

# Why You're Bloating and How to Address It

Analysis by [Dr. Joseph Mercola](#)

August 14, 2024

## STORY AT-A-GLANCE

- › Nearly 18% of the world's population experiences bloating at least once a week
- › The microbiome, which consists of trillions of microorganisms living in your digestive tract, plays a crucial role in digestion; an imbalance in these microorganisms can contribute to various digestive issues, including bloating
- › Most people have dysfunctional mitochondria, making it difficult to create cellular energy efficiently enough to ensure a healthy gastrointestinal tract
- › Optimizing mitochondrial health and energy production is key to improving your gut health; excess intake of linoleic acid and estrogen dominance are the leading contributors to mitochondrial dysfunction
- › Fiber and starches can worsen symptoms by feeding bad bacteria if your gut health is poor; start with organic fruit juices and slowly work in more fibrous carbs and starches, along with increasing your intake of fermented foods

Nearly 18% of the world's population experiences bloating at least once a week,<sup>1</sup> particularly women, who are twice as likely to feel bloated as men. In the U.S., nearly 1 in 7 Americans have experienced bloating in the past week.<sup>2</sup>

Characterized by a feeling of fullness, tightness or swelling in your abdomen, bloating often occurs due to the buildup of gas in your digestive tract and may occur alongside abdominal pain, discomfort and visible distention of your stomach. While feeling bloated

is common, it's not a normal state for your digestive tract and may signal that your gut health is off-kilter.

## **Bloating Is a Sign of an Unhealthy Gut**

"If you're bloated or you have lots of gas, you may have a disrupted composition and function of the gut microbiome," microbiome researcher Gail Cresci told CNET.<sup>3</sup> The microbiome, which consists of trillions of microorganisms living in your digestive tract, plays a crucial role in digestion, immune function and overall health. An imbalance in these microorganisms, known as dysbiosis, can contribute to various digestive issues, including bloating.

Your age, health status, diet and environment all influence the numbers and diversity of microorganisms in your gut.<sup>4</sup> If an imbalance occurs, it could lead to bloating in a number of ways, such as triggering inflammation or reduced diversity. In people with irritable bowel syndrome (IBS), for instance, who often struggle with dysbiosis, bloating is common.

One study found that 60% of IBS patients rated bloating as the most bothersome symptom.<sup>5</sup> Generally speaking, microbial diversity in your gut is beneficial, while decreased diversity in the gut microbiome has been linked to chronic conditions such as obesity and Type 2 diabetes. In comparison to the Yanomami people in the Amazon jungle, who have high bacterial diversity, people in the U.S. have already lost 50% of their microbial diversity.<sup>6</sup>

Further, gut microbial diversity decreases with age,<sup>7</sup> but even younger people are being affected. The overuse of antibiotics, elective C-sections and processed foods have been described as primary factors "driving the destruction of our inner ecology."<sup>8</sup>

Dramatic increases in chronic diseases, including Type 1 diabetes, asthma, obesity, gastroesophageal reflux disease and inflammatory bowel disease, are also linked to the loss of bacterial diversity in our guts — caused by the overuse of antibiotics.<sup>9</sup>

Consumption of whole foods, meanwhile, is linked to higher gut microbiota diversity,<sup>10</sup> as is consuming herbs and spices, for instance.<sup>11</sup> But processed foods, which are devoid of fiber needed to feed a healthy microbiome, contain chemicals such as the herbicide **glyphosate** that also disrupt microbes.

