

The High Fiber Diet

Fiber, also called roughage or bulk, cannot be digested by the body. However, it is necessary to promote the wavelike contractions that move food through the intestine. High fiber foods expand the inside walls of the colon, easing the passage of waste. As fiber passes through the intestine undigested, it absorbs large amounts of water, resulting in softer and bulkier stools.

A high-fiber diet causes a large, soft, bulky stool that passes through the bowel more easily and quickly. This helps to prevent, stop, or even reverse some digestive tract disorders. A softer, larger stool helps prevent constipation and straining, which can help avoid or relieve hemorrhoids. More bulk means less pressure in the colon, and this is important in treating irritable bowel syndrome and diverticulosis.

There are two types of fiber this handout will focus on, soluble and insoluble fiber. Soluble fibers, such as oat bran, are soluble in water and form a gelatinous bulk that can lower cholesterol. Insoluble fiber, such as wheat bran, can add bulk to the stool. Both are important and provide benefits.

Fiber Benefits by Condition	
<i>Irritable bowel syndrome</i>	<i>Fiber and Diverticulosis</i>
Irritable bowel syndrome, sometimes called spastic colon or IBS, is one of the most common disorders of the lower digestive tract. There is no disease present in irritable bowel syndrome. The symptoms of IBS are constipation, diarrhea (or both alternately), abdominal pain, cramping and spasms. Increased amounts of fiber in the diet can help relieve symptoms of irritable bowel syndrome by producing soft, bulky stools and by helping to normalize the time the stool takes to pass through the colon. The increased bulk also reduces the pressure necessary to push food waste through the colon. This results in less discomfort.	Colon diverticulosis occurs when pockets or sacks bulge out from the bowel wall. It is known that these diverticula occur gradually over time and are due to excessive pressure of spasms within the bowel. These pockets usually cause no problem, but sometimes they can become infected (diverticulitis) or even break open, causing abscess or peritonitis. A high-fiber diet may act to increase the bulk in the stool, which reduces pressure within the colon. By so doing, diverticula formation may be reduced or even stopped.
<i>Fiber and Cholesterol</i>	<i>Fiber and Cancer</i>
In addition to promoting bowel regularity, <i>soluble fiber</i> can also help lower cholesterol. <i>Soluble fiber</i> binds to cholesterol in the intestines and carries it away in the stool. <i>Soluble fiber</i> is commonly found in oatmeal, legumes, oat bran (the best source), guar gum, psyllium seed, fruit pectin and gum Arabic. When mixed with water, it produces a gelatinous mucous gel.	Recent evidence seems to indicate that fiber, by itself, even up to 25 grams a day, does not reduce the risk of colon or other cancers. However, many high fiber foods are also very rich in chemicals called antioxidants. These substances attach other chemicals known as free radicals. Free radicals occur in the body as a natural byproduct of metabolism. Yet, they can damage surrounding cells and seem to be related to increased risk of heart disease, macular degeneration (eye problems), and some cancers such as prostate cancer. Hundred of very potent antioxidants occur in many fruits and vegetables which are also high in fiber. Nature seems to have naturally put these two substances together. Five portions of fruits and /or vegetables are recommended each day. Select those that are rich in color such as dark green, yellow, red, or orange.

Other conditions a high fiber diet may help with are: diabetes, bowel irregularity, constipation or diarrhea, hiatal hernia, macular degeneration.

High Fiber Foods

High fiber foods can be found in most food groups. Different types of food should be selected to get the benefits of them all.

1. Legumes

- a. The bean family excels in fiber, especially the soluble, cholesterol-lowering type.
- b. Chickpeas, kidney, pinto, navy, lima, and baked beans.

2. Whole Grains

- a. Oats, brown rice, farro, barley, millet, etc
- b. Wheat bran and oat bran are present in a variety of cereals and breads.
 - i. The first ingredient on the ingredient list should read “whole”
 - ii. Plain white bread lacks fiber.
 1. One cannot always tell by the color.
 2. Some manufacturers artificially color bread brown to make it look more wholesome.

3. Fruits

- a. Whole fruits have pectin fiber, which is found in the skin and pulp.
 - i. Figs, prunes, and raspberries have the highest fiber content.
- b. Avoid juicing fruit as this removes the fiber. Always eat the skin if it’s edible.
- c. Cooked or stewed fruits such as prunes or apple sauce are also good choices

4. Vegetables

- a. Green Leafy Vegetables such as lettuce, spinach, celery, and broccoli are good examples.
- b. Root Vegetables such as potatoes, sweet potatoes, turnips, and carrots are excellent sources.

