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## High Fiber Diet

The high fiber diet is indicated in the treatment of diverticulosis, obesity, constipation, diarrhea and irritable colon. It is beneficial in the treatment of hyperlipidemia, hypercholesterolemia and diabetes mellitus. Evidence suggests that a high fiber diet is associated with a decreased risk of colon cancer. The high fiber diet may be contraindicated in the acute phase of diverticulitis and other situations where the bowel is inflamed, as in Crohn's Disease and ulcerative colitis, as well as in any type of bowel obstruction or stenosis. It is recommended to consume 25-35 grams of fiber and drink 7 glasses of fluids per day.

### Dietary Sources

Fruits	Fiber (gm)	Vegetables	Fiber (gm)	Legumes	Fiber (gm)	Grains	Fiber (gm)
3 Figs	5.3	1/2 cup Baked Potato with Skin	4.2	3/4 cup Pinto Beans	14.2	1 cup Barley	8.6
1 Apple with Skin	4.7	1/2 cup Sweet Potato	3.4	3/4 cup Kidney Beans	13.8	1 cup Bulgur	8.1
1 Pear	4.3	1/2 cup Corn	5.0	3/4 cup Black-eyed Peas	12.3	1 tbspc Bran Meal	2.0
5 Dates	3.7	1/2 cup Peas	2.9	1 tbspc Almonds	0.6	1/2 cup All-Bran	10.4
10 Apricots	3.6	1/2 cup Winter Squash	2.9	3/4 cup Lima Beans	10.3	1 cup Oatmeal	7.0
5 Prunes	3.5	1 Carrot	2.3	3/4 cup Navy Beans	9.0	1 cup Quinoa	4.6
1/4 cup Cranberries	2.0	1/2 cup Asparagus	1.7	3/4 cup Chickpeas	7.1	1 cup Brown Rice	3.3
1 Plum	1.0	1/2 cup Okra	1.6	4 oz Baked Beans	8.0	2 slices White Bread	1.9
1 Orange	3.1	1/2 cup Broccoli	4.0	3/4 cup Lentils	5.6	1 cup Cornflakes	2.6
1 Kiwi	2.6	1 cup Spinach	3.5	3/4 cup Split Peas	4.1	1 cup Wheat	3.1
6 Strawberries	2.0	1/2 cup Turnip	2.0	3/4 cup Tofu	1.4	White Rice	1.3
1/4 cup Raisins	1.9	1/2 cup Beets	2.5			2 slices Wheat Bread	6.0
1 Banana	2.4	1/2 cup Cabbage	1.5			1 cup Raisin Bran	3.0
25 Blueberries	1.7	1/2 cup Cauliflower	1.4				
1/2 cup Blackberries	4.4	1/2 cup Brussel Sprouts	2.0				
Applesauce	1.5	1/2 cup Green Beans	2.1				
1 Peach	1.4	1/2 Tomato	0.8				
1/4 Cantaloupe	1.1	1/2 cup Celery	3.0				
1/2 cup Pineapple	0.9	1/2 cup Green Pepper	1.2				
1/2 Grapefruit	0.8	1 cup Lettuce	0.8				
1 cup Watermelon	2.0	1/2 cup Mushrooms	1.5				
20 Grapes	1.0						

### Insoluble Fiber Sources

Cellulose	Hemicellulose	Lignin	Bran
Whole Grains	Cereals	Cereals	Bran
Whole Wheat Flour	Bran	Mature Vegetables	Whole Grains
Bran	Whole Grains	Whole Grains	
Vegetables	Apples	Fruits with Edible Seeds	
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			

## Soluble Fiber Sources

Gums	Pectin	Mucilage
Oat Bran Guar Gum Legumes Barley Dried Beans	Apples Bananas Beets Cabbage Carrots Citrus Peas Okra	Psyllium

Food Categories	Foods Recommended	Tips
<b>Breads</b>	Whole-grain or enriched breads, muffins, bagels, or pita bread. Whole-wheat crackers or crisp bread. Whole-grain or bran cereals. Wheat germ. Whole-wheat pasta and brown rice Oatmeal, oat bran, or grits.	Scan food labels for bread & cereal products listing whole-grain or whole-wheat as the first ingredient. Look for cooked and ready-to-eat cereals with at least 2 gm of fiber per serving.
<b>Vegetables</b>	All vegetables; in particular: asparagus, broccoli, cabbage, carrots, cauliflower, celery, corn, greens, green beans, green pepper, onions, peas, potatoes (with skin), snow peas, spinach, squash, sweet potatoes, tomatoes, zucchini	Remember the peelings on fruits and vegetables contribute fiber.
<b>Fruits</b>	All fruits; in particular: apple, bananas, berries, grapefruit, nectarine, orange, peach, and pear.	Eat raw fruits and vegetables; they have more fiber than cooked or canned foods, or juice. Dried fruits are also good sources of fiber.
<b>Milk, Yogurt, And Cheese</b>	All	Dairy Foods provide little fiber. Boost fiber by adding fresh fruit, whole-grain or bran cereals, nuts, or seeds to yogurt or cottage cheese.
<b>Meats, Poultry, Fish, Dry Beans And Peas, Eggs, And Nuts</b>	All beans and peas, in particular: garbanzo beans, kidney beans, lentils, lima beans, split peas, and pinto beans. All nuts and seeds, in particular: almonds, peanuts, Brazil nuts, cashews, peanut butter, walnuts, sesame and sunflower seeds .All meats, poultry, fish, and eggs.	Increase fiber in meat dishes by adding pinto beans, kidney beans, black-eyed peas, bran, or oatmeal. If you are following a low-fat diet, use nuts and seeds only in moderation.
<b>Fats, Snacks, Sweets, Condiments, And Beverages</b>	Popcorn, whole-wheat pretzels, or trail mix made with dried fruits, nut, and seeds. Cakes, breads, and cookies made with oatmeal, fruits, and nuts.	

