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Nutrition Action HEALTH LETTER®
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CENTER FOR SCIENCE IN THE PUBLIC INTEREST

BEHIND THE HEADLINES

The science may surprise you

BY BONNIE LIEBMAN

Have you heard that chocolate protects your heart and brain? Or that refined carbs make you stressed? Or that grains cause memory loss?

There's no shortage of surprising headlines. Some reports are groundbreaking, but others fail to consider flaws in that new study or the heap of evidence to the contrary.

Here's a selection of misunderstandings about how the food you eat or the vitamins you take has an impact on your health.

Continued on page 3.

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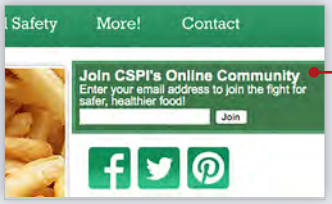

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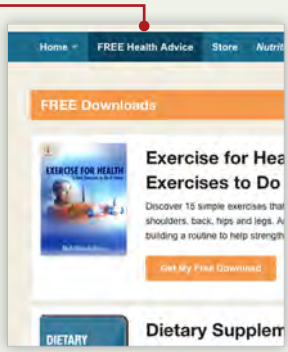

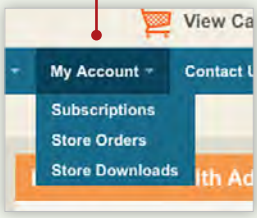

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CENTER FOR Science IN THE Public Interest

Behind the Headlines

The science may surprise you

It's hard to keep track of the latest advice on what foods to eat or vitamins to take. The media and websites trumpet the latest news, which often sounds like it's based on solid science. Often, it isn't. Here's the story behind five misunderstandings.

1 Chocolate can protect your heart and brain???

"To improve a memory, consider chocolate," ran the *New York Times* headline in October.

"A few squares of dark chocolate a day can reduce the risk of death from heart attack by almost 50 percent in some cases," explained a recent WebMD article called "Health by Chocolate."

In fact, small studies do suggest that the naturally occurring flavanols in cocoa beans may improve blood flow and lower blood pressure (see *NAH*, Dec. 2013, p. 8).[1,2]

As for memory, in October, researchers at Columbia University reported that 19 healthy people aged 50 to 69 who were given a high level of cocoa flavanols (900 milligrams) every day for three months were quicker at recognizing visual patterns than 18 others who got a placebo. The flavanol takers were no better at remembering the patterns, though they did have increased activity in a part of the brain involved in memory.[3]

But the first large study to test whether cocoa flavanols can lower the risk of heart attacks, strokes, memory loss, or any other illness is just getting under way.

"Cocoa flavanols look promising," says JoAnn Manson, professor of medicine at Harvard Medical School.

"The next logical step is to move from the small randomized trials looking at mechanisms like changes in blood flow and blood pressure to testing whether cocoa flavanols can reduce the risk of clinical events—heart attacks, strokes, cardiovascular deaths."

Manson is co-directing the new trial—the COcoa Supplement and Multivitamins Outcomes Study (COSMOS)—which will give cocoa flavanols (750 mg a day) or a placebo to 18,000 women (aged 65 or older) and men (aged 60 or older) for four years. The trial is co-led by Howard Sesso, associate professor of medicine at Harvard Medical School. [Call 800-633-6913 if you're interested in participating.]

"We'll also look at cognitive function, diabetes, physical performance, and other outcomes," explains Manson.

But it's not worth signing up so you can eat chocolate in the name of science.

"It's not a randomized trial of chocolate or even dark chocolate," notes Manson. "It's a randomized trial of cocoa flavanols—bioactive plant-based nutrients with virtually no calories, sugar, or fat."

Why can't you get the same 750 mg of flavanols from chocolate?

"It would require an enormous amount," says Manson, who is also chief of preventive medicine at Brigham and Women's Hospital in Boston. "And for many forms of chocolate, it would be virtually impossible because the cocoa flavanols are destroyed in processing."

To get 750 mg of flavanols a day, you'd have to eat nearly 1,000 calories' worth of dark chocolate or thousands of calories of

> > > > >

To get 750 mg of flavanols from chocolate, it takes *about**

Cocoa Powder	Baking	Semi-sweet Chips	Dark	Syrup	Milk
6 Tbs.	1½ oz.	5½ oz.	4¾ oz.	3¾ cups	2½ lb.
70 cals	**270 cals**	**740 cals**	**750 cals**	**3,170 cals**	**5,850 cals**

You can't get enough cocoa flavanols from chocolate without overdosing on calories. CocoaVia powder had more cocoa flavanols *and* fewer contaminants (cadmium and lead) than other cocoa powders, according to an analysis of 21 powders, chocolates, and supplements by the subscription website ConsumerLab.com (for free access to the report, go to NutritionAction.com/cocoa).

Sources: *J. Agric. Food Chem. 57*: 9169, 2009 and ConsumerLab.com. *All numbers are averages. Flavanol levels vary widely from brand to brand.

milk chocolate *every* day. A more reasonable source: an unsweetened cocoa powder you can mix into your coffee, milk, yogurt, hot cereal, or other food—that is, if the cocoa hasn't been processed in a way that destroys flavanols.

"In COSMOS, we'll be giving people cocoa flavanols that were protected from the time that they were harvested from cocoa beans," says Manson. "They come in a capsule, which makes it possible to do a long-term placebo-controlled trial and not add a load of sugar, saturated fat, and calories to the diet."

(The study is funded by Mars Symbioscience, a division of Mars, Inc., with partial support from the National Institutes of Health.)

"People have had so many misconceptions about the study," says Manson. "They think we're testing chocolate or that the trial is a signal that they should eat more chocolate. It isn't.

"People can still eat chocolate for their enjoyment, but we don't recommend that they eat more of it to get more flavanols."

Bottom Line: It's too soon to know whether cocoa flavanols protect the heart or brain. And don't use them as an excuse to eat more chocolate.

2 Food can boost or reduce stress???

"When we feel stressed, we seek foods that are going to comfort us immediately, but oftentimes those foods are the very ones that lead to surges and crashes in hormones and blood sugar that increase our susceptibility to new stresses," explained David Ludwig, professor of pediatrics at Harvard Medical School, on National Public Radio's *Morning Edition* last July.

But the evidence that foods can make us more vulnerable to stress is quite spotty. The NPR report cited a 15-year-old study that gave 12 obese teenage boys one of three breakfasts.[4]

"One included protein-rich eggs, and another meal included high-fiber, steel-cut oats, which provide for a slow release of energy," said the NPR reporter. "A third meal was a bowl of instant oatmeal, which is digested much more rapidly."

But the oatmeal breakfasts weren't typical. The steel-cut oats were sweetened with four teaspoons of pure fructose, which doesn't raise blood sugar much. (Fructose is often marketed to people with diabetes, and it isn't likely to show up in most cupboards.)

In contrast, the instant oatmeal was sweetened with four teaspoons of pure glucose, which raises blood sugar more than most other sweeteners—like table sugar and high-fructose corn syrup—which are roughly half fructose and half glucose. (Karo Corn Syrup is one of the only pure glucose sweeteners in the grocery store.)

To pump up blood sugar levels even more, the milk served with the instant oatmeal was treated with an enzyme so it had more glucose than ordinary milk. (The boys got ordinary milk with the steel-cut oats.)

Can some foods make stress worse? There's no good evidence.

All that extra glucose might help explain what happened next.

"After the highly refined instant oatmeal, blood sugar surged but then crashed a few hours later," said Ludwig. "And when that happened, the hormone adrenaline, or epinephrine, surged to very high levels."

Does that mean, as the NPR report suggested, that "eating lots of sugar and refined carbs can exacerbate our responses to stress"? Not necessarily. Few studies have looked...or found much.

For example, a few years ago, Dutch researchers gave 38 adults either a high-stress or low-stress computer task followed by either a high-carb lunch (salad, cheese biscuits, bacon biscuits, and a high-carb strawberry shake) or a high-protein lunch (salad, cheese, salami, and a high-protein strawberry shake). The result: the participants felt no more—or less—stressed after the high-carb than after the high-protein lunch.[5]

"We know more about the effect of stress on food choices than we know about the effect of foods on stress," says researcher Tanja Adam, of Maastricht University in the Netherlands.

Do some foods make us *more* resilient to stress?

