



DIGESTIVE HEALTH CONSULTANTS
Of Northern California

RICHARD AULD, MD
R. LOGAN FAUST, MD, FACG
SAHAR GHASSEMI, MD
PAUL HORNBERGER, MD
SUMIT KOHLI, MD
A. MICHAEL LUSTBERG, MD

1210 Sonoma Avenue
Santa Rosa, CA. 95405
Tel: 707.544.5093
Fax: 707.528.8444

Gas and Flatulence Prevention Diet

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

This Sample Diet Provides the Following			
Calories	1593	Fat	44 gm
Protein	77 gm	Sodium	956 mg
Carbohydrates	228 gm	Potassium	2940 mg