

This pamphlet gives information based on the AICR Recommendations for Cancer Prevention, developed from the Expert Report, *Food, Nutrition, Physical Activity, and the Prevention of Cancer: a Global Perspective*.

AICR Guidelines for Cancer Prevention



The choices you make about food, physical activity and weight management can reduce your chances of developing cancer.

- Choose mostly plant foods, limit red meat and avoid processed meat.
- Be physically active every day in any way for 30 minutes or more.
- Aim to be a healthy weight throughout life.

And always remember –
do not smoke or chew tobacco.

AICR is part of the World Cancer Research Fund global network.

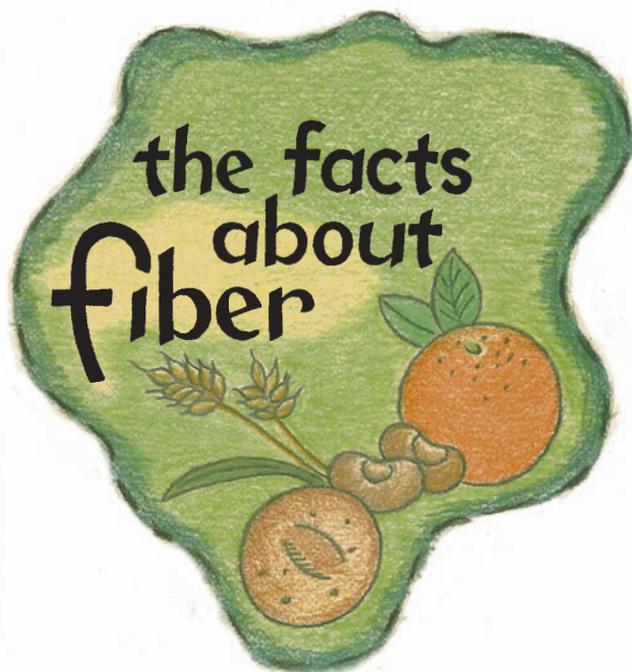
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Facts on Preventing Cancer

Facts about Fiber

Plant foods rich in dietary fiber – vegetables, fruits, whole grains and beans – help protect us against cancer, specifically colorectal cancer, as well as other chronic diseases. Along with vitamins and minerals, plant foods contain hundreds of naturally occurring plant chemicals called phytochemicals, which help protect the body's cells from becoming damaged (a pre-condition for cancer) and help to repair them.

Scientists believe that eating at least 3–4 cups daily of non-starchy vegetables (like greens, tomatoes, carrots and cauliflower) and fruits protect against cancers of the mouth, pharynx, larynx, esophagus, colon, rectum and stomach. Hundreds of phytochemicals in plant foods work together to protect our health. So eating a wide variety of colorful vegetables and fruits, beans and at least 3 servings of whole grains each day is recommended as a crucial step toward preventing cancer.



The Types of Fiber in Your Food

Fiber is the carbohydrate in foods that your body can't digest. Without fiber, your meal would have less crunch and be less filling. Foods that come from plants – vegetables, fruits, whole grains and beans – contain fiber. Meat, cheese, eggs and other animal products do not have fiber.

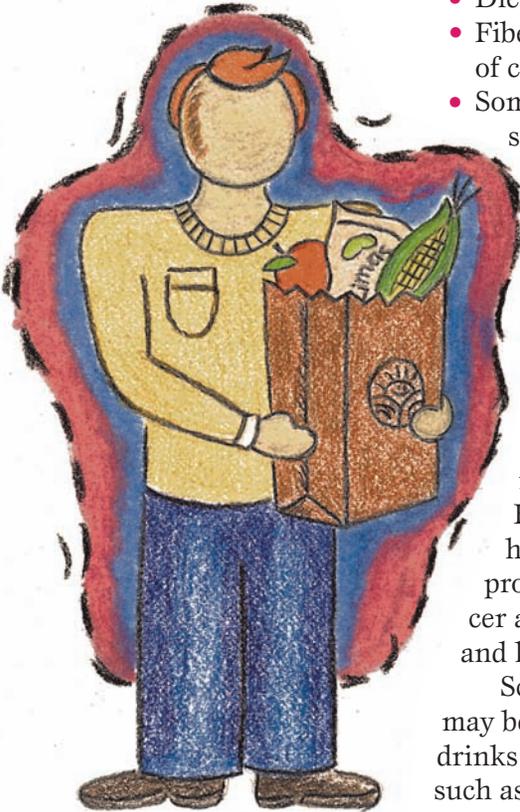
Dietary fiber is divided into *soluble*, which dissolves in water, and *insoluble*, which doesn't. You'll find soluble fiber in oats, barley, beans, lentils and various fruits and vegetables. Many vegetables, fruits, whole grains and legumes (dried beans, peas and lentils) are good sources of insoluble fiber, including dark, leafy greens, whole-wheat foods, seeds and nuts. Both are important to your health because:

- Dietary fiber slows the digestion of food, so you feel full longer.
- Fiber protects the lining of the colon and seems to prevent development of cancerous cells.
- Some soluble fibers help lower blood sugar levels and may aid insulin sensitivity.
- Some soluble fibers interfere with fat and cholesterol absorption, lowering blood cholesterol and protecting your heart.
- Dietary fiber increases the bulk and weight of the stool, diluting harmful substances and speeding their elimination from the body (also preventing constipation).

