

# Nutrition Action

JULY/AUGUST 2019 \$2.50

HEALTH LETTER®  
CENTER FOR SCIENCE IN THE PUBLIC INTEREST

## ARE ULTRA- PROCESSED FOODS MAKING US FAT?

**EXERCISE**  
*What matters*

**Delish & Easy**  
**Stuffed Tomatoes**

**2019**  
**Xtreme Eating**  
**Awards**



M E M O

# GOING TO EXTREMES



Once again, it's the time of year when we dish out our Xtreme Eating Awards (p. 13) to those restaurant chains that managed to cram unimaginable amounts of calories, sodium, saturated fat, and/or added

sugar into their offerings. (And let's give it up for The Cheesecake Factory, a perennial winner, making it a kind of Meryl Streep for portion distortion.)

But as over the top as these creations are, excess also lurks among the typical entrées at many chains. Thousand-calorie dishes are everywhere ...and that's without a drink, an appetizer, or dessert.

Eating out is no longer a special occasion. We now consume a third of our calories away from home.

To corral the restaurant industry's growing influence on Americans' expanding waistlines, the Center for Science in the Public Interest, *Nutrition Action's* publisher, embarked on a [15-year campaign](#) of concerted advocacy. As a result, calories must now be listed on menus and menu boards at chains with 20 or more locations.

But menu labeling is just a first step. (For pointers on how numbers on menus can trip you up, see Jul./Aug. 2018, p. 10.) Some tips:

■ **Non-chain restaurants may be no better.** At independent restaurants in Boston, for example, the average entrée (with sides) had

1,300 calories, according to a 2013 [study](#) that looked at a wide variety of cuisines.

■ **Watch what you drink.** It's not just regular soda that counts. Each glass of wine has about 150 calories. Expect roughly 100 calories for a light beer, 150 for a regular, and 200 for IPAs. And most cocktails range from 200 calories (Manhattan or martini) to 500 (piña colada).

■ **Consider skipping the appetizer.** Many—like spinach artichoke dip, fried calamari, sliders, chips & guac, potato skins, or nachos—pack around 1,000 calories.

■ **Shrink your serving.** At The Cheesecake Factory, even dishes like the Fresh Grilled Salmon or Lemon-Herb Roasted Chicken (with sides) deliver 1,000 to 2,000 calories because they're so large. Split an entrée or take some home.



Some of The Cheesecake Factory's entrées may look healthy, but 1,870 calories? Sheesh.

The bottom line: There's no way to take on the epidemic of overweight and obesity that already affects some 70 percent of adults without overhauling restaurant foods.

CSPI is pushing restaurants to offer more healthy items and smaller portions, and we're passing state and local policies to give kids' meals a long-overdue makeover.

We'll keep you posted on our progress.

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

Michael F. Jacobson, PhD  
Founder and Executive Editor (1974-2017)

EDITORIAL

Peter G. Lurie, MD, MPH  
Executive Editor

Bonnie Liebman, MS  
Director of Nutrition

Stephen B. Schmidt  
Editor-in-Chief

Lindsay Moyer, MS, RD  
Senior Nutritionists

Caitlin Dow, PhD  
Senior Nutritionists

Kate Sherwood  
Culinary Director

Jennifer Urban, BS  
Project Coordinator

Kaamilah Mitchell, BS  
Project Assistant

Jorge Bach  
Art Director

BUSINESS & MARKETING

Jennifer Green-Holmes  
Director of Business Operations

Chris Schmidt  
Senior Circulation & Marketing Manager

Debra Brink  
Senior Production Manager

SCIENCE ADVISORY BOARD

Kelly D. Brownell, PhD  
Duke University

Caldwell B. Esselstyn Jr., MD  
Cleveland Clinic Foundation

Stephen Havas, MD, MPH, MS  
Northwestern University Medical School

Norman M. Kaplan, MD  
Southwestern Medical Center  
University of Texas, Dallas

JoAnn E. Manson, MD, PhD  
Harvard Medical School

Julie Mares, PhD  
University of Wisconsin

J. Glenn Morris, Jr., MD, MPH&TM  
Emerging Pathogens Institute  
University of Florida

Susan B. Roberts, PhD  
USDA Human Nutrition Research Center  
on Aging, Tufts University

Frank Sacks, MD  
Harvard Medical School

Jeremiah Stamler, MD  
Northwestern University Medical School

Regina G. Ziegler, PhD, MPH  
National Cancer Institute

*Nutrition Action Healthletter* (ISSN 0885-7792) is published 10 times a year (monthly except bi-monthly in Jan./Feb. and Jul./Aug.) by the Center for Science in the Public Interest (CSPI), 1220 L Street NW, #300, Washington, DC 20005. Periodicals postage paid at Washington, DC and additional mailing offices.

POSTMASTER: Send address changes to *Nutrition Action Healthletter*, 1220 L St NW, Suite 300, Washington, DC 20005.

SUBSCRIBER SERVICES

The cost of a one-year subscription or gift (10 issues) is \$24; two years are \$42. For bulk subscriptions: please write for details. To change your address: send us your subscriber number and your old and new address. If you don't want us to exchange your name: send us your name and mailing-label information.

Mail: CSPI, 1220 L Street NW, Suite 300, Washington, DC 20005  
Phone: 1-866-293-CSPI (2774)  
E-mail: [customercare@nutritionaction.com](mailto:customercare@nutritionaction.com)  
Online: [myaccount.nutritionaction.com](http://myaccount.nutritionaction.com)

For more offerings from *Nutrition Action*: [store.nutritionaction.com](http://store.nutritionaction.com)



The contents of NAH are not intended to provide medical advice, which should be obtained from a qualified health professional.

For permission to reuse material, go to [copyright.com](http://copyright.com) and search for Nutrition Action.

The use of information from Nutrition Action Healthletter for commercial purposes is prohibited without written permission from CSPI.

©2019 Center for Science in the Public Interest.

# ARE ULTRA-PROCESSED FOODS MAKING US FAT?

A new study shakes things up



**Kevin Hall** is chief of the Integrative Physiology Section of the Laboratory of Bio-

logical Modeling at the National Institute of Diabetes and Digestive and Kidney Diseases. Trained as a physicist, Hall leads a team of mathematicians, neuroscientists, and dietitians who study metabolism and weight. He spoke to *Nutrition Action's* Bonnie Liebman.

## Q: Why did you do this study?

**A:** The food system has changed remarkably since before the obesity epidemic, in that we now have a greater supply of ultra-processed foods.

Some people say that ultra-processed foods lead to obesity because they're high in sugar, carbs, salt, or fat. But others say that what matters is whether foods are highly processed.

