Rethink Your Drink!
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Question:
What is the **top source of added sugar** and the **single largest source of calories** in the **American diet**?
Rethink Your Drink!

- **Answer:**
  - **Sugar Sweetened Beverages** - SSBs - which include soda, fruit drinks and energy and vitamin water drinks
  - Half of U.S. adults drink at least one 12 oz SSB per day - an amount linked to obesity, type 2 diabetes and cardiovascular disease

Rethink Your Drink!

- The main problem with these beverages is that they deliver a **rapid flood of sugar and calories** without making you feel full
- Research shows that the **body doesn’t register calories** from beverages in the same way it does from food
- You **don’t compensate** for liquid calories by eating less food
- The Dietary Guidelines for Americans recommend that you get less than 10% of total calories from added sugars
- 1500 calories per day: less than 150 calories from sugar per day
Rethink Your Drink!

- 16 calories in 1 teaspoon of granulated sugar
- One teaspoon of granulated sugar equals 4 grams of sugar.
- For example: 16 grams of sugar in a product is equal to about 4 teaspoons of granulated sugar

How much sugar is in your drink?

- Monster Energy 15 fl oz: 13.5 teaspoons
- Snapple 15 fl oz: 8 teaspoons
- Mountain Dew 15 fl oz: 19.25 teaspoons
- Rockstar Energy 15 fl oz: 10.5 teaspoons
- Red Bull 15 fl oz: 8.5 teaspoons
- White Claw Hard Seltzer 15 fl oz: 17.5 teaspoons
Rethink Your Drink!

- Starbucks Chai Latte - 10 oz = 42 g sugar
- Naked Juice Double Berry - 10 oz = 42 g sugar
- Jamba Juice Amazing Greens Smoothie - 10 oz = 54 g sugar
- Starbucks White Chocolate Mocha - 16 oz = 59 g sugar
- Starbucks Java Chip Frappuccino - 10 oz = 66 g sugar
- Coca-Cola Original - 16 oz = 52 g sugar

Healthy hydration

- Water is **essential for life**.
- The **body is nearly two-thirds water**.
- Poor fluid intake can lead to **dehydration**.
- All drinks count to fluid intake except stronger alcoholic drinks such as spirits and wine.
- Water is also provided **from food (about 20%)**.
Fluid and hydration

The body needs fluids to carry out basic processes that enable it to function correctly. For example:
- Digesting food and enabling nutrients to be absorbed
- Enabling blood to circulate around the body
- Removing waste products via urine and feces
- Keeping cells and tissues moist, helping to avoid infection
- Controlling body temperature by perspiration
- Maintaining brain function.

How much water does a person need?

The amount needed depends on:
- age
- climate
- physical activity
- health condition

It is generally accepted to drink around 1.2 litres or (6-8 glasses) per day.

This is in addition to water provided by food.
How much water?

- All beverages and most foods contain significant amounts of water.
- Fruits and vegetables average around 85 to 95% water, meats contain 60 to 65% water and even cooked rice is 70% water. Most people get three to four cups of water in their food each day.
- Consequently, the amount of drinking water a person needs is somewhat dependent on the types of foods they eat.

Dehydration

- Being dehydrated can affect physical performance and cognitive ability (e.g. concentration and alertness).
- Even slight dehydration (2%) can affect physical performance by 20% - this is not enough to feel thirsty.
- By the time you feel thirsty you are already dehydrated.
Identifying poor hydration

Untreated dehydration can lead to problems with blood circulation or kidney failure.

<table>
<thead>
<tr>
<th>Feelings of thirst</th>
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<tbody>
<tr>
<td>Dark coloured urine</td>
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<tr>
<td>Headaches, tiredness and confusion</td>
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<tr>
<td>Constipation</td>
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<tr>
<td>Kidney stones and infections</td>
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<tr>
<td>Poor wound healing</td>
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<tr>
<td>Urinary tract infections</td>
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</tbody>
</table>

Excess intake

Drinking *excessive amounts* of fluids is not helpful to health and wellbeing, and in rare cases *may be dangerous*, leading to low levels of solutes in blood.

An example is **hyponatremia**, which means low levels of sodium in the blood. Athletes have **died of hyponatremia**.