5. Nuts and Seeds

- a. Nuts and seeds such as peanuts, almonds, chia seed and flaxseed are good sources of fiber.

Since the average American gets 10 to 15 grams of fiber daily, some rumbling intestinal gas and even some mild cramping can occur with increasing fiber intake. It is recommended that fiber intake is slowly increased. The amount can be increased as tolerance is acquired. The goal should be 20 to 35 grams of fiber a day, which will usually produce 1 to 2 soft, formed stools a day.

The following are good general rules:

1. Drink plenty of liquids, with a goal of 8 cups or 64 ounces daily (or per doctor recommendations).
2. Eat slowly and chew food thoroughly to allow the upper digestive tract (esophagus, stomach, and small intestine) to work well. This may help prevent problems from developing in the lower digestive tract.
3. Eat meals at regular intervals.

A Dietary Fiber Supplement May be Helpful

Some people have trouble tolerating too many high fiber foods in the diet. Stool softening and bulking agents are available over the counter. Fiber pills generally should be avoided as they typically contain relatively small amounts of fiber and are expensive. Fiber-containing foods and powdered fiber supplements are better sources.

These products are usually plant fiber that absorbs water and produces the bulk necessary for the digestive tract to perform naturally. Psyllium fiber is found in many commercial products such as Metamucil, Per Diem, and Konsyl. The regular product contains a fair amount of sugar, so it may be preferable to use the sugar-free products. Most pharmacies carry a generic brand at significant cost savings. Citrucel (hemicelluloses) and Equilactin (polycarboxisal) are other bulking agents that can be used. These fiber supplements, in conjunction with foods, offer an easy way to reach the fiber goal of 20 to 30 grams.

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High-Fiber Nutrition Therapy

Fiber and fluid may help you feel less constipated and bloated and can also help ease diarrhea. Increase fiber slowly over the course of a few weeks. This will keep your symptoms from getting worse.

Tips

Tips for Adding Fiber to Your Eating Plan

- Slowly increase the amount of fiber you eat to 25 to 35 grams per day.
- Eat whole grain breads and cereals. Look for choices with 100% whole wheat, rye, oats, or bran as the first or second ingredient.
- Have brown or wild rice instead of white rice or potatoes.
- Enjoy a variety of grains. Good choices include barley, oats, farro, kamut, and quinoa.
- Bake with whole wheat flour. You can use it to replace some white or all-purpose flour in recipes.
- Enjoy baked beans more often! Add dried beans and peas to casseroles or soups.
- Choose fresh fruit and vegetables instead of juices.
- Eat fruits and vegetables with peels or skins on.
- Compare food labels of similar foods to find higher fiber choices. On packaged foods, the amount of fiber per serving is listed on the Nutrition Facts label.
- Check the Nutrition Facts labels and try to choose products with at least 4 g dietary fiber per serving.
- Drink plenty of fluids. Set a goal of at least 8 cups per day. You may need even more fluid as you eat higher amounts of fiber. Fluid helps your body process fiber without discomfort.

Foods Recommended

Foods With at Least 4 g Fiber per Serving

Food Group	Choose
Grains	1/3-1/2 cup high-fiber cereal
Dried beans and peas	1/2 cup cooked red beans, kidney beans, large lima beans, navy beans, pinto beans, white beans, lentils, or black-eyed peas
Vegetables	1 artichoke (cooked)
Fruits	1/2 cup blackberries or raspberries 4 dried prunes

Foods With 1 to 3 g Fiber per Serving

Food Group	Choose
Grains	1 bagel (3.5-inch diameter) 1 slice whole wheat, cracked wheat, pumpernickel, or rye bread 2-inch square cornbread 4 whole wheat crackers 1 bran, blueberry, cornmeal, or English muffin ½ cup cereal with 1-3 g fiber per serving (check dietary fiber on the product's Nutrition Facts label) 2 tablespoons wheat germ or whole wheat flour
Fruits	1 apple (3-inch diameter) or ½ cup applesauce ½ cup apricots (canned) 1 banana ½ cup cherries (canned or fresh) ½ cup cranberries (fresh) 3 dates 2 medium figs (fresh) ½ cup fruit cocktail (canned) ½ grapefruit 1 kiwi fruit 1 orange (2½-inch diameter) 1 peach (fresh) or ½ cup peaches (canned) 1 pear (fresh) or ½ cup pears (canned) 1 plum (2-inch diameter) ¼ cup raisins ½ cup strawberries (fresh) 1 tangerine
Vegetables	½ cup bean sprouts (raw) ½ cup beets (diced, canned) ½ cup broccoli, brussels sprouts, or cabbage (cooked) ½ cup carrots ½ cup cauliflower ½ cup corn ½ cup eggplant ½ cup okra (boiled) ½ cup potatoes (baked or mashed) ½ cup spinach, kale, or turnip greens (cooked) ½ cup squash—winter, summer, or zucchini (cooked) ½ cup sweet potatoes or yams ½ cup tomatoes (canned)
Other	2 tablespoons almonds or peanuts 1 cup popcorn (popped)

