

Colon Gas & Flatus Prevention

Prebiotics in your diet or in a supplement naturally restore digestive balance and health. [Learn more . . .](#)

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 the remaining gases are the sulfide ones. These are the smelly gases that are made by just a few species of bacteria specialized for this process. These rascals 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 are 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
 - cruciferous vegetables - broccoli, cauliflower, Brussels sprouts, cabbage
 - dates
 - dried apples, apricots - dried fruits are very high in sulfate
 - wheat pasta
 - peanuts
 - 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, even to those in the medical field, 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 also be obtained in our prebiotic supplements. My own research on family and friends shows that while these prebiotic fibers will not change the amount of colon gas, they will reduce and even eliminate the malodorous flatus smell. 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:

So, to reduce noxious flatus smell

- 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 are 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. They seem a bit of a stretch and inconvenience for a physiologic event that can be controlled in other, more natural ways.

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.

Gas and Flatulence Prevention Diet

Why do I have gas?

Everyone has gas. How much gas the body makes and how sensitive a person is to gas in the large intestine determine how uncomfortable having gas is.

Purpose

Intestinal gas means different things to different people. Patients may complain of excessive bloating after eating, belching, or rectal gas (flatulence), or a combination of these symptoms. In order to deal with these different symptoms, patients should understand how the gastrointestinal tract works. With this knowledge, they can take steps to prevent or improve their symptoms.

Each time food, liquid, or even saliva is swallowed, a small amount of air is carried to the stomach. In the stomach, food is churned into small fragments and then emptied into the small intestine. How quickly the stomach empties varies, but generally it takes place within 1 to 2 hours. The small intestine gently contracts, moving these liquid food fragments downstream. That is where the food's nutrition -- calories, minerals, and vitamins -- are absorbed. The indigestible liquid waste then reaches the large colon (bowel). Here, much of the water from the liquid fragments is reabsorbed. That is how the stool is formed.

Various functions along the path of digestion can contribute to the production of gas. Following simple diet and lifestyle changes can help to reduce gastrointestinal gas and relieve symptoms.

Nutrition Facts

A diet to control the production of intestinal gas is adequate in calories, protein, minerals, and vitamins. The elimination of certain food groups from the diet still allows a wide variety of food selections. During the early stages of the intestinal gas trial diet, however, a multivitamin/ mineral supplement may be recommended.

Belching

Everyone belches occasionally, often after eating. However, some people belch so much that it becomes annoying and embarrassing. Belching is simply the release of swallowed air from the stomach. The stomach does not produce air or gas on its own. Each time a person swallows food or liquid, some air is swallowed with it. The more frequently a person swallows, the greater the amount of air entering the stomach. Some individuals are "air swallows" because they frequently swallow saliva and air, and then belch it up.

Belching is rarely a serious problem. Occasionally, it can be treated with medications. In most cases, however, the patient can control belching by understanding how it occurs and following the simple steps listed above.

Bloating

For unknown reasons, abdominal bloating (swelling) after eating occurs more often in females. Bloating is usually caused by poor or disorganized contractions of the stomach and upper intestine. Relaxation of the abdominal muscles can also be a factor.

Medications are now available that stimulate contractions in the stomach and upper intestine. These contractions move the food and fluid along, thereby reducing abdominal bloating.

Bloating is often a part of irritable bowel syndrome, a condition in which there is disorganized movement and spasm of the bowel. Anxiety and stress seem to play a role in some people's symptoms. Bloating may also be caused by delayed emptying of the stomach, called gastroparesis. For these reasons, the physician usually performs certain tests such as x-rays and endoscopy. This is a visual scope examination of the stomach using a flexible, lighted tube. There are other medical conditions, such as malabsorption and certain types of bowel surgery, in which excessive gas may be produced. These conditions need to be treated by a physician.

Stomach upset from certain foods and eating rapidly can contribute to bloating, and therefore, should be avoided. Although bloating can be quite distressing, it is usually not a serious problem. It can often be treated with simple changes in diet.

Rectal Gas

The colon has literally hundreds of different bacteria growing within it. These bacteria live peacefully in our bowel and provide certain positive health benefits to the body. Most bacteria in the colon are harmless and cause no problems. These bacteria rely on the indigestible food we eat for their own nutrition. Certain foods are more likely to cause certain bacteria to thrive. Some of these bacteria are called "gas formers." They generate gases such as hydrogen and methane. As much as 80 to 90 percent of rectal gas (flatulence) is formed by bacteria. Gas forming bacteria generally feed on certain carbohydrates and sugars. So, if these carbohydrates are reduced or eliminated from the diet, rectal gas can usually be significantly reduced. Individual response to certain foods is also a factor in producing rectal gas. For instance, two people can eat the same amount of the same carbohydrate. One forms large amounts of rectal gas, while the other experiences little or none.

