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# In the Drink

## When it Comes to Calories, Solid is Better than Liquid

“What would you like to drink with that?” asks the waitress. Think twice before you answer.

Your body may not register the calories you *drink* as well as it does the calories you *eat*. So when you down a soda or other liquid calories before or with a meal, you may not eat less food later in the day to compensate. Making matters worse: serving sizes for beverages are ballooning... as are Americans.

“Beverages are huge contributor to obesity,” says Richard Mattes of Purdue University in West Lafayette, Indiana. “They’re major players that often get overlooked.”

### Stealth Calories

In one study by Mattes, people were asked to consume 450 calories’ worth of jelly beans every day for four weeks and 450 calories’ worth of soda every day for another four weeks.<sup>1</sup> On days they ate the jelly beans, the participants compensated by eating roughly 450 fewer calories of other foods. So they ingested no more calories than usual.

But on days they drank the soda, the participants didn’t compensate. They ended up eating roughly 450 *more* calories than usual.

“Liquid calories don’t trip our satiety mechanisms,” says Mattes. “They just don’t register.”

More evidence that liquid calories go unnoticed: Short-term studies show that if you drink a calorie-containing beverage with a meal, you’ll wind up consuming more calories at that meal than if you drink a calorie-free beverage.<sup>2</sup>

But what about the long term? Researchers at the Monell Chemical Senses Center in Philadelphia gave 20 men and women about 40 ounces a day of either regular or diet cola (made with the artificial sweetener aspartame).<sup>3</sup> After three weeks, the women who drank the regular cola gained an average of two pounds; the men’s weight didn’t change. On the diet soda, the men lost one pound and the women’s weight didn’t change.

“It doesn’t matter if you drink them with a meal or before a meal,” says Barbara Rolls of the Pennsylvania State University, author of *Volumetrics: Feel Full on Fewer Calories* (HarperCollins, 2000). “The calories from most drinks add on to—rather than displace—food calories.”

And that has added on to the nation’s obesity epidemic, argues Mattes. “Over the last 20 years, we’ve gotten fatter, but what’s really changed is that we’re drinking a lot more calories than we ever did before.”

### The Bottomless Cup

In the 1950s, a “family size” bottle of Coke was 26 ounces. Now soft drink sizes at McDonald’s *for one person* range from 12 ounces (for children) to 42 ounces. A “Double Gulp” at 7-Eleven convenience stores holds 64 ounces. That’s eight cups—a huge serving even if you get it with ice. And the soft drinks you get at movie theaters like Loews and some AMC’s (which can hit 44 ounces) often come with free refills.

“Sweetened soft drinks add more calories to our diet than any other beverage,” notes Rolls.

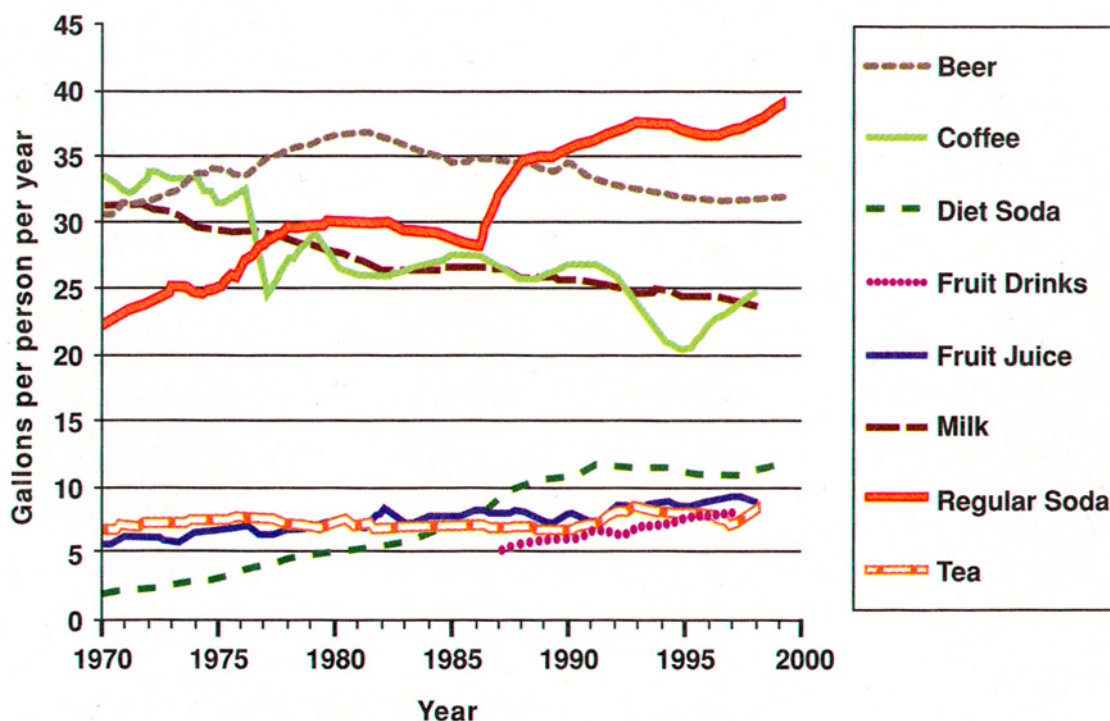
America’s appetite for soft drinks is at an all-time high, with no signs of slowing down. Soda pop dwarfs all other beverages we consume. Even if you subtract diet sodas—about a quarter of the market—it’s still the number-one beverage (see “Sweetened Soda Rules”).

