

# Nutrition Action

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 HEALTH LETTER®  
 CENTER FOR SCIENCE IN THE PUBLIC INTEREST

## Don't Be Dense

Trim calories per bite to trim pounds



Typical dinner



Volumetrics dinner

A small piece of fried chicken, a few fries, and about a cup of cola have 500 calories. So do a bowl of mixed melons, chicken and seasonal tomatoes, rice pilaf, baby arugula salad, and two cups of unsweetened iced tea.

Which dinner is likely to leave you feeling less hungry?

Studies show that, day after day, people eat about the same weight (or volume) of food. So if you choose foods with fewer calories per pound (or per bite), you'll feel just as full on fewer calories. That's the idea behind *The Ultimate Volumetrics Diet*, a new book by Pennsylvania State University's Barbara Rolls.

Continued on page 3.

MEMO FROM MFJ

# True Colors



Food companies like to present themselves in their best public-relations dress. “We care so much about our customers’ health,” they claim. But in recent months, many of them have replaced their kid gloves with boxing gloves.

■ **Kids foods.** Last April, a federal task force proposed sensible guidelines for foods marketed to children. They would require a minimum of real food (like fruit or whole grains) and would limit the bad stuff (like salt or added sugars).

How did the food industry react? It went berserk, and started lobbying to kill the voluntary measure.

Bingo! In December, Congress passed a law that delayed the guidelines so that its industry friends could keep advertising their sugary cereals and Spaghettios to kids.

Never mind that one out of three American children are now overweight or obese.

■ **School meals.** In January 2011, the U.S. Department of Agriculture proposed long-overdue improvements to subsidized school meals, requiring less salt, fewer fries, and more fruit, vegetables, and whole grains.

That spelled bad news for sellers of pizzas, fries, Tater Tots, and the like. So they quickly got their pals in Congress not only to block the USDA’s plan to limit how often kids could be served potatoes, but to classify pizza as a vegetable. (Isn’t it amazing what a shmeat of tomato sauce can do?)

Despite a roar of outrage in the media, members of Congress once again sided with their campaign contributors.

■ **Trans fat.** Over the past few years, manufacturers and restaurants have voluntarily switched from trans fat to healthier oils for about two-thirds of their foods. But progress seems to have stalled.

The Food and Drug Administration could eliminate trans fat simply by saying that partially hydrogenated oil (the source of most trans) is not safe. But pressure from industry has silenced the agency.

■ **Salt.** In 2010, the Institute of Medicine concluded that companies’ voluntary actions over the last 40 years have not led consumers to eat less sodium. So the IOM recommended that the FDA limit sodium in foods. We’re still waiting.

I suspect that FDA officials want to cut sodium, but, with an election coming up, they can’t persuade the White House to buck industry pressure.

Also on the food industry’s hit list: block taxes on soda, prevent the FDA from requiring

clearer food labels by adopting the industry’s own wishy-washy “Facts Up Front” labels, and keep the FDA and USDA from stopping non-essential uses of antibiotics in livestock.

As this election year grinds on, you can bet that the Administration will be ever-more reluctant to risk offending members of Congress and their food-industry contributors.

And you can bet that companies will feel *no* reluctance to continue to market junk foods to kids (in and out of school), and to dump as much salt and trans fat into their foods as they want.



**Ask and Ye Shall Receive.** A generous campaign contribution doesn’t hurt either.

*Mike Jacobson*

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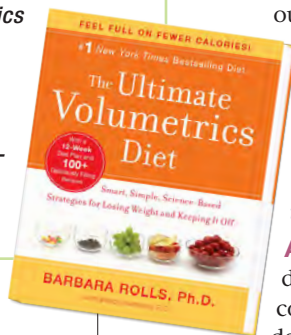
# Don't Be Dense

Trim calories per bite to trim pounds



**Barbara Rolls** is professor and the Helen A. Guthrie Chair of Nutritional Sciences at Penn State and past-president of The Obesity Society and the Society

for the Study of Ingestive Behavior. She has written over 250 scientific articles and six books, including *Thirst*, *The Volumetrics Weight-Control Plan*, *The Volumetrics Eating Plan*, and *The Ultimate Volumetrics Diet* (out this April, but available now for pre-order at amazon.com). Rolls spoke to *Nutrition Action's* Bonnie Liebman from University Park, Pennsylvania.



**Q: They ate the same weight or the same volume?**

**A:** Both, but it's harder to get a reliable measure of volume, so we would weigh what we gave them before and after a meal. And we found that as long as the food was equally palatable, people tended to eat the same weight of food.

So then we thought, if we lower the calorie density—the calories per bite or per any given portion of food—perhaps we can lower the overall calorie intake of the meal.

It took us about a year to figure out how to lower calorie density without changing the palatability of the recipes.

**Q: The high- and low-calorie foods had to taste equally good?**

**A:** Yes. Once we got that down, we saw that we could lower the calorie density by about a third.

And sure enough, people over a couple of days ate about the same amount of food. They were spontaneously reducing their calorie intake by about 25 percent. That was really exciting. It was a new way of thinking about food.

**Q: How do you cut the calories per bite?**

**A:** The key is to change the amount of water in foods, because water adds weight and volume but no calories. So, for example, if you increase the amount of water

in a casserole—which we do primarily by adding vegetables, which are mostly water—you lower the calorie density.

**Q: And the people weren't trying to lose weight?**

**A:** Not in those studies. However, in our one-year trial, lowering calorie density did lead to weight loss. We told one group to eat smaller portions and low-fat foods. That lowered calorie density. They lost 15 pounds in the first six months.

The other group got similar information about fat but were told to eat more fruits and vegetables, soups, and other foods with low calorie density. And they lost 20 pounds in the first six months.

At the end of the year, both groups had kept most of the weight off. They regained only 1½ pounds.

**Q: Have larger studies looked at weight loss and calorie density?**

**A:** We're gradually building up a consistent story. For example, when we pooled all the data on 700-plus people in the Premier trial, we found that calorie density was the main predictor of how much weight people lost. If people were eating a diet that was less calorie dense, they were eating significantly more food—about a pound more food a day—and they were eating fewer calories and losing more weight.

That was consistent with a recent study that looked at weight loss maintainers—people who have lost at least 10 percent of their maximum body weight and maintained the loss for at least five years. The

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## CALORIE DENSITY

**Q: Why did you start studying calorie density?**

**A:** Like most scientists in my field back in the 1990s, I was looking at the effects of fat, carbohydrate, and protein on hunger, satiety, and food intake. And I kept noticing that people were eating a consistent amount of food. Rather than regulating their calories, it looked like they were managing the *weight* of their food.

## Which is more filling?



Each of these snacks has 100 calories. But after eating a calorie-dense food like jelly beans, you're less likely to feel full and more likely to keep eat-

ing. When researchers lower calorie density by 25 percent, people eat about 25 percent fewer calories without trying.

maintainers ate foods with lower calorie density than people who were either overweight or normal weight.

The average maintainer ate five servings of vegetables a day, while the normal-weight participants ate four a day and the overweight participants ate three and a half.

## SERVING SIZES

### Q: Does portion size matter?

**A:** Yes. In other studies, we served people ordinary portions for 11 days or increased the portion sizes by 50 percent for another 11 days. With larger portions, we saw a huge increase in how much people ate—about 400 calories more a day.

I was stunned. I thought people would slow down when they realized that they were eating more. But they just don't notice.

### Q: Don't big portions make people feel more full?

**A:** Apparently not. Most of the literature indicates that within three or four days, your body should detect a perturbation in calorie balance. Our first study lasted two days, and people said it didn't go long enough, so we tried 11 days.

### Q: People don't see the two serving sizes side by side?

**A:** No. There's usually a week between tests. But in our macaroni-and-cheese study, we doubled the portions. That's a huge difference, yet people were unaware.

And in our lab, people are eating alone in a booth. They have nothing to think about except the food in front of them. And they're still not noticing that we're varying the portion size.

### Q: Aren't people more distracted than that when they eat?

**A:** Yes. If you think about people eating out, not paying attention, having some wine, talking, it's even less likely that they're going to notice portion size.

We all hear that portion sizes have gotten bigger, but people just don't pay attention. If the food is in front of them,

they tend to eat it. It's a really robust effect, and it affects everybody, whether they're plate cleaners or dieters, restrained or unrestrained eaters.

### Q: If people eat the same amount of food day after day, why would big portions make them eat more?

**A:** We tend to eat the same weight or volume of food, but when we're exposed to large portions, they can override this tendency and ramp up our intake.

The good news is that if big portions are low in calorie density, they don't lead to weight gain like big portions that are calorie dense.

some baked goods where we substituted applesauce for some of the fat. But even there, the ratings of palatability were similar. And these were big changes.

