

# Nutrition Action

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HEALTH LETTER®  
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

# BELIEVE

IT OR

# NOT

The backstory on  
some recent buzz

**Caffeine & health**

*The latest*

*Beyond bread*

The best wraps, pitas,  
bagels, etc.

**OUT WITH GOUT?**

M E M O

# Keep McDonald's Out of the Classroom



The coronavirus thoroughly upended school as we knew it.

A year ago, homes replaced school buildings, dining room tables replaced desks, and teachers (as they always do!) rose to the occasion.

Food companies, sadly, were already well positioned to profit from the move to online.

How?

Students gain access to their virtual classrooms via platforms—web-sites and apps like ABCya—on school-issued laptops and other devices.

But many of those platforms—roughly 60 percent, by one analysis done in June—either contain ads or have unclear advertising policies.

And many of the ads are troubling.

The last thing we need is a pitch for Happy Meals in the panel next to a lesson on Ancient Egypt, or Tony the Tiger carrying on right beside a math game.

Kids are uniquely vulnerable to marketing because they don't understand advertising's intent...or the impact of food on their health.

That's why the Center for Science in the Public Interest, *Nutrition Action's* publisher, and our partner organizations are working to get Madison Avenue out of what are essentially today's textbooks.

Last June, for example, we [convinced](#) McDonald's, Kraft Heinz, and Kellogg to pull their ads from some online platforms through the end of 2020.

We also persuaded the Children's Food and Beverage Advertising Initiative—the industry's self-regulatory body—to ask its 19 member companies to drop their online-platform ads.

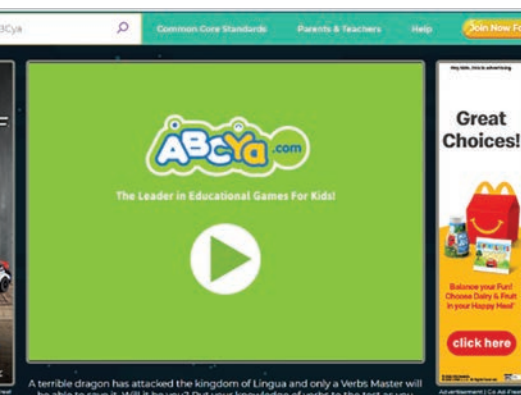
Those are good first steps, but the commitments are voluntary, and we don't know for how long the companies will abide by them.

It's the U.S. Department of Agriculture that needs to do more to protect our children. The USDA already limits junk food advertising on school grounds. The same should apply to the *new* school grounds: school-issued

computers and online resources for students.

Learning about history can be fun, but Lincoln and Lunchables on the same screen just isn't right.

CSPI will continue to fight to make sure that our schools—whether online or in-person—



Junk food ads don't belong in school buildings...or in virtual classrooms.

permanently free of junk-food advertising.

As it is, we and our children are surrounded 24/7 by marketing for unhealthy foods—in shopping malls, drug stores, gas stations, convenience stores, and movie theaters, on TV, and elsewhere. The least we can expect is that advertising for junk food stops at the school door, whether real or virtual.

You can help by signing our petition urging the USDA to limit those junk food ads at [cspinet.org/educationplatforms](https://cspinet.org/educationplatforms).

Thank you.

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# BELIEVE IT OR NOT

## The backstory on some recent buzz

BY BONNIE LIEBMAN

When it comes to staying healthy, sometimes it's hard to know what to believe. Some advice is backed by solid evidence, and some is anything but. Here's the scoop on some recent scuttlebutt that you may have heard.

### 1 Can you make up for lost sleep on weekends?

One out of three U.S. adults say they get less than the seven hours a night of sleep experts recommend. If you're among them, that can spell trouble for your waistline...and your health.

"In most laboratory studies where people have free access to food, those who sleep less eat more and tend to gain weight," says Christopher Depner, assistant professor of health and kinesiology at the University of Utah.

For example, among 225 volunteers, those who were randomly assigned to sleep for no more than four hours a night for five nights in a row gained two pounds, while those who slept up to 10 hours a night gained nothing.<sup>1</sup>

But extra weight isn't the only downside to insufficient sleep.

"Laboratory controlled trials consistently show a reduction in insulin sensitivity when sleep is restricted," notes Depner. Insulin sensitivity even fell in sleep-restricted healthy young men who weren't allowed to overeat.<sup>2</sup>

A drop in insulin sensitivity means that your body's insulin is less able to move blood sugar into cells. Once your insulin loses enough of its punch, blood sugar rises and you've got type 2 diabetes.

"Our insulin sensitivity tests can detect changes that you won't see if you go to a doctor," says Depner. "A rise

in fasting blood sugar might tip off a clinician that you have prediabetes. But that's going to happen much further down the road."

Depner's study asked a key question: "Most people try to catch up on lost sleep on the weekend, so we wanted to see if weekend recovery sleep had any benefits for metabolic health."

His team randomly assigned 36 lean young men and women to one of three groups.<sup>3</sup>



Sleeping late on the weekend may not make up for lost sleep during the week.

"One group had a simulated work-week of insufficient sleep," explains Depner. "On Monday through Friday, we restricted them to five hours of sleep per night. Then they got a simulated weekend where they could sleep as much as they wanted. And then they went back to insufficient sleep for two days."

Another group was allowed to sleep for only five hours a night for all nine nights, while the third group was allowed to sleep for up to nine hours a night.

The results: "Weekend recovery sleep didn't prevent weight gain or impaired insulin sensitivity," says Depner.

"If you continually cycle back and forth between insufficient sleep during the workweek and recovery sleep on the weekend, that's not going to protect you from the risk of weight gain and type 2 diabetes."

"So the best advice is to try to get adequate sleep during the workweek."

Few studies have been done on older people, notes Depner. "We don't know what would happen if we were to look at people who were older, pre-diabetic, overweight, or who had other risk factors for type 2 diabetes."

**Bottom Line:** For tips on how to get enough sleep, see March 2018, p. 9.

### 2 Does high-fat dairy keep a lid on blood sugar?

"The case against low-fat milk is stronger than ever," said [TIME.com](https://www.time.com).

The evidence cited by TIME: In a study that tracked roughly 3,000 people for 15 years, those with higher levels of dairy fats in their blood had about a 45 percent lower risk of getting diabetes.<sup>4</sup>

What might explain that link?

"People eating more high fat dairy products will have enough calories so they won't feel hungry enough to need additional calories from sugary foods," suggested TIME.

Photos: stock.adobe.com: Paoliese (top), Daniel Rodriguez (bottom).



"It's also possible that the fats in dairy may be acting directly on cells, working on the liver and muscle to improve their ability to break down sugar from food."

Then again, something entirely different about people with higher blood levels of dairy fat might explain their lower risk of diabetes.

"They may have a healthier diet and lifestyle," says Alice H. Lichtenstein, director of the cardiovascular nutrition laboratory at the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts University. Or they may eat *a lot* of lower-fat dairy.

Two recent studies—both partly funded by the dairy industry—gave people high-fat or low-fat dairy to see if either kept blood sugar in check.

One team studied people with the metabolic syndrome, who have an increased risk of type 2 diabetes and often have higher-than-normal blood sugar levels.<sup>5</sup>

The scientists randomly assigned 72 of them to eat roughly three servings a day of low-fat dairy, three servings a day of high-fat dairy, or not much dairy (no more than three servings a week of fat-free milk and no other dairy foods).

After 12 weeks, insulin sensitivity got *worse* on both high-dairy diets. That is, extra dairy—full-fat or low-fat—made insulin less able to admit blood sugar into cells.

"It doesn't appear that dairy has a beneficial impact on blood sugar levels," says Lichtenstein.

What's more, the high-fat-dairy group gained two pounds.

"We hear the argument that full-fat dairy increases satiety more than low- and non-fat dairy, but we don't have data to support that," says Lichtenstein.

In a similar study, another team randomly assigned 111 people with type 2 diabetes to one of three groups: high-fat dairy, low-fat dairy, or not much dairy.

