Dietary Guideline #7: Carbohydrates

Goals:

1) **Choose fiber-rich fruits, vegetables, and whole grains often.**
2) **Choose and prepare food and beverages with little added sugars or caloric sweeteners, such as amounts suggested by the USDA Food Guide and the DASH Eating Plan.**
3) **Reduce the incidence of dental caries by practicing good oral hygiene and consuming sugar- and starch-containing food and beverages less frequently.**

Fiber is undigested by human beings. Therefore, the body passes it through quickly to get rid of it. It keeps the digestive tract operating smoothly and prevents certain cancers. Because it is filling and contains no calories, it is also a helpful aid for weight loss. There are 2 types of fiber: soluble and insoluble. Both are good for you.

Insoluble fiber

- Makes going to the bathroom easier
- Prevents constipation
- May help protect against some forms of cancer
- Foods that have insoluble fiber:
  - Fruits and vegetables
  - Dried beans
  - Seeds
  - Whole grain products
    - Breads, Pasta, Cereal

Soluble fiber

- Helps to lower cholesterol
- Helps to control blood sugar levels
- Foods that have soluble fiber:
  - Fruits and Vegetables
  - Seeds
  - Dried Beans
  - Oatmeal
  - Prunes

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"All-natural, tasty prune wafers are the <u>easiest</u>, <u>gentlest</u> way to add the goodness of fiber to your diet."

Don't let advertisements like the one above fool you! Fiber is found in a variety of delicious foods. You don't have to <u>taste</u> the fiber in order to get enough in your diet.

Current Recommendations

25 - 35 grams of fiber per day
Children need their age + 5 grams each day

(The average American gets only 10-15 grams per day)

How can you add more fiber to your diet?

- **Eat fresh fruits or vegetables.**
- **Eat edible skins of fruits and vegetables, such as an apple.**
- **Choose bran and whole grain breads or cereals.**
- **Make more meals at home from scratch.**

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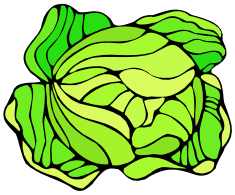
Fiber Content of Common Foods



Food	Amount	Fiber (grams)
Fiber One Cereal	4 oz. (1/2 cup)	13
All Bran Cereal	4 oz. (1/2 cup)	10
Beans, cooked	4 oz. (1/2 cup)	8
Lentils, cooked	8 oz. (1 cup)	7
Raspberries	8 oz. (1 cup)	6
Whole wheat bread, 100%	2 slices	6
Apple	1 apple	4
Blueberries, raw	8 oz. (1 cup)	4
Green peas	4 oz. (1/2 cup)	4
Pear	1 pear	4
Strawberries, fresh	8 oz. (1 cup)	4
White potato w/skin, baked	1 potato	4
Banana	1 banana	3
Carrots	4 oz. (1/2 cup)	3
Tomato, fresh	½ tomato	1
Orange	1 orange	3
Pineapple	1 pineapple (472 grams)	5.7
Squash, winter type, baked, no fat or sugar added in cooking	205 grams (cup, cube, all varieties)	5.7
Cabbage, red, raw	1 medium head (about 5" diameter)	16.8
Broccoli	4 oz. (1/2 cup)	2
Pumpkin, canned	4 oz. (1.2 cup)	4
Sauce, tomato (low-sodium)	244 grams (1 cup)	3.7
Spinach, cooked, from fresh, fat not added in cooking	180 grams (1 cup)	4.3

Use this table to add fiber to your daily routine. If you are currently lacking fiber in your diet, <u>start slow</u>! Eating too much too quickly will cause excess gas and bloating. Also, be sure to increase your fluid intake and activity level when starting a high fiber diet to prevent an obstruction from forming.

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Added Sugar*

***Any caloric sweetener that is added to foods in addition to the naturally-occurring carbohydrate.**

"Sugar in Disguise"

Corn syrup (High fructose corn syrup)	Made from cornstarch. It is easy to produce, cheaper than white sugar, and is very shelf stable. It is the most common added sugar on the market.
Sucrose	White table sugar made from cane or beets.
Fructose	Naturally-occurring sugar found in fruit and honey.
Glucose	The basic sugar found in most sugars. It is the form that our bodies use as fuel. Everything we eat is broken down into glucose.
Maltose	"Beer" sugar produced through the malting process.
Dextrose	Made from corn and contains mostly glucose.
Lactose	Naturally-occurring sugar found in dairy.
Honey	Naturally-occurring sugar made mostly of glucose and fructose.
Molasses	Unrefined liquid by-product of sugar cane or sugar beets containing mostly sucrose.

