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Nutrition Action HEALTH LETTER™
CENTER FOR SCIENCE IN THE PUBLIC INTEREST
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UNDER THE INFLUENCE

HOW EXTERNAL CUES MAKE US OVEREAT

What made you eat more of that ice cream than you intended? Why do you always eat too much when you go out for Chinese?

If you're like most people, external cues influence how much you eat, which foods you eat, how fast you eat, whether you enjoy what you eat, and more.

Brian Wansink of Cornell University has spent a career unearthing those cues. The trick isn't just to uncover them, he says, but to change them.

"Don't say, 'Now that I know it, it won't happen,'" cautions Wansink. "It will happen."

His solution? "It's easier to change your environment than it is to change your mind."

Continued on page 3.

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CENTER FOR Science IN THE Public Interest

UNDER THE INFLUENCE

HOW EXTERNAL CUES MAKE US OVEREAT

Brian Wansink is the John S. Dyson Professor of Marketing in the Applied Economics and Management Department at Cornell University in Ithaca, New York, where he directs the Food and Brand Lab. He was the executive director of the U.S. Department of Agriculture's Center for Nutrition Policy and Promotion from 2007 to 2009, and is the author of *Mindless Eating–Why We Eat More Than We Think* (New York: Bantam-Dell). For more information, see mindlesseating.org and smarterlunchrooms.org. Wansink spoke to *NAH*'s Bonnie Liebman by phone.

EXTERNAL CUES

Q: *Why do people overeat?*

A: We should be pretty well calibrated to know how much to eat to fill us up. We eat three times a day every day of our lives.

Yet when we asked people, "When was the last time you ate to the point of regretting it?" almost everyone could think of a time. Then we asked, "Why did you eat so much?"

What we found is that roughly 12 percent said, "I overate because of something emotional," or "I had a terrible day," or "I was feeling down," or "I was bored." About 51 percent said they overate because they were really hungry, and 37 percent said they overate because the food was spectacular.

So we asked ourselves what happens if the person is not hungry and the food is terrible. That led to our stale popcorn study.

Q: *What did you test?*

A: We gave people popcorn that was either fresh or five days old. The stale popcorn had been kept in a humidity-controlled entomology lab. On a scale of 1 to 10, people rated the taste a 3. It tasted like Styrofoam.

Q: *And you gave moviegoers either medium or large bags?*

A: Yes. And we gave them to people who had eaten dinner within 20 minutes of arriving at the theater. So we gave them bad food when they weren't hungry, and people ate 34 percent more from the bigger bucket. If the popcorn was fresh, they ate 45 percent more from the larger bags.

When people left, we said, "Gee, you ate 34 percent more. Do you think the size of the bucket had anything to do with it?" And to a person they said, "No, how could it?"

Q: *Are big servings the only influence on how much we eat?*

A: No. Very simple things have a tremendous influence not just on how much but on how frequently we eat.

We studied secretaries who had won an award for being great that year. We said, "Congratulations. We're going to give you all the candy you can eat for a month!"

So we put candies either on their desks or six feet from their desks in either a clear or an opaque bowl, and every day we refilled the candy dishes. And we found that a typical secretary on a typical day would eat about nine Hershey's Kisses—which is about 225 calories—if they were sitting on her desk.

But if we moved the candy dish six feet away, they ate only four candies—or about 125 fewer calories a day. Over the course of a year, that would translate into 11 to 12 pounds of extra weight they would gain by having the candy on the desk instead of six feet away.

We asked the secretaries if six feet was just too far to walk, but they said, "No, it's just that the six feet gave me pause to think, 'Am I really that hungry?'" And half the time, they said no.

Seeing the candies also made a difference. Secretaries who got a clear bowl averaged two more candies per day than those who got an opaque bowl.

Q: *What else influences people?*

A: Names. A while back, someone who operated a healthy cafeteria called to say, "No one is eating in our cafeteria. What should we do?" So we simply changed the names of the foods they served.

Instead of Italian Pasta, we called it Succulent Tuscany Pasta. Or instead of Chocolate Cake, we called it Belgian Black Forest Cake, even though the Black Forest isn't in Belgium. Once we added a descriptive name, sales jumped by 27 percent. And it's not just *that* food. People rated the restaurant better and the chef more competent.

If you believe that something's going to taste good, you look for the qualities that confirm that. If you believe the milk is spoiled, you drink the milk looking for confirmation of that, too.

This has great implications for wine. If you buy cheap wine, you think it's going to be terrible.

Q: *Does a person's reaction to one food affect others?*

A: Yes. We had a big wine and cheese party for my grad students, and we found that if the wine tasted terrible, people rated the cheese served at stations with that wine as terrible also.

We wondered if the first thing people try has a poisoning—or halo—effect on everything the person tries. We had this restaurant on the University of Illinois campus called the Spice Box. Every Thursday people would come in and eat a *prix fixe* dinner. They thought they were trying new recipes, but we were actually doing studies on them.

One week we soaked all the labels off the wine bottles and replaced them with labels saying the wine was either from North Dakota or from California. They don't even make wine in North Dakota.

Q: *And it wasn't the best wine?*

A: It was all the same $2 cabernet. And we found that if people thought it was from California, they rated the wine as

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SMALL IS BEAUTIFUL. These two plates contain the same amount of food. On the smaller plate it looks like more, so you're likely to eat less.

better, they rated the food as better, they stayed at the restaurant about 10 minutes longer, and many of them made reservations to come back.

When we served them the North Dakota wine, it poisoned the entire meal. They didn't rate the food as good, they left 10 minutes earlier, and they didn't make reservations to come back. That's great news you can use if you have people for dinner parties. I find that if I'm running out of time, I will make sure that the first thing they eat is the best thing I'm cooking, because it has a halo on everything you eat. It's so powerful.

Interestingly, both groups drank the same amount of wine…which was all of it. It's free? Sure.

Q: *Any other tips for cooking at home?*

A: The power of expectation is immense. We did a study where we gave people a really good brownie on a napkin, a paper plate, or a really nice piece of Wedgwood china. And we asked what they thought of the brownie.

If they ate it on the napkin, they'd say, "Wow, this is really good." On a paper plate, they said, "This is really, really good." If they ate it off of Wedgwood china, they would say, "This is the greatest brownie I've eaten in my entire life." And the amount they were willing to pay for it tripled.

So when I'm having people over for dinner, if I put the nice china out and put a tablecloth on and candlelight, they'll think the dinner is more amazing and that I'm a more amazing cook than if I don't.

Q: *If we leave the food on the table, do people eat more?*

A: Guys eat about 29 percent more if you put the serving dish on the table instead of the counter. Women eat about 10 percent more if you put it on the table.

The primary reason is that guys eat very fast. They finish a meal, and then they impatiently watch while the rest of the family pokes at their food. So guys often have seconds and thirds. Women tend to eat a bit slower and are not as prone to going back for seconds and thirds.

Q: *Weren't you also able to influence how quickly people ate?*

A: Yes. We had people eat lunch sitting across from somebody who they believed was also part of a taste-testing study. They didn't realize that the other person was a researcher who was instructed to eat either 50 percent more slowly or 50 percent faster than the typical person would eat. We called it forks per minute.

We found that when someone was paired with someone eating faster, they ended up eating significantly more calories than if they ate alone. And when they were paired with someone eating slower, they ate fewer calories. There's this mimicry effect.

Q: *And we're oblivious?*

A: Yes. We did another study where we brought in people for this free buffet lunch. We found that if a woman was following another woman, the woman behind took, on average, a portion that mimicked—though not exactly—the serving taken by the woman in front.

Now, if a woman was following a guy, the person in front mattered less. How can you benchmark off a 240-pound guy who's wearing a baseball cap backwards? For guys, the person in front had no impact. Guys just fill their plate.

Q: *Does it matter what the woman in front looks like?*

A: No. We put the person ahead of the woman in line in a fat suit so she looked obese. You might think, "Gee, if you follow someone who's really heavy and they take a lot of food, you're probably going to take less because you'll see the consequences of eating too much."

No. If the person ahead in line is really heavy, the follower takes more. People seem to think, "I'm not that heavy, so I can afford to take a lot of food." The same thing happens if the server is in a fat suit. We also varied the attractiveness of the server, but that had no effect.

Q: *Can't people tell when they're full?*

A: Most people say, "Okay, all these little things around me might influence me a little bit. But I know when I'm full. I know when to stop." So we asked ourselves, What happens if your plate never empties? Would you eat like the family dog until you threw up? So we brought in these refillable bowls.

