuming 34 percent more—and toddlers 23 percent more—perchlorate than they did in 2005.<sup>2</sup>

"Children eat more of the kinds of foods, like rice and oats,



The iodine in milk and yogurt can help head off perchlorate's damage.

that come into contact with perchlorate-containing plastic," notes Maffini.

The FDA finds small amounts of perchlorate in virtually every category of food it tests. In 2014, a coalition of nine consumer groups (including the Center for Science in the Public Interest, *Nutrition Action's* publisher) urged the FDA to ban perchlorate in materials that come into contact with food. Last spring, the agency denied the petition, largely on technicalities. The groups have appealed.<sup>3</sup>

You can't really avoid perchlorate, but you can counter it by getting enough iodine. That means using iodized salt, eating iodine-rich foods (like milk, yogurt, and seafood), or taking a daily supplement with 150 micrograms of iodine (the amount in many multis).

"Iodine is especially important for women who are pregnant or breastfeeding," says Maffini. (Talk to your doctor about your iodine intake if you're taking ACE inhibitors, diuretics, or anti-thyroid medications.)

<sup>1</sup> *Curr. Environ. Health Rep.* 3: 107, 2016.

<sup>2</sup> *J. Expo. Sci. Environ. Epidemiol.* 2016. doi:10.1038/jes.2016.78.

<sup>3</sup> [cspinet.org/news/fda-denies-petition-protect-consumers-perchlorate-20170503](http://cspinet.org/news/fda-denies-petition-protect-consumers-perchlorate-20170503).



**B**isphenol A is everywhere. It's used to make polycarbonate, a hard plastic, and to protect the insides of cans, jar lids, and bottle caps. It also coats printed receipts from cash registers, gas pumps, and ATMs.

So it's no surprise that nearly all of us have BPA in our bodies.

Researchers report that tiny amounts of BPA cause subtle changes in fetal and newborn lab animals.

"If these kinds of changes occur in human infants, they might increase the risk of birth defects or infertility and cancer later in life," says NC State biology professor Heather Patisaul.

Mothers with high levels of BPA in their urine during pregnancy, notes Patisaul, have children who are more likely to suffer from behavioral problems than the children of mothers with lower levels.<sup>1</sup>

Like most research on humans and BPA, that kind of study can't prove cause and effect, but it's troubling nevertheless.

## Adults

Is BPA harmful to adults? It's not clear. "But there are certainly hints in the research," says Patisaul.

Some of the evidence:

■ **Obesity.** Researchers monitored the weight of nearly 1,000 nurses after they provided urine samples for BPA testing. After 10 years, the women who entered the study with the highest BPA levels gained an average of five pounds more than those with the lowest levels.<sup>2</sup>

■ **Type 2 diabetes.** Giving BPA to grown animals leads to greater insulin resistance in some studies.<sup>3</sup> (Insulin allows blood sugar to enter cells. If your cells become resistant to insulin, you have an increased risk of type 2 diabetes and heart disease.)

What about humans?

Middle-aged U.S. nurses who had the highest levels of BPA in their urine were twice as likely to later be diagnosed with type 2 diabetes as nurses with the lowest BPA levels.<sup>4</sup>

However, that wasn't true for nurses in their 60s and 70s. "The younger women, who have not experienced menopause, may be more vulnerable to endocrine disruptors than older, postmenopausal women," says Qi Sun, an assistant professor in the department of nutrition at the Harvard T.H. Chan School of Public Health.

■ **Heart disease.** In an 11-year study of nearly 1,500 people in the UK, those with



BPA is in many can linings. BPA substitutes may be no safer.

higher BPA levels in their urine at the start were 11 percent more likely to later be diagnosed with heart disease than those with lower levels.<sup>5</sup> But the increased risk wasn't quite statistically significant, so it could have been due to chance.

■ **Cancer.** "It is clear that BPA can act as an estrogenic compound," says Ruth Keri, a cancer researcher at Case Western Reserve University. "So it is conceivable that BPA may promote the growth of any tumors that are driven by estrogens, such as breast cancers."

Exposing mice to BPA in the womb leads to an increase in breast tumors.<sup>6</sup>

"But there is much less research on exposure in humans and the impact that it can have on cancer susceptibility or growth," notes Keri.

## Culture Clash

Despite the emerging evidence suggesting that BPA may be harmful, the Food and Drug Administration has ruled that it's safe.

"Governments rely on classic toxicology studies that are good at looking for gross signs of illness, such as organ failure," says Patisaul.

