Gas in the gastrointestinal tract is generated by swallowed air and from normal bacterial activity in the gastrointestinal tract.

Gas in the stomach is usually relieved by burping. Gas in the colon is released through the rectum. This type of gas usually diminishes with increased fiber and fluids.

This article explains the source of digestive gas, provides suggestions on how to reduce digestive gas and identifies some of the foods that can cause gas.

**Does Fruit-Eze™ Promote Healthy Bacterial Growth?**

Yes. The soluble and insoluble fibers in Fruit-Eze™ pure fruit regularity blend helps to nourish the colon lining where healthy intestinal bacteria grow and multiply. This is important because a healthy bacterial population can help to reduce gas.

Healthy bacteria are important to colon health, regularity, and stool production. Healthy bacteria help to further breakdown waste and generate additional lubrication in the colon. This improves stool quality and speeds stool transit which promotes regularity. Healthy bacteria also help to groom the colon, and help to fight against infection.

**Where Does Gas Come From?**

Gas in the gastrointestinal tract is generated by swallowed air and from normal bacterial activity. Gas production is a normal by product of activity in the G.I. tract.

Excess gas production can be uncomfortable. Problems with digestive gas are fairly common. Gas in the stomach is usually relieved by burping. Gas in the colon is released through the rectum. This type of gas usually diminishes with increased fiber and fluids.

Constipation does not cause gas, but the presence of stools in the rectum can temporarily trap gas until pressure and physical activity permit trapped gas to pass. Sometimes, the passage of gas occurs simultaneously with the urge to “move” the bowel or with a bowel movement. This is the normal release of colonic pressure.

**How is Air Swallowed?**

Everyone swallows small amounts of air when eating and drinking. However, some people unconsciously swallow large amounts of air when they eat. Eating or drinking too quickly may cause more air to be swallowed. Carbonated beverages, smoking, chewing gum, and loose dentures can also contribute to the amount of air that is swallowed.

**How Does Swallowed Air Cause Gas?**

Swallowed air becomes trapped in the stomach and exits the body (in the form of nitrogen, oxygen and carbon dioxide) through burping.

Some swallowed air is passed to the small intestine, where it may be partially absorbed, and then passed into the bloodstream where it is eventually excreted through the lungs.

Small amounts of swallowed air may make it to the colon, but this is not a significant source of the gas that is expelled through the anus.

**How Does Bacterial Activity Cause Gas?**

Gas in the colon occurs as a by product of bacterial fermentation. Bacteria ferment carbohydrates and produce carbon dioxide, oxygen, nitrogen, hydrogen and methane gas (methane gas, present in a stool may cause it to float). These gases are odorless. They exit the colon through the rectum. The unpleasant odor of gas comes from bacteria that produce gas containing sulfur.

By products of bacterial fermentation include amino acids, fatty acids, some vitamins (B and K), a beneficial moisturizing gel and other waste particles.

Continued on p. 2
Why Is Gas Production Considered Positive?

Gas production is positive because it is normal outcome of processing in the G.I. tract. Gas in the colon indicates that healthy intestinal bacteria are present. Healthy intestinal bacteria simultaneously foster their own growth and promote the health of the colon lining by fermenting soluble fiber into a moisturizing gel that is incorporated into stools making them soft. The fermentation of soluble fiber into this gel generates gas in the colon.

Leftover gel that is not incorporated into stools, moisturizes the colon lining where the bacteria live and reproduce. This reproduction of bacteria is important because large populations of healthy bacteria exit the body each time a stool is passed.

Though eliminations by these growing bacteria temporarily causes gas, this gas usually subsides once the population of bacteria has reached a certain population level.

Each individual has different types and different numbers of bacteria in their colon. Some types of bacteria in the colon can destroy the hydrogen gas produced by other bacteria. Individuals with higher populations of this “hydrogen destroying bacteria” may produce less gas.

Is Gas Felt Differently by Each Person?

Yes. Each person feels the pressure of gas differently. Some of the feelings of gas are dependent upon perception in the brain. Two different people with the same amount of gas will feel totally different.

Doctors don’t know all there is to know about gas and how it is experienced. Remember, gas is normal. However, if you are troubled by excessive gas, talk to your doctor. You doctor may want to know what you ate or drank, the location in your abdomen where you felt the gas, the duration of the gas discomfort, the time of your last bowel movement, and any steps you took to ease the gas. Remind your doctor about any medications or supplements you may be taking.