"You can either be good at weathering a lot of stresses or you can be brittle," researcher Joe Hibbeln, of the National Institute of Mental Health, told the NPR reporter. "Omega-3 fatty acids make your stress system more flexible."

But few good studies have tested whether people who are given omega-3 fats are less stressed than those who get a placebo. In one of the few, medical students who got EPA (2,100 mg) and DHA (350 mg) every day for three months reported 20 percent less anxiety than those who got a placebo.[6] However, neither group experienced much stress, so it's not clear that omega-3s would have made them more resilient.

"I would not recommend omega-3 supplements for stress or anxiety relief on the basis of the limited data to date," says Janice Kiecolt-Glaser, lead author of the study and director of the Institute for Behavioral Medicine Research at Ohio State University.

A large trial called VITAL is now testing whether EPA and DHA (the omega-3 fats in fish oil) have any effect on mood in roughly 25,000 healthy people aged 50 and older. Results are due in 2017.

Last but not least, the NPR report cited Drew Ramsey, a psychiatrist at Columbia University and author of *The Happiness Diet*. Nutrient-rich foods like kale, eggs, and pumpkin seeds "can affect how the stress gets to us," explained the reporter.

Is there solid evidence that those foods can help us handle stress? Nope.

Bottom Line: There are plenty of reasons to eat leafy greens, seeds, and fish—and to avoid sugars and refined grains. But if those or other foods soften the impact of stress, no one has published the evidence to prove it.

3 Grains cause Alzheimer's disease???

"Stop eating carbs and you can control your destiny and avoid Alzheimer's," promised Dr. Mehmet Oz on his TV show in 2013. "Eating carbs eats away at your brain."

His guest: David Perlmutter, neurologist and author of the bestselling book *Grain Brain*.

"Dementia: Is Gluten the Culprit?" ran the headline in a 2014 interview with Perlmutter on Medscape (part of WebMD). Much of his argument wasn't about gluten per se. It was about the dangers of high blood sugar.

High blood sugar can harm the brain, but extra pounds, not extra carbs, are the main culprit.

"If you have too much blood sugar, your brain begins to die," warned Dr. Oz. "It shrinks. It shrivels up."

Perlmutter gave more details to Medscape. "The data show that individuals with lower blood sugar levels have a lower risk for dementia," he explained.

True. A 2013 study reported that people with even slightly elevated blood sugar levels have a higher risk of dementia (see *NAH*, Jan./Feb. 2014, p. 1).[7]

But are grains to blame? Clearly, extra pounds are the major cause of high blood sugar levels. It doesn't matter if that spare tire comes from eating carbs or fat. After all, pizza, burritos, sandwiches, fries, cookies, pastries, ice cream, and many other foods have both.

But Perlmutter never mentions cutting calories. He only cares about cutting carbs.

"If you look at the A TO Z trial, which was published in *JAMA* in 2007," he told Medscape, "dramatic reductions in blood sugar were seen in participants on a lower-carb, higher-fat diet."

True. But the same reductions were seen in people on the other weight-loss diets in the A TO Z trial.[8] (The trial tested a lower-carb, higher-fat Atkins diet, a lower-fat, higher-carb Ornish diet, and two others.)

Perlmutter also points to DIRECT, "an interventional trial demonstrating both weight loss and reduction of fasting blood sugar in individuals eating a higher-fat, lower-carbohydrate diet."

True. But, once again, in the DIRECT trial, all three diets (lower-carb, lower-fat, and Mediterranean) reduced blood sugar levels.[9]

What if you're not *losing* weight, like the people in the DIRECT and A TO Z trials?

"If you're eating a high-carb diet, cutting carbs would reduce blood sugar levels throughout the day," says Frank Sacks, professor of cardiovascular disease prevention at the Harvard School of Public Health.

But he's not talking about Perlmutter's advice to replace nearly all carbs with fats, including saturated fats like butter and red meat. Sacks is talking about eating a Mediterranean or DASH-type diet, which gets a modest amount of carbs from fruits, vegetables, and whole grains (not sugars and white flour) and gets fats from oils, nuts, and fish (see "What to Eat," p. 7).

What's more, Sacks adds, "obesity is by far the biggest cause of high blood sugar and type 2 diabetes."

Most "carbs" are also high in fat.

And what about gluten, the unfashionable protein in wheat, rye, and barley? That's also a threat to your brain, says Perlmutter.

"We have to look at gluten sensitivity in a new light, recognizing that its manifestations may extend well beyond the gut," he told Medscape.

In celiac disease, the body has an autoimmune reaction to gluten that damages the small intestine lining. The most common symptoms—like diarrhea, bloating, gas, and abdominal pain—are due to that damage. Symptoms can also include anemia, fatigue, mouth ulcers, headache, and foggy thinking, but less often.

"Overall, neurological problems related to celiac disease are not terribly common," says Andrew McKeon, associate professor of neurology at the Mayo Clinic.

And many are nothing like ordinary memory loss. Cerebral ataxia, a balance problem, is the most common. And you'd know it if you had it.

"The easiest way to describe it is that the patient looks like a person who is drunk," says McKeon. "They slur their speech or they can't walk a straight line."

Other problems are also noticeable. "They can include anything from cognitive problems to sensory ataxia, in which the person doesn't know where they're standing or sitting in space, so they have a tendency to topple over," says McKeon. "The array of problems is quite diverse."

How does gluten cause trouble for people with celiac disease?

> > > > >

Photo: © freshidea/fotolia.com (bottom).

One possibility: the damaged gut can't absorb some nutrients. "Dating back to the 1960s, it was recognized that some patients developed disorders because they couldn't absorb copper and vitamin E," explains McKeon.

Another possibility: "Gluten-triggered inflammation somehow gets to the brain and causes neurological problems."

But it's not just people with celiac who are at risk, according to Perlmutter.

"Gluten-containing foods stimulate inflammatory reactions in a significant number of individuals, well beyond the 1.8 percent of the population that has celiac disease," he told Medscape.

Yet McKeon has found no evidence that gluten causes neurological problems in people without celiac.[10]

"There are some reports that patients with ataxia who did not have celiac disease seem to improve or at least stabilize with gluten-free diets," he notes. "In our own study, we didn't find that any of those patients improved."

Is gluten a common cause of Alzheimer's? "Absolutely not," says McKeon. "Most people who have cognitive problems in our society have progressive neurodegenerative disorders of unknown cause."

And they take years to progress. In contrast, most neurological disorders in people with celiac "come on really quickly and progress very rapidly."

Bottom Line: If you're like most Americans, you eat too much bread, rice, pasta, sweet baked goods, and other grains. Shoot for just four or five small servings a day (see "What to Eat," p. 7). But that's unlikely to cut your chances of memory loss unless it helps you lose weight or lowers your blood sugar.

4 Multivitamins are useless???

"Medical journal: 'Case closed' against vitamin pills," ran the headline in *USA Today* in 2013.

Two studies led to the headline. In the first, doctors who were given a daily multivitamin (Centrum Silver) for 12 years did no better on memory tests than those who got a placebo.[11]

In the second, heart attack patients who got a multivitamin for one to five years were no less likely to have a second heart attack than those who got a placebo (though half the patients stopped taking the pills before the study ended).[12]

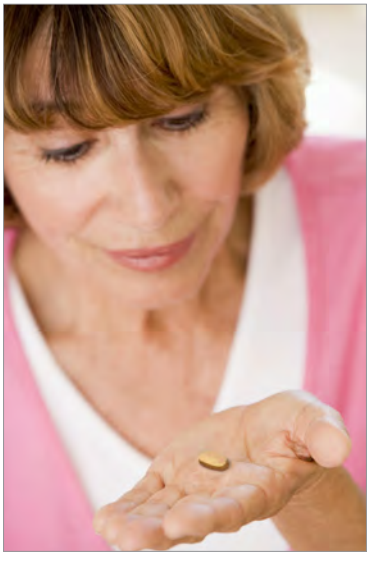
"Enough is enough," declared an editorial published with the studies.[13] "Stop wasting money on vitamin and mineral supplements."

That may be good advice for many people, especially if they're paying top dollar for overpriced pills. But it's not good advice for women who are or may become pregnant or for men or women whose diets run short on key nutrients.

And it doesn't mean that research should screech to a halt.

"To say that multivitamins have no benefit is an oversimplification," says Harvard's JoAnn Manson. "The Physicians' Health Study II found a significant reduction in cancer incidence."