Q: *People couldn't see that the bowls refilled as they ate?*

A: Right. And those who unknowingly ate out of the refillable soup bowl ate 73 percent more soup than others. When we asked them if they were full, they didn't rate themselves as more full than the other group. They'd say, "How can I be full? I have half a bowl of soup left."

Q: *They relied on external cues?*

A: Yes. The idea is that you count with your eyes, not your stomach. We did a similar study in Atlanta. We brought people into an all-you-can-eat buffalo wings restaurant.

We randomly assigned them to tables where the bones left from the eaten wings were either bussed or just kept building up on the table so you could see how much you'd taken.

We found that if the wings were taken away, people ate around 28 percent more. When the bones were gone, there was no visual evidence that they were there to begin with.

Q: *So people kept eating?*

A: Yes. And on the way out of the restaurant, we offered them all the chance to test a free 450-calorie skillet cookie. Only 15 percent of the people who had seen how many bones they had eaten took the huge cookie.

The other group not only ate more wings, but about 85 percent of them took

Photo: Jorge Bach.

the cookie. And two-thirds of them started eating it before they even got to their car.

HEALTH HALO

Q: *How did you discover that some foods have a health halo?*

A: We did four studies with dramatic results. It started with our Subway study. You see commercials with Jared saying, "Look how much weight I lost." I go to Subway pretty regularly, and I'd see people asking for double cheese and mayo and other stuff. When I'd ask why they eat at Subway, they'd say, "I watch what I eat, and it's a healthy place to eat."

That led us to wonder who overeats more—someone who eats at a Subway or someone who eats at a burger place like McDonald's—especially if you define overeating as eating more calories than you think. So we did a number of studies.

One involved intercepting people who just finished dinner at a McDonald's or a Subway at a mall. And we found that the typical person leaving McDonald's was eating about 1,090 calories, but they thought they had eaten 880 calories, which isn't a bad guess.

In contrast, people leaving Subway believed they were eating about 495 calories, and they really averaged 680 calories.

Q: *So the McDonald's eaters underestimated their calories by 19 percent, but the Subway eaters underestimated by 27 percent?*

A: Yes. Because of Subway's health halo, they underestimated the calories in the sandwich, they didn't count the extra cheese or mayo, and it led them to think that the chips are healthier. The Subway eaters thought they were being virtuous and they weren't.

Q: *What other foods have a halo?*

A: A health halo permeates a lot of our food decisions. I just had a dissertation defense for a student who found that if people were given a food labeled "organic," they estimated the calories as 15 to 20 percent lower than if the food wasn't called organic.

In another study, we gave people an Italian sandwich and a menu showing that it was either from Jim's Hearty Sandwich Shop or Good Karma Healthy Foods. If they thought it was from Good Karma, they estimated the calories as 24 percent lower than if they thought it was from Jim's.

Q: *What's the harm if people underestimate?*

A: If they thought the sandwich was from Good Karma, they were much more likely to order potato chips, a full-calorie soda, and a cookie with the meal. And the sandwich itself had 660 calories. So there are real dangers to the health halo. It's not just that you underestimate calories. It's that the next step is to reward yourself by eating even more.

Q: *What else creates a halo?*

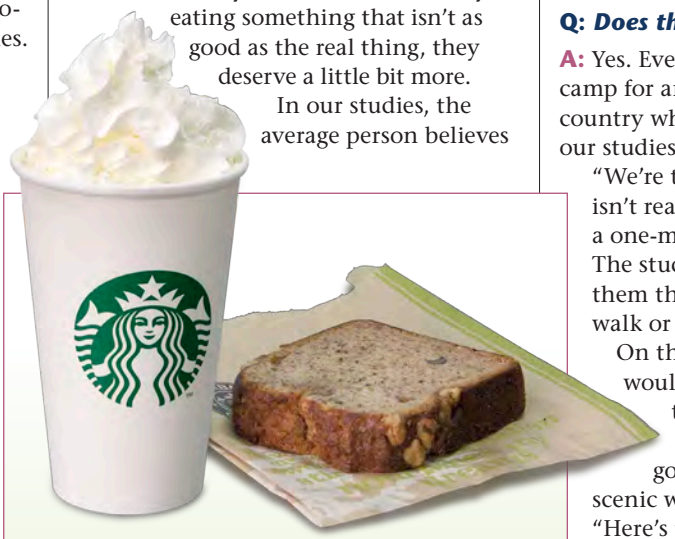
A: We did another study about the low-fat loophole. We invited people to watch a movie in an art house, and afterwards, we offered them some snacks. We labeled a low-fat trail mix as either "low-fat" or "regular." We did the same with regular M&M's.

We found that if you give people a food that they think is low-fat, they eat 21 to 46 percent more calories, even if they rate the food as tasting worse or even if it's the exact same food as the regular version.

Q: *Why?*

A: One reason is that people estimate the food to be lower in calories than it is. Another is that they believe that since they're eating something that isn't as good as the real thing, they deserve a little bit more.

In our studies, the average person believes that a low-fat version of a snack has 40 percent fewer calories. People think they're being tremendously virtuous so they overeat. In reality, we found that snack foods that are labeled low-fat average only 11 percent fewer calories than the regular versions.



WORKOUT REWARD? Can you afford 580 calories for a venti White Chocolate Mocha and another 490 for a slice of Banana Walnut Bread after the gym?

Photo: Jorge Bach.

Q: *Do foods labeled low-calorie have a halo?*

A: Yes, but if the label says it's low-calorie, it has so few calories that you really can eat more.

EXERCISE

Q: *How does exercise influence what we eat?*

A: We found that exercise can have an opposite impact than we might expect.

In one study, we showed people normal ads for washers and dryers and such before a meal, or we showed them exercise ads. If people saw the exercise ads and they were reasonably active exercisers, the ads dramatically decreased how much they ate.

We think the ads bring to mind how much you have to do to work off a certain amount of calories. So it's a pretty dramatic reminder. The ads have much less impact if people aren't exercisers. So if you're a pretty good exerciser, it might be a pretty good idea before dinner to think about your next workout.

Q: *Does the exercise itself matter?*

A: Yes. Every June we have consumer camp for anyone from anywhere in the country who's been involved in one of our studies. At one of these, we said, "We're through for the day but dinner isn't ready yet so we're going to take a one-mile walk around Beebe Lake." The students who set the pace told them that it was either an exercise walk or a scenic walk.

On the exercise walk, the students would say, "We're a quarter way through," or "We're halfway through, keep your heartbeat going, keep it high." On the scenic walk, the students would say, "Here's the stone bridge that was built in 1922," or "Look, there's an island and three kinds of birds live on the island." And it was an easy walk but the same pace and distance in both cases.

When they got back, they were given dinner, and they ended up eating more calories if they had been on the exercise walk. And most of the increase was from dessert. The exercise group estimated that they had burned more calories, and they ended up eating more calories.

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Q: *They figured that they deserved a reward?*

A: Exactly.

THE INTELLIGENCE TRAP

Q: *It seems that people always find a rationale to eat more.*

A: Yes. Intelligent people especially can figure out a rationalization for anything they want to believe. We call it the intelligence trap.

And with food, it's the tyranny of the moment. It might be the same with drug users. People say, "Well, I was going to stop using heroin or smoking cigarettes today, but today was really difficult," or "Today is a day to celebrate," or "It's Friday," or whatever. We can always think of why the day is unique so that we don't have to do something.

Q: *And ads urge us to celebrate or suggest that "You deserve a break today."*

A: When I was in college, the ads said, "Weekends are made for Michelob." And on weekends, we'd spend an extra 25 cents for a Michelob because, by golly, we deserved it.

Q: *So well-educated people believe that they don't eat mindlessly?*

A: Right. Many believe that an informed, intelligent person would never be fooled by these cues. When I gave a talk at the Institute of Medicine of the National Academy of Sciences a while back, that was the very question I was asked.

"Clearly, once you tell an informed, intelligent person about this, problem solved," they said. "So global education is the answer." Of course, if you have 17 years of college behind you, you're likely to think that education is the answer to everything.

Q: *But it doesn't work?*

A: No. We did a study where we took 60 tremendously motivated, intelligent grad students. For 90 minutes in one class I told them, "If I give you a big bowl of Chex Mix, you will eat a lot more than if I give you a slightly smaller bowl."

And for 90 minutes, I had illustrations and lecture and videotapes and broke them into study groups to show how they can fight this. Then they went home for holiday vacation.

