

Nutrition Action

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HEALTH LETTER®
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

DIABETES — & — PREDIABETES CAN WE REVERSE THE EPIDEMIC?

Fruit & Greens
Recipes

SURVIVING
COLD & FLU
SEASON

The Best
CEREALS

M E M O

I'VE A FEELING WE'RE IN KANSAS, TOTO



The U.S. Department of Agriculture has always had a built-in conflict of interest, given its dual missions of protecting both agribusiness and the public's health. Sadly, two recent actions suggest that the agency's commitment to safeguarding consumers is flagging.

■ **Privatizing pork inspection.** In September, the USDA [published a rule](#) transferring some of the work once done by USDA inspectors to private-slaughterhouse employees.

The rule would also allow slaughter lines to run at unlimited speeds, raising concerns that diseased animals will end up in the food supply, that slaughterhouse workers will get injured, or that some hogs won't get stunned before they're killed.

In June, the USDA's Inspector General started an investigation to find out if the agency hid data on workers' injuries while the proposed rule was open for public comment. And in October, a union that represents meatpackers filed a lawsuit charging that lifting the cap on line speeds—currently set at roughly 18 hogs per minute—will endanger workers.

The USDA privatized poultry inspection in 2014, but with two key differences: First, the agency kept caps on slaughter-line speeds. Second, it set standards for inspectors to test poultry for *Salmonella* and *Campylobacter* bacteria before letting industry inspectors take over. The pork rule includes neither.

The Center for Science in the Public Interest (which publishes *Nutrition Action*) will continue to fight the new pork-inspection

rule. We're urging Congress to block the rule's funding until the USDA sets standards for both food safety and worker safety.

■ **Gutting the Economic Research Service.**

In June, USDA secretary Sonny Perdue decided to move most employees of the Economic Research Service (ERS) and the National Institute of Food and Agriculture (NIFA) from Washington, DC, to Kansas City on little more than three months' notice.

At CSPI, we rely on ERS data to track what Americans eat, food safety recalls, and antibiotic use. But the agency does much more.

Critics charge that Perdue moved the ERS because the administration wasn't pleased with some of its work on climate change, tax cuts, and tariffs.

"Perdue did not move the Economic Research Service to Kansas City. He gutted it," wrote Laura Dodson, acting vice president of the ERS union, in the [Washington Post](#) in October.

Of the 200 people who were told to move to Kansas City or lose their jobs, only 16 relocated, she added.

"There are stacks of reports and research completed with no staff left to publish the results," noted Dodson. "Data sets are abandoned, and a generation of scientific expertise extinguished."

What a loss, not just for the USDA but for all of us. It's never wise to wage a war on science because you don't like what it finds.

Peter G. Lurie, MD, MPH, President
Center for Science in the Public Interest



The USDA wants to let the pork industry inspect its own slaughterhouses and speed up slaughter lines.

Photo: Pascal Debrunner/unsplash.com.

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DIABETES – & – PREDIABETES

CAN WE REVERSE THE EPIDEMIC?

BY BONNIE LIEBMAN

One in eight adults have diabetes (mostly type 2). Another one in three have [prediabetes](#). Among those 65 or older, a quarter have diabetes and half have prediabetes. We now know that, at least in some people, both prediabetes and type 2 diabetes can be reversed.

Reversing Type 2 Diabetes

“This is a new way of thinking,” Roy Taylor, professor of medicine and metabolism at Newcastle University in England, told MDedge, a news source for physicians, in 2018. Taylor is one of the principal investigators of the Diabetes Remission Clinical Trial (DiRECT).

“Until now, we’ve regarded type 2 diabetes as inevitably downhill—it’s only going to get worse.”

But the DiRECT study turned that idea upside down.

The trial randomly assigned 49 doctors’ practices in the United Kingdom to treat overweight or obese patients who had been diagnosed with type 2 diabetes within the previous six years either with usual care (the control group) or with a very-low-calorie diet (the intervention group).¹

“To make the intervention as simple as possible, we based it upon a liquid formula diet—so a packet for lunch, a packet for dinner, a packet for breakfast,” said Taylor. “That was the easiest way.”

For 12 to 20 weeks, the intervention group got only about 850 calories a day—600 from the packets and another 250 from salads and other veggie dishes.

“In addition to the liquid diet, we advised taking non-starchy vegetables [like] tomato, lettuce, cucumber, et

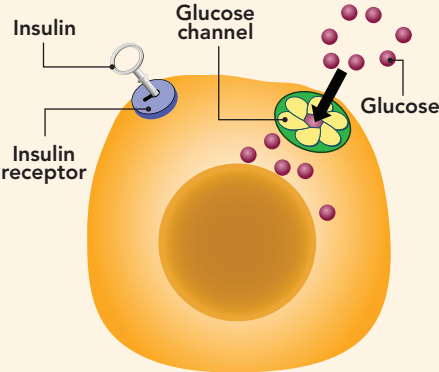
cetera,” Taylor explained.

Then the people in the intervention group slowly added back foods for two to eight weeks. After that, they met with a dietitian or nurse monthly to help them maintain their weight loss for two years.

“We had a formal rescue plan,” said Taylor. “If someone’s weight went up by more than four kilograms—about 10 pounds—then we would intervene and provide the liquid diet again.”

All diabetes medicines were stopped on day one of the liquid diet, and they were restarted only if necessary. The results were impressive.

Diabetes 101

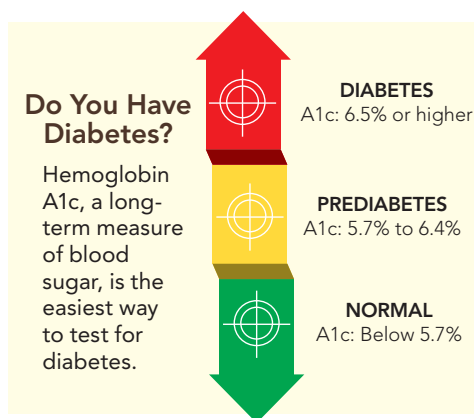


Insulin acts as a key that allows blood sugar (glucose) to enter the body’s cells, where it can be burned for fuel or stored.

But in some people, the key can’t open the lock.

To compensate for that “insulin resistance,” the pancreas pumps out more and more insulin, but it’s not enough to keep blood sugar from creeping up to “prediabetes” levels. After years of straining to keep up, the pancreas starts to fail and blood sugar reaches the “diabetes” range.

(That’s type 2 diabetes. In type 1 diabetes, the body’s immune system destroys the pancreas’s ability to make insulin. Type 1 accounts for only about 5 percent of diabetes.)



“In the intervention arm of the study at one year, 46 percent of people were free of diabetes, off all their tablets. At two years, 36 percent were still free of diabetes, off all their tablets,” said Taylor. “We demonstrated that, yes, type 2 diabetes can be made to go away.”

In contrast, only 3 percent of the control group were free of diabetes and off meds after two years. (Granted, no one urged the control group to try, because that’s not part of “usual care.”) And of the 272 people in the two groups, 64 percent of those who lost at least 22 pounds were free of diabetes.

(The trial was funded by a charity—Diabetes UK—but some of Taylor’s coauthors had ties to the companies that created the diet program and sell the formula the researchers used.)

In a way, it’s no surprise that weight loss plays a key role in type 2 diabetes.

“This is such a crashingly simple disease,” explained Taylor. “It goes up in prevalence if a population is overfed. If a population is short of food, it disappears.”

Weight loss also helps

Are You at Risk for Diabetes?

explain the results of a company-funded, non-randomized trial using the pricey Virta program. (Virta offers a low-carb diet plan, blood sugar and ketone monitoring, and virtual counseling for a one-time \$249 initiation fee plus \$370 a month, though some insurance plans cover it.)

The average participant lost 26 pounds, and Virta reported type 2 diabetes reversal in 53 percent of participants after two years. But the study counted people as having “reversed” their diabetes even if they were still taking metformin, a drug that lowers blood sugar levels (see Oct. 2018, p. 3).²

Why does weight loss matter? About a decade ago, researchers suggested that excess fat in the liver was making the body “resistant” to its own insulin. And excess fat in the pancreas was making it produce less insulin.³

Insulin is like a key that allows blood sugar to enter cells. When it stops working well, blood sugar levels stay high, which makes the pancreas secrete more and more insulin until its beta cells eventually give out and produce little or none. (See “Diabetes 101,” p. 3.)

