Fact Sheet

Bloating and Wind

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Introduction

Wind can be very embarrassing and painful to people with IBS. It gurgles and squelches through the intestines during pauses in conversations, sometimes squeaking like a rusty door and sometimes roaring like an express train in a tunnel.

It can get trapped by spasms causing pain and such severe bloating and distension that women (and men) can look as if they've acquired a 5 month pregnancy within the space of half an hour. It can rise up in the mouth and be expelled with a cavernous belch but worst of all, it can escape downwards, either silent and deadly at five paces or with a distinctive sound that instantly identifies you. But where does all this gas come from?

Where is intestinal gas generated?

Air can be swallowed along with food and drink. Carbon dioxide can be generated in the stomach by the combination of gastric acid and digestive secretions containing sodium bicarbonate. But these gases are normally absorbed in the small intestine.

Most intestinal gas is generated in the colon by the fermentation of carbohydrates or protein that has escaped absorption. Indeed the colon can be thought of as a large fermenting vat of bacteria, converting sugars and starches and some protein to short chain fatty acids (mainly acetic acid, propionic and butyric acid), a little alcohol and a lot of gas.

Gassy Symptoms

We say that patients suffer from flatulence or farting when they pass too much wind, when it is too smelly and when they can't control it.

Bloating

At least a quarter of the population experiences bloating. Symptoms are commoner in women, who often report their stomachs are relatively flat in the morning but become progressively more swollen during the day and by the evening they cannot wait to get home to put something looser on.

Bloating is often worse before periods and women frequently complain that they look pregnant. This increase in abdominal girth is not in the imagination; it actually happens. Waist measurements can increase by several inches. The cause of bloating is not clear. Computer scans have clearly shown an accumulation of gas can occur in people who suffer from abdominal distension and bloating.

"Gas and wind can be very embarrassing and painful to people with Irritable Bowel Syndrome. It gurgles and squelches through the intestines during pauses in conversations, sometimes squeaking like a rusty door and sometimes like a roaring express train in a tunnel."

Recent studies indicate that gas may be trapped in the bowel by areas of spasm. This may be made worse by eating fatty foods. Bloating is more likely to occur in constipated patients and people who are anxious.

Abdominal Rumble

There is no evidence that people who suffer from a lot of abdominal squeals and gurgles produce any more gas than normal people, just that they move it around more. Abdominal rumbles, or 'borborygmi', can occur in silent moments when patients are struggling with strong emotions.

Farting

Most of us strive to contain our wind in company. It's not so much the actual expulsion of wind that is the problem, it is what it represents; a lack of social competence, a defiency of manners and even dirtiness. Such notions were inculated in most of us at a very early age! So uncontrolled expulsion of gas draws attention to itself because it can smell so bad and because it makes a distinctive sound.

Why does intestinal gas smell so bad?

Why should intestinal gas smell so bad? After all, carbon dioxide, hydrogen, methane and nitrogen are all odourless. The answer is that just as water carries the taste of orange juice dissolved in it, so odourless intestinal gases carry small quantities of highly potent volatile perfumes, such as adaverine and putrescine, which are formed by the bacterial putrefaction of proteins. Intestinal gas also contains very small quantities of hydrogen sulphide, the gas of school chemistry laboratories that smells like rotten eggs. In the colon, hydrogen sulphide is generated from the breakdown of sulphur containing amino acids as well as the reduction of sulphite preservatives by populations of sulphide producing bacteria.

And what produces the noise?

As we are all well aware, the expulsion of gas from the anus can generate a variety of sounds. The farty noise is produced by the walls of a relaxed anal canal behaving like a flutter valve, opening and closing as the gas escapes.

As any trumpeter knows, the more tension there is in the muscles surrounding the orifice, the higher the pitch. So if a person is squeezing the anus and trying to stop gas being expelled, any increase in abdominal pressure that might be caused, for example, by getting up from a chair or laughing, forces the gas out and creates a loud toot!

What is responsible for gassy symptoms?

Food

The Gassiest people in the world are those who ingest food that contain large quantities of Unabsorbable starches and sugars. These include cereal fibre, wheat products, dairy products (in people with lactase deficiency), bananas, apples, pears, dried fruits, pulses, vegetables, such as broccoli and reheated cooked potatoes.

Intestinal sensitivity and reactivity
When the intestinal gases are flushed out by gastric infusion of the inert gas argon, some people with gassy symptoms do not necessarily appear to generate more gas than people who do not suffer with wind. Instead, their intestines seem more sensitive to normal amounts of gas.

Medical causes
People with Irritable Bowel Syndrome frequently suffer from gassy symptoms, irrespective of whether they have constipation or diarrhoea.

Their intestines are more sensitive and react to distension by producing gas. Constipation tends to be associated with gas trapping. Also treatment for constipation with bulk laxatives, such as methylcellulose and isphagula husk, or sugary lactulose in Duphalac or the new prebiotics can generate a lot of gas as the expanded pool of bacteria in the constipated colon gets fed by a lot of unabsorbed carbohydrate.

Rapid passage through the gut in Irritable Bowel Syndrome with diarrhoea reduces the absorption of starches and sugars, adding more fuel for colonic fermentation.