After 24 weeks, blood sugar levels didn't go up (not surprising, given that nearly all the participants were taking drugs to treat diabetes) or down (which



Don't expect high-fat dairy foods to lower your risk of type 2 diabetes.

must have disappointed the industry funder).<sup>6</sup>

**Bottom Line:** "I don't think there's any credible evidence at this point to recommend high-fat dairy products to control blood glucose levels or weight," says Lichtenstein.

### 3 Does magnesium prevent muscle cramps?

"Muscle cramps—in the legs, feet, hands, and everywhere else—are often caused by a severe magnesium deficiency," says Cramp Defense, a supplement that has 70 milligrams of magnesium per capsule.

"Since magnesium is constantly lost, take Cramp Defense every day to build up and maintain an optimal magnesium supply."

Does magnesium work, especially for the cramps that often strike older people in bed? Scott Garrison, associate professor of family medicine at the University of Alberta in Canada, may be the best person to ask.

"When I was a family physician, I had a patient who was in hospital being treated for pneumonia, and she was magnesium deficient so we gave her a series of infusions of magnesium," says Garrison.

"And when she came back for follow-up, she mentioned that these horrible cramps that she'd

had for years were gone."

That patient led Garrison to switch from family doctor to researcher.

"I knew that magnesium was being widely marketed for muscle cramps and that magnesium is very poorly orally absorbed," he explains. "Much of it stays in the bowel and pulls water with it. That's why Milk of Magnesia is a laxative."

So Garrison randomly assigned 46 people with nighttime muscle cramps to get intravenous infusions of magnesium or a placebo.<sup>7</sup> "We knew that was the most effective way to give magnesium," he says.

It didn't matter.

"Even in people who were deficient, magnesium didn't make a difference."

Since then, Garrison has twice examined all of the trials on magnesium and cramps. The studies came up empty.<sup>8</sup>

Garrison's conclusion: "Magnesium doesn't reduce the frequency or severity of nocturnal leg cramps in older adults."

"We couldn't draw any conclusions about cramps in pregnant women, in people with certain neurological disorders, or when people cramp during exercise, usually at the extremes of exertion," he adds.

What causes nighttime cramps?

"We don't know," says Garrison.

"But we do know that it's a nerve disorder, not a muscle disorder."

"The nerve that sits in the base of your spine and projects all the way down to the muscle it innervates, that nerve is responsible for the cramping," he explains.

What might—and what probably won't—help?

#### ■ Switching meds.

Leg cramps can be a side effect of many prescription drugs

(though cramps also occur in



Taking magnesium supplements doesn't prevent nighttime cramps.



Stretching a muscle while it's cramping can curb the cramp.

plenty of people who take none).

"In my own research, two commonly used medications—potassium-sparing diuretics like spironolactone and inhaled beta-agonists like salmeterol—appear to promote cramps," says Garrison.<sup>9</sup> "People use beta-agonist inhalers to open their airways when they have COPD, emphysema, or asthma."

Garrison's study didn't prove that the drugs cause cramps, he cautions. Still, it's worth talking to your doctor about the pros and cons of trying another drug. (Don't just stop taking your meds.)

Switching may be easy.

"Inhalers like Spiriva or Atrovent work in a different way and have no link to cramping," notes Garrison. "And there are lots of alternative blood pressure pills."

■ **Stretching before bed.** "Two randomized trials of prophylactic stretching before you go to bed had different results," says Garrison.

"The study that suggests a benefit compared stretching to no treatment.<sup>10</sup> That makes it less believable than the second study, which compared stretching to movements that were not stretches. And that study showed no benefit."<sup>11</sup>

■ **Stretching a cramped muscle.** "If you stretch the muscle while it's cramping, it may help stop the cramp," says Garrison. "It's done around the world by sports trainers when people have a cramp, and studies have found that it's harder to ignite a cramp when the muscle is at its most-stretched position."

Got a calf muscle cramp? "Stand up and try to lean forward so that the muscle is lengthening," says Garrison.

■ **Quinine.** Taking the anti-malaria drug may reduce cramps by about 30 percent, according to some estimates, but that's based on low-quality evidence.<sup>12</sup>

Worse yet, "quinine can attack your platelets, so you're at risk for bleeding," cautions Garrison. "It can also cause heart rhythm

disturbances."

That's why the Food and Drug Administration warns doctors not to prescribe quinine for cramps.<sup>13</sup>

Don't worry about getting too much quinine from tonic water. "You'd need at least nine cans to get the quinine in one tablet," says Garrison.

**Bottom Line:** Don't rely on magnesium, quinine, or stretching before bed to prevent cramps. Switching meds may help. Stretching can ease a cramp once it starts.

## 4 Does fish oil protect the heart?

"With heart healthy Omega-3s," says the label of Nature Made Fish Oil Gummies.

Fish oil is big business.

Do supplements or drugs that supply EPA, DHA, or both omega-3 fats cut the risk of a heart attack, stroke, or other cardiovascular event? In November, scientists reported surprising new findings.

In the STRENGTH trial, researchers randomly assigned roughly 13,000 people to take 4,000 milligrams a day of either fish oil (which contains EPA and DHA) or corn oil (which contains neither) for about three years.<sup>14</sup>



It's still not clear if taking fish oil can keep your heart healthy.

"The trial was focused on patients who had high triglycerides, low HDL, and either established cardiovascular disease or a high risk for development of cardiovascular disease," noted Michael Lincoff, professor of medicine at the Cleveland Clinic Lerner College of Medicine, at the American Heart Association's Scientific Sessions 2020. All of the participants were also taking statins.

The trial used Epanova, a drug that contains EPA and DHA made by AstraZeneca, which funded the research.

"We specifically used a corn oil placebo because it's a neutral placebo, unlike mineral oil, which does have some adverse effects on cardiovascular markers," explained Lincoff.

Mineral oil was the placebo in the 2018 REDUCE-IT trial, which reported a 25 percent lower risk of cardiovascular events in high-risk people who were given a highly purified version of EPA (a drug called Vascepa) instead of mineral oil.<sup>15</sup> (The study was funded by Amarin Pharma, which makes Vascepa.)

Some scientists worried that the mineral oil might have raised risks in REDUCE-IT's control group, which would have made Vascepa appear effective.

But an expert panel advising the FDA concluded that mineral oil could have explained only a small fraction of the difference between groups.<sup>16</sup>

Unlike REDUCE-IT, the STRENGTH trial—with its neutral placebo—came up empty.

Epanova "did not reduce major adverse cardiac events," said Lincoff.

And the drug had a downside.

"The risk of atrial fibrillation—a potentially dangerous arrhythmia—was increased by as much as 70 percent," Lincoff noted.

That wasn't common, though. Epanova caused the irregular heartbeat—which can increase the risk of stroke—in about 1 of every 100 users.

The REDUCE-IT trial also reported more atrial fibrillation in EPA takers than in placebo takers.

What about people who aren't at high risk? As it happens, scientists released the results of the VITAL Rhythm Study at the same Heart Association meeting.<sup>17</sup>

VITAL Rhythm tested whether daily EPA (460 mg) plus DHA (380 mg) could prevent atrial fibrillation in roughly 25,000 people at ordinary risk.

While those taking fish oil had no lower risk, "the good news is that there wasn't an increase in risk," reported Christine Albert, who chairs the cardiology department at Cedars-Sinai in Los Angeles. (The full study hadn't been published at the time.)

**Bottom Line:** Aim for one to two servings of seafood a week, as the American Heart Association advises.<sup>18</sup> The jury is still out on fish oil supplements (see Jan./Feb. 2019, p. 3).

## 5 Does saturated fat boost liver fat?

An estimated one out of three U.S. adults—and one out of 10 children—have non-alcoholic fatty liver disease, or NAFLD.<sup>19</sup>

"It's one of the most common liver diseases worldwide," notes Fredrik Rosqvist of Uppsala University in Sweden.

The chief cause: excess weight around the waist.

"NAFLD is a spectrum of diseases," explains Rosqvist. In the beginning, the liver simply accumulates extra fat. "That can progress to a fatty liver with inflammation. And that may progress to cirrhosis or liver cancer."