But in a 2011 pilot study, researchers put 11 people who had type 2 diabetes for less than four years on a very-low-calorie diet.⁴ “Within seven days, the fat had disappeared sufficiently for that liver insulin resistance completely to vanish,” noted Taylor. “Fasting blood glucose went back to normal.”



Shoot for a half hour of *brisk* walking daily to lower your risk of diabetes. And if you have diabetes, get up and move every half hour.

How old are you?

- Less than 40 years (0 points)
- 40-49 years (1 point)
- 50-59 years (2 points)
- 60 years or older (3 points)

Are you a man or a woman?

- Woman (0 points) Man (1 point)

If you are a woman, have you ever been diagnosed with gestational diabetes?

- Yes (1 point) No (0 points)

Do you have a mother, father, sister, or brother with diabetes?

- Yes (1 point) No (0 points)

Have you ever been diagnosed with high blood pressure?

- Yes (1 point) No (0 points)

Are you physically active?

- Yes (0 points) No (1 point)

What is your weight category?

(see chart at right)

If you scored 5 or higher:

You are at increased risk for prediabetes or type 2 diabetes. However, only a blood test can tell for sure.

Write your score in the box

Add up your score

Height	Weight (lbs.)		
4'10"	119-142	143-190	191+
4'11"	124-147	148-197	198+
5'0"	128-152	153-203	204+
5'1"	132-157	158-210	211+
5'2"	136-163	164-217	218+
5'3"	141-168	169-224	225+
5'4"	145-173	174-231	232+
5'5"	150-179	180-239	240+
5'6"	155-185	186-246	247+
5'7"	159-190	191-254	255+
5'8"	164-196	197-261	262+
5'9"	169-202	203-269	270+
5'10"	174-208	209-277	278+
5'11"	179-214	215-285	286+
6'0"	184-220	221-293	294+
6'1"	189-226	227-301	302+
6'2"	194-232	233-310	311+
6'3"	200-239	240-318	319+
6'4"	205-245	246-327	328+
	(1 point)	(2 points)	(3 points)
You weigh less than the amount in the left column (0 points)			

Source: American Diabetes Association.

And after eight weeks, “we demonstrated that the fat disappeared out of the liver.” What’s more, “the level of fat in the pancreas gradually went down.”

That might have been what spurred the beta cells in the pancreas to ramp up their insulin output again. “It was amazing to watch the beta cells wake up,” said Taylor.

His conclusion: “We know what causes type 2 diabetes: It’s too much fat in the liver and the pancreas.”

Taylor’s team is now starting the ReTUNE trial on people who are not obese. Like DiRECT, it will only enroll those who have had type 2 diabetes for less than six years. The odds of reversal diminish over time.

“It’s not easy keeping weight down after losing weight,” noted Taylor. But if you can, he adds, it’s possible to “escape from type 2 diabetes.”

Is Prediabetes Pre-disease?

“Without weight loss and moderate physical activity, 15 to 30 percent of people with prediabe-

tes will develop type 2 diabetes within five years,” says the Centers for Disease Control and Prevention (CDC).

In 2002, the Diabetes Prevention Program study first showed that getting diabetes isn’t inevitable.⁵

“The DPP randomly assigned 3,234 people with prediabetes to either receive a placebo, metformin, or a lifestyle modification program aimed at a 7 percent weight loss using a low-calorie diet and 150 minutes of physical activity a week,” says Dana Dabelea, professor of epidemiology and pediatrics at the University of Colorado.

The results were remarkable.

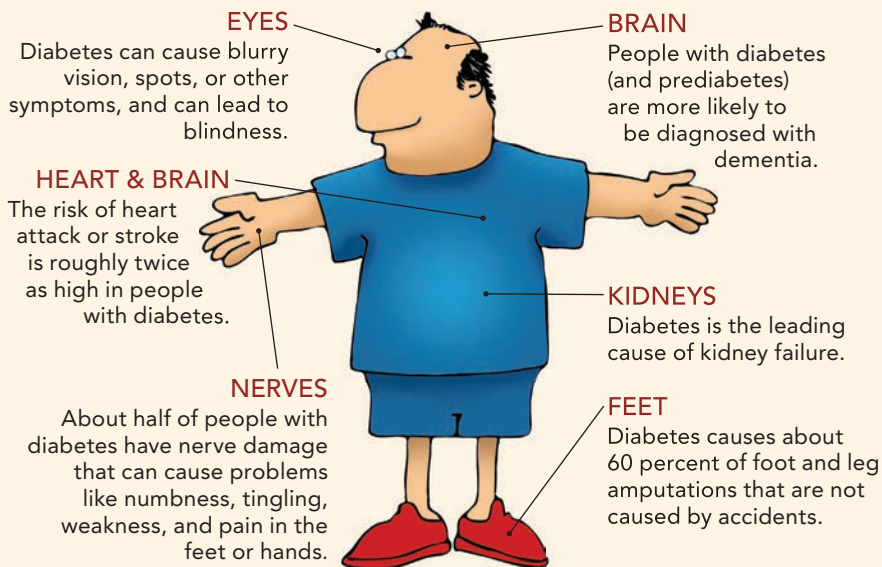
After three years, “the risk of diabetes was 58 percent lower in the lifestyle group than in the placebo group,” says Dabelea. “And the risk of diabetes was 71 percent lower if they were over age 60.” Metformin cut the risk by 31 percent.

Most people with prediabetes can now join a DPP program at some YMCAs, workplaces, churches, community centers, and elsewhere. (Medicare might cover the cost.)

Researchers are still tracking the DPP

From Head to Toe

Diabetes strikes nearly every part of the body. Among them:



Sources: [Centers for Disease Control and Prevention](#), [American Diabetes Assoc.](#), [American Heart Assoc.](#)

participants, long after the trial ended.

“After 15 years, we still saw a 27 percent lower risk of type 2 diabetes in people who had been in the lifestyle group,” notes Dabelea. And by that point, many had regained the weight they had lost.⁶

But the goal isn’t just to keep people from crossing the line into diabetes, say researchers. It’s to *reverse* prediabetes—that is, to return blood sugar levels to normal.

“Success is not just preventing diabetes, but preventing complications and premature death in the long term,” says Dabelea.

“If you have prediabetes, you’re on a trajectory to develop complications.”

For example, people with diabetes have twice the risk of heart disease and stroke. And they have a higher risk of blindness, kidney failure, and losing a toe, foot, or leg, thanks to damage to tiny blood vessels that nourish the eyes, kidneys, and nerves.

“These microvascular complications start during the prediabetic phase,” says Dabelea.

Roughly 10 percent of people in the Diabetes Prevention Program study had signs of damage to blood vessels after 15 years.⁶

So far, the DPP has not shown a lower risk of complications in people who had been assigned to the lifestyle or metformin group instead of a placebo, but a longer study in China did.

In the Da Qing Diabetes Prevention Study, the risk of microvascular damage was 35 percent lower—and the risk of a cardiovascular event (like a heart attack or stroke) was

26 percent lower—in people assigned to diet, exercise, or both than in those assigned to a control group that got usual care.⁷

“We probably did not have enough people in the DPP developing these complications in just 15 years to see a clear separation,” says Dabelea.

The Da Qing study tracked people for 30 years, and most of the heart attacks, strokes, and other complications occurred between 15 and 30 years after the study started.

What’s more, only 9 or 10 people had to participate in the lifestyle group to prevent one case of microvascular damage or one cardiovascular event. (That’s a better success rate than you’d see from many drugs or lifestyle changes.)

Interestingly, the odds of microvascular complications were lower for anyone in the DPP—even those in the placebo group—who had at least one

normal blood sugar test during the trial.⁸

“People who had prediabetes but reverted to normal blood sugar even once over a period of three years had about a 20 percent lower frequency of microvascular complications up to 11 years later than if they did not revert,” says Dabelea.

“That’s because, on average, people who reverted at least once had a lower cumulative exposure to high blood sugar levels than people who never reverted. So it’s all about keeping your blood glucose as low as possible.”

The take-away: Prediabetes is not harmless.

“Prediabetes is not pre-disease, but really just an earlier form of diabetes,” says Dabelea. “The goal should be lower blood glucose, through weight loss and even through medications such as metformin.”