From electromagnetic fields (EMFs) and air pollution<sup>12</sup> to antibacterial soap, your microbiome is under constant assault from the world around you. As noted in a review published in *Gastroenterology & Hepatology*:

*“Approximately 500 different species of bacteria reside within the colon, and nearly all of these species are anaerobes. Colonic microflora varies from individual to individual and reflects multiple factors, including diet, antibiotic use, and method of feeding as an infant. The number of bacteria in the GI tract is thought to exceed 10<sup>14</sup> [100 trillion], which is more than the total number of cells in the human body.*

*Because less than 10% of these bacteria can be cultured, our understanding of them is limited. Research over the past decade has shown that these bacteria play a vital role in gut immune function, mucosal barrier function, metabolism of drugs, and production of short-chain fatty acids and vitamins.*

*Even minor disturbances in gut microflora can lead to significant changes in gut function, including gas production [a common cause of bloating].”*

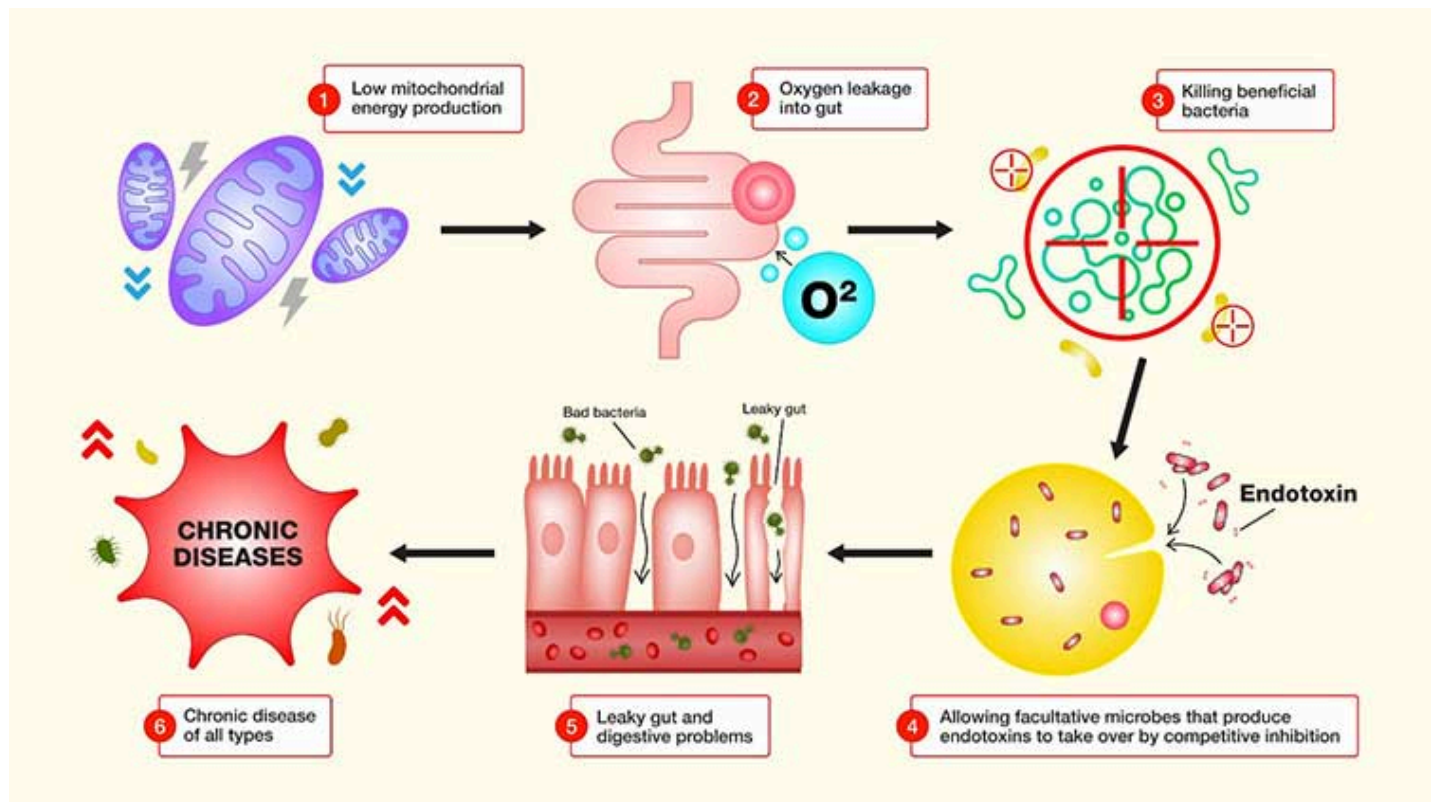
## **Proper Energy Production Is Necessary for Gut Health**