When they returned, I invited them to a Superbowl party at a sports bar. They were led randomly into one of two rooms that were identical except that one room had enormous bowls of Chex Mix and the other had bowls that were slightly smaller.

Q: *And they could take as much as they wanted?*

A: Yes. And we found that the typical person serving themselves from a large bowl took and ate about 53 percent more food, even though six weeks earlier they'd gone through a 90-minute session with a demonstration and videos and they came up with strategies to prevent it from happening to them.

And it was the exact same food in the same orange bowls that they saw in the videos. The same bowls!

Afterwards, we asked people if they thought they took more from the bigger bowls. They said no. And everyone had an excuse like, "I took more because I didn't have breakfast on Tuesday."

That study, which was published in the *Journal of the American Medical Association*, illustrated that education is probably not the way to go.

HEALTH HALO. People often eat more of lower-fat snacks, but they're not that much lower in calories.

Q: *Do some people think that they're immune?*

A: Yes. What makes this stuff so difficult is that people confidently think, "Now that I know it, it shan't influence me."

But we found that even professional bartenders are influenced. When we showed them that they poured more into a short wide tumbler than a tall narrow highball glass that held the same amount of liquid, they still mixed and poured more into the tumbler 45 seconds later.

It influenced incredibly smart and motivated grad students who we bored for 90 minutes with this one concept. Six weeks later, they ate 140 calories more if they were given larger bowls.

I explained at a meeting of the American Diabetes Association how these biases influence people. And then I turned right around and put them in a study and showed that they were influenced as much as a typical person we recruit from the mall.

Q: *What tricked the bartenders?*

A: The shape of the glasses. We asked them to pour a drink into 10 oz. glasses that were either short, wide tumblers or tall, thin highball glasses. Even though the typical bartender had over six years of experience, on average, they served 20 percent more in the short wide glasses.

People's overconfidence is just amazing. And we find that the smarter people are, the more they get fooled because they believe that they are smarter than a bowl or because they went to Wellesley. Just joking. I hope you didn't go there.

Q: *So you can't make yourself less mindless?*

A: This whole idea that you can prevent mindless eating with the power of your mind is a tremendous fallacy. When I talk about mindless eating, some people erroneously say, "Then the secret to solving mindless eating is to eat *mindfully*."

No, not if you're 95 percent of the population. To eat half of a pea and ask, "Am I full yet?" may work for some people. And I know calorie counting and pre-portioning works for some people.

But for most Americans, our lives are way too chaotic to accommodate that. We have screaming kids running around the table, a to-do list before dinner that's 40 things long, we're thinking about how things went at work that day, how they didn't go how we wanted.

Photo: Jorge Bach.

Q: *And we get interrupted by phone calls, e-mails, texts.*

A: Right. So for normal people, the solution is not mindful eating. It's to set up our environment, whether at our home or work, so that we mindlessly eat less, rather than just continue to gorge ourselves.

WHAT WORKS

Q: *What changes should we make?*

A: The good news is that for every external cue that messes people up in our studies, you can solve the problem by doing the opposite. If going from a 10-inch to a 12-inch plate causes you to eat 22 percent more, use a 10-inch or 9½-inch plate.

Use smaller bowls. Don't rely on your willpower or the power of education. Don't say, "Now I know that I'm three times more likely to eat the first thing I see in my cupboard than the fifth thing I see in my cupboard…but I won't let that influence me." It absolutely will!

The solution is to make sure that the first thing you see—the thing that's front and center—is healthier than that chocolate-covered foie gras.

People eat food that's on the table much more frequently than food that's off the table, so just put the salad and vegetables on the table. Leave everything else on the counter or stove.

Q: *What else can people do at home?*

A: Package things in smaller containers. If you want to buy in bulk, that's smart. But when you buy in bulk, you eat in bulk, so you have to repackage the food in smaller baggies or Tupperware-like containers. Then you'll eat only the amount you put in.

Q: *Are these small differences in calories enough to matter?*

A: When you put them all together, they're not additive, but the effect is still positive. Let's say that a smaller plate makes you eat 22 percent less, a smaller serving spoon means you eat 14 percent less, and a smaller serving bowl helps you eat 50 percent less. If you do all of those, you don't eat 86 percent less or you'd starve and die. It's going to be somewhere in between. But the overall influence is that you're eating less.

Photo: Jorge Bach.

REPACKAGE. Each 140-calorie serving of this trail mix is just 3 tablespoons. Odds are, you'll eat more if you eat out of the large bag.

FOOD PACKAGING

Q: *Do people eat less from 100-calorie packs?*

A: We did the research on that in 1996, before they were on the market. We gave people candy that was either in one 440-calorie serving or in four 110-calorie servings.

We found that about 70 percent of people ate less when we broke the candy into these smaller-size mini-packs. And half of them said that they'd pay an average of 15 percent more per ounce for something that causes them to eat less.

So I called up all the major snack-food manufacturers—M&M/Mars, Nabisco, Kellogg, and Kraft—and I said, "We've got a great way you can make a lot of money and help people eat less."

I presented the research, and their staff said it was interesting but they couldn't wrap their heads around the idea that people would pay a premium for something that would help them with self-control. About two years later, the 100-calorie packs came out. But it was hard to convince food companies at first, because they were stuck thinking that people would only pay more for more food.

Q: *Do 100-calorie packs work for everyone?*

A: Overweight people are more responsive. I think it's because they're used to eating a bigger volume without thinking about it, and all of a sudden this causes them to think about it.

In contrast, a skinny person might eat less and be less prone to overindulging. In about 30 percent of people, mini-packs had no effect or they made people eat more. If you typically eat about 250 calories of M&M's and there's only 200 in two mini-packs, you think, "I'd like a couple more," so you open the third pack and it's gone.

SCHOOL LUNCHES

Q: *What have you done with school lunches?*

A: The New York State Department of Health called us to say that a bunch of upstate schools were getting grants of $3,000 or $4,000 to increase fruit sales by 5 percent. They asked, "How much do we need to decrease the price of fruit to increase sales?"

I said, "I think you could make the fruit free and people aren't going to eat 5 percent more. Why don't I take a team up there for a couple of days and we'll figure something out?"

And we found that all these schools serve fruit in these stainless steel containers underneath these sneeze shields in a dark part of the food line.

Q: *That sounds unappetizing.*

A: So we said, "Why don't you buy a cheap, colorful bowl at Goodwill or find one in your basement and put the food in a well-lit part of the line?"

And when they did that, fruit sales initially went up 187 percent. And over the course of the semester, they dropped to the point where they were selling 104 percent more fruit than at the beginning of the year. And the price of the bowls ranged from $15 to $30, so they still had a whole lot of money left over.

Q: *Having food visible makes a difference?*

A: Yes. With adults, we found that covering the clear window of the ice cream freezer with butcher paper decreased how much people took by 30 percent. The nice thing is that the person who eats it two or three times a week can still find it. Others may not think about ice cream if they don't see it.

Q: *And people can do the same at home?*

A: Sure. Why not make the fruit bowl more visible? Put your fruit on the table and not in the refrigerator bin. People say, "That's okay because I have self-control." Why not give your self-control a break?

Soda & Diabetes

Regular-soda drinkers have a higher risk of type 2 diabetes, but diet-soda drinkers have no increased risk and coffee drinkers have a lower risk.

Researchers tracked more than 40,000 men in the Health Professionals Follow-Up Study. After 20 years, those who had been consuming the most regular soda—an average of one can, glass, or bottle a day—had a 24 percent higher risk of diabetes than those who never drank regular soda.

Replacing one regular soda a day with one cup of coffee (regular or decaf) would lower diabetes risk by 17 percent, estimated the researchers. A previous study had suggested that coffee may reduce risk by decreasing inflammatory factors.

At first, diet-soda drinkers appeared to have a higher risk of diabetes. In the past, researchers had speculated that the drinks' sweetness might stimulate an appetite for sweet foods. But the link with diet drinks disappeared when the scientists adjusted for the impact of other factors. They suggest that people may have been drinking diet sodas to try to lose weight because they had high blood sugar, high triglycerides, or high blood pressure.

Fruit punches, lemonades, and other fruit drinks weren't linked to type 2 diabetes, possibly because not enough people in the study consumed enough of them for the researchers to be able to detect an impact.

What to do: Cut back (or cut out) regular soft drinks. Switch to water, coffee, tea, or diet soft drinks instead.