"But a lot of scientists believe that many of those studies are out of date because they don't look for subtle effects that could contribute to chronic disease."

For example, a classic way to look for harm to an animal's brain is to weigh it. "That's pretty crude," Patisaul points out. "Your brain has to be really sick to change weight."

Instead, she and others count the number of estrogen receptors in the brain, which drops when animals are exposed to BPA in the womb and at a young age.<sup>7</sup>

"I think it makes the brain more vulnerable to hormone-dependent changes that can affect behavior and mood, so I

worry about it," says Patisaul. "But the FDA doesn't consider those changes a reason for restricting or banning BPA at the levels of current human exposure."

## Reducing Exposure

To minimize your exposure to BPA, avoid foods and beverages in cans.

"BPA-free" cans and plastics may not be a get-out-of-jail-free card, though. Some researchers suspect that BPA substitutes may not be safe, either.

<sup>1</sup> *Neurotoxicology* 49: 174, 2015.

<sup>2</sup> *Int. J. Obes.* 38: 1532, 2014.

<sup>3</sup> *PLoS One* 7: e33814, 2012.

<sup>4</sup> *Environ. Health Perspect.* 122: 616, 2014.

<sup>5</sup> *Circulation* 125: 1482, 2012.

<sup>6</sup> *Biol. Reprod.* 85: 490, 2011.

<sup>7</sup> *Toxicol. Sci.* 140: 190, 2014.

# PHTHALATES

“Chemical in macaroni and cheese tied to birth defects,” [announced](#) the foxnews.com headline in July.

What was behind that bombshell? When consumer groups tested 30 cheese products, including boxed macaroni and cheese, for traces of a family of chemical plasticizers called phthalates, all but one of the 30 tested positive.<sup>1</sup>

Among other things, phthalates are linked to birth defects in boys.

Phthalates (THAL-ates) increase the flexibility of plastics in everything from vinyl flooring and shower curtains to IV tubes, food processing equipment, and food packaging. They’re also used in some adhesives, detergents, shampoos, and nail polishes.

“Phthalates are everywhere, and virtually all Americans have traces of these chemicals in their bodies,” says Ami Zota, a professor of environmental and occupational health at George Washington University. “You can even find them in household dust.”

The young may be the most vulnerable. In one study, seven-year-olds whose mothers had the highest levels of phthalates in their urine during pregnancy had IQs that averaged seven points lower than the IQs of seven-year-olds whose mothers had the lowest phthalate levels.<sup>2</sup>

Like most human research on phthalates, that kind of study can’t prove that the chemicals caused the lower IQs. But researchers can’t exactly expose people to phthalates or a placebo for years to see what harm they might do.

## Adults

Phthalates may also put adults at risk. “Researchers are finding that exposure to phthalates in adulthood may be linked to diabetes, obesity, and the metabolic syndrome,” notes Zota.

In the National Health and Nutrition

Examination Survey, people with higher levels of certain phthalates weighed more and had larger waists and higher blood sugar and insulin levels than those with lower levels.<sup>3,4</sup>

But those studies were snapshots in time. They couldn’t show whether higher phthalate levels increased blood sugar or weight or vice versa.

So researchers monitored nearly 1,000 nurses for 10 years after the women provided urine samples.

Those with the highest phthalate levels gained an average of one more



Phthalates are found especially in meats, oils, and high-fat dairy foods, like cheese.

pound every three years than those with the lowest levels.<sup>5</sup> And middle-aged nurses with the highest phthalate levels were twice as likely to later be diagnosed with type 2 diabetes as those with the lowest levels.<sup>6</sup>

But there was no increase in diabetes risk for nurses in their 60s and 70s.

“We’re still trying to figure out why,” says Harvard’s Qi Sun. Older women may be less sensitive to phthalates because they have lower estrogen levels, he notes. “And endocrine disruptors exert their effects primarily through disturbing estrogen’s effects.”

## Fertility

Some of the strongest evidence that phthalates cause harm: “Higher levels

in mothers during pregnancy are linked to anatomical changes in infant boys that may affect their ability to father children later in life,” says Zota.<sup>7</sup>

What’s more, “phthalate exposure during adulthood is linked to decreased fertility, alterations in sperm, and decreased testosterone levels,” notes Sheela Sathyanarayana, an associate professor of pediatrics at the University of Washington.<sup>8</sup>

Females may be at risk, too. “We now have enough evidence from animal studies to show that exposure to phthalates during pregnancy harms the later reproductive health of the female offspring,” says Jodi Flaws, a professor of comparative biosciences at the University of Illinois.

