

Gut Health - FIBER

March 2019

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This information has not been evaluated by the FDA and therefore is not intended for prevention, treatment or cure for any medical disease or condition.

It starts with WATER

- **In general, average people need at least 8 cups a day.**
- **You should try to drink every day between half an ounce and an ounce of water for each pound you weigh.**
- **So if you weigh 150 pounds, that would be between 75 to 150 ounces of water a day.**

Constipation- biggest reasons

- **Lack of water**
- **Lack of fiber**
- **Deficiency of magnesium**
- **Hypothyroid**

How Often?

- The amount of bowel movements a day varies from person to person, so there is not one specific number that is considered completely “normal”.
- However, most experts agree that it’s important to have a bowel movement at least *three or more times per week at a minimum*. Any less than this indicates that you are constipated.
- Above all, you want to make sure things are consistent from day to day.
- Generally, going once or twice a day is considered normal.
- Going every other day can be considered “normal”, as long as you feel comfortable and are not experiencing pain in your abdomen.
- It may be normal for one person to go two times per day, and for another person to go once every other day.

A slow gut transit time has a negative effect on your health.

- **The bacteria run out of carbs to consume and start to feed on any leftover protein instead.**
- **This changes the by-products. So, rather than the bowel-restoring compounds produced, they instead generate by-products from protein degradation such as ammonia and sulphur compounds, which at high concentrations damage the cells of the bowel integrity.**
- **The lack of dietary fiber means the bacteria start to feed on the protective mucus layer of our intestinal cells, causing it to become thinner.**
- **A thinner mucus layer makes the intestinal cells more prone to DNA mutations, thus increasing the risk of developing colorectal cancer.**

What and how much you feed the bacteria already inhabiting your gut is more important than introducing new strains.

Your biome can change by the season, by the week, or even by the meal. And if you eat a large array of fresh fruits, grains, and vegetables, your gut health will reflect that.

Eating low-fiber foods, or eating only the same fiber foods can undermine your intestinal biome and the health of your protective mucus wall.

- One [highly cited study](#) from 2014 showed how quickly the microbiome changes in response to diet.
- After four days of participants who switched to either plant - or animal product–based diets experienced a significant change in the number and type of bacteria present.
- Those who ate meat saw a rise in protein-fermenting strains associated with health conditions like inflammatory bowel disease.
- Those eating more plants increased the activity of fiber-fermenting bacteria, had lowering of the gut's pH and reduced protein fermentation.

<https://www.nature.com/articles/nature12820>

Fiber

- A 2017 study found that the importance of fiber is intimately tied with the importance of our gut microbes.
- A proper fiber diet literally feeds and makes these bacteria thrive.
- In turn, they increase in number and kind. The more microbes we have in our intestines, the thicker the mucus wall and the better the barrier between our body and our busy bacteria population.
- While the mucus barrier lowers inflammation throughout the body, the bacteria aid in digestion, creating a dual benefit.

[https://www.cell.com/cell-host-microbe/fulltext/S1931-3128\(17\)30497-3](https://www.cell.com/cell-host-microbe/fulltext/S1931-3128(17)30497-3)

Benefits of Fiber

Scientific literature indicates that increasing fiber intake supports:

- Resisting the colonization of harmful bacteria
- Supporting healthy gut bacteria
- Reducing the risk of developing colon cancer
- Increasing mineral absorption in the large intestine
- Cholesterol management
- Blood sugar management
- Bone density
- Regular bowel movements
- Weight management
- Brain health
- Immunity
- Preventing chronic disease
- Reducing inflammation in the body

Prebiotics

Prebiotics are types of fiber found in vegetables, fruits and legumes. These types of fiber are not digestible by humans, but your good gut bacteria can digest them.

Foods that are higher in prebiotic fiber include:

- **Legumes, beans and peas**
- **Oats**
- **Bananas**
- **Berries**
- **Jerusalem artichokes (not the same as regular artichokes)**
- **Asparagus**
- **Dandelion greens**
- **Garlic**
- **Leeks**
- **Onions**

PROBIOTICS

- **Probiotics are live beneficial bacteria that are naturally created by the process of fermentation in foods like yogurt, sauerkraut, miso soup, kimchi, and others.**
- **Probiotics are also available in pill form and as an added ingredient in products like yogurt and kombucha.**

PREBIOTIC FIBER

- **Prebiotic fiber is a non-digestible part of foods like bananas, onions and garlic, Jerusalem artichoke, the skin of apples, chicory root, beans, and many others.**
- **Prebiotic fiber goes through the small intestine undigested and is fermented when it reaches the large colon.**

Fermentation Process

- **The fermentation process feeds gut bacteria colonies (including probiotic bacteria) and helps to increase the number of desirable bacteria in colon that are associated with better health and reduced disease risk.**

There are two main types of fiber.