A High-Fiber Diet for Weight Control

Not only are they packed with disease-fighting nutrients, many naturally high-fiber foods are low in calorie density. This is one important way that they prevent disease and control body weight. Being overweight or obese raises your risk for developing cancer, high blood pressure, heart disease, stroke, diabetes and other health problems. Excess weight increases risk of postmenopausal breast cancer and cancers of the colorectum, esophagus, endometrium, pancreas and kidney.

Scientists state that maintaining a healthy weight throughout life may be the single most important way to prevent cancer. Avoiding sugary drinks and eating a diet centered around low calorie-dense plant foods – such as vegetables, fruits and beans – is probably the best way to do that.



Calorie density is a measurement of how many calories are contained in a specific amount of food. The same amounts of different foods can provide vastly different amounts of calories. The lower the calorie density of a food, the better it is for weight control.

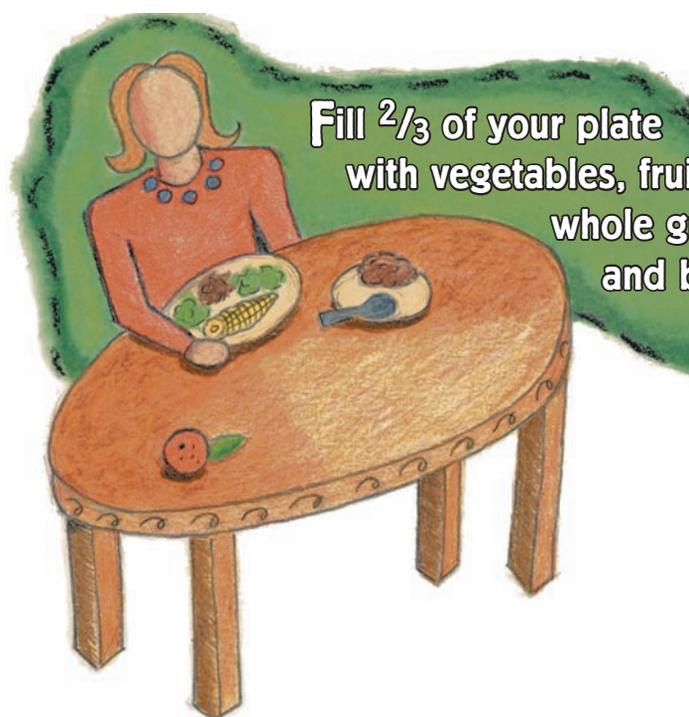
For example, a small apple weighing 3.5 ounces has a mere 52 calories, whereas as a 3.5 ounce slice of chocolate cake contains 367 calories. For the cake's calories, you could eat 7 apples. Not only does the fruit have fewer calories and more nutrition, it is more filling. That's why exchanging high calorie-dense foods for low calorie-dense ones, you can lose weight without fighting hunger.

So how can you distinguish between high and low calorie-dense foods? Low calorie-dense foods are usually unprocessed or minimally processed, like whole-wheat pasta. They're also high in water content. Fiber and water add bulk to help fill you up with hardly any calories. Most vegetables, fruits, whole grains and beans are low calorie-dense foods that also give you cancer-preventing substances.

High calorie-dense foods are fatty, often with added sugar. They are heavily processed and low in fiber. Some of the best examples are traditional fast foods like fried chicken pieces, burgers and French fries. Others are fatty meats such as prime rib and bologna, and highly processed foods like crackers, pretzels, chips and creamy dressings.

A Note about Fiber Supplements

If you rely on supplements for your fiber needs, you're missing out on all the vitamins, minerals, antioxidants and phytochemicals – naturally occurring plant chemicals – that work together to prevent cancer and other chronic diseases. Scientists have found only weak evidence for a link between fiber supplements and reduced risk of colon cancer. But there is very strong evidence that foods naturally containing fiber help prevent disease. **Processed foods with added fiber do not offer the same protection.** If your doctor advises a fiber supplement in addition to a plant-based diet, that's



fine, but ordinarily, eating a mostly plant-based diet will fulfill your fiber needs.