Only about 20 percent of people with

NAFLD have that severe, inflammatory version. But even a fatty liver without inflammation can cause trouble.

"NAFLD is strongly associated with both type 2 diabetes and cardiovascular disease," says Rosqvist.

Although excess weight is the key driver for fatty liver, replacing saturated fats with polyunsaturated fats may help limit liver fat.

In the HEPPAT trial, researchers ran-



domly assigned 61 people with abdominal obesity to eat a diet high in either saturated fats (from butter and scones made with butter) or polyunsaturated fats (from sunflower seeds, sunflower oil and spreads, and scones made with sunflower oil) for 10 weeks.<sup>20</sup>

"Saturated fat increased liver fat content, whereas polyunsaturated fat actually decreased it," says Rosqvist.

In two other trials, researchers had people with normal or excess weight consume an extra 750 calories a day by eating muffins made with either palm oil (a saturated fat) or sunflower oil (a polyunsaturated fat).<sup>21,22</sup> In a third trial, the saturated fat came from coconut oil, butter, and blue cheese, while the unsaturated fat came largely from olive oil, pesto, and pecans.<sup>23</sup>

After three to eight weeks, all the groups

had gained three to five pounds.

"But for the same weight gain, saturated fat increased liver fat, whereas polyunsaturated fat led to little or no liver fat accumulation," says Rosqvist.

"And it improved the blood lipid profile." That is, the polyunsaturated fat lowered LDL ("bad") cholesterol, while the saturated fat raised it.

"In our most recent study, the people eating more saturated fats only gained about an ounce of liver fat, so few crossed the threshold for having a fatty liver," notes Rosqvist.

How many would have crossed the threshold if the study had lasted several years rather than weeks? Researchers haven't looked.

Nevertheless, says Rosqvist, "it's important to exchange some of your saturated fat intake with unsaturated fats."

That should lower your LDL cholesterol. And if it also helps prevent fatty liver, think of it as a bonus.

**Bottom Line:** Replace butter, cheese, red meats, and palm or coconut oil with other oils, nuts, seeds, and fish. 🍷

- <sup>1</sup> *Sleep* 36: 981, 2013.
- <sup>2</sup> *Diabetes* 59: 2126, 2010.
- <sup>3</sup> *Curr. Biol.* 29: 957, 2019.
- <sup>4</sup> *Circulation* 133: 1645, 2016.
- <sup>5</sup> *Am. J. Clin. Nutr.* 2020. doi:10.1093/ajcn/nqaa301.
- <sup>6</sup> *Am. J. Clin. Nutr.* 112: 293, 2020.
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- <sup>8</sup> *Cochrane Database Syst. Rev.* 9: CD009402, 2020.
- <sup>9</sup> *Arch. Intern. Med.* 172: 120, 2012.
- <sup>10</sup> *J. Physiother.* 58: 17, 2012.
- <sup>11</sup> *Br. J. Gen. Pract.* 55: 186, 2005.
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- <sup>13</sup> [fda.gov/media/84506/download](https://www.fda.gov/media/84506/download).
- <sup>14</sup> *JAMA* 2020. doi:10.1001/jama.2020.22258.
- <sup>15</sup> *N. Engl. J. Med.* 380: 11, 2019.
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- <sup>19</sup> *J. Intern. Med.* 287: 711, 2020.
- <sup>20</sup> *Am. J. Clin. Nutr.* 95: 1003, 2012.
- <sup>21</sup> *Diabetes* 63: 2356, 2014.
- <sup>22</sup> *J. Clin. Endocrinol. Metab.* 104: 6207, 2019.
- <sup>23</sup> *Diabetes Care* 41: 1732, 2018.

# Quick Studies

A snapshot of the latest research on diet, exercise, and more.

## Out with Gout



**G**out, an inflammatory arthritis that causes painful swelling in the joints, is on the rise. What might cut the risk?

In 1986, scientists started tracking 44,654 men aged 40 to 75. By 2012, 1,741 of them had been diagnosed with gout.

Excess weight, alcohol, and diuretics were linked to a higher risk. A DASH-like diet was linked to a lower risk. (A DASH

diet is rich in vegetables and fruit and low in added sugars, includes low-fat dairy, and favors poultry, fish, and beans over red meat.)

Weight mattered the most. Men who had obesity had 2½ times the risk of men at the lower end of the normal weight range. The authors estimated that 70 percent of the gout cases could have been prevented if the men were lean, drank only occasionally, took no diuretics, and ate a DASH-like diet.

**What to do:** Don't stop taking diuretics without asking your doctor about alternatives. For more on the DASH diet, see Oct. 2020, p. 6.

[JAMA Netw. Open 3: e2027421. 2020.](#)

## Music, Anyone?

**C**an music affect how quickly you eat? People took, on average, 38 seconds to eat a piece of chocolate when listening to music. Without music, they took 25 seconds. And they took a few seconds longer with slower music than with faster music.



**What to do:** Want to eat more slowly? Music may help.

[Appetite 2020. doi:10.1016/j.appet.2020.104801.](#)

## Knees Need to Move

**C**an exercise curb arthritis pain? Scientists randomly assigned 345 people with knee osteoarthritis to a stepped exercise program or a control group (which was sent advice on how to manage arthritis).

Exercisers who didn't have less pain or better function after three months on Step 1 (an online exercise program) moved to Step 2 (biweekly exercise

coaching calls) for three months. Those who still didn't improve moved to Step 3 (in-person physical therapy).

After nine months, 65 percent had moved to Step 2 and 35 percent had gone on to Step 3. Overall, the stepped group had better scores than the control group on a questionnaire rating pain, stiffness, and function, but not on tests of how quickly they could walk, climb stairs, get out of a chair, etc.

**What to do:** Arthritis in your knees? Keep moving. 🍌

[Ann. Intern. Med. 2020. doi:10.7326/M20-4447.](#)

## Prostate Cancer to Watch?



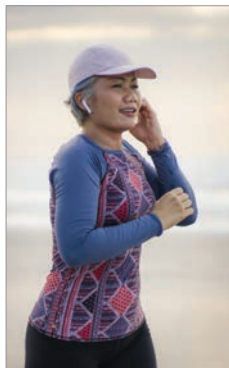
**E**xperts recommend active surveillance, rather than surgery or radiation, for low-risk prostate cancer. But the number of U.S. men on active surveillance varies by region.

Researchers looked at roughly 80,000 men aged 80 or younger with low-risk prostate cancer (that is, cancers diagnosed as cT1c or cT2a and Gleason grade group 1 in men with a PSA level under 10 ng/mL).

In 2010, 13 percent of the men were on active surveillance. By 2015, it was up to 32 percent. But the 2015 rates varied widely, from 52 percent in Connecticut to 45 percent in the San Francisco-Oakland area to 16 percent in Hawaii to 13 percent in New Mexico.

**What to do:** Ask your doctor whether you can try active surveillance to avoid the side effects of surgery or radiation (see Apr. 2018, p. 3).

[JAMA Netw. Open 3: e2031349. 2020.](#)





# THE BEST PART *of* WAKING UP?

## Is caffeine helping or harming your health?

BY CAITLIN DOW

“What work of genius has ever been composed on chamomile?” asks Michael Pollan in his audiobook *Caffeine*, as he tries to quit his habit. America runs on caffeine. Roughly 85 percent of us drink at least one caffeinated beverage every day. Here’s the latest on how caffeine affects our health.

### Caffeine 101

**H**ow does caffeine work? “The stimulant effects that most people associate with caffeine are due to caffeine’s ability to block adenosine receptors in the brain,” explains Marilyn Cornelis, associate professor of preventive medicine at the Feinberg School of Medicine at Northwestern University.<sup>1</sup>

Adenosine, a natural sedative, builds up during waking hours and dissipates during sleep. But when caffeine blocks the adenosine receptors, adenosine can’t do its job...so you don’t feel drowsy. (See “Why caffeine keeps you up.”)

Like with most dependencies, you can build up a tolerance to caffeine.

“The more caffeine you consume, the more adenosine receptors your brain makes,” notes Cornelis. So you need even more caffeine to block those extra receptors and keep you alert.