And it’s not just soft drinks. A “venti” Caffè Latte at Starbucks is 20 ounces. A large shake at McDonald’s or a Dunkin’ Donuts Coolata is 32 ounces. And a single-serve bottle of just about any beverage—Arizona Iced Tea, Gatorade, Fruitopia, you name it—can run as high as 20 ounces.

Look at the “Nutrition Facts” labels on those bottles and you’ll see calories listed for an eight-ounce (one-cup) serving (as if people split the bottle into 2 ½ servings).

But other than children who get an eight-ounce carton of milk with their school lunch, it’s hard to know who

# SWEETENED SODA RULES



**Liquid calories keep climbing. Sweetened sodas have become the most popular beverage in America. We're also drinking more fruit drinks (essentially non-carbonated soda).**

Source: U.S. Department of Agriculture.

stops at one cup any more. You can't even buy an eight-ounce drink at many restaurants. A "small" drink at McDonald's is 16 ounces. And large sit-down restaurant chains like Applebee's, Chili's, Denny's, Olive Garden, Outback Steakhouse, and T.G.I. Friday's start you off with 14 to 22 ounces of soda... and offer free refills.

Even alcoholic beverages are ballooning. T.G.I. Friday's sells 18-ounce cocktails like the Ultimate Daiquiri, Hawaiian Volcano, Long Island Iced Tea, Margarita, or Mudslide.

Restaurants like Applebee's, Olive Garden, and T.G.I. Friday's offer either 16-ounce or 22-ounce draft beers. And at restaurants like Romano's Macaroni Grill and Buca di Beppo, two Italian sit-down chains, a serving of wine can be ten ounces.

(When the *Dietary Guidelines for Americans* and health authorities advise men to stop at two drinks a day and women to stop at one, they're talking about a five-ounce serving of wine, a 12-ounce serving of beer, or 1.5 ounces of liquor. Do patrons who drink alcohol at some restaurants know that each glass may contain two servings?)

And as mugs and glasses grow, so grow our bellies and bottoms. Twenty ounces of most beverages—even juice or milk—mean 200 to 450 calories. A 32-ounce large

shake at McDonald's means 720 calories. A 32-ounce large Dunkin' Donuts Coolata means 820.

## Good to the Last Drop

Do people drink more just because they're served more?

"Serving sizes have a tremendous effect on everyone, but a much more dramatic effect on males," says Brian Wansink, director of the Food and Brand Research Lab at the University of Illinois at Urbana-Champaign.

In a new (still unpublished) study, he gave free Coke or Sprite to 372 teens and adults who were eating at McDonald's, Burger King, or Hardee's restaurants. Roughly half were given a child-size (12-ounce) drink, while the others got a large (32-ounce) drink.

"The girls and women drank 17 ounces when they got the large size, but only 9 ounces when they got the small drink," says Wansink.

"The differences were even more extreme for the boys and men. They consume anything you give them—about 28 of the 32 ounces in the large drink and 11 of the 12 ounces in the small drink."

## DRINK TO ME ONLY

All beverages are not created equal. Here's a selection of popular drinks, ranked from least number of calories to most. Some serving sizes may seem large, but we didn't make them up. All are available in bottles, in cans, or at restaurants. Restaurant drinks will have even more calories if you get no ice.