How Much Fiber Is Enough?

Based on nutrition studies, it may be best to eat a minimum of 30 grams of fiber each day. Reaching these goals requires a balanced, plant-based diet. Choose at least 5 vegetable and fruit servings, and at least three small servings of whole grains (such as 1/2 cup of oatmeal, 1/2 cup of brown rice, or 1 slice of whole-wheat bread) daily. Aim to add unprocessed grains and beans with most meals. Enjoy a small

What are whole grains?

Whole grains contain all three parts of the grain kernel: an outer bran layer, a large central section called the endosperm and an inner core, called the germ. When whole grains are refined, the bran and germ are removed. Because nutrients in the bran and germ are processed out, manufacturers began to add back three B vitamins and iron, creating enriched refined grains, although the enriched products remain lower in other nutrients than whole grains. "Multi-grain," "seven-grain," "unbleached wheat flour" or just "wheat" do not mean the product is made with mostly whole grains.

handful of nuts and seeds a few times weekly, too.

The fiber content of breakfast cereals varies, so use food labels to compare several types.

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rains
beans

A Rule of Thumb for Healthy Eating

If you want to reshape your diet to be mostly plant-based, simply follow this rule of thumb. Fill $\frac{2}{3}$ (or more) of your plate with vegetables, fruits, whole grains and

beans and $\frac{1}{3}$ (or less) with lean meat, poultry, fish or low-fat dairy foods. Eat whole grains and legumes with most meals, and select whole-grain breakfast cereals with 5 or more grams of dietary fiber per serving. Prepare these healthy foods in low-fat ways. Here is an example how high-fiber, low-calorie-dense foods can add up throughout the day:

Added to Food (grams of fiber)

Breakfast: $\frac{1}{2}$ cup blueberries (2)
1 cup shredded wheat (6)

Snack: medium banana (3)

Lunch: 1 – 2 slices whole-wheat bread (2 – 4)
1 cup lentil soup (6)

Snack: $\frac{1}{4}$ cup hummus (4)
6 whole-grain crackers (3)

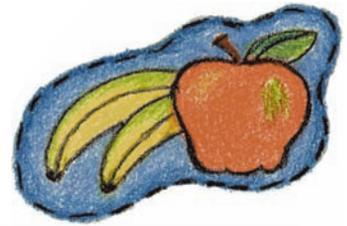
Dinner: 1 cup broccoli (5)
 $\frac{1}{2}$ – 1 cup brown rice (2 – 4)
small tossed salad (1)

Total Fiber: 34 – 38 g

Increase Fiber Slowly

Eating large amounts of fiber (60 or more grams) or drastically increasing your intake may give you a stomach ache and excess gas. Slowly increase the amount of fiber-rich foods you eat. Be sure to drink at least eight 8-ounce glasses of water, or other uncaffeinated, unsugared beverages daily. You're likely to have difficult-to-pass stools if your fluid intake is inadequate. If you're having trouble digesting high-fiber foods, speak with your physician or a registered dietitian.

Dietary Fiber in Common Foods



Food	Fiber (approx. g)
Potato, baked with skin, medium	4
Acorn squash, baked, $\frac{1}{2}$ cup	5
Carrots, cooked, $\frac{1}{2}$ cup	2
Broccoli, cooked, $\frac{1}{2}$ cup	3
Spinach, raw, 1 cup	1
Apple with skin, 1 medium	3
Blueberries, $\frac{1}{2}$ cup	2
Apricots, dried, 4 halves	1
Banana, 1 medium	3
Orange, 1 medium	3
Strawberries, sliced, 1 cup	3
Lentils, cooked, $\frac{1}{2}$ cup	8
Black beans, cooked, $\frac{1}{2}$ cup	8
Hummus, $\frac{1}{4}$ cup	4
Bulgur, cooked, $\frac{1}{2}$ cup	4
Whole-wheat spaghetti, cooked, $\frac{1}{2}$ cup	3
Enriched spaghetti, cooked, $\frac{1}{2}$ cup	1
Barley, cooked, $\frac{1}{2}$ cup	3
Brown rice, cooked, $\frac{1}{2}$ cup	2
White rice, cooked, $\frac{1}{2}$ cup	0
Whole-wheat bread, 1 oz. slice	2
White bread, 1 oz. slice	1
Oatmeal, cooked, $\frac{1}{2}$ cup	2
Grits, cooked, $\frac{1}{2}$ cup	0
Crisped rice cereal, 1 cup	0
Shredded wheat, 1 cup	6
Bran flakes, 1 cup	7
Corn flakes, 1 cup	1

Source: USDA Nutrient Data Laboratory