

+  
Healthy Eating  
Tip of the Month:  
**Does Sugar  
Feed  
Cancer?**



## Did You Know?

- Dietary guidelines recommend added sugar intake to be <10% of daily calories.
- The average American consumes over 300 calories per day from sugar. That's about 20 teaspoons daily.
- Teens and men have the highest sugar intake.
- 1 teaspoon of sugar is equal to 16 calories.

## What Role Does Sugar Play in the Body?

Lately, there have been a lot of questions and speculations concerning sugar consumption and cancer risk. While researchers are working on finding any such connection between the two, it is important to remember the role sugar plays in the body. Carbohydrates and sugar break down into glucose, a.k.a. blood sugar.

Carbohydrates come from foods such as fruits, starches, beans/peas, and vegetables. During times of low carbohydrate intake or intense exercise, glucose can also be made from fat and protein.

Glucose travels to the cells of the body where it is converted to energy & used to carry out various functions such as muscle contraction & temperature regulation. While some organs can also use protein and fat for energy, red blood cells and the brain exclusively use glucose for energy so a certain amount of carbohydrate intake is necessary for normal brain and bodily function.



## Does Type of Carbohydrate Make a Difference?

Carbohydrate intake affects blood sugar levels. Simple carbohydrates like table sugar, syrup, honey, jams/jellies, fruit/soft drinks, and candies are rapidly digested and increase blood sugar levels very quickly.

Complex carbohydrates are commonly found in foods such as whole grains, starchy or green vegetables, beans, & lentils. These foods take longer to digest and create a slow rise in blood glucose levels, which is preferable. A fast increase in blood sugar causes a rapid increase in insulin, which is the hormone responsible for allowing glucose to enter cells. High insulin levels cause glucose levels to quickly fall, which can then cause you to feel hungry again, prompting you to take in more calories.

Consistently high insulin levels can also cause cells to become resistant to insulin, meaning glucose levels stay higher for longer periods. High glucose levels, overweight/obesity, and inactivity can all increase the risk for diabetes and heart disease. Research has linked diabetes and obesity to cancers of the liver, pancreas, endometrium, colon and rectum, and bladder. To help reduce the risk of Type 2 Diabetes, heart disease, and help with weight management, studies have shown a benefit to following a low-glycemic index diet, which is described on the next page.

# A Closer Look at the Glycemic Index

The glycemic index (GI) is a ranking of foods on a scale of 0-100 according to how much they raise blood sugar levels. High-GI foods are digested rapidly and raise blood sugar levels quickly whereas low-GI foods are more slowly digested and produce a gradual raise in glucose and insulin levels in the blood. Products with sugar, corn syrup, molasses, and hidden sugars (ingredients ending in -ose) usually indicate a high-GI food. The less processed a product is, the lower the GI will be. These foods usually have more fiber, which helps to delay digestion and also contain more vitamins, minerals and cancer-fighting phytochemicals.

Sugary beverages like pop, energy or sports drinks, & sweetened teas/coffees are considered high-GI products. These drinks are high in calories so they can cause weight gain if consumed often. Better beverage choices include water, unsweetened tea, vegetable juices, and milk since they have a low GI and contain other nutrients. Remember to opt for whole fruits & vegetables as they offer more fiber, cause less of an increase in blood sugar, and help to control hunger better than juice forms.

For more information on the glycemic index, please visit [www.glycemicindex.com](http://www.glycemicindex.com).

## Glycemic Index

Low GI (<55), Medium GI (56-69) and High GI (70>)

Grains / Starches		Vegetables		Fruits		Dairy		Proteins	
Rice Bran	27	Asparagus	15	Grapefruit	25	Low-Fat Yogurt	14	Peanuts	21
Bran Cereal	42	Broccoli	15	Apple	38	Plain Yogurt	14	Beans, Dried	40
Spaghetti	42	Celery	15	Peach	42	Whole Milk	27	Lentils	41
Corn, sweet	54	Cucumber	15	Orange	44	Soy Milk	30	Kidney Beans	41
Wild Rice	57	Lettuce	15	Grape	46	Fat-Free Milk	32	Split Peas	45
Sweet Potatoes	61	Peppers	15	Banana	54	Skim Milk	32	Lima Beans	46
White Rice	64	Spinach	15	Mango	56	Chocolate Milk	35	Chickpeas	47
Cous Cous	65	Tomatoes	15	Pineapple	66	Fruit Yogurt	36	Pinto Beans	55
Whole Wheat Bread	71	Chickpeas	33	Watermelon	72	Ice Cream	61	Black-Eyed Beans	59
Muesli	80	Cooked Carrots	39						
Baked Potatoes	85								
Oatmeal	87								
Taco Shells	97								
White Bread	100								
Bagel, White	103								