Those studies used phthalate levels comparable to what humans are routinely exposed to.

“When the offspring are sexually mature, they have abnormal levels of sex steroid hormones, it will take them longer to get pregnant, they’re more likely to have complications during the pregnancy, and they produce

smaller litters,” Flaws explains.<sup>9</sup>

Several studies suggest that phthalates can also affect fertility in women.

Harvard researchers measured the levels of 11 phthalates in the urine of 256 women undergoing *in vitro* fertilization. Those with the highest levels of six of the phthalates produced fewer eggs than those with the lowest levels. And women with the highest levels of one of the 11 phthalates were half as likely to become pregnant as those with the lowest levels.<sup>10</sup>

Other researchers analyzed 111 endocrine-disrupting chemicals in 31,575 women who were participating in the National Health and Nutrition Examination Survey from 1999 to 2008. Those with the highest levels of one

particular phthalate reached menopause about four years earlier than the other women.<sup>11</sup>

An earlier menopause “could increase rates of infertility and lead to earlier development of cardiovascular disease, osteoporosis, and other medical problems,” the researchers noted.

### Phthalates in Food

“Phthalates are commonly found in food, and avoiding them is really hard,” says Sathyanarayana.

“We have some general ideas about which foods are more likely to be contaminated with them, such as poultry, red meat, butter, margarine, cooking oil, cream, and cheese. But we don’t know which specific oils, cheeses, or other foods to target.”

Making the challenge even harder: phthalates can leach into food from processing equipment and plastic packaging long before the food reaches us.

And there’s no way we’d ever know.

When Sathyanarayana and her colleagues fed five families catered meals of local, fresh organic foods, they were stunned by the results.

Phthalate levels in the families’ urine were 33 times *higher* than levels in the urine of five similar families who ate their usual diets and were simply given advice about how to reduce phthalates.<sup>12</sup>

Two unexpected sources of phthalates in the special diet: coriander, which the caterer used liberally, and milk.

“We were not able to trace the sources of the contamination,” says Sathyanarayana. Odds are, it occurred before the food reached the caterer.

“We don’t know a lot about how our food is being contaminated with phthalates,” she points out. “The only way we can know that our food is free of phthalates is if the government does

something about it.”

In 2016, a coalition of consumer and environmental groups (including CSPI) petitioned the FDA to ban phthalates in food packaging.<sup>13</sup> The agency agreed to review the petition, but so far hasn’t declared what, if anything, it plans to do.

In the meantime, Sathyanarayana recommends eating more fresh foods.

“The more fresh it is, the less likely it is to be contaminated with phthalates, though that’s no guarantee.” 🍌

<sup>1</sup> [kleanupkraft.org/data-summary.pdf](http://kleanupkraft.org/data-summary.pdf).

<sup>2</sup> *PLoS One* 9: e114003, 2014.

<sup>3</sup> *Int. J. Obes.* 39: 994, 2015.

<sup>4</sup> *Environ. Health* 13: 6, 2014.

<sup>5</sup> *Int. J. Obes.* 38: 1532, 2014.

<sup>6</sup> *Environ. Health Perspect.* 122: 616, 2014.

<sup>7</sup> *Hum. Reprod.* 30: 963, 2015.

<sup>8</sup> *Hum. Reprod.* 30: 2645, 2015.

<sup>9</sup> *Toxicol. Appl. Pharmacol.* 318: 49, 2017.

<sup>10</sup> *Environ. Health Perspect.* 124: 831, 2016.

<sup>11</sup> *PLoS One* 10: e0116057, 2015.

<sup>12</sup> *J. Expo. Sci. Environ. Epidemiol.* 23: 378, 2013.

<sup>13</sup> [blogs.edf.org/health/files/2016/04/Ortho-phthalates\\_Food\\_Additive\\_Petition\\_3-18-16.pdf](http://blogs.edf.org/health/files/2016/04/Ortho-phthalates_Food_Additive_Petition_3-18-16.pdf).

## Dodging Endocrine Disruptors

Want to reduce your exposure? Here are some tips.

### ■ Check the recycling number on the bottom of plastic bottles and containers. Avoid:



No. 3—Vinyl or Polyvinyl chloride (PVC). It can contain phthalates.



No. 6—Polystyrene foam. (Styrofoam is one popular brand.) It contains styrene, a chemical that the International Agency for Research on Cancer calls a possible human carcinogen.



