

Filling the Fiber Gap

A One-hour Continuing Education Webinar

Introduction by:

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Suggested CDR Learning Codes: 2000, 2020, 2070, 4000, 4030, 4040, 5460, 6010, 8090; Level 2

Learning Objectives:

- List reasons why Americans tend to fall short on fiber intake.
- Name different types of fiber and identify sources of each.
- Identify specific health benefits resulting from satisfactory fiber consumption.
- Assist patients in filling their fiber gaps at meals and snacks.
- Identify opportunities to offer fiber supplementation as appropriate for certain populations.

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Filling the **Fiber** Gap

A Webinar by Sharon Palmer, RD



As a dietitian, you understand how important getting enough fiber is to your clients' health. Fiber has a range of health benefits, from maintaining proper digestion and elimination to lowering blood cholesterol and glucose levels. It's even linked with satiety and weight loss. Yet only five percent of Americans are meeting their goals. Our webinar gives you the tools to help your clients fill their fiber gaps.

Typical Western Diet



Typical Western Diet

Food	Portion Size	Calories	Fat	Carbohydrates	Fiber
Breakfast:					
White Toast	2 Slices (34g)	100 kcal	1.36 g	18.5 g	0.8 g
Butter	1 Pat (5 g)	36 kcal	4.06 g	0 g	0 g
Jam	1 Tbsp. (20 g)	56 kcal	0.01 g	13.77 g	0.2 g
Bacon	2 slices (47 g)	87 kcal	3.97 g	0.63 g	0 g
Eggs (scrambled)	1 Large egg (61 g)	91 kcal	6.70 g	0.98 g	0 g
Coffee (black)	1 Packet (2 g)	5 kcal	0.01 g	0.82 g	0 g
Lunch:					
McDonalds Hamburger	1 Item (105 g)	417 kcal	19.75 g	37.91 g	2.7 g
McDonalds French Fries	Small serving (71 g)	224 kcal	24.82 g	60.09 g	2.8 g
Cola	1 bottle (16 fl oz)	182 kcal	0.10 g	46.94 g	0 g
Dinner:					
Steak	4 oz (113.33 g)	303 kcal	20.05 g	0 g	0 g
Mashed Potatoes	1 cup (210 g)	237 kcal	8.86 g	35.30 g	3.2 g
Corn	.5 cup (70.5 g)	48.2 kcal	1.0 g	18.24 g	1.8 g
Ice Cream (chocolate)	0.5 cup (86 g)	191 kcal	11.18 g	19.09 g	0.6 g
DAILY TOTAL:	-----	1,977 kcal	101.87 g	252.27 g	12.1 g

“Healthy” Diet



“Healthy” Diet

Food	Portion Size	Calories	Fat	Carbohydrates	Fiber
Breakfast:					
Rolled Oats Cereal, Whole Wheat, with pecans	39 g	165 kcal	4.1 g	29.99 g	2.3 g
Milk (fat free)	1 cup (247 g)	86 kcal	0.44 g	11.98 g	0 g
Orange Juice	1 cup (248 g)	112 kcal	0.50 g	25.79 g	0.5 g
Banana (medium)	118 g	105 kcal	0.39 g	26.95 g	3.1 g
Hard Boiled Egg	50 g	78 kcal	5.3 g	0.56 g	0 g
Lunch:					
Caesar Salad: with Lettuce (Iceberg)	89 g	12 kcal	0.12 g	2.64 g	1.1 g
Chicken	156 g	238 kcal	6.34 g	0 g	0g
Croutons	14.2 g	66 kcal	2.60 g	9.02 g	0.7 g
Caesar Dressing	2 Tbsp (30 g)	163 kcal	17.36 g	0.99 g	0.2 g
French Roll	1 roll (38 g)	105 kcal	1.63 g	19.08 g	1.2 g
Oatmeal Cookie	1 large (18 g)	81 kcal	3.26 g	12.37 g	0.5 g
Cantaloupe Wedge	102 g	35 kcal	0.19 g	8.32 g	0.9 g
Dinner:					
Salmon	3 oz. (85 g)	261 kcal	6.38 g	0 g	0g
Brown Rice	1 cup (195 g)	216 kcal	1.76 g	44.77 g	3.5 g
Cream of Mushroom Soup	1 cup (252 g)	199 kcal	13.36 g	17.14 g	1.8 g
Tossed Salad	1 cup (55 g)	7 kcal	0.36 g	1.23 g	0.6 g
Vinaigrette	2 Tbsp (23.5 g)	20 kcal	1.4 g	5.79 g	0.1 g
Sherbet	0.5 cup (74 g)	107 kcal	1.48 g	22.5 g	1.0 g
DAILY TOTAL:	-----	2,056 kcal	66.97 g	239.12 g	17.5 g