The 25 percent reduction in calorie density led to a 24 percent decrease in calorie intake over two days. The 25 percent decrease in portion size led to a 10 percent reduction in calorie intake.

### Q: What happened when you cut both?

**A:** Together we got more than a 32 percent decrease in daily calorie intake. So both effects are huge, robust, persistent, and independent.

I think the food industry could tweak a little of this and a little of

that so consumers would still be happy. They could help people save calories without noticing or with little effort and no sacrifice. To me, it's a no-brainer. If we can do 25 percent reductions in portion size or calorie density, why can't they do a little bit?

### Q: So just cutting portions isn't enough?

**A:** Everybody blames portion size for the obesity epidemic. It's not big portions that are leading to obesity. It's big portions of calorie-dense foods. If we ate bigger portions of low-calorie-dense foods, that would help us eat less.

## Chicken-Broccoli Stir-Fry with Water Chestnuts and Carrots



Traditional	How we cut the calorie density	Volumetrics
<i>General Tsao's Chicken</i>	<ul style="list-style-type: none"> <li>■ Added more vegetables</li> <li>■ Reduced fat and sugar in sauce</li> <li>■ Switched from fried, skin-on chicken to chicken breast fillet</li> <li>■ Decreased the portion of rice and switched to brown rice</li> </ul>	<i>Chicken-Broccoli Stir-Fry with Water Chestnuts and Carrots</i> (see p. 7 for recipe)

### Q: Does portion size affect how much we eat more than calorie density?

**A:** No. Most people think of portion size first, but when we tested them head-to-head, calorie density had a greater effect. We used foods that are commercially available like pizza, blueberry muffins, brownies, potato chips, cheese and crackers, and turkey sandwiches.

We either decreased the calorie density by 25 percent and kept the portion size the same or we decreased the portion size by 25 percent and kept the calorie density the same. Then we decreased both by 25 percent. Each condition lasted two days.

Interestingly, if people noticed any difference, they were more likely to notice a decrease in portion size. They only noticed a difference in calorie density with

## BEVERAGES

### Q: Do beverages have a low calorie density?

**A:** Yes, but you have to look at food and beverages separately. It's the calorie density of food, not beverages, that's best associated with body weight.

If someone is drinking a lot of a diet soda along with a triple cheeseburger and fries, their calorie density looks really low because the soda has such a huge effect on the calculations even if the calorie density of their food is high.

### Q: Why are beverages different?

**A:** Hunger and thirst aren't the same. People describe thirst as a dry, unpleasant sense in the mouth. They describe hunger

as stomach rumbling, sometimes headache, or a lethargic mood.

And hunger and thirst are regulated by different mechanisms. If you get too little liquid, it's going to shrink your cells, and osmoreceptors in your brain and other parts of your body are going to sense that cells need water. So that makes you thirsty. So does a decrease in your blood volume, which is sensed by receptors around your heart and kidneys.

In contrast, food intake is regulated by a completely different set of receptors and mechanisms, including gut hormones, blood glucose, and insulin.

#### Q: Are soups like other liquids?

**A:** No. Some liquids seem to perform like foods. Soup is a very effective liquid food for decreasing hunger. Soda doesn't affect hunger much.

#### Q: What about milk?

**A:** Milk curbs hunger when we use it in thicker beverages like shakes and smoothies. When we use them as a first course, they reduce subsequent food intake. When we used plain skim milk, it didn't curb hunger any more than soda. But other researchers have found that milk does reduce hunger.

#### Q: Is thickness the key?

**A:** Some scientists think that viscosity has an impact on hunger, but we need more data.

We did look at temperature. We gave people V8 as either a hot or cold soup because it's palatable either way. We found that temperature had no effect on subsequent food intake. V8 reduced intake, even though it's a thin liquid.

#### Q: Do you advise people to switch to diet drinks?

**A:** I like to leave that

up to them. If they're uncomfortable with the idea of a sugar substitute, they shouldn't go there. However, we've never found that diet lemonade or sodas cause hunger, as some animal studies suggest.

Your best beverage is water. But if people can substitute a lower-calorie or calorie-free beverage for one with calories—and not use it as a reason to eat more food—that's fine.

#### Q: So cutting liquid calories is key?

**A:** Yes. It's one of the easiest ways to cut calories. People are taking in so many calories from soda and even fruit drinks, and you have hundreds of lower-calorie choices. So why not do that as a first step?

you're managing your weight.

#### Q: Do all low-fat foods have a low calorie density?

**A:** No. Low-fat cookies and brownies, baked potato chips, and pretzels are low in fat but not low in calorie density.

And "low-fat" on the label might give people license to eat more. We found that people ate more yogurt if it was labeled "low-fat." They responded more to the label than to the actual calorie content. Marketers have a huge impact on how much we eat and how full we feel.

#### Q: Is fat the only thing you cut?

**A:** No. You can also reduce sugar or refined grains that you don't need. And

best of all, you can add foods that we need to eat more often. Vegetables are critical players, but you can also add fruits, whole grains, and seafood.

#### Q: Which foods do you add vegetables to?

**A:** We add huge amounts to mixed dishes, pasta, stews, and soups. We cook whole vegetables and put them in a blender. It's so easy. We can reduce the calorie density by 15, 20, or even 25 percent.

In studies we published last year, we changed calorie density by adding vegetables to breakfast, lunch, and dinner for both kids and adults. The

## Spinach Salad



Traditional	How we cut calorie density	Volumetrics
<i>Traditional Spinach Salad</i>	<ul style="list-style-type: none"> <li>■ Made a lower-fat dressing without bacon</li> <li>■ Added more vegetables</li> </ul>	<i>Classic Spinach Salad</i> (see p. 7 for recipe)

## HOW TO DO IT

### Q: How can people cut calorie density?

**A:** By reducing fat and adding vegetables and fruit whenever they can. So a pizza would have a bit less cheese and more veggies.

Having a low-calorie-dense soup or salad or even whole pieces of apple at the start of a meal helps to fill you up so you eat less at the next course. And you end up eating fewer calories at that meal.

I think of it as a win-win because you're getting more food, more nutrient-rich food, you're less hungry, and

## Pasta Tricolore



Traditional	How we cut calorie density	Volumetrics
<i>Fettuccini Alfredo</i>	<ul style="list-style-type: none"> <li>■ Switched from a cream sauce to a small amount of olive oil</li> <li>■ Added vegetables</li> <li>■ Used whole-wheat pasta and decreased portion of pasta</li> </ul>	<i>Pasta Tricolore</i> (see p. 7 for recipe)



main problem was that the vegetable-enhanced baked goods were *more* palatable. For example, a carrot bread with extra carrots tasted better because it was so moist, so people ate more. But they still got fewer calories over the whole day.

### Q: How much vegetable do you add?

**A:** You can start with about a quarter cup for each serving. For example, if a meat loaf or pasta serves four people, add about one cup of vegetables instead of meat or pasta.

With mixed dishes, it's also easy. Take a macaroni and cheese. If you use a light-colored vegetable like summer squash, cauliflower, onion, or parsnips, you can put in lots. And you can sneak purées and chopped broccoli or spinach into dishes with tomato sauce, where they can be hidden by the strong flavor and bold color of the sauce.

You have to match the vegetables with the dish to get the palatability right. Mexican or other spicy dishes are particularly good for hiding purées because they have such strong flavors.

### Q: Do the vegetables have to be fresh?

**A:** You can also use frozen. They're fine nutritionally. The texture isn't as good as fresh if you eat them as is, but if you're going to purée them, they're fine.

I'd like to see companies selling frozen blocks of puréed vegetables with recipes on how to add them to food. And some vegetables already come puréed. Tomato and pumpkin come in cans. Summer squash comes puréed and frozen. There should be more.

### Q: You're not just adding vegetables, but taking away meat or pasta, right?

**A:** Yes. You have to substitute vegetables for other items like beef or rice.

### Q: Can you add any vegetables?

**A:** No. A lot of vegetables that people add may be calorie dense. If the vegetables are slathered with cream sauce or with oil dripping off, like they often are at restaurants, that's not going to help.

### Q: Do you have to banish some foods?

**A:** What I like about cutting calorie density is the flexibility. You don't have to give up any food. You can eat what you like. You just need to eat some things in more moderation than others. And you need to manage portions of foods with higher calorie density. 🍌

## Calorie Density Counts

You can calculate the calorie density of any food by dividing its calories by its weight (in grams). You'll find both on most food labels. Check out some popular foods below. And remember: while higher-density foods are usually worse, portion size also matters. One tablespoon of (high-density) olive oil may not cause as much harm as two or three cups of (medium-density) French fries.