In that trial—which randomly assigned roughly 14,600 men aged 50 or older to take Centrum Silver or a placebo for 11 years—the vitamin takers had an 8 percent lower risk of cancer than those who took the placebo.[14]



A new trial is testing whether an ordinary multivitamin lowers the risk of cancer and other illnesses.

The researchers didn't find a drop in any single cancer, especially prostate cancer, the one most likely to strike older men. But that may not mean much.

"The launch of the study occurred just as PSA screening for prostate cancer was increasing," explains Manson. "So it was picking up mostly early prostate cancers before there was time to see an effect of the vitamins, and the large number of cases dwarfed other cancers."

In fact, the study found a 12 percent lower risk of cancers other than prostate. What's more, there were hints that vitamins may have mattered more to some men than others.

"When we looked at results by age group, we saw that men 70 and older experienced an 18 percent reduction in cancer," notes Manson. "And there was a similar reduction in cancer in the men who had a lower intake of fruits and vegetables when they entered the study."

The trial also found a 27 percent lower risk of a new cancer in men who had been previously diagnosed with cancer.

"So overall, there was a benefit from multivitamins in men who were less likely to have a healthful diet and in older individuals who often have problems with absorption, medications, or illnesses that could interfere with optimal nutritional status," explains Manson.

What's more, doctors are typically healthier than the average American. "Physicians are not representative of the overall population," says Manson. "They tend to have better diets and higher socioeconomic status, so they're probably the least likely group to benefit from multivitamins."

And the Physicians' Health Study II tested men only.

"How can we not do a trial that evaluates multivitamins in women?" asks Manson. "At least a third of women take multivitamins regularly. We need to know the benefits and risks."

The same COSMOS trial that's testing cocoa flavanols will also give Centrum Silver or a placebo to 18,000 older men and women for four years.

But what about earlier trials that came up empty...or found that people who took vitamins had a *higher* risk of disease?

"Other vitamin supplement trials have usually tested a megadose of an isolated micronutrient, which is not ideal," says Manson.

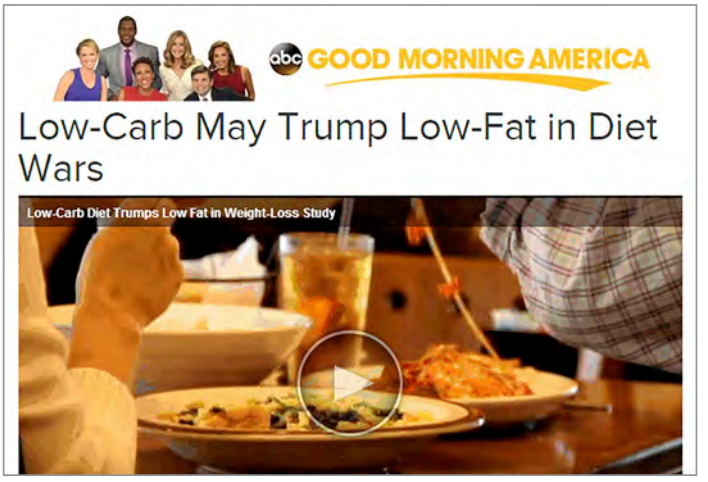
"For example, taking very high doses of beta-carotene may interfere with the absorption or bioavailability of other carotenoids that may be more important than beta-carotene. And some antioxidant vitamins—like vitamin E— can be *pro*-oxidants at high levels."

Testing a basic multivitamin is different.

"It has more than 20 vitamins and minerals at levels that prevent nutritional deficiencies," says Manson. "So it's more

likely to reduce the risk of cancer in individuals who have suboptimal diets."

Bottom Line: It may be worth taking an ordinary multivitamin to get enough vitamin D, vitamin B-12, and (if you could become pregnant) folic acid (see *NAH*, Nov. 2013, p. 1). A multi may also lower the risk of cancer in men, but the jury is still out in women.



You're better off cutting carbs *and* fat to lose weight.

5 Low-carb diets peel away the pounds???

"Low-carb may trump low-fat in diet wars," declared ABC News in September.

The study that spurred the headlines pitted a lower-carb diet against a lower-fat diet in 148 men and women who averaged about 215 pounds when they entered the study. After one year, the lower-carb group lost more weight (12 pounds) than the lower-fat group (4 pounds).[15]

That's no surprise, given that the lower-fat eaters made smaller changes to their diets than the lower-carb eaters (who cut not just carbs but also fat).

The lower-fat assignment "was, essentially, a diet intervention that didn't intervene much with their diets," wrote David Katz, of the Yale-Griffin Prevention Research Center, in the *Huffington Post*.

What's more, asking whether a low-fat or low-carb diet is best for losing weight is "a truly lousy question," Katz noted. "Everything from lentils to lollipops is carbohydrate. Fats run the gamut from good to bad to ugly. I'm pretty sure everybody not stuck under a boulder knows that."

Others agree.

"This idea about low-carb versus low-fat needs to stop," says Bradley Johnston, assistant professor of epidemiology at McMaster University in Hamilton, Canada.

"We've invested huge amounts of resources into low-fat or low-carb diets, and it's misguided to keep driving this message to the public."

Johnston recently did a meta-analysis of 49 trials of "branded" diets—including low-carb (like Atkins, South Beach, and Zone) and low-fat (like Ornish and Rosemary Conley), and blends of the two (like The Biggest Loser, Jenny Craig, and Weight Watchers).[16]

"The differences were minimal," he says. "People on the low-carb or low-fat diets lost slightly more weight than people on the blends. But people may adhere better to blends because they reflect how we typically eat."

The largest, longest studies of non-branded diets also find no difference.[17-19] And even when studies report more weight loss on a low-carb diet, the difference is small.[8]

For example, in the DIRECT trial, which involved 322 people who averaged 200 pounds, those on a low-carb diet lost 10 pounds after two years, while those on a low-fat diet lost 6 pounds.[9] But four years after the study ended, the low-carb group had gained back more weight than the low-fat group, so the difference between groups was no longer statistically significant.[20]

"At the end of the day, if someone can't follow a diet for 2, 3, or 4 years, it's not going to be any good to them," says Johnston. "What's important is picking a diet that's healthy and that you can stick to over the long term."

Bottom Line: To lose weight, try cutting carbs *or* fat *or* both. Odds are, when you cut carbs, you'll also cut fat (and calories) because many "carbs"—like pizza, french fries, burritos, lo mein, sandwiches, lasagna, cookies, ice cream, doughnuts, chips, popcorn, pastries, and chocolate—are also fatty.

Research on stress was conducted by Stephanie Scarmo.

1 *Arch. Biochem. Biophys. 527*: 90, 2012.
2 *Cochrane Database Syst. Rev. 8*: CD008893, 2012.
3 *Nature Neurosci.* 2014. doi:10.1038/nn.3850.
4 *Pediatr.* 1999. doi:10.1542/peds.103.3.e26.
5 *PLoS ONE* 2011. doi:10.1371/journal.pone.0016826.
6 *Brain Behav. Immun. 25*: 1725, 2011.
7 *N. Engl. J. Med. 369*: 540, 2013.
8 *JAMA 297*: 969, 2007.
9 *N. Engl. J. Med. 359*: 229, 2008.
10 *Neurol. 83*: 1, 2014.
11 *Ann. Intern. Med. 159*: 806, 2013.
12 *Ann. Intern. Med. 159*: 797, 2013.
13 *Ann. Intern. Med. 159*: 850, 2013.
14 *JAMA 308*: 1871, 2012.
15 *Ann. Intern. Med. 161*: 309, 2014.
16 *JAMA 312*: 923, 2014.
17 *N. Engl. J. Med. 360*: 859, 2009.
18 *JAMA 293*: 43, 2005.
19 *Ann. Intern. Med. 153*: 147, 2010.
20 *N. Engl. J. Med. 367*: 1373, 2012.

What to Eat

There's not much room for grain in this healthy diet, which is based on the Omni-Heart and DASH studies (see *NAH*, Oct. 2009, p. 1). It's rich in vegetables, fruit, and fiber, and low in sugar, carbs, and saturated fat. A 2,100-calorie diet should have:

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

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Hungry...or Just Bored?

Does boredom make people eat because they want to do something pleasurable or because they're trying to alleviate the tedium?