Signs of excessive intake are passing urine frequently and urine that is very pale in color.
Urine test

The simplest way to tell if you are drinking enough is to check the color of your urine.

If your urine is very dark you need to drink more fluids. Once it is pale, you are wellhydrated again.

<table>
<thead>
<tr>
<th>ARE YOU DEHYDRATED?</th>
<th>Check Your Urine</th>
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</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td>Well hydrated</td>
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<tr>
<td>2</td>
<td>1</td>
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<tr>
<td>3</td>
<td>2</td>
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<td>4, 5</td>
<td>Hydrated but not well</td>
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<td>4</td>
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<td>5</td>
<td>4</td>
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<tr>
<td>6, 7, 8</td>
<td>Dehydrated - You need to drink more</td>
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<td>7</td>
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<td>8</td>
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</tbody>
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Urine test

- Taking B vitamins can cause your urine to turn an orange-y yellow.
- This is due to the presence of vitamin B2, also known as riboflavin.
- The vitamin’s name gives you a hint: Flavin comes from the word flavus, which means yellow.
- Your body just excretes what it doesn’t need - it’s perfectly harmless.
- If the color bothers you, simply drink more water to dilute your urine.
The Beverage Guidance Panel

- Nutrition experts from across the U.S. formed the independent **Beverage Guidance Panel**.
- These six researchers included Dr. Walter C. Willett of the Harvard School of Public Health’s Department of Nutrition.
- They reviewed the evidence on beverages and health and ranked categories of beverages into **six levels**, based on calories delivered, contribution to intake of energy and essential nutrients, and evidence for positive and negative effects on health.

![Image of beverage guidance chart]
Water

Water provides everything the body needs—pure H₂O—to restore fluids lost through metabolism, breathing, sweating, and the removal of waste. It’s the perfect beverage for quenching thirst and rehydrating your system. Costs a fraction of a penny per glass. Water should be the beverage you turn to most of the time. Delivers fluid without adding calories or potentially damaging teeth.

Water

• It’s impossible to set a single requirement for how much water the hypothetical average American needs each day.
• The amount you need depends on how much you eat, what the weather is, and how active you are.
• Instead of setting an estimated average requirement for water, as it has done for other nutrients, the Institute of Medicine has set an adequate intake of 125 ounces (about 15 cups) for men and 91 ounces for women (about 11 cups). This is not a daily target, but a general guide.
Water

- In most people, about 80% of water comes from beverages; the rest comes from food.
- As for the oft-repeated nutrition advice to “drink eight glasses of water every day,” there’s little evidence to support it, but this would be one excellent way to fulfill most of a person’s fluid requirement.

Contribution from food

Water is also provided from food (about 20%).

The amount of water in food varies from less than 10% in savoury snacks, less than 40% in cereal products to 80% or more in some fruit and vegetables. Foods, such as soups, stews, yogurts have a high water content.
Some people need to drink more

- Children
- Lactating women
- Older adults

Physical activity

Even slight dehydration has been shown to affect sporting performance, so drink before, during and after you train or play a match.

Being dehydrated may mean that:
- running pace is slower;
- unable to cover as much distance;
- reaction time is slower;
- experience lack of power.
Keeping hydrated during exercise

To keep hydrated:
• drink lots before exercise;
• don’t wait until you feel thirsty;
• drink small, regular sips of water during exercise;
• drink plenty when you have finished.

The fluid needed for activity is in addition to the 6 to 8 glasses or 1.2 litres needed every day.

It is also important to drink more when the weather is hot.

Keeping hydrated during exercise

Anything that increases visible sweat loss or invisible sweat loss will increase overall water needs.

Trade winds increase invisible sweat loss and therefore water needs increase if you are outside during those times.

If a person doesn’t drink enough water to balance the increased water needs, the kidneys produce a more concentrated urine which increases the risk of forming kidney stones.

New joggers sometimes develop kidney stones because they don’t realize how much more liquid they need to consume.

It is very common to lose one to two liters of water in sweat during one hour of moderate exercise. During more intense exercise, sweat loss is even greater.
Drinking schedule

A large glass one hour before you start.
A smaller glass 15 minutes before start.
Small sips during the event.
A large glass immediately afterwards.

