

# High-Fiber Diet

The lack of dietary fiber and fluids is a contributing factor to the development of hemorrhoids and anal fissures. We recommend consuming 25-35 grams of fiber and drinking 7 glasses of fluids per day. Fiber can improve the form, bulk, and size of the stool. The addition of 10-20 grams of fiber per day will improve bowel habits and colon health. This may be done by modifying your diet or adding fiber supplements. Fiber will also help decrease your cholesterol, improve your glucose control, and reduce your risk of diverticulosis, colon cancer, heart disease, and stroke.

**Water soluble fiber** is preferred and is found in oats, beans, cabbage, squash, carrots, apples, citrus fruits, prunes, strawberries, pears, etc. Soluble fiber increases the amount of water that stays in the colon and coats the intestinal walls which decreases cholesterol absorption. **Insoluble fiber** passes through the digestive system largely intact. Cellulose and lignin are forms of insoluble fibers that increase stool bulk and makes the stool softer. Cellulose is found in whole wheat, bran, cabbage, peas, green beans, wax beans, broccoli, cucumber skins, peppers, apples, and carrots. Lignin is found in cereals, bran, strawberries, eggplant, pears, green beans, and radishes. Brussel sprouts and beet root contain hemicellulose that also increases water holding capacity. This improves stool consistency by increasing the amount of water that stays in the colon and decreases the rate of stomach emptying, which leads to a slowing of digestion and increased absorption of nutrients.

Increase the amount of fresh fruit and leafy vegetables in your diet. Oatmeal, oat bran, nuts, dried peas, beans, lentils, apples, pears, strawberries, blueberries should be added to your diet for soluble fiber. Use more whole fiber grains, breads, and cereals. It may take up to six weeks to see a benefit. The amount and type of fiber that benefits you the most is variable and must be determined by trial and error. Many sources contain both soluble and insoluble fiber.

**Dietary Sources of fiber:**

**Fruit (serving size 1 piece)**

Fiber	Grams	Fiber	Grams
Figs (3)	5.3	Orange	3.1
Applesauce	1.5	Apple w/ Skin	4.7
Kiwi	2.6	Peach	1.4
Pears	4.3	Strawberries (6)	2.0
Cantaloupe (1/4)	1.1	Dates (5)	3.7
Raisins (1/4 cup)	1.9	Pineapple (1/2 cup)	0.9
Apricots (10)	3.6	Banana	2.4
Grapefruit (1/2)	0.8	Prunes (5)	3.5
Blueberries (25)	1.7	Watermelon (1 cup)	2.0
Cranberries (1/4 cup)	2.0	Blackberries (1/2 cup)	4.4
Grapes (20)	1.0	Plums	1.0

**Vegetables (serving size 1/2 cup unless noted)**

Fiber	Grams	Fiber	Grams
Baked Potato w/ skin	4.2	Broccoli	4.0
Green Beans	2.1	Sweet Potato	3.4
Spinach (1 cup)	3.5	Tomato (1/2)	0.8
Corn	5.0	Turnip	2.0
Celery	3.0	Peas	2.9
Beets	2.5	Green Pepper	1.2
Winter Squash	2.9	Cabbage	1.5
Lettuce (1 cup)	0.8	Carrot (1)	2.3
Cauliflower	1.4	Mushrooms	1.5

Asparagus	1.7	Brussel Sprouts	2.0
Celery	3.0	Okra	1.6

**Legumes (serving size is 3/4 cup cooked beans)**

Fiber	Grams	Fiber	Grams
Pinto Beans	14.2	Lima Beans	10.3
Lentils	5.6	Kindey Beans	9
Navy Beans	9.0	Split Peas	4.1
Black-Eyed Peas	12.3	Chickpeas	7.1
Tofu	1.4	Almonds (1 tbsp)	0.6
Baked Beans (4 oz)	8.0		