<b>Beverage (size)</b>	<b>Calories</b>	<b>Beverage (size)</b>	<b>Calories</b>
Water or seltzer	0	Snapple Lemonade (16 oz.)	240
Diet soda (20 oz.)	5	7-Up, Coca-Cola, or root beer (20 oz.)	250
Coffee, with one liquid creamer (8 oz.)	30	Beer, regular, draft (22 oz.)	280
Tea, with two packets of sugar (8 oz.)	50	Margarita (from mix), on the rocks (8 oz.)	290
V8 (11.5 oz.)	70	7-Eleven Big Gulp, Coca-Cola (32 oz.)	300
Milk, fat-free (8 oz.)	90	Fruitopia, The Grape Beyond (20 oz.)	300
Beer, light (12 oz.)	100	Hawaiian Punch (20 oz.)	300
Milk, 1% (8 oz.)	100	Orange soda (20 oz.)	300
Starbucks Cappuccino, short (8 oz.) <sup>1</sup>	100	Sunny Delight (20 oz.)	300
Apple or orange juice (8 oz.)	110	McDonald's Coca-Cola, large (32 oz.)	310
Irish coffee, w/out whipped cream (8 oz.)	120	Eggnog (8 oz.)	340
Nestea Iced Tea, sweetened (16 oz.)	120	Starbucks Caffé Latte, venti (20 oz.) <sup>1</sup>	350
Gatorade (20 oz.)	130	Tropicana Twister Fruit Punch (20 oz.)	350
Cranberry juice (8 oz.)	140	McDonald's Chocolate Shake, sm. (16 oz.)	360
Starbucks Caffé Latte, short (8 oz.) <sup>1</sup>	140	Odwalla Future Shake, Vanilla Al'mondo (16 oz.)	380
Beer, regular (12 oz.)	150	McDonald's Coca-Cola, super size (42 oz.)	410
Grape juice (8 oz.)	150	Dairy Queen Misty, large (32 oz.)	440
Mimosa (8 oz.)	150	McDonald's Hi-C Orange Drink, super size (42 oz.)	460
Martini (2.5 oz.)	160	Nestlé NesQuik Chocolate or Strawberry Milk (16 oz.)	460
Wine, white (8 oz.)	160	Jamba Juice, Strawberries Wild Smoothie, Power Size (32 oz.)	560
Gin & tonic, on the rocks (7.5 oz.)	170	7-Eleven Double Gulp, Coca-Cola (64 oz.)	600
Wine, red (8 oz.)	170	Burger King Vanilla Shake, large (32 oz.)	630
Milk, whole (8 oz.)	180	McDonald's Chocolate Shake, lg. (32 oz.)	720
Ginger ale (20 oz.)	200	Dunkin' Donuts Coolatta, large (32 oz.) <sup>2</sup>	820
Starbucks Cappuccino, venti (20 oz.) <sup>1</sup>	200	Baskin-Robbins Chocolate Milkshake, large (24 oz.)	1,130
Starbucks Coffee Frappuccino, tall (12 oz.)	200	Smoothie King, Strawberry Hulk (40 oz.)	1,920
Dairy Queen Misty, small (16 oz.)	220		
Ultra Slim-Fast, canned (11 oz.)	220		
V8 Splash (16 oz.)	220		
Arizona Iced Tea (20 oz.)	230		
Sobe Orange Carrot Elixir 3C (20 oz.)	230		

<sup>1</sup>Prepared using whole milk.

<sup>2</sup>Prepared using cream.

Source: Manufacturers and U.S. Department of Agriculture (USDA).

And what's remarkable, says Wansink, is that "people don't perceive that they're consuming any more calories with a large drink than with a small."

When asked how many calories they drank, most people had no clue, he says. "But even when we looked at people who said they could estimate calories well—usually females—they said they had consumed about 100 calories, whether they drank 9 ounces or 17 ounces."

## Take Charge

Don't get us wrong. It's not just 300-calorie beverages that are making Americans pudgy. It's also 670-calorie Cinnabons, 800-calorie tuna salad sandwiches, 1,000-calorie Big Macs and Fries, 1,200-calorie orders of Stuffed Potato Skins, 1,600-calorie platters of General Tso's Chicken, and 2,400-calorie plates of Cheese Fries.

But at least some people think twice before gulping down 1,000 calories of food. They may not question the "hidden" calories in beverages.

Yet they're so easy to avoid. Dieters may have trouble eating less food over the long term. But surely they could get used to drinking noncaloric beverages with and between meals.

"People have two options," says Mattes. "Either they start consuming non-caloric beverages like water, tea, coffee, or diet soda. Or they can drink whatever they want, but compensate by eating less food."

Here are some other strategies for avoiding beverage bloat:

- Order "kiddie" or "small" sizes. At McDonald's (and many other restaurants), a child's serving is 12 ounces. And a "small" at most fast food restaurants is 16 ounces (two cups).
- Ask for ice in your drink. You'll get less beverage... and fewer calories.
- Get an empty cup or glass and split a beverage with a friend. If the waiter offers a free refill, ask for water.
- Don't have a caloric beverage as a snack to stave off hunger before a meal. It won't curb your appetite as well as solid food. Try baby carrots, slices of melon, or orange wedges instead.
- You don't have to eliminate healthy beverages like orange juice and low-fat milk. Mix OJ with seltzer for a refreshing drink with half the usual calories. And the calcium, protein, and other nutrients in that glass of milk may be worth its 100-or-so calories.
- Diet soft drinks are better than regular soda. But if you guzzle caffeinated soda, coffee, or tea all day, it may leave you jittery and unable to sleep.

## Notes

1. *Internat. J. Obesity* 24: 794, 2000.
2. *Physiol. Behav.* 48: 19, 1990.
3. *Am. J. Clin. Nutr.* 51: 963, 1990

## Acknowledgment

The information for this article was compiled by Jackie Adriano.