Most people have dysfunctional mitochondria, and if you don't have enough mitochondria, you can't create cellular energy efficiently enough to ensure a healthy gastrointestinal tract. Your gut contains primarily two types of gram-negative bacteria: beneficial and pathogenic.

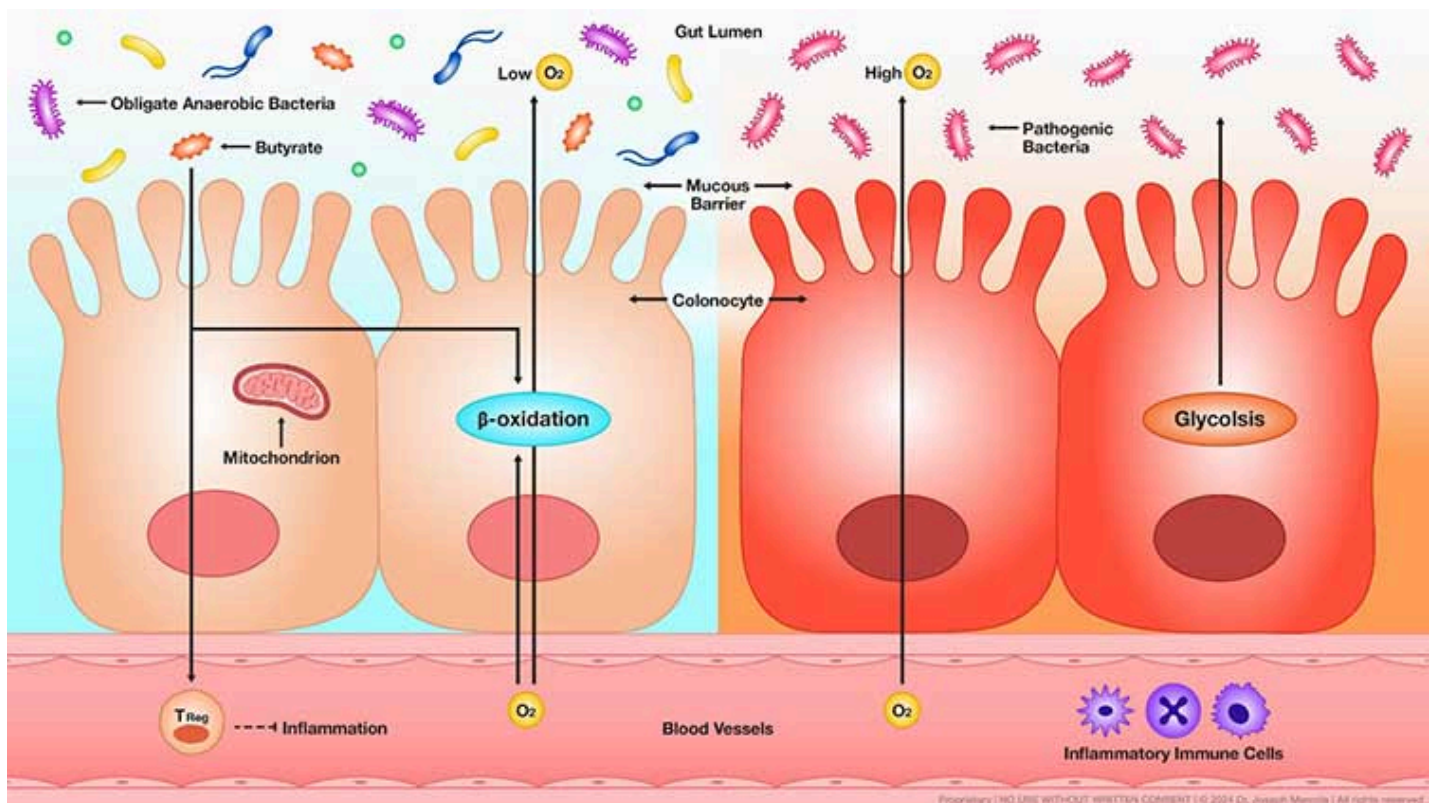
The beneficial ones include obligate anaerobes, which cannot survive in the presence of oxygen and are essential for health. They do not produce harmful endotoxins and