Will drinking water with a meal dilute digestive juices and impair digestion?

- No - quite the opposite.
- Water is an essential part of digestive juices and is needed as part of the chemical process to digest carbohydrate, protein, and fat.
- Without adequate water in a meal, water will be pulled out of body fluids into the intestinal tract for the digestive process to proceed.
- Not consuming enough fluid with a meal could temporarily impair digestion.
- 2 cups before meals=greater weight loss
Tea and coffee

- After water, tea and coffee are the two most commonly consumed beverages on the planet.
- Drunk plain, they are calorie-free beverages brimming with antioxidants, flavonoids, and other biologically active substances that may be good for health.
- Up to 3 - 4 cups of coffee or tea a day appear to be fine.
- Green tea, especially the strong variety served in Japan, has received attention for its potential role in protecting against heart disease, while coffee may help protect against type 2 diabetes.

Delivers water.

Moderate intakes of caffeine do not affect hydration.

Pregnant women are advised to consume no more than 200mg caffeine a day.

This is equivalent to 2 mugs of instant coffee or 3 cups of tea.
Tea and coffee

- The addition of cream, sugar, whipped cream, and flavorings can turn coffee or tea from a healthful beverage into a not-so-healthful one.
- For example, a 16-ounce Mint Mocha Chip Frappuccino with Chocolate Whipped Cream contains 470 calories.
- This beverage (which is actually closer to a dessert) has 12 grams of saturated fat—nearly a day’s worth—and 71 grams of sugar, the equivalent of 17 teaspoons of sugar.
- For pregnant women, the jury is still out on whether high coffee or caffeine intakes increase the risk of miscarriage, but it seems prudent to limit caffeinated beverages to 1-2 cups per day.

Coffee Drinks

- **Dunkin Donuts**: Frozen Caramel Coffee Coolatta with Cream, large, 20 oz.
  - 990 calories, 47 g fat, 29 g sat fat, 141 g carbs, 130 g sugar
- **Starbucks**: Whole Milk White Chocolate Mocha with Whipped Cream, venti, 20 oz.
  - 620 calories, 27 g fat, 17 g sat fat, 79 g carbs, 75 g sugar
- **McDonald’s**: Frappe Mocha, No Whip, large, 22 oz.
  - 600 calories, 22 g fat, 14 g sat fat, 92 g carbs, 84 g sugar
- **Peet’s**: Milk Chocolate Almond Mocha with Whole Milk and Whipped Cream, large, 20 oz
  - 600 calories, 24 g fat, 16 g sat fat, 80 g carbs, 76 g sugar
Tea and coffee

- Caffeine is known to increase the amount of water that passes into urine.
- However, when overall water balance is evaluated, researchers have found that common caffeine-containing beverages can be counted as sources of water.

Milk and Non-Dairy Milk

- Provides protein, calcium and B vitamins
  - Whole milk contains saturated fat
  - For adults - choose lower fat milks: 2% fat, 1% or skimmed
  - For children aged 1 to 2 years, whole milk is recommended.
  - From 2 years onwards, 2% milk can be introduced.
  - 1% or skimmed milks are not suitable for children until they are at least 5 years old.
**Milk and Non-Dairy Milk**

- Even low-fat milk is high in calories, and high levels of consumption may increase the risk of prostate and ovarian cancer.
- It’s best for adults to **limit cow’s milk** (and all dairy products) to a serving or two a day; less is fine, as long as you get enough calcium from other sources.
- For growing children, the ideal amount of milk and calcium is less clear, but not pushing beyond two glasses of milk per day appears to provide sufficient nutrition without being excessive.