Dutch researchers recruited 60 young men and women (4 out of 5 were women). On one day, they watched one hour of a documentary about the life of a Nobel-prize winning neuroscientist. On another day, they watched an 85-second scene from the same documentary played over and over again for an hour. (The volunteers had no access to cell phones, reading materials, or other distractions. They couldn't even wear a watch to keep track of time.) On both days, half of the participants were allowed to eat as many M&M's as they wanted. The other half were allowed to give themselves one-second electric shocks at intensities (which they controlled) that ranged from mild to painful.

Not surprisingly, the volunteers ate twice as many M&M's while watching the boring, repetitive scene than during the documentary. However, they also gave themselves 10 times more shocks (and more intense shocks) while watching the boring scene, suggesting that people will go to great lengths to alleviate boredom. Yikes.

The bottom line, note the researchers, is that it's not just "emotional eating" but unemotional boredom that can pack on extra pounds.

What to do: Got the munchies? See if an interesting activity curbs your hunger.

Appetite 85: 52, 2015.

More Belly, Less Bone

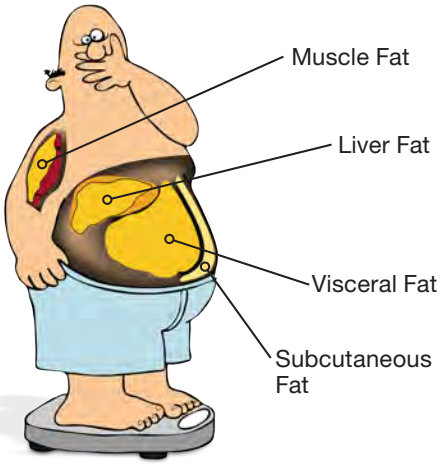
Heavier people have denser bones, or so scientists thought. Now a study suggests that having a spare tire may *weaken* your bones, even if you're not overweight.

Researchers examined more than 8,800 CT scans of the abdomens and chests of roughly 7,200 men and women aged 18 to 65. Those with more deep belly (visceral) fat had lower bone density than those with less belly fat. That was true even among people who were normal weight.

People with more belly fat also had fattier, less dense hip muscles. That could mean that belly fat had infiltrated nearby muscle. But it's also possible that being a couch potato leads to belly fat, fatty muscles, *and* weak bones.

What to do: Eat less and move more to lose (or not gain) belly fat.

Am. J. Clin. Nutr. 2014. doi:10.3945/ajcn.113.081778.



People who had more visceral fat also had weaker bones and fattier muscle.

Diabetes & the Brain

Got type 2 diabetes or prediabetes? It may muddy your thinking as you age.

Scientists tracked more than 13,000 adults who were 48 to 67 years old when they entered the Atherosclerosis Risk in Communities study.

Over the next 20 years, those with diabetes had a 19 percent greater cognitive decline—poorer performance on tests of processing speed and executive function—than those without diabetes. Put another way, a 55-year-old with diabetes performed like a 60-year-old without the disease.

People with prediabetes (a hemoglobin A1C level of 5.7% to 6.4%) had about half as much decline as those with diabetes.

What to do: To lower your risk of diabetes, lose (or don't gain) extra pounds and exercise for at least a half hour a day. It may also help to avoid sugary drinks, eat magnesium-rich foods (leafy greens, beans, whole grains, and nuts), and get enough vitamin D (600 IU a day up to age 70 and 800 IU over 70). (See *NAH*, Jul./Aug. 2014, cover story.)

Ann. Intern. Med. 161: 785, 2014.

Breakfast? Maybe Not

Don't skip breakfast if you're dieting, says the conventional wisdom. Not so fast.

Researchers randomly assigned 36 overweight men and women to have either water or one of two 350-calorie breakfasts—oatmeal made with whole milk or frosted cornflakes with low-fat milk—each day for a month.

During the month, people reported feeling less hungry for three hours after the oatmeal than they did after the cornflakes or water. However, at the end of the four weeks, the water group had lost 2½ pounds, the cornflakes group had lost a quarter pound, and the oatmeal group had gained half a pound.

(Note: the study was funded by the Quaker Oats Center of Excellence.)

What to do: If you're a breakfast eater, you'll feel less hungry after oatmeal than after a sugary cereal. However, if you're a dieter who prefers to skip breakfast, don't force yourself to eat one.

J. Nutr. Sci. 2014. doi:10.1017/jns.2014.51.

LOOKING FOR Mr. Goodbug

Are probiotics worth taking?

BY DAVID SCHARDT

Can probiotics—the good-for-you bacteria and yeast in some foods and supplements—relieve GI distress, replenish your intestinal flora when you take antibiotics, and keep you from catching a cold?

It all depends on what you're taking for what. Here's our guide.

Bacteria 101

"About 30 years ago, the GI tract, with its microflora of bacteria, was like a black box," says researcher Lynne McFarland, an associate professor at the University of Washington Medical Center.

"We weren't even aware of most of the microbes in there because they don't grow in a petri dish, which was the only way available then to identify them."

Today, scientists can easily identify bacteria from fragments of their DNA. And what they're uncovering is a vast, largely unexplored world that may play a critical role in the body. Among other things, our gut bacteria help digest fiber and synthesize vitamin K. Some even secrete antibacterial compounds that can attack nasty bugs.

And there are hints—though so far little solid evidence—that our intestinal microflora may influence whether we become overweight or are susceptible to diabetes.

Here are four things you may not know about the bacterial world in your intestines, and about the probiotics that many people take to reinforce those bugs:

1. It's enormous. The collection of microorganisms in the gut—our microbiome—seems unimaginably large. By some estimates, as many as 500 to 1,000 species of bacteria inhabit our intestines, and the roughly 100 trillion microorganisms in those species are around 10 times greater than the number of cells in our body.

We don't start out that way. When we're born, our GI tract is sterile. But it immediately begins to be colonized by bacteria from the environment.

"This process doesn't stabilize until we're about three years of age and start to eat an adult diet," notes Tiffany Weir, an assistant professor of food science and human nutrition at Colorado State University. From childhood on, your microbiome remains fairly stable.

What does a healthy microbiome look like? "It's really difficult to define," says Weir. "But one of the things we look for is diversity, because that tends to fill all of the ecological niches in the gut, which prevents pathogens from being able to come in and take hold."

Gut bacteria doesn't stabilize until age three, when we start eating an adult diet.

2. The strain matters. Probiotics are bacteria (and a few yeasts) that confer some health benefit when swallowed or applied to the body.

Probiotic bacteria are identified by three names: their genus, species, and strain. The probiotic in Activia, for example, is *Bifidobacterium* (genus) *lactis* (species) DN-173 010 (strain). The genus and species are written in italic type.

To know what a probiotic bacteria can do, you need to know its strain. Yet the Food and Drug Administration doesn't require manufacturers to disclose the strains of probiotics in their foods or supplements.

Some companies do it voluntarily, like Dannon on Activia and DanActive labels. Others—like Stonyfield Farm and Enzymatic Therapy, which sells Acidophilus Pearls supplements—refuse to.

"Manufacturers should designate the strains in their products so that consumers know what they're getting," says Mary Ellen Sanders, of the International Scientific Association for Probiotics and Prebiotics, a group of academic and industry researchers funded by probiotics manufacturers and food companies.

"It's pretty much a consensus among probiotic scientists that this is the responsible thing to do."

3. You don't need to take a probiotic every day. "One of the biggest misconceptions about probiotics is that you should be taking them daily like multivitamins," says McFarland. "If you don't have any reason to think there's something wrong with your digestive system, a probiotic probably isn't going to do much for you."

But if someone is struggling with GI problems, says Sanders, "I tell them to try the strain-specific probiotic products that have been tested and shown to have an impact on the symptom they're trying to deal with." (See pages 10 & 11.)

4. Most probiotics contain what they claim. Major brands, at least, seem to have what's supposed to be in them and at levels high enough to be useful. Last year, when Consumerlab.com tested 19 popular brands of probiotic supplements, it found that all contained the organisms that were listed on the labels. And 17 of the 19 provided at least 1 billion live organisms per colony-forming unit (CFU). If a probiotic works, that's the minimum dose needed, most researchers agree.

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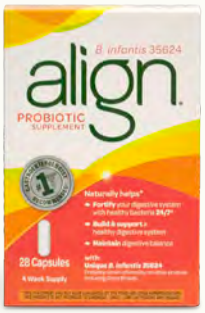
Irritable Bowel Syndrome



If you have IBS, it may be worth a try.

The problem: People with Irritable Bowel Syndrome (IBS)—far more are women than men—suffer chronic abdominal pain and discomfort, along with diarrhea, constipation, or both, with no apparent physical explanation.