### Tips for Planning a High Fiber Diet

- High fiber diet with added psyllium may reduce riboflavin absorption.
- Cooking fruits and vegetables does not destroy fiber although its structure is changed.
- 6-11 servings of grains is recommended.
- The diet may require decreases (about 10%) in insulin requirements. Oral agents may need to be decreased by one-third to one-half.
- At least 3-5 servings per day of vegetables and all vegetables juices should be included.
- Additional fluid should be included in beverages. 8-12 cups per day has been recommended.
- Unprocessed, coarse bran may be added to foods at a rate of 2 tsp. 3 times a day if constipation is a problem. It may also be used in cooking, as in casseroles, meat loaf, etc. If bran is added in the diet, be sure to include adequate fluid.
- Increase high fiber foods gradually. Abrupt increases in dietary fiber may cause gas and/or loose stools as well as interfere with mineral absorption such as calcium and zinc. Increments of 5-10 grams allow adaption of GI function and flora.
- A variety of high fiber foods from all the food groups should be selected to get a balance of the various types of dietary fiber.
- At least 2-4 servings per day of fruits including fresh, frozen, dried or canned should be included.
- You can add 10 grams of fiber with two tablespoons of whole oat bran or what bran, psyllium (a seed native to Iran and India), Metamucil, Citrucel (methylcellulose), Konsyl, Benefiber or Fibersure.

### Adequacy

The high fiber diet can be planned to meet the National Research Council's Dietary Reference Intakes for all nutrients. However, the absorption of calcium, iron, zinc and other trace minerals may be compromised by an increase in fiber. When stores are depleted, a multivitamin is recommended for supplementation. The addition of ascorbic acid to the meal with fiber will improve iron absorption. The DRI's range from 21-38 grams of fiber per day for adults. The National Cancer Institute recommends 20-35 grams of fiber daily.

## Quick Method for assessing daily total dietary fiber intakes

Servings of refined grains x 1gm.....	= _____
Servings of whole grains x 2.5gm.....	= _____
Serving of vegetables x 1.5gm.....	= _____
Servings of fruit (Juice is not counted) x 1.5gm.....	= _____
Additional foods (concentrated fiber sources, legume, nuts and seeds) =	_____
Total =	_____ gm

## Sample Menu Plan

Suggested Meal Plan	Sample Menu	Dietary Fiber (gm)	Your Menu
<b>Breakfast</b>			
Fruit or Juice	Fresh Orange (1 medium)	2.4	
Cereal with Fruit	Bran Flakes (3/4 cup) Raisins (2 tbsp)	4	
Bread	Whole Wheat Toast (1 slice)	1.5	
Margarine/Jelly	Margarine/Grape Jelly	1.4	
Milk	Low Fat Milk (1 cup)	0	
Beverage	Coffee	0	
<b>Noon Meal</b>			
Soup or Juice	Navy Bean Soup (1 cup)	7.5	
Meat/High Protein Food	Sliced Chicken (2 oz)	0	
Bread	Whole Wheat bread (2 slices)	2.8	
Vegetable	Lettuce/Tomato (1/2 cup)	0.7	
	Carrot Sticks (1/2 cup)	2.3	
Fruit/Dessert	Fresh Fruit Cup (1/2 cup)	2.4	
Milk	Low Fat Milk (1 cup)	0	
Beverage	Iced Tea	0	
<b>Evening Meal</b>			
Meat/High Protein Food	Broiled Fish	0	
Starch	Brown Rice (1/2 cup)	1	
Vegetable(s)	Frozen Green Peas (1/2 cup)	3.6	
	Raw Vegetable Salad Lettuce (1 cup) French Dressing	1.7	
	Tomato (1/2 medium)	2.5	
Bread	Bran Muffin (1)	3.9	
Margarine	Margarine (1 tsp)	0	
Fruit/Dessert	Fresh Sliced Peaches with Skin (1/2 cup)	1.9	
Milk	Low Fat Milk (1 cup)	0	
Beverage	Iced Tea/Sugar	0	
<b>Total Dietary Fiber</b>		39.6	

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. 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 via 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.