How much caffeine is too much? The Food and Drug Administration says that most adults can safely consume up to 400 milligrams a day. (For levels in a selection of foods, see p. 11.)

But caffeine’s impact on people varies.

“On average, the half-life of caffeine—which is the amount of time that it takes to break down half the caffeine in your body—is about three to five hours,” says Cornelis. So if you drink a cup of coffee at, say, 2 p.m., a quarter of its caffeine may still be coursing through you between 8 p.m. and midnight.<sup>1</sup>

“But there’s large genetic variability

Of course, you don’t need a genetic test to find out how caffeine affects you.

“Those tests only look at the gene for metabolizing caffeine,” Cornelis points out. “But maybe you have a genetic variant in the adenosine receptor, which could make you more or less sensitive to caffeine’s effects on sleep. The test won’t tell you that.”

What’s more, most people know how much caffeine they can handle. “People with the genetic variant that is linked to slower caffeine metabolism generally consume less caffeine,” says Cornelis.<sup>2</sup>

“If you drink one cup of coffee and you’re off the wall for the rest of the day, that’s more informative than a genetic test.”

### Sleep

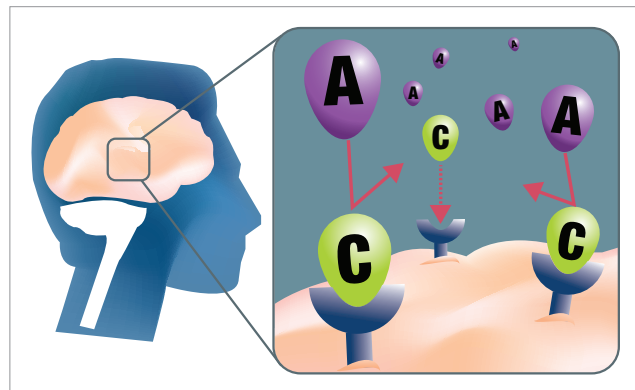
“I’m sleeping like a teenager again and wake feeling actually refreshed,” says Michael Pollan about his breakup with caffeine.

But Pollan’s experience may not apply to everyone.

In one of the few studies to look, researchers had 66 young regular caffeine users who had trouble sleeping go cold turkey. Over the next week, the volunteers spent no more time asleep and took no less time to fall asleep than before.<sup>3</sup>

Even so, it may be wise to avoid high doses of caffeine later in the day.

In an industry-funded study, researchers gave 12 young regular caffeine users either a placebo or 400 mg of caffeine six hours, three hours, or immediately before bedtime on separate days. Com-



**Why caffeine keeps you up.** Caffeine (C) binds to adenosine receptors in the brain. That prevents adenosine (A), which is a natural sedative, from attaching itself and making you feel drowsy.

in the activity of the key enzyme that metabolizes caffeine,” says Cornelis.

What’s more, caffeine metabolism can change. For example, it speeds up if you smoke cigarettes and slows if you take birth control pills or are pregnant.



pared to when they got the placebo, the volunteers slept about an hour less no matter when they got the caffeine.<sup>4</sup>

Studies show that people take longer to fall asleep, get less deep sleep, and wake up more often throughout the night when they've given caffeine right before bed.<sup>5</sup> (There's little research on whether having caffeine in the morning or early afternoon also impairs sleep.)

If you think caffeine is keeping you from getting a good night's rest, try cutting back or cutting it out after midday.

## Type 2 Diabetes

"Coffee consumption has been consistently linked with a lower risk of type 2 diabetes in cohort studies from across the world," says epidemiologist Rob van Dam of the National University of Singapore and the Harvard T.H. Chan School of Public Health.

In one analysis of 28 studies that tracked roughly 1.1 million people for an average of 11 years, the risk of type 2 diabetes was 6 to 8 percent lower with each daily cup of coffee, up to six cups a day.<sup>6</sup>

(Keep in mind that a cup is 8 ounces, but many mugs hold 10 to 12 oz. At Starbucks, the only size on some menu boards—a "grande"—is 2 cups, or 16 oz. A "venti" is 2½. Want just 1 cup? Ask for a "short.")

To prove that coffee prevents type 2 diabetes, you'd need a study that randomly assigned people to drink coffee or a placebo for years.

Surprisingly, "in short-term trials, caffeine reduces insulin sensitivity," says van Dam.<sup>7</sup> In other words, caffeine makes insulin less effective at moving sugar from your blood into your cells, which could eventually lead to type 2 diabetes.

However, "the body adapts to the effects of caffeine, usually within a week or so," notes van Dam. "In trials lasting several weeks, caffeinated coffee has no detrimental effects on insulin sensitivity."<sup>8</sup>



At Starbucks, some varieties of coffee have more caffeine than others. Check our chart or Starbucks's website.

But coffee is more than a caffeine delivery system.

"Coffee is complex, and it contains compounds that, in animal studies, have beneficial effects on insulin sensitivity and blood sugar," says van Dam.

That would explain why studies that track people for years show a lower risk of type 2 diabetes with both regular and decaf coffee.

"Components of coffee other than caffeine may be responsible for the beneficial effects of coffee consumption on diabetes risk," says van Dam.

## Exercise Performance

"If we put you on a treadmill and told you to go as long as you can, you'll run farther if you've had caffeine than if



In one study, steeping black tea bags for 3 minutes instead of 1 increased the caffeine by about 65 percent.

you haven't," says Matthew Ganio, who heads the department of health, human performance, and recreation at the University of Arkansas.<sup>9</sup>

(Researchers typically give people between 1.4 and 2.7 milligrams of caf-

feine per pound of body weight an hour before exercise. For a 150-pound person, that means roughly 200 to 400 mg of caffeine. And more isn't better. Higher doses don't give more of a boost and can cause side effects.)

On average, people who have had caffeine run about 12 percent farther when they push themselves to exhaustion. "But there's almost never a setting where you're pushing yourself until you can't go anymore," Ganio points out.

So he looked at the research that gauged whether caffeine could slash the time it takes to, say, run a 5-kilometer race or row 2,000 meters. After analyzing the results from 21 studies (which enrolled mostly young, fit men), he calculated that caffeine could boost performance by about 3 percent.<sup>10</sup>

"That may not seem like a lot to the recreational athlete," says Ganio, "but it would be quite the difference in the Olympics."

Not an Olympian?

"The average person can still reap the benefits," says Ganio.

In one study, researchers enrolled 12 Australian men who typically exercised less than an hour a week. On two separate days, the men took a placebo or 2.7 mg of caffeine per pound of body weight an hour before riding stationary bikes for 30 minutes. On the day they got caffeine, the men burned 5 percent more calories, pedaled 5 percent harder, and pushed their heart rate 5 percent higher, all without feeling like they were working harder.<sup>11</sup>

Few studies have looked at the exercise-boosting effects of caffeine in older adults, Ganio points out.

"But I can't think of a reason why it wouldn't help them."

In one study, 19 British adults aged 61 to 79 performed a battery of physical tests an hour after taking a placebo or 1.4 mg of caffeine per pound of body weight. On the day they got the caffeine,

the volunteers were able to do one more bicep curl in a 30-second test and walk about 100 feet farther in a 6-minute test than when they took the placebo.<sup>12</sup>

Why might the caffeine in two-or-so cups of coffee give your workout a jolt?

For one, “it reduces feelings of fatigue,” says Ganio. Caffeine can also blunt the perception of muscle pain.

“And, at a given pace, people will rate exercise as less difficult when they’ve had caffeine.”

Taken together, that means that caffeine may make exercise feel a bit easier.

“In turn, maybe you’re able to push yourself a little harder,” says Ganio.

## LDL Cholesterol

At typical intakes, caffeine doesn’t raise your risk of heart disease.<sup>13</sup>

But some methods of brewing coffee—regular or decaf—could harm your heart by raising your LDL (“bad”) cholesterol.

Fortunately, that’s not the way Americans typically drink theirs.

“When coffee is prepared using a drip-filter method, a compound called cafestol remains in the filter and doesn’t make its way into your cup,” van Dam explains.

