



**University Hospitals Birmingham**  
NHS Foundation Trust



# Smell and Taste Disorders

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## What are smell and taste senses?

Smell and taste are interlinked; most of what we consider our taste sensation is actually from our sense of smell.

The sense of taste provides five basic taste differentiations, which are:

- Sweet
- Sour
- Salty
- Bitter
- Umami (the taste of meaty/savoury substances)

Taste is detected by taste receptors found in our taste buds, which are found on the tongue and in our mouths. Information about what we taste is collected by these taste receptors, and is sent to the brain. However, most of the flavour of food is largely due to the smell of food. This is detected by smell receptors, which are found in the lining of the nose and the smell of food travels from the back of the mouth into the back of the nose. We have a third chemical sense from the trigeminal nerve which is a mild pain receptor and tells us if food is spicy or if odours are pungent.

## What are smell and taste disorders?

Smell and taste disorders are conditions that result in a decrease, absence or even distortion in the sense of taste and smell. Some of these are a result of a failed development of the smell or taste system, and others are due to the loss later in life. This may be gradual or sudden and may in some cases have an obvious preceding cause, for example a head injury or a viral infection. The complete lack of smell is termed anosmia and if reduced, hyposmia. Other changes in the sense of smell include parosmia (smells being different than expected) and the perception of smells that are not there (phantosmia). These are all part of smell disorders that affect about 5% of the population. Because

of the effect on detection of flavour of food, a lot of smell disorders lead people to believe they also have a taste disorder. Taste disorders are rare.

## Causes of loss of smell and taste

The sense of smell can be lost due to a variety of causes. The most common causes include head trauma, viral infections (colds), nasal and/or sinus disease (e.g. allergies, various forms of sinusitis including where nasal polyps form, structural abnormalities), and the use of some drugs. Some other medical conditions may be associated with anosmia, for example epilepsy, Alzheimer's disease, Parkinson's disease and schizophrenia. The sense of smell, as with all other senses, naturally regresses with age. Rarely, some tumours/cancers can also result in anosmia. However, sometimes a cause of anosmia may not be found and this is true in 20% of people who are investigated for anosmia.

## What should I do if I am worried about my sense of smell?

Short-term changes in smell and taste are common with upper respiratory tract infection (colds) and these should generally return to normal within a few weeks. If you are worried about a persistent change in your sense of smell or taste, you should make an appointment with your GP. Your GP will decide whether you should be referred to an ENT (ear, nose and throat) surgeon who specialises in smell and taste disorders for further assessment, investigation or advice. The earlier you see a doctor the better in this circumstance.

## Assessing smell and taste disorders

A physical examination will be performed in the ENT clinic. This will often include an endoscopic examination of the nose. More specific tests of smell may be performed. Patients can also be tested for nasal allergies. Occasionally CT (computed tomography scans) or MRI (magnetic resonance imaging scans) may be requested to help reach a diagnosis, as well as a blood test.

## What happens after I lose my sense of smell?

Different causes of smell and taste disorders result in different long-term outcomes.

Temporary loss of smell may occur when people smoke, or have a seasonal allergy.

Following a cold some people return quickly to normal function whilst others have longer term or even permanent changes to their smell.

Nasal and sinus conditions may affect smell to a varying degree. There may be a good response to treatment, which can be with medicines and if needed, surgery.

Head trauma can result in injuries to the nose, the smell nerves or the brain where the signal is received. The smell system can sometimes repair itself and restore some of the smell sense. When this happens is variable depending on the site and severity of the injury but there are studies to show that some degree of recovery can occur up to 10 years after the trauma in 50% of sufferers. Parosmia and phantosmia may also occur and tend to happen early after the trauma before gradually disappearing.

Age results in a reduction in the number of smell receptors, which can reduce the sense of smell and there is less ability to repair damaged smell receptors.

## Living with a smell or taste disorder

The loss of smell and taste can be associated with a reduction in quality of life and depression. Information about smell and taste disorders, how to cope with it, as well as support groups help to reduce these effects. The main points to consider are your health and safety, as well as of those around you.

It is difficult to identify faulty gas appliances, which are mainly identified by the sense of smell. Ensure gas appliances are switched off when not in use and are serviced every year. If you can, change from a gas appliance to electric to reduce the risk of an accident. You could also get a natural gas detector fitted in your home.

There is also a risk of missing house fires. You should ensure that the fire alarms in your house are working properly; the fire department recommends checking them every week.

You may have little or no ability to tell if food is still safe to eat (food poisoning may affect you more commonly). You may depend on other people to smell foodstuffs for you. You should never eat food stuff beyond its use by/best before date. You can label refrigerated food cartons with the date they were opened. Food discolouration will also indicate whether food is not safe, so carefully check the food before you eat. You will be unable to smell your own personal body odours. To reduce self-consciousness, maintenance of good personal hygiene is important.

If your sense of smell is necessary for your occupation you should discuss this with your employer or supervisor. They can contact us with your permission for further help and advice.

When your sense of smell and taste are altered you may not appreciate complex flavours in food. This loss of taste can reduce your appetite. Try and maintain your nutrition levels by weighing yourself regularly, or setting reminders for mealtimes. Cooking with ingredients that stimulate the taste buds that are more colourful or textured may restore some of the interest in food.

## Further information and support

Fifth Sense is the UK's first organisation set up to support and advise smell and taste disorder sufferers, raise awareness of such conditions and facilitate and support further research into treatments. For more information and to become a member then please visit [www.fifthsense.org.uk](http://www.fifthsense.org.uk).

For dietary advice see 'Navigating Smell and Taste Disorders' by Ronald DeVere and Marjorie Calvert, published by demosHealth, New York (ISBN-13: 978-1932603965).

## What can I try to improve my sense of smell?

Smell-training is a complementary practice that can be adopted to improve your ability to smell.

What is "smell-training?"

This is a special training regime for your sense of smell. Like practising to develop a specific skill, smell-training involves repeatedly spending time sniffing various odours/scents in order to improve your ability to detect them.

This concept is supported by evidence from various studies which demonstrate that the sense of smell has the ability to change and recover. However it is important to note that the chance and extent of any recovery depend on the degree of damage that resulted in the impairment of your sense of smell.

## How do I perform smell-training?

**You will need:**

- An odorant (i.e. a substance that has a distinctive smell such as essential oils - rose, eucalyptus, clove, lemon). This may be provided in the form of odorant bottles (e.g. aromatherapy oils)

## **Smell-training steps:**

1. Select your first odorant jar and remove the lid to release the odour.
2. Apply a few drops of odorant to a cotton pad and hold up to your nose, about an inch away.
3. Relax and gently inhale through your nose for approximately 10 seconds – (Avoid sniffing too quickly and deeply as this reduces your chances of detecting a smell.)
4. Repeat inhalation a couple more times.
5. Rest for a few minutes.
6. Select your next odorant and repeat steps 1 through 6. Do this for each odorant.

**The order in which you smell the odorants does not matter.**

## **To increase your chances of best results:**

- Perform smell training twice a day (ideally morning and evening) daily for a period of four weeks then change odours.
- If at first you do not smell anything do not be disheartened. Stick with it!
- Try smelling other things that are safe to smell.



The Trust provides free monthly health talks on a variety of medical conditions and treatments. For more information visit [www.uhb.nhs.uk/health-talks.htm](http://www.uhb.nhs.uk/health-talks.htm) or call 0121 371 4323.

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