No. 7—Other. It’s mostly polycarbonate, which contains BPA.



■ **If it’s convenient, wash plastic containers by hand,** to avoid the harsh detergents and high heat of the dishwasher. If you run them through the dishwasher, put them on the top shelf.

■ **Use fewer canned foods.** The insides of most metal cans are coated with an epoxy resin that contains BPA. The resins used in most “BPA-free” cans may be no safer.

■ **When possible, microwave in glass or ceramic.** If you microwave in plastic, try to avoid using polycarbonate (recycling number 7). And cover the food with a paper towel or a plate, not cling wrap.

■ **If you keep food in plastic, you’re better off with:**



PETE



HDPE



LDPE

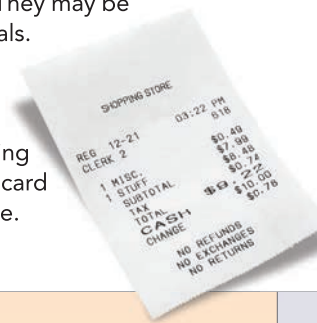


PP

■ **Try not to put very hot liquids or foods** into plastic containers.

■ **Toss scratched plastic containers.** They may be more likely to leach harmful chemicals.

■ **Avoid thermal paper.** Thermal printers use heat instead of ink. The paper has a slick, slightly shiny coating that contains BPA. So handle credit card and ATM receipts as little as possible.



Sources: [National Institute of Environmental Health Sciences](http://NationalInstituteofEnvironmentalHealthSciences), [Environmental Working Group](http://EnvironmentalWorkingGroup).

# The Healthy Cook

## A Little Bit on the Side

BY KATE SHERWOOD



Side dishes like these can turn out to be the star of the show. Each can be served warm or cold. 🍴

Got a question or suggestion? Write to Kate at [healthycook@cspinet.org](mailto:healthycook@cspinet.org).

### Wild Rice & Fall Fruit Salad



SERVES 6

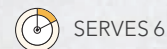
- ½ cup wild rice
- ½ cup wheat berries
- 2 Tbs. extra-virgin olive oil
- 1 Tbs. red wine vinegar
- ½ tsp. kosher salt
- 2 scallions, thinly sliced
- 1 Gala, Mac, or other crisp, tart-sweet apple, diced
- ¼ cup diced dried pear
- a few baby arugula leaves

1. Bring a large pot of water to a boil. Stir in the wild rice and wheat berries. Boil until tender, 25-30 minutes. Drain well.
2. In a large bowl, whisk together the oil, vinegar, and salt.
3. Stir in the grains, scallions, and fruit. Garnish with arugula.

Per Serving (¾ cup): calories 180 | total fat 5 g | sat fat 0.5 g | carbs 32 g | fiber 4 g | total sugar 8 g | added sugar 0 g | protein 4 g | sodium 170 mg



### Smokey Broccoli



SERVES 6

- 6 cups broccoli florets
- 2 Tbs. extra-virgin olive oil
- 1 Tbs. fresh lemon juice
- 1 Tbs. whole-grain mustard
- ¼ tsp. kosher salt
- ¼ cup chopped smoked almonds

1. Steam the broccoli until bright green but still crisp, 1-2 minutes. Drain well and blot with paper towels.
2. In a large bowl, whisk together the oil, lemon juice, mustard, and salt. Toss with the warm broccoli.
3. Sprinkle with the almonds.

Per Serving (1 cup): calories 100 | total fat 8 g | sat fat 1 g | carbs 5 g | fiber 2 g | total sugar 1 g | added sugar 0 g | protein 3 g | sodium 180 mg





# How Now, No Cow

## What's new in veggie meats

BY LINDSAY MOYER & BONNIE LIEBMAN

**B**eef is in retreat. That's good news for the planet, because raising beef uses far more land and water and emits far more greenhouse gases than growing plants.

Meanwhile, Beyond Meat, Gardein, MorningStar Farms, and others are closing in on matching meat's taste, texture, and aroma.

And it's not just burgers. There's porkless sausage, chick'n cutlets, crabless cakes, and beefless tips. Here are five rules to help you figure out which deserve a place on your plate.

*The information for this article was compiled by Leah Ettman and Allison Pamper.*

**1. Maximize protein.** If your aim is to replace meat, fish, or poultry, look for *at least* 10 grams of protein in a serving (roughly 3 oz.). That's about half what you'd get from the same amount of cooked chicken or beef, and it's our minimum for a Best Bite (see chart on p. 15). We required only 5 grams of protein for breakfast sausage and bacon, because their serving size (roughly 1½ oz.) is smaller. Honorable Mentions have no protein minimum.