contribute positively by producing SCFAs like butyrate, propionate and glucagon-like peptide-1 (GLP-1).

Proper gut function requires energy to maintain an oxygen-free environment in the large intestine, where 99% of gut microbes reside. Insufficient energy leads to oxygen leakage, which harms obligate anaerobes while not impacting the facultative anaerobes, thereby disrupting the balance of the microbiome.



Pathogenic bacteria, or facultative anaerobes, can survive in oxygen and are harmful, as they possess endotoxins in their cell walls. In short, enhancing mitochondrial energy production is crucial for maintaining a healthy gut environment. When you do that, it helps suppress the growth of pathogenic bacteria and support beneficial microbial populations, which in turns reduces your risk of digestive issues, including bloating.



## Optimized Mitochondrial Health Is Essential for a Healthy Gut

**Optimizing your mitochondrial function** is one of the most important strategies to optimize your cellular energy, so it's at the core of almost everything that you do to improve your health. "Your energetic state impacts your internal environment, and your internal environment impacts **how your body (and gut) functions**," explains Ashley Armstrong, cofounder of Angel Acres Egg Co. She continues:

*"We will always have some amount of both obligate and facultative species, but balanced gut microbiomes are characterized by the dominance of obligate organisms, while an expansion of facultative organisms is a common marker of gut dysbiosis. Ideally, you want more obligate anaerobic bacteria, but these beneficial species cannot survive in high oxygen environments.*

*Facultative anaerobes, on the other hand, grow well in the presence of oxygen. So, maintaining a LOW oxygen environment and thus a HIGH CO<sub>2</sub> environment in your gut helps keep your microbiome in check. And you cannot maintain a high CO<sub>2</sub> level without a high metabolic rate and good energy production.*

*Fixing how your body produces energy at the systemic level will improve gut health. Understanding systemic energy production is also FREEING – as there is nothing wrong with you! You are just slightly out of balance. Every part of the digestive process requires cellular energy, so every part of digestive function can be impacted with low energy production.”*

## **How to Fix Your Gut Health**

If you're suffering from frequent bloating, your digestive system isn't functioning properly. Just like every system in your body, digestion is energy dependent. As such, you've got to tend to your mitochondrial health and energy production to improve your gut health.

Excess intake of linoleic acid (LA) – found in the seed oils used in most ultraprocessed foods – and estrogen dominance, I believe, are the leading contributors to mitochondrial dysfunction. Exposure to EMFs is another contributing factor. However, LA and estrogen negatively impact your body in similar ways. They both:

- Increase free radicals that cause oxidative stress and damage your mitochondria's ability to produce energy
- Increase calcium inside the cell that causes an increase in nitric oxide and superoxide that increases peroxynitrite that also increases oxidative stress
- Cause an increase in intracellular water causing your body to retain water
- Slow down your metabolic rate and suppress your thyroid gland

In addition to **lowering your LA intake** by avoiding ultraprocessed foods, seed oils, chicken, pork, seeds and nuts, a healthy gut microbiome depends on the consumption of fermented foods. A study assigned 36 adults to consume a diet high in fermented foods or high-fiber foods for 10 weeks. Those consuming fermented foods had an increase in microbiome diversity as well as decreases in markers of inflammation.<sup>13</sup>

While fiber and starches are often recommended for gut health, they can worsen symptoms by feeding bad bacteria if your gut health is poor. Excess fiber consumption with SLOW motility feeds bacteria along the digestive tract, leading to conditions like small intestinal bacterial overgrowth (SIBO), which is often associated with bloating, along with excess endotoxin production.