### Very-Low-Calorie-Density Foods

Food	Calorie Density
Celery or cucumber	0.1
Asparagus, cooked	0.2
Chicken broth, regular	0.2
Salad greens	0.2
Tomato, raw	0.2
Bell pepper or carrots, raw	0.3
Broccoli or mushrooms, raw	0.3
Cantaloupe	0.3
Green beans, cooked	0.3
Salsa	0.3
Strawberries	0.3
Tomato soup, prepared with water	0.3
Vegetarian vegetable soup	0.3
Watermelon	0.3
Peach	0.4
Winter squash	0.4
Yogurt, light (low-calorie sweetener)	0.4
Apple	0.5
Italian dressing, fat-free	0.5
Orange	0.5
Blueberries	0.6
Lentil soup	0.6
Yogurt, fat-free, plain	0.6

### Low-Calorie-Density Foods

Food	Calorie Density
Cottage cheese, 1% fat	0.7
Grapes	0.7
Pasta sauce, tomato-based	0.7
Split pea soup	0.7
Tofu, firm	0.7
Yogurt, low-fat, plain	0.7
Green peas, cooked	0.8
Sweet potato, baked or mashed	0.8
Beans, kidney	0.9
Potato, baked, with skin	0.9
Banana	1.1
Bran flakes, with fat-free milk	1.1
Yogurt, low-fat, fruit	1.1
Ranch dressing, fat-free	1.2
Rice, brown, long-grain, cooked	1.2
Shredded wheat, with fat-free milk	1.2
Shrimp, steamed	1.2
Spaghetti, whole-wheat, cooked	1.2
Tuna, light, canned in water	1.2
Turkey breast, roasted, no skin	1.4

### Medium-Calorie-Density Foods

Food	Calorie Density
Avocado	1.6
Chicken breast, roasted, no skin	1.6
Egg, hard-cooked	1.6
Frozen yogurt, soft serve	1.6
Hummus	1.8
Sirloin steak, lean, broiled	1.8
Salmon, farmed, baked	2.1
Ground beef, lean, broiled	2.2
Pork chop, center loin, broiled	2.2
Tortilla, corn	2.2
Apple pie	2.6
Bread	2.7
Ice cream, premium	2.8
Italian dressing, full-fat	2.8
Mozzarella cheese, part-skim	2.8
Potatoes, french-fried	2.9
Cheese pizza, thin crust	3.0
Swiss cheese, reduced-fat	3.0
Raisins	3.1
Cream cheese, full-fat	3.3
Mayonnaise, light	3.3
Hard pretzels	3.5

### High-Calorie-Density Foods

Food	Calorie Density
Carrot cake, cream cheese frosting	4.0
Cinnamon Danish pastry	4.0
Pork spareribs, braised	4.0
Brownie	4.1
Doughnut, cake	4.1
Croissant	4.2
Crackers	4.3
Trail mix	4.3
Tortilla chips, regular	4.7
Granola bar, hard	4.8
Ranch dressing, full-fat	4.8
Bacon, cooked	5.2
Chocolate chip cookies, homemade	5.2
Potato chips, regular	5.2
Dark chocolate	5.7
Almonds, dry-roasted	5.9
Peanuts, roasted	6.1
Peanut butter, regular	6.3
Mayonnaise, full-fat	6.7
Butter	7.0
Margarine, stick	7.0
Oil, olive	8.8

Source: Adapted from *The Ultimate Volumetrics Diet*.

# Low-Density Cooking

Here are three of the 100+ recipes in *The Ultimate Volumetrics Diet*, by Barbara Rolls with Mindy Hermann. The book comes with 12 weeks' worth of daily menus, game plans for eating out, and tips for adding vegetables to all sorts of dishes.

## Pasta Tricolore

*You can mix any three vegetables you like.*

- 1 medium zucchini
- 1 medium yellow squash
- 8 oz. whole-wheat fusilli or penne pasta
- 1 large red bell pepper, seeded and cut into thin strips
- Juice and grated zest from 1 lemon
- 1 Tbs. olive oil
- ½ cup pitted Kalamata or other Italian or Greek black olives, sliced
- ½ cup chopped fresh basil
- 1 oz. grated Parmesan cheese (see note)
- Salt and freshly ground black pepper to taste (optional)
- 4 sprigs fresh basil



1. Cut the zucchini and squash in half lengthwise. Use a teaspoon to scrape the seeds out of each half. Cut crosswise into ½-inch-thick crescents.

2. Cook the pasta according to the package directions, adding the red pepper when 5 minutes remain to cook the pasta and adding the zucchini and squash with 2 minutes remaining. Drain the pasta and vegetables and place in a large bowl.

3. Meanwhile, whisk the lemon juice and zest with the olive oil.

4. Add the lemon juice–oil mixture, olives, basil, and cheese and toss to combine. Season with salt and pepper if desired. Garnish each serving with a sprig of basil. Serves 4.

NOTE: 1 ounce Parmesan equals about ½ cup freshly grated cheese or ¼ cup packaged grated cheese.

PER SERVING (2 cups): Calories 310 • Carbohydrate 51 g • Saturated Fat 2 g • Protein 13 g • Fiber 7 g • Sodium 240 mg

## Chicken-Broccoli Stir-Fry with Water Chestnuts & Carrots

*Don't be afraid to get the wok or skillet hot.*

- ⅔ cup brown rice
- 2 large heads broccoli, cut into florets (about 6 cups)
- 2 medium carrots, peeled and cut into thin rounds
- ¾ cup low-sodium chicken broth
- 2 tsp. canola oil
- 1 Tbs. chopped peeled fresh ginger
- 3 garlic cloves, peeled and finely chopped
- 12 oz. skinless, boneless chicken breast, cut into 1-inch pieces
- 2 Tbs. reduced-sodium soy sauce
- 1 Tbs. hoisin sauce
- 1 Tbs. cornstarch
- 1 8 oz. can sliced water chestnuts, drained
- ½ tsp. sesame oil
- 3 scallions

1. Cook the rice. Keep warm.

2. Meanwhile, microwave the broccoli, carrots, and ¼ cup of the chicken broth in a large bowl, covered, for 3 minutes. Set aside.

3. Spray a wok or large skillet with cooking spray. Heat the canola oil in the wok over medium-high heat. Stir-fry the ginger and garlic for 30 seconds to soften. Add the broccoli, carrots, and liquid from the bowl and stir-fry for 5 minutes, until just tender.

4. Add the chicken, the remaining broth, the soy sauce, and the hoisin sauce. Cook for 4 minutes, stirring often.

5. Combine the cornstarch with 2 tablespoons of water in a small bowl. Add to the wok along with the water chestnuts. Simmer for 2 minutes. Drizzle with the sesame oil and garnish with the scallions. Serve with the rice. Serves 4.

PER SERVING (1½ cups chicken and vegetables plus ½ cup rice): Calories 330 • Carbohydrate 43 g • Saturated Fat 1 g • Protein 26 g • Fiber 8 g • Sodium 510 mg



## Classic Spinach Salad

*Enjoy this nutrient-rich salad year-round.*

- 3 oz. baby spinach (about 4 cups)
- 8 oz. sliced button mushrooms
- 1 small red onion, peeled and thinly sliced
- 1 medium orange or red bell pepper, seeded, thinly sliced
- 1 hard-cooked egg, peeled and chopped
- 3 Tbs. red wine vinegar
- 1 Tbs. olive oil
- 2 tsp. Dijon mustard
- Dash of liquid smoke (optional)
- Salt and freshly ground black pepper to taste



1. Toss together the spinach, mushrooms, onion, bell pepper, and egg in a large salad bowl.

2. Whisk together the vinegar, oil, mustard, and liquid smoke (if using) in a small bowl.

Season with salt and pepper. Pour over the salad and toss. Serves 4.

PER SERVING (1¼ cups): Calories 85 • Carbohydrate 6 g • Saturated Fat 1 g • Protein 5 g • Fiber 2 g • Sodium 105 mg

# Sure You Want that Snack?

Here's how much exercise a 150-pound person would have to do to burn off the calories in some popular snacks.<sup>1</sup> Maybe you'd be better off with a peach or an orange (60 calories each) or a grande Skinny Latte (120 calories) instead.

<sup>1</sup>Arizona State University Healthy Lifestyles Research Center (sites.google.com/site/compendiumofphysicalactivities).



