



Hanford Occupational Health Services

Weight Management Week #2

Carbohydrates and fiber

Health Education
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What are carbohydrates?

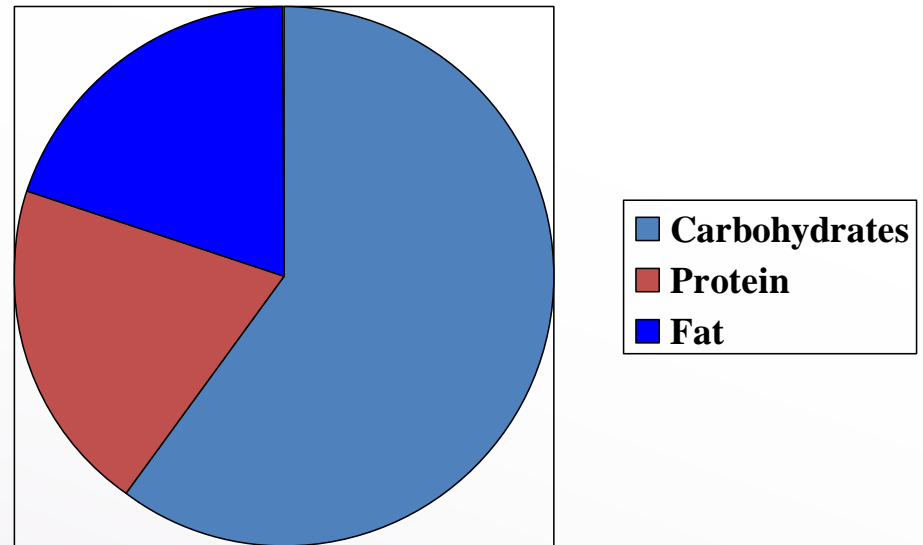
- ◆ Your body uses carbohydrates to make glucose which is the fuel that gives you energy and helps keep everything going.
- ◆ Your body can use glucose immediately or store it in your liver and muscles for when it is needed.

You can find carbohydrates in the following:

- ◆ Fruits
- ◆ Vegetables
- ◆ Breads, cereals, and other grains
- ◆ Milk and milk products
- ◆ Foods containing added sugars (e.g., cakes, cookies, and sugar-sweetened beverages).

How many carbohydrates should we have?

60% of total calories



1 gram of carbohydrates = 4 calories

Example

- ◆ Based on a 2,000 calorie diet, 1,200 calories (60%) should come from carbohydrates. Knowing that there are 4 calories in 1 gram of carbohydrates, you would need 300 grams of carbohydrates per day.

Why are carbohydrates important

- ◆ Brain functions on sugar.
- ◆ Immediate source of energy.
- ◆ Maintains proper organ function.



Complex Carbohydrates

- ◆ Starch and dietary fiber are the two types of complex carbohydrates.

Starch must be broken down through digestion before your body can use it as a glucose source.

Quite a few foods contain starch and dietary fiber such as breads, cereals, and vegetables:

- Starch is in certain vegetables (i.e., potatoes, dry beans, peas, and corn).
 - Starch is also found in breads, cereals, and grains.
 - Dietary fiber is in vegetables, fruits, and whole grain foods.
- ◆ Because complex carbs takes longer to breakdown and convert into glucose, you can maintain a more even blood sugar level.





Good Choices of Carbohydrates

- ◆ Whole grains
- ◆ Fruits
- ◆ Vegetables
- ◆ Beans

What is dietary fiber?

- ◆ Dietary fiber, also known as roughage or bulk, includes all parts of plant foods that your body can't digest or absorb. Unlike other food components such as fats, proteins or carbohydrates — which your body breaks down and absorbs — fiber isn't digested by your body. Therefore, it passes virtually unchanged through your stomach and small intestine and into your colon.

Why is fiber good for you?

- ◆ Dietary fiber — found mainly in fruits, vegetables, whole grains and legumes — is probably best known for its ability to prevent or relieve constipation. But fiber can provide other health benefits as well, such as lowering your risk of diabetes and heart disease.
- ◆ If you need to add more fiber to your diet, don't worry. Increasing the amount you eat each day isn't difficult. Find out how much dietary fiber you need and ways to include more high-fiber foods into your daily meals and snacks.

2 Types of Fiber

- ◆ Fiber is often classified into two categories: those that don't dissolve in water (insoluble fiber) and those that do (soluble fiber).
 - **Insoluble fiber.** This type of fiber promotes the movement of material through your digestive system and increases stool bulk, so it can be of benefit to those who struggle with constipation or irregular stools. Whole-wheat flour, wheat bran, nuts and many vegetables are good sources of insoluble fiber.
 - **Soluble fiber.** This type of fiber dissolves in water to form a gel-like material. It can help lower blood cholesterol and glucose levels. You can find generous quantities of soluble fiber in oats, peas, beans, apples, citrus fruits, carrots, barley and psyllium.

- ◆ The amount of each type of fiber varies in different plant foods. To receive the greatest health benefit, eat a wide variety of high-fiber foods.