High-Fiber Diet



High-Fiber Diet

Food	Portion Size	Calories	Fat	Carbohydrates	Fiber
Breakfast:					
Kellogg's All Bran Cereal	1/2 cup (31 g)	80 kcal	1 g	23 g	10 g
Milk (Fat Free)	1 cup (247 g)	86 kcal	0.44 g	11.98 g	0 g
Hard Boiled Egg	50 g	78 kcal	5.3 g	0.56 g	0 g
Tomato Juice	1 cup (242 g)	53 kcal	0.24 g	11.11 g	1.9 g
Lunch:					
Bean Burrito: Mission Whole Wheat Tortilla	49 g	130 kcal	2 g	24 g	4 g
Pinto Beans	1/4 cup (42.75 g)	61.25 kcal	0.28 g	11.21 g	3.85 g
Tomatoes	148 g	27 kcal	0.3 g	5.76 g	1.8 g
Avocado	1/4 cup (37.5 g)	60 kcal	5.5 g	3.2 g	2.5 g
Cilantro	1/8 cup (2 g)	0 kcal	0.01 g	0.07 g	0.1 g
Spinach	1 cup (30 g)	7 kcal	0.12 g	1.09 g	0.7 g
Sour Cream (reduced fat)	2 tbsp. (30 g)	40 kcal	3.6 g	1.28 g	0 g
Milk (fat free)	1 cup (247 g)	86 kcal	0.44g	11.98 g	0 g
Apple	242 g	126 kcal	0.41 g	33.42 g	5.6 g
Dinner:					
Barley Vegetable Soup	1 cup (246 g)	125 kcal	0.52 g	24.7 g	4.7 g
Stir Fry with Kale, Chicken,	1 cup (130 g)	39 kcal	0.64 g	6.8 g	2.6 g
and Quinoa	156 g	238 kcal	6.34 g	0 g	0 g
Asian Cole Slaw	1/2 cup (92.5 g)	111 kcal	1.78 g	19.7 g	2.6 g
Peach	1 cup	94 kcal	3.13 g	14.89 g	1.8 g
Peach	166 g	51 kcal	0.32 g	12.4 g	2.0 g
Snacks:					
Greek Yogurt (plain, non fat)	340 g	200 kcal	1.32 g	12.24 g	0 g
Banana (sliced)	100 g	89 kcal	0.33 g	22.84	2.6 g
DAILY TOTAL:	-----	1,781 kcal	32.7 g	252.23 g	45.75 g

Fiber Intake in the U.S.



Average intake of dietary fiber is very low—only 15 grams per day on average.



Only 5% of people are meeting their fiber recommendation.



Dietary Guidelines lists fiber as a “nutrient of concern”.



Adequate Intake is 14 grams per 1,000 calories—25 grams per day for women and 38 grams per day for men.

Why Are People Falling Short on Fiber?



- People aren't eating enough whole grains, legumes, fruits or vegetables—main source of dietary fiber in diet.
- Legumes, whole grains highest source of fiber, compared with most fruits and vegetables.
- For example, 1 cup lettuce has 1 g fiber; small potato with the skin has 2 g fiber.



