

Bad Breath (Halitosis)...

One of the culprits would be Anaerobic Bacteria naturally residing in our tongues

You lean over to whisper something to your friend and you can tell by the look on your friend's face that something is up. Could it be your breath?

Bad breath is the common name for the medical condition known as halitosis. There are many different things that can cause halitosis - from not brushing your teeth to certain medical conditions.

Store shelves are overflowing with mints, mouthwashes and other products designed to help people with bad breath. Yet these products help control bad breath (halitosis) only temporarily. And, they actually may be less effective than simply rinsing your mouth with water after brushing and flossing your teeth.

Certain foods, health conditions and habits are among the causes of bad breath. In many cases, you can improve bad breath with proper dental hygiene. But, if simple self-care techniques don't solve the problem, you may want to see your dentist or doctor to rule out a more serious condition.

Some of the causes include:

- Food

The breakdown of food particles in and around your teeth can cause a foul odor. Eating foods containing volatile oils is another source of bad breath. Onions and garlic are the best known examples, but other vegetables and spices also can cause bad breath. After

At an earlier time, the theory was that bad breath came from the digestive system (an unfortunate myth) which led to bogus capsules that were swallowed eagerly by the public but which provided no relief.

such foods are digested and the pungent oils are absorbed into your bloodstream, they're carried to your lungs and are given off in your breath until the food is eliminated from your body. Alcohol behaves in the same fashion,



allowing the measurement of alcohol levels by breath tests. Alcohol itself has almost no odor, however. The characteristic smell on your breath is mainly the odor of other components of the beverage.

- Dental problems

Poor dental hygiene and periodontal disease can be a source of bad breath. If you don't brush and floss daily, food particles remain in your mouth, collecting odorous bacteria. A colorless, sticky film of bacteria (plaque) forms on your teeth. If not brushed away, plaque can irritate your gums (gingivitis) and cause tooth decay. Eventually, plaque-filled pockets can form between your teeth and gums (periodontitis), worsening this problem — and your breath.

- Disease

Chronic lung infections and lung abscesses can produce very foul-smelling breath. Several other illnesses can cause a distinctive breath odor.

- **Mouth**, nose and throat conditions. Bad breath is also associated with sinus infections because nasal discharge from your sinuses into the back of your throat can cause mouth odor.

- **Tobacco products** Smoking dries out your mouth and causes its own unpleasant mouth odor. Tobacco users are also more likely to have periodontal disease, an additional source of bad breath.

Bad breath may be solved if the above conditions are cleared but if the cause of bad breath is none of the above and is caused by the over-action of anaerobic bacteria naturally residing in our tongues

A culprit: Anaerobic bacteria

Almost all cases of bad breath & taste disorders involve a group of anaerobic sulfur-producing bacteria, that live below the surface of the tongue, in the throat, and often in the tonsils (if present). They react to changes in their environment by producing odorous and lousy tasting Volatile Sulfur Compounds (VSC's), such as hydrogen sulfide (the rotten egg smell), methyl mercaptan (similar to the odor of old socks), and several other

The ONLY proven way to eliminate bad breath is to change your existing oral environment so that it is 'less friendly' to creating and sustaining the volatile sulfur producing anaerobic bacteria which cause bad breath and taste, says Dr Harold Katz

chemicals, such as Cadaverine and Putrescine.

These bacteria are supposed to be there, because they assist humans in digestion by breaking down proteins found in specific foods, mucus or phlegm, blood, and in diseased or "broken-down" oral tissue. Under certain conditions, these bacteria start to break down proteins at a very high rate. Proteins are made up of amino acids. Two of the amino acids (Cysteine and Methionine) are dense with sulfur.

When these "beneficial" bacteria come into contact with these compounds, the odorous and "lousy-tasting" sulfur compounds are released from the back of the tongue and throat, as Hydrogen Sulfide, Methyl Mercaptan, and other bad tasting compounds. These "problem" compounds are often referred to as volatile sulfur compounds (VSC), where volatile is taken to



mean Vaporous and Effervescent, two adjectives which accurately describe their ability to offend other people instantly

They are classified as "Anaerobic" - which literally means "Without Oxygen".

They thrive in an environment where oxygen is not present. That is why they do not live on the surface of your tongue! They live in between the papillae (fibers) that make up your tongue!

The conditions that trigger bad breath and halitosis include, but are not limited to:

- A dry mouth
- Thick saliva
- Excess mucus in the throat
- Post nasal drip
- A diet high in proteins (dairy foods, red meat, beans, etc.)
- Smoking
- Alcohol
- Hormonal changes
- Medications which have dry mouth as a side-effect (anti-depressants, high blood pressure medications, anti-histamines, etc)
- History of Diabetes
- Some foods onions, garlic, and other spicy foods contain a variety of sulfur compounds, known as mercaptans, which are very odorous.

Dry mouth ... lends a hand

When your mouth is drier, you have less saliva, among other soluble components. Saliva contains a healthy helping of Oxygen, which keeps your mouth healthy and fresh. These bacteria are anaerobic, which simply means that they

will thrive and make more sulfur in the presence of little or no oxygen. Thus if you have less Saliva, you have less oxygen, thereby creating an anaerobic environment, perfect for the bacteria to produce more of these odorous and sour/bitter compounds.

The proposed solution by Dr Harold Katz

Since they are part of our normal oral flora, you cannot permanently remove them from your mouth - not by tongue scraping, not by antibiotics, and not by rinses which claim to "lift the bacteria off your tongue". The only scientifically proven and clinically effective method of halting Halitosis is by attacking the bacteria's ability to produce VSC's and by converting the VSC's into non-odorous and non-tasting organic salts. The only way to effectively stop these bacteria from producing these Volatile Sulfur

Compounds, is to use an Oxyd-8 based product.

TheraBreath formulas by Dr Harold Katz declare to eliminate these odors, because they can convert themercaptans into simple non-odorous (and non-tasting) sulfate salts. These are virtually the same type of chemicals produced by the bacteria that are part of the "normal" oral flora found in the mouths of everyone on the face of the earth. In other words, nearly all cases of "real" bad breath and/or taste disorders (or Halitosis as some like to call it) involve good bacteria and should never be treated with antibiotics. One of the most tragic mistakes by physicians is to immediately prescribe an antibiotic for bad breath, especially when they never seem to look in your mouth or at your tongue before doing so!

Excerptions:

- "Bad breath" article by Mayo clinic team, Mayo Foundation for Medical Education and Research (MFMER).
- The "Bad Breath Bible" by Dr. Harold Katz