**2. Minimize salt.** Most companies go heavy on the salt. Our Best Bites and Honorable Mentions have just 350 milligrams per serving (250 mg for breakfast sausage and bacon).

The good news: some veggie meats deliver a dose of potassium from their soy—or sometimes from added potassium—which helps counter their blood-pressure-boosting sodium. For example, a 3 oz. Lightlife Original Chick'n Smart Cutlet has 430 mg of potassium, and a 4 oz. Beyond Meat Beast Burger patty has 720 mg. Add a salad or a side of veggies for even more.

**3. Don't fear soy.** "Soy free" or "no soy," boast some veggie meats. But there's no need to skip soy, which supplies plenty of plant protein. And don't fret over online scare stories that soy raises the risk of breast cancer, harms your thyroid gland, weakens your memory, threatens males' masculinity, or keeps you from absorbing minerals. The evidence is shoddy (see "Soy Oh Soy!" September 2014).

**4. Check the oil.** Most veggie meats are made with polyunsaturated oils, which lower LDL ("bad") cholesterol. But a few burgers—like Hilary's and Beyond Meat's The Beyond Burger—have enough coconut oil to deliver at least a quarter of a day's saturated fat (5 grams). Our Best Bites and Honorable Mentions have no more than 2 grams of sat fat.

**5. Beware of Quorn.** Quorn's "nutritious mycoprotein" is a mold grown in a vat. In some people, it triggers allergic reactions like nausea, vomiting, diarrhea, and occasionally hives or breathing trouble. That's why we left Quorn out of our chart.

### Where's the Beef?

"Why can't you build meat directly from plants?" asks **Beyond Meat's** website. "It turns out you can."

**The Beyond Burger**, a blend of mostly pea protein, canola oil, and coconut oil, plus beet juice extract (to supply the red-meat color), is surprisingly beef-like.

With as much protein (20 grams) as a McDonald's Quarter Pounder patty, and with less saturated fat (5 vs. 8 grams), it beats beef hands down. But who needs the sat fat from coconut oil, which is also used in the **Impossible Burger** (sold only at select restaurants).

Our Best Bites—like **Gardein The Ultimate Beefless Burger** and **MorningStar Farms Grillers Original Veggie Burgers**—have no more than 2 grams of sat fat. And both have around 15 grams of protein for less than half of a Beyond Burger's 290 calories. (**MorningStar Farms Grillers Prime** just missed our sodium limit.)



### Meat, Shmeat

Most patties that don't try to taste like meat are lower in protein (typically 2 to 6 grams).

But **Lightlife Black Bean Smart Patties** and **MorningStar Farms Garden Veggie, Mediterranean Chickpea, and Spicy Black Bean** burgers, for example, add enough soy protein to reach 10 grams.

If your burger is high in carbs (from grains or beans), wrap it in a lettuce leaf, not a bun (more grains).





## Playing Chicken

You'd swear that **Boca Original Chik'n Veggie Patties** started life in a hen house. **MorningStar Farms Original Chik Patties** come close. Ditto for **Gardein's** delicious **Seven Grain Crispy Tenders**. (Heads up: their main grain is white flour.) Try them in a salad.

**Gardein Mandarin Orange Crispy Chick'n** pieces are irresistible, but they have too much salt...unless you add them to your stir-fry and skip the sauce packet.



When you go beyond breaded, taste gets a little trickier. Our fave: **Gardein Chick'n Scallopini**. The catch is to treat it like chicken breast—sauté and serve with sauce or some other seasoning. Or slice and add to tacos. You can do the same with **Gardein Teriyaki Chick'n Strips**. (You know the drill; skip the salty sauce packet.)



## Safe Sausage?

Colorectal cancer, heart disease, type 2 diabetes. Ditching processed meats may lower the risk of all three. Instead, try:

■ **Breakfast sausage.** **MorningStar Farms Maple Flavored Sausage Patties** and **Trader Joe's Meatless Breakfast Patties** each adds 7 or 8 grams of protein—and just 80 yummy calories—to

your breakfast. Equally tasty **MorningStar Farms Original Sausage Patties**, at 260 mg of sodium, just missed a Best Bite.

■ **Bacon.** **MorningStar Farms Bacon Strips**, made of mostly egg whites and oil, comes closest to the taste and texture of bacon. If it didn't use risky food dyes, it would be an Honorable Mention.