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Fiber Content of Fruits

Fruits	Serving size	Total fiber (grams)
Raspberries	1 cup	8.0
Pear, with skin	1 medium	5.5
Apple, with skin	1 medium	4.4
Banana	1 medium	3.1
Orange	1 medium	3.1



Fiber Content of Grains

Grains	Serving size	Total fiber (grams)
Spaghetti, whole-wheat, cooked	1 cup	6.2
Barley, pearled, cooked	1 cup	6.0
Bran flakes	3/4 cup	5.3
Oatmeal, quick, regular or instant, cooked	1 cup	4.0
Popcorn, air-popped	3 cups	3.5



Fiber Content of Legumes, Nuts & Seeds

Legumes, nuts & seeds	Serving size	Total fiber (grams)
Split peas, cooked	1 cup	16.3
Lentils, cooked	1 cup	15.6
Black beans, cooked	1 cup	15.0
Sunflower seed kernels	1/4 cup	3.9
Almonds	1 ounce (23 nuts)	3.5



Fiber Content of Vegetables

Vegetables	Serving size	Total fiber (grams)
Peas, cooked	1 cup	8.8
Broccoli, boiled	1 cup	5.1
Turnip greens, boiled	1 cup	5.0
Sweet corn, cooked	1 cup	4.2
Potato with skin	1 small	3.0



Fiber Health Benefits



The health protective benefits for fiber include promoting a feeling of fullness and healthy laxation. In addition, dietary fiber that occurs naturally in foods may also help to reduce the risk of cardiovascular disease, obesity and type 2 diabetes. (Dietary Guidelines for Americans, 2010)

Laxation, digestive effects well known, but other benefits less publicized.

CHD and Fiber

Observational findings report lower incidence of CHD in people consuming high fiber diet.

Dietary fiber lowers risk through several factors:

- Soluble fiber decreases serum and total LDL cholesterol and improves insulin resistance.
- Effects on inflammatory markers and coagulation, but not well established.
- Overall evidence suggests food-based approach, favoring increased intake of whole grains, fruits, vegetables providing a mixture of fiber types.

(Erkkilä, et. al., J Cardiovasc Nurs. 2006)



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Diabetes and Fiber



- Studies show decreased glucose concentrations and decreasing all-cause mortality linked with fiber intake. (Hall, et. al., Consult Pharm. 2012)
- A diet rich in fiber from grains, fruits, and vegetables may help older men avoid getting diabetes, which may be in part because fiber aids liver function and reduces inflammation in the body. (Wannamethee, et. al., Diabetes Care, 2009)
- Fiber-containing foods, such as grains, fruits, and vegetables, can help protect against type 2 diabetes. While it's unclear how eating fiber may help, some studies suggest fiber can protect the liver, improve the body's ability to respond to insulin, and reduce inflammation. (American Diabetes Association)

Satiety and Weight Loss and Fiber

High-fiber foods:

- Have a much lower energy density compared with high-fat foods.
- Displace available calories and nutrients from the diet.
- Increase chewing, which limits intake by promoting the secretion of saliva and gastric juice, resulting in an expansion of the stomach and increased satiety.
- Reduces the absorption efficiency of the small intestine.

