



Facts of Fiber

Dietary fibers are indigestible complex carbohydrates found in walls of plant cells. Fiber is resistant to the body's digestive enzymes. While it supplies no nutrients or calories, fiber performs many important biological functions.

Types of Fiber

There are two types of dietary fiber: soluble and insoluble. Insoluble fiber is not soluble in water. Components include lignin, cellulose, and hemicellulose. Soluble fiber is soluble in water, and components include pectin, gum, and mucilage.

Sources of Fiber

Fiber is found in plant foods, including fruits, vegetables, whole grains, and beans. Many products list total dietary fiber in grams, which includes both insoluble and soluble fiber. Most foods have more insoluble (50-75%) than soluble fiber (25-30%). Oat bran, barley, kidney beans, and black-eyed peas contain more soluble fiber than foods such as wheat bran, brown rice, lettuce, and spinach.

Positive Effects of Fiber

- Soluble fiber decreases blood cholesterol levels, and therefore, reduces the risk of heart disease. Research indicates that soluble fiber binds to bile acids in the intestines, causing them to be eliminated. Since fewer bile acids are available, the liver draws cholesterol from the bloodstream to make more. This reduces the level of blood cholesterol. Also, a diet high in fiber is usually low in fat, which helps prevent heart disease.
- Soluble fiber can help stabilize blood sugar levels in persons with diabetes by delaying stomach emptying. This slows the rate of carbohydrate absorption, improves regulation of blood sugar, and lowers insulin requirements.

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- The water-holding capacity of fiber helps soften stools and prevents constipation, provided that you drink enough fluids. The amount of fiber required to prevent constipation varies among individuals.
- Fiber, particularly insoluble fiber, may decrease the risk of colon cancer by increasing the speed of elimination. This reduces the amount of time harmful carcinogens (cancer-causing substances) are in contact with the intestinal cells. Also, stool contents, including carcinogens, become diluted and less harmful.
- Fiber increases satiety (the feeling of fullness) by adding bulk to foods without additional calories. This may reduce the risk of obesity and the severity of diabetes.
- A high-fiber diet may reduce the risk of diverticulosis by decreasing the pressure within the colon and the formation of diverticulosis.
- A high-fiber diet may reduce the risk of hemorrhoids by decreasing the straining associated with stool elimination.

Recommended Intake

The average American intake of total dietary fiber is 12-18 grams per day for women and men, respectively. There is no Recommended Dietary Allowance for fiber, but health professionals recommend increasing intake to 25-40 grams per day by eating more beans, vegetables, fruits, and whole grain breads and cereals. A gradual increase is recommended to minimize the side effects of fiber, such as intestinal gas. In addition, increased fluid intake is recommended with a high-fiber diet.

Please refer to the **SNAC Supplementary Information Sheet** to learn more about fiber.

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The data provided is researched and interpreted by health professionals at UCLA. Varying opinions may be held by others in the health care field.