Am. J. Clin. Nutr. doi:10.3945/ajcn.110.007922.

Meat & the Liver

Red-meat eaters have a higher risk of chronic liver disease and some cancers of the liver and esophagus, say two new studies.

Researchers tracked more than 495,000 men and women aged 50 to 71 in the NIH-AARP Diet and Health Study. After eight years, the risk of chronic liver disease was roughly 2½ times higher in those who reported eating about four ounces a day of red meat (beef and pork) than in those who averaged only half an ounce a day. The risk of liver cancer (hepatocellular carcinoma) was 74 percent higher in the four-ounces-a-day group.

In contrast, people who reported eating about three ounces a day of white meat (chicken, turkey, and fish) had roughly half the risk of chronic liver disease and liver cancer compared to those who averaged half an ounce a day. Processed meats, the iron in meat, nitrites, and nitrates were also linked to a higher risk of chronic liver disease, but not liver cancer.

In another analysis of the NIH-AARP Study, people who reported consuming more red meat had a 79 percent higher risk of one kind of esophageal cancer (squamous cell).

What to do: It's worth eating less red meat to lower your risk of heart disease and colon cancer. Fewer studies have examined links with liver cancer because it's less common in the United States.

Excess alcohol consumption and chronic infection with hepatitis B or C virus increase the risk of liver cancer, but the disease strikes many people who have none of those risk factors.

J. Natl. Cancer Inst. 102: 1354, 2010.
Am. J. Gastroenterol. 106: 432, 2011.

Fish for Eyes

The omega-3 fats in fish may protect eyes from age-related macular degeneration (AMD), a leading cause of blindness in older people. We use the macula (the center of the retina) to drive, recognize faces, read, and see fine details.

Researchers tracked nearly 40,000 female health professionals (their average age was 55) for roughly 10 years. Those who ate fish (mostly canned tuna and dark-meat fish like salmon and sardines) at least once a week had about a 40 percent lower risk of AMD than those who ate fish less than once a month.

Women who consumed the most EPA and DHA, the two omega-3 fats in fish, also had a 40 percent lower risk than those who consumed the least. There was no link between AMD and ALA (alpha-linolenic acid), the omega-3 fat found in soy, canola, and flax oil.

What to do: There's no way to know if omega-3 fats can prevent or slow AMD until 2013, when results are expected from a large clinical trial (AREDS-2), which is testing daily doses of DHA (350 mg) and EPA (650 mg).

In the meantime, it's worth shooting for at least two servings of fish a week to lower the risk of heart disease.

Arch. Ophthalmol. doi:10.1001/archophthalmol.2011.34.

Go Poly

Switching from saturated to polyunsaturated fats may lead to lower levels of inflammation and less buildup of plaque in arteries.

Dutch researchers fed 13 overweight men 3½ tablespoons of either butter or a mix of polyunsaturated-fat-rich sunflower and safflower oils (all baked into muffins).

Compared to the saturated fats in the butter, the polyunsaturated fats led to lower levels of markers of inflammation such as interleukin-6, TNF-alpha, and soluble vascular cell adhesion molecules (sVCAM). All are involved in the accumulation of plaque in artery walls.

What to do: Replace butter with oils or with a margarine that's low in saturated fat. Replace red meat, cheese, cream, and other foods that are rich in saturated fats with fish, nuts, and soy foods.

J. Nutr. doi:10.3945/jn.110.136432.

Photo: © Michael Flippo/fotolia.com.

Tea Time

What's all the fuss about green tea?

BY DAVID SCHARDT

Green tea is hot. You can buy a bottled green tea beverage just about anywhere these days. And food manufacturers are adding green tea or its extracts to everything from coffee (one Eight O'Clock coffee blend has compounds from green tea "gently infused" into its beans) to juice drinks (V8 V-Fusion contains "the natural goodness of green tea").

How good is the evidence that green tea is good for your health? Studies in laboratory animals are impressive, but compelling evidence in humans has been hard to come by.

Stroke

"Drinking tea regularly may be one of the most practical lifestyle changes you can make to significantly reduce your risk of suffering a stroke," says epidemiologist Lenore Arab of the University of California at Los Angeles. Arab co-chaired the Fourth International Scientific Symposium on Tea and Human Health in 2007.

She and her colleagues pooled the results from 10 studies—of nearly 200,000 people in China, Japan, Finland, the Netherlands, Australia, and the United States—that looked at tea consumption and stroke risk.[1] (The meta-analysis was funded by Unilever, which owns Lipton.)

"The benefit of drinking tea came shining through no matter where people lived in the world," says Arab. Those who drank at least three cups every day had a 21 percent lower risk of suffering a stroke compared with those who drank less than a cup a day.

"If this turns out to be true, that's a pretty strong finding for something that's the third leading cause of death in this country," notes Eric Rimm, director of the Program in Cardiovascular Epidemiology at the Harvard School of Public Health in Boston.

Rimm says "if" because the studies that Arab's team examined weren't designed to prove cause and effect.

"There's a strong association, but we don't know if there's something about the people who drink tea that would account for their having fewer strokes," explains Rachel Johnson, a professor of nutrition at the University of Vermont and a spokesperson for the American Stroke Association.

What's needed, she says, is a trial that randomly assigns people to drink either tea or an indistinguishable tea-free placebo.

If tea matters, is green tea better than black? (Green tea comes from the unfermented leaves of the plant *Camellia sinensis*, while black tea is made from the fermented leaves.)

In Arab's meta-analysis, it wasn't. But in animal studies, compounds in green tea called polyphenols seem to protect lab animals against damage caused by strokes.

For example, when researchers induce strokes in gerbils, Arab explains, the animals' brains suffer less damage if they are first fed a tea polyphenol called EGCG (epigallocatechin gallate).[2]

If the same is true in humans, green tea may help stop strokes from becoming severe enough to be noticed.

So-called "silent" strokes are common, and are far less damaging than major strokes. "At least 10 percent of people older than 65 have damage to the white matter of their brains, which is probably evidence of silent strokes that didn't cause paralysis or pain or other symptoms that would lead them to be diagnosed with stroke," says Arab.

"When I'm asked when is the best time to drink tea, I say right before your stroke!" she jokes.

So should you start drinking three cups of green tea every day to protect your brain? It's far too early to say.

It's much more important to keep your blood pressure under control by shedding pounds if you're overweight, eating less salt and more fruits and vegetables, and taking blood-pressure-lowering drugs if necessary.

Prostate Cancer

"The evidence that green tea prevents the development of prostate cancer in men is not very encouraging," says researcher Susanne Henning of the Center for Human Nutrition at the University of California at Los Angeles.

For example, in four studies that followed more than 95,000 men in Japan and Hawaii for 7 to 20 years, those who drank the most tea had no lower overall risk of being diagnosed with prostate cancer than those who drank the least.[3-6]

But for men with—or at high risk of—prostate cancer, tea may

High in polyphenols because it's mostly brewed green tea.

> > > > >

Illustration & Photo: Jorge Bach.

make a difference, says Henning.

"I would definitely advise them to drink large amounts of green tea, because it may slow down the progression of the disease."

Only one of the four studies in Japanese and Hawaiian men looked at the risk of advanced prostate cancer separately. It found that those who drank five or more cups of green tea a day had half the risk of those who drank less than one cup a day.[3]

Then there's a 2006 Italian study "whose results were remarkable," says Hasan Mukhtar, a professor of cancer research at the University of Wisconsin in Madison.

Researchers recruited 60 men with high-grade prostatic intraepithelial neoplasia (PIN) lesions, some of which turn into prostate cancer.[7] Half the men were given 600 milligrams a day of a green tea extract and half were given a placebo.

After one year, 10 of the men had been diagnosed with prostate cancer. Nine were in the placebo group. Only one had been taking the green tea extract.

"It was a nice study, but it was pretty small," says tea researcher Joshua Lambert of Pennsylvania State University. "It needs to be confirmed by larger intervention studies."

Mostly brewed tea, but twice the sugar of Honest Green Tea.

Several trials are in the works.

Five years ago, UCLA's Henning started giving men who were awaiting surgery to remove their cancerous prostate five cups of green tea, black tea, or water every day. She's looking at whether the tea has any impact on their PSA levels or on the cancer cells in their prostate. (PSA levels may reflect the growth of prostate cancer.)

And in 2007, researchers at the Moffitt Cancer Center and Research Institute in Tampa, Florida, began giving green tea extracts to men with high-grade PIN lesions. They expect to complete their study by the end of 2012.