■ **Dinner sausage.** Tastewise, **Trader Joe's Italian Sausage-less Sausage** is a knock-out. Its sodium (560 mg) exceeds our limit...but so do most chicken sausages.



## Crumbles & Strips

**Gardein The Ultimate Beefless Ground** or **Boca Veggie Ground Crumbles** would make a fine spaghetti bolognese. And we loved **MorningStar Farms Chipotle Black Bean Crumbles**. (To cut its sodium—430 mg in 3 oz.—add a can or carton of unsalted beans to the package. M-m-m.)

Crispy and delicious **Gardein Sizzling Szechuan Beefless Strips** are low enough in sodium for a Best Bite...if (repeat after us) you axe the sauce packet.

## Jack What?

A staple in Southeast Asia, jackfruit is the meatless case's latest craze.

Cooked unripe (green) jackfruit has a stringy texture somewhat like pulled pork (or artichoke hearts). But with only 1 or 2 grams of protein per 3 oz., it's more like a vegetable than a stand-in for meat. On the upside, it's low in calories (about 30, before you do anything with it) and high in fiber (around 5 grams).

Our advice: start with unseasoned **Trader Joe's Green Jackfruit in Brine**. Just rinse off the brine, shred, and sauté with your favorite sauce or seasonings.



## Seafood Swap

**Gardein Golden Fishless Filets** or **Mini Crispy Crabless Cakes** could pass for real seafood...but they've got less omega-3 fat than you'd get in fish.

"Contains 32 mg of ALA, EPA and DHA Omega-3 fatty acids per serving," say the Crabless Cakes. Translation: 3 mini cakes contain the omega-3 fats you'd get in just 2-or-so tablespoons of crabmeat.

And in the crabmeat, it would mostly be EPA and DHA. Crabless Cakes have both (from algal oil), but also add ALA (from canola and chia oils), which is less likely to protect your heart. 🍌



# Non-Meat & Greet

**Best Bites** (✓✓) have at least 10 grams of protein. **Honorable Mentions** (✓) have no minimum protein. Both have no more than 350 milligrams of sodium and 2 grams of saturated fat, and are free of food dyes. Best Bites for breakfast meats (which are smaller) have at least 5 grams of protein and no more than 250 mg of sodium. Products are ranked from least to most sodium, then most to least protein, then least to most calories. We adjusted some serving sizes for consistency, so numbers may not match what's on packages.

	Calories	Sodium (mg)	Protein (g)
<b>Burgers</b> (1 patty—about 2.5 oz., unless noted)			
✓ Engine 2 Plant-Strong (Whole Foods) <sup>1,G</sup>	120	75	5
✓ Foodies Artichoke <sup>G</sup>	230	140	6
✓ Tofurky Hearty Hemp (3.5 oz.) <sup>G</sup>	180	180	7
✓ Foodies Sloppy Joe	100	180	6
✓✓ Foodies Gourmet Griller (3 oz.)	160	230	24
✓✓ MorningStar Farms Mediterranean Chickpea	110	240	10
✓ Dr. Praeger's—gluten free <sup>G</sup> or regular <sup>1</sup>	130	240	4
✓ Amy's Light in Sodium California	110	250	5
✓✓ MorningStar Farms Grillers Original	130	260	15
✓ Trader Joe's Thai Sweet Chili	150	270	8
✓✓ MorningStar Farms Tomato & Basil Pizza	110	280	10
✓ Trader Joe's Quinoa Cowboy (3.2 oz.)	180	280	5
Hilary's (3.2 oz.) <sup>1,G</sup>	180	280	4
✓✓ 365 (Whole Foods) Meatless <sup>1</sup>	120	300	11
✓ Boca Essentials Breakfast Scramble	140	300	9
✓✓ Boca—All American, Grilled Vegetable, Mushroom, or Vegan <sup>1</sup>	90	310	14
✓ Tofurky Mighty Mushroom (3.5 oz.) <sup>G</sup>	160	310	9
✓ Gardein Garden Veggie (3 oz.) <sup>G</sup>	140	310	5
✓✓ Gardein The Ultimate Beefless (3 oz.)	120	320	14
✓✓ Lightlife Smart Patties Black Bean	100	330	10
✓✓ MorningStar Farms Spicy Black Bean	110	330	10
✓ Boca Essentials Chile Relleno	110	330	7
✓ Amy's Bistro <sup>G</sup>	110	330	5
✓✓ Sweet Earth Santa Fe (4 oz.)	230	350	15
✓✓ MorningStar Farms Garden Veggie	110	350	10
✓ MorningStar Farms Roasted Garlic & Quinoa	130	350	7
MorningStar Farms Grillers Prime	170	360	17
Amy's All American	140	390	13
Amy's Black Bean	140	390	6
Beyond Meat The Beyond Burger (4 oz.) <sup>G</sup>	290	450	20
Beyond Meat Beast Burger (4 oz.) <sup>G</sup>	260	480	23
Gardenburger The Original	110	490	5
Amy's California	150	500	6