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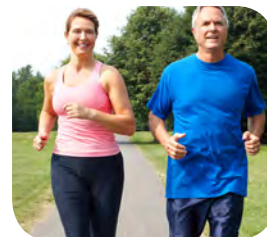


**Five Guys Fries** | **620 calories**  
Regular (9 oz.)

**Bicycling** | **1 hr. 35 min.**  
(9 mph)



=



**Starbucks Cinnamon Dolce Latte, whipped cream** | **410 calories**  
Venti (20 oz.)

**Jogging** | **50 min.**



=



**AMC Popcorn, no added "butter"** | **410 calories**  
Small (6 cups)

**Low-impact Aerobics** | **1 hr. 15 min.**



=



**Panera Chocolate Chipper Cookie** | **440 calories**  
1 cookie (3 oz.)

**Brisk Walking** | **1 hr. 30 min.**  
(3.5 mph)



=



**Crumbs Bake Shop Red Velvet Cupcake** | **500 calories**  
1 cupcake (5 oz.)

**Strength Training** | **2 hrs. 5 min.**  
(8-15 reps per exercise)



=



**Starbucks Banana Nut Loaf** | **490 calories**  
1 piece (4 oz.)

**Swimming Laps** | **1 hr. 15 min.**  
(not vigorously)



=



**Smoothie King Slim-N-Trim Strawberry** | **560 calories**  
Medium (32 oz.)

**Doubles Tennis** | **1 hr. 50 min.**



=



**Pinkberry Original Frozen Yogurt** | **370 calories**  
Large (2 cups)

**Elliptical Trainer** | **1 hr. 5 min.**  
(moderate effort)

Photos: fotolia.com (bicycling, jogging, & elliptical); Kurhan, aerobics © ISO K - photography, tennis © chasingmoments, walking © bias, swimming © Georgiy Pashin, weight lifting © Dusan Zidar, elliptical © Kurhan, Jorge Bach (all foods).





# Fruit with Benefits

## A TART CHERRY A DAY...

BY DAVID SCHARDT

You can't go wrong with fruit. In studies that look at the eating habits of large groups of people and the diseases they get, those who consume more fruits (and vegetables) have a lower risk of heart disease and are less likely to have a stroke.

It's a little trickier when you try to match individual fruits to specific diseases. But researchers are trying...with mixed success. Here's some of what they've learned.

### Beyond Vitamins

"Twenty or thirty years ago, people evaluated a fruit or vegetable by how much vitamin C it contained," says Rui Hai Liu, a fruit researcher at Cornell University in Ithaca, New York.

Clearly, vitamins and minerals matter. Potassium, for example, may account for the lower risk of stroke in people who eat more fruits and vegetables because it lowers blood pressure.

But there are more than 8,000 bioactive compounds in fruits and vegetables, including the group known as polyphenols, notes Liu. And they may one day also help explain why eating those foods is good for you.

At least that's what fruit researchers are banking on. Just keep in mind that many studies haven't been confirmed by other researchers, and that early studies often don't pan out for a variety of reasons:

- The studies are usually small, so the results are less reliable. One reason: one or two people can change the outcome.
- Researchers often receive funding (or free juice) from producers, which may subconsciously affect their results... and their ability to obtain more funding. (We've pointed out those studies, wherever possible.)
- Studies that come up empty are less likely to be published, so you usually see only the promising results.

One more caution: If you decide to add fruit juice to your medicine cabinet in a serious way, be prepared to add a notch or two to your belt. That's because people tend not to compensate for the calories they drink by eating less food later.

What's more, women in the Nurses' Health Study who drank an average of five servings of fruit

juice a week had an 18 percent greater risk of being diagnosed with diabetes than women in the study who averaged 1½ servings a week.<sup>1</sup>

If all of that hasn't made you toss your juice glass into the trash, here's a look at what researchers are finding out.

### Cranberries

"During the early stages of a urinary tract infection, when you first feel an urgency to urinate and then a burning sensation, what's happening is that little hairs on *E. coli* bacteria, called fimbriae, are starting to stick to the inside of your bladder wall," says Amy Howell of Rutgers University in Chatsworth, New Jersey.

"However, these fimbriae don't bind all at one time," she explains. "One hair will stick, then another, and then another until suddenly all of them are cemented to the bladder cells and it's

too late to get them off."

If you can dislodge the fimbriae before they're all attached, says Howell, there's a chance of preventing an infection.

That's where cranberries come in. They contain polyphenols called proanthocyanidins (PACs), which prevent fimbriae from adhering to the bladder cells.

"When the PACs from cranberry juice are consumed, anti-adhesive compounds reach the bladder, where they can prevent the bacteria from attaching, or can weaken the attachment so that the flow of urine helps break the bacteria off the bladder wall and flushes them away," notes Howell, whose research is funded in part by the cranberry industry.

"Cranberry may help during the first 10 to 12 hours of an infection, when the bacteria are loosely bound," she adds.

Can drinking cranberry juice or taking cranberry pills *prevent* urinary tract infections?

In four studies reviewed by the Cochrane Collaboration, men and women who drank cranberry juice or took cranberry extract tablets for six months to a year were 34 percent less likely to have a urinary tract infection than those who took a placebo.<sup>2</sup> (The Cochrane Collaboration is an international network of scientists who evaluate the evidence behind different healthcare treatments.)

However, since the positive Cochrane analysis, a large trial involving more than 300 students at the University of Michigan reported that cranberry juice was no better than a placebo in preventing a recurrence of UTIs in women.<sup>3</sup>

Howell is skeptical of the findings. Among other things, "the researchers didn't verify that the women assigned to drink cranberry juice actually drank it regularly enough, such as by testing the women's urine for the presence of cranberry compounds," she says.



"College-age students are notorious for non-compliance in studies like this, and this was a long study, six months that they

had to drink cranberry juice several times a day. It wouldn't be surprising if a lot of

> > > >

them didn't do it, but the researchers had no way of knowing."

In contrast, Finnish children who were treated for a urinary tract infection who

## Grapefruit Juice

The cells that line our small intestines contain an enzyme system called CYP3A, which metabolizes some drugs before they're absorbed into the bloodstream, explains David Greenblatt, professor of pharmacology and experimental therapeutics at the Tufts University School of Medicine.

When that happens, a portion of the drug is lost before it can start doing its job. Scientists take into account how much is lost when setting the recommended dosage for the drug.

Grapefruit juice contains a group of compounds called furanocoumarins, which knock out the CYP3A enzymes. So drinking the juice can lead to more of a drug's being absorbed than usual. (It takes three days for the inactivated enzymes to fully function again.)

There are only three prescription drugs that are likely to be affected enough to matter, says Greenblatt: the statin Zocor (simvastatin), the anti-hypertensive Felopidine, and the anti-anxiety Buspirone.

Greenblatt's advice: If you take one of them and want to drink grapefruit juice regularly, ask your healthcare provider if you should adjust the drug's dosage.

Do those three drugs also become more potent if you eat grapefruit rather than drink grapefruit juice?

"The part of the fruit that's eaten isn't rich in furanocoumarins," says Greenblatt. "I don't know of any data indicating that eating whole grapefruit causes inhibition of CYP3A."



were assigned to drink a cup of cranberry juice every day for a year—they didn't have a choice—had fewer subsequent UTIs and spent fewer days on antibiotics than similar children given a placebo drink.<sup>4</sup> An earlier study in Italian children found much the same.<sup>5</sup>

**The Bottom Line:** *If you get recurring urinary tract infections, it's worth trying 8 to 10 oz. of cranberry juice cocktail or drink every day. But make sure it's at least 25 percent cranberry juice, which is what the clinical trials have used.*

*(A typical cranberry juice cocktail like Ocean Spray is 27 percent cranberry juice. Also at 25 percent or more: Knudsen Light, Lakewood Organic Light, and Old Orchard Naturals.)*

## Tart Cherries

Tart cherries, also known as sour or Montmorency cherries, are used to make jam, preserves, and pies. Sweet cherries, like the Bing and Rainier varieties, are grown primarily for fresh eating. While both contain polyphenols, tart cherries have more.

Most of the half-dozen studies in humans have looked at whether tart cherry juice can relieve muscle pain and reduce the signs of inflammation after exercise.

In the most dramatic one, 51 men and women participated in a 200-mile relay race from Mt. Hood in Oregon to the Pacific Coast. Each runner averaged about 16 miles over the hilly course that crossed two mountain ranges.

For seven days before and on the day of the race, half of the runners drank 20 ounces of tart cherry juice mixed with apple juice, while the other half drank Kool-Aid fruit punch that matched the sugar concentration of the juice.

