

Colon Gas & Flatus Prevention

The thriving healthy mix of bacteria within the colon does not happen without the production of some gases. Most of these gases are odorless – hydrogen, oxygen, carbon dioxide and methane. Nitrogen is also present from swallowed air, which then moves down into the colon. So, bacteria produce most of the gases that are passed as flatus. The tiny amount of remaining gases is the sulfide ones. These are the smelly gases that are made by just a few species of bacteria specialized for this process that rely on sulfur in the water, food, beverages, and indeed, some medications we swallow to make these sulfide gases, including hydrogen sulfide.

What Is Normal?

Believe it or not, there is really a limited amount of information in the medical literature on this socially important question. Everyone will have her or his own idea of what normal is. Here is some general information that medical texts provide.

- The amount of colon gas produced per day ranges from one pint to several quarts.
- The number of flatus passages per day may be as low as 7 in females and up to 20 or more in males. An average is probably 10-13 flatus passages per day.
- Men create more colon gas than females.
- So do smokers. Don't ask why. We don't know.
- Beer drinkers have smellier flatus, probably because most beer contains significant amounts of sulfur.

Plant Fiber

There are two main types of fiber, insoluble and soluble, and almost every plant will have some of each. Insoluble fiber does not dissolve in water, is not acted on by colon bacteria and so does not create colon gas. It is an important fiber, however, in that it hangs on to water within the colon, promoting a larger, bulkier stool and improved regularity. The second type of fiber is soluble, meaning it does dissolve in water and is fermented by colon bacteria. Some of these bacteria, then, create colon gas.

Most plants have both fibers to varying degrees. As examples, the fiber in wheat is mostly insoluble while those in oats and beans are mostly soluble. A special type of recently discovered soluble fibers is the prebiotic ones, especially inulin and oligofructose. These fibers have had a great deal of research done on them lately and multiple, very significant health benefits have been found to occur with them. Still, they are soluble and, as such, do produce colon gas just like all soluble fibers will if too much is taken.

The key is to get a good balance of these fibers. The recommended total fiber intake per day is 25-35 grams, depending on your sex, age and weight. At this level, multiple health benefits occur. However, if excess colon gas and flatus is the problem, then cutting back on soluble fiber should be done first.

Insoluble Fiber

As noted, this fiber, also known as roughage and bulk, does not dissolve in water but paradoxically does hang onto water in the large bowel. This creates a larger, softer and bulkier stool. It promotes regularity and seems to be associated with reduced chance of getting colon polyps and cancer, as cancer inciting agents such as carcinogens are swept through the bowel in a more rapid manner. In addition, it may promote weight loss and enhances diabetic control. These fibers are not fermented by colon bacteria and so do not produce colon gas. Foods that are particularly high in insoluble fiber are:

- whole wheat bread and baked goods
- wheat bran
- whole grain breads
- vegetables and fruit, especially the skins
- peanuts
- Brazil nuts
- popcorn
- brown rice

Soluble Fiber

This plant fiber does dissolve in water. In the colon, it provides food for the enormous numbers of bacteria that thrive there and, in so doing, provide many health benefits. Those fibers also promote regularity by increasing the growth of the colon bacteria. However, soluble fibers are the ones that some colon bacteria metabolize and so produce some colon gas. Foods that are particularly high in soluble fiber are:

- oats in any form – cereal, muffins, etc.
- apples, oranges, grapefruit, peaches, concord grapes
- prunes, pears, cranberries
- beans
- beets
- carrots
- psyllium (found in supplements and some cereals)

Flatus Odor and Sulfate

Sulfate is the culprit. It is also a very necessary element in the diets as our body needs it for many functions. The problem with noxious flatus odor is that certain bacteria in the colon make sulfide gases in very tiny amounts, but certainly enough to be noticeable. It is pretty simple. The more sulfate you ingest, the more of it is available for colon bacteria to make sulfide gases. So where is the sulfate we ingest?