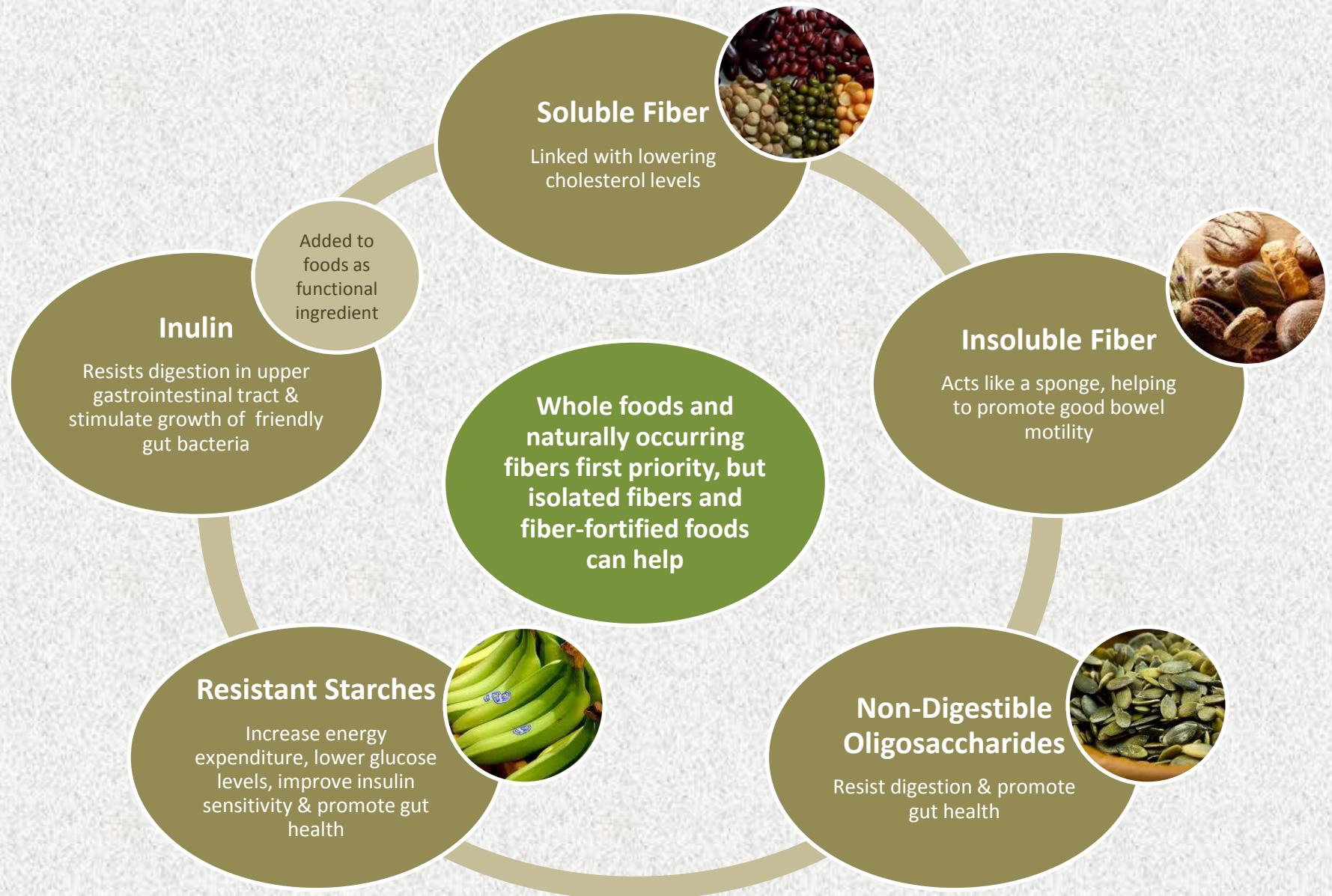
(Slavin, et. al., Nutrition Bulletin, 2007)



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All Types of Fiber Count



RD Fiber Knowledge Survey

Registered Dietitian Survey commissioned by Kellogg's

150 completed interviews with RDs with a broad range of backgrounds

Survey Results:

- Fiber is perceived as an under consumed nutrient of concern; low intake has a negative impact on human health.
- Calcium, fiber and whole grains dominate RDs' patient conversations when discussing increased consumption of nutrient-rich foods.
- RDs are confident in associating a wide range of benefits with increased fiber intake including heart health and satiety/weight control.
- RDs strongly support the practice of fortification when linked to a specific shortfall nutrient, such as fiber.
- A significant majority of RDs claim to be at least somewhat knowledgeable about the functional fibers used in food fortification.
- RDs express a high level of acceptance of the different forms of functional fibers.
- The meaning of "fiber-rich whole grains" (containing at least 3 grams of fiber per serving*) is not understood by most RDs.

*According to the FDA, at least 2.5 grams of fiber per serving of food provides a "good source."

Help Patients Meet Their Fiber Potential

- 1 • Dispel Myths about Fiber
- 2 • Clear up Confusions
- 3 • Don't Underestimate Challenges
- 4 • Push Whole Grains and Legumes
- 5 • Provide Sound Advice
- 6 • Offer Practical Tips
- 7 • Promote Simple Strategies
- 8 • Offer Specific Advice
- 9 • Set Fiber Goals at Meals
- 10 • Explain Breakfast Boost



Dispel Myths About Fiber



- For example, myths that fiber-rich foods cause gas and bloating.
- Educate on digestion and how fiber works in body.
- Evaluate any digestive or medical concerns that might contraindicate high fiber intake, such as IBS and Crohn's disease.
- Discuss recommendations for increasing fiber slowly, with appropriate hydration, to avoid gastric discomfort.



