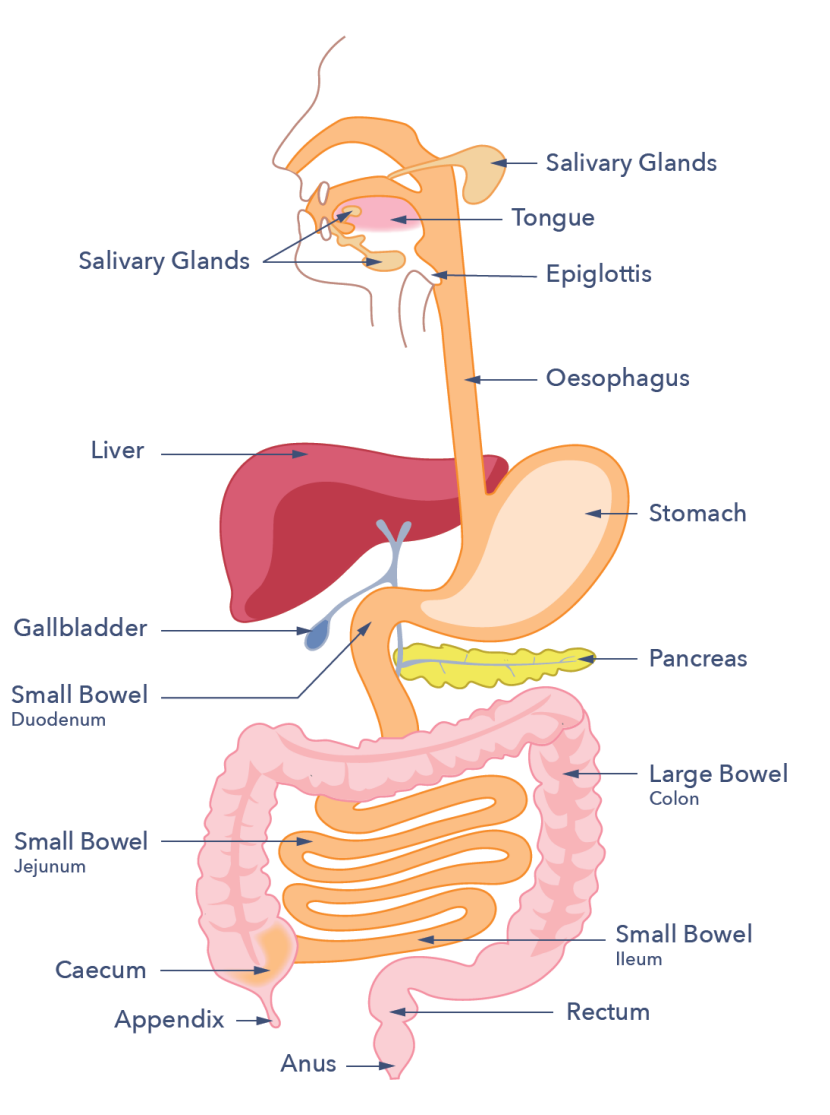


WIND



FUNDING RESEARCH TO FIGHT DISEASES OF THE GUT, LIVER & PANCREAS

**THE DIGESTIVE SYSTEM**



## OVERVIEW

### THIS FACTSHEET IS ABOUT WIND.

This factsheet helps to explain the symptoms of wind and what causes it. It will help you to identify when it is a problem needing your doctor to investigate it. The information also highlights what treatments are available to help reduce symptoms.

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Many people think that they have too much wind. But in an otherwise healthy person, wind is nothing to worry about. Burping or belching is a natural process to rid the stomach of too much swallowed air. Farting (or flatulence) is the normal way that air and digestive gases are let out from the bowel, via the anus. It is normal for people to fart around 15 times a day. Although what is normal does vary between people. It is important to know what is normal for you, so you can note any changes that might occur.

### WHAT IS WIND MADE UP OF?

Most wind in the gut is made up of five gases: nitrogen, oxygen, carbon dioxide, hydrogen and methane. There are other gases in wind, but these make up a much smaller amount.