Tip: Anything that ends in *–ose* is a sugar or a form of sugar.

Sweet Facts

- **1 teaspoon of sugar = 16 calories**
- **The average American consumes 20 teaspoons or almost ½ cup of sugar every day.**
- **The amount of sugar in soda is equal to 9-12 teaspoons per 12 oz can.**

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How does added sugar affect my health?

- Sugar does not provide any vitamins or minerals = "empty calories".
- Any extra calories consumed are stored as fat → weight gain → increased risk of heart disease, diabetes, cancer, etc.
- Frequent sugar intake may lead to cavities, especially in foods that are sticky or remain in the mouth for an extended period of time (gum, suckers, etc).

Top 6 Hiding Places for Sugar

Food Categories	Contribution to Added Sugars Intake (percent of total added sugars consumed)
Regular soft drinks	33.0
Sugars and candy	16.1
Cakes, cookies, pies	12.9
Fruit drinks (fruitades and fruit punch)	9.7
Dairy desserts and milk products (ice cream, sweetened yogurt, and sweetened milk)	8.6
Other grains (cinnamon toast and honey-nut waffles)	5.8

SOURCE: Dietary Guidelines for Americans 2005, Department of Health and Human Services.




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What about sugar substitutes and sugar alcohols?

Sorbitol is a sugar alcohol. It has two thirds the calories of sugar, and is not as sweet *(60% as sweet as sugar)*. It is poorly absorbed by the body, so it does not raise insulin levels as much as sugar. It does not promote tooth decay. There are no reported side effects.

Saccharin is the sweetener in Sweet'N Low. It is between 300 and 500 times sweeter than sugar. There has been controversy over its safety. The basis for the controversy rests on findings of bladder tumors in some male rats fed high doses of sodium saccharin. Considerable saccharin research, however, indicates safety at human levels of consumption. The average user of saccharin ingests less than one ounce of the sweetener each year.

Aspartame is a nutritive sweetener made by joining two amino acids, phenylalanine and aspartic acid. It is 180 to 200 times sweeter than sucrose, so very little is needed for a sweet taste. Aspartame is virtually non-caloric and is digested as a protein. Aspartame is not suitable for cooking to high temperatures because it loses sweetness; however, new baking products containing aspartame and sugar have come out on the market.

Sucralose is a sweetener made from sugar by adding chlorine. It is 600 times sweeter than sugar and has no aftertaste. Sucralose is not broken down in the body, so it contains no calories. Unlike aspartame, it remains stable in high temperatures so it is good for baking.

Why should I use sugar substitutes?

1. **To save calories**: Sugar substitutes contain 0-4 calories per teaspoon.
2. **For dental health**: Sugar substitutes do not cause cavities.
3. **To help prevent health problems and weight gain**: Diabetics need to limit foods with added sugar in order to control their blood glucose levels. By omitting added sugars from your diet, you will also be omitting extra calories!

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Sugar & Tooth Decay

Sugar and starch in foods are the substances that cause damage to teeth. The bacteria in the mouth feed on sugar and starch and produce an acid that can eat through the teeth, leading to tooth decay.

Who is at risk for tooth decay?

Risk factors that put a person at a higher risk for tooth decay include:

- diets high in sweets, carbohydrates, and sugars
- water supplies with limited or no fluoridation
- age (children and senior citizens are at an increased risk for tooth decay)

For people who eat a lot of sugar and aren't willing to give it up, here are some tips to avoid damaging your teeth:

1) **Avoid sipping on soda and nibbling on candy throughout the day**: Each time you eat a piece of candy or drink regular soda, the sugar remains in your mouth for 30 minutes, because it takes the enzymes in your mouth 30 minutes to breakdown the sugar. By eating 6 pieces of candy sporadically throughout the day, it adds up to 3 hours of sugar on your teeth! Besides the sugar, the acid in the soda causes demineralization of the teeth, so sipping frequently throughout the day leads to more damage than drinking it in a short period of time.

2) **Drink a glass of water after eating high-sugar foods**: Drinking water will flush away some of the sugar, so it won't remain on your teeth as long.

3) **Brush *and floss* daily**: Brushing only reaches the visible surfaces of your teeth. Flossing is required to get in the cracks and crevices between your teeth, where sugary foods and bacteria like to hide. Using a mouthwash would also be helpful.

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