We decided to test this hypothesis by conducting the first randomized controlled trial to see if people consumed more calories when exposed to a diet composed primarily of ultra-processed food versus an unprocessed diet that was matched for sugar, carbs, fat, and salt.<sup>1</sup>

## Q: What are ultra-processed foods?

**A:** Sodas, salty snacks, ice cream, frozen pizza, chicken nuggets, instant soups, and fruit drinks are a few examples, according to the NOVA system, which is the basis of Brazil's dietary guidelines. [See "What's Ultra-Processed?" p. 6.]

**T**oo much sugar. Too many carbs. Too many calories. Too much (or too little) fat or meat or dairy. Too little exercise. Too much TV. There's no shortage of alleged culprits to explain the obesity epidemic. Now a landmark study offers the first solid evidence that heavily processed foods play a role.

## Q: Could they affect more than weight?

**A:** They may. Observational studies suggest that people who report eating more ultra-processed foods have a higher risk of cardiovascular disease, cancer, and early death. But we don't know if ultra-processed foods are innocent bystanders or if they actually cause poor health outcomes.

## Q: You fed people two diets—one unprocessed and one ultra-processed?

**A:** Yes. We presented 20 people with twice as much food as they needed and told them to eat as much or as little as they wanted. [See sample meals, p. 4-5.] They had three meals a day and had access to snacks and bottled water all day.

The ultra-processed meals had about the same amount of sugar, carbs, fat, salt, protein, and fiber as the unprocessed meals. So any difference in how much they ate would depend on something other than those nutrients.

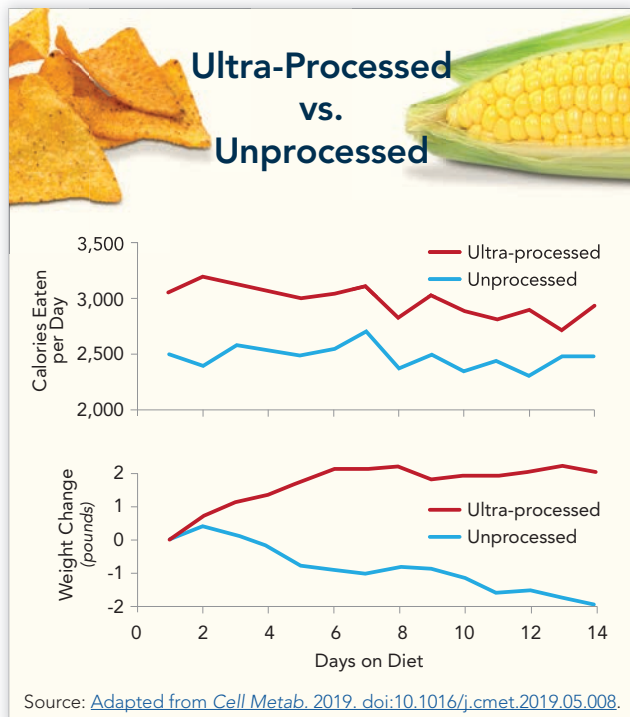
## Q: And the participants couldn't leave your facilities for a month?

**A:** Right. In random order, they had two weeks on the ultra-processed diet and two weeks on the unprocessed diet. And we measured every morsel they ate.

## Q: Did the results surprise you?

**A:** Yes. People consumed an average of 500 more calories a day on the ultra-processed foods compared to the unprocessed foods. That led them to gain two pounds on the ultra-processed diet and lose two pounds on the unprocessed diet.

I didn't expect to see such a huge effect, because both diets had equal amounts of the nutrients that people have talked about for years as drivers of the obesity epidemic.



Source: Adapted from *Cell Metab.* 2019. doi:10.1016/j.cmet.2019.05.008.

When people ate ultra-processed food, they averaged 500 more calories a day than when they ate unprocessed food.



## ULTRA-PROCESSED

## UNPROCESSED

BREAKFAST



Honey Nut Cheerios, milk, blueberry muffin, margarine.



Plain yogurt, banana, apple, frozen strawberries, walnuts & homemade granola.

LUNCH



Canned beef ravioli, parmesan, white bread, margarine, cookies, diet lemonade.



Spinach salad (with chicken breast, apple, bulgur), vinaigrette, grapes.

DINNER



Steak, instant potatoes, gravy, margarine, canned corn, chocolate milk, diet lemonade.



Beef roast, broccoli, oranges, rice pilaf, pecans, salad, vinaigrette, sunflower seeds.

**Q:** Could PYY have been higher on the unprocessed meals because they took longer to eat?

**A:** Maybe. People ate about 50 calories per minute on the ultra-processed meals but only 30 calories per minute on the unprocessed meals.

**Q:** Why?

**A:** The ultra-processed food was softer and easier to chew and swallow. That could have made folks eat more food before satiety signals like PYY started to kick in.

**Q:** Could the intact fiber in the unprocessed diet's fruits and vegetables have mattered?

**A:** It might have. The unprocessed foods naturally had a huge amount of insoluble fiber, and the other diet had almost none. So in order to make sure that both diets had the same amount of total fiber, we added processed soluble fiber to the ultra-processed diet, often to the diet lemonade.

**Q:** Where did the extra 500 calories come from?

**A:** All 500 additional calories a day came from an increased intake of carbs and fats. People consumed the same amount of protein from the two diets.

**Q:** Doesn't that mirror changes in the average American diet since 1970?

**A:** Yes. The average adult in recent years is eating about 250 to 300 more calories a

day than in the 1970s—enough to explain the obesity epidemic—and nearly all of the increased calories in the food supply came from more fat and carbs.

**Q:** How might unprocessed food curb appetite?

**A:** One possibility: PYY—or peptide tyrosine tyrosine—is a hormone that suppresses appetite. It was significantly higher on the unprocessed diet.

**Q:** Could the higher levels of added sugar in the ultra-processed diet have mattered?

**A:** Maybe. People consumed the same amount of total sugar in the two diets, but about half the sugar in the ultra-processed diet was added, while the unprocessed diet had virtually no added sugar.

But many researchers argue that all sugars—or all carbs—lead to overeating. That didn't happen in our study.

**Q: What's next?**

**A:** We're going to reformulate the ultra-processed diet to slightly increase its protein, which was slightly lower than in the unprocessed diet. And we're going to reformulate the ultra-processed diet to better match the calorie density of the non-beverage foods in the unprocessed diet.

**Q: Calorie density is essentially the number of calories per mouthful?**

**A:** Yes. The two diets had the same calorie density. But we included beverages when we calculated calorie density, and beverages may not count toward satiety in the same way that solid foods do.