Insoluble fiber

- **adds bulk to your stool**
- **helps food pass more quickly through the stomach and intestines**
- **helps balance the pH in your intestine**

Soluble fiber

- **attracts water and forms a gel-like substance with food**
- **this slows down digestion**
- **helps you feel full faster**
- **this helps in weight management**

There are two main types of fiber.

Soluble fiber easily dissolves in water and becomes gel-like in your system, acting like a sponge as it moves into every crevice of your colon. This slows the digestion while also slowing the rate at which nutrients are digested.

Insoluble fiber does not dissolve. Besides being completely devoid of calories, it helps prevent constipation because it "gathers" the byproducts and fluids you don't want. It forms the waste that will eventually leave your body in the form of waste.

- **Some particular prebiotic fibers have been of special interest to scientists. One, called inulin, can be found in high concentrations in onions, asparagus, garlic, and chickweed.**
- **In one study of 30 women, inulin supplements significantly changed gut microbiota, leading to increases in strains thought to be beneficial.**

<https://www.outsideonline.com/2365176/probiotics-less-effective-than-prebiotics>

Higher Fiber Foods

- **Green peas**
- **Artichoke**
- **Sweet potato**
- **Spinach**
- **Broccoli**
- **Brussels sprouts**
- **Cauliflower**
- **Pears**
- **Raspberries**
- **Stewed prunes**
- **figs or dates**
- **Pumpkin**
- **Almonds**
- **Apples with the skin intact**
- **Bananas**
- **Oranges**

Low to No fiber foods

- white bread
- white pasta
- white rice
- foods made with refined white flour, like pancakes
- low-fiber hot and cold cereal
- eggs
- well-cooked canned or fresh vegetables in small amounts
- potatoes without the skin
- fats like olive oil, mayonnaise, gravy, and butter
- dairy products
- protein sources like eggs, tofu, chicken, and fish
- creamy peanut butter

Fiber Content Of Popular Foods

Food Source	Soluble Fiber (g)	Insoluble Fiber (g)	Total Fiber (g)
Apple (1 med)	0.9g	2.0g	2.9g
Banana (1 med)	0.6g	1.4g	2.0g
Orange (1 med)	1.3g	0.7g	2.0g
Broccoli (1 stalk)	1.3g	1.4g	2.7g
Carrots (1 large)	1.3g	1.6g	2.9g
Tomato (1 small)	0.1g	0.7g	0.8g
Potato (1 medium)	1.0g	0.8g	1.8g
All Bran (1/2 cup)	1.4g	7.6g	9.0g
Oat Bran (1/2 cup)	2.2g	2.2g	4.4g
Corn Flakes (1 cup)	0g	0.5g	0.5g
Rolled Oats (3/4 cup)	1.3g	1.7g	3.0g
Wheat Bread (1 slice)	0.3g	1.1g	1.4g
White Bread (1 slice)	0.3g	0.1g	0.4g
Green Peas (2/3 cup)	0.6g	3.3g	3.9g
Kidney Beans (1/2 cup)	1.6g	4.9g	6.5g
Lentils (2/3 cup)	0.6g	3.9g	4.5g

American adults are only eating an average of 15 grams of fiber on any given day.

Daily recommendations from the Academy of Nutrition and Dietetics:

- **25 grams for women,**
 - or 21 grams if over 50 years old
 - **38 grams for men,**
 - or 30 grams if over 50
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From the International Scientific Association for Probiotics and Prebiotics

- **_Dietary fiber: 25g - 38g**
- **Prebiotic fiber: 5g - 20g**

Psyllium

- **Organic psyllium is a great way to boost your fiber intake.**
- **The main secret to psyllium husk's success is that it's a rich source of soluble fiber.**
- **When combined with water in your digestive tract, it swells and produces more bulk, stimulating your intestines to contract and get things moving.**
- **If things are too loose, psyllium soaks up water in the digestive tract, firms your stool, and slows the whole show down.**
- **Even in digestive issues (like Crohn's and Colitis), there is evidence that adding in psyllium husk can help alleviate signs and symptoms of distress.**

(nonorganic psyllium is typically loaded with pesticides)

A 2014 study published by the American Journal of Epidemiology showed that a 10 % reduced risk for all-cause mortality was observed for every 10 grams of fiber participants added to their overall fiber intake.