**Grains (serving size is 1 cup)**

Fiber	Grams	Fiber	Grams
Barley	8.6	Quinoa	4.6
Wheat	3.1	Bulgur	8.1
Brown Rice	3.3	White Rice	1.3
Bran Meal (1 tbsp)	2.0	White Bread (2)	1.9
Wheat Bread	6.0	All-Bran (1/2 cup)	10.4
Cornflakes	2.6	Raisin Bran	3.0

Fiber is carbohydrates found in plants that can not be broken down all the way to simple sugars and pass through the intestine partially undigested. A particular food item will be a combination of nutrients and fiber that will determine how fast it is digested and how much will be quickly turned into simple sugar versus how much will be undigested and serve to increase the stool bulk. The various soluble and insoluble fibers have more specific names. There's **bran, cellulose, gum, hemicellulose, lignin, mucilage**

and **pectin**. Each specific fiber serves a specific function as a soluble and/or insoluble fiber type:

- **Bran, gums and mucilages—help to regulate blood glucose, aid in lowering cholesterol and help in the removal of toxins.**
- **Cellulose—an indigestible carbohydrate that is found in the outer layer of fruits and vegetables, so eat the peel and savor the stems. Cellulose absorbs toxins in the intestine and is especially helpful in preventing constipation, hemorrhoids, varicose veins and colitis.**
- **Hemicellulose—an indigestible complex carbohydrate that also absorbs water. This fiber type is good for promoting weight loss, relieving constipation, preventing colon cancer and controlling carcinogens in the intestinal tract.**
- **Lignin—an insoluble, woody substance that comes from the stems and seeds of fruits and vegetables and in the bran layer of grains. Lignins help lower cholesterol and help prevent the formation of gallstones by binding with bile acids and removing cholesterol before stones can form. It's helpful in preventing and managing diabetes and colon cancer and perhaps other cancers as well.**
- **Pectin—Soluble fibers that form highly viscous solutions that decrease the rate of gastric emptying, slows the intestinal absorption of food, increases absorption of nutrients along a greater length of the small intestine, reducing blood glucose and consequent insulin spikes.**

### Soluble fiber sources

<b>Gums</b>	<b>Pectin</b>	<b>Pectin cont.</b>	<b>Mucilage</b>	<b>Legumes</b>
Oatbran	Apples	Beets	Psyllium	Barley
Guar Gum	Bananas	Cabbage		Dried Beans/Peas
	Peas	Carrots		Nuts
	Okra			

## Insoluble fiber sources

Cellulose	Hemicellulose	Lignin	Bran
Whole Grains	Cereals	Cereals	
Whole Wheat Flour	Bran	Mature Vegetables	Bran
Vegetables	Apples	Fruits with Edible Seeds	Whole Grains
Apples	Bananas	Brazil Nuts	
Beets	Beans	Carrots	
Brazil Nuts	Beets	Green Beans	
Broccoli	Cabbage	Peaches	
Carrots	Corn	Peas	
Celery	Leafy Greens	Potatoes	
Green Beans	Pears	Strawberries	
Lima Beans	Peppers	Tomatoes	
Pears	Brussel Sprouts	Radishes	
Wax Beans		Pears	
Cucumber Skins		Eggplant	
Peppers		Bran	
Peas			
Cabbage			

## Supplements

You can add 10 grams of fiber with two tablespoons of whole oat bran or wheat bran, psyllium (a seed native to Iran and India), Metamucil, Citrucel (methylcellulose), Konsyl, or Benefiber. Fibersure is a new product from Metamucil that tastes great and you can add to your food.

## Warnings

We recommend rotating the food and fiber types. Avoid foods to which you have food allergies, intolerances or sensitivities. Gradually increase the fiber in your diet until your bowel movements are optimum for you (consult your physician for information and guidance). A temporary increase in intestinal gas is to be expected. Fennel seed may help reduce flatulence. Diabetics should not change their diet without consulting their physicians as fiber may affect your blood sugar. *Excessive fiber by supplements may decrease the absorption of iron, zinc and calcium.* Finally, be patient as it may take 6 weeks to see the ultimate benefit of adding fiber to your diet. For persistent constipation or change in the caliber of your stool see your doctor.

Provided by Hemorrhoid Centers of America™ Version 2014-03

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