What may help: *Bifidobacterium infantis* 35624.

The evidence: In two company-funded trials, *B. infantis* 35624—which is only available in Procter & Gamble's Align—had some success in relieving IBS symptoms.

In one, 362 women in the UK with mild to moderate IBS were given one of three daily doses—1 million, 100 million, or 10 billion live cells—or a placebo. After four weeks, those taking the 100 million reported less abdominal pain, bloating, gas, and straining and greater relief of IBS symptoms than the placebo takers.[1] (After the study ended, the researchers discovered that the capsules containing 10 billion cells didn't dissolve properly, which may explain why the higher dose didn't work.)

In the other trial, in 75 Irish men and women diagnosed with mild IBS, those who were given 10 billion live cells a day for eight weeks reported significantly less pain, discomfort, bloating, and irregularity than those who took a placebo.[2] The probiotic takers began to feel relief by the end of the first week.

P&G claims that healthy people would also benefit from taking Align. But in the company's own study (which it never published), Align was no better than a placebo at lessening abdominal discomfort and bloating in 148 middle-aged men and women who hadn't been diagnosed with IBS.

The bottom line: If you have IBS and are willing to spend roughly $30 a month, Align is worth a try.

[1] *Am. J. Gastroenterol. 101*: 1581, 2006.
[2] *Gastroenterology 128*: 541, 2005.

Constipation

Don't expect tummy miracles.

The problem: About 15 percent of adults (more women than men) suffer from constipation.

What may help: *Bifidobacterium lactis* DN-173 010.

The evidence: Among 126 Chinese women with constipation, those who ate 4 oz. of Dannon Activia every day for two weeks averaged about one more bowel movement a week than those who ate a placebo yogurt. They also reported "improved stool consistency," according to the researchers.[1] (The 2008 study was funded by the company.)

In 2010, Dannon promised the Federal Trade Commission that its ads wouldn't claim that Activia relieves temporary irregularity or speeds food through the GI tract unless the ads explained that you'd have to eat three servings a day. Several earlier studies had hinted at improved transit time with the larger amount.

Now Dannon's website claims that two company-funded studies show that Activia can reduce "the frequency of minor digestive issues like bloating, gas, rumbling, and discomfort."

The studies pitted two servings a day of Activia against a placebo yogurt in healthy women (197 in Germany and 324 in France) with minor digestive complaints. Among the German women, a higher percentage of the Activia eaters (41 percent) than the placebo eaters (34 percent) reported improved "GI well-being."[2] But among the French women, there was no difference between the two groups.[3]

The bottom line: If Activia helps with any kind of GI distress, the benefit is modest.

[1] *World J. Gastroenterol. 14*: 6237, 2008.
[2] *Br. J. Nutr. 102*: 1654, 2009.
[3] *Neurogastroenterol. Motil. 25*: 331, 2013.

Photos: Paige Einstein/CSPI.

Not likely to ward off travelers diarrhea.

Travelers Diarrhea

The problem: From 5 percent to 50 percent of travelers get hit by diarrhea after being exposed to bacteria their immune system hasn't seen before.

What may help: *Saccharomyces boulardii*.

The evidence: "It's pretty modest," notes the University of Washington's Lynne McFarland. (She was scientific director for the company that manufactures the *S. boulardii* supplement Florastor from 1988 to 2001.) In the two biggest studies, researchers gave 5 billion to 20 billion live *S. boulardii* cells or a placebo to 3,039 Austrian tourists every day for three weeks, starting five days before they traveled to the tropics, North Africa, the Middle East, or the Far East.

Six of every 15 tourists who took the placebo reported getting diarrhea while they were away, compared with five of every 15 who took the yeast.[1] And the researchers weren't even certain about that slight benefit, since only about a third of the participants completed the study.

"Tourists are probably the worst subjects for a clinical trial," explains McFarland. "You're more interested in having fun, you're trying new foods, and you don't exactly take every dose you're supposed to."

The bottom line: Don't count on *Saccharomyces boulardii*—or any other probiotic—to shield you from travelers diarrhea.

[1] *Travel Med. Infect. Dis. 5*: 97, 2007.

Defense Against Colds & Flu

Don't count on it to keep you cold-free.

The problem: Everybody could use a little help in warding off colds and the flu.

What may help: *Lactobacillus casei* DN-114 001.

The evidence: Of all the probiotics that have been tested on colds and other infections, the one with the most consistent evidence is *L. casei* DN-114 001, which is in Dannon's probiotic drink DanActive. But consistent doesn't necessarily mean compelling.

Researchers gave two bottles a day of DanActive or a placebo drink to 360 Italians aged 60 and older for three weeks, to 1,072 French people aged 70 and older for 4½ months, and to 1,000 German shift workers aged 18 to 65 for three months.[1-3] (The researchers looked at shift workers, who sometimes worked overnight, to see if *L. casei* could help people who are under stress.)

The Italian and French DanActive drinkers were no less likely to get sick than those who drank the placebo, but when they did, their illness averaged about one day less.

The German shift workers who consumed DanActive were about 25 percent less likely to get sick, but only if they were smokers. When the DanActive drinkers did get sick (whether they smoked or not), however, it was for just as long—and with just as severe symptoms—as the placebo drinkers.

The bottom line: Two bottles a day of DanActive contains 160 calories and costs about $480 a year. That's a lot (of both) for something that you'd have to take every day to *perhaps* shorten a cold by one day.

[1] *J. Nutr. Health Aging 7*: 75, 2003.
[2] *Br. J. Nutr. 103*: 58, 2010.
[3] *J. Am. Coll. Nutr. 29*: 455, 2010.

Diarrhea from Antibiotics

On antibiotics? It *could* help prevent diarrhea.

The problem: "Antibiotics seriously disrupt the microbiome for several months before it recovers and returns to its previous state," notes the University of Washington's Lynne McFarland. And 5 percent to 35 percent of antibiotic takers get diarrhea.

What may help: *Saccharomyces boulardii*.

The evidence: In a meta-analysis of 15 studies, adults on antibiotics were 52 percent less likely to have diarrhea if they took *S. boulardii* than if they took a placebo.[1] Since *S. boulardii* is a yeast and not a bacterium, it isn't killed by antibiotics. The evidence that other probiotics prevent diarrhea isn't as good.

What doesn't help: Regular yogurt.

The evidence: In the most recent study, researchers looked at 238 children and adults who were taking antibiotics. The 118 who were given a strawberry yogurt every day for 12 days had no less diarrhea than the 120 who got no yogurt.[2]

The bacteria that are added to milk to make yogurt, *Lactobacillus bulgaricus* and *Streptococcus thermophilus*, break down lactose and curdle milk, "but they don't survive passage through the GI tract, which is essential if they're going to have a probiotic effect in the large intestine," says Mary Ellen Sanders, of the International Scientific Association for Probiotics and Prebiotics. Some yogurts add other bacteria, but the evidence for them is weaker than it is for *S. boulardii*.

The bottom line: Taking antibiotics? Florastor or another brand of *Saccharomyces boulardii* may prevent diarrhea.

[1] *JAMA 307*: 1959, 2012.
[2] *Br. J. Gen. Pract. 57*: 953, 2007.

Vaginosis

The problem: Nearly one out of three U.S. women aged 14 to 49 have bacterial vaginosis, and most don't know it. The disturbance of the vaginal microflora—symptoms include a thin white or gray discharge, odor, pain, itching, or burning—is linked to a higher risk of a sexually transmitted disease or a miscarriage.

It may help with vaginosis.

What may help: *Lactobacillus rhamnosus* GR-1 and *Lactobacillus reuteri* RC-14.

The evidence: Researchers believe that vaginosis occurs when the "good" lactobacilli bacteria that normally keep the vagina healthy are depleted, possibly from antibiotics or douching. *L. rhamnosus* GR-1 and *L. reuteri* RC-14 can survive a trip through the intestinal tract, then migrate to the vagina, where they can restore a healthy bacterial balance.

Two small studies in Austria and Brazil and a large study in Croatia gave a total of 464 women with bacterial vaginosis a daily dose of 1 billion live cells each of *L. rhamnosus* GR-1 and *L. reuteri* RC-14, and gave 216 similar women a placebo.[1-3] (Unfortunately, only about half the Croatian women in the probiotic group were *randomly* assigned to it, which could have biased the study in favor of the probiotic.) In the Brazilian study, all the women also received an antibiotic.

