

# Did You Know?

**Money down the drain** » Americans spent \$73.9 billion on regular and diet carbonated soft drinks in 2009, according to *Beverage Digest*. That figure grows to \$115 billion when including non-carbonated beverages such as juice drinks, teas and energy drinks.

**Starting young** » One-fifth of 1- and 2-year-old children consume soft drinks. Those toddlers drink an average of 7 ounces—about 1 cup—each day. Almost half of all children between ages 6 and 11 drink soda, with the average child drinking 15 ounces a day.

**Leading in a bad way** » American adults and children drank an estimated 714 eight-ounce servings of soft drinks, per capita—that's more than 44 gallons! The U.S. has the highest per capita consumption of carbonated soft drinks in the world.

**Sizes have grown** » In the 1950s, a bottle of soda was 6.5 ounces. Today, a 12-ounce can is standard and a 20-ounce bottle is common—as are the super-sized drink cups from restaurants and convenience stores. Larger sizes mean more calories, more sugar and more acid from a single container of soda.

**Too much, too sweet** » The American Heart Association recommends women consume no more than 6 teaspoons and men no more than 9 teaspoons of added sugars per day. Even one 20-ounce soda contains far more than that. Almost 50% of added sugar in our diets comes from soda, energy drinks, sport drinks, fruit drinks and sweet tea.

**Caffeine in a can** » The amounts of caffeine in one or two cans of caffeinated soft drinks can affect performance and mood, increase anxiety in children and reduce the ability to sleep.

**Better keep exercising** » To burn off the calories in a 20-ounce bottle of regular soda, a 135-pound person would have to vigorously walk three miles in 45 minutes, play basketball for 40 minutes or bike for 22 minutes!

Some statements in "Did You Know" were adapted from the Center for Science in the Public Interest website about Liquid Candy ([cspinet.org](http://cspinet.org)). A complete list of references is available at [www.modental.org/stopthepop](http://www.modental.org/stopthepop).

Stop the Pop is an educational program of the Missouri Dental Association. For more information or to order brochures go to [www.modental.org](http://www.modental.org) or call 573-634-3436. Revised 2013.



## Check the Label

**Always read the label!** Regular soft drinks contain acid and sugar that can lead to tooth decay. Diet or sugar-free drinks may not have sugar, but most always contain acid. Usually flavored milks, energy drinks, sport drinks, fruit drinks and sweetened tea have loads of extra sugar.

Nutrition Facts	
Serv. Size 1 Can (regular)	
<b>Amount Per Serving</b>	
Calories	140
Total Fat	0
Sodium	50mg
Total Carb	39g
<b>Sugars</b>	<b>39g</b>
Protein	0g
CARBONATED WATER, HIGH FRUCTOSE CORN SYRUP AND/OR SUCROSE, CARAMEL COLOR, PHOSPHORIC ACID, NATURAL FLAVORS, CAFFEINE	

Nutrition Facts	
Serv. Size 1 Can (diet)	
<b>Amount Per Serving</b>	
Calories	0
Total Fat	0
Sodium	40mg
Total Carb	0g
Protein	0g
CARBONATED WATER, CARAMEL COLOR, ASPARTAME, PHOSPHORIC ACID, POTASSIUM BENZOATE (TO PROTECT TASTE), NATURAL FLAVORS, CITRIC ACID	

### What is pH anyway and what does it mean for your oral health?

The pH tells you how acidic something is. A normal mouth has a pH of 6.3 to 7, which is close to neutral with no damage done to teeth. Tooth enamel begins to de-mineralize (dissolve) at pH levels less than 5.5. Soda has an average pH of 2.5, which is far below this point—very acidic. Tooth enamel is the hardest substance in the body, but it becomes porous and soft when constantly exposed to acid. Tooth enamel erosion is extremely harmful because it weakens the tooth and makes it prone to decay and breakage.

	pH (acid) Level*	Sugar Amount**
	Low number =	Per 12-ounce
	<b>BAD FOR TEETH</b>	servicing (1 can)
Pure Water	7.00 (Neutral)	0.0
Coffee (Average, Black)	5.00	0.0
Barq's Root Beer	4.61	10.71 tsp.
Diet Dr. Pepper	3.41	0.0
Diet Sprite	3.17	0.0
Red Bull Energy Drink	3.10	9.29 tsp.
Nestea	3.04	6.07 tsp.
Diet Mountain Dew	2.95	0.0
Dr. Pepper	2.92	9.64 tsp.
Sprite	2.90	9.29 tsp.
Gatorade	2.83	5 tsp.
Mountain Dew	2.80	11.07 tsp.
Diet Pepsi	2.77	0.0
Diet Coke	2.70	0.0
Pepsi	2.43	9.64 tsp.
Coca-Cola	2.30	9.64 tsp.
Battery Acid (Yikes!)	1.00 (Acidic)	0.0

\*Acid amounts from the study "Enamel and root surface erosion due to popular U.S. beverages," 2006. Authors: L. Ehlen, T.A. Marshall, F. Qian, J.J. Warren, J. Wefel, M.M. Hogan, and J.D. Harless. College of Dentistry, University of Iowa, Iowa City and from University of Minnesota School of Dentistry, 2000, *Northwest Dentistry* Vol 80, No. 2. \*\*4.2 grams = 1 teaspoon.