Photos: Jorge Bach.

Tea Talk

Flavonoids, polyphenols, EGCG, antioxidants. Sorting out the names of the potentially beneficial compounds in tea can make your head spin. Here's what the terms you're likely to see mean:

Polyphenols are a broad group of chemicals found in many foods, including tea, cocoa, fruits, and vegetables.

Among the polyphenols in tea is a family of compounds called the **flavonoids**, and among the flavonoids is a smaller group, the **catechins**. The catechin found in the greatest concentration in tea—and the one most studied for its health benefits—is **EGCG**.

Some companies use the term **antioxidants** to describe the polyphenols in their tea drinks.

Breast Cancer

"Cohort studies that follow women for years really do not show any protective effect from drinking tea on the risk of developing breast cancer," says Anna Wu, co-leader of the Cancer Control Research Program at the University of Southern California's Keck School of Medicine in Los Angeles.

In the six studies that tracked more than 140,000 women in Japan, Sweden, the Netherlands, and the United States for up to 24 years, those who reported drinking the most tea were no less likely to be diagnosed with breast cancer than those who drank the least tea.[8]

But green tea may make a difference in women who already have breast cancer.

In two studies of Japanese women who had been diagnosed with breast cancer, those who drank more than three cups of green tea every day had a 27 percent lower risk of having their cancer recur than those who drank little or no green tea.[9,10]

That's far from proof, though.

"The problem in interpreting studies like these is that drinking green tea is an indicator of an Asian lifestyle, including lower body weight, more physical activity, and more soy in the diet," points out Regina Ziegler, a researcher at the U.S. National Cancer Institute (and a member of *Nutrition Action*'s Scientific Advisory Board).

"So it could be that this lifestyle, rather than drinking green tea, helped protect these women from getting breast cancer again."

Metabolism

Eight O'Clock Metabolism Boost Performance Blend coffee beans are "gently infused" with 40 to 70 milligrams of EGCG per brewed cup, "to naturally enhance the body's own metabolism."

GNC's "be-ENERGIZED Calorie Burning Formula" ("Burning calories has never been so easy") supplements its 200 mg of caffeine with 25 mg of EGCG, "to boost your metabolism."

Does EGCG make you burn more calories?

"If you test the tea polyphenols like EGCG alone, you don't see that they have very much of an effect on metabolism," says researcher Mario Ferruzzi of Purdue University in West Lafayette, Indiana.

Almost as much sugar as a soft drink. The green color is largely from synthetic dyes.

They don't appear to do much for weight either.

A recent meta-analysis found that overweight men and women who consumed 282 mg of EGCG every day weighed no less after 12 weeks than similar people who took a placebo.[11]

"If you combine tea polyphenols with caffeine, you do see a bump in short-term energy expenditure compared to people taking just caffeine or a placebo," notes Ferruzzi. "Whether that helps you maintain a healthy weight is a whole other issue."

The Bottom Line

- Green tea is rich in plant compounds that help protect laboratory animals from cancer and other diseases. But the jury is still out over whether it helps protect humans against cancer, strokes, or cognitive decline.
- If you want the full range of potentially beneficial compounds in green tea, drink it freshly brewed and often.
- If you drink bottled tea, look for one made primarily from brewed green tea, not tea extracts or concentrate.

(Ferruzzi is a co-patent holder for a weight-maintenance drink that contains tea and caffeine and that was the basis for Coca-Cola's Enviga drink.)

In the meta-analysis, the mix of EGCG and caffeine wasn't very impressive. After three months of taking polyphenols plus caffeine every day, overweight men and women—some were dieting and some weren't—lost an average of just one more pound than similar people who took a placebo.

"Small and not likely clinically relevant," was the way the researchers summed up their results.

Memory

"Regular tea drinkers may experience a different rate of cognitive decline than non-tea drinkers," says UCLA epidemiologist Lenore Arab.

Arab and her colleagues analyzed data from the Cardiovascular Health Study, which has been tracking heart disease and stroke rates in adults 65 years of age and older in North Carolina, California, Maryland, and Pennsylvania since 1989.

More than 4,800 of the study participants took a yearly Mini-Mental State Examination (MMSE)—a questionnaire that is used to screen for memory loss and other cognitive impairment.

Those who drank tea—green or black—at least five times a week had about a 30 percent slower rate of decline in their scores than those who didn't drink tea at all. But so did those who drank tea just one to three times a month. So it's not clear whether tea, rather than something else about tea drinkers, protects the brain.

The results, which were presented at an Alzheimer's disease conference last summer, haven't yet been published.

An earlier long-term study among older Chinese adults living in Singapore also found that tea drinkers had a slower rate of cognitive decline than non-tea drinkers.[12]

Arab's bottom line: "We are still very early in the game. We're not there yet in terms of saying anything that's definitive."

1 *Stroke 40*: 1786, 2009.
2 *J. Neurosci. Res. 77*: 892, 2004.
3 *Am. J. Epidemiol. 167*: 71, 2008.
4 *Br. J. Cancer 95*: 371, 2006.
5 *Cancer Causes Control 15*: 911, 2004.
6 *Cancer Res. 49*: 1857, 1989.
7 *Cancer Res. 66*: 1234, 2006.
8 *Carcinogenesis 27*: 1310, 2006.
9 *Jpn. J. Cancer Res. 89*: 254, 1998.
10 *Cancer Letters 167*: 175, 2001.
11 *Am. J. Clin. Nutr. 91*: 73, 2010.
12 *Am. J. Clin. Nutr. 88*: 224, 2008.

Photos: ©Fedels/fotolia.com (hands), Jorge Bach (illustration & bottle).

Going Green

If green tea has any health benefits—and that's a big "if"—*how much* of *what* you drink may matter. "Consume enough of the tea polyphenols and consume them often enough—that means three or more servings a day—to keep their levels in your blood high," recommends Purdue University polyphenols researcher Mario Ferruzzi.

The best source of tea polyphenols: brewed green tea.

"Make sure you drink a proper cup, not some weak ready-to-drink or instant tea product that has maybe a third or less of what's in brewed tea," says Ferruzzi.

Steep the tea bag or tea leaves for at least three minutes, suggests tea researcher Claudia Fajardo-Lira of the University of California at Northridge. "It takes time for the polyphenols to dissolve into the water."

Squeezing in some lemon helps, since it supplies vitamin C, which protects the polyphenols from being oxidized and lost.

You'd need three 16 oz. bottles to get the EGCG of one 8 oz. cup of brewed tea.

What about milk? "Although the prevailing view has been that milk binds up some of the tea's important constituents and makes them unavailable for absorption," says Ferruzzi, "the effect is actually negligible" unless the tea and milk sit for more than an hour before you drink it.

An 8 oz. cup of fresh-brewed green tea contains about 320 milligrams of polyphenols, including roughly 190 mg of EGCG. If you don't have time to brew a cup from scratch, you'll have to settle for a lot fewer polyphenols.

Most bottled green teas are less than 100 percent tea because they're sweetened with sugar, high fructose corn syrup, or honey. What's more, some—SoBe, for example—are made from tea extracts that may not contain as much of the full range of polyphenols as the real thing. SoBe Green Tea's polyphenols are too negligible to even list on the label, according to its manufacturer, Pepsi-Cola.

As much sugar as a soft drink. The "Antioxidants" on the label is mostly vitamin C.

Deciphering from the labels which bottled green teas supply the most green tea "goodness" is pretty much impossible. Lipton, for example, discloses how much flavonoids it contains, while Honest Tea gives numbers for EGCG and Fuze lists polyphenols. (See "Tea Talk" for what each term means.)

And Canada Dry Green Tea Ginger Ale is "enhanced with 200 mg of antioxidants from green tea & vitamin C," according to the bottle. (Too bad only 46 of the 200 mg come from the green tea...something the label *doesn't* disclose.)

Some labels compound the confusion by giving EGCG or polyphenol numbers for the whole bottle, which typically contains at least two 8 oz. servings. (If you drink the whole thing, don't forget to multiply the calories listed on the Nutrition Facts panel by the number of servings in the bottle.)

Lemon Aid

BY KATE SHERWOOD

Fresh lemon juice makes the vegetables in these recipes sparkle. Any of them could be a main course, but also makes a great side dish. Just serve with a tossed salad and some quickly sautéed fish or grilled chicken.

Got a question or suggestion? Write to Kate at healthycook@cspinet.org.