After two to six weeks, the women who took the probiotic were twice as likely to have their vaginal microflora return to a more normal balance as those who took the placebo.

The bottom line: If you've been diagnosed with bacterial vaginosis, a probiotic like Femdophilus or RepHresh Pro-B (each contains live *Lactobacillus rhamnosus* GR-1 and *Lactobacillus reuteri* RC-14), in addition to an antibiotic, may help.

[1] *Eur. J. Obstet. Gynecol. Reprod. Biol. 168*: 75, 2013.
[2] *Can. J. Microbiol. 55*: 133, 2009.
[3] *Eur. J. Obstet. Gynecol. Reprod. Biol. 141*: 54, 2008.

Photos: Paige Einstein/CSPI.

Winter? *What* Winter?

BY KATE SHERWOOD

Here are three dishes to warm your insides while you close your eyes and explore sun-splashed beaches in faraway lands.

Got a question or suggestion? Write to Kate at healthycook@cspinet.org. *Recipes tested by Haley Baron*

Caribbean BBQ Chicken

Serves: 6 Time: 20 mins.

- 8 pitted prunes
- 3 cloves garlic
- ½ cup orange juice
- 2 Tbs. fresh lime juice
- 3 Tbs. reduced-sodium soy sauce
- 1 tsp. red pepper flakes (optional)
- 1 tsp. ground allspice
- 2 lb. boneless, skinless chicken breasts
- 2 Tbs. canola oil

In a blender, purée the prunes, garlic, orange juice, lime juice, soy sauce, and spices. • In a large zipper plastic bag, pound the chicken to an even ½-inch thickness. Pour the prune purée into the bag with the chicken and coat the chicken evenly. • In a large non-stick skillet, heat the oil over medium heat until shimmering. Sauté the chicken in two batches until lightly charred and cooked through, 3-4 minutes per side.

Try the chicken with Mango Salsa (see Dish of the Month, back cover).

Per serving ***(1 med. chicken breast)*****:** calories 270 | total fat 9 g | sat fat 1 g | sodium 340 mg | carbs 12 g | fiber 1 g | protein 35 g

Indian Fish Curry

Serves: 4 Time: 30 mins.

- 3 Tbs. canola oil
- 1 onion, diced
- 1 Tbs. minced ginger
- 1 Tbs. minced garlic
- 1 tsp. ground coriander
- ½ tsp. ground turmeric
- ½ tsp. ground cumin
- ½ tsp. chili powder
- ¼ cup dried apricots
- 1 cup plain whole yogurt
- 1 15 oz. can no-salt-added diced tomato
- 2 cups small cauliflower florets
- 1 lb. cod or other firm white fish filets, cut into 1-inch pieces
- ½ tsp. kosher salt

In a large, deep skillet, heat the oil over medium heat until shimmering. Sauté the onion until browned, 3-5 minutes. Stir in the ginger, garlic, spices, and apricots. Cook for 1 minute. • Stir in the yogurt, tomatoes, cauliflower, and 1 cup of water. Simmer until the cauliflower is tender, 10-12 minutes. • Reduce the heat to low, add the fish, and simmer gently until cooked through, 3-5 minutes. • Season with up to ½ tsp. salt.

Serve with cooked brown rice or another whole grain.

Per serving ***(1½ cups curry + ½ cup rice)*****:** calories 420 | total fat 15 g | sat fat 2.5 g | sodium 400 mg | carbs 42 g | fiber 5 g | protein 28 g

Thai Tofu Rice Bowl

Serves: 4 Time: 20 mins.

- 2 Tbs. fresh lime juice
- 2 tsp. sugar
- 1½ Tbs. Thai fish sauce
- 2 Thai or other hot chilies, minced
- 2 Tbs. canola oil
- 14 oz. package extra-firm tofu, cut into ½-inch cubes
- ½ red onion, thinly sliced
- 2 cups shredded red cabbage
- 1 cup shredded carrot
- ½ cup unsalted roasted peanuts, chopped
- 2 cups warm cooked brown rice
- 2 cups packed herbs (basil, cilantro, mint), chopped

In a small bowl, mix the lime juice, sugar, fish sauce, and chilies. • In a large non-stick pan, heat the oil over medium heat until shimmering. Blot the tofu cubes with paper towels, then sauté until lightly browned, 5-7 minutes. Add the red onion and stir-fry until tender-crisp, 1-2 minutes. • Remove from the heat and allow to cool slightly. Toss with all the remaining ingredients and the lime juice mixture.

Vegetarian? Replace 1½ Tbs. fish sauce with 3 Tbs. reduced-sodium soy sauce.

Per serving (2 cups): calories 410 | total fat 22 g | sat fat 3.5 g | sodium 560 mg | carbs 36 g | fiber 6 g | protein 18 g

Photos: Haley Baron/CSPI.

Not Milk?

WHAT'S TOPS IN THE NON-DAIRY AISLE

BY JAYNE HURLEY & BONNIE LIEBMAN

Moove over, cow's milk. A growing number of Americans are ditching dairy for "milks" made from almonds, cashews, coconut, flax, hazelnuts, hemp, oats, rice, soy, or other plants.

But what looks like milk in your cup may look nothing like milk to your body. If you add a rice or oat milk to your cereal, for example, you're adding grains to your grains.

Here's what to sip and what to skip.

The information for this article was compiled by Lindsay Moyer.

1 Check for protein.

Only soy milk is likely to equal the 8 grams of protein in a cup of cow's milk. (Check the label—light or sweetened soy milks may have just 5 or 6 grams.)

In contrast, hemp and oat milks have just 2 to 4 grams of protein. And most almond, cashew, coconut, flax, and rice milks have a measly 1 gram, if that. Exceptions: So Delicious Almond Plus, Silk Protein+Fiber Almondmilk, and Good Karma Protein+ Unsweetened Flaxmilk add pea or rice protein to hit 5 grams.

Only soy milks deliver enough protein.

Does protein matter? It depends. If your breakfast is just cereal with non-dairy milk, look for at least 7 grams of protein per cup—our minimum for a Best Bite. That knocks out everything except soy milk.

But if you're having a 30-to-50-calorie cup of almond milk as a beverage, protein may not matter. That's why our Honorable Mentions have a 50-calorie limit.

2 Look for nutrients.

Cow's milk is packed with nutrients. Those you're most likely to need: calcium, vitamin B-12, potassium, and (added) vitamin D. What about non-dairy?

■ **Check the vitamins and minerals.** Some non-dairy milks are fortified to dupe cow's milk's calcium, vitamin D, and vitamin B-12. (In fact, older people who make too little stomach acid can absorb added B-12 more easily than the naturally occurring B-12 in cow's milk.)

■ **Pick soy for potassium.** Most soy milks match cow's milk's potassium—which can help keep a lid on blood pressure. Most other non-dairy milks fall far short.

■ **Don't be wowed by calcium claims.** "50% more calcium than dairy milk," boast most Silk non-dairy milks. The Recommended Dietary Allowance for adults is 1,000 milligrams a day. It jumps to 1,200 mg for women over 50 and men over 70. That includes what you get from food *and* from supplements.

But more isn't necessarily better. High levels of calcium from supplements (at least 1,000 mg a day) may raise the risk of kidney stones and hip fractures. And the calcium that's added to non-dairy milks counts as a supplement.

3 Minimize added sugars.

Each cup of cow's milk has 3 teaspoons (12 grams) of a naturally occurring sugar called lactose.

In contrast, nearly all the sugars in non-dairy milks—like evaporated cane syrup, cane sugar, honey, or brown rice syrup—are added. That means you can dodge them.

Here's how:

■ **Get unsweetened.** A cup of most unsweetened non-dairy milks has no more than 1 gram of naturally occurring sugar. (Soy can reach 2 grams.) Our non-dairy Best Bites and Honorable Mentions have no more than 5 grams (about 1 teaspoon) of added sugars.

Low in added sugar ...and protein.

■ **Don't like unsweetened? Try original.** A cup of most "Original" almond milks and soy milks has just 1 to 1½ teaspoons of added sugars. Blue Diamond Almond Breeze Reduced Sugar Original Almondmilk—an Honorable Mention—has just ½ teaspoon.

■ **Avoid vanilla, chocolate, and coffee.** Many people who would never go near chocolate milk seem to think that the added sugars don't count if the milk is non-dairy. Wrong. Expect 2 to 3 teaspoons of added sugars in a cup of sweetened vanilla, and 3 to 5 teaspoons in sweetened chocolate or coffee. That's close to a day's worth (6 teaspoons for women and 9 teaspoons for men).