**Q: So a regular Coke has a low calorie density, but it doesn't curb appetite?**

**A:** Right. Our new study will have fewer beverages—and more foods like soup, for example—in the ultra-processed diet. We hope that will also decrease the eating speed.

**Q: Why is white rice on the unprocessed menu, while whole-grain Cheerios are on the ultra-processed menu?**

**A:** We chose the NOVA system that's being promoted by the folks in Brazil to define ultra-processed foods. According to [NOVA](#), nearly all breakfast cereals are ultra-processed, and all rice—brown or white—is unprocessed.

**Q: But your results don't mean that refined grains are as healthy as whole grains, right?**

**A:** Right. Our study wasn't designed to answer that question.

**Q: So people don't have to avoid all foods in the ultra-processed category?**

**A:** They don't. Our study wasn't designed to determine exactly which foods belong



**BREAKFAST**

**ULTRA-PROCESSED**



Eggs (from liquid), pork sausage, honey buns, orange juice.

**UNPROCESSED**



Spinach-onion-tomato omelet, sweet potato hash, bananas, milk.

**LUNCH**



Hot dogs, ketchup, mustard, baked chips, blueberry yogurt, cranberry juice drink.



Cod, baked potato, salad, vinaigrette, broccoli with olive oil & garlic.

**DINNER**



Steak-bean-cheese burrito, salsa, sour cream, tortilla chips, diet lemonade.



Apples, grapes, salad, vinaigrette, black beans, frozen corn, avocado, almonds.



SNACKS

ULTRA-PROCESSED



Applesauce, Goldfish, baked chips, salted peanuts, cheese & peanut butter crackers.

UNPROCESSED



Apples, oranges, raisins, almonds, walnuts.

than the unprocessed foods.

The good news is that people didn't like the unprocessed diet any less, yet they were able to eat many fewer calories and lose weight.

**Q: Could these results end the debate about the best weight-loss diets?**

**A:** That would be nice. We have these perpetual diet wars between factions promoting low-carbohydrate, keto, paleo, high-protein, low-fat, plant-based, vegan, and a seemingly endless list of other diets. But they all share a common piece of advice: avoid ultra-processed foods.

Although our study was limited in size and duration, the huge effect that we saw suggests that unprocessed foods might partly explain why some people lose weight on these diets. 🍌

<sup>1</sup> *Cell Metab.* 2019. doi:10.1016/j.cmet.2019.05.008.

in which category. A different definition of ultra-processed foods might be better. But the overarching results of our study still stand.

And if you look at our meals overall, there isn't any confusion about which ones belong to which diet. Defining ultra-processed might be difficult in the same way that defining pornography is difficult, but you know it when you see it.

**Q: It sure looks like you're getting more food on the unprocessed diet.**

**A:** Yes. But keep in mind that the ingredients to prepare our unprocessed foods

were 40 percent more expensive than the ultra-processed foods. And you can't keep fresh foods around for long before they spoil. Also, if you work two jobs to make ends meet and have a family to feed, a frozen pizza looks very good at the end of the day.

**Q: Are processed foods designed to boost appetite?**

**A:** Some people argue that these foods are engineered to be highly rewarding. Clearly, food companies want their foods to be very tasty.

But people didn't rate our ultra-processed foods as any more pleasant to eat

WHAT'S ULTRA-PROCESSED?



**Typical unprocessed foods:** fresh or frozen vegetables, beans, fruits, nuts, seeds, poultry, seafood, meats, eggs, milk, unflavored yogurt, pasta, oats, rice, no-sugar-added muesli or shredded wheat.



**Typical ultra-processed foods:** sugary drinks, chips, ice cream, chocolate, packaged breads, cookies, pastries, cakes, breakfast cereals, cereal bars, flavored yogurts, frozen pizza, fish sticks, chicken nuggets, sausages, hot dogs, instant soups.

**What about everything else?** The list of ultra-processed foods goes on and on. And some foods fit in neither group. Use small amounts of oils, fats, and sugar and some processed foods (like cheese, some breads, and canned vegetables, fruits, beans, and fish) to prepare or accompany unprocessed foods, [says](#) the NOVA system. Confused? See "The Bottom Line."

The Bottom Line

■ **Focus on the big picture.** Cover at least half your plate with fruits and vegetables. Fill the rest with healthy unprocessed foods like beans, whole grains, nuts, low-fat dairy, fish, and poultry.

■ **Recognize the study's limits.** Is Kellogg's Raisin Bran equal to Froot Loops? (Both are "ultra-processed," thanks to malt flavor in the Raisin Bran.) Is packaged whole-grain bread ("ultra-processed") worse than white rice ("unprocessed")? No. And the study didn't look at those questions.

■ **Don't sweat the small stuff.** Love your flavored yogurt or frozen veggie burgers? Don't want to swear off *all* chocolate, ice cream, or cookies? Don't! The study didn't compare, say, an 80 vs. 90 vs. 100 percent unprocessed-food diet.

Photos: CSPI; Lindsay Moyer and Kaamilah Mitchell (top left and right), travelbook/stock.adobe.com (bottom left), fotofabrikar/stock.adobe.com (bottom right).

# Quick Studies

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

## Sweeteners: Not All Alike



**H**ow do low-calorie sweeteners affect your weight? It depends.

Researchers randomly assigned 123 people who were overweight or obese to drink roughly 40 to 60 oz. a day of Kool-Aid sweetened with sugar, aspartame (Equal), saccharin (Sweet'N Low), stevia extract (Truvia), or sucralose (Splenda). The sugar-sweetened drink supplied 400 to 560 calories. (Heavier participants got larger servings.)

After 12 weeks, the sugar group had gained 4 pounds and the saccharin group had gained 2½ pounds. The stevia and aspartame groups gained—and the sucralose group lost—about 1½ pounds, but those changes weren't statistically significant. Glucose tolerance didn't change in any group.

**What to do:** Avoid sugary beverages, but don't assume that all low-calorie sweeteners are equal. Stevia is the safest, because aspartame, sucralose, and (rarely used) saccharin cause cancer in animals. It's too early to know if sucralose can help people lose weight more than other sweeteners.

[Am. J. Clin. Nutr. 2019. doi:10.1093/ajcn/nqy381.](#)

## Ketogenic Diets & Memory

**C**an a ketogenic (very-low-carb) diet help you think better, as some people claim?

Researchers randomly assigned 11 healthy people to eat a ketogenic or a higher-carb, lower-fat diet. After three weeks, there were no differences in tests of memory, attention, or executive function, or in mood or sleep.

