

Fiber for Inflammatory Bowel Disease (IBD)

For Registered Dietitians and Patients

What is Fiber?

Fiber is defined as the part of plants that is resistant to digestion in the intestines. Dietary sources of fiber include:

- Fruits
- Vegetables
- Beans & legumes
- Whole grains
- Nuts & seeds



There are two forms of fiber in the diet: soluble and insoluble fiber.

Soluble Fiber

- Dissolves in water
- Forms a gel during digestion and softens the stool
- Helpful for both diarrhea and constipation
- Examples include: bananas, refined grains, fruits without the peel (i.e. apples without skin)

Rule of thumb: Soluble = like a sponge, dissolves in water

Insoluble Fiber

- Does not dissolve in water
- Mechanically agitates the walls of the colon, increases the speed at which stool moves through the colon
- Helpful for constipation
- Examples include whole grains, fruits with skin, kale, and broccoli

Rule of thumb: Insoluble = like a street sweeper, does not dissolve in water

Why is Fiber Important?

Dietary fiber is important for health and digestion, and plays many roles in the body¹, including:

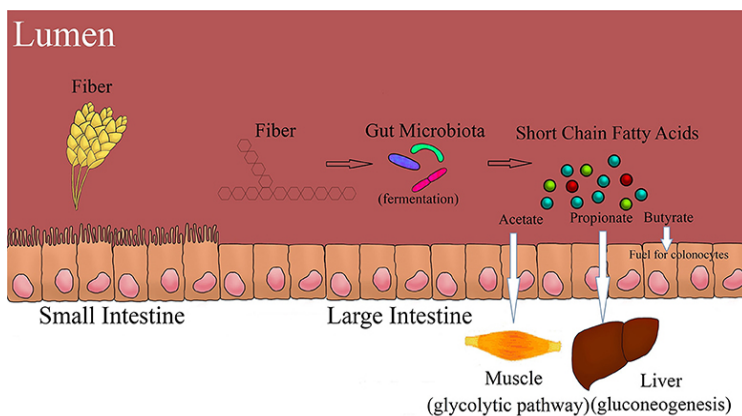


- Providing energy for the cells in our intestines
- Helping us feel full after a meal
- Feeding our gut microbes
- Maintaining a healthy balance of bacteria

- Protecting the mucus layer of the GI tract

Photo by Markus Spiske from Unsplash

When we eat fiber, bacteria in our gut feast on the fiber through a process called fermentation. As a result of fermentation, substances called short-chain fatty acids (SCFAs) are produced. These SCFAs are important because they provide fuel to the cells of our large intestine. The image below helps demonstrate how fiber converts to SCFAs.



Fiber is beneficial because in the process of producing these SCFAs, it feeds our gut microbes, or healthy bacteria.

Research shows that these *gut microbes* are important for¹:

- Supporting our immune system
- Protecting the intestines against invaders
- Regulating inflammation.

2. Jha R, Foughse JM, Tiwari UP, Li L, Willing BP. Dietary Fiber and Intestinal Health of Monogastric Animals. *Front Vet Sci.* 2019;6:48.

By feeding these microbes with fiber, it is thought that we may help improve the balance of bacteria in the gut, which in turn may improve our overall gastrointestinal health.

Why is Fiber Important in IBD?

It is very common for patients with IBD to restrict their fiber. This can lead to over-restriction in the diet, significant overwhelm, and negatively impacts quality of life. While there are times where a low fiber diet may be beneficial in IBD, the long-term goal is to consume a moderate to high fiber diet, meeting the Recommended Dietary Allowance (RDA) set by the National Academies of Sciences of 25g per day for adult females and 38g per day for adult males³ at minimum and increasing daily fiber consumption beyond the RDAs as tolerated.

In addition to the benefits mentioned above, fiber has been associated with the following benefits in IBD⁴:

- Reduction of flares, particularly in Crohn's disease
- Increased time between flares
- Reduced pouchitis in UC



- Increased short-chain fatty acids (SCFA)

How to Incorporate More Fiber in your Diet

Your ability to tolerate certain quantities and forms of fiber (i.e. larger sized particles of insoluble fiber) may change depending on whether you are in a flare or in remission, however, you can still meet adequate fiber recommendations regardless of your disease state. The following recommendations may help guide you in modifying your fiber intake for increased tolerability, according to which phase of your disease you're experiencing.