Benefits of a high-fiber diet

- ◆ **Prevents constipation.** Dietary fiber increases the weight and size of your stool and softens it. A bulky stool is easier to pass, decreasing your chance of constipation. If you have loose, watery stools, fiber may also help to solidify the stool because it absorbs water and adds bulk to stool.
- ◆ **Lowers your risk of digestive conditions.** A high-fiber diet may lower your risk of specific disorders, such as hemorrhoids, irritable bowel syndrome and the development of small pouches in your colon (diverticular disease).
- ◆ **Lowers blood cholesterol levels.** Soluble fiber found in beans, oats, flaxseed and oat bran may help lower total blood cholesterol levels by lowering low-density lipoprotein, or "bad," cholesterol levels.

Benefits of a high-fiber diet

- ◆ **Controls blood sugar levels.** Fiber, particularly soluble fiber, can slow the absorption of sugar, which for people with diabetes, can help improve blood sugar levels. A high-fiber diet may also reduce the risk of developing type 2 diabetes.
- ◆ **Aids in weight loss.** High-fiber foods generally require more chewing time, which gives your body time to register when you're no longer hungry, so you're less likely to overeat. Also, a high-fiber diet tends to make a meal feel larger and linger longer, so you stay full for a greater amount of time. And high-fiber diets also tend to be less "energy dense," which means they have fewer calories for the same volume of food.
- ◆ **Uncertain effect on colorectal cancer.** Evidence that dietary fiber reduces colorectal cancer is mixed — some studies show benefit, some show nothing and even some show greater risk. If you're concerned about preventing colorectal cancer, adopt or stick with a colon cancer screening regimen. Regular testing for and removal of colon polyps can prevent colon cancer.



How much fiber do you need?

	50 & Younger	51 & Older
Men	38 grams	30 grams
Female	25 grams	21 grams

As a general rule of thumb, everyone should aim to get
25 grams of fiber per day.

Your best fiber choices

- ◆ Grains and whole-grain products
- ◆ Fruits
- ◆ Vegetables
- ◆ Beans, peas and other legumes
- ◆ Nuts and seeds
 - Refined or processed foods — such as fruit juice, white bread and pasta, and non-whole-grain cereals — are lower in fiber content. The grain-refining process removes the outer coat (bran) from the grain, which lowers its fiber content. Similarly, removing the skin from fruits and vegetables decreases their fiber content.

Food over Supplements

- ◆ Whole foods rather than fiber supplements are generally better. Fiber supplements — such as Metamucil, Citrucel and FiberCon — don't provide the vitamins, minerals and other beneficial nutrients that high-fiber foods do. However, some people may still need a fiber supplement if dietary changes aren't sufficient, or if they have certain medical conditions, such as irritable bowel syndrome. Check with your doctor if you feel you need to take fiber supplements.

Tips for fitting in fiber

- ◆ Start your day with a high-fiber breakfast cereal — 5 or more grams of fiber per serving. Opt for cereals with "bran" or "fiber" in the name. Or add a few tablespoons of unprocessed wheat bran to your favorite cereal.
- ◆ Add crushed bran cereal or unprocessed wheat bran to baked products such as meatloaf, breads, muffins, casseroles, cakes and cookies. You can also use bran products as a crunchy topping for casseroles, salads or cooked vegetables.
- ◆ Switch to whole-grain breads. These breads list whole wheat, whole-wheat flour or another whole grain as the first ingredient on the label. Look for a brand with at least 2 grams of dietary fiber per serving.

Tips for fitting in fiber

- ◆ Substitute whole-grain flour for half or all of the white flour when baking bread. Whole-grain flour is heavier than white flour. In yeast breads, use a bit more yeast or let the dough rise longer. When using baking powder, increase it by 1 teaspoon for every 3 cups of whole-grain flour.
- ◆ Eat more whole grains and whole-grain products. Experiment with brown rice, barley, whole-wheat pasta.
- ◆ Take advantage of ready-to-use vegetables. Mix chopped frozen broccoli into prepared spaghetti sauce. Snack on baby carrots.

Tips for fitting in fiber

- ◆ Eat more beans, peas and lentils. Add kidney beans to canned soup or a green salad. Or make nachos with refried black beans, baked tortilla chips and salsa.
- ◆ Eat fruit at every meal. Apples, bananas, oranges, pears and berries are good sources of fiber.
- ◆ Make snacks count. Fresh and dried fruit, raw vegetables, and low-fat popcorn and whole-grain crackers are all good choices.

WARNING

- ◆ High-fiber foods are good for your health. But adding too much fiber too quickly can cause intestinal gas, abdominal bloating and cramping. Increase fiber in your diet gradually over a period of a few weeks. This allows the natural bacteria in your digestive system to adjust to the change. Also, drink plenty of water. Fiber works best when it absorbs water, making your stool soft and bulky. Without the added water, you could become constipated.



Assignments for Week #2

- ◆ Track your fiber intake each day.

- ◆ Try each of the three interactive WORKFIT Modules (Stretch, Resistance bands, Core & balance) on the AMH website.
www.hanford.gov/amh