Green Pea Falafel

- ½ cup dry green split peas
- 1½ cups green peas, thawed from frozen
- ½ onion, chopped
- 5 sprigs Italian parsley, leaves chopped
- 2 cloves garlic, minced
- 1 Tbs. whole wheat flour
- 1 tsp. ground coriander
- 1 tsp. ground cumin
- ¼ tsp. cayenne powder
- 3 Tbs. fresh lemon juice, divided
- ½ tsp. kosher salt
- 2 Tbs. tahini
- 2 Tbs. extra-virgin olive oil

Grind the split peas in a food processor. Add the green peas and pulse several times. Add the onion, parsley, garlic, flour, spices, 1 Tbs. of lemon juice, and salt. Process until well blended. Form into 12 patties (about ¼ cup each). Refrigerate for 1 hour.

Make the tahini dressing by whisking together the tahini, remaining 2 Tbs. lemon juice, and 2 Tbs. hot water until smooth. Add more water as needed to thin the dressing.

In a non-stick skillet, sauté the falafel patties in the oil in 2 batches until well browned on both sides, about 2 minutes per side. Drizzle with the tahini dressing. Serves 4.

PER SERVING (3 patties)

Calories: 250	*Sodium: 290 mg*
Total Fat: 12 g	*Cholesterol: 0 mg*
Sat Fat: 1.5 g	*Carbohydrates: 28 g*
Protein: 11 g	*Fiber: 11 g*

*plus 1 hour chilling time.

Artichoke Sauté

- 9 oz. frozen artichoke hearts, thawed, drained, and patted dry
- 4 Tbs. extra-virgin olive oil, divided
- 8 oz. shiitake mushrooms, caps sliced, stems discarded
- 1 15 oz. can no-salt-added chickpeas, drained and rinsed
- 3 cloves garlic, chopped
- 2 scallions, sliced
- 6 sprigs Italian parsley, chopped
- 1 Tbs. fresh lemon juice, more to taste
- ½ tsp. kosher salt

In a large non-stick skillet, sauté the artichokes in 1 Tbs. oil until browned. Remove from the pan. Sauté the mushrooms in 1 Tbs. oil until browned. Remove from the pan. Sauté the chickpeas in 1 Tbs. oil until lightly browned.

Add the remaining 1 Tbs. oil, stir in the garlic, and cook for 30 seconds. Return the artichokes and mushrooms to the pan and heat through. Add the scallions and parsley. Season with lemon juice and up to ½ tsp. salt. Serves 4.

PER SERVING (1 cup)

Calories: 290	*Sodium: 310 mg*
Total Fat: 6 g	*Cholesterol: 0 mg*
Sat Fat: 2 g	*Carbohydrates: 30 g*
Protein: 9 g	*Fiber: 10 g*

Asparagus Risotto

- 4 cloves garlic, minced
- 1 bunch scallions, whites and greens separated, thinly sliced
- 3 Tbs. extra-virgin olive oil
- 1 cup short-grain brown rice
- 1 cup dry white wine
- 5 cups boiling water
- ½ lb. asparagus, cut into pieces
- ½ lemon, zested and juiced
- ½ cup grated Parmesan cheese
- ½ tsp. kosher salt
- Freshly ground black pepper

In a large, deep skillet, sauté the garlic and scallion whites for 1 minute in the oil. Stir in the rice to coat evenly with the oil. Stir in the wine and simmer until absorbed. Stir in 3 cups of boiling water and simmer, stirring occasionally, partially covered, until the water is absorbed, about 35 minutes.

Stir in 1 cup of boiling water. Simmer while stirring continuously for 5 minutes. Stir in the asparagus and more boiling water if the rice is dry. Cook until the asparagus is tender crisp, about 3 minutes.

Remove from the heat. Add the lemon zest and juice and the Parmesan. Season with up to ½ tsp. salt and plenty of black pepper. Garnish with the scallion greens. Serves 6.

PER SERVING (1 cup)

Calories: 260	*Sodium: 280 mg*
Total Fat: 10 g	*Cholesterol: 5 mg*
Sat Fat: 2.5 g	*Carbohydrates: 31 g*
Protein: 6 g	*Fiber: 3 g*

Photos: Jorge Bach.

Crackers

HOW TO FIND THE TOP SEEDS

BY JAYNE HURLEY & BONNIE LIEBMAN

Cheez-Its are America's top-selling crackers, followed by Ritz, Wheat Thins, Triscuits, and Premium Saltines.

Not exactly a whole-grain sweep.

Except for Triscuits (and its knock-off imitators) and Scandinavian crispbreads, you have to hunt to find 100 percent whole-grain crackers. And you have to know which multigrain or high-fiber or gluten-free or hint-of-salt or natural brands cut the mustard and which aren't all they're cracked up to be.

Here's a quick stroll through the cracker aisle.

Information compiled by Zahra Hassanali.

Best of the bunch: Triscuits that go light on salt.

Triscuits Take Over

For a healthy cracker, start with Triscuits and its extended family—from Fire Roasted Tomato to Rosemary & Olive Oil. All are 100 percent whole wheat and delish. And nearly all have sodium levels low enough to earn Honorable Mentions.

But only one Triscuit—Hint of Salt—is a Best Bite. A six-cracker serving has just 50 mg of sodium. It's a better deal than saltier (160 mg) and slightly drier Reduced Fat Triscuits.

Triscuits are so popular that they've spawned spin-offs like Trader Joe's Reduced Guilt Woven Wheats and Whole Foods 365 Baked Woven Wheats. The latest: Triscuits on vitamins from Kashi.

The Kashi Heart to Heart Whole Grain Crackers box is awash in claims. "Help Reduce Cholesterol" isn't so far-fetched. Kashi adds 0.4 grams of plant sterols to each seven-cracker serving. Recent studies suggest that 2 grams of plant sterols a day can lower LDL ("bad") cholesterol by 5 to 15 percent. And the sodium (80 mg) deserves the "Help Promote Healthy Blood Pressure" claim.

But "Help Support Healthy Arteries" is bogus. So far, studies haven't shown that the crackers' "6 natural antioxidants" (vitamins E and C, beta carotene, and green tea, white tea, and grape seed extracts) do anything for arteries.

Something new: whole grains plus fruit, seeds, and not a drop of salt.

Join the Crisps

Crispbreads are (often Scandinavian) crackers roughly the size of a cassette tape. The ingredients are about as simple as it gets: whole-grain flour (typically rye), water, salt, and (sometimes) yeast.

Two brands (Kavli and Ryvita) account for many of our Best Bites, while two others (Wasa and Finn Crisp) make an appearance as Honorable Mentions.

Classic crispbreads are airy, and their dimples—and subtle (some would say bland) taste—make them the perfect base for almost anything you'd put on a sandwich. Try them with tuna, chicken, shrimp, or egg salad. Or spread on some hummus or chopped tomato with fresh basil. You get the idea.

Our favorites: Finn Crisp Thin Crispbreads, which are wafer-thin and stand-alone good. (Only one variety—Finn Crisp Plus 5 Wholegrains—has sodium low enough for an Honorable Mention.)

Also able to go topless is delicious Ryvita Fruit & Seed Crunch. Unlike most crispbreads (or crackers), they're *slightly* sweet, thanks to currants and about a teaspoon of brown sugar plus a drop or so of honey in each two-crispbread serving. The rest is whole-grain rye flour, whole-grain wheat flour, pumpkin seeds, sunflower seeds, whole-grain oat flakes, and whole-grain kibbled rye. There's no salt.

And they're fabulous with peanut (or almond) butter and apple slices or low-fat goat cheese and sliced pears. Or try just a little Gruyère or brie.

Unlike crispbreads, which are typically all (or mostly) whole grain, flatbread crackers usually aren't. Wheat Thins, Keebler Town House, Back to Nature, and some Doctor Kracker flatbreads have refined flour as their first ingredient.

If you don't want to squint at the ingredient list trying to figure it out, just pick up a box of our old standby, always-delicious Ak-Mak 100% Whole Wheat Crackers. The Honorable Mentions are flatbread crackers even though the box doesn't say so.

Photos: Jorge Bach.

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Gluten Free at Last

Gluten-free rice cakes with nothing but brown rice and a touch of salt.

"Wheat & Gluten Free," boasts the label of Blue Diamond Nut-Thins Nut & Rice Cracker Snacks.

"Gluten free" is popping up all over the supermarket these days. For reasons that are unclear, the number of people with gluten sensitivity (also called celiac disease) is four times what it was 50 years ago.