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Clear Up Confusions

- People may think they are getting a lot of fiber, but they may be falling short.
- Discuss labeling confusions such as “whole grains” and “high-fiber” labels.



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Don't Underestimate Challenges



- Difficult for people to meet fiber goals of 25 – 38 grams/day.
- Consider dietary restrictions, such as weight loss or carbohydrate control.



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Push Whole Grains and Legumes

- Clear up confusions on how to cook with whole grains and legumes.
- Educate on how to find whole grain foods, such as the Whole Grains Stamp.
- Offer practical information for shopping and cooking, such as what brand to choose.



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Provide Sound Advice



- Recommend consuming at least half your grains as whole grains. And, when choosing whole-grain foods, make sure they contain at least 3 grams of fiber per serving.
- Maximize grain-food choices: Aim to get more nutrients in fewer calories from whole grains and enriched grain foods like breads and cereals.
- Many foods contain dietary fiber—like fruits, vegetables, legumes, and grains—and there are different types of fiber that deliver benefits. It's important to get fiber from a variety of sources to maximize the health benefits of various types of fiber.

Offer Practical Tips

- Go beyond simple, generalized fiber instructions.
- Give menu suggestions, snack tips, and methods for how to achieve goals.
- Look at diet history and suggest specific foods to include in the diet that will work for the individual.



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Promote Simple Strategies



- May need to offer simple methods for some people to achieve goals, such as adding fortified foods, choosing a high-fiber cereal.
- Small steps in diet can make a big difference. Choose 2-3 foods, such as legumes, fruit, and ready-to-eat cereal, which have at least 3 grams of fiber per serving, every day to boost intake.
- Remember, every gram adds up.



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Offer Specific Advice

- Provide tips for methods of boosting fiber, such as adding flax, bran or a high-fiber bar.
- Suggest particular foods and brands at meal, such as a high-fiber bread.
- Provide advice about economical choices to get fiber, such as simple whole foods like beans, lentils, oats, and seasonal vegetables, instead of convenience forms of high-fiber foods, such as prepared cereals and bars.



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Set Fiber Goals at Meals



- Create fiber goals for each meal, such as 7 – 10 grams per meal.



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Explain Breakfast Boost

- Breakfast key opportunity to push fiber; cereal convenient method to increase fiber intake.
- Most whole grains are consumed at breakfast.
- Offer suggestions for cereals, breads, nuts, fruits, and vegetables.



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Breakfast High-Fiber Foods



Whole grain and/or high-fiber cold cereal, such as oats (2 g fiber per ½ cup), Kellogg's All Bran (10 g fiber per ½ cup), Fiber One (14 g fiber per ½ cup), Kashi Go Lean Crunch Cereal (6 g fiber per ¾ cup), Chex Multi-Bran (6 grams per ¾-cup serving)



Whole grain and/or high-fiber breads, bagels, English muffins, waffles, and pancakes, such as Oroweat Double Fiber (5 g fiber per slice), Nature's Own Double Fiber (5 g fiber per slice), Eggo FiberPlus Calcium Waffles (5 g fiber per waffle) and Oroweat Double Fiber English Muffins (4 g fiber per ½ slice)



High-fiber fruits, such as raspberries (4 g fiber per ½ cup), blueberries (4 g fiber per ½ cup), and strawberries (3 g fiber per 1 c)



Whole grain and/or high-fiber muffins, such as bran muffins (3 g fiber per small muffin)



Nuts and seeds sprinkled over cereals, such as almonds (4 g fiber per ounce) and flaxseed (8 g fiber per ounce)



High-fiber yogurts, such as Dannon Light n' Fit with Fiber Yogurt (3 g fiber per 4 oz) and Fiber One Yogurt (5 g fiber per 4 oz)