And it’s cafestol that raises LDL. (No one has tested whether wire mesh filters can trap cafestol as well as paper does.)

In coffee made with a French press or boiled (like Scandinavian or Turkish coffee), the cafestol isn’t filtered out. Love a latte? Brewing espresso filters out about half the cafestol.<sup>14</sup>

The rise in LDL from unfiltered coffee isn’t trivial.

In one study, 64 Dutch adults were randomly assigned to a no-coffee control group or to drink 30 oz. (nearly 4 cups) of either filtered coffee or unfiltered coffee every day. After 11 weeks, the average LDL level of the



A serving of Ben & Jerry’s coffee ice cream has 65 mg of caffeine. A serving of Talenti has none. But you can’t tell that from the labels.

unfiltered-coffee drinkers was 16 points higher than the level of the filtered-coffee drinkers.<sup>15</sup>

How much unfiltered coffee is too much? “It’s difficult to establish a clear cutoff,” says van Dam. “But each additional cup seems to increase LDL more.”

His advice: “For people with elevated LDL levels, it seems prudent to avoid drinking unfiltered coffee daily and to try switching to another preparation method.”

That French press? Save it for the occasional treat.

## Parkinson’s

Caffeine improves dopamine signaling in the brain. And loss of dopamine causes the movement problems that occur in Parkinson’s disease.

Could caffeine help protect against Parkinson’s or slow its progression?

“It’s quite clear that people who consume more caffeine have a lower risk of Parkinson’s disease,” says Ron Postuma,

a neurologist at McGill University in Montreal.

In one study, researchers tracked roughly 138,000 men and women for up to 32 years. In women who had never used hormone replacement therapy and in men, those who consumed the most caffeine (about 600 to 800 mg a day) had a 38 percent lower risk of Parkinson’s than those who consumed the least. (It’s

not clear whether caffeine lowers the risk of Parkinson’s in women who take hormones after menopause.)<sup>16</sup>

“You would assume that would mean that caffeine must be protective against Parkinson’s disease,” says Postuma. But something else could be at play.

For example, “Parkinson’s disease has a period of about 15 to 20 years where it’s already in your brain, but you don’t show symptoms,” Postuma explains.

“During that time, people might start losing sensitivity to caffeine, so they use it less.”

Could caffeine help people who already have Parkinson’s?

Postuma randomly assigned 118 patients to take either a placebo or 200 mg of caffeine twice a day for six months.<sup>17</sup>

“We didn’t see any obvious motor benefit in the patients who got caffeine,” he says. “I don’t think caffeine can be recommended for long-term management of Parkinson’s symptoms.”

## CAFFEINE CAUTION

Caffeine is safe for most adults if they don’t overdo it. But it has some downsides:

- Too much caffeine can make you jittery and disturb your sleep.
- Caffeine doesn’t cause hypertension, but it can raise your blood pressure for several hours.
- Energy drinks have been linked to irregular heart rhythms and increases in heart rate and blood pressure. Don’t get carried away.

<sup>1</sup> *Neurosci. Biobehav. Rev.* 71: 294, 2016.

<sup>2</sup> *Mol. Psychiatry* 20: 647, 2015.

<sup>3</sup> *J. Sleep Res.* 2020. doi:10.1111/jsr.13048.

<sup>4</sup> *J. Clin. Sleep Med.* 9: 1195, 2013.

<sup>5</sup> *Sleep Med. Rev.* 31: 70, 2017.

<sup>6</sup> *Diabetes Care* 37: 569, 2014.

<sup>7</sup> *Nutr. J.* 15: 103, 2016.

<sup>8</sup> *Nutr. J.* 10: 93, 2011.

<sup>9</sup> *Int. J. Sport Nutr. Exerc. Metab.* 14: 626, 2004.

<sup>10</sup> *J. Strength Cond. Res.* 23: 315, 2009.

<sup>11</sup> *J. Sports Sci.* 30: 1235, 2012.

<sup>12</sup> *J. Nutr. Health Aging* 18: 883, 2014.

<sup>13</sup> *Circulation* 113: 2045, 2006.

<sup>14</sup> *Curr. Cardiol. Rep.* 15: 403, 2013.

<sup>15</sup> *Arterioscler. Thromb.* 11: 586, 1991.

<sup>16</sup> *J. Parkinson’s Dis.* 7: 677, 2017.

<sup>17</sup> *Neurology* 89: 1795, 2017.

# WHAT'S BREWING

The FDA doesn't require companies to disclose caffeine, but many voluntarily do. To get the numbers in this chart, we checked product labels and websites and asked companies. (For more, go to [cspinet.org/caffeine](https://cspinet.org/caffeine).) Keep in mind that plenty of factors—like the kind of coffee beans or how long your tea bag steeps—affect how much caffeine winds up in your cup.

Coffee & Tea Drinks (coffee shops)	Caffeine (mg)
Starbucks Coffee, Pike Place Roast (venti, 20 oz.)	410
Starbucks Coffee, Blonde Roast (grande, 16 oz.)	360
Starbucks Coffee, Pike Place Roast (grande, 16 oz.)	310
Dunkin' Coffee (large, 20 oz.)	270
Starbucks Coffee, Dark Roast (grande, 16 oz.)	260
Starbucks Caffè Americano (grande, 16 oz.)	225
Dunkin' Coffee (medium, 14 oz.)	210
Starbucks Caffè Mocha—hot or iced (grande, 16 oz.)	175
Dunkin'—Latte or Cappuccino (medium, 14 oz.)	166
Starbucks—Caffè Latte or Cappuccino (grande, 16 oz.)	150
Starbucks Espresso (doppio, 1.5 oz.)	150
Starbucks Chai Latte—hot or iced (grande, 16 oz.)	95
Starbucks Coffee Frappuccino (grande, 16 oz.)	95
Starbucks Matcha Green Tea Latte—hot or iced (grande, 16 oz.)	80
Starbucks Decaf Coffee, Pike Place Roast (grande, 16 oz.)	25

Coffee Drinks (bottles & cans)	Caffeine (mg)
High Brew Nitro Black Cold Brew (10 oz.)	200
Starbucks Black Unsweet Cold Brew (12 oz.)	195
La Colombe Triple Shot Draft Latte (9 oz.)	175
La Colombe Draft Latte—Double Shot or Oatmilk (9 oz.)	120
Starbucks Doubleshot Espresso & Cream (6.5 oz.)	120
Starbucks Coffee Frappuccino (13.7 oz.)	110
Chameleon Organic Cold-Brew Original Oat Milk Latte (12 oz.)	100
Silk Espresso Almond & Oat Latte (12 oz.)	95

Coffee & Espresso (ground)	Caffeine (mg)
Folgers Classic Roast (2 Tbs., makes 12 oz.)	120–160
Keurig K-Cup, most varieties (1 pod, makes 8 oz.)	75–150
Nespresso Original Kazaar (1 capsule)	125
Nespresso Original Lungo varieties (1 capsule)	77–85
Folgers 1/2 Caff (2 Tbs., makes 12 oz.)	60–80
Nespresso Original—except Kazaar or Lungo (1 capsule)	55–65
Folgers Classic Decaf (2 Tbs., makes 12 oz.)	2–8

Tea (bottles & tea bags)	Caffeine (mg)
Health-Ade Plus Energy Kombucha (16 oz.)	120
Celestial Seasonings Energy Tea, green or black (1 bag, brewed)	95
Honest T Organic Honey Green Tea (16.9 oz.)	94
Pure Leaf Unsweetened Black Tea (16.9 oz.)	77
KeVita Master Brew Kombucha (15.2 oz.)	68
Celestial Seasonings English Breakfast Tea (1 bag, brewed)	60
Lipton Black Tea (1 bag, brewed)	55
Honest T Organic Half Tea & Half Lemonade (16.9 oz.)	46
Pure Leaf Honey Green Tea (16.9 oz.)	45
Snapple Lemon Tea (16 oz.)	37
Celestial Seasonings Authentic Green Tea (1 bag, brewed)	35