Phase I: When experiencing an active flare, stricturing disease, or high ostomy output

During active inflammation, *is it recommended to modify the texture of food sources of fiber in your diet*⁵ so you may maintain healthy levels of fiber in your diet with less discomfort by helping to reduce or modify the fiber's particle size.. The following chart lists foods that contain fiber by category, differentiating between forms of these foods that should be well tolerated during a flare as well as those to incorporate in your diet more often once you return to remission. Be sure to include proteins and dairy/calcium-containing foods throughout your day to meet your nutrition goals. *Note: animal proteins may be best tolerated if ground or soft-cooked, and lactose-free dairy and perhaps low-fat or fat-free varieties may be better tolerated if experiencing diarrhea or when in a flare.*

Foods That Contain Fiber

Fruits		Vegetables	Grains	Proteins
<u>In a Flare:</u> ● Apples (peeled, baked, or applesauce) ● Apricots (peeled) ● Avocado ● Bananas ● Canned peaches or mandarins ● Cantaloupe ● Citrus, membrane removed ● Honeydew		<u>In a Flare:</u> <u>Cooked to fork-tender:</u> ● Asparagus (tips only) ● Bok Choy ● Carrots ● Eggplant (no skin) ● Green beans ● Parsnips (no skin) ● Potato (no skin)	<u>In a Flare:</u> ● Breads - white bread, sourdough, english muffin, bagels, pancakes, plain pita, waffles ● Cereals - rice based cereals, corn flake cereal, cream of wheat, cream of rice, creamed buckwheat	<u>In a Flare:</u> <u>Nuts and Seeds</u> ● Nut butters - peanut, almond, cashew, etc. ● Nut flours - almond, pecan, macadamia, etc. ● Seeds - ground flaxseed*, chia*, hemp, etc. ● Seed butters - pumpkin,

• Mango • Papaya • Peaches, nectarines, or plums (skin removed) • Pear, skin removed • Watermelon (without seeds) • Fruit juices in moderation (diluted, strained)		• Sweet potato (no skin) • Yellow squash (no seeds) <i>May be eaten raw:</i> • Arugula • Bibb, butterleaf, or boston lettuce • Cucumber, peeled and seeds removed (Persian cucumbers may be eaten raw) • Zucchini	• Crackers (white) - saltines, pretzels, rice cakes • Grits • Oats - instant, flour • Pasta • Rice - white rice, cream of rice, noodles	sunflower, etc. <i>Plant proteins</i> • Firm tofu • Seitan • Pureed beans - hummus, bean dips, pureed soups *Note: ground flaxseed and chia seeds should be used in moderation during flare.
<u>In Remission:</u> <i>Include fruits with the skin on or with seeds</i> • Apples (skin on) • Blackberries • Blueberries • Cherries • Dried fruit • Kiwi • Nectarines (skin on) • Peaches (skin on) • Pears (skin on) • Pineapple • Plums (skin on) • Strawberries		<u>In Remission:</u> <i>Include vegetables with skin on</i> • Cabbage • Corn • Kale • Mushrooms • Okra • Peppers • Potatoes (skin on) • Snap peas • Spinach • Sweet Potatoes (skin on)	<u>In Remission:</u> <i>Include whole grains, or unrefined forms of grains</i> • Breads - whole wheat, whole grain, seeded • Cereals - high fiber cereals made with wheat • Crackers - whole wheat • Whole grains - oats (steel cut, rolled), brown rice, wild rice, whole wheat, popcorn, rye, bulgur	<u>In Remission:</u> <i>Nuts and Seeds</i> • Whole nuts - almonds, walnuts, hazelnuts, peanuts, etc. • Whole seeds - chia, hemp, ground flax, etc. <i>Plant proteins</i> • Firm tofu • Tempeh • Beans and pulses - cannellini, chickpeas, lentils, black beans, pinto beans, etc.

Phase II: When transitioning out of a flare

As your gastrointestinal symptoms improve and you transition out of a flare, it is recommended to ***increase fiber as tolerated***. Approach this next phase by including more food sources of fiber in your diet in their whole form but texture modified, such as peeled and cooked vegetables, peeled fruits, and blended nuts and seeds.

