

BELCHING, BLOATING AND FLATULENCE

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1. What are the Gas Related Symptoms?

Belching, or burping, refers to the noisy release of air or gas from the stomach through the mouth. Unpleasant abdominal fullness or distention is called bloating. Flatulence is the passage of excessive amounts of intestinal gas, or flatus, through the anus.

2. How Common are Gas Symptoms?

As much as 7% of the general population complain of excessive or bothersome belching, and 11% report frequent bloating. Normal people pass gas (flatus), on average, ten times each day. Passage of gas up to twenty times daily is still considered normal.

3. What are the Causes of Gas Symptoms?

There are several important factors that influence gas related symptoms. These include the amount of air that is swallowed; the efficiency with which the gastrointestinal tract moves and expels the air or gas; and the amount of gas that is produced by the bacteria living in the colon that act on incompletely digested food. There are also individual differences in sensitivity or tolerance to normal amounts of retained gas or the passage of a normal amount of flatus.

4. Can a Person Swallow Too Much Air?

It is clear that some individuals swallow too much air into the stomach. Eating quickly, gulping food or beverages, and other habits such as drinking through a straw, chewing gum, sucking on hard candy or wearing loose fitting dentures may contribute to excessive air swallowing. People also swallow more frequently, and swallow more air, when they are nervous. Air can also be swallowed and released voluntarily as many people are able to belch at will. In some people, excessive belching has become a learned behavior, or habit, that initially may have been associated with some relief of indigestion symptoms, but now continues almost unconsciously.

The air that is swallowed and not removed by belching will pass through the digestive tract and eventually pass as flatus from the rectum. In normal people, about 50% of the gas passed from the rectum comes from swallowed air, and this amount can increase significantly in those individuals who swallow air excessively. Surprisingly, most people who experience excessive bloating and flatulence do not swallow or produce excessive gas. In these individuals, it seems that the movement of swallowed air, from the stomach



toward the rectum, is much slower than normal. Additionally, the gas may sometimes move the wrong way, returning to the stomach. So, in spite of the fact that the amount of gas may be normal, people can experience bloating and "gas" because the gas is not moved efficiently, and it may accumulate, causing discomfort from the increased stretching of the bowel walls.

5. How Do Some Foods Lead to Excess Gas?

Some people have difficulty digesting certain foods completely. This can lead to partially digested food passing from the small intestines to the colon. There are a large number of bacteria in the colon that will readily "digest" the food further and produce gases in the process. Foods that contain certain sugars that are very difficult for most people to digest include the well-known gas-forming foods such as baked beans, lima beans and lentils. Most people also have difficulty properly digesting commonly added sweeteners such as fructose and sorbitol. Some people (particularly adults of Asian, African and Southern European descent) have difficulty digesting lactose (milk sugar) because they do not make enough of the enzyme, lactase, which is needed to breakdown lactose. If there is a large amount of lactose in their diet, then the incompletely digested lactose will pass to the colon where bacteria break it down and produce gas.

It is also thought that there are differences between individuals in their sensitivity to intestinal stretching from gas, and their tolerance for gas related symptoms. The sensitivity of the gastrointestinal tract and the severity of symptoms tend to increase as the amount of stress increases.

6. Can Certain Medications Cause Excess Gas?

There are some prescription medications that purposefully inhibit digestive enzymes (e.g. acarbose) and others that contain indigestible sugars (lactulose and sorbitol) to accomplish their intended effect. These medications will often cause gas-related symptoms.

7. Can Excess Gas Mean There is a Serious Problem?

Rarely, patients can have a serious underlying disease of the digestive tract, such as celiac disease (gluten intolerance), dumping syndrome or pancreatic insufficiency that is the cause of their gas symptoms. These conditions may lead to improper digestion of food and result in excessive diarrhea, flatulence and finally, malnutrition and weight loss.

8. When Should You See a Doctor about Belching, Bloating or Flatulence?

By themselves, gas-symptoms are not worrisome or indicative of any underlying serious condition. A visit to the doctor may be helpful if the symptoms are very bothersome and there are other associated symptoms that may benefit from further testing and or treatment. Symptoms that should be further evaluated by a doctor include abdominal



pain, vomiting, diarrhea, constipation, weight loss, bleeding from the gastrointestinal tract and sometimes heartburn.

Currently, there are few clinical tests (other than the history obtained from the patient and a physical examination) that are used to further assess gas symptoms. In some cases, endoscopy (the insertion of a small lighted flexible tube through the mouth into the esophagus and stomach) may be helpful if ulcer disease or reflux disease is suspected, or sigmoidoscopy or colonoscopy (insertion of a similar tube into the rectum and colon) if there are associated changes in the bowel patterns. An x-ray of the abdomen may be performed if blockage of the intestines needs to be excluded. Sometimes lactose intolerance should be assessed with a trial of a lactose free diet for two weeks, or with a special blood or breath test. There are also simple blood tests available to screen for celiac disease (gluten sensitivity) if there are other features to suggest this disorder.

9. What Treatments are Available for the Gas-Related Symptoms?

Sometimes excessive belching is associated with gastroesophageal reflux disease (GERD), and treatment of this condition may alleviate bothersome burping. Anti-gas medications, such as simethicone, are generally useless for excessive belching. Lifestyle modification such as avoidance of rapid eating, chewing gum, carbonated beverages and stopping smoking are often recommended but the response is variable. When simple reassurance and lifestyle modifications are not satisfactory, then psychological treatments such as relaxation therapy or behavioral therapy are currently the most useful approaches.

Bloating and flatulence are sometimes related to constipation, and treating the underlying condition may be helpful. After other conditions, such as lactose intolerance, have been excluded, a low gas-forming diet should be recommended. The diet excludes poorly digested foods such as the Brassica vegetables (brussels sprouts, turnip, rape, mustard and cabbage, as well as beans and lentils. Foods (including any drink, candy, gum or breath freshener) that contain sorbitol and added fructose should also be avoided. Fiber supplements and a high fiber diet can aggravate bloating symptoms, and should be discontinued if there is no benefit. A diet containing rice flour is fully absorbed in the small intestines and so produces the least amount of gas. There are several over-the-counter medications to treat gas-related symptoms including simethicone, activated charcoal and beano. Unfortunately, none of these products are very effective.

