

# Benefits of Increased Fiber Intake

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Diets that are naturally high in fiber are those that contain generous amounts of whole grains, fruits, and vegetables. The Food and Drug Administration (FDA) has concluded that diets low in fat and naturally high in *dietary fiber* are associated with a reduced risk of cancer and has permitted a “health claim” that can appear in labeling for foods that are good sources of dietary fiber. (FDA, 1993a) Dietary fiber consists of the bulky, non-digestible components of plant foods, such as the cellulose in plant cell walls. An example of a claim permitted under this regulation is:

“Low fat diets rich in fiber-containing grain products, fruits, and vegetables may reduce the risk of some types of cancer, a disease associated with many factors.”

FDA has also concluded that diets low in fat and naturally high in *soluble fiber* are associated with a reduced risk of heart disease. (FDA, 1993b) Soluble fiber has been shown to lower LDL cholesterol (“bad cholesterol”), and this is the mechanism by which it is believed to lower heart disease. Based on these effects, FDA permits “health claims” on the labels of foods that are good sources of naturally occurring soluble fiber. An example of a claim permitted under this regulation is:

“Development of heart disease depends on many factors. Eating a diet low in saturated fat and cholesterol and high in fruits, vegetables, and grain products that contain fiber may lower blood cholesterol levels and reduce your risk of heart disease.”

In addition, FDA permits health claims for some specific soluble fibers that have been shown to lower LDL cholesterol, and these claims are permitted for foods and dietary supplements to which these soluble fiber ingredients have been added. These include soluble fibers from oats, barley, or psyllium. (FDA, 1997)

## POSITION OF THE ACADEMY OF NUTRITION AND DIETETICS

The Academy of Nutrition and Dietetics (formerly the American Dietetic Association) urges people to “consume adequate amounts of dietary fiber from a variety of plant foods.” (Slavin, 2008) A position paper issued in 2008 describes the benefits of fiber, as summarized in the following section.

Adequate Intakes (AIs) for fiber were established by the Institute of Medicine in 2002, and these are based on the amounts of total fiber believed to protect against heart disease and also to reduce the risk of diabetes. Recommended levels of fiber intake may also help support regularity (avoid constipation), protect against diverticular disease, reduce blood glucose and lipid levels, and contribute to satiety.

An AI of total fiber is suggested to be about 14 grams per 1,000 Kilocalories in the diet, which works out to about 25 grams per day for women and about 38 grams per day for men. Usual fiber intakes in the U.S. are much lower than this—about 15 grams per day.

“Based on current data, dietary fiber intake from whole foods or supplements may lower blood pressure, improve serum lipid levels, and reduce indicators of inflammation. Benefits may occur with intakes of 12 to 33 g fiber per day from whole foods or up to 42.5 g fiber per day from supplements.” (Slavin, 2008)



“Many fiber sources, including cereal bran, psyllium seed husk, methylcellulose, and a mixed high-fiber diet, increase stool weight, thereby promoting normal laxation [regularity].” Also, there is some evidence that higher fiber intakes from foods or supplements may also have some benefit in weight loss. They may increase satiety and slow the rate of energy and nutrient absorption, leading to lower blood glucose and lipid levels following a meal.

The position statement concludes: “Many of the diseases of public health significance—obesity, cardiovascular disease, and type 2 diabetes—as well as the less prevalent but no less significant diseases of colonic diverticulosis and constipation can be prevented or treated by increasing the amounts and varieties of fiber-containing foods.” (Slavin, 2008)

## Bottom Line

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American diets are typically low in dietary fiber and soluble fiber, food components that are associated with a variety of health benefits, including potentially helping protect against some cancers and cardiovascular disease. Increasing fiber intake through dietary improvement would be very beneficial, and fiber supplements may be of benefit to people whose diets remain low in these critical compounds.

## REFERENCES

- FDA. (1993a). Health claims: fiber-containing grain products, fruits, and vegetables and cancer. Codified in 21 CFR 101.76. *Federal Register*, 58, 2548.
- FDA. (1993b). Health claims: fruits, vegetables, and grain products that contain fiber, particularly soluble fiber, and risk of coronary heart disease. Codified in 21 CFR 101.77. *Federal Register*, 58, 2578.
- FDA. (1997). Health claims: soluble fiber from certain foods and risk of coronary heart disease (CHD). Codified in 21 CFR 101.81. *Federal Register*, 62, 3600.
- Slavin, J. L. (2008). Position of the American Dietetic Association: health implications of dietary fiber. *J Am Diet Assoc*, 108(10), 1716-1731.