Which Diet?

What’s the best way to lose weight if you want to reverse prediabetes or type 2 diabetes?

The DiRECT trial used a very-low-calorie diet, and the Diabetes Prevention Program used a lower-fat diet, largely as a way to cut calories. But a low-carb diet is also worth a try, as long as it’s healthy.

Plate Smarts



Rule of thumb: Fill half your plate with vegetables and/or fruit, a quarter with plant or animal protein, and a quarter (or less) with whole grains.

The Bottom Line

- The best way to dodge prediabetes and diabetes is to lose (or not gain) extra pounds.
- Cutting carbs—especially white flour, potatoes, juice, and sugary drinks—may help lower blood sugar even if you don't lose weight.
- Replace unhealthy carbs with unsaturated fats like olive or canola oil, nuts, avocado, and fatty fish.
- Shoot for at least 30 minutes of brisk walking or other aerobic exercise daily. Avoid sitting for long periods.

- For more on the DiRECT trial, including veggie-rich recipes, go to ncl.ac.uk/magres/research/diabetes/reversal/#publicinformation.
- If you have type 2 diabetes, don't try a very-low-calorie or a low-carb diet without a doctor's help. They may cause dangerously low blood sugar, and your doctor may need to adjust your medications.
- If you have prediabetes, find a CDC-recognized in-person or online Diabetes Prevention Program. (Go to cdc.gov/diabetes/prevention.)

“There isn't a definitive body of work at this time on the potential benefit of low-carbohydrate diets,” says Elizabeth Mayer-Davis, chair of the nutrition department at the University of North Carolina at Chapel Hill.²

“But some studies suggest that they may enable individuals to take less medication to treat their diabetes.”

For example, researchers randomly assigned 115 obese Australian adults with type 2 diabetes to lower-calorie diets that cut either fat or carbs.¹⁰ The low-fat diet relied on healthy carbs like whole grains rather than white flour and sugars. The low-carb diet largely used healthy unsaturated fats instead of saturated fats.

After one year, both groups had the same weight loss and average blood sugar levels, but the low-carb group was able to cut down on diabetes medications, and their blood sugar levels were less erratic.

“You can have two people with the same average blood sugar level, but in some people, blood sugar might be going up and down fairly dramatically and in others, it may go up and down just a little,” explains Mayer-Davis. “Less variability is better for your long-term health.”

And fewer diabetes meds means fewer

side effects and lower costs, she adds.

More evidence for cutting carbs comes from a small Danish study—funded in part by a Scandinavian dairy company—that supplied 28 participants who had type 2 diabetes and obesity with all of their food for six weeks.¹¹

A lower-carb diet (with more protein and unsaturated fat) led to lower levels of hemoglobin A1c, liver fat, and pancreatic fat than a higher-carb diet (with less protein and unsaturated fat). Both diets had the same number of calories and, by design, neither led to weight loss.

Where do we go from here?

“I would do a trial where people could be randomized to one of, say, three diets for, say, three or four months,” says Mayer-Davis.

“And then if they're doing well on the diet, they stay on it. But if they're not doing well, they get to switch to one of the other diets. It's called a SMART design, for sequential multiple assignment randomized trial.”

A SMART trial would likely cut the number of dropouts, she adds.

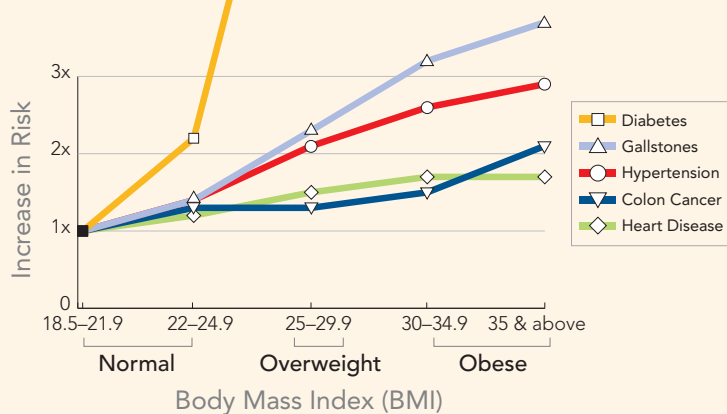
“And it's closer to what happens in clinical medicine. If a treatment isn't working for someone, you're not going to keep them on it for two years.”

Switching diets would also allow people to pick one they can stick with.

“We're learning that one size doesn't fit all,” says Mayer-Davis. “Different diets won't work the same for all people, to say nothing of people's preferences and behavior.”

The key is weight loss, whether you have prediabetes or type 2 diabetes, she adds. “It doesn't matter how you get there, as long as the foods are healthy.” 🍌

10-Year Risk of Disease



Compared to women at the lean end of the normal-weight range, the 10-year risk of type 2 diabetes is 8 times higher for overweight women (a BMI of 25 to 29.9), 18 times higher for obese women (a BMI of 30 to 34.9), and 30 times higher for the most-obese women (a BMI of 35 & above). Results in men are similar.

Source: Arch. Intern. Med. 161: 1581, 2001.

¹ Lancet Diabetes Endocrinol. 7: 344, 2019.

² Front. Endocrinol. 2019. doi:10.3389/fendo.2019.00348.

³ Lancet Diabetes Endocrinol. 7: 726, 2019.

⁴ Diabetologia 54: 2506, 2011.

⁵ N. Engl. J. Med. 346: 393, 2002.

⁶ Lancet Diabetes Endocrinol. 3: 866, 2015.

⁷ Lancet Diabetes Endocrinol. 7: 452, 2019.

⁸ Diabetes Care 42: 1809, 2019.

⁹ Lancet Diabetes Endocrinol. 7: 331, 2019.

¹⁰ Am. J. Clin. Nutr. 102: 780, 2015.

¹¹ Diabetologia 2019. doi:10.1007/s00125-019-4956-4.

Quick Studies

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

Protect Your Heart



Confused about conflicting advice on what foods can cut your risk of having a heart attack or stroke? Here's a snapshot of the diet advice in the 2019 guidelines from the American Heart Association and American College of Cardiology:

- Eat a diet rich in vegetables, fruits, nuts, beans, whole grains, and fish.
- Replace saturated fat with monounsaturated and polyunsaturated fats.
- Minimize refined carbs (white flour, added sugars), sweetened beverages,

and processed meats (like bacon, hot dogs, lunch meats, and sausage).

- Reduce sodium and high-cholesterol foods (like egg yolks).

What to do: See above. And aim for at least 150 minutes a week of moderate-intensity—or 75 minutes of vigorous—exercise. Tobacco? Fuggedaboutit.

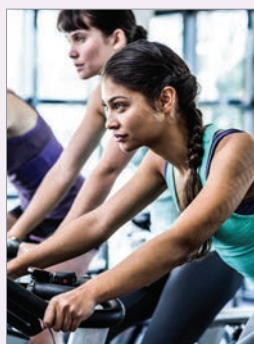
[J. Am. Coll. Cardiol. 74: 1376, 2019.](#)

Exercise & Menstrual Pain

Exercise may curb menstrual pain, say researchers who examined 10 studies on 754 women.

Women assigned to exercise for 45 to 60 minutes at least three times a week all month (but not while menstruating in some studies) reported less pain than women in non-exercise groups. Intensity varied from low (like yoga) to high (like aerobics).

What to do: Better studies are needed, but there are plenty of other good reasons to exercise.



[Cochrane Database Syst. Rev. 2019. doi:10.1002/14651858.CD004142.pub4.](#)

Peppermint Oil & Irritable Bowel Syndrome

A handful of small studies have suggested that enteric-coated peppermint oil may lessen abdominal pain in people with irritable bowel syndrome (IBS). Now the results of a larger trial are in.

Dutch scientists—some with ties to a peppermint oil company—randomly assigned 189 people with IBS to take 182 milligrams a day of

enteric-coated peppermint oil or a placebo. (Peppermint oil that isn't enteric-coated can cause acid reflux.)

After eight weeks, pre-set targets for declines in abdominal pain and overall symptoms were no different. There was a hint that the peppermint oil might curb pain slightly, but a new study would have to confirm that finding.

What to do: Don't expect peppermint oil to have a substantial impact on the symptoms of IBS. 🍵

[Gastroenterol. 2019. doi:10.1053/j.gastro.2019.08.026.](#)

Cup o' Plastic?



