



Carbohydrates – Friend or Foe?



Of all the nutrients, carbohydrates seem to be among the most misunderstood. The popularity of recent carbohydrate bashing, high protein fad diets have added to the confusion. Are carbohydrates good for you or bad for you? The answer lies in knowing there are different forms of carbohydrates. Quantity is also an important factor in the impact of carbohydrates on the diet.

Carbohydrate is an umbrella term for three subgroups: sugars, starches, and fiber. Sugars and starches provide glucose, the main energy source for the brain, central nervous system and red blood cells. Dietary fiber is the non-digestible form of carbohydrates and lignin, which is natural to plants. Fiber helps provide satiety and is important in promoting healthy bowel habits. In addition, diets high in fiber have been linked to a reduced risk of diabetes, colon cancer, obesity and other chronic diseases.

Sugars, starches and fibers are chemically bonded differently which affects how they are used in the diet and how they function in the body. Sugars are naturally found in fruits, fluid milk and milk products. They are often added to food during processing, preparation, or at the table. These “added sugars” sweeten foods and improve the flavor. They also help to preserve food and function in thickening, and improving texture, body and browning capacity. In general, sugars provide calories but insignificant amounts of vitamins, minerals or other essential nutrients. The *Nutrition Facts* Label provides information on total sugars per serving, but does not distinguish between sugars *naturally* present in foods and *added* sugars.

Starches are made of many glucose units linked together. Glucose is the basic sugar unit. Starches are found in a wide variety of foods, including vegetables, cooked dry beans and peas, and grains. Digestive enzymes in the body break starch down to sugars the body can use; however, some carbohydrates found in cooked dry beans and peas, fruits, vegetables and *whole* grains, are resistant to digestive enzymes. Fiber, like starch, is made up of sugar units bonded together. However, the fiber bonds cannot be broken by digestive enzymes and thus pass through the digestive system relatively intact.

A minimum of 130 grams of sugar and starches daily is needed to provide the brain with an adequate supply of glucose. To put this into a visual perspective, 4 grams equal 1 teaspoon, so 130 grams would equal 35 teaspoons. In checking the Nutrition Fact Label of many soft drinks, which contain “added sugars”, many 12 ounce cans contain 10 teaspoons of sugar, nearly a third of the basic requirement without the vitamins, minerals or other essential nutrients found in an equivalent amount of fruits and vegetables. The Institute of Medicine recommends that 25% or less of the daily intake of calories consist of “added sugars”.

Dietary fiber found in whole foods has been recognized as playing important roles in protecting against chronic diseases as coronary heart disease, obesity, and type 2 Diabetes and is essential for optimal digestive health. It is also recognized as being *under-consumed* across all segments of the American population. Dietary fiber is listed on the Nutrition Facts label.

Twenty-five grams of dietary fiber daily is the recommended amount in a 2000 calorie diet, the standard number of calories the *Nutrition Fact* label is based on. Food manufacturers are allowed to call a food a “good source of fiber” if it contains 10 percent of the recommended daily amount. If it contains 20 percent of the recommended amount, it may be labeled as “an excellent source of fiber”. The risk of developing several of the highly prevalent chronic diseases could be reduced by increasing consumption of naturally-occurring, plant-based foods that are high in dietary fiber. These include whole grain foods, vegetables, fruits, nuts, and cooked dry beans and peas.

Nutrition Facts	
Serving Size: 4 servings (115.0g)	
Servings: 1	
Amount Per Serving	
Calories 160	Calories from Fat 45
% Daily Value*	
Total Fat 4.5g	8%
Saturated Fat 0.5g	2%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 320mg	15%
Total Carbohydrate 25g	8%
Dietary Fiber 5g	20%
Sugars 0g	
Protein 6g	
Vitamin A 0%	Vitamin C 10%
Calcium 4%	Iron 10%
*Percent Daily Values are based on a 2,000 calorie diet.	

The 2010 Dietary Guidelines suggest that 45% to 65% of the diet consist of carbohydrates. Vegetables, fruits, whole grains, milk and milk products are the major food sources of carbohydrates. Grains and some vegetables such as corn and potatoes are rich in

starch. Fruits and dark green vegetables contain little or no starch, but do contain dietary fiber and, while low in calories, important vitamins, minerals, and micronutrients.

Cucumbers with Dill Yogurt

The addition of dill gives these cucumbers a distinct flavor that is very appealing. This is a simple but tasty side dish that is perfect for July 4th or as a side dish to any meal. It just takes minutes to prepare.

2 tablespoons fat-free plain yogurt

2 tablespoons light mayonnaise

1/2 teaspoon dried dill weed

1/8 teaspoon salt (optional)

2 cups sliced cucumber, not peeled



Mix yogurt, mayonnaise, and seasonings.

Gently toss with cucumbers. Refrigerate to chill thoroughly.

Source: Brenda J. Ponichtera, RD, *Quick & Healthy Recipe and Tip* e-newsletter, July, 2011.

Carbohydrates are very important in a healthy diet, providing energy to the brain, central nervous system and red blood cells, and protection against chronic disease. Carbohydrates in the form of “added sugars” should be limited due to the high calorie, low nutrient contribution to the day’s total calorie intake. Look for carbohydrates from whole food sources such as fresh vegetables, fruits, whole grains, and fat-free and low-fat milk and milk products, which contribute a minimal amount of calories and a maximum amount of vitamins, minerals and other micronutrients.

For more information on “Living Well in Wyoming” *Dietary Guidelines for Americans*, contact your University of Wyoming Extension Nutrition and Food Safety Educator!

Source: Patti Griffith, University of Wyoming Extension Educator, Nutrition and Food Safety, Northwest Area.

