

Help Your Patients Fill Their Fiber Gaps By Sharon Palmer, RD

You know how important fiber is to your clients' health. It can help them maintain proper digestion and elimination, lower blood cholesterol levels, stabilize blood glucose, and even lose weight. Yet only 5% of American's are meeting the daily recommendation, notes Joanne Slavin, PhD, RD, a professor in the department of food science and nutrition at the University of Minnesota who served on the Dietary Guidelines Advisory Committee.

In this continuing education article, dietitians will learn why people do not consume adequate amounts of fiber, information about various types of fiber that can help promote health, and strategies to help your clients increase their fiber intake.

Americans Just Don't Get Enough

It's a simple fact that people aren't eating enough whole grains, legumes, fruits or vegetables—the main sources of dietary fiber. So it shouldn't be surprising that the average intake of dietary fiber is low—only 15 g/day.¹ In fact, dietary fiber is listed as a “nutrient of concern” in the 2010 Dietary Guidelines—along with potassium, calcium and vitamin D—because intake is low enough to be a public health concern. The Adequate Intake for fiber is 14 g/1,000 kcal—25 g/day for women and 38 g/day for men.²

“Today's rapid pace and lifestyle hinders people from getting enough fiber. They eat quick pantry food items when they're hungry, such as chips and crackers, instead of carrots,” says Jessica Crandall, RD, CDE, a national spokesperson for the Academy of Nutrition and Dietetics and a dietitian at Sodexo Wellness and Nutrition.

“People don't pick high-fiber foods,” Slavin adds. “The highest sources of fiber are first, whole grains; second, legumes; third, vegetables; and fourth, fruits. People may think, ‘I ate an apple or some lettuce, so I got my fiber.’ But that doesn't get the job done.”

Fiber's Goodness

Fiber, a nondigestible form of carbohydrates that occurs naturally in plant foods, may protect health in many important ways. The 2010 Dietary Guidelines highlight the significance of meeting dietary fiber goals because the scientific evidence shows health-protective benefits, including promoting a feeling of fullness and healthy laxation. In addition, dietary fiber that occurs naturally in foods also may help reduce the risk of cardiovascular disease, obesity and type 2 diabetes.^{1,3}

Yet much of the public doesn't fully comprehend all they have to gain by boosting their fiber intake. “The biggest impact fiber can have on people's health is preventing constipation and promoting gut health. This is important for kids; I frequently hear people say that their children

have constipation. Digestion and absorption are really important and it's much easier to prevent constipation than it is to treat it," Slavin says.

Slavin has published several studies on the myriad health benefits of dietary fiber intake, which include improved bowel function, gut health, immunity, blood glucose control, and serum lipid levels.⁴ And while scientists need to learn more about the benefits of fiber for children, it appears that this age group could experience improved health through an increased intake as well.⁵

However, it's important to remind people that fiber benefits extend beyond healthy digestion. "Most people think of fiber as helping to promote digestion and bowel regularity. People are not getting enough information on other fiber benefits, such as benefits in satiety and obesity prevention, as well as keeping cholesterol levels in check and stabilizing blood sugars. These three areas are undereducated and underemphasized," Crandall says.

Considering the health fallout of the obesity epidemic, it's important to stress fiber's role in satiety and weight loss. Commenting on her research and the research of others, Slavin states, "The data on fiber and obesity is pretty good; people who eat more high-fiber foods tend to weigh less."

All Types of Fibers Count

Many kinds of fibers are associated with health benefits. Soluble fiber, which is linked to lowering cholesterol levels, is found in foods such as legumes, oats, barley, nuts, and some fruits and vegetables. Insoluble fiber, found in whole grains, wheat bran, nuts, seeds, and some vegetables and fruits, acts like a sponge, passing through the intestines mostly unchanged, thus helping promote good bowel motility. Nondigestible oligosaccharides, found in some fruits, vegetables, seeds, and grains, resist digestion and act as a prebiotic—feeding gut bacteria—to promote gut health. Resistant starches, found in unripe bananas and potatoes, also may lower glucose levels and help increase energy expenditure because they increase levels of gut hormone that drive energy expenditure. While inulin is found naturally in foods such as asparagus, onions, and wheat, it is often added to foods as a functional ingredient. It is not digested in the upper gastrointestinal tract and stimulates the growth of friendly gut bacteria.^{6,7}

So which fibers should you promote to your patients? "Having fibers from a variety of sources is ideal," Slavin stresses. That's where the beauty of a diet rich in a variety of plant foods—grains, legumes, nuts, seeds, fruits and vegetables—comes in.