Some snazzy teas come in plastic, rather than paper, tea bags. Skip 'em.

When Canadian researchers steeped empty plastic tea bags in water heated to almost boiling for five minutes, each cup of the water ended up with an estimated 11.6 billion microplastic and 3.1 billion nanoplastic particles. Yikes.

Most of the particles were nylon and polyethylene terephthalate.

When the scientists concentrated the tea bag water and allowed *Daphnia magna*—a tiny transparent crustacean used to gauge the harm of toxic chemicals—to swim in it for 48 hours, the crustaceans developed anatomical abnormalities and unusual swimming behavior.

What to do: Why buy plastic when you can use ordinary paper tea bags or a reusable metal infuser for loose-leaf tea? Though no studies on plastic tea bags have been done in humans, the plastic could potentially raise the risk of cancer or other harms, say the authors.

[Environ. Sci. Technol. 2019. doi:10.1021/acs.est.9b02540.](#)



Germ Warfare

What helps. What's a waste of money.

BY CAITLIN DOW

"There's still no cure for the common cold or flu," says Bruce Barrett, professor of family medicine and community health at the University of Wisconsin. Here's what will—or won't—curb your risk or your symptoms.

"The common cold and flu are upper respiratory tract infections caused by many viruses," says Aric Prather, associate professor of psychiatry at the University of California, San Francisco.

Cold and flu viruses grow in the nose and throat. They're spread when someone sneezes or coughs on or near you or you touch a contaminated surface and then touch your eyes, nose, or mouth.

It's your immune system's response to the virus that makes you miserable.

"We get mucus production, coughs, and sneezing, which are all part of the process of trying to clear the virus from the body as your immune system fights it off," Prather explains.

How do you know if what you have is a cold or the flu? "If you have a fever and aches, if the symptoms come on rapidly, and if it's flu season, then the likelihood is high that it's influenza," says the University of Wisconsin's Bruce Barrett.

Prevention 101

"My number one tip for avoiding colds and flu is to avoid sick people, if you can," says Prather. What else helps?

■ **Wash those hands.** "Hand-washing is like a 'do-it-yourself' vaccine," says the Centers for Disease Control and Prevention (CDC). Just follow five simple steps: wet, lather, scrub (for about 20 seconds), rinse, and dry.

Simple? Yes. But odds are, you're not scrubbing for 20 seconds (with the tap off). That's how long it takes to sing "Happy Birthday" twice.

And skip the antibacterial soaps. The Food and Drug Administration says that

they're no more effective than regular soap and could lead to resistant bacteria.

No soap and water? Use a hand sanitizer that's at least 60 percent alcohol. (The label will say.)

■ **Get a flu shot.** The CDC says that nearly everyone six months and older

gets vaccinated, the flu is less likely to get to nursing homes, young kids, pregnant women, or people taking immunosuppressants," Barrett notes. Those are the groups that are most likely to suffer serious complications—like pneumonia or bronchitis—or to die from the flu.

Try to get your shot by the end of October, says the CDC. If you can't, don't panic. Flu season usually lasts until early spring, so even February isn't too late.

And get the shot yearly. "Every year, we have different strains," Barrett explains.

Zinc



Zinc lozenges may shorten colds slightly.

"The data on zinc is better than on any other supplement," says the University of Wisconsin's Bruce Barrett.

But not just any zinc. Zinc lozenges release zinc slowly, which may prevent viruses from replicating or binding to cells in the throat and nose.

In a handful of small trials, colds were one to three days shorter in adults who sucked on zinc rather than placebo lozenges every few hours throughout their colds.¹ Those trials (most were funded by or had lozenges provided by zinc-supplement makers) had people take at least 75 milligrams a day of zinc acetate or zinc gluconate at the

first sign of a cold. (Zinc lozenges that contain citric acid, mannitol, sorbitol, or tartaric acid don't seem to work.)

In a larger, company-funded trial (co-authored by a company employee), on the other hand, neither zinc gluconate nor acetate cut colds short.² It's not clear why.

"Zinc may work for some people," notes Barrett. "But the effect is probably modest." And the lozenges may cause nausea or a lingering bad taste.

¹ *JRSM Open* 2017. doi:10.1177/2054270417694291.

² *Clin. Infect. Dis.* 5:1202, 2000.

should get one.

"The vaccine may reduce your chances of getting the flu by up to 60 percent," says Barrett. "And by getting a shot, you also contribute to the public good."

Why? "If enough of the population

"The flu shot you got last year may be partially effective against some of this year's strains, but these viruses evolve quickly."

Some people briefly get a low-grade fever or achy muscles as their immune system reacts to the vaccine. But "you



May prevent colds...in ultramarathoners.

Vitamin C

Vitamin C is king of the cold supplements. Does it work?

In seven trials that tested vitamin C's ability to treat a cold, taking roughly 3,000 milligrams at the first sniffle didn't make the cold shorter or less severe.¹

And in 24 trials on a total of nearly 11,000 people, those who took 200 to 2,000 mg a day for an average of three months were no less likely to catch a cold than placebo takers. In those same studies, colds were 8 percent shorter in the adult C takers—about *half a day* for a weeklong cold.¹ Hardly worth it.

But in five trials of roughly 600 people doing intense physical activity like an ultramarathon, 250 to 1,000 mg a day of vitamin C for two to eight weeks cut the risk of catching a cold in half.¹

¹ [Cochrane Database Syst. Rev. 1: CD000980, 2013.](#)

can't catch influenza from the flu shot because it doesn't have live influenza in it," Barrett points out.

And if you're over 65, ask your doctor or pharmacist about the high-dose vaccine. "As we age, our immune system becomes less responsive to shots," Barrett explains. The high-dose vaccine can help counter those changes.

For more on the flu, check out cdc.gov/flu.

Stress, Exercise, Sleep

When people are exposed to a cold or flu virus, only some will get infected—that is, the virus will start to multiply in their nose and throat. And only some of *them* will get symptoms.

"When we put known quantities of a cold virus in people's noses, 75 percent of them became infected, but only 30 percent actually got sick," notes Prather.¹ "We're trying to determine what explains who gets infected and who develops symptoms."

Some clues:

■ **Stress.** "In a series of experiments, people reported their stress levels first and were then exposed to a bug," Barrett explains.

"People who rated themselves as more stressed were more likely to have the bug take up shop and replicate and to have worse cold symptoms."² Ditto for those who were unemployed or having marital problems, or who had other stressful experiences.³

■ **Exercise.** "The data show that people who exercise regularly get fewer respiratory infections," says Barrett.⁴

He randomly assigned roughly 560 people to a control group, to do daily moderate-intensity exercise, or to reduce stress via meditation for four to eight months. Compared to the control group, the meditators reported 20 percent fewer respiratory infections, and the exercisers' illnesses were

23 percent shorter (the equivalent of being sick for 1½ fewer days during a weeklong illness).^{5,6} (Granted, the study wasn't "blinded," so those groups could have expected to avoid colds or get well faster.)

"I can't say that we've proven beyond a shadow of a doubt that these things work," says Barrett. "But the body of evidence is such that we're pretty sure they do. Exactly how much, we don't know. Who will benefit the most? We don't know. But there's no downside to exercising or practicing stress reduction."

■ **Sleep.** In one study, Prather monitored the sleep patterns of 164 people for a week.¹ "Then we shot

the cold virus into their nose, quarantined them in a hotel for five days, and tracked who got sick," he says.

"The odds of getting sick were four times higher in people who slept six hours or less a night than in people who slept seven hours or more. And that was after accounting for factors that are linked with getting a cold, like age, stress, and exercise."

"These results lend support to the idea that sleep is critical to health," adds Prather. "People need to make sleep a priority, not just something you do after everything else gets done."

If You Get Sick

Your throat is sore, your nose is stuffed, you're achy. Now what?

"First, reduce the harm to other people," says Barrett. "Wash your hands regularly, maybe wear a mask, and don't go to work while you're sick."

Since colds and the flu are caused by viruses, antibiotics (which kill bacteria) won't help. (And taking them could up the odds that bacteria will become resistant to the drugs when we need them.)

If you have the flu and you're over 65 or have a higher risk of complications,



Elderberry

In two small, poor-quality studies, flu-like symptoms resolved faster in people taking elderberry than a placebo.^{1,2} (One of the studies was funded by a supplement maker. The other didn't reveal its funding.)