[American Journal of Epidemiology January 5, 2015](#)

According to the Lancet, people who make a habit of eating high amounts of dietary fiber are 15 to 30 % less likely to die prematurely from any cause compared to people who include the least amounts of fiber.

[The Lancet January 10, 2019](#)

Researchers have found that for every 7 grams more fiber you consume on a daily basis, your stroke risk is decreased by 7 percent.

[Stroke March 28, 2013;STROKEAHA.111.000151](#)

Soluble slows the body's absorption of sugar. Research also shows that women with the highest soluble fiber intake had 42 percent less insulin resistance.

[British Journal of Nutrition July 28, 2013;110\(2\):375-83](#)

Eating a high-fiber diet has been shown to help prevent and alleviate leaky gut, suffered by as much as 80 % of the population in the U.S.

[Food Integrity Now May 27, 2015](#)

Dietary fiber (especially insoluble) may reduce your risk of diverticulitis (inflammation of your intestine) by 40 %.

[Journal of Nutrition 1998 Apr;128\(4\):714-9](#)

Eating foods containing lots of fiber was associated with as much as a 24% lower incidence of stroke, Type 2 diabetes and heart disease, as well as colorectal cancer.

[American Journal of Epidemiology January 5, 2015](#)

According to the same study, consuming 25 to 29 grams of fiber every day is merely adequate. The data indicated that higher intakes would be even more protective.

[American Journal of Epidemiology January 5, 2015](#)

Grains

While grains are still heavily promoted as good sources of fiber, but are actually one of the least optimal sources out there.

Nonorganic wheat and many other grains are routinely doused with glyphosate just before harvest.

Wheat

- **One of the reasons wheat ends up being detrimental is that it's attracted to glucosamine. Glucosamine is a common supplement many people take to alleviate joint pain.**

[Web MD 2005-2018](#)

Fiber and Lectins

- Foods rich in fiber include whole grains, vegetables, fruit, peas, beans, lentils and chickpeas.
- **Vegetables and fruits are whole foods that should be the backbone of your diet.**
- But there are issues with grain, including whole grain, and beans.
- **Beans, lentils and chickpeas are examples of foods that contain lectins that bind to carbohydrates and attach to cells that can undermine health.**

Lectins

- **Lectins can trigger uncomfortable physical symptoms similar to those caused by gluten, although in both cases, it depends on your system, and everyone's system is different.**
- **Wheat, soy, soy products, peanuts and some nightshade foods such as potatoes, bell peppers, eggplant and tomatoes, are among foods that contain the highest amounts of lectins.**

Who Should Avoid Beans and Other Lectin-Rich Foods?

People who may need to be particularly careful with lectin-containing foods (specifically those in the nightshade family, all grains, legumes and beans) are people struggling with inflammatory or autoimmune conditions, including but not limited to:

- **Thyroid dysfunction (esp. Hashimoto's thyroiditis)**
- **Arthritis**
- **Diabetes**
- **Heart disease**
- **Overweight**

[Bulletproof.com, Revenge of the Beans](https://bulletproof.com/revenge-of-the-beans/)

[PKD Diet, Lectins](#)

What are the symptoms of too much fiber?

It is possible to have too much fiber. This can be the case if you have other issues concerning your bowels. Too much fiber can cause:

- bloating**
- abdominal pain**
- flatulence**
- loose stools or diarrhea**
- constipation**
- temporary weight gain**
- intestinal blockage in people with Crohn's disease**
- reduced blood sugar levels**

Low Fiber Diet

- **Only eat a low-fiber diet if necessary to address a bowel or digestive condition.**
- **This is sometimes needed to address symptoms like diarrhea and cramping, or if you have one of the following gut issues:**
 - 1. irritable bowel syndrome**
 - 2. diverticulitis**
 - 3. Crohn's disease**
 - 4. ulcerative colitis**

Low Fiber Diet

- **Despite all of its benefits, there are times when a high-fiber diet may be temporarily contraindicated.**
- **If you have chronic digestive symptoms like diarrhea, flatulence, stomach pains, reflux, leaky gut syndrome, food allergies or food intolerance, you might consider implementing a special diet.**
- **The GAPS diet removes fiber.**
- **The Low FODMAP diet reduces certain foods that promote fermentation in the lower end of the small intestine due to low gut motility and excessive bacteria in the small intestine.**

Low Fiber Diet

- **Most of our bacteria is meant to be in the colon and not the small intestine.**
- **Our digestive system is not designed to break down fiber. That task is performed by the bacteria in your gut.**
- **If your gut is filled with pathogenic bacteria and/or yeast and fungi, fiber may actually make your symptoms worse.**



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