The health advantages of consuming food products filled with isolated fibers, such as inulin or bran, are under debate. The National Institutes of Health reported in August 2010 that the health benefits of isolated fibers are still unclear. Research suggests they may not have the same effects as the intact fibers found in whole foods. There's little evidence that isolated fibers help lower blood cholesterol, and they have differing effects on regularity, though studies suggest that inulin might boost the growth of good bacteria in the colon.²

“There are more benefits with foods that have naturally occurring sources of fiber vs. foods with fibers added to them. I’m not recommending that people should get most of their fiber from fiber-enriched foods,” Crandall says. “I always encourage my patients to eat clean and natural, but that can be a challenge to do. My motto is that you need to meet people where they are at; ideally they should eat fresh fruit, vegetables, whole grains and legumes, but in the modern situation, they’re struggling to meet the guidelines for appropriate foods. Fiber-fortified foods can be helpful for some people. I’d rather them meet the fiber guidelines with the help of fiber-fortified foods than fail.”

“We need to be flexible with our recommendations on fiber,” Slavin adds. “So many people fall short in fiber. Ideally, I want people to get fiber from food, but I want people to get fiber, even if it’s the type added to food products.”

Help Your Patients Meet their Fiber Potential

To assist patients in getting the fiber they need, here are the top eight suggestions from the experts interviewed for this article:

1. Break down the barriers. “Beans make me gassy; fiber makes me bloated.” Such are the common objections you’ll encounter among people when you’re trying to help them boost their fiber intake, likely because they may fear that increasing their dietary fiber will subsequently increase the potential for gastrointestinal side effects. Yet increasing fiber intake slowly while consuming plenty of fluids can help people more readily tolerate a higher fiber intake.^{8,9}

“People may be hesitant to increase fiber because of barriers or concerns, so you need to break down the education to help people take the next step,” Crandall says.

2. Cut through the confusion. Fiber can be a puzzling concept. RDs tell their clients to eat more plant foods to increase fiber, but when it comes to fiber, all plant foods are not created equal. Clients may think they’re doing fine in the fiber department, but if they’re not choosing high-fiber plant foods such as whole grains and legumes, they could be getting minimal intake.⁶ In addition, many people think they should be avoiding all carbs for optimal health and weight, without differentiating between refined and minimally processed carbs. Telling clients specifically which foods to eat in order to achieve fiber goals as well as teaching them how to read food labels to differentiate between grams of carbohydrates, sugar, and fiber can help clear up any confusion.

“People are confused,” Crandall says. “They think that a salad every night gives them a lot of fiber, but it may only provide 2 or 3 g, and they need to get more.”

3. Don’t underestimate challenges. As dietitians, it’s easy to say that meeting your fiber goal is a breeze. But when was the last time we as RDs took our own 24-hour food recall and analyzed it for fiber intake? Studies show that Americans are meeting approximately half of the Adequate Intake of fiber, but getting 25 to 38 g of fiber per day can be a challenge for anyone. Dietary restrictions, such as weight-loss diets with lower carbohydrate intake, can make getting enough fiber even more difficult.⁹

“Meeting fiber needs isn’t as simple as we think it is. We need to help people by offering them lots of solutions,” says Slavin, who suggests that fiber-enriched foods may be one way to add needed grams to their diet if clients are having difficulty meeting the daily Dietary Reference Intake levels.

4. Demystify whole grains. Whole grains are one of the best sources of fiber, but “the whole grain message is confusing,” Slavin says. “There are many new whole grain food products that are really low in fiber. Foods such as cookies and breakfast cereals may say they have whole grains in them, but they can be low in fiber.”

So educate your patients on methods for identifying whole grains, such as looking for the Whole Grains Council’s Whole Grain Stamp on food labels that indicate they are a good source of whole grains.¹¹ However, keep in mind that the Whole Grain Stamp indicates that a product is a good source of whole grains; it establishes no criteria regarding other ingredients added to foods, such as sugar or fat.

5. Keep it practical. Move beyond a lecture on how good fiber is for the body. Tell patients how they can incorporate fiber into their diets. “People need practical tips on how to eat more high-fiber foods, such as pulling out a vegetable tray from the refrigerator, how to look for whole grains, examples of using beans on salads, and which fruits, such as berries, are high in fiber,” Crandall says.