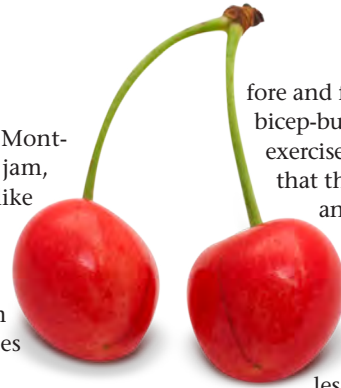
At the conclusion of the race, the cherry-apple juice drinkers reported significantly less muscle pain than the fruit punch drinkers.<sup>6</sup>

In a British trial, 10 marathon runners who were told to drink 16 ounces a day of a cherry-and-apple juice blend for

five days before a race, on the day of the race, and for two days afterwards didn't report less muscle soreness than 10 runners who drank a fruit-flavored placebo. But their bodies showed signs of less inflammation and they recovered their muscle strength faster.<sup>7</sup>

In a study funded by a cherry juice manufacturer and conducted by researchers with equity in the company, tart cherry juice also appeared to help people who were doing strength training.

Fourteen male college students drank either 24 ounces of tart cherry juice mixed with apple juice or 24 ounces of black-cherry-flavored Kool-Aid for four days be-



fore and four days after doing bicep-building exercises. The exercises were so strenuous that they produced pain and a temporary loss of strength in the arm.<sup>8</sup>

The young men reported less pain, and their temporary muscle loss was less, when they were

drinking the cherry-apple juice.

Drinking cherry-apple juice will cost you, though; 16 to 24 ounces have roughly 300 to 400 calories. While it's possible that less juice would have worked as well, none of the studies looked. Nor have any studies looked at people who were doing less strenuous exercise.

Other juices may also help muscles recover from strenuous exercise, says David Nieman, director of the Human Performance Lab at the North Carolina Research Campus in Kannapolis, North Carolina, a private-public venture co-founded by the chairman of Dole Foods.

"I do not believe that the polyphenol profile in tart cherries is superior to that of other fruits and vegetables," he notes.

Just be prepared to drink for a while. "A one-to-three-week supplementation period prior to heavy exertion appears necessary for measurable effects," says Nieman.

**The Bottom Line:** *If you're a serious athlete, you might consider drinking tart cherry juice to see if it helps you recover. Just make sure you can afford the extra calories.*

## Pomegranate Juice

"It is the magic elixir of our age and of all ages. And we know that it helps circulation, it helps Alzheimer's...what it does for prostate cancer is amazing," pomegranate promoter Lynda Resnick declared on the "Martha Stewart Living" TV show in 2008.

Resnick and her husband, Stuart, launched the pomegranate juice craze ten years ago with their POM Wonderful brand. Since then, they have invested more than \$30 million of their own money into research about the juice's potential health benefits.

They haven't been shy about promoting their juice with aggressive advertising that earned them a reprimand in 2005 from the Better Business Bureau and a lawsuit in 2010 by the Federal Trade Commission. The FTC accused the company of making "false and unsubstantiated claims that their products will prevent or treat heart disease, prostate cancer, and erectile dysfunction." The



# Fad Fruits

**Buying a pricey, exotic tropical fruit juice is easy. Buying one that lives up to its health claims is pretty much impossible.**

■ **Açai.** There are no good human studies showing that açai juice can help regenerate muscles, bones, and blood or help people lose weight. And claims that açai's omega-3 fats are good for the heart are nonsense, since there's only a negligible amount in the fruit.

■ **Noni.** People drink noni juice to treat cancer, heart disease, and diabetes, according to the National Center for Complementary and Alternative Medicine (NCAM), which is part of the National Institutes of Health. But "noni has not been well studied in people for any health condition," cautions NCAM.

■ **Mangosteen.** Dealers claim that mangosteen juice boosts energy, kills pain, and lowers cholesterol. Yet there are no good studies in people showing that any of that is true.

agency is asking the federal courts to restrict POM's health claims in advertising to only those approved by the Food and Drug Administration.

The billionaire Resnicks are fighting back, insisting that they have a First Amendment right to speak out and charging that the FTC is "wasting taxpayer resources" in going after them. The case is mired in the courts.

What's the evidence for pomegranate juice?

■ **Prostate cancer.** Rising PSA scores slowed down in 46 men who had been treated for prostate cancer with surgery or radiation when they drank 6 to 8 ounces of pomegranate juice every day for up to 33 months.<sup>9</sup> (A rising PSA, or prostate-specific antigen, score may indicate a growing prostate cancer.)

And when blood from the men was mixed with prostate cancer cells in test tubes, it slowed down the proliferation—and sped up the death—of the cells.

But there was no control group, so there was no way to tell whether the men's PSA levels would have risen at the same pace without pomegranate juice.

A follow-up study in 180 similar men comparing two different doses of pomegranate juice with a placebo has been completed, but the results haven't been made public yet.

■ **Cardiovascular disease.**

Eight ounces of pomegranate juice every day for up to 18 months didn't slow down hardening of the arteries in men and women at risk of coronary heart disease.<sup>10</sup>

■ **Erectile dysfunction.** Men in their 40s with mild to moderate ED fared no better after one month of drinking 8 ounces of pomegranate juice every day than they did after a month of drinking a placebo.<sup>11</sup>

**The Bottom Line:** *Good human studies haven't demonstrated the benefits of pomegranate juice for prostate cancer, heart disease, or erectile dysfunction.*

## Berries

"Pretty much every berry we have studied—blueberries, strawberries, blackberries, and cranberries—has improved learning and memory in aging rats," says

psychologist Barbara Shukitt-Hale of the U.S. Department of Agriculture Human Nutrition Research Center on Aging at Tufts University in Boston.

Shukitt-Hale and her late colleague Jim Joseph added different kinds of frozen berries to the diets of 19-month-old male rats, who are roughly equivalent to 65-year-old humans. Similar rats received the same basic diet, but with extra corn starch instead of berries. The amount of berries was equivalent to about a cup a day for people.<sup>12</sup>

After two months, when the rats were the equivalent of 75- or 80-year-old humans, they were put in a pool of water, where they needed to learn and

remember the location of a hidden platform so that they could solve the test and be removed from the maze.

"For a person, it's like remembering where you parked your car or figuring out how to get somewhere new," Shukitt-Hale explains.

The rats also had to balance on a horizontal rod that was rotating faster and faster, to test their motor skills. For humans, that might be like trying to walk on an uneven surface like icy pavement during winter.

"The rats who ate berries found the hidden platform more quickly and walked on the rods longer than similar rats who didn't eat berries," says Shukitt-Hale.

Some fruits helped with one skill but not the other, perhaps because each kind of fruit has its own profile of polyphenols.

Raspberries didn't help with memory, for

example, but did with balance, while black currants improved memory but not motor function. And plum juice helped the rats' memories, but dried plums (prunes) didn't.

Trials to see whether fruit can help improve memory in humans are scarce.

Robert Krikorian of the University of Cincinnati and his colleagues have conducted two very small preliminary studies in older adults with mild cognitive impairment, which is memory decline beyond what normally occurs with age but not severe enough to interfere with daily life.

In the first study, five men and women who drank roughly two cups of grape juice every day for three months were able to remember 39 words that were read to them, while seven similar adults

who drank a juiceless placebo beverage remembered 33 words. The juice drinkers did no better on a test that required them to recall patterns they had been shown, though.<sup>13</sup> Welch's sponsored the study.

In the more recent study, five men and four women who drank roughly two cups of blueberry juice every day for three months were better able to remember pairs of unrelated words than people in another study

who drank a juiceless beverage. The juice drinkers were no better at recalling single words, however.<sup>14</sup>

The Wild Blueberry Association and National Institutes of Health funded the study.

Even the researchers stressed that the results were preliminary. "Replication of the findings in a larger controlled trial will be important to corroborate and amplify these data," they wrote.

**The Bottom Line:** *Berries help improve the memories of laboratory rats, but it's too early to know whether berries or grape or berry juice does the same in people.* 🍓

<sup>1</sup> *Diabetes Care* 31: 1311, 2008.

<sup>2</sup> *Cochrane Database Syst. Rev.* CD001321, 2008.

<sup>3</sup> *Clin. Infect. Dis.* 52: 23, 2011.

<sup>4</sup> *Clin. Infect. Dis.* (2011) doi:10.1093/cid/cir801.

<sup>5</sup> *Scand. J. Urol. Nephrol.* 43: 369, 2009.

<sup>6</sup> *J. Int. Soc. Sports Nutr.* 7: 17, 2010.

<sup>7</sup> *Scand. J. Med. Sci. Sports* 20: 843, 2010.

<sup>8</sup> *Br. J. Sports Med.* 40: 679, 2006.

<sup>9</sup> *Clin. Cancer Res.* 12: 4018, 2006.