Tips to Transition to More Fiber:

- Go slow and steady:
 - Aim for 4-6 small meals and snacks per day. Smaller portions will be better tolerated as your body adjusts to more fiber
 - Stay hydrated. Your fluid needs will increase along with increased fiber intake, and your fluid needs change depending on level of physical activity, if having increased sweating or fluid loss, and/or with loose stool or high ostomy output. An easy way to know if you are hydrated is to monitor the color of your urine: if adequately hydrated, urine will be pale yellow, clear, and not similar in color to apple juice.
 - Increase fiber as tolerated (*see Foods That Contain Fiber chart above*)
- **Step 1: Increase fiber with more fruits and vegetables in pureed or blended forms** - the smaller particle size of fiber found in pureed or blended foods requires less work for our digestive system to break down. This is a helpful strategy as your body adapts to more fiber:
 - Pureed soups (e.g., pureed black bean soup, cream of potato, etc.)
 - Smoothies (e.g., strawberry banana, mixed berry, etc.)
 - Pureed vegetables (e.g., pureed sweet potato, mashed cauliflower, etc.)
- **Step 2: If pureed fruits or vegetables are well tolerated, try fruits or vegetables cooked to fork-tender.**
 - Vegetables (e.g., sauteed kale, steamed broccoli, sweet potato with the skin, etc.)
 - Fruits (e.g., baked apples, poached pear, etc.)
- **Step 3: If cooked forms are well tolerated, then add one serving of fiber-rich foods at a time:**
 - Vegetables (e.g., peppers, snap peas, etc.)
 - Fruits (e.g., blackberries, raspberries, blueberries, etc.)
 - Nuts and Seeds (e.g., almonds, walnuts, peanuts, etc.)

Be sure to continue to include proteins and dairy/calcium-containing foods throughout your day to meet your nutrition goals. *Note: animal proteins may be best tolerated if ground or soft-cooked as your digestion improves, and lactose-free dairy and perhaps low-fat or fat-free varieties may be better tolerated if experiencing diarrhea.*

Phase II: When transitioning out of a flare

As you are feeling better or your inflammation improves, your tolerance for high fiber foods will likely increase. The visual below provides some examples of how you may scale your fiber intake:

	In a Flare	Transitioning out of Flare	In Remission
Leafy Greens <i>Increase by ½ to 1 cup per day every 1 to 3 days</i>			
Berries <i>Increase by ¼ to ⅓ cup per day every 1 to 3 days</i>			
Beans and Pulses <i>Increase by ⅛ to ¼ cup per day every 1 to 3 days</i>			
Nuts and Seeds <i>Increase by 1 tbsp per day every 1 to 3 days</i>			

Grains

*Increase by 1 slice bread
or ½ cup per day every 1
to 3 days*



Phase III: When in remission

The goal of nutrition in remission is to maintain as diverse a diet as possible, with a moderate to high fiber intake. By gradually reintroducing fiber-rich foods and foods in their whole form to your diet, you will expand your food options and find what works best for your body. With time, you may find that certain foods are better suited for certain symptoms, and when you are feeling your best, many of the foods above may be a regular part of your diet. Continue to consume proteins and dairy/calcium-containing foods throughout your day as well to meet your nutrition goals.



References:

1. Haskey N, Gold SL, Faith JJ, Raman M. To Fiber or Not to Fiber: The Swinging Pendulum of Fiber Supplementation in Patients with Inflammatory Bowel Disease. *Nutrients*. 2023;15(5):1080.
2. Jha R, Foughse JM, Tiwari UP, Li L, Willing BP. Dietary Fiber and Intestinal Health of Monogastric Animals. *Front Vet Sci*. 2019;6:48.
3. Dietary Reference Intakes for energy, carbohydrate, fiber, fat, fatty acids, cholesterol, protein, and amino acids (macronutrients). National Academies of Sciences, Engineering, and Medicine. <https://nap.nationalacademies.org/read/10490/chapter/1>
4. Bischoff S.C., Bager P., Escher J., Forbes A., Hébuterne X., Hvas C.L., Joly F., Klek S., Krznaric Z., Ockenga J., et al. ESPEN guideline on Clinical Nutrition in inflammatory bowel disease. *Clin. Nutr*. 2023;42:352–379.
5. Lomer M.C.E., Wilson B., Wall C.L. British Dietetic Association consensus guidelines on the nutritional assessment and dietary management of patients with inflammatory bowel disease. *J. Hum. Nutr. Diet*. 2022;36:336–377.

Disclaimer

The content found in this handout is intended for informational purposes only and is not intended to serve as a substitute for the consultation, diagnosis, and/or medical treatment of a qualified physician or healthcare

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This handout was created by Lauren Cornell, MS, RDN, and reviewed by Laura Manning, RDN members of the Dietitians in Gluten and Gastrointestinal Disorders (DIGID), a subunit of Dietitians in Medical Nutrition Therapy Dietetic Practice Group. Copyright © 2025 Dietitians in Medical Nutrition Therapy. All Rights reserved