## Stop the Pop!



get healthy  
prevent decay

**MDA**  
Missouri Dental  
ASSOCIATION

**MDA** Improving Missouri Smiles  
FOUNDATION

# Americans consume huge quantities of soft drinks each year.

Carbonated soft drinks are the most-consumed beverages, with an average of 44.7 gallons consumed per person, per year!



## How Tooth Decay Starts

- Soda and other soft drinks have lots of refined sugar, such as high fructose corn syrup. Bacteria in the mouth process the sugar and produce acid.
- This acid, plus the extra acid already present in the drink, demineralizes (weakens) your tooth enamel. The enamel is the strong, outer coating of the teeth that guards against tooth decay and protects your teeth for life! When the acid makes it weak, tooth decay (cavities) can begin. Think of it like this: The acid makes tiny pores or holes in your enamel.
- Each acid “attack” lasts about 20 minutes, and each sip you take resets the clock.
- Remember! Diet or sugar free drinks may not have sugar, but often contain harmful acid.

See your MDA dentist for regular checkups and cleanings!

## Reducing Tooth Decay

- Choose water; it’s best for your health.
- If you’re going to drink soda, don’t sip all day. Drink a serving all at once, such as with a meal. Constant sipping exposes teeth to prolonged sugar and acid attacks.
- If you do drink soda, sports drinks or fruit juices, do so in moderation! Try limiting it to no more than a 12-ounce serving (1 can) per day.
- After drinking a soda, rinse your mouth with water to dilute the sugar and acid, or chew sugar-free gum with xylitol which has been shown to discourage tooth decay.
- Brush at least twice daily with fluoride toothpaste and floss daily to remove plaque buildup between teeth and along gums.



## Stop the Pop Math [+]

Here are some math equations to think about before you buy that next soda pop!

If the average family consumes a case of regular brand name soda each week, it will cost about \$6 or \$312 each year. A large drink from your favorite fast food restaurant or convenience store is about \$1 a day or \$365 a year. If you decided to skip the soda and instead saved this amount over a year ... what could you spend it on? We can think of lots of fun stuff—like clothes, recreation and games, or even a vacation!

An even more shocking number is the cost of fixing tooth decay! Many children begin consuming soda early in life. It can lead to severe tooth decay which will likely have to be fixed by a dentist in an outpatient surgery center. The cost to fix one baby tooth that has nerve damage from a large cavity will be hundreds of dollars. Multiple cavities treated can cost thousands!

Just “Stop the Pop” to save a lot of money, plus have better oral and overall health!

## Would You Sit Down & Eat That Much Sugar?

Spoon out 10 teaspoons of sugar. This is about how much is in a 12-ounce can of regular soda. Now spoon out 17 teaspoons for a 20-ounce bottle. Can you imagine “eating” that much sugar at one time? Then why drink it! Need another visual? Drinking 1 can of soda every day = more than 32 pounds of sugar in one year ... it’s like loading up eight, 4-pound bags of sugar into your grocery cart! Think diet is better? Think again! It may not have the sugar but still contains acid that can harm tooth enamel.

## The Look of Decay

Ever wondered what tooth decay looks like? Check out these pictures ... YUCK!

The top picture is a more shocking, severe case of decay. However, the bottom picture also shows decay, but in a more subtle way that may go unnoticed. See those white, chalky lines along the gums in the bottom picture? It’s a big term called “decalcification” which essentially is the start of tooth decay.

The person in this picture wore braces to straighten teeth, but didn’t practice good oral hygiene which caused the tooth enamel to break down. In the same way, this is what tooth decay caused by soft



Photos courtesy of JE Kendrick, DDS & American Association of Orthodontists

drinks looks like when it starts, and it can become more severe to look like the brown spots in the top picture. Brush and floss daily, choose healthy foods and beverages, and see a dentist regularly ... or this could be your teeth on the way to decay.

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## Enough is Enough

Soft drinks, juices and sports drinks provide huge amounts of sugars to many diets. Each day, soda consumption alone provides the average teenage boy about 15 teaspoons of refined sugars, the average girl about 10 teaspoons. These amounts roughly equal the recommended daily limits for teens’ sugar consumption from all foods. It’s not just soft drinks that are the problem. Many other beverages, like sports drinks and fruit juices, have sugar and acid that can cause decay.

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## Why Should You Care?

Sugar and acid in these beverages can create the perfect environment for tooth decay. Drinking too much also can contribute to other health problems, such as osteoporosis, kidney stones, and especially weight gain and obesity, which are big risk factors for Type 2 Diabetes in teens and adults. Soft drinks are a problem not only for what they contain, but for what they push out of the diet—better beverage choices like water or milk. Fewer than 50% of adolescent girls consume enough calcium daily, which can lead to early development of osteoporosis. Girls who drink carbonated beverages are 5 times more likely to have bone fractures than those who don’t drink soda.

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