<b>"Chick'n" Patties</b> (1 patty—about 2.5 oz., unless noted)			
✓✓ Gardein Turk'y (1 cutlet with gravy, 3 oz.)	140	280	10
✓✓ Boca Original Chick'n	150	300	12
✓✓ Gardein Crispy Chick'n (3.1 oz.)	180	310	14
✓ MorningStar Farms Original Chik	160	320	9
✓✓ Lightlife Smart Cutlets Original Chick'n (3 oz.)	90	350	14
✓✓ Gardein Chick'n Scallopini <sup>G</sup>	100	350	11

<b>Strips, Tenders, etc.</b> (Number closest to 3 oz., unless noted)			
✓ Gardein Mini Crispy Crabless Cakes (3)	130	300	9
✓✓ Beyond Meat Beyond Chicken Strips (6) <sup>1,G</sup>	130	340	20
✓✓ Gardein Home Style Beefless Tips (2/3 cup)	140	340	16

	Calories	Sodium (mg)	Protein (g)
✓ Gardein Golden Fishless Filets (2)	180	340	9
✓ MorningStar Farms Garden Veggie Nuggets (5)	160	340	8
✓✓ Gardein Seven Grain Crispy Tenders (3)	150	350	12
✓✓ MorningStar Farms Chik'n Nuggets (4)	180	350	12
Lightlife Smart Tenders Savory Chick'n (3)	100	370	18
Gardein Sweet and Tangy Barbecue Wings (3.6 oz.)	140	380	12
MorningStar Farms Strips—Chik'n or Steak (12) <sup>1</sup>	150	450	23
365 (Whole Foods) Chickenless Nuggets (4)	170	470	12
Gardein Sizzling Szechuan Beefless Strips (3.5 oz.)	230	470	11
Gardein Mandarin Orange Crispy Chick'n (3.5 oz.)	170	470	9
Gardein Teriyaki Chick'n Strips (3.5 oz.)	190	570	14

<b>Meatballs</b> (Number closest to 3 oz.)			
✓✓ Gardein Classic (3)	150	340	15
Lightlife Smart Menu (3)	100	370	13
Trader Joe's (6)	150	470	14
365 (Whole Foods) (6)	170	560	18

<b>Crumbles</b> (3 oz.—about 3/4 cup, unless noted)			
✓✓ Boca Veggie Ground	100	310	19
✓✓ Gardein The Ultimate Beefless Ground <sup>G</sup>	120	340	18
MorningStar Farms Grillers	120	370	15
MorningStar Farms Veggie Pulled Pork (1 cup)	130	390	23
MorningStar Farms Chipotle Black Bean	110	430	12
Beyond Meat Beyond Beef <sup>1,G</sup>	120	450	20

<b>Dinner Sausage</b> (1 link—about 3-3.5 oz.)			
Field Roast <sup>1</sup>	220	560	26
Trader Joe's Italian Sausage-less Sausage	140	560	13
Tofurky <sup>1</sup>	260	590	27
Lightlife Smart Sausages <sup>1</sup>	150	650	14

<b>Breakfast Sausage</b> (1 patty or 2 links—about 1-2 oz.)			
✓✓ 365 (Whole Foods) Patties	60	135	6
✓ Amy's Veggie Sausage links	60	160	4
✓✓ MorningStar Farms Patties—except Original <sup>1</sup>	80	230	8
✓✓ Trader Joe's Patties	80	230	7
✓ Hilary's Apple Maple Patties <sup>G</sup>	100	240	3
✓✓ Gardein Good Start Patties	90	250	9
MorningStar Farms Original Patties	70	260	9

<b>Bacon Strips</b> (2 strips—about 0.5-1.5 oz.)			
✓ Tofurky Treehouse Tempeh Smoky Maple Bacon	45	100	4
MorningStar Farms Bacon <sup>D</sup>	60	230	2
✓✓ Sweet Earth Benevolent Bacon	100	250	10
Lightlife Smart Bacon	40	300	4
Lightlife Organic Smoky Tempeh Fakin' Bacon	70	330	6