According to recent studies, roughly one in 130 people needs to steer clear of gluten—which is a protein found mostly in wheat, barley, and rye—to avoid symptoms like diarrhea, constipation, bloating, and cramps. The good news is that marketers are stepping up to offer a wider selection of gluten-free foods.

But "gluten free" isn't a guarantee that crackers (or any other foods) are top-of-the-line healthy. Blue Diamond Nut-Thins, for example, consist mostly of (white) rice flour, nuts, and potato starch, so they're not whole grain—or even mostly nuts, as the name would have you believe. (On the plus side, the Hint of Sea Salt flavor has only 80 milligrams of sodium.)

In fact, most gluten-free crackers are refined grain. If your idea of a cracker is flexible, try Quaker Lightly Salted Rice Cakes. Their only ingredients: brown rice and just enough salt to supply 50 milligrams of sodium in a 110-calorie, three-cake serving. Not too shabby.

Chips Shot

Too much sodium for an Honorable Mention, but at least they're whole grain.

"60% Less Fat than the Leading Potato Chip," says the bag of Pepperidge Farm Multi-Grain Cracker Chips.

Cracker chips? Think of them as a hybrid of crackers and potato or tortilla chips. Are they better for you than chips?

Not necessarily. Potato and tortilla chips are fried in good oils (usually soy), so their main downside isn't bad fat. It's that chips are calorie dense, which means they pack a lot of calories into a small volume of food. So by the time you're full, you've swallowed more calories than you would if you were eating, say, carrots or cantaloupe. But most crackers are also calorie dense, so it's a wash.

Like ordinary crackers, cracker chips vary from 100 percent whole grain (Wheat Thins Toasted Chips) to about 50 percent (Pepperidge Farm Cracker Chips) to 0 percent (Ritz Toasted Chips). But even the whole-grain versions have too much sodium for even an Honorable Mention.

Bottom line: Check the whole grains and sodium...and know when to say when. Odds are, you can't afford many of *any* chips.

Photos: Jorge Bach.

Cracker Tricks

You gotta be on your toes to see through the tricks in the cracker aisle. Here are a few:

Special K cuts calories by telling you to eat fewer crackers. Gee, thanks!

■ Special K Savory Herb Crackers. "90 calories per 17 crackers," announces the box. That Special K...always trying to find a weight-loss angle.

The deal here is simple. Special K cuts the calories from 120 to 90 by telling customers to eat not 1 oz. (24 crackers), but about ¾ oz. (17 crackers). Why not tell them to eat even less? "10 calories per 2 crackers" might bamboozle even more shoppers.

■ Wheat Thins Fiber Selects. "5 g Fiber," declares the label. "Fiber Selects 5-Grain are not only an excellent source of fiber, but are packed with an amazing crunch and the delicious taste of 5 hearty grains."

The isolated oat fiber added to these crackers may do nothing for you.

While the first ingredient is whole-grain wheat flour, most of the crackers' extra fiber comes from the isolated oat fiber that Nabisco adds. And that kind of fiber may not do much for you.

And does anyone believe that the company's Garden Vegetable Fiber Selects are healthier because they have a few grams of dried veggies? Nabisco's marketing department sure hopes so.

■ All-Bran Multi-Grain Crackers. They're too salty (230 mg of sodium per ounce), but at least the first ingredient is whole wheat flour. And they're not "all bran." Not even close. (The crackers have more natural flavor than wheat bran.)

Most of the "5 g Fiber" featured in big print on the box comes from—you guessed it—added oat fiber. No-Bran would be closer to the truth.

The brands sound healthy. The crackers often aren't.

■ Back to Nature, Kashi, Whole Foods. "For over 50 years, Back to Nature has been passionate about creating foods with wholesome grains, real nutrition, and the delicious flavors of nature without artificial preservatives, flavors, or colors," says the box. (What are "wholesome" grains? They're the ones that sound whole but aren't.)

Kashi TLC and Whole Foods 365 Organic crackers employ a similar shtick. All three are essentially Cheez-Its with fancy names (like Country Cheddar Cheese Crackers) and a bit less saturated fat. Bottom line: Don't judge a food by its brand name.

Wise Crackers

All the grain in our Best Bites (✔✔) is whole, and 1 oz. of crackers has no more than 100 milligrams of sodium. Honorable Mentions (✔) are all whole grain or have whole grain as the first ingredient and can have up to 150 mg of sodium. Both have no more than 1 gram of saturated fat. To make it easier to compare crackers with different serving sizes, the calories, sodium, etc., in the chart are for the number of crackers closest to 1 oz. Within each section, crackers are ranked from least to most sodium, then least to most calories, most to least fiber, and least to most saturated fat.

100% Whole Grain *(number of crackers closest to 1 oz.)*

	Calories	Saturated Fat (g)	Fiber (g)	Sodium (mg)
✔✔ Manischewitz Matzo, Whole Wheat *(1)*	110	0	3	0
✔✔ Quaker Rice Cakes, Salt-Free *(3)*[G]	110	0	1*	0
✔✔ Lundberg Brown Rice Cakes, Salt Free *(2)*[1,G]	130	0	2	0
✔✔ Ryvita Fruit & Seed Crunch *(2)*	140	0	4	0
✔✔ Ryvita Rye & Oat Bran *(3)*	120	0	6	30
✔✔ Quaker Rice Cakes, Lightly Salted *(3)*[G]	110	0	1*	50
✔✔ Nabisco Triscuit, Hint of Salt *(6)*	120	1	3	50
✔✔ Ryvita Light Rye *(3)*	120	0	5	60
✔✔ Kavli—5 Grain, Golden Rye, or Hearty Thick *(3)*[1]	90	0	5	70
✔✔ Lundberg Brown Rice Cakes *(2)*[G]	120	0	2	70
✔✔ Ryvita Sunflower Seeds & Oats *(2)*	90	0	4	80
✔✔ Kashi Heart to Heart *(7)*[1]	120	0	4	80
✔✔ Kavli Crispy Thin *(6)*	100	0	4	90
✔✔ Ryvita Pumpkin Seeds & Oats *(2)*	120	0	4	90
✔ Ryvita—Dark or Sesame Rye *(3)*[1]	120	0	6	110
✔ Ryvita Multi-Grain *(3)*	140	0	6	110
✔ Lundberg Organic Brown or Wild Rice Cakes, Lightly Salted *(2)*[1,G]	140	0	2	110
✔ Wasa Hearty *(2)*	90	0	4	120
✔ Ak-Mak 100% Whole Wheat *(5)*	110	0	4	140
✔ Wasa—Light Rye *(4)* or Whole Grain *(3)*[1]	120	0	6	140
✔ Back to Nature Harvest Whole Wheats *(6)*	120	0	3	140
✔ Nabisco Triscuit—except Hint of Salt, Original, or Reduced Fat *(6)*[1]	120	1	3	140
✔ Finn Crisp Thin Crispbread, Plus 5 Wholegrains *(4)*	110	0	5	150
Finn Crisp Thin Crispbread—Caraway or Original *(4)*[1]	90	0	5	160
Wasa Multi Grain *(2)*	90	0	4	160
Nabisco Triscuit, Reduced Fat *(7)*	120	0	3	160
Whole Foods 365 Baked Woven Wheats *(8)*	120	0	3	170
Nabisco Triscuit Thin Crisps *(14-15)*[1]	130	1	3	170
Wasa Fiber *(3)*	110	0	6	180
Nabisco Triscuit, Original *(6)*	120	1	3	180
Doctor Cracker Flatbread, Seedlander *(1)*	100	2	3	190
Mary's Gone Crackers Organic *(13)*[1,G]	140	1	3	190
Carr's Whole Wheat *(4)*	160	3	2	200
Trader Joe's Reduced Guilt Woven Wheats *(8)*	120	0	3	210
Nabisco Wheat Thins Toasted Chips *(12-13)*[1]	130	1	2	230
Nabisco Wheat Thins, 100% Whole Grain *(16)*	140	1	2	280