## A Word About Artificial Sugars

Many “diet” or “low-calorie” products use non-nutritive artificial sweeteners in place of natural sugar because they don’t contain calories. Artificial sugars have the potential to help with weight control and diabetes since these products are low-calorie and do not raise blood sugar levels. However, some research suggests that consuming artificial sugars may be associated with weight gain because they can cause a pseudo-effect that releases insulin into the blood as the body believes glucose levels will be rising. With no glucose for the uptake, the body may be led to feel hunger and cause you to eat more in order to replenish that glucose. There have also been questions regarding artificial sugars and cancer, but according to the National Cancer Institute, there is no sound scientific evidence linking the two. The Food and Drug Administration regulates artificial sugars and has provided acceptable daily intake levels for safe consumption.

### Pulling It All Together:

- ✦ Maintain a healthy weight: Limit excessive abdominal fat to reduce insulin resistance and risk of diabetes and heart disease.
- Get up and MOVE! Exercise is a great way to decrease insulin resistance and, when paired with an overall healthy diet, can help you maintain a healthy weight. Go for a walk, go bike riding, mow the lawn – do something that gets your heart rate up!
- Balance total carbohydrate intake: Find foods that have a lower GI since these foods usually have additional nutritional benefits. Pair carbohydrates with lean protein to help increase satiety and control appetite.
- Try to fill  $\frac{1}{2}$  your plate with vegetables and fruit,  $\frac{1}{4}$  with starches (whole grains or potatoes), and  $\frac{1}{4}$  with lean protein in order to help maintain healthy blood sugar levels. It is important to note that although fruits do contain natural sugar, they also come with added benefits of fiber, vitamins, minerals, and phytochemicals, which make them part of a healthy diet.

#### References:

<http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/artificial-sweeteners/art-20046936>  
<http://www.glycemicindex.com/>  
<http://www.glycemicindexlab.com/services/>  
<http://www.eatright.org/resources/food/nutrition/dietary-guidelines-and-myplate>  
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<http://www.eatright.org/resource/food/nutrition/nutrition-facts-and-food-labels/the-inside-scoop-on-artificial-sweeteners>  
<http://www.livestrong.com/article/133891-the-importance-glucose/>  
<http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/in-depth/artificial-sweeteners/art-20046936>

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# Healthy Smoothie Recipes



## Berry Banana Smoothie

### Ingredients:

1 frozen sliced banana  
½ cup fresh orange juice  
1 cup hulled strawberries  
1 cup blackberries  
1 ¾ cups fat free plain Greek yogurt

### Directions:

Place all ingredients in a blender, process until smooth.

### Nutrition:

Calories: 138; Fat: 0.4 g; Carb: 25 g; Fiber: 3.4 g; Protein: 9.8 g



## Apple Pie Smoothie

### Ingredients:

1 medium apple, cored & chopped  
1 cup fat-free milk  
⅓ cup oats  
2 teaspoons maple sugar  
½ teaspoon ground cinnamon

### Directions:

Place all ingredients in a heavy duty blender and blend until desired consistency is achieved. Serve in a glass with additional cinnamon sprinkled on top. Makes 2 servings.

### Nutrition per serving:

Calories: 170; Fat: 1 g; Fiber: 4 g; Carb: 33 g; Protein: 7 g



## Pear Vanilla Smoothie

### Ingredients:

1 ripe pear, cored and sliced  
1 scoop vanilla protein powder  
1 cup fat-free milk  
1-2 handfuls of ice cubes  
Additional water to aid blending if necessary

Optional: 1 handful of fresh baby spinach

### Directions:

In a blender, combine pear, protein powder, liquid, ice and spinach (if using). If the mixture is too thick, add additional water or ice.