**What to do:** Don't expect a ketogenic diet to boost memory unless future studies provide good evidence.

[Am. J. Clin. Nutr. 2019. doi:10.1093/ajcn/nqz073.](#)



## How Many Brownies?

**S**erve people more food and they'll eat more. But does the size of each food item or the number of items matter most?

Researchers offered 186 people a plate of brownies to eat while watching a video. Each plate held 1, 2, 4, or 8 brownie squares in one of three sizes: ¼ oz., ½ oz., or 1 oz.

Overall, people tended to eat more when the plate held a smaller number of large brownies than when it held a larger number of small brownies. For example, 60 percent of the participants ate two 1 oz. brownies, but only 40 percent ate four ½ oz. brownies and a mere 18 percent ate eight ¼ oz. brownies



(even though each of the three plates held 2 oz. of brownies).

**What to do:** Want to eat less? Stick with smaller-size items. 🍪

[Appetite 2019. doi:10.1016/j.appet.2019.04.025.](#)

## Vitamin D & Diabetes

**C**an vitamin D supplements lower your risk of type 2 diabetes?

The Vitamin D and Type 2 Diabetes (D2d) trial randomly assigned roughly 2,400 adults with prediabetes to take either a placebo or 4,000 IU of vitamin D a day. When the study began, 4 percent of the participants had "deficient" blood levels of vitamin D (less than 12 ng/mL), 17 percent had "inadequate" levels (12 to 19 ng/mL), and 78 percent had "adequate" levels (at least 20 ng/mL). (Nationwide percentages are similar.)

After 2½ years, the vitamin D takers had no lower risk of diabetes than the placebo takers. Another recent trial also came up empty.

**What to do:** Don't expect extra vitamin D to protect you from type 2 diabetes. However, if your blood level is deficient or inadequate or if you've never had it tested, taking the recommended daily intake—600 IU up to age 70 and 800 IU over 70—still makes sense to protect your bones.

[N. Engl. J. Med. 2019. doi:10.1056/NEJMoa1900906.](#)  
[J. Clin. Endocrinol. Metab. 101: 1647, 2016.](#)





# SALTS OF THE EARTH

What's in your saltshaker?

BY LINDSAY MOYER

Most of the salt we eat comes from processed foods. But sometimes you need salt for recipes or seasoning. Here's our take on four common ones...and which claims to take with a few grains of, umm, salt.

## Himalyin'?



"Nutrient-dense," says [Terrasoul Superfoods Himalayan Pink Salt](#). "84 minerals."

Its website's advice: "Use daily in place of ordinary table salt to support optimum health, and to add a full spectrum of minerals to your diet."

How much of those 84 minerals can you expect? Terrasoul has good data for only 23 of them, and for most of those, levels were less than 1 part per million.

The salt's striking pink hue comes from *traces* of minerals like iron. A serving (¼ teaspoon) has 0 milligrams of iron, according to the label. Ditto for calcium and potassium.

Himalayan salt is "dense" in only two minerals—sodium and chloride. And the combo is far more likely to raise your blood pressure than to "support optimum health."

## Potassium to the Rescue



Trying to cut back on sodium? Replace some ordinary salt (sodium chloride) with potassium salt (potassium chloride).

The upside: salty taste, no sodium, and a nice dose of potassium (which helps lower high blood pressure). Sodium-free salt substitutes like Nu-Salt have 600 to 800 milligrams of potassium per ¼ teaspoon. (A small banana has 360 mg.)

The downside: some people detect a bitter aftertaste. So try a half sodium-half potassium salt blend like **Morton Lite Salt**. A ¼ teaspoon has 290 mg of sodium (about half what regular table salt has) and 350 mg of potassium.

Note: Some diseases (like heart failure or kidney disease) and some drugs (like ACE inhibitors, angiotensin II receptor blockers, and potassium-sparing diuretics) make it hard to excrete potassium. If that applies to you, talk to your doctor first.

## Unreal Claims

"Is your salt real?" asks **Redmond Real Salt**. Its key claims:

■ **Iodine.** Ordinary table salt isn't natural because it's mixed with potassium iodide, says [Redmond](#). Iodine is added because it's an essential nutrient, though we get it largely from seafood, bread, and dairy foods (it's used to clean milking equipment).

■ **Sugar.** "Many salts contain anti-caking agents and even dextrose (sugar)," [charges](#) Real Salt. Yes, but you'd have to eat 8½ cups of Morton Iodized Salt, for example, to get a trivial 1 gram of sugar.

■ **Minerals.** Salt's sodium "is best when paired with potassium—which occurs naturally, along with about 60 other trace minerals, in Real Salt," says the company's [website](#). But you'd need more than 1¼ cups of Real Salt to get the potassium of a small banana. How much of the "60 other trace minerals" do you get? Here's a clue: Gold and silver are on the list.



## Keep Kosher?

Why do our Healthy Cook recipes (p. 12) often call for kosher salt?

Kosher salt's coarse crystals mean that each teaspoon has less sodium than ordinary, finely ground table salt. That makes it easier to avoid over-salting a dish.

Our recipes use numbers for **Morton Coarse Kosher Salt**, which has 480 milligrams of sodium per ¼ teaspoon. (Regular table salt has 590 mg.) To slash sodium further, look for **Diamond Crystal**, with just 280 mg per ¼ tsp., thanks to its *hollow* crystals. (Bonus: They dissolve quickly, making it a favorite of chefs.)

Kosher salt has no iodine, but odds are, you get enough from other foods. Still worried? Take a multivitamin. Planning a pregnancy? Take a multi for the iodine...and more. 🍌





# A BODY *IN* MOTION

What matters. What's malarkey.

BY CAITLIN DOW

## 1 Why bother?

"Even after a relatively short bout of moderate-intensity activity like brisk walking, we think better," says Kathleen Janz, professor of health and human physiology at the University of Iowa and member of the committee behind the 2018 *Physical Activity Guidelines for Americans*.<sup>1</sup>

"We also sleep better, which includes falling asleep more quickly and sleeping more soundly."

A single bout of exercise can also temporarily lower blood pressure, make insulin work better, and taper anxiety. And the benefits build up over time.

"People who exercise have a lower risk of developing cardiovascular disease, type 2 diabetes, and many types of cancer," notes Janz. "And people who are more active live longer."

**Bottom Line:** What are you waiting for? Take a hike.

## 2 Sit less, move more.

"The Big Number: The average U.S. adult sits 6.5 hours a day," announced the *Washington Post* in April.

The evidence is in: walking, running, swimming, dancing, pushing, pulling, playing, and more can keep your brain and body in shape. Here's the latest on why...and how...to stay in motion.