**Cow’s Milk**

- **Whole milk** has 150 calories in one cup, 1% has 110 calories, and **skim milk** has just 80 calories.
- **Fat-free milk** has all of the nutritional benefits of whole milk — a good source of protein, calcium, vitamins, and minerals — without the saturated fat and calories, but it still has 12 grams of sugar in 1 cup!
- **Lactose-free milk** is processed to break down lactose, a natural sugar found in milk products.
- As with other milks, lactose-free milk is a good source of protein, calcium, vitamins, and minerals.
- The fat and cholesterol content of lactose-free milk varies, as it comes in 2%, 1%, and fat-free varieties.
Cow’s Milk

- **Pros:**
  - Milk can provide essential proteins and calcium as well as vitamins and minerals
  - Lactose-free versions are available for people who are lactose intolerance.
- **Cons:**
  - Those that are not fat-free are high in saturated fat and calories, which is bad news for people with heart problems, high cholesterol, or those who are trying to lose weight.
  - Cows given antibiotics, hormones, eat pesticide laden grains

Non dairy sources of calcium

- Tofu 350 mg per ½ cup serving
- Tapioca 300 mg per ½ cup serving
- Chia seeds 300 mg per 1.5 ounces serving
- Collard greens 210 mg per ½ cup serving
- Kale 205 mg per ½ cup serving
- Bok Choy 190 mg per ½ cup serving
- Figs 135mg per 5 fig serving
- White Beans 120 mg per ½ cup serving
- Turnip Greens 104 mg per ½ cup serving
- Spinach 99 mg per ½ cup serving
- Almonds 93 mg per ¼ cup serving
- Sesame Seeds 51 mg per 1 tablespoon serving
Almond Milk

- Almond milk is made from ground almonds and is lower in calories than other milks as long as it is unsweetened.
- Unsweetened almond milk has very low carbs and no sugars
- It's also free of cholesterol, saturated fat, and is naturally lactose free.
- Even though almonds are a good source of protein, almond milk is not.
- Almond milk is also not a good source of calcium, however, many of the brands available in the market are supplemented with calcium as well as vitamin D.

Pros:
- It’s low in calories and contains no saturated fat or cholesterol.
- It’s a good source of vitamins A and D.
- It’s naturally lactose free.

Cons:
- It’s not a good source of protein and, unless it is fortified, it contains no calcium, which is important for people with conditions like osteoporosis.
- People who are allergic to almonds or nuts should avoid almond milk.
Almond Milk with Protein

Soy Milk

- Soy milk is made from soybeans.
- Good alternative for vegans and people who are lactose intolerant.
- Since it comes from plants, it is naturally free of cholesterol, low in saturated fat, and contains absolutely no lactose.
- Soy protein in milk helps to lower LDL cholesterol
- Soybeans and soy milk are a good source of protein, calcium (when fortified), and potassium.
Soy Milk

- Pros:
  - It’s a good source of protein, vitamin A, B12, vitamin D, and potassium.
  - Soy milk contains as much protein as cow’s milk, but is lower in calories than whole milk and comparable to skim milk.
  - It contains no cholesterol
- Cons:
  - Too much soy may be a problem for those with thyroid disease or other conditions.
  - High allergenic food

Rice Milk

- Rice milk is made from milled rice and water.
- It is the least allergenic of all of these products, which makes it a good choice for people with lactose or nut allergies.
- While rice milk can be fortified with calcium and vitamin D, it is not a natural source of either of these, just like soy and almond.
Rice Milk

- **Pros:**
  - It's the least allergenic of milk alternatives.
  - It can be fortified to be a good source of calcium.
  - Rice milk can be used by vegans.
- **Cons:**
  - Rice milk is very high in carbohydrate and very low in protein, so it's the least desirable choice for people with diabetes as well as people who want more protein.

Fruit juices and smoothies

- **Provide vitamins and minerals** and natural plant substances.
- Smoothies may contain puréed fruit, which adds **fiber**.
- 100% fruit juice has most of the nutrients of the fruit itself, but it also has more **sugar** and calories.
- The Dietary Guidelines for Americans recommends no more than one serving (4 ounces) of 100% fruit juice as part of the daily fruit intake.
- Juices count towards **one portion** of 5 A DAY.
Vegetable Juice

- Vegetable juice is a lower calorie alternative to fruit juice, but may contain a lot of sodium.
- Use low-sodium versions

Calorically Sweetened Beverages

- The Beverage Guidance Panel gave its “least recommended” designation to beverages that are sweetened with sugar, high-fructose corn syrup, or other high-calorie sweeteners and that have few other nutrients.
- These include carbonated and noncarbonated soft drinks, fruit drinks, lemonade, and other “ades.”
- They get the thumbs down as a daily beverage because they provide so many calories and virtually no other nutrients.
Calorically Sweetened Beverages

- Routinely drinking these beverages can lead to weight gain and increase the risk of type 2 diabetes.
- Fruit smoothies, many flavored coffee and tea drinks, and some so-called energy drinks also fall into this category.
- Provide water and sugar and little else.
Beverage Guidance Panel

- Your body would be perfectly content if you drank nothing but water.
- You would get all the fluid you need, and you would get all of your nutrients from food.
- But with so many choices available, most people drink a variety of beverages.