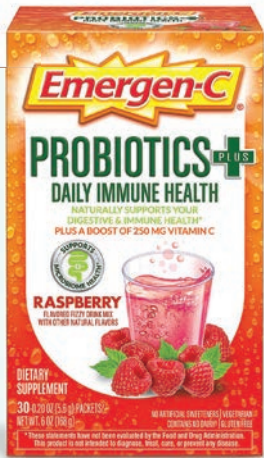
Evidence? Weak.

Can elderberry *prevent* illness? In a company-funded trial, 312 adults who took 600 mg a day for 9 days leading up to airline travel and 900 mg a day for 6 to 7 days during and after travel were no less likely to catch a cold than placebo takers.³

¹ [J. Altern. Complement. Med. 1: 361, 1995.](#)

² [J. Int. Med. Res. 32: 132, 2004.](#)

³ [Nutrients 8: 182, 2016.](#)



More research needed.

Probiotics

The data on probiotics is skimpy (and company funded), so the research needs to be replicated.

■ **Emergen-C Probiotics+.** It's "the delicious way to fortify your immune system at your core by adding good bacteria into your gut microbiome," claims the supplement's website.

Only one good study in adults has been done on the probiotic's strains: *Lactobacillus rhamnosus* GG and *Bifidobacterium lactis* BB-12. In 198 college students, those who took 1 billion colony-forming units (CFU) a day for 12 weeks had no fewer colds than placebo takers, but their colds were two days shorter and less severe.¹

■ **Metagenics UltraFlora Immune Booster.** Results varied in two 12-week trials that studied Metagenics's strains (*L. plantarum* HEAL9 and *L. paracasei* 8700:2) at a dose of 1 billion CFU a day. In 272 adults, 67 percent of placebo takers—versus 55 percent of probiotics takers—got at least one cold, but the length and severity of colds was the same in both groups.² In another study in 310 adults, probiotics takers had no fewer colds, though their colds were less severe and one day shorter.³

■ **DanActive and Yakult.** According to six trials that lasted three weeks to six months, the dairy drinks are unlikely to prevent colds or flu, but they may shorten both by about a day (see Jan./Feb. 2015, p. 11, and Jul./Aug. 2017, p. 9).

¹ *Br. J. Nutr.* 109: 1999, 2013.

² *Eur. J. Nutr.* 50: 203, 2011.

³ *Food Nutr. Sci.* 4: 13, 2013.

your doctor may prescribe an antiviral drug. But you have to start taking them within the first two days of feeling sick. And they'll only lessen the duration of the flu by about a day.

Otherwise, all you can do is treat the symptoms.

■ **Rest.** When you feel like lying on the couch, do it. The urge to rest is brought on by inflammatory cytokines—proteins that the immune system makes when it's fighting off a bug.

"We think that the cytokines act on the brain to make you feel tired so that your immune system has more energy to fight off the virus," says Prather.

■ **Stay hydrated.** Fluids are thought to help loosen mucus and replace the water lost if a fever makes you sweat.

■ **OTC drugs.** "I tend to dissuade people from using over-the-counter combination cold formulas that contain some mixture of antihistamines, cough suppressants, decongestants, and pain

relievers," says Barrett.

Why?

Because you may not need them all, and they may have side effects. For example, antihistamines and cough suppressants can cause dizziness and drowsiness, and decongestants can cause insomnia.

■ **Fever.** "You won't shorten the illness by lowering your fever," says Barrett.

If you want to treat a fever, aches, or a headache, he suggests acetaminophen (Tylenol). "It doesn't cause stomach ulcers or kidney problems like ibuprofen, naproxen, and aspirin can." But don't take more than 3,000 mg a day of acetaminophen. More can damage the liver. 🍊

¹ *Sleep* 38: 1353, 2015.

² *Am. J. Respir. Crit. Care Med.* 152: S53, 1995.

³ *Health Psychol.* 17: 214, 1998.

⁴ *Am. J. Lifestyle Med.* 5: 338, 2011.

⁵ *Ann. Fam. Med.* 10: 337, 2012.

⁶ *PLoS One* 13: e0197778, 2018.



Banned in drugs. Still in supplements.

Don't Bother

■ **Colloidal silver.**

It's a solution of tiny silver particles in water. In 1999, the Food and Drug Administration banned over-the-counter *drugs* with colloidal silver, since there was no evidence that it's safe and effective.¹ (Silver can build up in the body, sometimes causing a permanent graying of the skin known as "blue man syndrome."²)

Yet you can still find colloidal silver in OTC *supplements* like Sovereign Silver. ("Immune support," promises the label.)

Silver is sometimes used topically to treat burns or wounds. What's the evidence that swallowing it prevents or treats infections? Zilch.

■ **Oscillococinum.** Like other homeopathic treatments, it's diluted so much that it's unlikely to contain any of its "active" ingredient (duck liver or heart).

In two low-quality studies (one co-authored by an employee of Oscillococinum's manufacturer), roughly 800 people were randomly assigned to take Oscillococinum or a placebo within the first day of having flu-like symptoms.^{3,4} After two days, symptoms were gone in 17 to 19 percent of Oscillococinum takers and 10 to 15 percent of placebo takers. You have to wonder: Did those folks even *have* the flu?

■ **Mushrooms.** "Harnesses the power of ancient wisdom by creating an immune blend of 6 diverse mushrooms to support your immune system," says Nature's Way Immune Blend.

In one industry-funded study, eating mushrooms daily for a week increased the secretion of an immune system protein compared with a control group.⁵ What about colds or flu? No one has looked.

¹ fda.gov/drugs/status-otc-rulemakings/rulemaking-history-otc-colloidal-silver-drug-products.

² *Dermatol. Online J.* 11: 12, 2005.

³ *Br. Homeopath. J.* 87: 69, 1998.

⁴ *Br. J. Clin. Pharm.* 27: 329, 1989.

⁵ *Nutrition* 28: 527, 2012.

The Healthy Cook

Sweet Greens



Want to wake up your taste buds? Add sweet-tart fruit to a savory salad. This one is inspired by the classic Waldorf. 🍏

Waldorf Salad Redux

- 2 Tbs. mayonnaise
- 2 Tbs. low-fat sour cream
- 1 Tbs. white balsamic or white wine vinegar
- ¼ tsp. kosher salt
- 2 Tbs. minced fresh chives (optional)
- 1 large apple, cored, cut into wedges, and sliced
- 2 cups sliced raw cauliflower
- 2 cups finely shredded kale leaves
- ¼ cup chopped toasted pecans (see back cover Quick Tip)
- ¼ cup pomegranate seeds

1. In a large bowl, whisk together the mayonnaise, sour cream, vinegar, salt, and chives (if using).
2. Toss with half the apple slices and all the cauliflower and kale. Sprinkle with the pecans, pomegranate seeds, and remaining apple slices.

PER SERVING (1½ cups): calories 160 | total fat 11 g | sat fat 1.5 g | carbs 15 g | fiber 4 g | total sugar 9 g | added sugar 0 g | protein 3 g | sodium 190 mg



SERVES 4



Want more salad recipes?

Go to nutritionaction.com/wintersalads for

Blood Orange & Avocado Salad
Kiwi & Radish Salad

Need cooking advice?
Write to Chef Kate at healthycook@cspinet.org.



Cereal Savvy

HOW TO DECODE LABELS

BY LINDSAY MOYER

Then: Corn flakes or raisin bran? Grape-Nuts or shredded wheat? Now: Probiotic or protein? Keto or grain-free? Thanks to the low-carb craze and other “wellness” trends, the cereal aisle is morphing.

But some things never seem to change. It still takes an avid label reader—and maybe a magnifying glass—to find an honest-to-goodness whole-grain cereal and sidestep most of the added sugar. Lucky for you, that’s all in our guide.

The information for this article was compiled by Kaamilah Mitchell, with help from Suraya Bunting.

1 Get whole grains. See “100% whole grain” on the label? You can skip to number 2.

What about confusing claims like “10 grams whole grain” or “first ingredient whole grain”? They’re no guarantee. (See “The Whole Truth,” p. 14.) In that case, check the ingredients list:

■ **Wheat & corn.** Is wheat flour listed as “whole” or “whole grain”? If not, assume it’s refined. Ditto for corn, corn meal, or corn flour. “Degerminated” corn is also refined.