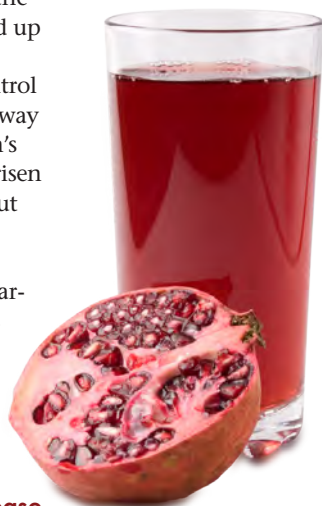
<sup>10</sup> *Am. J. Cardiol.* 104: 936, 2009.

<sup>11</sup> *Int. J. Impot. Res.* 19: 564, 2007.

<sup>12</sup> *J. Neurosci.* 19: 8114, 1999.

<sup>13</sup> *Br. J. Nutr.* 103: 730, 2010.

<sup>14</sup> *J. Agric. Food Chem.* 58: 3996, 2010.







## Rebound Fat

**W**hen you regain lost pounds, they may come back with more fat and less muscle than the pounds you lost. But eating more protein may help preserve muscle.

Researchers studied 68 obese, sedentary, postmenopausal women who lost an average of 26 pounds over

five months by cutting 400 calories a day and, in some cases, by also doing vigorous or moderate-intensity exercise three days a week. On average, 67 percent of the lost weight was fat and 33 percent was lean body tissue (which is mostly muscle).

A year after the program ended, 54 of the women had regained at least 4½ pounds. In those women, 81 percent of the regained weight was fat and 19 percent was muscle.

However, they might have lost less muscle if they had eaten more protein during weight loss, says investigator Barbara Nicklas, professor of internal and geriatric medicine at Wake Forest Baptist Medical Center in Winston-Salem, North Carolina.

While the women were losing weight, they were eating only 0.3 grams of protein per pound of body weight (45 grams a day for someone who weighs 150 pounds). In another study, “women who got more protein lost less muscle,” notes Nicklas.

**What to do:** If you’re cutting back on calories to lose weight, shoot for a protein target (in grams) that’s equal to half your weight (in pounds)—that is, 75 grams of protein a day for a 150-pound person. (For a list of protein in foods, see April 2011, p. 5.)

*Am. J. Clin. Nutr.* 94: 767, 2011.

## Less Salt? Can’t Tell

Worried that lower-salt bread won’t taste good?

When researchers offered 38 young people bread that was gradually cut in salt each week, first by 31 and then by 52 percent, they ate no less bread than 39 young people offered bread with no sodium cuts. Only when the researchers cut salt by 67 percent did the people eat less bread.

However, when the scientists replaced some of the bread’s salt (sodium chloride) with potassium chloride and yeast extract, even a 67 percent drop in sodium didn’t curb bread intake.

**What to do:** Look for lower-sodium breads. Aim for about 100 milligrams or less per slice. Many breads hover around 200 mg per slice.

*J. Nutr.* 141: 2249, 2011.

## Not Immune

Vitamin-fortified foods don’t offer the “immune support” that many labels claim.

Researchers asked 65 children (aged 7 to 13) to eat two to three cups a day of breakfast cereals fortified with low, medium, or high levels of nutrients. “Low” cereals had vitamin C, calcium, and iron at minimal levels. “Medium” and “high” cereals had higher levels of vitamins A and C and five B vitamins plus folic acid, iron, zinc, and calcium. “High” cereals had the highest levels of vitamins A, C, and E and zinc.

After two months, the added nutrients had no impact on colds or flu or on any other measure of immune function.

**What to do:** Don’t fall for “immune support” or similar claims on food labels.

*Nutrition Journal* 10: 36, 2011.

## Vitamin D & the Pancreas

People with high levels of vitamin D in their blood may have no greater risk of pancreatic cancer, as an earlier study had suggested.

Researchers compared vitamin D levels taken roughly 14 years earlier in 451 people with and 1,167 people without pancreatic cancer. The risk was no higher in those with blood levels of 40 ng/mL or more than in those with lower levels, as a previous study had reported.

In fact, people with blood levels of at least 20 ng/mL had a 25 to 30 percent lower risk than those with lower levels.

**What to do:** Stick to recommended intakes of vitamin D (600 IU a day if you’re 50 or younger and 800 IU a day if you’re older). It’s too early to know whether vitamin D can lower or raise the risk of pancreatic cancer, but it’s reassuring that the potential harm isn’t showing up in all studies.

*Cancer Epidemiol. Biomarkers Prev.* 21: 82, 2012.

## Walking & Chocolate

A brisk walk may keep your hand out of the candy jar.



Researchers randomly assigned 78 young men and women—all of whom typically ate one or two chocolate bars a day—to

either take a 15-minute

brisk walk on a treadmill or

sit quietly at a desk for 15 minutes before doing either a stressful or an easy computer task. During the tasks, the participants were told to take as many chocolates as they wished from a full bowl on a nearby table.

Stress had no impact on how many chocolates the test-takers ate. But exercise did.

The walkers averaged only ½ oz. of chocolate, while the non-walkers averaged 1 oz. In an earlier study, a 15-minute brisk walk curbed cravings for chocolate.

**What to do:** You don’t need a treadmill. Just go for a brisk walk whenever you can. 🍫

*Appetite* 58: 387, 2012.



# STEW OFF

BY KATE SHERWOOD

Meat plays a supporting role in these three stews, in which vegetables and legumes take center stage. They're hearty and satisfying...and better for you and the planet.

Got a question or suggestion? Write to Kate at [healthycook@cspinet.org](mailto:healthycook@cspinet.org).

## Chicken & Peanut Curry

Total Time: 30 minutes



- 1 onion, chopped
- 2 Tbs. canola oil
- 3 cloves garlic, minced
- 1 Tbs. curry powder
- 1 15 oz. can no-salt-added diced tomatoes
- 1/3 cup crunchy peanut butter
- 3/4 lb. sweet potatoes, peeled and cut into 1/2-inch chunks
- 1/2 lb. green beans, cut into 1-inch pieces
- 3/4 lb. boneless, skinless chicken breast, cut into 1/2-inch pieces
- 3/4 tsp. kosher salt

*For a vegetarian version, swap two 15 oz. cans of drained no-salt-added chickpeas for the chicken.*

Sauté the onion in the oil in a large skillet until lightly browned, about 3 minutes. Stir in the garlic and curry powder and cook for 1 minute. Stir in the tomatoes and 2 cups of water and simmer for 10 minutes. Stir in the peanut butter. Meanwhile, steam the potatoes and green beans until tender, about 5 minutes. Add the chicken to the skillet and gently simmer until the meat is cooked through, about 5 minutes. Stir in the potatoes and green beans. Season with up to 3/4 tsp. of salt. Serves 6.

PER SERVING (1 1/2 cups): Calories 270; Total Fat 13 g; Sat Fat 2 g; Protein 17 g; Carbs 22 g; Fiber 5 g; Cholesterol 30 mg; Sodium 320 mg

## White Beans, Sausage, & Kale

Total Time: 15 minutes



- 1/2 lb. Italian turkey sausage
- 2 Tbs. extra-virgin olive oil
- 5 cloves garlic, sliced
- 2 15 oz. cans no-salt-added white beans
- 3/4 lb. baby kale (or spinach)
- Freshly ground black pepper
- 1 Tbs. balsamic vinegar, more to taste

*Quick. Easy. Tasty.*

Remove the sausage from its casing and break into small pieces. Sauté in the oil until browned, about 5 minutes. Remove and reserve. Sauté the garlic until just golden, about 1 minute. Add the beans with their liquid and stir in the kale, a few handfuls at a time. Simmer until the kale is tender, about 2 minutes, adding more water if needed to keep the beans moist. Stir the sausage into the beans and kale. Season with black pepper and the balsamic vinegar. Serves 4.

PER SERVING (2 cups): Calories 370; Total Fat 15 g; Sat Fat 3 g; Protein 22 g; Carbs 39 g; Fiber 10 g; Cholesterol 35 mg; Sodium 450 mg

## Fish Stew

Total Time: 30 minutes



- 1 onion, sliced
- 1 bulb fennel, cored and sliced
- 2 Tbs. extra-virgin olive oil
- 1 15 oz. can no-salt-added diced tomatoes
- 1/2 lb. baby potatoes, diced
- 3/4 lb. white fish, cut into 1-inch chunks\*
- 1 cup shelled edamame
- 1/2 tsp. kosher salt
- 1/4 cup mayonnaise
- 1 jarred roasted red pepper

*The secret to moist fish: simmer it gently over low heat.*

In a large skillet, sauté the onion and fennel in the oil until soft, 5-7 minutes. Add the tomatoes and simmer for 10 minutes, stirring occasionally. In a small pot, simmer the potatoes until tender, 8-10 minutes. Add the potatoes and 1 cup of the cooking water to the skillet. Turn the heat to low. Add the fish and edamame and very gently simmer until the fish is cooked through, about 5 minutes. Season with up to 1/2 tsp. of salt. In a small food processor, purée the mayonnaise with the red pepper. Ladle the stew into bowls and serve with a spoonful of the roasted red pepper mayonnaise. Serves 4.