Recommendations:
- The exact number of ounces isn’t what’s important—these are given for a typical person taking in 2,200 calories a day.
- What matters are the proportions. Here’s one way the Panel suggests getting less than 10 percent of daily calories from beverages:

- At least half of your daily fluid should come from water.
  For a person who needs 12 cups of fluid a day, that would mean six cups of water. More is fine—up to 100% of your daily beverage needs.
- About one-third (or about three to four cups) can come from unsweetened coffee or tea.
  If you flavor your coffee or tea with a lot of sugar, cream, or whole milk, then drinking less would help manage weight.
  If you take a pass on coffee or tea, choose water instead.
Beverage Guidance Panel

- **Low-fat milk** can make up another 20%, or about two 8-ounce glasses.
- Less is fine, just make sure you get your calcium from another source.
- A small glass (4 ounces) of 100% fruit juice, and no more than 1 to 2 alcoholic drinks for men or no more than 1 for women.
- Ideally, zero “diet” drinks made with artificial sweeteners, but up to 1 to 2 glasses (8 to 16 ounces) a day.
- Ideally, zero drinks sweetened with sugar or high-fructose corn syrup, but up to a maximum of 8 ounces.

What about Sports Drinks?

- The *British Medical Journal* (BMJ) published several articles about the “truth about sports drinks.”
- They concluded “drink when you are thirsty and don’t waste your money or calories on sports drinks—choose water instead.”
- Sports drinks are flavored beverages that contain carbohydrates (usually sugar) and minerals such as sodium and potassium - electrolytes.
What about Sports Drinks?

• The sports drink industry is now dominated by multinational companies like Pepsi and drug companies like GSK.
• In the United States alone, sales of sports drinks **exceed $1.5 billion a year**.
• Recommendations once aimed at **endurance athletes** have now trickled down to your everyday exerciser.
• Many contain up to 150 calories and the equivalent of 10 teaspoons of sugar.

**Recommended Consumption for Endurance Athletic Events (strenuous activity that lasts over 90 minutes):**
- 0-2 servings (0-16 ounces)
- **Everyone else - Drink water!**
Sports drinks

It is easy to make your own sports drinks at home and cheaper too!

**Ingredients:**
- 3 cups filtered water
- ¼ cup or less local honey
- ¼ teaspoon sea salt
- juice of 1 lemon and 1 lime (about ⅓ cup)

**Directions:**
Juice lemon and lime, straining out any seeds (and pulp if you wish). Add all ingredients to a container with a tight-fitting lid and shake well until honey and salt are dissolved. Chill in the refrigerator. Makes about 1 quart.

Diet Soda

No one drinks diet soda for the taste. People drink diet soda in the hopes that it will help them lose weight—or at least keep them from gaining it.

Yet it seems to have exactly the reverse effect, according to new studies presented at the American Diabetes Association’s Scientific Sessions. Study subjects who drank two or more diet sodas a day had waist size increases that were six times greater than those of people who didn’t drink diet soda, said researchers from the University of Texas Health Science Center at San Antonio.
Diet Soda

The study was based on data from 474 participants in a larger, ongoing research project called the San Antonio Longitudinal Study of Aging. In that study, the participants were followed for nearly 10 years.

Why would diet soda cause weight gain?
No one knows for sure yet, but it could be that people think they can eat more if they drink diet soda, and so overcompensate for the missing calories.

A related study found the sweetener aspartame raised blood sugar levels in diabetes-prone mice.