#### **Nitrogen, oxygen and carbon dioxide.**

The nitrogen and oxygen come from swallowed air. The carbon dioxide is produced by stomach acid mixing with bicarbonate. Bicarbonate is a part of digestive juices made by the pancreas. When gases move into the

small bowel, the oxygen and carbon dioxide pass over the gut wall, into the blood stream. The nitrogen moves through to the large bowel.

### **Hydrogen, methane, carbon dioxide.**

The small intestine is the place where the food we eat is digested and absorbed. The residues from digestion that are not absorbed then move through to the large bowel. Examples of the residue include dietary fibre, some carbohydrates and some proteins<sup>1</sup>. The large bowel contains different kinds of bacteria and other microorganisms, called a microbiome. These organisms are essential to health. The microbiome ferments the residues, and this process makes some of the gases in the bowel. For example, hydrogen, methane and some more carbon dioxide.

Swallowing and digestion rather than bacterial fermentation, is the cause of most wind in the bowel. Seven out of 10 parts of the amount of gas is taken into the blood stream through the digestive tract wall. This is expelled by breathing out. The rest is passed as farts (flatus), through the anus.

## **WHO HAS WIND?**

Everyone has wind - it is a sign that the digestive system is working well. In a study looking at the effect of a diet rich in prebiotics, people who were healthy and people who report excessive gas, were given a diet that produces more gut gas. Prebiotics are foods containing fibres that are 'food' for gut bacteria. The volume and amount of wind passed by both groups was the same<sup>2</sup>. The reason why some people get bloating and abdominal pain is the differences in the sensitivity of the bowel to the gas. People who complain of excessive gas may have a problem of poor gas clearance from the gut<sup>1</sup>, which might be due in part to changes in the types of microbes in their large bowel<sup>2</sup>. The microbe changes might be because of changes to diet or lifestyle or poor gas clearance from the gut<sup>1</sup>. More research is needed to find the specific causes.

Wind is a common symptom of many digestive conditions and diseases. You should discuss with your doctor if you have:

- A change in wind along with a change in bowel habit.
- Continuing symptoms of heartburn or indigestion.

## SYMPTOMS

### Symptoms Include

- Burping or belching (air eructation).
- Farting (flatulence).
- Rumbling noises coming from the gut (borborygmi).

## WHY DO PEOPLE HAVE EXCESSIVE WIND?

The reasons for wind fall broadly speaking into three categories:

- Mechanical reasons (changes in gut movement).
- Dietary (food intolerance).
- Medical conditions and diseases.

### Burping or belching (air eructation)

Every time we swallow, we take a small amount of air into the stomach. A burp is an involuntary expulsion of wind (gas) by the stomach. It happens when the stomach becomes stretched from too much swallowed air. This is normal. Burping occurs normally between 20 to 30 times a day<sup>7</sup>.

Lifestyle habits can contribute to swallowing too much air. Air can also be taken into the stomach by eating too fast, eating hot food, or gulping down fluids too quickly. Other habits can also contribute to wind:

- Drinking a lot of liquids with meals.
- Chewing gum.
- Smoking
- Having dentures that are too loose.

Fizzy drinks can produce more burping due to the gas included in the drink. Air swallowing can happen too when swallowing saliva, this

happens for some people who have heartburn. Some people swallow air without noticing it, when they are tense.

Belching is considered a disorder when it is both excessive and troublesome. Information on belching disorders can be found [here](#). If you wish to receive a copy by post, please call 0207 4860341.

### **Rumblings/grumblings or noisy gut**

The bowel makes noises, when the contents of the bowel are vigorously moved back and forth during digestion. The technical term is borborygmi. Sounds might also be produced by hunger, anxiety or fright. These are very common in conditions where there are disturbances in the interactions between the brain and the gut. These are called disorders of the gut brain interaction for example irritable bowel syndrome (IBS). Bowel conditions like Crohn's disease or a bowel obstruction can also cause loud gut noises. These conditions also have severe symptoms, such as severe abdominal pain and bloating. Symptoms like this should be reported to your doctor.

### **Flatus (fart)**

A normal individual passes wind through the rectum on average 15 times per day. The amount will depend on their diet.