■ **Rice.** Is rice or rice flour “whole” or “brown”? If not, assume it’s refined.

■ **Other grains & flours.** Oats, sprouted grains, and “ancient” grains like quinoa, millet, and sorghum are typically whole grains, even if they don’t say so.

■ **Bran.** Bran is the fiber-rich outer layer that’s stripped off when grains are refined. So we count it as “whole.”

Our Best Bites are all—or nearly all—whole grain. “Nearly all” means the first two grain ingredients are typically whole grain or bran. (We allowed Best Bites to have a refined grain far down in the ingredients list because that means there’s so little of it.)

2 Check the serving size. Cereal servings can be as little as ¼ cup ...or as much as 1½ cups.

Why the wide range? The serving size is the fraction of a cup that comes closest to 30 grams for light (less dense) cereals or 55 grams for heavy (denser) cereals. (If your cereal has the new Nutrition Facts label—it’s the one with calories in big print and a line for *added* sugars—the serving is the fraction of a cup that comes closest to 40 or 60 grams.)

Warning: Some granolas—like **Effi**, **Purely Elizabeth**, and bags of **Nature’s Path**—use the serving size for snacks (30 grams) instead of the one for heavy cereals. Sneaky. Our chart (p. 14) doubles their numbers.

But what matters is how much ends up in *your* bowl. More than a serving? Multiply.

3 Slash sugar. Until 2020, Nutrition Facts labels don’t have to list *added* sugars separately from *total* sugars, which include the naturally occurring sugars in fruit and milk. So our Best Bites have no more than 5 grams (about 1 teaspoon) of total sugars for light cereals or 9 grams (2 teaspoons) for heavy cereals. See the

photos at the bottom of the page for some good-tasting winners.

Most cereals have little or no fruit, so just about all of their total sugar is added. Two notable exceptions: raisin bran and muesli. We waived the total sugar limit for Best Bites if fruit came before an added sugar in the ingredients list.

In search of a Best Bite with zero added sugar? Two good bets: plain shredded wheat (add your own fresh fruit) and **Bob’s Red Mill Old Country Style Muesli**.

4 Focus on unprocessed fiber. Our Best Bites have no fiber minimum because Nutrition Facts labels don’t say how much is intact, unprocessed fiber and how much is processed (from added inulin, chicory root, soluble corn fiber, or other sources). Processed fibers may not work as well as the real thing (see June 2018, p. 3).

Whole-grain wheat, oats, and their bran have the most unprocessed fiber. Brown rice and whole-grain corn have less.

5 Be skeptical. Does a healthy cereal *need* fewer carbs or added protein, probiotics, or vitamins? Read on.



The lowest-sugar bran flakes we found.



Nuts, seeds, fruit, and no added sugar. Yess!!!



Only 6 grams of sugar in a granola? Yup.

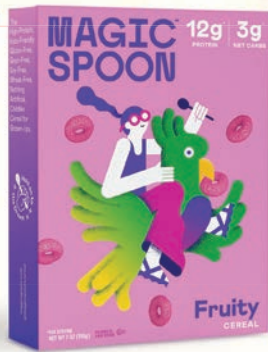


Whole wheat plus cocoa and cinnamon. Mmm.



Crunchy squares for breakfast or snacking.

Photos: Top: svl861/stock.adobe.com. Bottom (l to r): Whole Foods Market (P. L.P., Bob’s Red Mill Natural Foods, Kaamilah Mitchell/CSPi, Kaamilah Mitchell/CSPi, The Quaker Oats Company.



Magic? Not according to our taste buds.

No Keto Magic

The ketogenic diet—a *very*-low-carb diet with just 20 to 50 grams of carbs a day—was the most-Google-d diet of 2018. Now the craze has hit cereal.

“**Magic Spoon** reimagines the same sweet deliciousness of your favorite classic cereal with premium ingredients, complete proteins, and no cane sugar, gluten, or grains,” says the box. “Putting the real in cereal.”

What does Magic Spoon use instead of grains and sugar?

■ **Processed protein and fiber.** Milk and whey protein isolate, tapioca flour, and processed chicory root fiber stand in for grain. How “real” is that?

■ **Low-calorie sweeteners.** There’s no acesulfame potassium, sucralose, or aspartame, all of which we rate as “avoid.” (See chemicalcuisine.org.) Magic Spoon’s monk fruit extract hasn’t been well tested in animals, but the fruit has been eaten in

China for centuries.

The cereal also gets its intense sweetness from (safe) stevia extract and allulose. Allulose is a naturally occurring sugar that’s poorly absorbed in the gut, so companies don’t have to list it as “sugar” on the Nutrition Facts label. The downside: Too much allulose may lead to nausea, diarrhea, or other GI side effects.

■ **Coconut oil.** Each ¾-cup serving has enough coconut oil to add 5 grams of saturated fat—a quarter of a day’s limit. We capped Best Bites at 2 grams. (Magic Spoon competitors **The Cereal School** and **Catalina Crunch** use unsaturated sunflower oil instead of coconut.)

As for its promised “magic” taste, none of our testers were, um, spellbound. And, anyway, low-carb diets are no magic weight-loss bullet. (See October 2018, p. 3.) Why not stick with a scrumptious whole-grain cereal that’s low in sugar instead?

If you want more protein, try a Best Bite like **Kashi GO Original**, which has as much protein (12 grams) as a serving of Magic Spoon. Or serve any cereal with greek yogurt for a protein-rich parfait.

Go Grainless?

“We may not have literally foraged for it, but it’s PALEO FRIENDLY,” says

Bear Naked about its **Cinnamon Roll Grain Free Granola**.



Sugar, not whole grain, is granola’s weakness.

Just don’t confuse “grain free” or “paleo friendly” with low carb. The granola’s second ingredient is honey. A half cup has enough to supply 11 grams (a little over 20 percent of a day’s limit) of added sugar. The rest is mostly coconut plus (healthy) nuts, seeds, and sunflower oil.

Granola’s Achilles’ heel—grainless or not—is added sugar. Most regular **Bear Naked** granolas, for example, have 10 to 12 grams in just ½ cup. Some better bets:

■ **Bear Naked Fit.** Yummy, crunchy **Toasted Coconut Almond**, **V’Nilla Almond**, and **Triple Berry** slash the added sugars to just 5 or 6 grams. That’s about as low as it gets.

■ **KIND Clusters.** Half of KIND’s eight varieties are low enough in total sugars (5 to 8 grams) for a Best Bite. Try the **Cinnamon Oat**, **Dark Chocolate**, **Raspberry**, or **Vanilla Blueberry**.

Pick a Probiotic?

“Healthy gut” or “may help support healthy digestion,” say cereals with shelf-stable probiotics. Do those bacteria improve everyday GI complaints like constipation or bloating?

The evidence—largely funded by probiotic manufacturers—is far from solid. And any benefits are modest. For example:

■ **Bifidobacterium lactis BB-12.** Among 1,248 adults who reported just two to four bowel movements a week, those who took the amount of *B. lactis* BB-12 in a serving of **GoodBelly Probiotics Peanut Butter Crunch** daily for four weeks had no more bowel movements than placebo takers.¹

■ **Bacillus coagulans GBI-30 6086.** In a study of 61 adults, those who took 2 billion CFU (colony-forming units) a day for four weeks reported slightly less abdominal pain, but no less gas, bloating, or distension, than placebo takers.² Neither **Effi’s** nor **Purely Elizabeth’s** labels say how much of the bacteria they add to their probiotic granolas.

■ **Bifidobacterium lactis HN019.** Among 228 adults with constipation, a daily dose equal to a serving of **Kellogg’s Happy Inside** (1 billion CFU) for four weeks was no better than a placebo for speeding up the movement of food through the colon.³ **Kellogg’s** also adds *B. lactis* HN019 to its **Special K Probiotics Berries & Peaches**, but only 65 million CFU per serving, Kellogg told us. That’s not much.



Probiotics: a new way to sell cereal.

¹ *Br. J. Nutr.* 114: 1638, 2015.

² *BMC Gastroenterol.* 9: 85, 2009.

³ *Gut Microbes* 9: 236, 2018.