6. Keep it simple. As much as RDs want clients to eat a minimally processed, whole-foods diet that’s naturally rich in fiber, it’s just not going to happen for many people. It’s an RD’s job to meet clients where they are and give them simple methods that will work, whether it’s finding the perfect breakfast cereal the whole family likes or suggesting portable high-fiber snacks, such as snap peas or bananas, Crandall says.

7. Be specific. Instead of general recommendations, Crandall suggests that RDs give patients specific suggestions—down to the actual brand of foods or type of whole grain or fruit—they should eat every day (see lists under subhead “Pushing Fiber, One Meal at a Time”).

“For example, tell them to have oatmeal for breakfast, add bell peppers and mushrooms to scrambled eggs, or have berries with yogurt,” Crandall says.

8. Suggest fiber extras. Offer tips for regularly increasing fiber every day through the addition of “extras”, such as 1 oz of flaxseed sprinkled on foods for an extra 8 g of fiber or a high-fiber granola bar providing 5 g of fiber as a routine snack.

Pushing Fiber, One Meal at a Time

Another practical way to encourage clients to eat more fiber is to break down their fiber goals one meal or snack at a time. “Micromanage your patients’ fiber intake; help them plan how they will get sources through the day. Break it up into 7 to 10 g of fiber per meal. Focus on fiber-rich foods at breakfast, lunch, and dinner,” suggests Crandall.

These daily menu tips will help boost your clients’ fiber intake one meal at a time:

High-Fiber Breakfast Foods

- Whole grain hot cereals, such as oats (2 g fiber per 1/2 cup)
- Whole grain and/or high-fiber cold cereal, such as Kellogg's All Bran (10 g fiber per 1/2 cup), Fiber One (14 g fiber per 1/2 cup), Kashi Go Lean Crunch cereal (6 g fiber per 3/4 cup)
- Whole grain breads, such as Oroweat Double Fiber (5 g fiber per slice), and Nature's Own Double Fiber (5 g fiber per slice)
- Whole grain and/or high-fiber bagels, English muffins, waffles, and pancakes, such as Kellogg's Eggo FiberPlus Calcium Waffles (4.5 g fiber per waffle) and Oroweat Double Fiber English Muffins (8 g fiber per muffin)
- High-fiber fruits, such as raspberries (4 g fiber per 1/2 cup), blueberries (4 g fiber per 1/2 cup), and strawberries (3 g fiber per 1 cup)
- Whole grain and/or high-fiber muffins, such as bran muffins (3 g fiber per small muffin)
- Sprinkle nuts and seeds over cereals, such as almonds (4 g fiber per 1 oz) and flaxseed (8 g fiber per 1 oz)
- High-fiber yogurts, such as Dannon Light n' Fit with Fiber (3 g fiber per 4 oz) and Fiber One (5 g fiber per 4 oz)

High-Fiber Lunch Foods

- Sandwiches made with whole grain and/or high-fiber breads, such as Sara Lee Delightful 100% Whole Wheat With Honey (2.5 g fiber per slice)
- Sliced tomatoes on sandwiches or salads (2 g fiber per small tomato)
- Fresh vegetables, such as baby carrots (2 g fiber per 3-oz serving) and snow peas (3 g fiber per 1 cup)
- High-fiber bean, lentil, or vegetable soup, such as Progresso High Fiber Homestyle Minestrone (7 g fiber per 1/2 cup)
- Cooked beans or lentils added to soups, wraps, or salads, such as kidney beans (7 g fiber per 1/2 cup)
- Fresh fruit, such as bananas (3 g fiber per small banana) or apples (4 g fiber per small apple)
- Nut butter on bread or crackers, such as peanut butter (3 g fiber per 2 T)

High-Fiber Dinner Foods

- Whole grain side dishes, such as whole wheat spaghetti noodles (3 g fiber per 1/2 cup), bulgur (4 g fiber per 1/2 cup), and quinoa (3 g fiber per 1/2 cup)
- Beans and lentils in soups, side dishes, stews, and entrées, such as white beans (6 g fiber per 1/2 cup), lentils (8 g fiber per 1/2 cup) and chickpeas (6 g fiber per 1/2 cup)
- Fresh or cooked vegetables, such as artichokes (7 g fiber per 1/2 cup), mixed vegetables (4 g fiber per 1/2 cup), and broccoli (3 g fiber per 1/2 cup)
- Baked potatoes with skin (5 g fiber per medium potato)
- Whole grain and/or high-fiber rolls and crackers, such as Wasa Fiber Crispbread (6 g fiber per 3 slices)