Janz explains (see "Going Green"). "But as you increase your level of activity or reduce your sitting time or do both, your risk of dying early is dampened."

**Bottom Line:** "It's now more clear than ever that you shouldn't sit when you don't have to," says Janz.

## 3 Every bit counts.

Under the old physical activity guidelines, to reach your moderate-intensity aerobic exercise target—at least 150 minutes a week—each bout had to last at least 10 minutes.

No more.

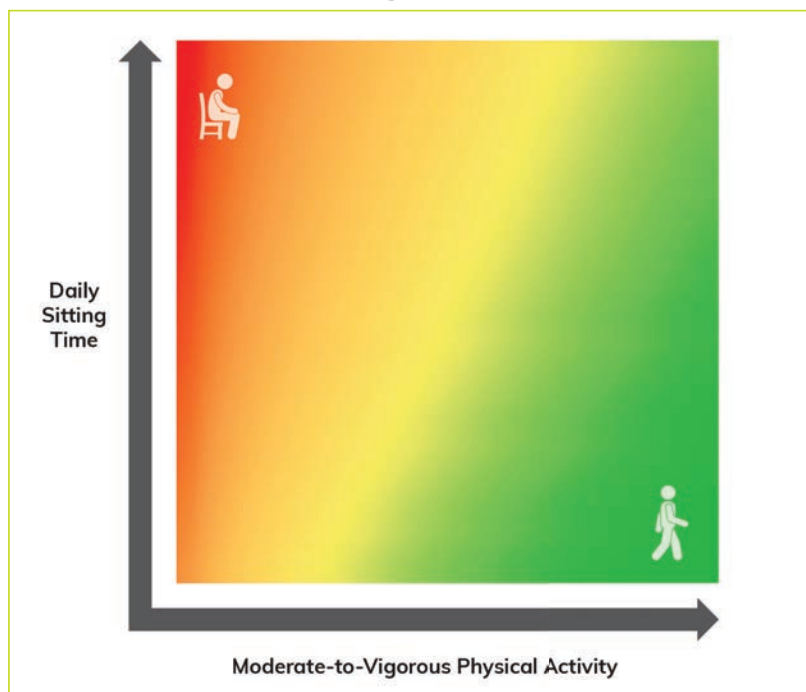
"Newer evidence shows no differences in health outcomes—like blood pressure, blood sugar, body weight, and cholesterol—in people who accumulate their moderate-to-vigorous exercise in episodes

lasting either less or more than 10 minutes," says Janz.<sup>4</sup>

"That's really freeing because exercise can seem daunting. We now have evidence that's consistent with what we've been telling people for years, like park farther away from your office or take the stairs. Those little things add up."

**Bottom Line:** Get your heart rate up as often as you can, even if it's just for a few minutes at a time.

### Going Green



The risk of dying early—from any cause—drops as you move from red to green. Either less sitting or more activity can lower your risk.

That was one hour longer than the average person sat in 2007.<sup>2</sup>

"Too much sedentary time is linked to a higher risk of cardiovascular disease, type 2 diabetes, some types of cancer, and early death," says Janz.

How much is too much sitting? It depends on how active you are.<sup>3</sup>

"There is this sliding scale where individuals who are very sedentary and aren't getting moderate-to-vigorous activity are at greatest risk of early death,"

## 4 Don't count on calorie counts.

Your fitness tracker, treadmill, or stationary bike can count the calories you burn. Just don't put too much stock in those numbers.

"Trying to determine how many calories somebody is burning is not easy," says John Porcari, professor of exercise and sport science at the University of Wisconsin-La Crosse. Porcari writes the calorie-burn equations for some companies that make exercise machines.

Two key factors: "First, the more work you do, the more calories you burn," notes Porcari. (Work is the amount of effort you exert and for how long.)

"Second, a bigger person burns more calories because they have more body to move. If a machine doesn't consider body weight, you have to question how accurate it is."

And machines also can't control for other factors.

For example:

■ **Fitness level.** "Beginners often have more extraneous movements than seasoned exercisers, so they burn more calories doing the same activity," says Porcari.

■ **Handrails.** If you hold on to the rails on a treadmill or stair climber, you burn fewer calories.

■ **Walking or jogging?** You burn more calories per minute when jogging than walking, but a treadmill can't tell if you're walking fast or jogging slowly.

Ellipticals are the trickiest.

"The machine doesn't know if you're using the arm levers, and you'll do less work for leg-only than for leg-and-arm exercises," says Porcari. "And ellipticals have a fixed stride length, so if I'm really short, I have to do more work than someone who is taller."

How far off are most machines? "They may be as much as 20 to 30 percent high or low," says Porcari. So if you burned 300 calories, your bike may say anywhere from 210 to 390 calories.

**MOVE YOUR WAY** Adults need a mix of physical activity to stay healthy.

**Moderate-intensity aerobic activity\***  
Anything that gets your heart beating faster counts.  
at least **150 minutes a week**

**Muscle-strengthening activity**  
Do activities that make your muscles work harder than usual.  
at least **2 days a week**

**AND**

\* If you prefer vigorous-intensity aerobic activity (like running), aim for at least **75 minutes a week.**

**Walk. Run. Dance. Play. What's your move?**

Source: [health.gov/paguidelines/second-edition](https://health.gov/paguidelines/second-edition).

Vigorous aerobic exercise includes running, riding a bike fast or on hills, or swimming laps. Strength training should hit all the major muscle groups (legs, hips, back, abdomen, chest, shoulders, and arms). For more info, visit [health.gov/moveyourway](https://health.gov/moveyourway).

What about Fitbits, Garmins, Apple Watches, and other fitness trackers?

"Their calorie estimates are often worthless," says Porcari. "Some try to quantify how much work you're doing based on your heart rate, your speed, and the number of steps you take. But it's difficult to get an accurate read."

In one study, Porcari used a portable metabolic device to get an accurate read on the number of calories burned by 20 volunteers as they walked, ran, did elliptical exercise, and performed basketball drills. He compared that to the numbers from five fitness trackers that the exercisers wore.<sup>5</sup>

The trackers were off by 13 to 60 percent. "They were okay for walking," says Porcari. "They weren't very good for running or on the elliptical, and they were absolutely terrible on the basketball drills. When you get into more complicated movement patterns, the equations really fall apart."

But don't throw out your Fitbit.

"The absolute number you get might

not be accurate," explains Porcari. "But you can use them as a rough guide to make workouts harder or longer."

**Bottom Line:** Don't take calorie-burning numbers literally...especially not to reward yourself with a latte and a scone.

## 5 Ignore the "fat-burning zone."

"A colleague once told me, 'I'm only walking at two miles an hour because I'm burning more fat that way,'" recalls Porcari. Why? She wanted to be in the "fat-burning zone."