What Can I Do to Reduce Gas?

Eliminations by growing bacteria temporarily causes gas. Once the population of bacteria has reached a certain population level, gas usually subsides.

In the meantime, there are a few things you can try which may help to reduce digestive gas:

- **Gradually Increase Fiber.** Very gradual increases in dietary fiber intake may permit the growth of the bacteria to keep pace with increase in fiber intake and thereby help to keep gas production in check.
- **Increase fluid intake.** Fluids are the basis of mucus that helps to moisturize the colon lining. This helps promote healthy bacterial growth. Caution: Drinking a lot of fluid quickly in a very short period of time can cause painful stomach gas.
- **Avoid Foods that Cause Gas.** Foods, such as dairy, may create gas in one individual but may not create gas in another. Avoid consumption of these foods.
- **Exercise.** Movement, even walking, can help your body to release trapped gases.
- **Massage.** Gentle abdominal massage can help to reduce painful trapped gas.
- **Increase Bacterial Populations.** Buttermilk, kefir, yogurt, and Pro-biotic supplements that contain live bacteria can help to increase healthy bacteria in the colon.

There are some over-the-counter products that help to reduce gas, but these should be used with caution as they can induce constipation in just one dose. If you are presently taking medications or supplements, be certain to check in advance with your pharmacist about possible drug interactions or side effects.
What Can I Do to Reduce Gas? continued...

- **Eat Slowly.** Eating slowly and chewing your food well can help to cut down on the amount of air that you may swallow.
- **Consult a Doctor.** Talk to your doctor if you are having persistent problems with gas, or if you have excessive gas production.

What Foods Cause Gas?

The foods that are likely to cause gas are carbohydrates. This is because carbohydrates pass through the gastrointestinal tract mostly undigested. When carbohydrates enter the colon they are further broken down by bacterial fermentation. This fermentation can generate gas. The processing of fats and proteins cause little gas. The following foods are likely to cause gas:

**Starches:** Starch is a carbohydrate. Starches such as potatoes, corn, noodles, and wheat all produce gas.

**Dietary Fiber:** Fiber is a complex carbohydrate present in edible plants. Though fiber can temporarily cause gas, fiber is important for stool production and regularity. Dietary fiber is divided into two types: Insoluble and soluble.

**Insoluble Fiber:** Insoluble fiber is found in fruit and vegetable peels, corn, and wheat bran. Insoluble fiber swells up with fluids and helps to create volume and moisture in the stools. However, since it is not further broken down by bacteria it produces little gas.

**Soluble Fiber:** Soluble fiber is found in the flesh of fruits and vegetables, seeds, legumes, oats, some grains and can be found in high concentrations in dried fruit. Bacteria is able to break soluble fiber down into a gel that helps to make stools moist, soft and flexible. This bacterial activity can generate gas.

**Sugars:** Sugar is a carbohydrate. Sugar can cause gas. The sugars that cause gas are raffinose, lactose, fructose, and sorbitol.

Sources of these sugars are:

**Raffinose:** Raffinose is a complex carbohydrate. It can be found in beans, cabbage, brussels sprouts, broccoli, asparagus, other vegetables, and whole grains.

**Lactose:** Lactose is the natural sugar in milk and milk products such as cheese and ice cream. It is also found in many processed foods, such as bread, cereal, and salad dressing. Some people have low levels of the enzyme lactase that is needed in order to digest lactose. This can result in gas. With age, enzyme levels may decrease. As a result, some people may experience increasing amounts of gas after eating foods containing lactose.

**Fructose:** Fructose is natural sugar present in onions, artichokes, pears, grapes and wheat. It is also used as a sweetener in some soft drinks and fruit drinks.

**Sorbitol:** Sorbitol is a natural sugar found in fruits, such as apples, pears, peaches, and prunes. Sorbitol is also used as an artificial sweetener in many of the diet industry foods. It can also be found in “sugar free” candy and gum.

Can Fruit-Eze™ Help?

Yes. The moist fibers of Fruit-Eze™ fruit blend can help you to produce well formed stools that are soft, flexible and easy to pass. **And,** Fruit-Eze™ fruit blend helps to promote healthy bacterial growth which benefits colon health and contributes to regularity.

Achieve regularity, avoid constipation, and constipation leading to impaction with Fruit-Eze™ pure fruit regularity blend.

Article by Carole Engel, Director of Outreach
© 2004 Fruit-Eze, Inc.
www.fruiteze.com / 1-888-Regular