PER SERVING (2 cups): Calories 370; Total Fat 22 g; Sat Fat 3 g; Protein 23 g; Carbs 19 g; Fiber 4 g; Cholesterol 30 mg; Sodium 400 mg

\*Look for fish that carry the Marine Stewardship Council's Certified Sustainable Seafood label.

Käse  
fromage  
queso  
**CHEESE**



**WHICH ONES CUT IT?**

BY JAYNE HURLEY & BONNIE LIEBMAN

**1. Minimize saturated fat.** Almost 10 percent of the saturated fat in the typical American's diet comes from cheese, which makes it one of the biggest sources. And that doesn't even include the cheese we get on pizza, burgers, pasta dishes, or Mexican food.

While it's tough to lose *all* of the sat fat without losing flavor, there's a nice selection of cheeses with *less*. (See the photos below for some of our favorites.)

Most are labeled "reduced fat" or "light." (Exception: some *fresh* mozzarellas—like BelGioioso's—are lower-fat because they contain more water than ordinary mozzarella.)

Our Best Bites have no more than 3 grams of saturated fat per ounce, instead of the 5 to 6 grams (a quarter of a day's worth) in a full-fat cheese. Brands like Boar's Head, Cabot, Finlandia, and Horizon Organic are generally good at making "light" taste right.

**2. Keep a lid on sodium.** In 2010, three major cheese makers joined the National Salt Reduction Initiative and agreed to gradually lower the *average* sodium level of their cheeses (though not each individual one). The initiative's goal for 2014 is 170 milligrams per serving. (Dietz & Watson and Boar's Head have already met the goal; Kraft hasn't agreed to go that low.)

We used 170 mg of sodium as our cutoff for a Best Bite. In fact, you can find cheeses with far less (often in the deli case). Boar's Head alone has a No Salt Added Swiss (10 mg), a Lacey Swiss (40 mg), a Gold Label Swiss (70 mg), and a Low Sodium Muenster (80 mg). The catch: most low-sodium cheeses are full fat.

**3. Check the serving size.** Okay, repeat after us: "I will never look at the calories, saturated fat, sodium, or anything else on a Nutrition Facts label until I check the serving size."

**T**he average American eats about 1½ ounces of cheese a day. That's more than twice as much as in 1975. And it's not just because of Domino's, Pizza Hut, and California Pizza Kitchen. Cheese now shows up on sandwiches, salads, soups, steaks, chicken, fries, and just about any food that isn't Asian.

**The problem: We get so much of our saturated fat from cheese. Here's how to dodge some of it—and keep a lid on sodium—without disappointing your taste buds.**

*The information for this article was compiled by Emily Caras.*

That's to avoid getting fooled. For example, a slice of Tillamook Reduced Fat Deli Sliced Cheddar and a slice of Cabot 50% Reduced Fat Cheddar Slices each has 3 grams of saturated fat, according to the labels.

But Tillamook's slice weighs ¾ oz., while Cabot's weighs 1 oz. Of course, if *your* serving is one slice, regardless of size, you'll get the same sat fat from either brand. But you'll get less protein and calcium from the smaller slice.

**4. Watch the calcium.** An ounce of most cheeses contains about 20 percent of a day's calcium. An ounce of vegan cheese made of soy or rice can have virtually no calcium. The only company we found that fortifies its vegan soy and rice cheeses with enough calcium to match regular cheese is Galaxy Nutritional Foods.

**5. Know which claims to ignore.** Most don't matter much:

■ **Natural.** Any cheese that hasn't been "processed" can call itself "natural." Processed cheese (like American) is heated to a liquid, then flattened into slices. Emulsifiers bump up the sodium to as much as 350 to 400 mg per 1 oz. slice. "Natural" doesn't mean it's better than any other non-processed cheese.

■ **Lactose free.** All hard cheeses are lactose free (or close to it). Lactose, the sugar in milk, gets broken down and fermented into lactic acid by the same bacteria that turn milk into cheese.

■ **Low-carb.** The only carb in cheese is lactose, so all cheese is low-carb.

■ **Gluten free.** Try it only if you need to avoid the trace amounts of gluten that could be in a cheese if it was made in the same plant as breads, crackers, or other grain foods. 🍌



**Cabot 50% Reduced Fat Sharp Cheddar.** Creamy and tangy. Cabot never disappoints.



**Finlandia Heavenly Light Swiss.** Perfect blend of nutty and sweet. Jarlsberg Lite came in a close second.



**BelGioioso Fresh Mozzarella.** Try it sliced with tomato slices and fresh basil leaves, drizzled with extra-virgin olive oil.



**Horizon Organic Shredded Part Skim Mozzarella.** The company's part-skim mozzarella string cheese is just as tasty.



**Boar's Head Lite Cheddar.** All the sharpness and creaminess of a full-fat cheddar. Look for it in the deli case.



# Cheese Whizzes

We looked at lower-fat and lower-sodium cheeses. Best Bites (✓✓) have no more than 3 grams of saturated fat and 170 milligrams of sodium *per ounce*. (Because of rounding inconsistencies, we included some cheeses whose labels list up to 3.5 grams of sat fat.) Cheeses are ranked from least to most saturated fat, then sodium, then calories.

	Calories	Sat Fat (g)	Calcium (%DV)	Sodium (mg)
<b>CHEDDAR</b> (1 oz. piece or slice unless noted)				
Cabot 75% Reduced Fat	60	1.5	20	200
Sargento Reduced Fat Medium (2/3 oz.)	60	2.5	15	140
Kerrygold Aged Reduced Fat	70	2.5	25	210
Tillamook Reduced Fat Deli Sliced (3/4 oz.)	70	3	15	140
✓✓ Boar's Head Lite	70	3	20	170
✓✓ Cabot 50% Reduced Fat <sup>1</sup>	70	3	20	170
✓✓ Trader Joe's Sliced Lite	70	3	20	170
Alpine Lace 25% Reduced Fat (3/4 oz.)	70	3.5	15	140
Borden Natural 2% Milk Sharp	80	3.5	20	230
Kraft Natural 2% Milk <sup>1</sup>	90	3.5	20	230
Cracker Barrel 2% Milk <sup>1</sup>	90	3.5	20	240
Organic Valley Reduced Fat & Sodium Mild	90	4	20	130
Tillamook Reduced Fat Medium	90	4	20	170
<i>Cheddar, full-fat</i>	110	6	20	180
<b>SWISS</b> (1 oz. piece or slice unless noted)				
✓✓ Jarlsberg Lite Deli Fresh Slices (3/4 oz.)	50	1.5	20	100
✓✓ Sargento Reduced Fat (3/4 oz.)	60	2	25	30
✓✓ Finlandia Light Deli Slices (3/4 oz.)	60	2	22	110
✓✓ Jarlsberg Lite	70	2	20	130
Kraft Natural 2% Milk (2/3 oz.)	60	2.5	20	50
✓✓ Finlandia Heavenly Light	80	2.5	25	130
✓✓ Finlandia Lacey*	90	3	30	80
Alpine Lace 25% Reduced Fat (3/4 oz.)	70	3	20	90
Dietz & Watson Lacy*	80	3.5	25	40
Jarlsberg Deli Fresh Slices (3/4 oz.)	70	3.5	15	100
Boar's Head Lacey	90	4	25	40
Boar's Head No Salt Added*	110	5	25	10
<i>Swiss, full-fat</i>	110	5	22	50
Boar's Head Gold Label	110	5	30	70
<b>MOZZARELLA</b> (1 oz. piece or slice unless noted)				
Frigo Lite	60	2	20	200
Kraft Natural Part-Skim (2/3 oz.)	60	2.5	10	110
Sargento Natural Part-Skim (3/4 oz.)	60	2.5	15	140
Alpine Lace 25% Reduced Fat (3/4 oz.)	60	2.5	15	160
✓✓ BelGioioso Fresh Mozzarella Bocconcini	70	3	15	50
✓✓ Trader Joe's Sliced Part Skim	80	3	20	170
Precious or Sorrento Reduced Fat	80	3	20	190
Kraft Natural Part Skim	90	3.5	20	170
Precious or Sorrento Part Skim <sup>1</sup>	90	3.5	18	200
<i>Mozzarella, whole milk</i>	90	4.5	15	200
<b>MONTEREY JACK, PROVOLONE, etc.</b> (1 oz. piece or slice unless noted)				
✓✓ Trader Joe's Sliced Lite Provolone	80	2.5	20	120
Sargento Reduced Fat—Colby-Jack, Pepper Jack, or Provolone (2/3 oz.) <sup>1</sup>	50	2.5	15	130
Alpine Lace 25% Reduced Fat Provolone (3/4 oz.)	60	3	15	130
✓✓ Cabot 50% Reduced Fat Pepper Jack	70	3	20	170
Denmark's Finest Light Havarti	70	3	25	200
Dofino Light Havarti	80	3	20	210
Sargento Reduced Sodium—Colby-Jack, Pepper Jack, or Provolone (2/3 oz.) <sup>1</sup>	70	3.5	15	90