It's true that when you're strolling or sitting on the sofa, you do burn more calories from fat than from carbs.

"Your body doesn't burn fat very efficiently," notes Porcari. "But it doesn't need to be efficient when you're not working hard."

"But as we progress to a higher heart rate—that is, higher-intensity exercise—our ability to rely on fat for energy decreases and carbohydrate becomes



our preferred fuel,” explains Jenna Gillen, assistant professor of kinesiology and physical education at the University of Toronto.

But that’s no reason to slow down. “You may be burning a greater percentage of fat during low-intensity exercise,” says Gillen, “but that doesn’t mean you’re burning a larger amount of fat. Unless you exercise for a long time, you’re not burning many calories.”

In one study, 27 women with obesity who were on a low-calorie diet were randomly assigned to cycle at either high or low intensity three times a week. The “high” group cycled for 25 minutes; the “low” group cycled for 50 minutes.<sup>6</sup>

“They burned the same calories, and after eight weeks, both groups had lost the same amount of weight and body fat,” says Porcari.

**Bottom Line:** Ignore the fat-burning zone. Gillen’s advice: “Focus on burning more calories rather than the ratio of fat-to-carbohydrate burn.”

## 6 Don’t rely on “afterburn.”

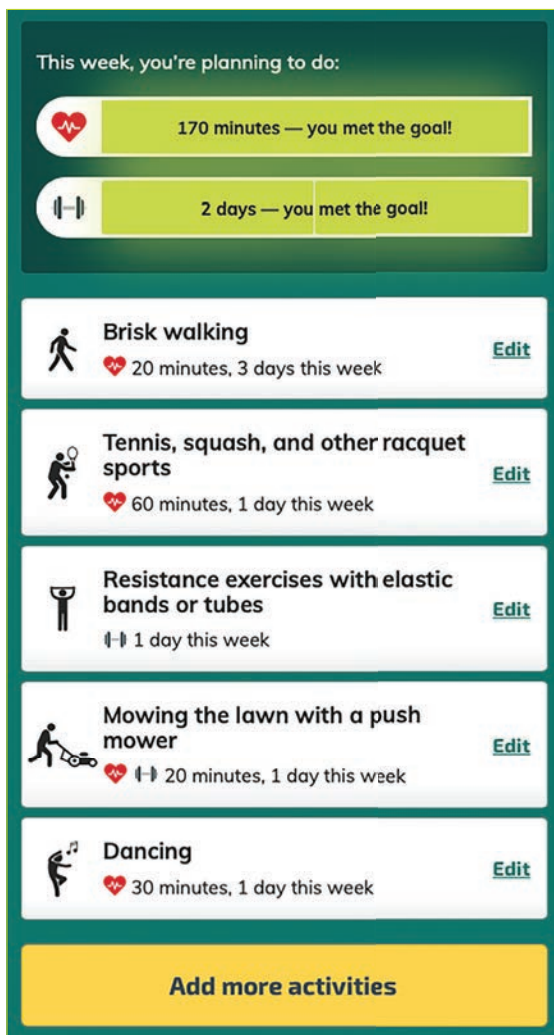
“Following the workout, as your body recovers, your metabolism stays elevated so you’re continuing to burn more calories and more fat hours after the workout is over,” says the video at OrangetheoryFitness.com, an exercise program designed to boost “afterburn.”

“Exercising at a high intensity or for a prolonged period of time at a moderate intensity can increase afterburn,” Gillen explains. “But intensity has the most impact.”

Still, that impact is modest. For example, when men exercised for 80 minutes, afterburn was roughly twice as high when they switched from a lower to a higher intensity.<sup>7</sup> But afterburn accounted for only about 6 percent of the total calories burned during and after the hardest workout.

“You’ll hear claims that you burn 40 to 50 percent more calories than you would at rest due to afterburn, but the effect is much more subtle,” says Gillen.

Afterburn does help explain why



Map out your aerobic and strength exercises by visiting [health.gov/moveyourway/activity-planner](https://health.gov/moveyourway/activity-planner).

you can save time if you work out at a higher intensity.

Gillen’s team had men either cycle at moderate intensity for 50 minutes or do 20 minutes of high-intensity interval cycling (one-minute bouts alternating between hard and easy pedaling).<sup>8</sup>

“They didn’t burn as many calories during the high-intensity interval training as when they did the longer, moderate-intensity exercise,” says Gillen. But their afterburn was about 100 calories higher after the high-intensity intervals.

“So over a 24-hour period, calorie burning was similar.”

**Bottom Line:** “Afterburn is real,” says Gillen, “but its contribution to total calorie burn is overstated.”

## 7 Get “better” at falling.

“When you fall, you can sustain injuries like a hip fracture, a concussion,

or musculoskeletal injuries like sprains and strains that keep you homebound,” says the University of Iowa’s Kathleen Janz. “But people who are physically active are less likely to fall.”

Falls aren’t always avoidable.

“If you have a winter like we just had in Iowa, people slip and fall,” says Janz. “I fell about five times. But evidence shows that if you’re physically active and you do fall, you’re less likely to sustain a serious injury.”

One reason: stronger bones. “Maybe you fall, but you’re less likely to have a catastrophic injury like a hip fracture,” says Janz.

And active people have better muscles, she adds. “You’re actually better at falling. Your body can make subtle adjustments that minimize the damage when you hit the ground.”

Which exercises can prevent falls?

“Walking isn’t enough,” says Janz. Instead, aim for a mix of aerobic, strengthening, and balance exercises.<sup>9</sup>

“Balance training could include Tai Chi, dancing, or even switching from walking forward to moving side to side,” explains Janz.

“And two or three types of exercise can be rolled into one event. You can dance, play tennis, take a Zumba class, or even play games with your grandkids at home or on playground equipment where you’re continuously shifting your body in relation to the environment.”

Outdoor activities have advantages, adds Janz.

“If you’re on a treadmill, you’re just doing the same thing repetitively. But hiking, where you’re going up and down and moving over uneven ground, is aerobic, it strengthens muscles, and it improves balance.”

**Bottom Line:** The right mix of exercises can reduce your risk of falling...or getting badly hurt if you do fall. 🍌

<sup>1</sup> [health.gov/paguidelines/second-edition](https://health.gov/paguidelines/second-edition).

<sup>2</sup> *JAMA* 321: 1587, 2019.

<sup>3</sup> *Lancet* 388: 1302, 2016.

<sup>4</sup> [health.gov/paguidelines/second-edition/report](https://health.gov/paguidelines/second-edition/report).