- Drinking water – up to 20% or more may come from drinking water, depending on where yours comes from. City water is monitored so there won't be too much, but well water can vary significantly.
- Beverages – beer, red and white wine, cider, apple, grape and tomato juice, and even cow's milk have significant amounts of sulfate.
- Foods – the following have moderate amounts of sulfate: Almonds, breads, broccoli, cauliflower, Brussels sprouts, cabbage, dates, dried apples, apricots (dried fruits are very high in sulfate), peanuts, wheat pasta, prunes, raisins.
- Animal Protein – There are only two amino acids, methionine and cystine, that contain sulfate but these are present in all animal products. The more meat, fish, and poultry you eat, the more sulfate enters your colon.
- Supplements – *chondroitin sulfate*, *glucosamine sulfate* and *MSM (methylsulfonylmethane)* are used by many people for bone and joint disorders. These have significant amounts of sulfate. So does carrageenan, used as a thickening agent in many prepared foods. Read the labels.

So the first step to controlling flatus smell is to moderate the amount of sulfate containing foods and supplements you take. The second step is to acidify your colon.

Colon Acidity and Prebiotics

A little known fact, is that the sulfide producing bacteria in the colon can't grow in an acid environment. So, the trick is to acidify the colon by providing certain plant fibers that other good bacteria use to make acidic substances called short chain fatty acids. These fatty acids are a food source for the colon's own cells. The plant fibers that do this best are the prebiotics. These can and should be obtained in certain foods as listed in prebiotics. These can be obtained in prebiotic supplements. You should use enough to reduce or stop the smell but not so much as to get too gassy. So, to reduce noxious flatus smell you should:

- Reduce sulfates in beverages, food, dietary supplements and pills
- Use prebiotic foods or our supplement prebiotic products to acidify the colon.

Final Flatus Factoids

The following are common sense tips on flatus. They may not work for everyone but perhaps a few might.

- If you have no or little flatus, then you likely are not getting an adequate amount of soluble prebiotic fiber in your diet. The good benefits of these fibers can't be obtained without a minimal amount of gas production.
- Chewing gum – When you chew gum, you swallow more often and some air goes down into your stomach with each swallow. What you don't belch up goes into the colon, where it can contribute to flatus.
- Beans contain special types of carbohydrates that some colon gas forming bacteria love. These carbs are not part of the prebiotic family that is so good for the colon and for general health. However, beans are a great source of protein and other fiber, so it can be dilemma for some people. Soaking and/or overcooking beans may help reduce gas formation. Do the experiment and see.
- Beano is an over-the-counter product touted for helping reduce flatus. It is an enzyme that works only on the carbohydrate in beans and only if it mixes with the chewed up beans in the stomach. So, you need to take the pills, and usually a lot of them, while you are eating beans. You can try taking the pills after eating but the results may not be as good.
- Gulping food or eating fast may result in more air being swallowed, which results in more of this air in the colon. So, slow down and chew your food well.
- Over-the-counter remedies – Gas-X and other similar preparations are simethicone, which is a chemical that breaks down small intestinal bubbles into big ones. I m not sure of the benefit as it does not get rid of gas. Charcoal tablets are reputed to absorb the bad sulfide smell. It has never been proven very well. Reducing sulfur in food and acidifying the colon with prebiotics foods and supplements makes more sense.
- Odor eating underwear – Yes, you can get these online. .

Summary

The amount of colon gas and flatus can be controlled by modifying the amount of soluble fiber in the diet. You should not eliminate soluble fiber entirely because it provides so many health benefits to the colon and body.

The smell of flatus can be controlled by reducing the amount of sulfur containing foods and beverages and by making the colon more acidic using an adequate amount of prebiotic soluble fiber.

So, it is a balance. It is recommended to use enough soluble fiber so that your colon gas and flatus is tolerable to you. When the noxious smell of flatus is gone, then that is the right dose.