The Whole Truth

“100% whole grain” is simple. But most of the other claims on cereals aren’t:

■ **First ingredient whole grain.** Cereal companies love claims like these because they can mean a little or a lot.

Blueberry Chex, for example, boasts that “whole grain is the 1st ingredient” because

it has more whole-grain rice than anything else. But its second ingredient is refined rice. **Blueberry Cheerios** (also made by **General Mills**) says “first ingredient whole grain oats.” Turns out *both* of its grains—oats and oat bran—are whole.

■ **Grams whole grain.** Kellogg’s **Smart Start** has “25g of whole grain” (in a 64-gram serving) from its whole-grain wheat and oats. But how many grams of refined grain come from its white rice (the first ingredient)? Who knows?

■ **Multi-grain.** It only means “more than one grain,” so don’t expect much. But companies must know it sounds good. Why else would **Smart Start** call its flakes “multi-grain”? (The first ingredient, rice, isn’t whole grain.)

Multivitamin K?

“Every flake bursts with the essential nutrients you need to make you feel strong from the inside,” says Kellogg’s **Special K Chocolatey Delight**.

No Special K cereals got a Best Bite because they all have too little whole grain (and most are too sugary). But Special K dresses them up with added vitamins and minerals. For example:

■ **Vitamins A, C, and E.** “Antioxidants women need,” says the box. Fact: Most studies that gave people those vitamin supplements to prevent cancer or heart disease came up empty.

■ **B Vitamins.** They’re “essential nutrients to convert food into fuel,” says Special K, which adds 20 percent of a day’s thiamin, riboflavin, niacin, B-6, and B-12. Fact: Most people already get plenty, and more isn’t better.

The folic acid (50 percent of a day’s worth) is a plus for women who may become pregnant. And some people fall short on iron (a serving has 60 percent of a day’s worth) or vitamin D (10 percent). But if you need those or other nutrients, most (non-gummy) multivitamin-and-mineral supplements are more complete. 🍌



A sugary cereal laced with vitamins is nothing special.

Cereal Numbers

Best Bites (✓✓) have:

- 1) all or nearly all whole grains,
- 2) no more than 5 grams (1 tsp.) of total sugars per serving for lighter cereals or 9 grams (2 tsp.) for heavier cereals, granola, and muesli,
- 3) no acesulfame potassium, sucralose, or aspartame, and
- 4) no more than 2 grams of saturated fat per serving.

We waived the sugar limit if fruit came before an added sugar in the ingredients list. Within each section, cereals are ranked from least to most sugar, then most to least fiber and protein, then least to most calories.

Lighter Cereals

	Calories	Total Sugars (tsp.)	Fiber (g)	Protein (g)
General Mills Fiber One Original (½ cup)	60	0 ^S	14*	2
✓✓ Kashi 7 Whole Grain Puffs (1½ cups)	150	0	4	5
✓✓ Cascadian Farm Organic Purely O’s (1½ cups)	140	0	4	4
✓✓ General Mills Cheerios (1 cup)	100	0	3	3
Magic Spoon (¾ cup) ^{1,F}	110	0	2*	12
✓✓ The Cereal School (¾ cup) ¹	100	0	1*	16
✓✓ Barbara’s Organic Brown Rice Crisps (1½ cups)	150	0	1	3
✓✓ 365 (Whole Foods) Organic Brown Rice Crisps (1 cup)	110	0	1	2
✓✓ 365 (Whole Foods) Organic Bran Flakes (¾ cup)	100	0.5	5	4
✓✓ Nature’s Path Organic Heritage O’s (½ cup)	120	0.5	3	4
General Mills Corn Chex (1 cup)	120	0.5	2	2
Kellogg’s Corn Flakes (1 cup)	100	0.5	1	2
General Mills Rice Chex (1 cup)	110	0.5	1	2
✓✓ Nature’s Path Organic Flax Plus Multibran Flakes (1 cup)	150	1	7	5
✓✓ Nature’s Path Organic Heritage Flakes (1 cup)	160	1	7	5
✓✓ Barbara’s Multigrain Spoonfuls (¾ cup)	120	1	4*	3
✓✓ Nature’s Path Organic Flax Plus Cinnamon Flakes (¾ cup)	120	1	4	3
✓✓ 365 (Whole Foods) Organic Wheat Waffles (¾ cup)	100	1	3	3
✓✓ General Mills Wheaties (¾ cup)	100	1	3	2
✓✓ Barbara’s Honey Rice Puffins (¾ cup)	110	1	3*	2
✓✓ General Mills Total (¾ cup)	110	1	3	2
Kellogg’s Special K Original (1¼ cups)	150	1	1	7
Kellogg’s All-Bran Original (½ cup)	80	1.5	10	4
Post Bran Flakes (1 cup)	110	1.5	7	4
General Mills Multi Grain Cheerios (1 cup)	110	1.5	3	2
Post Honey Bunches of Oats Honey Roasted (¾ cup)	120	1.5	2	2
General Mills Blueberry Chex (¾ cup)	130	1.5	1	1
Kellogg’s All-Bran Buds (½ cup)	80	2	11*	3
Barbara’s Peanut Butter Puffins (1 cup)	160	2	2	4

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	Calories	Total Sugars (tsp.)	Fiber (g)	Protein (g)
General Mills Blueberry Cheerios (¾ cup)	110	2	2	2
General Mills Honey Nut Cheerios (¾ cup)	110	2	2	2
GoodBelly Probiotics Peanut Butter Crunch (1¼ cups)	170	2.5	4	4
Kellogg's Special K Red Berries (1¼ cups)	140	2.5	3	3
Kellogg's Special K Probiotics Berries & Peaches (1 cup)	160	3	3	3
Kellogg's Special K Chocolatey Delight (1 cup) ^F	170	3	3	3

Heavier Cereals

✓✓ Catalina Crunch (¾ cup) ¹	180	0	13*	19
✓✓ Post Shredded Wheat 'n Bran (1⅓ cups)	210	0	8	7
✓✓ Post Shredded Wheat Spoon Size (1⅓ cups)	210	0	8	7
✓✓ Post Shredded Wheat Big Biscuit (2 biscuits)	170	0	7	6
✓✓ 365 (Whole Foods) Wheat Squares (1¼ cups)	220	0	5	7
✓✓ Post Grape-Nuts Original (½ cup)	200	1	7	6
✓✓ General Mills Wheat Chex (¾ cup)	160	1	6	5
✓✓ Nature's Path Organic Qi'a Honey Chia Superflakes (1 cup)	220	1.5	7	5
✓✓ Nature's Path Organic Qi'a Coconut Chia Superflakes (1 cup)	230	1.5	7	5
✓✓ Nature's Path Organic Heritage Crunch (¾ cup)	230	1.5	6*	6
✓✓ Kashi GO Original (1¼ cups)	180	2	13*	12
General Mills Fiber One Honey Clusters (1 cup)	170	2 ^S	10	4
✓✓ Kashi GO Cinnamon Crisp (¾ cup)	180	2	9*	11
Happy Inside Coconut Crunch (1 cup) ^F	250	2	9*	5
✓✓ Happy Inside Bold Blueberry (1 cup)	210	2	9*	4
✓✓ Happy Inside Simply Strawberry (1 cup)	210	2	8*	5
✓✓ Kashi—Autumn Wheat, Berry Fruitful, Cinnamon Harvest, Dark Cocoa Karma, or Island Vanilla (29–34 biscuits) ¹	200	2	7	7
✓✓ Kashi Organic Sprouted Grains (1¼ cups)	190	2	6	6
Kellogg's Special K Protein Original (1⅓ cups)	210	2	5	15
✓✓ Kashi GO Maple Brown Sugar Flakes & Clusters (1 cup)	200	2	5	10
✓✓ Quaker Oatmeal Squares Cinnamon (1 cup)	210	2	5	6
✓✓ Post Great Grains Crunchy Pecan (¾ cup)	210	2	5	5
Kellogg's Special K Protein Honey Almond Ancient Grains (1⅓ cups)	230	2	4	15
Kashi GO Chocolate Crunch (¾ cup)	210	2.5	9	10
Post Great Grains Banana Nut Crunch (1 cup)	230	2.5	7	6
Kashi GO Peanut Butter Crunch (¾ cup)	230	2.5	6	10
✓✓ Nature's Path Organic Flax Plus Raisin Bran (1¼ cups)	210	3	9	6
General Mills Fiber One Strawberries & Vanilla Clusters (1 cup)	190	3	9*	4
Kashi GO Crunch (¾ cup)	190	3	8*	9
Kashi GO Honey Almond Flax Crunch (¾ cup)	200	3	8*	9
✓✓ Nature's Path Organic Flax Plus Pumpkin Raisin Crunch (1 cup)	230	3	8	6
Post Great Grains Cranberry Almond Crunch (1 cup)	210	3	5	5
Post Honey Bunches of Oats Whole Grain (1 cup) ¹	230	3	5	5
✓✓ Post Great Grains Raisins, Dates & Pecans (¾ cup)	200	3	5	4
✓✓ 365 (Whole Foods) Organic Raisin Bran (1 cup)	180	3.5	6	4
General Mills Cheerios Oat Crunch (1 cup)	200	3.5	4	3