So, it's important to start with organic fruit juices and slowly work in more fibrous carbs and starches, along with increasing your intake of fermented foods. This will go a long way to help repair your gut by addressing mitochondrial function and energy production.

## Solutions to Restore Mitochondrial Function

Additional solutions to improve or restore your mitochondrial function include:

- Make sure you're eating healthy carbs such as ripe fruit, raw honey and maple syrup.
- Decrease lactate production and increase carbon dioxide, as they have opposing effects.<sup>4</sup> You can learn more about this in "[The Biology of Carbon Dioxide.](#)"
- Reduce your stress, as chronic stress promotes cortisol release, which is a potent suppressor of mitochondrial function and biogenesis. Progesterone can be quite helpful here, as it's a potent cortisol blocker. You can learn more about this in "[What You Need to Know About Estrogen and Serotonin.](#)"
- Take supplemental [niacinamide](#), as your mitochondria cannot make energy without it. I recommend taking 50 milligrams of niacinamide three times a day.

Incorporating prebiotics, probiotics and postbiotics into your daily diet can also significantly enhance your gut health and overall well-being. Prebiotics, the non-digestible fibers, serve as nourishment for beneficial bacteria. Probiotics, the live microorganisms, directly contribute to a healthy gut microbiome. Postbiotics, the bioactive compounds produced during fermentation, offer additional health benefits.

The relationship between prebiotics, probiotics and postbiotics is symbiotic, meaning they work together to support and maintain optimal gut health. Prebiotics fuel the growth of probiotics, which in turn produce postbiotics that offer additional health benefits. "If you have a bad diet, and you want to keep eating a bad diet but want to improve your microbiome, a probiotic isn't gonna help you," Cresci pointed out. "You have to do the other part too."<sup>14</sup>

If you're feeling bloated and are looking for more immediate relief, try chewing on a small handful of fennel seeds, which are a natural remedy for bloating and digestive support.<sup>15</sup> Compounds in fennel essential oil help regulate the motility of smooth muscles in the intestine and reduce gas at the same time. Additional [spices to relieve bloating](#) include ginger, cumin, black pepper and cinnamon.

## Sources and References

---

- <sup>1</sup> [Gastroenterology. 2023 Sep;165\(3\):647-655.e4. doi: 10.1053/j.gastro.2023.05.049. Epub 2023 Jun 13](#)
- <sup>2</sup> [Clinical Gastroenterology and Hepatology November 14, 2022](#)
- <sup>3, 14</sup> [CNET May 11, 2024](#)
- <sup>4</sup> [Visual Capitalist, What Lives in Your Gut Microbiome?](#)
- <sup>5</sup> [Romanian Journal of Internal Medicine December 2018](#)
- <sup>6, 9</sup> [Cleveland Clinic Journal of Medicine December 2018, 85 \(12\) 928-930](#)
- <sup>7</sup> [Aging \(Albany NY\). 2019 Jan 31; 11\(2\): 289–290](#)
- <sup>8</sup> [The Invisible Extinction, Synopsis](#)
- <sup>10</sup> [Int. J. Mol. Sci. 2019, 20\(8\), 1835](#)
- <sup>11</sup> [The Journal of Nutrition, Volume 152, Issue 11, November 2022, Pages 2461–2470, doi: 10.1093/jn/nxac201, Introduction \(Archived\)](#)
- <sup>12</sup> [Int J Environ Res Public Health. 2022 Dec; 19\(23\): 15494](#)
- <sup>13</sup> [Cell July 12, 2021](#)
- <sup>15</sup> [PeerJ. 2021; 9: e10308, Introduction](#)