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Common causes of bad breath

Most cases of bad breath (halitosis) come from germs (bacteria) or debris that build up within the mouth.

What causes bad breath?

Morning bad breath

Most people have some degree of bad breath after a night's sleep. This is normal and occurs because the mouth tends to get dry and stagnate overnight. This usually clears when the flow of saliva increases soon after starting to eat breakfast.

Dry mouth (xerostomia)

Bad breath associated with a [dry mouth](#) is caused by a reduction in the cleansing mechanism of the mouth as a result of reduced flow of saliva from the salivary glands. There are many causes of a dry mouth contributing to bad breath. The most common cause is after a night's sleep (discussed above). Dry mouth may also occur:

- Due to a lack of fluid in the body ([dehydration](#)).
- As a side-effect of some medicines (for example, [tricyclic antidepressants](#)).
- As a symptom of some diseases (such as [Sjögren's syndrome](#)).
- Following radiotherapy to the head and neck region.

Artificial saliva is available; all can be bought over the counter at pharmacies and some can be prescribed on the NHS for certain conditions.

Foods, drinks and medicines

Chemicals in foods can get into the bloodstream and then be breathed out from the lungs. Most people are familiar with the smell of garlic, spicy foods and alcoholic drinks on the breath of people who have recently eaten or drunk these. Various other foods and medicines can cause bad breath. This type of bad breath is temporary and easily cured by not eating the food.

If a medicine is the cause of bad breath, then discuss possible alternatives with your doctor. Medicines that have been associated with bad breath include:

- Betel.
- Chloral hydrate.
- Nitrites and nitrates.
- Dimethyl sulfoxide.
- [Disulfiram](#).
- Some chemotherapy medicines.
- Phenothiazines.
- Amfetamines.
- [Lithium](#).
- 'Water' tablets (diuretics).
- [Bisphosphonates](#).

Check the list of side-effects on the leaflet that comes with your medicine if you think it might be causing bad breath.

Smoking

Most non-smokers can tell if a person is a smoker by their breath. . Stopping smoking is the only cure for this type of bad breath. Smoking tobacco products also increases the risk of developing [gum disease](#) - another cause of bad breath.

Diets

Crash dieting or fasting can cause a sickly sweet smell on the breath. This is due to chemicals called ketones being made by the breakdown of fat. Some ketones are then breathed out with each breath. Low-carbohydrate and keto diets also can cause this sort of bad breath.

Medical causes

Medical causes, other than health problems in the mouth, are relatively uncommon. Possible causes include:

- Nasal problems. For example, a [lump \(polyp\) in the nose](#) or a small object stuck in a nostril (occurs most commonly in children) can cause a bad smell. In this situation, the smell tends to occur only, or more severely, when you breathe out through your nose. It is not so noticeable when you breathe out through your mouth.
- [Sinus infections](#).
- Throat infections such as [tonsillitis](#).
- Mouth infections, such as [dental abscesses](#).
- [Infections](#) or [tumours](#) of the lung.
- [Bronchiectasis](#).
- [Reflux of acid from the stomach](#) or a [stomach infection](#) called .
- [Diabetes](#).
- Severe kidney or liver problems.
- Fish odour syndrome (trimethylaminuria). This is a rare medical cause but worth being aware of. It typically causes breath and body odour that is often like a fishy smell. It occurs because the body loses the ability to properly break down trimethylamine which is found in certain foods. There is then a build-up of trimethylamine in the body which is released in sweat, urine and breath. Urine and blood tests can help to confirm this diagnosis if it is suspected.

In these medical cases, there are usually other symptoms that would indicate the cause. For example, a blocked nose, sinus pain, chest symptoms, a high temperature (fever), etc. If you are otherwise well and have no other symptoms apart from bad breath, the smell is likely to be coming from a build-up of bacteria in the mouth and other medical causes are unlikely.

Bad breath caused by germs (halitosis)

In most people who have bad breath ([halitosis](#)), the bad smell is thought to come from germs (bacteria) and debris within the mouth.

As the bacteria break down proteins and other debris in the mouth, they release foul-smelling gases. One or more of the following may contribute to the build-up of bacteria, debris and bad breath:

Food stuck between teeth and gums

Normal teeth brushing may not clear bits of food which can get stuck between teeth. The food then rots and becomes riddled with bacteria. In addition to regular cleaning with fluoride toothpaste, flossing between the teeth (or using interdental brushes) can clear and prevent this problem.

If you wear dentures, they should be removed and cleaned every night.

Plaque, tartar (calculus) and gum disease

[Dental plaque](#) is a soft whitish deposit that forms on the surface of teeth. It forms when bacteria combine with food and saliva. Plaque contains many types of bacteria. Calculus is hardened calcified plaque. It sticks firmly to teeth. Gum disease means infection or inflammation of the tissues that surround the teeth. If your gums look inflamed, or regularly bleed when you clean your teeth, you are likely to have gum disease. The severity can range from mild to severe.

There is some evidence that antibacterial mouthwashes (such as those containing chlorhexidine) may also be useful in preventing bad breath. Be aware that these may discolour your teeth or dentures. These can be bought over the counter.

Coating on the back of the tongue

In some people, a coating develops on the back part of the tongue. It is not clear why this occurs. It may be from mucus that drips down from the back of the nose (postnasal drip). The coating can contain many bacteria. This explains why bad breath can sometimes occur in people with otherwise good oral hygiene. It is recommended that the tongue is cleaned every night with a proper utensil (such as a tongue scraper), rather than a toothbrush.

Tonsil stones (tonsilloliths)

Tonsil stones are clusters of calcified material that form in the tonsillar crypts, or crevices of the tonsils. They are made up mostly of calcium but can contain other ingredients such as magnesium and phosphorus, and can feel like a small lump in the tonsils. Rarely harmful, they can be a nuisance and hard to remove and can often cause bad breath.

Further reading

- [Halitosis](#); NICE CKS, September 2019 (UK access only)
- [Izidoro C, Botelho J, Machado V, et al](#); Revisiting Standard and Novel Therapeutic Approaches in Halitosis: A Review. *Int J Environ Res Public Health*. 2022 Sep 8;19(18). pii: ijerph191811303. doi: 10.3390/ijerph191811303.
- [Jamali Z, Alipour M, Ebrahimi S, et al](#); Effect of Halita mouthwash on oral halitosis treatment: A randomized triple-blind clinical trial. *J Dent Res Dent Clin Dent Prospects*. 2019 Winter;13(1):31-35. Epub 2019 Apr 24.
- [Acar B, Berker E, Tan C, et al](#); Effects of oral prophylaxis including tongue cleaning on halitosis and gingival inflammation in gingivitis patients—a randomized controlled clinical trial. *Clin Oral Investig*. 2019 Apr;23(4):1829-1836. doi: 10.1007/s00784-018-2617-5. Epub 2018 Sep 13.
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- [Kauss AR, Antunes M, Zanetti F, et al](#); Influence of tobacco smoking on the development of halitosis. *Toxicol Rep*. 2022 Mar 6;9:316-322. doi: 10.1016/j.toxrep.2022.02.012. eCollection 2022.

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