	Caffeine (mg)
GT's Synergy Raw Kombucha (16 oz.)	8–16
Health-Ade Kombucha—except Plus Energy (16 oz.)	5–15
Lipton Decaffeinated Black Tea (1 bag, brewed)	less than 5
Herbal tea (1 bag, brewed)	0

Soft Drinks (12 oz.)	Caffeine (mg)
Pepsi Zero Sugar	69
Mountain Dew—diet or regular	54
Diet Coke	46
Dr Pepper—diet or regular	41
Pepsi—diet or regular	35–38
Coca-Cola—regular or Zero Sugar	34
Barq's Root Beer	22
7-Up, Fresca, Sprite, ginger ale, or root beer—most brands	0

Energy Drinks & Other Beverages	Caffeine (mg)
Bang (16 oz.)	300
5-hour Energy Extra Strength (1.9 oz.)	230
Starbucks Tripleshot Energy (15 oz.)	225
5-hour Energy Regular Strength or 5-hour Tea (1.9 oz.)	200
Starbucks Doubleshot Energy (15 oz.)	135
Coca-Cola Energy—regular or Zero Sugar (12 oz.)	114
Red Bull—regular or sugar-free (8.4 oz.)	80
V8 +Energy (8 oz.) or V8 Sparkling +Energy (11.5 oz.)	80
Ocean Spray Cran-Energy (10 oz.)	75
MiO Energy (½ tsp. squeeze, makes 8 oz.)	60
Bai Antioxidant Infusion (18 oz.)	55
Vitaminwater Energy Tropical Citrus (20 oz.)	50
AHA Black Cherry + Coffee Sparkling Water (12 oz.)	30
AHA Citrus + Green Tea Sparkling Water (12 oz.)	30

Chocolate, Ice Cream, & Yogurt	Caffeine (mg)
Ben & Jerry's Brewed to Matter Ice Cream (⅔ cup)	66
Ben & Jerry's Coffee, Coffee BuzzBuzzBuzz! Ice Cream (⅔ cup)	65
Dannon Lowfat Coffee Yogurt (5.3 oz.)	40
Häagen-Dazs Heaven Cold Brew Espresso Chip Ice Cream (⅔ cup)	30
Breyers Coffee Frozen Dairy Dessert (⅔ cup)	20
Hershey's Special Dark Chocolate Bar (1 bar, 1.4 oz.)	20
Dreyer's or Edy's Slow Churned Coffee Ice Cream (⅔ cup)	14
Hershey's Milk Chocolate Bar (1 bar, 1.5 oz.)	9
Hershey's Cocoa powder (1 Tbs.)	5
Chobani Coffee & Cream Greek Yogurt (5.3 oz.)	3
Swiss Miss Milk Chocolate Hot Cocoa Mix (1 packet)	1–3
Talenti Coffee Chocolate Chip Gelato (⅔ cup)	0

Over-the-Counter Pills & Supplements (No. of pills)	Caffeine (mg)
Hydroxycut Platinum (2)	200
Jet-Alert Double Strength, NoDoz, or Vivarin (1)	200
Excedrin Migraine or Tension Headache (2)	130
Midol Complete (2)	120
Bayer Back & Body Extra Strength (2)	65

Source: Company information. Chart compiled by Kaamilah Mitchell.

# The Healthy Cook

## Getting Cozy



Roasting brings out the best in vegetables. Serving them atop creamy white beans is my kind of comfort food. Add a salad, and dinner is done! 🍅

### Roasted Vegetables SERVES 4 over White Bean Purée

- |  |   |
|--|---|
| 1 head cauliflower, cut into wedges    | 2 15 oz. cans no-salt-added cannellini beans, undrained |
| 3 Tbs. + 1 Tbs. extra-virgin olive oil | ¼ tsp. + ¼ tsp. kosher salt                             |
| 2 bell peppers (any color), sliced     | freshly ground black pepper, to taste                   |
| 1 pint cherry tomatoes, halved         | ¼ cup shredded or grated parmesan                       |
| 1 clove garlic, minced                 |   |

1. Preheat the oven to 450°F. On a rimmed baking sheet, toss the cauliflower with 3 Tbs. oil. On another rimmed baking sheet, toss the bell peppers and tomatoes with the remaining 1 Tbs. oil.
2. Roast the cauliflower on the lowest rack until the bottoms are browned, and the peppers and tomatoes on the top rack until lightly charred, 15–20 minutes for both.
3. In a small pot over medium heat, bring the garlic and beans with their liquid to a simmer for 5 minutes. Purée with a hand blender. Season with ¼ tsp. salt.
4. Top the purée with the cauliflower, tomatoes, and peppers. Season with black pepper and the remaining ¼ tsp. salt. Sprinkle with the parmesan.

PER SERVING (3 cups): calories 370 | total fat 17 g | sat fat 3 g  
carbs 42 g | fiber 13 g | total sugar 8 g | added sugar 0 g  
protein 15 g | sodium 440 mg

For more recipes

Go to [nutritionaction.com/roastveg](https://nutritionaction.com/roastveg) for **Lemon-Miso Tofu & Broccoli** and **Roasted Winter Veg over Lentils**

Cooking questions?

Write to Chef Kate at [healthycook@cspinet.org](mailto:healthycook@cspinet.org)

# Think Outside the Loaf

Wraps, pitas, buns, bagels, etc.



BY LINDSAY MOYER & KAAMILAH MITCHELL

**1 Spot the real whole grains.** See “100% whole wheat” or “100% whole grain” on the label? Look no further.

No 100%? Check the ingredient list for “whole wheat” or other “whole” grains. “Enriched” or just “wheat” or “unbleached” flour are all refined. “Sprouted” grains, on the other hand, are typically whole.

Our Best Bites and Honorable Mentions are made with grains that are all—or nearly all—whole. We disqualified items with white flour unless it was far down the ingredient list (near yeast, gluten, or sugar), a sign that little was added.

We didn’t disqualify items with added bran or fibers like oat fiber, cellulose fiber, or soy fiber. Those ingredients help replace some of the flour (and cut the calories) in “low carb,” “light,” or “high fiber” tortillas and wraps.

**2 Check the serving size.** The Nutrition Facts may apply to just *half* an English muffin, naan, or bun. Our chart (see p. 15) shows numbers for a whole item.

And watch out for supersized servings. A typical bagel has 250 to 270 calories. Think of its three ounces as a stack

**S**tepping outside the sliced-bread box?

When it comes to wraps, pitas, buns, and bagels, whole grain beats refined. (Granted, nothing made of flour can measure up to, say, less-processed whole wheat berries or steel-cut oats.)

Yet some “multigrain” or “whole grain” impostors are still slipping in white (refined) flour, some “grain free” tortillas haven’t shed all of their refined carbs, and most “vegetable” wraps are mostly flour.

Here’s our guide to what to look for. See the pictures below for some winners. Turn the page to see what’s new...and what’s tricky.

of three slices of bread. Too bad whole-grain mini bagels are so hard to come by. Solution: Eat just half a biggie, or switch to a whole wheat English muffin like Whole Foods’ 365.

**3 Skim the salt.** Breads and flour tortillas don’t taste salty,

but they can still deliver plenty of sodium. That’s why our Best Bites have no more than 240 milligrams per item. Honorable Mentions can have up to 300 mg. That lines up with our limits for two slices of bread. (See Mar. 2017, p. 13.)

**4 Shrink the sugar.** Most of the items in our chart have no more than a couple of grams of added sugar (if that), so we didn’t need to set limits for Best Bites and Honorable Mentions. We disqualified products that cut sugar with the questionable artificial sweetener sucralose, which we rate as “avoid.” (See [chemicalcuisine.org](http://chemicalcuisine.org).)

And beware of misleading “no high fructose corn syrup” claims from brands like Arnold, Brownberry, Oroweat, Nature’s Own, and Dave’s Killer Bread. Those words don’t mean “no added sugar.” In fact, they often mean “with added sugar.”



A whole wheat pita is easy to stuff with veggies.



It’s a snap to find corn tortillas that are low in salt. Not so for wheat.



Not too much salt, too big (130 calories), and all whole grains.



Many high-fiber, low-carb, or light tortillas have just 45 to 90 calories.