	Calories	Sat Fat (g)	Calcium (%DV)	Sodium (mg)
Alpine Lace 25% Reduced Fat Co-Jack (3/4 oz.)	70	3.5	15	150
Kraft Natural 2% Milk Colby & Monterey Jack	80	3.5	20	250
Tillamook Reduced Fat Monterey Jack	80	4	20	130
<b>CUBES, STICKS, &amp; STRINGS</b> (1 oz. piece unless noted)				
✓✓ Weight Watchers Light String (3/4 oz.) <sup>1</sup>	50	1.5	18	150
Sargento Light String Mozzarella (3/4 oz.)	50	1.5	15	160
Trader Joe's Light String, Organic or regular <sup>1</sup>	60	1.5	20	180
Frigo Cheese Heads Light String	60	1.5	20	230
The Laughing Cow Mini Babybel Light (3/4 oz.)	50	2	20	160
✓✓ Trader Joe's Lite Snack Sticks Mild Cheddar (3/4 oz.)	70	2.5	20	120
✓✓ Cabot 50% Reduced Fat Serious Snacking (3/4 oz.) <sup>1</sup>	50	2.5	15	130
Kraft Polly-O String 2% Milk	70	2.5	25	200
Sargento Reduced Sodium String (3/4 oz.)	60	3	15	110
Sargento Reduced Fat Sticks (3/4 oz.) <sup>1</sup>	60	3	15	140
✓✓ Horizon Organic Part Skim Mozzarella String	80	3	20	170
✓✓ Trader Joe's Part Skim Mozzarella String	80	3	20	170
Precious or Sorrento Reduced Fat Stringsters	70	3	25	180
Precious or Sorrento Reduced Fat Sticksters (3/4 oz.) <sup>1</sup>	80	3.5	18	170
Sargento Snacks Part-Skim Mozzarella String	80	3.5	20	210
Cracker Barrel 2% Milk, Cheese Sticks or Cracker Cuts <sup>1</sup>	90	3.5	20	230
Kraft Natural Snacks 2% Milk Sharp Cheddar	90	3.5	20	240
Sargento Reduced Sodium Sticks (3/4 oz.) <sup>1</sup>	90	4.5	15	110
<b>SHREDDED CHEDDAR, MOZZARELLA, etc.</b> (1 oz.—1/4 cup—unless noted)				
Trader Joe's Lite Mozzarella	50	1	20	190
✓✓ Cabot 50% Reduced Fat Cheddar	70	3	20	170
✓✓ Horizon Organic Part Skim Mozzarella	80	3	20	170
✓✓ Trader Joe's Organic Part-Skim Mozzarella	80	3	20	170
✓✓ Trader José's Fancy Lite Mexican Blend	80	3	25	170
Weight Watchers Reduced Fat (1/3 cup) <sup>1</sup>	80	3	20	190
Sargento Reduced Fat <sup>1</sup>	80	3	24	200
✓✓ Sargento Reduced Sodium Mozzarella	80	3.5	20	140
Organic Valley Reduced Fat Monterey Jack	80	3.5	20	180
Sargento Classic Part-Skim Mozzarella	80	3.5	20	190
Kraft Part-Skim Mozzarella	80	3.5	20	200
Borden 2% Milk Natural <sup>1</sup>	90	3.5	20	210
Cracker Barrel 2% Milk Extra Sharp Cheddar	80	3.5	20	240
Sargento Reduced Sodium Mild Cheddar	110	5	20	140
<b>VEGAN</b> (1 oz. unless noted)				
Soy Kaas Vegan, Mild Cheddar or Mozzarella <sup>1</sup>	50	0	2	200
✓✓ Follow Your Heart Vegan Gourmet, Monterey Jack or Mozzarella <sup>1</sup>	70	0.5	2	130
✓✓ Galaxy Nutritional Foods Rice Vegan or Vegan, Mozzarella <sup>1</sup>	60	0.5	20	150
Daiya Shreds <sup>1</sup>	90	2	2	280
Tofutti Soy, American or Mozzarella (2/3 oz.) <sup>1</sup>	80	3	0	290
<p>✓✓ Best Bite. <sup>1</sup> Average. * May be available only at the deli counter. <i>Generic cheeses (in italics) are for comparison.</i></p> <p><b>Daily Limits</b> (for a 2,000-calorie diet): <b>Saturated Fat:</b> 20 grams. <b>Sodium:</b> 1,500 milligrams. <b>Calcium Daily Value (DV):</b> 1,000 milligrams.</p> <p>Source: company information and USDA. The use of information from this chart for commercial purposes is strictly prohibited without written permission from CSPI.</p>				



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.



## RIGHT STUFF

## FOOD PORN



### SAFE SNAX



"I had no time to get real food." "It's better than a doughnut, bag of chips, or candy bar." There are lots of reasons why people grab an energy (or granola or cereal) bar.

Well, now you can eat *real* food without any fuss. **Ready Pac's** new line of **Ready Snax** offers half a dozen options to hold you over 'til your next meal without a trip to the vending machine.

The **Veggie, Cheese & Pretzel Snack Pac** pairs carrots and grapes with enough cheddar to supply 5 grams of protein and 10 percent of a day's calcium (but just 2½ grams of saturated fat). The half-dozen mini-pretzels could be better (they're mostly white flour), but at least they don't add much salt. The entire 150-calorie snack has just 130 mg of sodium.

Got a sweet tooth? Pick up the **Apples, Granola & Yogurt** (110 calories). If your appetite's a little larger, try the **Veggies, Hummus & Sunflower Seeds** (220 calories). It packs 7 grams of fiber—as much as a cup of raisin bran cereal.

For variety, there's the 140-calorie **Veggies & Cheese with Ranch Dip**. To dodge some of the 340 mg of sodium, try dipping the peas and carrots into just half the dip.

Okay, they're not perfect. But have you ever read, say, a CLIF BAR label? The first of its "whole, organic ingredients" is organic brown rice syrup (AKA sugar).

Granted, Ready Snax need a fridge. And you could pack your own snack of fruit, veggies, and cheese or yogurt in a reusable container.

But no time? That excuse is history.

**Ready Pac: (800) 800-7822**

### NO SERVA

"Our freshly-made semolina flour cannelloni is filled with grilled natural white meat chicken, spinach and custom Impastata Ricotta, Fontina, Aged Parmesan, imported Pecorino Romano and Asiago cheeses," intones the box of **Buitoni Riserva Grilled Chicken & Spinach Cannelloni**.

"Creations" like this come "from the fresh herb gardens, to the chefs' hands, to the villa's table."

Really?

Does Buitoni get its powdered chicken broth, cornstarch, brown sugar, whey, dextrose, and xanthan gum from the herb garden?

That's not to say that Buitoni's creation is unnatural. It's filled with natural milk, cheeses, cream, and butter, which helps supply each serving with 15 grams of saturated fat (three-quarters of a day's worth). Add in the white-flour pasta, and you've logged 560 calories seasoned with 1,070 milligrams of sodium (two-thirds of a day's max). Maybe that's why Buitoni calls it a "complete meal."

The Grilled Chicken & Spinach Cannelloni is part of a line of 12 "artisan quality Italian meals for two," like **Shrimp & Lobster Ravioli**, **Braised Beef & Sausage Ravioli**, and **Grilled Vegetable & Goat Cheese Agnolotti**. Each has roughly 300 to 600 calories and 600 to 1,500 mg of sodium.

"Sit down and savor," urges Buitoni. Go ahead. Just don't be surprised if you end up too stuffed to get up.

**Buitoni: (800) 727-0050**



## dish OF THE MONTH

### Creamy Dijon Dressing

Whisk together 1 Tbs. of Dijon mustard, ¼ cup of orange juice, 2 Tbs. of minced red onion, 2 Tbs. of minced fresh dill, ½ cup of mayonnaise, and ¼ cup of canola oil. Drizzle two tablespoons over a mixed salad or steamed snow peas, broccoli, or asparagus. (Makes eight 2 Tbs. servings.)