### **Loud wind**

Loud wind is produced by powerful contractions of the bowel wall. This forces gas through the anus. The anus is the muscle at the bottom of the rectum that keeps the bowel contents in their place. Measures to reduce flatus production may help to lessen symptoms.

Loud wind can be caused by a diet high in fat and alcohol intake (for example beer).

### **Smelly wind**

A smaller number of gases in wind are made by the micro-organisms fermenting the food residue. These gases can contribute to the odour of wind, despite them being found at a low level. Indoles, skatoles and

hydrogen sulphide are the names of these gasses. They contribute about 1 part in 100 parts of the gas's volume.

Brassicas (cabbage, cauliflower, broccoli and Brussels sprouts) can contribute to smelly wind. Garlic and onion can also produce smelly wind. Most vegetables are good for general gut health. If a particular food causes symptoms, it is better to reduce your intake of them, rather than cut them out altogether. The best option is to contact your GP before you alter your diet. Some wind symptoms improve with treatment of the underlying condition.

### Food intolerance

There are several food intolerances that people may experience with wind. Usually, the wind is accompanied by other bowel symptoms. Other bowel symptoms that could be symptoms of a food intolerance are:

- Diarrhoea
- Constipation
- Or a mixture of diarrhoea or constipation
- Bloating
- Distension

If someone believes they have a food intolerance, when in fact their symptoms are caused by an underlying condition, the illness may remain undiagnosed. Examples are coeliac disease and inflammatory bowel disease. These diseases can be masked by symptoms of food intolerances, for example lactose intolerance. It is best not to assume you have a food intolerance unless other diagnoses have been excluded, which is why it is important to discuss your symptoms with your doctor first.

For people with irritable bowel syndrome, food intolerance is common. Each person has a different level of dietary tolerance. Foods that can worsen symptoms include a variety of foods containing FODMAPs. These are parts of carbohydrates that are not taken in the body and travel into the large bowel. The acronym FODMAPs stands for fermentable oligosaccharides, di-saccharides, monosaccharides and polyols.

They are:

- **Oligosaccharides** – there are two types. Fructo-oligosaccharides which are found generally in wheat. Galacto-oligosaccharides are found in pulses for example chickpeas, lentils, peas and beans.
- **Di-saccharides** – lactose is a sugar found in milk.
- **Monosaccharides** – fructose is a sugar found in some fruits and vegetables. Fructose sugars can also be added to foods to sweeten them.
- **Polyols – or sugar alcohols**. These are often found in sugar free sweets, chewing gum and drinks. Polyols in processed food can be identified from the food's ingredient list. Some examples include sorbitol, mannitol or erythritol.

These FODMAP food groups are used by the microbes found in the bowel. They are fermented by the microbes to produce gas and often cause diarrhoea.

### **Lactose intolerance**

The human digestive system sometimes doesn't produce enough digestive enzymes to digest lactose in some people. Symptoms include wind, bloating and diarrhoea when milk or some soft cheeses are consumed. Ask your doctor for a referral to a registered dietitian to help find your tolerance of lactose if it is causing symptoms.

### **Fructose intolerance**

Fructose is taken into the body using special transporters in the digestive tract wall. Some people have less of the transporters so cannot absorb fructose well. The symptoms are wind, bloating and diarrhoea on consumption of some fruit, vegetables and especially fruit juice. Ask for a referral to a dietitian to help you find your tolerance of fructose.

But FODMAPS do not cause symptoms for everyone with IBS. These intolerances can reduce intake of the foods that promote good bacteria growth in the digestive system, it is important that tolerated foods are

included in the diet. If you have concerns that your diet is very restricted, ask your doctor for a referral to a dietitian.

### **Wind caused by medicines**

Some medicines can cause wind. Do not stop taking your medicine but talk to your doctor or pharmacist if you think wind has been caused by a medication.

## **TREATMENT**

### **Lifestyle advice**

The simple changes below may help reduce wind:

- Reduce intake of fizzy drinks.
- Chew food well and take time when eating.
- Don't use straws for drinks.
- Use smaller portions of tinned, rinsed pulses instead of dried options and reduce intake of green (savoy) cabbage, sprouts and cauliflower.
- Include oats and linseeds in your diet as they can help reduce wind<sup>6</sup>.
- Reduce intake of sugar free foods containing sorbitol, mannitol and erythritol<sup>6</sup>.
- Avoid smoking, chewing gum and drinking fluids in-between meals.