<sup>5</sup> *J. Fitness Res.* 3: 32, 2014.

<sup>6</sup> *Am. J. Clin. Nutr.* 51: 142, 1990.

<sup>7</sup> *J. Appl. Physiol.* 68: 2362, 1990.

<sup>8</sup> *Appl. Physiol. Nutr. Metab.* 39: 845, 2014.

<sup>9</sup> *BMJ* 2013. doi:10.1136/bmj.f6234.

# The Healthy Cook

## Flip Your Lid



Grab a few juicy, ripe tomatoes, scoop out the centers, and spoon in your favorite savory filling. Don't have one? We've got you covered. (For easy scooping, try a melon baller or grapefruit spoon.) 🍅

### Greek Farro Stuffed Tomatoes

- 4 ripe but firm tomatoes
- 1 Tbs. extra-virgin olive oil
- 1 tsp. red wine vinegar
- 2 Tbs. minced red onion
- ¼ tsp. kosher salt
- ½ cup diced cucumber
- ¼ cup crumbled feta
- 1 cup cooked farro or other whole grain
- 1 small sprig of dill, chopped

1. Slice off the stem end of each tomato. Scoop out and chop the centers.
2. In a medium bowl, whisk together the oil, vinegar, onion, and salt. Toss with the cucumber, feta, farro, and chopped tomato.
3. Spoon the farro salad into the tomato cups. Top with the dill.

*PER SERVING (1 stuffed tomato):* calories 150 | total fat 6 g | sat fat 2 g | carbs 20 g | fiber 4 g | total sugar 6 g | added sugar 0 g | protein 5 g | sodium 230 mg



SERVES 4

### Fill 'er Up

Stuffing possibilities are endless.

- Chicken or seafood salad (try crab, lobster, shrimp, or tuna)
- Quinoa, spinach, caramelized onions, chopped smoked almonds
- Black beans, avocado, cilantro, lime, green chili, white onion
- Bulgur, scallion, mint, parsley, walnuts, lemon vinaigrette
- Roasted peppers & eggplant, cannellini beans, balsamic vinegar, basil

**Have any good stuffed-tomato ideas?** Write to Kate Sherwood at [healthycook@cspinet.org](mailto:healthycook@cspinet.org). To see recipes for all of Kate's stuffed tomatoes, go to [nutritionaction.com/tomatoes](http://nutritionaction.com/tomatoes).







RESTAURANT CONFIDENTIAL

# TREME EATING 2019

BY LINDSAY MOYER & BONNIE LIEBMAN

## What's a Day's Worth?

Calories – 2,000      Sodium – 2,300 mg  
Saturated Fat – 20 g      Added Sugar – 50 g

Note: Sodium and added sugar are only shown in the graphs if the foods contain at least half the Daily Value (half a day's worth).

## Welcome to the 2019 Xtreme Eating Awards!

Two out of three American adults and one out of three children and teens are overweight or obese. Has that led restaurants to slim down their menus? Fat chance!

Our 2019 winners—each with 1,500 to 2,300 calories and at least a day's worth of sugar, salt, or saturated fat—make the usual 1,000-calorie restaurant fare look sensible. Applause, please!

*The information for this article was compiled by Kaamilah Mitchell.*

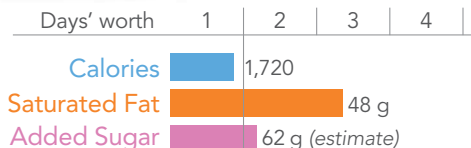


## Disaster Shake

**Sonic's Oreo Peanut Butter Master Shake** is "real ice cream mixed with rich peanut butter and Oreos into a thick and creamy shake, finished with whipped topping and a cherry."

The quart-sized (32 oz.) "large" has a mere 1,720 calories. What, no M&M's, Snickers, Reese's, or Butterfinger pieces on top?

**IT'S LIKE EATING:** 15 Oreos blended with half a cup of lard.

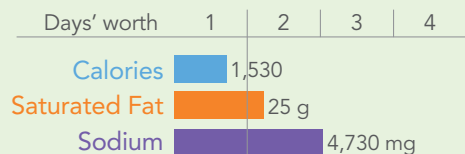


## Who's a Big Boy?

"Enjoy three farm fresh eggs, fried apples, hashbrown casserole, and grits...plus sirloin steak, two pork chops or country ham," says **Cracker Barrel's** menu. The **Country Boy Breakfast** "comes with All The Fixin's" (biscuits, gravy, butter, and jam).

That's all? Surely, Cracker Barrel could have tossed in some waffles or pancakes. How are we going to become the heaviest nation on Earth if we don't get a head start in the a.m.?

**IT'S LIKE EATING:** 3 McDonald's Egg McMuffins plus 4 hash browns (for the Country Boy with ham).





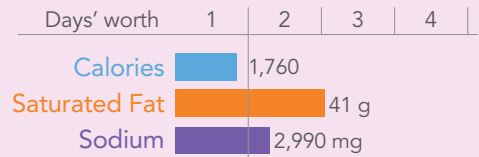
## Tomorrow, and Tomorrow...

"Now you can choose any specialty pasta, chef featured pasta or classic pasta and take a free classic pasta home as a meal for tomorrow," says [Maggiano's](#) about its **Today & Tomorrow Pastas**. Yay!

Let's say you pick the **Braised Beef al Forno** to start. Who knew that orecchiette pasta, beef, peppers, spinach, and "truffle peppercorn sauce" could hit 1,760 calories?

Tomorrow, for your freebie, you could dig into, say, the 1,400-calorie **Taylor Street Baked Ziti**. Need more fat cells to store the extra grub? Don't worry; you'll build 'em! And they'll last far longer than two days.

**IT'S LIKE EATING:** 3 Pizza Hut Personal Pan Cheese Pizzas.



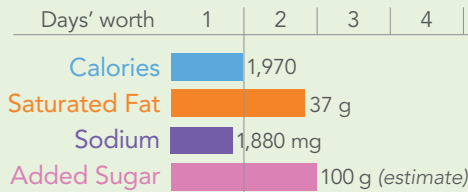
## In the Hole

What better way to top off your experience at **Topgolf**—the 25-state driving range/sports bar chain—than with **Injectable Donut Holes**?

Topgolf supplies plastic syringes so you can inject chocolate, raspberry jelly, and/or Bavarian cream goo into each donut hole.

Of course, you may end up sharing your 1,970-calorie order of 24 holes with friends...along with Topgolf's 1,250-calorie tater tots, 1,450-calorie chips & queso, or 1,750-calorie cheese fries.