Less salt than two slices of most whole wheat breads.

## Think Thin?



A good bet, just not as “thin” as they once were.

Heads up: For years, flatter buns (aka “sandwich thins”) had just 100 calories a pop. Today, some have grown up.

“Perfectly-sized and now 140 calories per roll!” say **Arnold 100% Whole Wheat Sandwich Thins**, which hit 300 milligrams of sodium. Brownberry and Oroweat whole wheat thins have the same numbers.

They still eke out an Honorable Mention, though. And if you’re watching every calorie, they beat two slices of many breads.

The only Best Bite: the smaller **Ozery Whole Wheat OneBun**, which still has just 100 calories.

## Whole-Grain Games

Beware these whole-grain claims:

■ **Grams of whole grain.** “Our organic **Epic Everything** bagels have all the garlicky and oniony deliciousness you want, and pack a whopping 26g of whole grains per serving,” says the **Dave’s Killer Bread** label. But that still leaves plenty of room for refined flour. The same-size **Thomas’ Whole Wheat Bagels** have 55 grams of whole grain. Why? Because they’re 100% whole grain.

Tip: Dave’s English muffins aren’t all whole grain, either. (Many of his sliced breads do better, though.)

■ **“Multigrain” or “ancient grain.”** White flour could be the first ingredient. Case in point: **Thomas’ Light MultiGrain English Muffins** and **Stonefire Ancient Grain Mini Naan**.

■ **“Made with whole grain.”** “Made with” usually means you’re getting white flour mixed with whole grain.



Look for “100%” whole grain (not the number of grams).



## Don't Count Your Veggies...

**Mission Garden Spinach Herb Wraps** are “lean, green tortillas” that are “made with fresh ingredients,” says the company’s website.

Really? The first ingredient: white flour. Spinach powder (it’s part of the “seasoning”) comes after water and shortening. Maybe it’s the yellow and blue food dyes that make them so green!

**Fiber One Garden Vegetable Wraps**, **Angelic Bakehouse Garden Wraps**, and other veggie-promising wraps drop the dyes, but they still have far more grain than dried, powdered, or juiced vegetables.

**Outer Aisle PlantPower Original Sandwich Thins** (50 calories), on the other hand, add enough fresh cauliflower—plus a little egg, parmesan, and nutritional yeast—to replace the flour altogether. The saturated fat (1½ grams) and sodium (130 milligrams) aren’t bad, but unless your sandwich is open-faced or folded like a taco, you’ll need to double those numbers for two thins. That drops them down to an Honorable Mention. Too bad the price (\$7 for a six-pack) is so steep.

Bottom line: Don’t count on wraps to put a dent in the 10-plus servings of veggies and fruits you should shoot for every day. Powders and juices don’t fill you up like (low-cal) whole vegetables do. Our advice: Stuff some leafy greens inside...or add a salad on the side.



## A Better White Bread?

**Original Egg White Wraps** are “simply made with over 95% cage free egg whites,” says **Egglife**.

Should you swap white flour for egg whites?

The upside: five grams of protein, just 25 calories, and an impressive 120 milligrams of sodium. Taste? Pleasantly plain, not eggy.

The downside: a six-pack cost us \$6. But if you need to avoid gluten or want to cut carbs, Egglife beats “gluten free” or “grain free” tortillas made with starchy refined tapioca.

Egg whites without too much salt.

or want to cut carbs, Egglife beats “gluten free” or “grain free” tortillas made with starchy refined tapioca.

## Hello, Jicama!

“Jicama is mild & neutral, which is exactly what makes **Trader Joe’s Jicama Wraps** an ideal tortilla alternative!” says the package. The (fiber-rich!) root vegetable “resembles a crunchy cross between a water chestnut & an apple.”

If crunch is what you want, use the thinly shaved sheets raw. If you prefer softer and a more tortilla-like taste, heat them up in a lightly oiled skillet.

Calories? A paltry 15 per two-wrap serving. So dig in! 🍌



The entire ingredient list: jicama.

# Best Thing Since...

**Best Bites** (✓✓) have no more than 240 milligrams of sodium. **Honorable Mentions** (✓) have up to 300 mg. The grains in both are all (or almost all) whole. Grain-free Best Bites and Honorable Mentions contain no refined starches like tapioca. We disqualified anything made with sucralose. Products are ranked from least to most sodium, then least to most calories. Our numbers may not match what's on some packages due to regional variations or the number of pieces per serving.

	Calories	Sodium (mg)
<b>English Muffins (1 muffin)</b>		
✓✓ Food for Life Organic Genesis 1:29 (2.7 oz.)	180	140
✓✓ Food for Life Organic 7-Sprouted Grains (2.7 oz.)	160	160
Thomas' Light MultiGrain (2 oz.) <sup>N,S</sup>	100	170
✓✓ Food for Life Organic Ezekiel 4:9—Cinnamon Raisin, Flax, or Sprouted Grain (2.7 oz.) <sup>1</sup>	170	170
Thomas' Honey Wheat (2 oz.) <sup>N,S</sup>	130	180
Thomas' 100% Whole Wheat (2 oz.) <sup>S</sup>	120	230
✓ 365 (Whole Foods) Whole Wheat (2.5 oz.)	120	270
Dave's Killer Bread Organic Killer Classic (2.2 oz.) <sup>N</sup>	140	330

	Calories	Sodium (mg)
<b>Bagels (1 bagel)</b>		
✓✓ Pepperidge Farm Whole Grain Mini Bagels (1.4 oz.)	100	120
Thomas' Everything Bagel Thins (1.6 oz.) <sup>N</sup>	110	190
Thomas' 100% Whole Wheat (3.4 oz.)	250	350
Dave's Killer Bread Organic Epic Everything (3.4 oz.) <sup>N</sup>	260	350
Dave's Killer Bread Organic Boomin' Berry (3.4 oz.) <sup>N</sup>	260	380
Dave's Killer Bread Organic Cinnamon Raisin Remix (3.4 oz.) <sup>N</sup>	270	400
Udi's Gluten Free Whole Grain (2.8 oz.) <sup>N</sup>	240	410
Dave's Killer Bread Organic Plain Awesome (3.4 oz.) <sup>N</sup>	260	410

	Calories	Sodium (mg)
<b>Buns &amp; Thins (1 bun or thin)</b>		
Fiber One 100% Whole Wheat Thin (1.5 oz.) <sup>S</sup>	90	160
✓✓ Food for Life Organic Ezekiel 4:9 Sprouted—Burger, Hot Dog, or Sesame Burger (2.7 oz.) <sup>1</sup>	180	160
✓✓ Nature's Own 100% Whole Wheat Hot Dog (1.6 oz.)	110	170
✓✓ Ozery Whole Wheat OneBun (1.4 oz.)	100	180
✓✓ Nature's Own 100% Whole Wheat Hamburger (1.9 oz.)	130	190
✓✓ Pepperidge Farm 100% Whole Wheat Hamburger (1.8 oz.)	130	210
✓✓ 365 (Whole Foods) Whole Wheat—Hamburger or Hot Dog (1.9 oz.) <sup>1</sup>	120	220
✓✓ 365 (Whole Foods) Organic Whole Wheat Hamburger (2 oz.)	120	240
✓✓ Angelic Bakehouse 7 Sprouted Whole Grains Slider (1.5 oz.)	120	240
✓ 365 (Whole Foods) Organic Whole Wheat Hot Dog (2 oz.)	130	250
Dave's Killer Bread Organic 21 Whole Grains and Seeds Burger (2.2 oz.) <sup>N</sup>	160	280
✓ Angelic Bakehouse 7 Sprouted Whole Grains—Burger or Hot Dog (2 oz.)	140	290
Arnold, Brownberry, or Oroweat Honey Wheat Sandwich Thins (2 oz.) <sup>N</sup>	150	290
✓ Arnold, Brownberry, or Oroweat 100% Whole Wheat Sandwich Thins (2 oz.)	140	300
Arnold, Brownberry, or Oroweat Multigrain Sandwich Thins (2 oz.) <sup>N</sup>	150	300
✓ Arnold Flax & Fiber Sandwich Thins (2 oz.)	150	300
Arnold, Brownberry, or Oroweat 100% Whole Wheat Hot Dog (2 oz.)	150	330