Tip: Blue Diamond makes an Unsweetened Chocolate Almondmilk. It's light on the chocolate, but it's not bad. Try it in a smoothie.

■ **Beware of sugary grain milks.** Pacific Organic Vanilla Oat milk is "Naturally sweet with no added sugar," according to the label. Yet it has 20 grams (5 teaspoons) of sugars per cup. Where do they come from?

Pacific adds enzymes that break down the oats' starches into sugar. Dream Blends, Rice Dream, and Trader Joe's appear to treat some of their grain milks similarly. We counted their sugars as added.

■ **Skip questionable sweeteners.** Silk Light Soymilk blends (safe) stevia with cane sugar. Our Best Bites and Honorable Mentions have no sucralose or monk fruit extract, which we rate as "Caution" (see chemicalcuisine.org).

4 Skip coconut's sat fat.

Most non-dairy milks have no more than 1 gram of saturated fat per cup (our Best Bites have no more than 2 grams). They'll also give you some healthy unsaturated fat.

But coconut milk is different. It's got 4 or 5 grams of sat fat and no unsaturated fat. And don't assume that coconut's sat fat is harmless because it raises HDL ("good") cholesterol along with LDL ("bad") cholesterol. HDL may not matter.

To play it safe, try almond-coconut milk blends by Blue Diamond or Silk. Their sat fat: just 1 gram.

> > > > >

Antioxidant Rag

Rich in antioxidants? Who cares?

"Rich in Antioxidants," says Califia Farms Original Almondmilk. Other brands make similar claims.

An ounce of almonds (23 nuts) supplies 35 percent of a day's vitamin E. But a cup of almond milk has, we estimate, just 4 to 7 almonds. So some companies add enough vitamin E to reach half a day's worth. (Some also add vitamin E to their cashew or soy milks.)

But far higher doses of antioxidants, including vitamin E, didn't lower the risk of heart disease or cancer in large trials.

So why do companies make antioxidant claims? They sound good.

Carrageenan-Free?

Many non-dairy milks are axing carrageenan.

"Free from...carrageenan," says Earth Balance Organic Original Soymilk. Huh?

Carrageenan is a thickener that's derived from seaweed. Although large doses have caused ulcerations and inflammation in the colons of lab animals, foods have too little to matter for most people. The National Institutes of Health is funding a trial to see whether people with ulcerative colitis improve if they eliminate carrageenan from their diet.

And while carrageenan doesn't cause cancer, it contains a contaminant that may increase colorectal cancer risk by a tiny amount. Many companies are phasing carrageenan out of their non-dairy milks.

Omega Milk?

Its omega-3s may not matter much.

"1200 mg omega 3s," says the carton of Good Karma Unsweetened Flaxmilk. That's no surprise. Flax milk is made with flax oil, which is rich in the omega-3 fat ALA.

Like other polyunsaturated fats, ALA can help lower LDL ("bad") cholesterol. The 1,200 mg in a cup of Good Karma is about what you'd get in a tablespoon of canola or soybean oil.

But the evidence is stronger that EPA and DHA, the omega-3s in fish oil, may protect your heart. And even that evidence is shaky. Stay tuned.

Soy Vey!

There's nothing wrong with soy.

Just about every non-soy non-dairy milk is "Soy Free." That claim alone probably accounts for some of the surging popularity of almond milk.

In fact, soy foods don't seem to increase (or decrease) the risk of breast cancer. Nor is soy a threat to thyroid glands, masculinity, fertility, memory, or anything else. Relax.

On the other hand, soy protein doesn't seem to prevent heart disease, as research initially suggested...and as some labels still claim. (See "Soy Oh Soy!" *NAH*, Sept. 2014, p. 9.)

Phony Phiber

Its 5 grams of added fiber aren't the best kind.

"Excellent source of fiber," brags Silk Original Protein+ Fiber Almondmilk. Maybe it *does* have more fiber than regular almond milk, but the fiber isn't the unprocessed, intact kind you'd get by eating almonds.

It's corn dextrin, a processed fiber that's made from long chains of corn sugar. It's "fiber" because our digestive enzymes can't easily break down the chains. Likewise, Almond Dream, Dream Blends, Whole Foods 365 Organic, and 8th Continent add inulin, another processed fiber, to some of their milks.

Are processed fibers good at preventing constipation, lowering cholesterol, or anything else? It's not clear.

In contrast, Pacific Organic Oat milks have enough *unprocessed* soluble fiber (1 gram) from oats and oat bran to be able to make a "may reduce the risk of heart disease" claim. Too bad every cup delivers about 5 teaspoons of added sugars.

Arsenic & Old Rice

In November, *Consumer Reports* estimated that adults would reach the magazine's arsenic limit with just ½ cup of rice milk a day (and no other rice). *CR* also said that children under five shouldn't drink rice milk daily, period.

The problem: rice takes up arsenic from soil and water more readily than other grains do, and arsenic is a known human carcinogen.

That said, it's not clear whether arsenic levels in rice, rice milk, or rice syrup are high enough to matter. (See "Food Fears," *NAH*, March 2013, p. 9.) But with so many other options, we denied Best Bites or Honorable Mentions to rice milks.

Rice milk fan? Keep it to no more than half a cup a day.

Photos: Lindsay Moyer/CSPI.

Milking It

Best Bites (✔✔) and **Honorable Mentions** (✔) contain no monk fruit extract, sucralose, rice syrup, or rice. They have no more than 1 teaspoon of added sugars and 2 grams of saturated fat per cup. And they have at least 25% of a day's vitamin D (◑) and 30% of a day's calcium. Best Bites also have at least 20% of a day's vitamin B-12 (◐) and 7 grams of protein. Honorable Mentions have no more than 50 calories. Products are ranked from least to most added sugars, then calories, then most to least protein, calcium, and vitamins B-12 and D.