High Fiber Sample 1-Day Menu

Breakfast	<p>1/2 cup orange juice, with pulp 1/2 cup raisin bran 1 cup fat-free milk 1 cup coffee</p>
Morning Snack	<p>1 cup plain yogurt 2 cups water</p>
Lunch	<p>1 1/2 cups chili 1/2 cup kidney beans 1/2 cup soy crumble 2 tablespoons shredded cheese 8 whole wheat crackers 1 apple (with skin)</p>
Evening Meal	<p>2 ounces sliced chicken 1/4 cup tofu 2 cups mixed fresh vegetables 1 cup brown rice 1/2 cup strawberries 1 cup hot tea</p>
Evening Snack	<p>2 tablespoons almonds 1 cup hot chocolate</p>

High Fiber Vegan Sample 1-Day Menu

Breakfast	<p>1/2 cup bran cereal 1 banana 1/2 cup blueberries 1 cup soymilk fortified with calcium, vitamin B12, and vitamin D</p>
Lunch	<p>1/2 cup chili with beans with: 1/2 cup tempeh crumbles 1/4 cup crushed whole wheat crackers 1 apple 1 cup soymilk fortified with calcium, vitamin B12, and vitamin D</p>
Evening Meal	<p>1 veggie burger 1 whole wheat bun 1 leaf lettuce 1 slice tomato Salad made with: 1 cup lettuce 1 cup strawberries 1/4 cup chickpeas 1/2 cucumbers 1 tablespoon italian dressing</p>
Evening Snack	<p>1/4 cup almonds 1 cup carrot sticks</p>

High Fiber Vegetarian (Lacto-Ovo) Sample 1-Day Menu

Breakfast	<ul style="list-style-type: none">½ cup bran cereal1 banana½ cup blueberries1 cup 1% milk
Lunch	<ul style="list-style-type: none">2 slices whole wheat bread2 tablespoons hummus1 ounce cheddar cheese1 leaf lettuce2 slices tomato½ cup vegetarian baked beans1 orange1 cup 1% milk
Evening Meal	<ul style="list-style-type: none">Stir fry made with: ½ cup tempeh½ cup brown rice1 cup frozen broccoli1 tablespoon soy sauce¼ cup peanuts1 pear
Evening Snack	<ul style="list-style-type: none">6 ounces fruit yogurt1 cup air popped popcorn

Notes

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5 Sample Menus for Gradually Increasing Fiber

This handout contains 5 sample menus that increase in fiber from a low-fiber diet (8.5 grams of fiber daily) to a fiber-restricted diet (13.5 grams of fiber daily) to medium-fiber diets.

These menus may be used to treat irritable bowel syndrome (IBS), inflammatory bowel disease (Crohn’s disease and colitis), and other gastrointestinal conditions when you are no longer experiencing symptoms and fiber can gradually be added back into your diet.

Some foods, such as chili, may have other causes of symptoms in addition to being high in fiber. Some people can increase their fiber gradually to be able to enjoy these types of foods again. It is important not to increase fiber levels too quickly and to think about moving from one menu to the next over a period of weeks, not days. Discuss menu choices and timeline with your registered dietitian.

In all menus, grams (g) of fiber are rounded off to the nearest 0.5 g and given in parentheses. Approximate totals are given below the menus.

Menu 1 (approximately 8.5 g fiber)

Breakfast	1 scrambled egg 1 slice white toast (0.5 g) with 1 teaspoon margarine ½ cup fine-ground grits or cream of wheat (0.5 g) ½ cup cranberry juice Tea or coffee
Snack	6 saltine crackers (0.5 g) 1 cup milk or 1 cup lactose-free milk
Lunch	Chicken salad sandwich: 3 tablespoons chopped/canned chicken mixed with mayonnaise, 2 slices sourdough bread (1.0 g) ½ cup canned peaches (1.0 g) 1 cup water or 1 cup Gatorade Popsicle (no red or purple)
Snack	6 to 8 ounces smooth yogurt 1 banana (3.0 g) 1 cup water
Evening Meal	3 ounces baked fish (cod or tilapia with 2 teaspoons olive oil) 1 cup white rice (0.5 g) ½ cup cooked canned carrots (1.0 g) 1 soft white dinner roll (0.5 g) with 1 tablespoon margarine 1 cup apple juice

