

# Gas

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.

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, it 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	peanuts
wheat bran	Brazil nuts
whole grain breads	popcorn
vegetables and fruit, especially the skins	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. Foods that are particularly high in soluble fiber are:

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