	Calories	Added Sugars (tsp.)*	Protein (g)	Calcium (% DV)	B-12&D
Cow's Milk *(for comparison) (1 cup)*					
✔✔ Milk, fat-free or 1%[1]	90	0	8	30	◐
Milk, 2%[F]	120	0	8	30	◐
Milk, whole[F]	150	0	8	30	◐
Soy Milk *(1 cup)*					
✔✔ Trader Joe's Organic Unsweetened[R]	70	0	7	30	◐
✔✔ Whole Foods 365 Organic Unsweetened[R,S]	70	0	7	30	◐
Soy Slender No Sugar Added[1,S]	70	0[#]	7	30	◑
✔✔ Earth Balance Organic Unsweetened[R]	80	0	7	30	◐
✔✔ Silk Organic Unsweetened[R,S]	80	0	7	30	◐
Pacific Organic Unsweetened Original[S]	90	0	9	2	◔
Edensoy Organic Unsweetened[S]	120	0	12	4	◔
Silk Light—Original or Vanilla[1,R]	70	0.5	6	45	◐
✔✔ 8th Continent Original[R]	80	1	8	30	◐
✔✔ Trader Joe's Organic Original[R]	90	1	7	30	◐
✔✔ Silk Original[1,R,S]	100	1	8	45	◐
✔✔ Silk with 32mg DHA Omega-3[R]	100	1	7	40	◐
✔✔ Earth Balance or Silk—Organic Original[R]	100	1	7	30	◐
✔✔ Soy Dream Organic Enriched Original[S]	100	1	7	30	◐
Silk Vanilla[R,S]	100	1.5	6	45	◐
Silk Very Vanilla[R]	130	3.5	6	45	◐
Silk Chocolate[R]	120	4	5	45	◐
Almond Milk *(1 cup)*					
✔ Silk Unsweetened—Original or Vanilla[R,S]	30	0	1	45	◐
✔ Blue Diamond Almond Breeze Unsweetened—Original or Vanilla[R,S]	30	0	1	45	◑
Pacific Organic Unsweetened Original[S]	35	0	1	2	◑
So Delicious Almond Plus Unsweetened[R,S]	40	0	5	10	◐
✔ Califia Farms—Unsweetened or Unsweetened Vanilla[1,R]	40	0	1	45	◐
✔ Trader Joe's Unsweetened—Original or Vanilla[R]	40	0	1	45	◑
Whole Foods 365 Organic Unsweetened[R,S]	40	0	1	10	◑
Engine 2 Plant-Strong (Whole Foods) Unsweetened—Original or Vanilla[S]	40	0	1	2	◐
✔ Blue Diamond Almond Breeze Unsweetened Chocolate[S]	45	0	2	45	◑
✔ Almond Dream Unsweetened Original[S]	50	0	1	30	◐
✔ Blue Diamond Almond Breeze Reduced Sugar Original[R]	40	0.5	1	45	◑
✔ Califia Farms Vanilla[R]	50	0.5	1	45	◐
✔ Silk Light Original[R]	40	1	1	45	◐
Califia Farms Original[R]	70	1	1	45	◐
Silk Original[R,S]	60	1.5	1	45	◐
Blue Diamond Almond Breeze Original[R,S]	60	1.5	1	45	◑
Blue Diamond Almond Breeze Vanilla—Hint of Honey or Reduced Sugar[R]	60	2	1	45	◑
Silk Light Vanilla[R]	60	2.5	1	45	◐
Silk Protein+Fiber[1,R]	100	2.5	5	45	◐
Blue Diamond Almond Breeze Vanilla[R,S]	80	3	1	45	◑
Califia Farms Iced Coffee—Café Latte, Double Espresso, or Mocha[1,R]	90	3	2	20	◐
Silk Vanilla[R]	90	4	1	45	◐
Silk Dark Chocolate[R]	100	4	1	45	◐
Blue Diamond Almond Breeze Choc.[R,S]	120	5	1	45	◑
Cashew Milk and Blends *(1 cup)*					
✔ Silk Cashew Unsweetened[R]	25	0	1	45	◐
✔ Silk Almond Coconut Blend Unsweetened[R]	35	0	1	45	◐
So Delicious Cashew—Unsweetened or Unsweetened Vanilla[S]	35	0	0	10	◐
✔ Cashew Dream Unsweetened Original[S]	40	0	1	30	◐
✔ Blue Diamond Almond Breeze Almond Coconut—Unsweetened or Unsweetened Vanilla[R,S]	45	0	1	45	◑
✔ Dream Blends Almond, Cashew & Hazelnut Unsweetened Original[S]	50	0	1	30	◐
✔ Silk Almond Coconut Blend Original[R]	50	1	1	45	◐
✔ Cashew Dream Original[S]	50	1	1	30	◐
Silk Cashew Original[R]	60	1.5	1	45	◐
Blue Diamond Almond Breeze Almond Coconut[R,S]	60	1.5	1	45	◑
Flax, Hemp, Oat, and Rice Milks *(1 cup)*					
✔ Good Karma Flax Unsweetened[R]	25	0	0	30	◐
✔ Good Karma Flax Protein+ Unsweetened—Original or Vanilla[R]	50	0	5	30	◐
Pacific Hemp Unsweetened Original[S]	70	0	3	30	◐
Rice Dream Organic Enriched Unsweetened Original[S]	70	0	0	25	◐
Living Harvest Tempt Hemp Unsweetened—Original or Vanilla[S]	80	0	2	30	◐
Good Karma Flax Original[R]	50	1.5	0	30	◐
Living Harvest Tempt Hemp Original[S]	100	1.5	2	30	◐
Rice Dream Organic Enriched Original[S]	120	2	1	30	◐
Trader Joe's Organic Rice Unsweetened Original[S]	120	2	1	30	◐
Rice Dream Organic Classic Original[S]	120	2	1	2	◔
Pacific Organic Oat Vanilla[S]	130	5	4	30	◑
Living Harvest Tempt Hemp Chocolate[S]	170	5	2	30	◐
Coconut Milk *(1 cup)*					
Silk Unsweetened[F,R]	45	0	0	45	◐
So Delicious Sugar Free—Original or Vanilla[1,F,S]	50	0[#]	0	10	◐
Coconut Dream Unsweetened Original[F,S]	60	0	0	30	◐
So Delicious Organic Original[F,R,S]	70	1.5	0	10	◐
Silk Original[F,R]	80	1.5	1	45	◐

✔✔ Best Bite. ✔ Honorable Mention. * Estimate. [1] Average. [F] Contains more than 2 grams of saturated fat. [R] Refrigerated. [S] Shelf stable. [#] Contains sucralose or monk fruit extract.

Protein Target: 75 grams. **Added Sugars Limit:** 6 teaspoons (25 grams) for women, 9 teaspoons (38 grams) for men. *(Note: To convert teaspoons of sugar to grams, multiply by 4.2.)*

Daily Values (DVs): Calcium: 1,000 mg. **Vitamin B-12:** 6 mcg. **Vitamin D:** 400 IU.

RIGHT STUFF

THE KINDEST CUT

"100% steel cut oats that are expertly cut to cook quickly while still preserving the hearty texture and rich, nutty taste of a whole oat," says the canister.

"Now you can enjoy the robust texture and flavor of steel cut oatmeal on even the busiest mornings."

Anyone who's had steel cut oats knows how delicious they are. (They may also raise blood sugar less than instant oatmeal because they take longer to break down.)

The problem: most steel cuts need 20 to 30 minutes to cook. That's fine for a lazy Sunday, but when you're rushed or late, it's a deal-breaker. Until now. **Quaker**'s new **Quick 3-Minute Steel Cut Oats** are cut smaller, so they take just 3 minutes in the microwave or 5 minutes on the stove.

Each serving (about 1 cup cooked) has 170 calories, 6 grams of protein, and 4 grams of intact, unprocessed fiber. Bonus: it's the kind of fiber that helps lower cholesterol.

Quaker isn't the first company to make quicker-cooking steel cut oats. Brands like **Bob's Red Mill** and **McCann's** (they take 4 to 7 minutes) have been around for a while. Ounce for ounce, their numbers pretty much match Quaker's. Take your pick.

Sugar and salt are nowhere to be found. Instead, flavor your oatmeal with toasted almond slivers and bananas or dried apricots. Or try diced apple, cinnamon, and raisins. Or diced pear, walnuts, and nutmeg.

Got a better idea? Make up your own oat cuisine.

quakeroats.com—(800) 367-6287
bobsredmill.com—(800) 349-2173
mccanns.ie—(866) 958-6287

Photos: Paige Einstein/CSPI (left), Kate Sherwood/CSPI (right, bottom).

dish OF THE MONTH

Mango Salsa

Pulse in a food processor until minced: 2 cups chopped mango, 1 cup chopped cucumber, 1 cup chopped cherry tomatoes, ¼ cup cilantro leaves, 1 seeded and minced jalapeño (optional), 2 Tbs. lime juice, and ¼ tsp. kosher salt. Serve with grilled or sautéed chicken, shrimp, or fish.

FOOD PORN

VERY BIGHORN

"Pack your bags, BLT," says **LongHorn Steakhouse**. "There's a new sandwich in town."

Who needs bacon, lettuce, and tomato when you can dig into the **LongHorn Cheesy BPT**, which packs "fried green tomato, creamy pimiento cheese & crispy bacon" between two slices of white toast.

Wait 'til you see it. You'll barely recognize the thin slice of green tomato, which is buried inside a layer of fried breading. (Nothing like breading nestled inside your bread.) And who was the genius who thought of replacing a few leaves of fresh lettuce with a boatload of bright orange cheese?

The sandwich delivers 1,530 calories and 36 grams of saturated fat (nearly two days' worth), plus 2,850 milligrams (a day's supply) of sodium. That's more calories and sat fat than any of LongHorn's burgers, ribs, or steaks (including the 20 oz. Porterhouse). Nice.

And heaven forbid you eat just a sandwich. The Cheesy BPT comes with fries. Now you're looking at 1,990 calories (done for the day!). Think of your BPT and fries as a platter of four Big Macs. And for 99 cents, you can upgrade to Parmesan Garlic fries, which upgrades the calories to 2,090 (and the sat fat to 43 grams and the sodium to 3,750 mg). Oy!

Why not try something lighter off the lunch menu, like the Grilled Chicken & Strawberry Salad, the LongHorn Salmon, the Spinach Feta Chicken, or (if you came for steak) the 6 oz. Flo's Filet? With broccoli or green beans on the side, each has just 250 to 690 calories.

BPT is the new "boss," says LongHorn. Nope. *You* are.

longhornsteakhouse.com—(407) 245-4000

quick tip

Store the foods that need to stay coldest—that includes milk and eggs—in the main part of the refrigerator, not the inside of the door, where the temperature fluctuates more when the fridge is opened and closed.