Total fiber for Menu 1 = 8.5 g

Menu 2 (approximately 13.5 g fiber)

Breakfast	1 scrambled egg 1 slice white toast (0.5 g) with 1 teaspoon margarine ½ cup fine-ground grits or cream of wheat (0.5 g) ½ cup cranberry juice Caffeine-free herbal tea
Snack	Fruit smoothie: 1 cup low-fat milk, low-fat lactose-free milk, or soy milk; 1 cup yogurt or lactose-free yogurt; and 1 banana (3.0 g)
Lunch	1 cup chicken noodle soup with carrots and celery (1.5 g) Tuna salad: 3 tablespoons tuna fish mixed with 1 to 2 tablespoons mayonnaise on 4-inch white pita bread (1.0 g) 5 saltines (0.5 g) Caffeine-free herbal tea
Snack	½ cup cottage cheese (optional: lactose free) ½ cup canned pears (1.5 g)
Evening Meal	4 ounces baked chicken 1 cup white rice (0.5 g) ½ cup cooked green beans (2.0 g) ½ cup applesauce (1.5 g)
Snack	1 cup low-fiber cereal (less than 2 g fiber per serving) (1.0 g) with ½ cup low-fat lactose-free milk

Total fiber for Menu 2 = 13.5 g

Menu 3 (approximately 15.0 g fiber)

Breakfast	2/3 cup Toasted Os cereal (3.0 g) 1 cup low-fat, lactose-free, or soy milk 1 ripe banana (3.0 g)
Snack	1 cup decaffeinated tea 6 ounces yogurt with fruit on the bottom (optional: lactose free)
Lunch	1½ cups chicken and rice soup with 2 ounces added chicken (3.0 g) ¼ cup cooked carrots (1.0 g) 1 slice white toast with a thin spread of jelly (0.5 g) ½ cup Jell-O (no red or purple)
Snack	6 saltine crackers (0.5 g) 1 cup fruit juice without pulp
Evening Meal	4 to 6 ounces baked fish topped with breadcrumbs (0.5 g), a squeeze of lemon, and 1 teaspoon butter or margarine ½ cup mashed potato (1.5 g) ½ cup cooked green beans (2.0 g) 1 cup water
Snack	½ cup sorbet

Total fiber for Menu 3 = 15.0 g

Menu 4 (approximately 18.0 g fiber)

Breakfast	2 poached eggs (yolk cooked solid) 1 slice honey-wheat bread with 1 teaspoon margarine (0.5 g) ½ cup cranapple juice
Snack	English muffin (1.5 g) with 1 teaspoon margarine 1 small banana (3.0 g) 1 cup herbal tea
Lunch	4 ounces baked salmon ½ cup white rice (0.5 g) ½ cup sweet potato, no skin (3.0g) 1 cup fat-free or low-fat milk, low-fat lactose-free milk, or soy milk 1 cup water
Snack	1 cup yogurt, fruited ¼ cup blueberries (1.0 g) 1 cup water
Evening meal	Sandwich: 2 ounces turkey, 1 ounce swiss cheese, and 2 slices white bread (1.0 g) 1 ounce (a small handful) pretzels (0.5 g) 1 medium fresh apple (4.5 g) 1 cup water
Snack	2 whole graham crackers (1.5 g) 1 tablespoon smooth peanut butter (1.0 g) 1 cup soy milk or low-fat milk (optional: lactose free) 1 cup water

Total fiber for Menu 4 = 18.0 g

Menu 5 (approximately 23.0 g fiber)

Breakfast	2/3 cup oat rings cereal (3.0 g) with ½ cup fat-free or low-fat milk (optional: lactose-free) 1 cup coffee or tea 1 cup water
Lunch	1 cup chili (6.0 g) 8 wheat crackers (1.0 g) 1 fresh apple (4.5 g) 1 cup water or lemonade (optional: sugar free)
Snack	8 ounces yogurt 2 cups water
Evening Meal	3 ounces sliced chicken 1 cup mixed cooked vegetables (5.0 g) ½ cup jasmine rice ½ cup fresh blueberries and sliced bananas (2.0 g) 1 cup hot tea (optional: decaf)
Snack	1 cup hot chocolate (1.5 g)

Total fiber for Menu 5 = 23.0 g

Notes