Special Considerations

The Intestinal Gas Trial Diet:

1. Once the physician has determined there is no medical condition causing the excessive gas, this diet can be used to identify and eliminate foods that may be causing the symptoms. Refer to the chart, Foods that Contribute to Gas Production. The trial diet may be conducted in one of two ways:
 - o Continue to eat as you normally do, but eliminate one category of

gas producing foods for at least a week. If there is no lessening of gas, put the foods back in the diet and go on to eliminate another category for a week. Follow this procedure until reaching a level of gas that is tolerable.

- SEVERELY restrict all categories of foods that cause gas for 3 or 4 days. Then reintroduce one food at a time back to the diet, and continue to include this food for 3 or 4 days. If the selection causes no problems, it may be kept in the diet. If there is marked increase in gas production, eliminate it and go on to the next food. Continue this process until all foods causing gas are identified. Then they can be avoided.

2. What Foods Are the Worst Offenders?

There is little scientific data available to answer this question. Experience, however, tells us that beans (all types), milk, and milk products may be the worst offenders in causing gas. Other troublesome foods include onions, celery, carrots, raisins, apricots, prune juice, wheat products, and Brussels sprouts.

3. Offending foods may not have to be completely eliminated.

Sometimes, they can be tolerated in smaller amounts. For example, three glasses of milk a day may cause an individual excessive gas, but limiting milk to one glass per day may cause no problems. Sometimes tolerance to certain foods can be acquired. Many people complain that adding fiber to the diet causes gas. This problem can usually be reduced by adding fiber gradually over a period of several weeks.

Hints for Reducing Belching

1. Air swallows should concentrate on trying to reduce the number of times they swallow air.
2. Avoid pipes, cigarettes and cigars; chewing gum and hard candy; sipping through straws and bottles with narrow mouths; and dentures that do not fit properly. They can increase saliva.
3. Avoid foods that contain air, such as carbonated beverages or whipped cream, and fizzy medicines, such as bicarbonate of soda.
4. Eat slowly. Gulping food and beverages add large amounts of air into the stomach.
5. Do not deliberately swallow air to force a belch.

Foods That Contribute to Gas Production

Legumes	Most beans, especially dried beans and peas, baked beans, soy beans, lima beans
Milk & milk products	Milk; ice cream; and cheese
Vegetables	Cabbage; radishes; onions; broccoli; Brussels sprouts;

	cauliflower; cucumbers; sauerkraut; kohlrabi; asparagus
Root vegetables	Potatoes; rutabaga; turnips
Fruits	Prunes; apricots; apples; raisins; bananas
Cereals, breads	All foods that contain wheat and wheat products including cereals, breads, and pastries. Check labels.
Fatty foods	Pan-fried or deep-fried foods; fatty meats; rich cream sauces and gravies; pastries. (While fatty foods are not carbohydrates, they too can contribute to intestinal gas.)
Liquids	Carbonated beverages, medications, or powders

Sample Menu for Low Intestinal Gas Production

Breakfast	Lunch	Dinner
<ul style="list-style-type: none"> • orange juice <i>4 oz</i> • puffed rice <i>1 cup</i> • rice cakes <i>2</i> • jelly <i>2 tsp</i> • skim milk <i>8 oz</i> • coffee <i>1 cup</i> • sugar <i>2 tsp</i> 	<ul style="list-style-type: none"> • cranberry juice <i>1/2 cup</i> • chicken breast <i>3 oz</i> • steamed rice <i>1/2 cup</i> • cooked Harvard beets <i>1/2 cup</i> • steamed spinach <i>1/2</i> • margarine <i>2 tsp</i> • coffee <i>1 cup</i> • sugar <i>1 tsp</i> • salt <i>1 tsp</i> • pepper <i>1 tsp</i> 	<ul style="list-style-type: none"> • lean roast beef <i>2 ozx</i> • cooked carrots <i>1/2 cup</i> • rice noodles <i>1/2 cup</i> • lettuce/tomato salad • oil/vinegar <i>1 Tbsp</i> • canned peaches <i>1/2 cup</i> • lime sherbet <i>1/2 cup</i> • margarine <i>2 tsp</i> • skim milk <i>8 oz</i> • salt <i>1 tsp</i> • pepper <i>1 tsp</i>

This Sample Diet Provides the Following

Calories	1593	Fat	44 gm
Protein	77 gm	Sodium	956 mg
Carbohydrates	228 gm	Potassium	2940 mg

This material does not cover all information and is not intended as a substitute for professional care. Please consult with your physician on any matters regarding your health.