Lunch High-Fiber Foods



Sandwiches made with whole grain and/or high-fiber breads such as Sarah Lee Delightful 100% Whole Wheat (3 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 85 g serving), snow peas (3 g fiber per 1 cup) and fruit, such as bananas (3 g fiber per small banana) or apples (4 g fiber per small apple)



High-fiber bean, lentil or vegetable soup, such as Progresso High Fiber Minestrone Soup (7 g fiber per 1 cup)



Cooked beans or lentils added to soups, wraps, or salads, such as kidney beans (7 g fiber per ½ cup)



Nut butter on bread or crackers, such as peanut butter (3 g fiber per 2 Tbsp)

Dinner High-Fiber Foods



Whole grain side dishes, such as whole-wheat spaghetti noodles (3 g fiber per ½ cup), bulgur (4 g fiber per ½ cup), and quinoa (3 g fiber per ½ cup)



Beans and lentils in soups, side dishes, stews and entrees, such as white beans (6 g fiber per ½ cup), lentils (8 g fiber per ½ cup) and chickpeas (6 g fiber per ½ cup)



Fresh or cooked vegetables, such as artichoke (7 g fiber per ½ cup), mixed vegetables (4 g fiber per ½ cup), and broccoli (3 g fiber per ½ cup)



Baked potatoes with skin (5 grams fiber each)



Whole grain and/or high-fiber rolls and crackers such as Wasa Fiber Crispbread (6 g fiber per 3 slices)

Snack High-Fiber 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)

Fiber Supplements



- Fiber supplements, available in powder, tablet, or foods, contain differing amounts of soluble fiber per dose.
- The general recommendation is a maximum of 10 grams of fiber per day from a fiber supplement.
- Dosages should be evenly dispersed throughout the day, with no more than 3 to 5 grams 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.

Fiber supplement chart available in downloadable form for handouts.



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Today's Dietitian's Results are in!

Dietitians gave us their best tips for helping patients meet fiber gaps:

Rinse black beans and toss in a salad or soup to increase fiber and protein. Add beans to a whole grain tortilla, light cheese and salsa...add a piece of fresh fruit and enjoy!



Baretta Schmeissner, RD

Sprinkle chia seeds into oatmeal, yogurt, smoothies, eggs, sauces, sandwiches, and pancake mix, etc.! 1tablespoon = approximately 5g fiber.



Cara Lowenthal, RD

A great way to add fiber and omega 3 fatty acids is to add 1-2 tablespoons of ground flax seed to your breakfast cereal, yogurt, homemade muffins, and breads. Remember flax seed contains fat and should be kept in the refrigerator to prevent spoilage.



Lynne Kingsley, RD, LDN

Encourage switching out fruit juice for whole fruit and using celery to address crunchy cravings!



Catherine Grych, RD

Mix a cup of high fiber cereal with 1/4 cup of your favorite dry fruits such as cranberries and 1/4 cup of nuts such as whole almonds. I keep [this mixture] in my bag as a snack.



Lena Felfel, RD

Today's Dietitian's Results Cont.

Bake with beans! Lentils or black beans ground into a puree adds fiber and moisture instead of adding a lot of oil or butter.



Yvonne Tapper-Gardzina
MS, RD, LN

Blend or juice several fruits or veggies together daily with ground flax-seed meal for a power pack punch of fiber and nutrients.



Andrea Stewart, RD

Make a parfait of [bran cereal], sliced fruit and Greek yogurt. The best trick is to let it sit overnight or for a few hours for the [bran cereal] to soften; then it is like a cheesecake, but full of fiber, protein, and taste!



Karen Omichinski
RD, CDE

Eat the rainbow! Get as many different color fruits and veggies as you can— including the peel!



Tina Gowin, RD

My patients are on dialysis so they have to stay away from whole grains. I recommend whole fruits instead of juice— apples, pears, and berries, for example.



Lauren Fanelli, RD

Supplemental Materials

Click the “Reference” tab on CE.TodaysDietitian.com for supplemental materials associated with this webinar including:

- Slideshow PDF
- Recorded Webinar via YouTube
- Fiber Content of Foods Handout
- High-Fiber Foods Handout
- Fiber Supplements Handout
- Fiber Tips for Patients Handout



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