Diet Soda

A group of researchers at Purdue University reviewed a dozen studies on diet soda and its impacts on health published in the past five years. The researchers found that just like with regular soda, the consumption of artificially sweetened beverages like diet soda is also associated with obesity, type 2 diabetes, metabolic syndrome and cardiovascular disease. Drinking just one can of diet soda per day is “enough to significantly increase the risk for health problems,” according to the research release.
Diet Soda

- The report explains that diet soda and artificial sweeteners trick the body into thinking that it is consuming real food and sugar even though it isn't, which could lead to metabolic confusion and overconsumption.
- Some studies suggest that diet drinks condition adults to have a higher preference for sweets.

Diet Soda

- Our hormones may explain the great paradox of why people gain weight when they switch to diet soda.
- A study in *Diabetes Care* found that drinking two-thirds of a diet soda before eating primed the pancreas to release a lot of the fat-storing hormone insulin.
- When the pancreas is overworked from creating insulin to control blood sugar levels, diabetes risk can increase.
- And a recent study in Japan found that middle-aged men who drank 1 or more diet sodas daily were much more likely to develop type 2 diabetes over a 7-year period.
Alcohol

- Throughout the 10,000 or so years that humans have been drinking fermented beverages, they’ve also been arguing about its advantages and disadvantages.
- Alcohol is both a tonic and a poison.
- The difference lies mostly in the dose.
- Alcoholic Beverages, when consumed in moderation, have some health benefits for adults, including reduced risk of cardiovascular disease, Type 2 diabetes, and gallstones.
- Moderate intake of alcoholic beverages has also been linked to an increased risk of breast cancer.
- Excessive alcohol consumption causes serious health and social problems.

Alcohol

- Heavy drinking is a major cause of preventable death in most countries.
- In the U.S., alcohol is implicated in about half of fatal traffic accidents.
- Heavy drinking can damage the liver and heart, harm an unborn child, increase the chances of developing breast and some other cancers, contribute to depression and violence, and interfere with relationships.
Alcohol

A report from the Health Professionals Follow-up Study examined the drinking habits of more than 38,000 men over a 12-year period.

Moderate drinkers were 30 to 35% less likely to have had a heart attack than non-drinkers.

This reduction was observed among men who drank wine, beer, or spirits, and was similar for those who drank with meals and those who drank outside of meal time.

This study suggests that the frequency of drinking may matter: Men who drank every day had a lower risk of heart attack than those who drank once or twice a week.

Alcohol

- The latest consensus places moderate drinking at no more than one to two drinks per day for men, and no more than one drink per day for women.
- This is the definition used by the U.S. Department of Agriculture and the Dietary Guidelines for Americans, and is widely used in the United States.
Alcohol

Alcohol and Folate

- Folate is a B vitamin
- Folate helps to build DNA, the molecule that carries the code of life.
- In this way, folate is essential for accurate cell division.
- Alcohol blocks the absorption of folate and inactivates folate in the blood and tissues.
- It’s possible that this interaction may be how alcohol consumption increases the risk of breast, colon, and other cancers.
Alcohol and Folate

Getting extra folate may cancel out this alcohol-related increase. In the Nurses’ Health Study, for example, among women who consumed one alcoholic drink a day or more, those who had the highest levels of this B vitamin in their blood were 90% less likely to develop breast cancer than those who had the lowest levels of the B vitamin.

An earlier study suggested that getting 600 micrograms a day of folate could counteract the effect of moderate alcohol consumption on breast cancer risk.

Alcohol and Folate

Spinach — 1 cup cooked = 263 mcg of folate (65% DV)
Asparagus - 1 cup boiled = 262 mcg (65% DV)
Collard Greens — 1 cup cooked = 177 mcg of folate (44% DV)
Turnip Greens — 1 cup cooked = 170 mcg of folate (42% DV)
Mustard Greens — 1 cup cooked = 103 mcg of folate (26% DV)
Romaine Lettuce — 1 cup = 76 mcg of folate (19% DV)
Lentils — 1 cup cooked = 358 mcg of folate (90% DV)
Pinto Beans — 1 cup cooked = 294 mcg of folate (74% DV)
Garbanzo Beans — 1 cup cooked = 282 mcg of folate (71% DV)
Black Beans — 1 cup cooked = 256 mcg of folate (64% DV)
Navy Beans — 1 cup cooked = 254 mcg of folate (64% DV)
Kidney Beans — 1 cup cooked = 229 mcg of folate (57% DV)
Alcohol and Folate

- What you drink (beer or wine) doesn’t seem to be nearly as important as **how you drink**.
- Having seven drinks on a Saturday night and then not drinking the rest of the week isn’t at all the equivalent of having one drink a day.
- The weekly total may be the same, but the health implications aren’t.
- Among participants in the Health Professionals Follow-up Study, consumption of alcohol on **at least three or four days a week** was inversely associated with the risk for myocardial infarction.