Lactose Intolerance
Lactase enzyme is present at birth and breaks down lactose milk sugar to glucose and galactase, which are rapidly absorbed.

About 30% of people in the UK lose their lactase enzyme shortly after weaning. If they drink milk, lactose escapes absorption in the small intestine but is fermented in the colon, generating large amounts of gas, indeed the person who holds the record for gassiest person had lactose intolerance and was recorded as farting 144 times in an hour.

Fructose Intolerance
A very small percentage of people have a genetic defect that impairs the absorption of fructose in fruits. In those patients, a simple avoidance diet is all that is required.

Coeliac or Pancreatic Disease
If bloating or flatulence is associated with diarrhoea, weight loss and nutritional deficiency it may suggest malabsorption due to coeliac disease or pancreatic disease. This would need to be investigated by a gastroenterologist.

Treating Gassy Symptoms
There are three approaches you can take; diet, drugs and alterations in lifestyle and behaviour.

Diet
Since most gas is generated by poorly absorbed starches and sugars, it would seem sensible to reduce the intake of foods that contain such material. This would include cereal fibre, fruits, vegetables and pulses. Unfortunately these foods are generally reckoned to be healthy, helping people to lose weight and reducing plasma lipids and blood sugar levels.

Reducing your fat intake by cutting down meat and dairy products may help to reduce intestinal spasm, gas trapping and bloating.

If it's the offensive odour that is the problem, cutting down the amount of meat in your diet can help. Also try reducing your fibre intake.

Drugs
Drugs have a limited role in the treatment of bloating and flatulence. Nevertheless, there are several products that claim to reduce intestinal gas.

Charcoal biscuits
Charcoal biscuits have been used for many years; it is claimed they work by absorbing the gas onto the charcoal matrix.

Simethicone
Simethicone, (Gas-X Ovol, Phazyme, Mylicon, Flatulex, Mylanta Gas, Wincheaters). Is an inert silicon polymer that is not absorbed into the body. It is said to work by reducing the surface tension of small air bubbles, thereby allowing them to coalesce into larger bubbles that are more easily eliminated.

There is no explanation, however, for why larger gas bubbles should be more easily eliminated than smaller ones. Thus, the mechanism of action of Simethicone (if any) is unclear. Simethicone often is combined with antacids for no reason that is obvious.

Alpha-galactosidase
(Beano): Alpha-galactosidase is an enzyme that breaks down the unabsorbable starches in beans and other vegetables before they can be fermented in the colon.
It is derived from a mold and is taken as a tablet or as drops added to food (after the food has cooled since heat inactivates the enzyme).

By assisting with the digestion of carbohydrates and fibre, there is less for bacteria to digest and convert to gas. There is the potential for allergic reactions to alpha-galactosidase among patients allergic to molds.

Probiotics
By changing the composition of colonic bacteria, probiotics might lead to a reduction of flatulence in some people, but in others they might actually cause more gas.

Peppermint
Although delayed release capsules containing peppermint (Colpermin or Mintec) may not reduce the amount of gas produced they can relax the colon, allowing more gas to be retained and that which is passed may smell more sweetly of peppermint.

Antispasmodic
Some patients with associated pain do report some relief with anti-spasmodic medications such as Mebeverine (Colofac) and Alverine (Spasmonal).

New Drugs
Patients in the United States who took Alosetron (Lotronex) for diarrhoea predominate IBS reported a reduction in bloating compared to placebo. Patients taking Tegaserod (Zelnorm) reported significantly less bloating compared to controls.

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Changes in Behaviour

A change in meal patterns may help – make the midday meal the main meal and eat less in the evening.

Avoid rushing your meal and allow sufficient time to digest your food.

Take smaller regular meals

Keeping a food diary is useful in identifying and helping to avoid 'trigger foods'.

Take regular exercise

Allow enough time to relax and unwind. Relaxation and all methods that help to build confidence are helpful for all Irritable Bowel Syndrome symptoms including those produced by gas. They reduce the sensitivity and reactivity of the colon allowing more gas to be retained and absorbed instead of voided.

For people who work in an enclosed office, it may be useful to take rehular loo breaks or walks to expel the gas.

A number of non-medical products that may be useful are abailable, including 'GasBGon', your own personal cushion containg a gas absorbent.

More information online

You can find further information about Bloating and Wind online at the following websites:

GasBGon

Website: www.gasbgon.com

Further Reading

IBS. A complete guide to relief from Irritable Bowel Syndrome by Christine Dancey and Susan Blackhouse Robinson 1997 £7.99

Abdominal distension in female patients with irritable bowel syndrome: exploration of possible mechanisms. Gut 32: 662-664. Maxton DG, Martin DF and Whorwell PJ (1991)

All you ever wanted to know about flatulence but were too shy to ask. Read N.W. (2004) Gut Reaction. 54, 4-5

Intestinal gas dynamics and tolerance in humans. Gastroenterology 115: 542-550. Serra J, Azpiroz F and Malagelada J-R (1998)

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About This Factsheet

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The IBS Network provide the only dedicated support in the UK to people with IBS, helping them and their families and carers to manage their IBS and achieve an improved quality of life.

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