Mostly Whole Grain *(number of crackers closest to 1 oz.)*

	Calories	Saturated Fat (g)	Fiber (g)	Sodium (mg)
✔ Nabisco Wheat Thins, Hint of Salt *(16)*	150	1	2	60
✔ Wasa Whole Wheat *(2)*	100	0	2	140
✔ Wasa Sourdough *(3)*	110	0	6	140
Wasa Thin & Crispy Flatbread, Sesame *(3)*	110	1	2	150
✔ Nabisco Wheat Thins Crunch Stix, Honey Wheat *(14)*	130	1	2	150
Barbara's Wheatines *(8)*	120	0	2	160
Back to Nature Multi-Seed Rice Thin *(15)*[G]	130	0	1	180
Wasa Crisp'n Light, 7 Grain *(6)*	120	0	4	190
Wasa Thin & Crispy Flatbread, Original *(3)*	110	1	2	200
Finn Crisp Thin Crispbread, Multigrain *(4)*	100	0	4	210
Dare Grainsfirst *(6)*	120	1	3	210
Nabisco Wheat Thins—except 100% Whole Grain or Hint of Salt *(14-16)*[1]	140	1	2	210
Kellogg's All-Bran Multi-Grain *(18)*	130	1	5	230
Kellogg's Special K *(24)*[1]	120	0	3	250
Nabisco Wheat Thins Fiber Selects *(13-15)*[1]	120	1	5	260
Wasa Thin & Crispy Flatbread, Rosemary *(3)*	110	1	2	270

Mostly Refined or Refined *(number of crackers closest to 1 oz.)*

	Calories	Saturated Fat (g)	Fiber (g)	Sodium (mg)
Nabisco Premium Saltine, Hint of Salt *(10)*	120	0	0	50
Nabisco Ritz, Hint of Salt *(10)*	160	2	0	60
Blue Diamond Nut-Thins, Hint of Sea Salt *(17)*[G]	130	0	1	80
KA-ME Rice *(16)*[1,G]	110	0	0	90
Back to Nature Seeded Flatbread *(3)*[1]	130	0	3	130
New York Style Risotto Chips *(9)*[1,G]	140	1	2	130
Red Oval Farms Stoned Wheat Thins, Lower Sodium *(4)*	120	0	1	140
Kashi TLC Party *(4)*[1]	130	1	3	140
Dare Breton, Reduced Fat & Sodium *(7)*	120	1	2	150
Kashi TLC, Original 7 Grain *(15)*	120	0	2	160
Blue Diamond Nut-Thins, except Hint of Sea Salt *(16-17)*[1,G]	130	0	1	170
Nabisco Premium Saltine, Unsalted Tops *(10)*	120	0	0	190
Carr's Table Water *(10)*	140	1	2	200
Keebler Wheatables Nut Crisps *(16)*[1,G]	140	1	1	210
Keebler Wheatables *(17)*[1]	140	2	1	210
Red Oval Farms Stoned Wheat Thins *(4)*	120	0	1	220
Kashi TLC, Country Cheddar *(18)*	130	1	1	220
Kellogg's Special K Cracker Chips *(27-30)*[1]	110	0	3	230
Back to Nature Crispy Wheat *(17)*	130	0	1	230
Pepperidge Farm Cracker Chips *(27)*[1]	140	1	2	230
Nabisco Wheat Thins Cheese Baked Snacks *(11)*[1]	140	1	1	230
Sunshine Cheez-It *(27)*	150	2	1	230
Nabisco Ritz, Whole Wheat *(10)*	140	1	2	240
Dare Breton, Original *(6)*	140	4	1	240
Nabisco Wheat Thins Flatbread *(4)*[1]	120	0	2	250
Keebler Club—Multi-Grain or Original *(8)*[1]	140	1	1	250
Sunshine Cheez-It, Whole Grain *(27)*	150	2	1	250
Pepperidge Farm Harvest Wheat *(6)*	160	0	2	250
Nabisco Ritz *(10)*	160	2	0	250
Keebler Town House Bistro Multigrain *(4)*	160	1	1	260
Keebler Town House, Original *(10)*	160	2	1	260
Whole Foods 365 Organic Cheese *(30)*	130	1	1	270
Nabisco Ritz Toasted Chips *(14-16)*[1]	130	1	0	270
Keebler Town House Flatbread Crisps *(12)*[1]	140	0	1	280
Nabisco Ritz, Reduced Fat *(10)*	140	0	0	300
Nabisco Wheatsworth *(8)*	140	1	2	320
Dare Breton, Multigrain *(6)*	140	4	2	320
Back to Nature Crispy Cheddars *(24)*	140	1	1	320
Nabisco Premium Saltine, with Multigrain *(10)*	120	0	0	340
Nabisco Premium Saltine, Original *(10)*	120	0	0	380
Keebler Town House FlipSides *(10)*[1]	140	1	1	410
Keebler Zesta, Whole Wheat *(10)*	120	0	1	460

✔✔ Best Bite. ✔ Honorable Mention. [1]Average. [G]Gluten free. * Estimate.

Daily Limits *(for a 2,000-calorie diet)*: ***Sodium:*** 1,500 milligrams. ***Saturated Fat:*** 20 grams. ***Daily Fiber Target:*** at least 25 grams.

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About CSPI, publisher of Nutrition Action Healthletter

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The Center for Science in the Public Interest (CSPI), founded in 1971, is an independent nonprofit consumer health group. CSPI advocates honest food labeling and advertising and safer and more nutritious foods. CSPI's work is supported by *Nutrition Action Healthletter* subscribers and foundation grants. CSPI accepts no government or industry funding. *Nutrition Action Healthletter*, first published in 1974, accepts no advertising.

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RIGHT STUFF

SOMETHING SPECIAL

Most varieties of **Kellogg's Special K** cereal are nothing special. Just some rice, whole wheat, sugar, and a major ad campaign that promises that you'll "lose up to 6 lbs in 2 weeks" by replacing two meals and two snacks a day with Special K cereals, crackers, shakes, or bars. (Ignore it. If you could replace entire meals with a serving of cereal, crackers, or a bar, *any* brand would probably work.)

Special K **Protein Plus** is different. A ¾-cup serving is high in protein (10 grams), but low in calories (100). Most cereals have just a gram or two of protein. Kashi's GoLean line is an exception, but you have to pick carefully. A cup of original GoLean supplies 13 grams of protein for its 140 calories, but GoLean Crunch!'s 9 grams of protein come with 190 calories.

Special K Protein Plus cereal has another plus. Its first ingredient is wheat bran, which accounts for most of each serving's 5 grams of fiber. That's close to the 7 grams you'd get in a 190-calorie serving (1 cup) of Kellogg's Raisin Bran. Granted, Protein Plus isn't 100 percent whole grain. It's got some (white) rice after the soy grits (which supply most of the protein). But the extra bran makes up for some of the refined grain.

Protein Plus keeps a lid on calories in part because it's so low in sugar. Kellogg adds a touch of the safe sweetener sucralose (Splenda) to its ½ teaspoon of table sugar plus high-fructose corn syrup.

A bowl of Protein Plus is a perfect home for a handful of sliced berries, bananas, or peaches. Now *that's* special.

Kellogg: (800) 962-1413

Photos: Jorge Bach.

dish OF THE MONTH

1-2-3 Asparagus

Steam ½ lb. of asparagus until tender, about 2-5 minutes. Whisk together 1 Tbs. of mayonnaise with 1 Tbs. of lemon juice and 1 finely minced small shallot. Drizzle over the asparagus.

FOOD PORN

NO WAIST PASTA

"Fettuccine noodles tossed in a creamy Parmesan cheese sauce. Up the flavor with the addition of grilled shrimp, scallops or chicken breast, or choose two."

That's all **Outback**'s menu says about its **No Rules Parmesan Pasta**. Not a clue that the pasta and sauce alone supply 910 calories, 1½ days' worth of saturated fat (31 grams), and two-thirds of a day's sodium (1,080 milligrams). That's about what you'd get in two Outback 8 oz. New York strip steaks without sides (except that the steaks have 20 grams of sat fat and 100 fewer calories). No rules...and no clues.

And if you take the menu's advice to "up the flavor" with, say, chicken, your entrée hits 1,480 calories and 45 grams of sat fat seasoned with 1,810 mg of sodium. Now you're talking two 14 oz. New York strip steaks without sides (except that the steaks have 400 mg less sodium and "only" 33 grams of sat fat).

Instead of a pair of steaks, your plate holds a pile of white-flour pasta swimming in cream and cheese. The extra shrimp, scallops, and chicken breast sound harmless. Odds are, they're coated with butter or they wouldn't be adding 12 to 14 grams of saturated fat to the dish.

"At Outback, it's all about quality—and all about the food," explains the chain's Web site. Outback patrons are probably all about the food, too. Why else blow nearly 1,500 calories on a plate of pasta? And their food may be all about *them*...about their waist, their hips, their thighs, and their other assorted body parts.

Outback: (813) 282-1225