Alcohol and Genes

- There is also some evidence that **genes influence how alcohol affects the cardiovascular system**.
- An enzyme called **alcohol dehydrogenase** helps metabolize alcohol.
- One variant of this enzyme, called alcohol dehydrogenase type 1C (ADH1C), comes in two forms.
- One form quickly breaks down alcohol, the other does it more slowly.
- Moderate drinkers who have two copies of the gene for the slow-acting enzyme are at much **lower risk for cardiovascular disease** than moderate drinkers who have two genes for the fast-acting enzyme.
Alcohol and Genes

- Those with one gene for the slow-acting enzyme and one for the faster enzyme fall in between.
- It’s possible that the fast-acting enzyme breaks down alcohol before it can have a beneficial effect on HDL and clotting factors.
- These differences in the ADH1C gene do not influence the risk of heart disease among people who don’t drink alcohol.
- This is a strong indication that alcohol itself reduces heart disease risk.

Alcohol

- In general, risks exceed benefits until middle age, when cardiovascular disease begins to account for an increasingly large share of the burden of disease and death.
- For a pregnant woman and her unborn child, a recovering alcoholic, a person with liver disease, and people taking one or more medications that interact with alcohol, moderate drinking offers little benefit and substantial risks.
- For a 30-year-old man, the increased risk of alcohol-related accidents outweighs the possible heart-related benefits of moderate alcohol consumption.
Alcohol

- For a 60-year-old man, a drink a day may offer protection against heart disease that is likely to outweigh potential harm (assuming he isn’t prone to alcoholism).
- For a 60-year-old woman, the benefit/risk calculations are trickier.
- Ten times more women die each year from heart disease (460,000) than from breast cancer (41,000).
- However, studies show that women are far more afraid of developing breast cancer than heart disease, something that must be factored into the equation.

Your overall health and risks for alcohol-associated conditions should factor into the equation.
- If you are thin, physically active, don’t smoke, eat a healthy diet, and have no family history of heart disease, drinking alcohol won’t add much to decreasing your risk of cardiovascular disease.
- If you don’t drink, there’s no need to start.
- You can get similar benefits with exercise (beginning to exercise if you don’t already or boosting the intensity and duration of your activity) or healthier eating.
- If you are a man with no history of alcoholism who is at moderate to high risk for heart disease, a daily alcoholic drink could reduce that risk.
- Moderate drinking might be especially beneficial if you have low HDL that just won’t budge upward with diet and exercise.
Alcohol

- If you are a woman with no history of alcoholism who is at moderate to high risk for heart disease, the possible benefits of a daily drink must be balanced against the small increase in risk of breast cancer.
- If you already drink alcohol or plan to begin, keep it moderate—no more than two drinks a day for men or one drink a day for women.
- And make sure you get plenty of folate, at least 600 micrograms a day.

Water Infuser - Amazon
Water Infuser

- **Strawberry, Cucumber & Basil**
  - **Ingredients:**
    - 3 basil leaves roughly chopped
    - 4-5 strawberry sliced
    - 3-5 slices of cucumber
    - Ice
    - Water
  - **Directions:**
    Combine all the ingredients in a large glass, and let sit for at least 5 minutes before enjoying.

Water Infuser

- **Cucumber Lavender Mixer**
  - **Ingredients:**
    - 1 cucumber, thinly sliced
    - 1 teaspoon dried culinary lavender, or 2 fresh lavender sprigs
    - 2 quarts filtered or spring water
  - **Directions:**
    1. Add the cucumbers and lavender to a 64-ounce Mason jar or infuser.
    2. Add the filtered water. If using dried lavender, strain before serving.
    3. Refrigerate until cold and enjoy.
Sugar free, 0 calories, no artificial sweeteners

Zevia - Stevia
Let’s Get Cooking!