### **Medicines**

#### **Simeticone**

Wind relief tablets containing simethicone work by gathering small gas bubbles in the digestive tract together to make bigger bubbles. These are easier for the person to release and ease trapped wind. This medicine is also used to help babies with colic. You can check the label inside the wind relief tablet to see if it contains simethicone. Some preparations also contain other ingredients. Products containing simethicone are unsuitable for people taking levothyroxine because it



can stop levothyroxine being absorbed properly. Talk to your pharmacist or doctor to check it is suitable for you.

### **Activated charcoal**

The reported effectiveness of activated charcoal to reduce gas in the digestive system when taken as a medicine is conflicting. This means some say it is effective, others report it isn't. This product is not a medicine used by doctors for wind, but is widely available from supplement companies. Care should be taken as this product can stop the absorption of other medicines you take by mouth. This might make a medicine taken at the same time as charcoal less effective. Activated charcoal can also lead to digestive symptoms. Talk to a pharmacist who can advise you about products containing activated charcoal.

### **Alpha-galactosidase**

Alpha-galactosidase is an enzyme that can help digestion of foods containing galacto-oligosaccharides (GOS). GOS is generally found in peas, beans and pulses. Alpha-galactosidase is an ingredient of some over the counter medicines that help reduce wind from these foods. Ask your pharmacist about which ones might help you.

### **Lactase enzyme**

Lactase supplements are available as supplements to help digest lactose. The effectiveness of them is controversial. There is no convincing evidence that these supplements can help reduce symptoms. If these supplements are tried however, they should be taken between 5 to 30 minutes before eating a lactose containing meal.

Other mixed 'digestive enzymes' that are available from health food shops and online have no evidence that they make any difference to symptoms.

## Diet

The Low FODMAP diet is a learning diet to help people with IBS identify their personal food intolerances. The FODMAP diet works for around 5 to 7 people out of 10 with IBS. This would be a treatment dietitians would consider for people when more simple diet advice for IBS is not effective. The diet includes three stages. In stage one, the foods are reduced all at once and symptoms should reduce to a manageable level. Once symptoms are reduced, the foods are re-introduced to test which of the foods are problematic. This is an important stage of the diet. It is unlikely to be all of the foods. Then the person follows a reduced FODMAP diet which includes tolerated foods, as these foods are important to gut health.

Most FODMAP foods are prebiotic (food for gut bacteria) that help strains of microbes that are beneficial for health, to thrive. This is the reason they are important for health. Someone with IBS should only exclude FODMAPs in amounts that give them symptoms. FODMAPs are found widely in foods, and as the diet is complex, it should be done with the help of a registered trained dietitian. There is no evidence that this diet works for other digestive diseases yet.

## DOES WIND NEED TO BE MONITORED AND IF SO, HOW?

How do I know if my wind is normal?

The average person farts up to 15 times a day. Anything less than this is normal. Often people believe that they have excessive wind because they had an embarrassing incident like a loud or smelly fart in public. This has led to the belief that something is wrong. Burping happens between 15 and 20 times a day.

If these events are severe, ongoing, troublesome or if you are worried about them, you should discuss your concerns with your doctor.

If you develop the following, you should seek medical advice:

- Burping associated with chest discomfort or pain (particularly if the chest discomfort is associated with exercise).

- Difficulties in swallowing.
- Weight loss.

If your farting symptoms are associated with the following, you should see your doctor as they can be a symptom of more serious bowel conditions:

- Weight loss
- Abdominal pain
- Diarrhoea
- Blood in poo

## **SUPPORT**

What to ask your doctor?

- Is my wind, burping, flatulence normal?
- Do I need investigations for other conditions such as lactose intolerance, coeliac disease or IBS?
- Do I need investigation for reflux or other gastric conditions?

References available on request.

[www.gutscharity.org.uk](http://www.gutscharity.org.uk)