<b>Jackfruit</b> (3 oz.)			
✓ Trader Joe's Green Jackfruit in Brine	25	180	0
✓ Upton's Naturals—except Sriracha <sup>1,G</sup>	40	200	1
✓ The Jackfruit Company—except Teriyaki <sup>1,G</sup>	70	250	2
Upton's Naturals Sriracha <sup>G</sup>	35	360	1
The Jackfruit Company Teriyaki <sup>G</sup>	110	520	2

✓✓ Best Bite. ✓ Honorable Mention. <sup>1</sup> Average. <sup>G</sup> Gluten-free. <sup>D</sup> Contains food dyes.

**Daily Sodium Limit:** 2,300 milligrams. **Daily Protein Target:** 75 grams. Source: company information. The use of information from this article for commercial purposes is strictly prohibited without written permission from CSPI.



## RIGHT STUFF

### Ice Angels?

Fewer calories and less sugar than most light ice creams. And it's delish. Who *wouldn't* be interested?

No wonder **Halo Top** has reportedly become America's best-selling pint, with competitors **Enlightened** and **Breyers Delights** nipping at its heels.

A half cup of Halo Top Mint Chip, for example, has just 60 calories, 1 gram of saturated fat, and about a teaspoon of total sugar. That's roughly half what's in Edy's (or Dreyer's) Slow Churned Mint Chocolate Chip light ice cream.

Häagen-Dazs' version? It'll set you back 280 calories, 12 grams of sat fat (more than half a day's worth), and 5 teaspoons of sugar.

Höly-Cow!

How do Halo Top & friends do it? In part, by replacing added sugar with (safe) erythritol and stevia leaf extract or monk fruit extract. (The natural sweetener hasn't been well tested in animals, but monk fruit has been eaten in China for centuries.)

That's not to say that Halo is "healthy" and Enlightened is "good for you," as they claim. (Halo Top, Breyers, and most Enlighteneds have some added sugar, and they're not chock full of nutrients.) Nor should you follow Halo's advice to "Save the bowl. You're going to want the whole pint."

Eat a pint, and you're up to 240 to 360 calories. So much for that halo.

[halotop.com](http://halotop.com)—(855) 425-6867  
[customerservice@eatenlightened.com](mailto:customerservice@eatenlightened.com)  
[breyers.com](http://breyers.com)—(800) 931-2826

Photos: Leah Ettman/CSPi (top), Kate Sherwood/CSPi (Fall Sauté), © AlenKadr/fotolia.com (bottom).



## FOOD PORN



### Don't Havatappi

"At Applebee's, we are always creating in the kitchen, looking for new ways to give guests the flavorful dishes they crave at a value they can get excited about," said the chain's executive chef in a March 2017 press release.

You can't blame **Applebee's** for crowing about all that creating in the kitchen, especially when it leads to a dish like the **Firecracker Shrimp Cavatappi**.

What more could an Applebee's patron want? There's breaded and deep-fried (the menu prefers "crispy") spicy shrimp. There's grilled zucchini, red bell pepper, and red onion (well, at least there's a dusting of them, if what we were served is typical). There's a mound of corkscrew-shaped macaroni. And there's

a pool of parmesan cream sauce for it all to soak in. Yum!

The most creative part: how Applebee's managed to devise a pasta that's equivalent to roughly *two* orders of Olive Garden's Lasagna Classico, all on a single plate.

And what a plate it is! You get a day's worth of calories (1,960), 2½ days' saturated fat (53 grams), and a 1½-day supply of sodium (3,700 milligrams). That's more of each than any other pasta on Applebee's menu.

And all for just \$13 or so.

It's fine to give customers "the flavorful dishes they crave at a value they can get excited about." Just keep in mind that you can crave your way to the...let's see...what rhymes with "crave"?

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### DISH of the month

#### Fall Sauté

Sauté 3 cups chopped butternut squash, 2 cups chopped apple, and 1 cup chopped radish (don't worry; it'll lose its bite) in 1 Tbs. extra-virgin olive oil until tender, 5-7 minutes. Season with ¼ tsp. kosher salt. Top with ¼ cup toasted pumpkin seeds. Makes 6 cups.

## quick tip

To get the most bang for your salt buck, season starchy foods (like beans and grains) just before you serve them. If you salt them while cooking, the salt gets absorbed, the food tastes bland, and you'll end up using even more salt.