Nutrition: Calories: 249; Fat: 2 g; Fiber: 6 g; Carb: 43 g; Protein: 19 g

+ **Smoothies are a tasty and fun way to add fruit and even vegetables into your diet. Great as a dessert as well as a meal, these low sugar added recipes are bountiful in antioxidants, vitamins, and minerals and are sure to satisfy any sweet tooth!**



### **Peanut Butter Berry Smoothie**

**Ingredients:**

- ¼ cup 1% low fat milk
- ½ medium ripe banana, sliced
- 1 tablespoon creamy peanut butter
- 1 cup fresh or frozen raspberries
- ½ cup crushed ice

**Directions:** Place all ingredients in a blender, process until smooth.

**Nutrition:** Calories: 236; Fat: 9.6g; Carb: 34g; Fiber 10.5g; Protein: 8 g



### **Cranberry Apple Smoothie**

**Ingredients:**

- 1 cup fresh or frozen cranberries
- 1 stalk celery, chopped
- 1 sweet apple variety, medium size, peeled and chopped
- 3 inches of medium-sized cucumber, peeled and chopped
- ¼ cup water and several ice cubes

**Directions:** Place all ingredients in the blender and process until smooth

**Nutrition:** Calories: 124; Fat: 0g; Fiber: 9g; Carb: 32 g; Protein: 1 g



### **Mango and Coconut Smoothie**

**Ingredients:**

- 2 mangos, peeled and chopped then frozen (or 2 cups cut frozen mangos)
- 1 orange, peeled
- 1 raw carrot, chopped or shredded
- ¼ cup cashews, soaked at least an hour or overnight then drained
- 1½ cups coconut water
- 1 teaspoon turmeric (fresh, dried, ground, or powder)
- 1 teaspoon freshly grated ginger

**Directions:** Place all ingredients in a blender. Blend until smooth. Makes 2 smoothies

**Nutrition per serving:** Calories: 272; Fat: 8 g; Carb: 51 g; Fiber: 7 g; Protein: 5

**References:**

- <http://www.myrecipes.com/recipe/peanut-butter-berry-smoothie>
- <http://www.foodandnutrition.org/Stone-Soup/July-2015/Brain-Boosting-Tropical-Turmeric-Smoothie/>
- <http://www.foodandnutrition.org/Stone-Soup/October-2014/Fall-Cranberry-Smoothie/>
- <http://www.myrecipes.com/recipe/berry-banana-smoothies>
- <http://www.foodandnutrition.org/Stone-Soup/October-2014/Pear-powered-Vanilla-Smoothie/>
- <http://www.foodandnutrition.org/Stone-Soup/September-2013/Fresh-Apple-Pie-Smoothie/>

+ These scrumptious desserts are mouth watering and easy on the waistline!

### Mint-Melon Pops

#### Ingredients:

1-1/2 cup cantaloupe chunks  
1 tbsp orange juice  
1-1/2 cup honeydew chunks  
1 tbsp limeade concentrate, thawed  
2 mint leaves

#### Directions:

In a blender, puree cantaloupe and orange juice until smooth. Divide the mixture among six pop molds or paper cups. Freeze until firm, about 30 minutes.

Puree the honeydew, limeade, and mint. Remove the molds from the freezer and top with honeydew mixture. Cover and freeze until firm.

**Nutrition per pop:** Calories: 36; Fat: 0g; Carb: 9 g; Fiber 1g; Protein: 0 g.



### Mango Sorbet

#### Ingredients:

2 very ripe mangoes (2-2 ½ pounds), peeled, cut into ½ -inch chunks and frozen  
2 tbsp unsweetened coconut flakes  
1 small lime, quartered  
Honey for drizzling

#### Directions:

Preheat the oven to 350°F. Spread the coconut on a baking sheet, and bake until lightly golden and toasted, about 4 minutes, tossing half-way through.

Place frozen mango in a food processor. Add ¼ to ½ cup hot water, and process the mango until completely smooth; turn the food processor off and stir with a wooden spoon or spatula as needed. The finished texture should be like creamy sorbet.

Scoop the sorbet into 4 bowls, squeeze a quarter of a lime over each, drizzle with honey and sprinkle with toasted coconut.

**Nutrition per serving:** Calories: 120; Fat: 2.5 g; Carb: 26 g; Fiber 3g; Protein: 2 g



#### References:

<http://www.foodnetwork.com/recipes/food-network-kitchens/all-fruit-mango-sorbet.html>  
<http://www.realsimple.com/food-recipes/browse-all-recipes/mint-melon-pops>



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