**IT'S LIKE EATING:** 4 Burger King Double Cheeseburgers plus a large Coke.

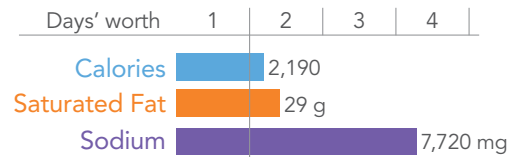


## Footlonger

"The only thing better than a sandwich, is a sandwich twice the size," [tweeted Jimmy John's](#). Jimmy's 16-inch **Giant Gargantuan** comes with salami, capicola, turkey, roast beef, ham, provolone cheese, onion, lettuce, tomato, mayo, and oil & vinegar.

If twice the size is better, is a triple far behind? A triple bypass, that is.

**IT'S LIKE EATING:** 3 Subway Cold Cut Combo footlong subs.



Photos on pp. 14 & 15: Lindsay Moyer/CSP (pancakes), Jennifer Urban/CSP (all others).

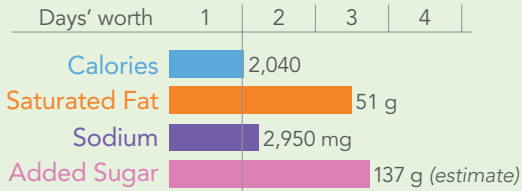


## Cinnabomb

“Cinnamon Roll Pancakes are Cinna-ma worthy. Playing at **The Cheesecake Factory** near you, weekends from 10AM to 2PM. #Brunch,” [tweeted](#) the chain.

It’s not easy to cram 2,040 calories into three pancakes. But The Factory works wonders with cinnamon-brown sugar, white flour, icing, and butter-infused syrup. Why not call it brunchinner?

**IT’S LIKE EATING:** 11 Krispy Kreme Original Glazed Doughnuts.



## Who’s the Boss?

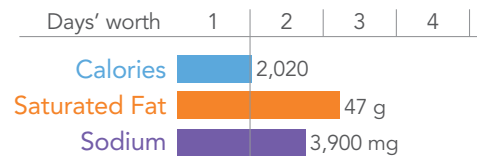
“Five meats. One burger. 100% Boss,” said the 2018 news release announcing **Chili’s The Boss Burger**, which comes with fries and pickles.

“The burger all other burgers report to,” says the menu. “Smoked brisket, rib meat, jalapeño-cheddar smoked sausage, bacon, cheddar, lettuce, tomato, house BBQ & house-made ranch. We. Dare. You.”

So what if 70 percent of adults are already overweight or obese? So what if those meats boost the risk of colorectal cancer? Chili’s has burgers to sell.

Its bottom line: We. Don’t. Care. About. You.

**IT’S LIKE EATING:** 3 McDonald’s Triple Cheeseburgers plus a large fries.

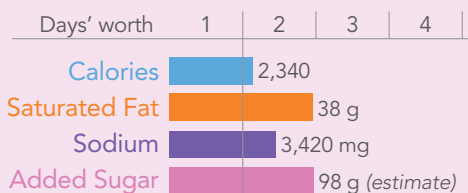


## Belly Buster

“We’re bringing in better ingredients and the best chefs to craft craveability that you’ll only find at **Dave & Buster’s**,” says the arcade and sports bar’s menu.

Take the **Chicken & Waffle Sliders**. Only the best chefs could turn white flour, sugar, and other “better” ingredients into 2,340 calories’ worth of fried chicken, bacon, mini Belgian waffles, maple syrup, and tater tots.

**IT’S LIKE EATING:** 8 Eggo waffles plus 8 Jimmy Dean pork sausage patties doused in ½ cup of maple syrup. 🍷





## RIGHT STUFF

### Great Grapes



Fruit fans, listen up: It's **Thomcord** grape season...but it won't be for long.

Thomcords are the tastiest grapes you've never heard of. Like Concord grapes, they're juicier and more

intensely grape-flavored than the red or green grapes you can buy year-round.

But Concords have small, crunchy seeds, which may explain why they often end up as grape juice or jelly.

Enter USDA's grape-breeding scientists.

In 1983, they crossed Thompson (seedless green) grapes with Concords...then spent nearly two decades fine-tuning the hybrid. The result: the seedless sweetness of a green grape with the plump, grapey flesh of a Concord.

**Tip:** When you're sweating through the summer heat, try freezing grapes. A short stint in your freezer, and any grape variety turns into an icy sweet treat.

Grapes may not measure up to, say, nutrient-packed watermelon or mango, but most varieties offer a smattering of B vitamins, vitamin K, and potassium, all for just 100-or-so calories per cup.

Look for Thomcords at farmers markets, Trader Joe's, Whole Foods, or other grocery stores, where they're sometimes called **Grape Jammers**.

But don't wait. Thomcords are only here from late July through September or October.

So get 'em while it's hot!

[grapejammers.com](http://grapejammers.com)

Photos: Brandt Farms (top left), Ben & Jerry's (top right, middle right), Kate Sherwood/CSP (middle), Ezume Images/stock.adobe.com (bottom right).

## FOOD PORN



### Dough No

"Creative cookie dough concoctions feature huge gobs of dough at their core," gushed the



**Ben & Jerry's** [press release](#).

Yesss! Instead of rooting around for dough chunks in that tub of regular **Chocolate Chip Cookie Dough** ice cream, "Dough Heads" can now just dig into the core. What a breakthrough!

So what if 2/3 cup (the serving that labels must use starting in January) of the **Chocolate Chip Cookie Dough Core** has 380 calories, 13 grams of saturated fat, and 6 1/2 teaspoons of added sugar? And so what if a pint has 1,140 calories, 38 grams of sat fat, and 20 teaspoons of added sugar? Just think of it as an entire Sara Lee All

Butter Pound Cake—a perfect snack!

And that's not all.

Three months later came a second breathless [press release](#): "Ben & Jerry's is launching **JUST** the dough! Chunk Spelunkers who seek out chunks of cookie



dough can now enjoy all the chunks *sans* spoon!"

Gee, thanks, Ben, and thanks, Jerry, for doing your part to create a nation of doughy boys, girls, and grownups.

[benjerry.com](http://benjerry.com)—(802) 846-1500

## DISH of the month

### Zucchini "Butter"

Sauté 2 lbs. grated zucchini and 1/2 minced onion in 1/4 cup olive oil until spreadable, 10-12 minutes. Season with 1/2 tsp. kosher salt. Enjoy on toast or pasta. Makes 2 cups.



## quick tip

Summertime means heirloom tomatoes! For the ripest, juiciest ones, look for tomatoes that are heavy for their size, yield just slightly to pressure, and still have their green stem attached.