	Calories	Total Sugars (tsp.)	Fiber (g)	Protein (g)
✓✓ Kellogg's Raisin Bran (1 cup)	190	4	7	5
✓✓ Cascadian Farm Organic Raisin Bran (1¼ cups)	210	4	7*	5
Kellogg's Cracklin' Oat Bran (¾ cup) ^F	230	4	7	4
Post Honey Bunches of Oats with Almonds (¾ cup)	270	4	4	5
Post Great Grains Blueberry Morning (1 cup)	220	4	4	4
Kellogg's Raisin Bran Crunch (1 cup)	190	4.5	4	4
Kellogg's Smart Start (1¼ cups)	240	4.5	3	5
✓✓ Post Raisin Bran (1¼ cups)	190	5	9	5

Granola

✓✓ KIND Raspberry Clusters (½ cup)	190	1	3	4
✓✓ Bear Naked Fit (½ cup) ¹	210	1.5	6	6
✓✓ KIND Dark Chocolate Clusters (¾ cup)	240	1.5	4	10
✓✓ KIND Vanilla Blueberry Clusters (½ cup)	190	2	7*	5
✓✓ KIND Cinnamon Oat Clusters (½ cup)	190	2	7*	4
✓✓ Bob's Red Mill Cinnamon Raisin (½ cup)	220	2	5	5
Nature's Path Organic Grain Free (1 cup) ^{1,F}	360	2	4	11
Effi Probiotic Chickpea (¾ cup) ^{1,F}	310	2	4	10
✓✓ Nature's Path Organic Peanut Butter (½ cup)	260	2	4	7
Purely Elizabeth Probiotic (¾ cup) ^{1,F}	270	2.5	5*	6
KIND Peanut Butter Clusters (¾ cup)	260	2.5	4	10
Purely Elizabeth Grain-Free (¾ cup) ^{1,F}	330	2.5	4	10
CLIF Energy (¾ cup) ¹	250	2.5	4	8
KIND Maple Quinoa Clusters (½ cup)	190	2.5	4	4
KIND Almond Butter Clusters (¾ cup)	250	2.5	3	10
Bear Naked Grain Free (½ cup) ^{1,F}	340	3	6	8
Purely Elizabeth Nut Butter (¾ cup) ^{1,F}	270	3	6	7
Bear Naked Original Cinnamon (½ cup)	260	3	5	11
Cascadian Farm Organic Dark Chocolate Almond (¾ cup)	260	3	5	6
Purely Elizabeth Ancient Grain (¾ cup) ^{1,F}	280	3	4	6
Quaker Simply (½ cup) ¹	210	3	4*	5
Quaker Real Medleys Supergrains (½ cup) ¹	230	3	4	5
Nature Valley Peanut Butter (½ cup)	230	3	3*	6
Cascadian Farm Organic Fruit & Nut (¾ cup)	270	3.5	4	6
Cascadian Farm Organic Cinnamon Raisin (¾ cup)	250	3.5	4	5
Post Honey Bunches of Oats (½–¾ cup) ¹	270	3.5	4	5
Nature Valley Protein (½–¾ cup) ¹	230	3.5	3	11
Nature Valley Fruit & Nut (½ cup)	200	3.5	3	4

Muesli

✓✓ Alpen No Sugar Added (¾ cup)	210	1.5	7	8
✓✓ Bob's Red Mill Fruit & Seed (½ cup)	260	1.5	6	10
✓✓ Alpen Original (¾ cup)	210	2	6	7
✓✓ Bob's Red Mill Gluten Free (½ cup)	240	2	6	6
✓✓ Bob's Red Mill Old Country Style (½ cup)	280	2.5	8	8
✓✓ 365 (Whole Foods) Fruit & Nut (½ cup)	250	2.5	8	7

✓✓ Best Bite. ^S Contains acesulfame potassium and/or sucralose. * Includes added processed fiber. ¹ Average of the entire line or the varieties listed. ^F Contains at least 2.5 grams of saturated fat.

Protein Daily Target: 85 grams.
Daily Values (DVs): Saturated Fat: 20 grams. **Fiber:** 28 grams.

Note: To convert teaspoons of sugar to grams, multiply by 4.2.

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



RIGHT STUFF

Satsuma Season!



Clementines. Cara Cara oranges. Ruby red grapefruit. Blood oranges. Meyer lemons.

A nonstop parade of in-season citrus is on call to brighten your winter doldrums. But **satsumas** are standouts.

Don't judge the irresistible mandarin by its bumpy, loose skin. For starters, satsumas are a snap to peel. And the insides are either seedless or close to it.

And talk about juicy.

While these little gems are the perfect size for snacking, they're also a sweet-tart way to pep up salads, dressings, and whole-grain pilafs. Try a satsuma—or any orange—in a salad of butter lettuce, avocado, and fresh herbs. (Go to nutritionaction.com/wintersalads for the recipe.)

Bonus: Satsumas often come with their vibrant green leaves attached, so they can dress up your kitchen countertop or fruit bowl before you gobble them down.

Satsumas are pricier than most citrus, so they're unlikely to replace your everyday clementine or navel or grapefruit. But that makes the prized fruit a fitting holiday gift. When most households are overflowing with cake, cookies, and candy, who wouldn't want to unwrap a box of these beauties?

Like any citrus, they're a sure bet for vitamin C and fiber, for only 50-or-so calories apiece.

Just don't delay. Satsuma season is sweet but short. Go get 'em before they disappear early in the New Year.

Photos: Moving Moment/stock.adobe.com (top left), Pizza Hut, LLC (top right), Kate Sherwood/CSPi (middle), charlottelake/stock.adobe.com (bottom).

FOOD PORN



Stuff It

"Now available on **Pizza Hut** menus nationwide, the limited-time **Stuffed Cheez-It** **Pizza** features four baked jumbo squares topped with that distinctly sharp, real cheese taste you know and love from Cheez-It baked to toasty perfection," gushed Pizza Hut's September [press release](#).

"Each crispy square is stuffed in true Pizza Hut style with either **cheese** or **pepperoni and cheese**, served up with a side of marinara dipping sauce to create the ultimate, craveable mash-up that America's been waiting for."

You bet we've been waiting...for all 880 calories, 28 grams of saturated fat, and 1,530 milligrams of sodium in a four-piece cheese "pizza."



One bite of cheese, white flour, palm oil, butter, modified cornstarch, salt, enzyme modified cheese, disodium phosphate, and other goodies, and you'll know it was worth the wait.

A single order is like eating 75 Cheez-It crackers dipped in a quarter cup of lard, with three packets of salt sprinkled on top. Talk about toasty perfection!

"This collab is the perfect way to kick off football season, combining America's go-to gameday cravings into one next-level snack," said Marianne Radley, the chain's chief brand officer.

TV, cravings, snacks, more cravings. It's a perfect game plan...at least for Pizza Hut.

pizzahut.com—(800) 948-8488



DISH of the month

Mushroom Wild Rice Blend

Sauté 1 cup diced onion and ½ cup sliced celery in 1 Tbs. olive oil. Remove from skillet. Sauté ½ lb. sliced mushrooms in 1 Tbs. olive oil. Stir in onions & celery, 1 Tbs. soy sauce, and 2 cups cooked wild rice blend.

quick tip

Toasting nuts in the oven makes them even more flavorful. Toast at 325°F for 8 to 15 minutes. Just keep a close eye on them. Nuts can go from untoasted to burnt in what seems like seconds.