High-Fiber Snack Foods

- Fresh fruit, such as pears (5 g fiber per small pear) and oranges (4 g fiber per large orange) as snack or added to cottage cheese or yogurt.
- Dried fruit, such as dates (7 g fiber per ½ cup) and figs (4 g fiber per 2 dried figs)
- Fresh veggies, such as edamame (6 g fiber per ½ cup), bell peppers (3 g fiber per cup), and celery (2 g fiber per 110 gram serving)
- Nuts and seeds, such as walnuts (2 g fiber per ounce) and sunflower seeds (2 g fiber per ounce)
- Whole grain and/or high-fiber granola or nutrition bars, such as Fiber One Oats & Peanut Butter Bar (9 g fiber each) and Kellogg’s Fiber Plus Dark Chocolate Almond Bar (7 g fiber per bar)
- Whole grain and/or high-fiber crackers, such as Ry Krisp (6 g fiber per 4 crackers)

High-Fiber Foods List

Offer your patients this shopping list, created by expert Jessica Crandall, RD, CDE, before their next trip to the supermarket.

	Food Brand	Serving	Calories	Protein	Fiber
Bread	Oroweat Whole Grain Active Health	1 slice	90	4	5
	Oroweat Double Fiber	1 slice	80	4	5
	Oroweat Light 100% Whole Wheat	2 slices	80	4	7

	Sara Lee Delightful 100% Whole Wheat With Honey	2 slices	90	6	5
	Milton's Whole Grain Plus	1 slice	120	5	4
	Pepperidge Farm Double Fiber Soft 100% Whole Wheat	1 slice	100	4	6
	Thomas' Light Multi-Grain English Muffin	1 muffin	100	5	8
Wrap	Mission Multigrain Tortillas PLUS!	1 tortilla	140	5	5
	LaTortilla Factory Smart & Delicious Low Carb High Fiber Tortillas	1 tortilla	80	8	12
	Light Flatout Wraps	1 flatbread	90	9	9
Cereal	Fiber One Cereal (Original)	1/2 cup	60	2	14
	All Bran (Original)	1/2 cup	80	4	10
	Kashi Go Lean	1/2 cup	70	6.5	5
	Nature's Path Organic Optimum Slim	1/2 cup	105	4.5	4.5
	Benefit Nutrition Simply Fiber Crunchy O's	1/2 cup	75	3	10
	Barbara's Bakery Puffins, original or cinnamon	27 g	90	2	5
Crackers	WASA Fiber Crispbread	3 slices	105	3	6
	RY Krisp Multi-Grain Crackers	2 crackers	50	2	3
	Kellogg's All Bran Multi-Grain Crackers	18 crackers	120	3	5
	AK-MAK 100% Whole Wheat Crackers	5 crackers (1 oz)	115	5	4
	Triscuit Thin Crisps	15 crackers	130	3	3
	Wheat Thins Fiber Selects, Five Grain	1.1 oz	120	2	5
Rice/Pasta	Uncle Ben's Ready Rice Whole Grain Brown Rice	1 cup	190	5	3
	Success Brown Rice	1/2 cup	150	4	2
	Minute Whole Grain Brown Rice	1/2 cup	150	3	2
	Hodgson Mills Whole Wheat Couscous	1/3 cup	210	8	5
	Heartland 100% Whole Wheat Spaghetti	2 oz	210	7	5
	Ronzoni Healthy Harvest Spaghetti	2 oz	180	7	6

	Barilla Whole Grain Spaghetti	2 oz	200	7	6
Beans	Rosarita No Fat Refried Beans	1/2 cup	100	6	6
	Seapoint Farms Frozen Edamame Pods	1/2 cup	100	8	4
	Seapoint Farms Roasted Edamame	1/4 cup	130	14	8

A Place for Fiber Supplements

Consider suggesting fiber supplements to your patients to help them meet their daily fiber goals as well as to control bowel irregularity, reduce appetite, and lower blood sugar and cholesterol levels.¹¹⁻¹³ “Fiber supplements have their place for helping certain people meet their goals. Some patients may find vegetables disgusting because of texture aversions, or you may have a bariatric patient or diabetic patient with limited carbohydrate intake that may have a difficult time meeting their fiber goals,” Crandall says.