## Pitas & Naans (1 pita or naan)

	Calories	Sodium (mg)
✓ 365 (Whole Foods) Organic Whole Wheat Pita Pockets (2.3 oz.)	160	250
✓ Toufayan Whole Wheat Pita (2 oz.)	160	260
Stonefire Ancient Grain Mini Naan (1.8 oz.) <sup>N</sup>	150	350
365 (Whole Foods) Whole Wheat Tandoori Naan (3 oz.) <sup>N</sup>	270	470
Stonefire Whole Grain Naan (4.4 oz.) <sup>N</sup>	380	800

## Corn Tortillas (1 tortilla)

	Calories	Sodium (mg)
✓✓ La Tortilla Factory Organic Yellow Corn (1.1 oz.)	60	0
✓✓ Maria and Ricardo's White Corn (0.9 oz.)	60	5
✓✓ Food for Life Organic Authentic Sprouted Corn (0.8 oz.)	60	55
✓✓ Maria and Ricardo's Soft Yellow Corn & Wheat (1.4 oz.)	100	95

## Flour Tortillas & Wraps (1 tortilla or wrap)

	Calories	Sodium (mg)
✓✓ Food for Life Ezekiel 4:9 Sprouted Grain Tortillas, taco (1 oz.)	70	60
✓✓ Maria and Ricardo's Organic Sprouted Grain Tortillas (1.3 oz.)	110	90
✓✓ Angelic Bakehouse Reduced Sodium 7-Grain Wraps (1.5 oz.)	100	115
✓✓ Food for Life Ezekiel 4:9 Sprouted Grain Tortillas (2 oz.)	140	125
✓✓ Maria and Ricardo's Whole Wheat Plus Tortillas (1 oz.)	45	130
✓✓ La Tortilla Factory Low Carb Whole Wheat—Organic, Original Size, or Quinoa + Flax (1.3–1.5 oz.) <sup>1</sup>	60	200
✓✓ La Tortilla Factory Wraps—MultiGrain or Whole Wheat (1.4 oz.) <sup>1</sup>	60	200
✓✓ Fiber One Honey Wheat Wraps (1.5 oz.)	80	220
✓✓ La Tortilla Factory Light Whole Wheat Tortillas (1.4 oz.)	80	230
✓✓ La Tortilla Factory Sprouted Organic Wheat Tortillas (1.3 oz.)	100	240
Maria and Ricardo's Quinoa Flour Tortillas (1.5 oz.) <sup>N</sup>	100	250
✓ Maria and Ricardo's Organic Whole Wheat Tortillas (1.5 oz.)	130	250
Fiber One Garden Vegetable Wraps (1.5 oz.) <sup>N</sup>	80	260
✓ 365 (Whole Foods) Organic Whole Wheat Tortillas (1.8 oz.)	130	260
✓ Angelic Bakehouse 7-Grain Wraps (1.5 oz.)	100	270
✓ Angelic Bakehouse Garden Wraps—Spring Kale Spinach, Turmeric Sweet Potato, or Vibrant Beet (1.5 oz.) <sup>1</sup>	100	270
✓ La Tortilla Factory Whole Wheat Tortillas, soft taco (1.6 oz.)	120	270
Mission Whole Wheat Soft Taco Tortillas (1.6 oz.)	110	380
Mission Whole Wheat Fajita Tortillas (1 oz.)	140	490
Mission Garden Spinach Herb Wraps (2.5 oz.) <sup>N</sup>	220	540

## Grain-Free (1 tortilla, wrap, or thin, unless noted)

	Calories	Sodium (mg)
✓✓ Trader Joe's Jicama Wraps (2 wraps, 1.3 oz.)	15	0
365 (Whole Foods) Cassava Flour Tortillas (0.9 oz.) <sup>N</sup>	80	40
✓✓ Egglife Rye Style Egg White Wraps (1 oz.)	30	115
✓✓ Egglife Original Egg White Wraps (1 oz.)	25	120
✓✓ Outer Aisle PlantPower Sandwich Thins—Italian, Jalapeño, or Original (1 thin, 1.1 oz.)	50	130
✓✓ Egglife Italian Style Egg White Wraps (1 oz.)	30	150
✓✓ Egglife Southwest Style Egg White Wraps (1 oz.)	30	170
✓✓ Outer Aisle PlantPower Everything Sandwich Thins (1 thin, 1.1 oz.)	60	240
Outer Aisle PlantPower Pizza Crusts & Wraps—Italian or Jalapeño (2.5 oz.)	120	310

✓✓ Best Bite. ✓ Honorable Mention. <sup>N</sup>Contains refined starches or non-trivial amounts of grains that aren't whole. <sup>S</sup>Contains sucralose. <sup>1</sup>Average of the varieties listed.

**Daily Sodium Limit:** 2,300 milligrams.

Source: company information. The use of information from this article for commercial purposes is strictly prohibited without written permission from CSPL.



## FOOD FIND

### Take a Dip



It's a plant-based dip for your veggies or crackers.

It's a nutty sauce for your pasta or other grains. It's a tangy topper for your meal's main event.

It's **Trader Joe's Romesco Dip**.

Never heard of it? "This bright and zesty Spanish inspired sauce is made with roasted red peppers, tomatoes and crushed almonds. Use as a sauce or a dip."

Zesty is right. Garlic, vinegar, parsley, and crushed red pepper see to that. Just reach into the refrigerator case for a tub, and you're good to go.

Each serving (2 tablespoons) has only 35 calories and 140 milligrams of sodium. Saturated fat? Zero. And you're getting healthy fats from almonds and olive oil...so it's also vegan.

Way to go, Joe!

And while you're at it, check out his cucumber-dill **Tzatziki**, which is perfect for veggie dunking. Or spoon his **Zhoug** ("a very spicy green herbal sauce with Yemeni roots") on chicken, fish, or anything that could use a fresh-tasting hit of cilantro and jalapeño.

Want a do-it-yourself romesco? It's a snap, says Healthy Cook Kate Sherwood.

In a small food processor, purée 2 roasted red peppers with 2 Tbs. almonds, 2 Tbs. extra-virgin olive oil, 1 tsp. red wine vinegar, and ¼ tsp. kosher salt.

Mmm. Need we say more?

[traderjoes.com](http://traderjoes.com)—(626) 599-3700



## DISH of the month

### Sunshine Salad for Four

Whisk together 1 Tbs. olive oil, 2 tsp. lemon juice, 1 Tbs. reduced-sodium soy sauce, 1 sliced scallion, and 1 tsp. grated ginger. Toss with 8 cups salad greens and 1 cup each quinoa, avocado, and mango.

## FOOD FAIL



### A Latta Dyed Sugar

"Post Dunkin' Caramel Macchiato Cereal is brought to life with crunchy cereal pieces and caramel-swirled marshmallows, creating the deliciously indulgent taste of the layered iced coffee beverage," announced the Post/Dunkin' joint [press release](#).

A cereal that tastes like a coffee beverage? What took them so long!

All they needed was some good old American ingenuity...plus a few vats of corn flour, sugar, modified cornstarch, corn syrup, dextrose, gelatin, sodium hexametaphosphate, Yellow 5, Red 40, Blue 1, Yellow 6, corn meal, canola oil, salt, coffee concentrate, natural and artificial flavor, trisodium phosphate, BHT, and a handful of vitamins and minerals.

Yum!

The **Mocha Latte Cereal** has nearly the same ingredients. And—attention added-sugar lovers!—a 150-calorie serving of either cereal racks up about a third of a day's limit.

"The new cereals contain very small amounts of caffeine, roughly a 10<sup>th</sup> of a cup of coffee, so all can indulge in the rich coffee-forward experience," says the press release.

"Now you can have your coffee and eat it, too!" adds the products' website.

That's true...if your coffee is roughly half corn flour and half sugar plus food dyes.

[dunkincereal.com](http://dunkincereal.com)—(800) 431-7678



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