Fiber supplements, available in powder, tablet, capsule, or water forms, contain differing amounts of soluble fiber per dose. The general recommendation is a maximum of 10 g of fiber per day from a fiber supplement, according to Crandall. Dosages should be evenly dispersed throughout the day, with no more than 3 to 5 g taken per serving. Patients should start fiber supplements with small doses at first, with plenty of water, and work their way up to the recommended dose.

Type of Fiber	Details	Effects	Brand Names
Psyllium	<ul style="list-style-type: none"> • Plant fiber • Breaks down in the gut and becomes a food source for “good bacteria” 	<ul style="list-style-type: none"> • Bulks stool • May lower cholesterol levels by 10% to 15% 	Metamucil, Fiberall, Hydrocil, Konsyl, Perdiem, Serutan
Methylcellulose	<ul style="list-style-type: none"> • Created from plants • Not absorbed by the intestinal tract • Absorbs water 	<ul style="list-style-type: none"> • Creates a softer stool • Less likely to cause gas 	Citrucel
Calcium polycarbophil	<ul style="list-style-type: none"> • Synthetic ingredients • Not absorbed by the intestinal tract • Absorbs water 	<ul style="list-style-type: none"> • Creates a bulkier and softer stool • Less likely to cause bloating 	Fibercon, Fiber-Lax, Equalactin, Mitrolan
Partially hydrolyzed	<ul style="list-style-type: none"> • Seed of the cluster bean 	<ul style="list-style-type: none"> • Increases production 	• Benefiber (chewable)

guar gum		of beneficial bacteria in the gut • Reduces diarrhea	s with calcium)
Wheat dextrin	• By-product of gluten being extracted from wheat	• Reduces cholesterol, improves immune system function, and improves vitamin and mineral absorption	• Benefiber (powder and caplets)
Acacia fiber	• From the gum of the acacia tree • Marketed as a prebiotic, which means that it increases good gut flora	• Slows down colonic fermentation, which decreases gas and bloating • Contains no gluten, sugar, salt, corn, soy, or yeast	Heather's Tummy Fiber

Your patients have much to gain by achieving their fiber goals. To meet their fiber challenge head on, equip them with the skills they need to boost their intake, starting with basic education on digestion and moving up to identifying fiber sources in food products.

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Resources

- Bell Institute of Health and Nutrition: www.bellinstitute.com
- International Food Information Food Council: www.foodinsight.org
- Institute of Food Technologists: www.ift.org

- International Nut & Dried Fruit Council: www.nutfruit.org
- National Fiber Council: www.nationalfiberCouncil.org
- Nut Health: www.nuthealth.org
- Produce For Better Health Foundation: www.pbhFoundation.org
- US Dry Bean Council: www.usdrybeans.com
- Wheat Foods Council: www.wheatfoods.org
- Whole Grains Council: www.wholegrainsCouncil.org

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Examination

1. What is the daily adequate intake of fiber for women and men, respectively?

- A. 38 and 25 g
- B. 25 and 38
- C. 30 and 50
- D. 50 and 30

2. Which category of whole foods contains the most fiber?

- A. Legumes
- B. Fruits
- C. Whole grains
- D. Vegetables

3. Supported by scientific evidence, which of the following is a health-protective benefit of fiber?

- A. Increases satiety
- B. Promotes healthy laxation
- C. Helps prevent cardiovascular disease, obesity, and type 2 diabetes.
- D. All of the above

4. Children generally have an adequate fiber intake.

- A. True
- B. False

5. Fiber plays an important role in weight loss.

- A. True
- B. False

6. Which of the following is a good source of soluble fiber?

- A. Barley
- B. Green beans
- C. Lettuce
- D. Yogurt

7. Which of the following is a good source of insoluble fiber?

- A. Cottage cheese
- B. Oats
- C. Whole wheat bread
- D. Mashed potatoes

8. Which type of fiber is linked to lowering cholesterol levels?

- A. Insoluble
- B. Soluble
- C. Nondigestible oligosaccharides
- D. Inulin

9. Which type of fiber should be most prevalent in the diet?

- A. Insoluble
- B. Soluble
- C. Nondigestible oligosaccharides
- D. A variety of all kinds of fiber

10. What is a viable option for patients who cannot consume fiber due to special dietary restrictions that limit their carbohydrate intake?

- A. Use fiber supplements.
- B. Continue to restrict fiber intake, regardless of general recommendations for health.
- C. Ignore dietary restrictions and increase fiber-containing carbohydrate foods.