Smell and Taste Disorders

What are smell and taste senses?

Smell and taste are connected; most of what we consider as our sense of taste actually comes from our sense of smell.

The sense of taste provides five basic taste variations, which are sweet, sour, salty, bitter and umami (the taste of meaty or savoury flavours).

Taste is detected by taste receptors found in our taste buds, 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 that we identify 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 also have a third chemical sense which 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 smell and taste. Some of these are a result of a failed development of the smell or taste system, and others are due to loss of these senses later in life. The complete lack of smell is termed anosmia, and if reduced, it is called hyposmia. Other changes in the sense of smell include parosmia (smells being different than expected) and the perception of smells that are not there, which is known as phantosmia. These are all part of smell disorders that affect around 5% of the population.

People with smell disorders often believe they also have a taste disorder. This is because of the large effect of smell on the detection of the flavours of food (60 - 70% of flavour comes from smell). Taste disorders are less common on their own. Dysgeusia is an alteration in taste perception and ageusia is the inability to taste.

Causes of loss of smell and taste

The sense of smell can be lost due to a variety of causes. Loss may be gradual or sudden and may, in some cases, have an obvious preceding cause. The most common causes include viral infections (e.g. COVID-19), head trauma, nasal and/or sinus disease (e.g. allergies, 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.

Sometimes a cause of anosmia may not be found (idiopathic anosmia) 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 (such as colds), and this should generally return 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 ear, nose and throat (ENT) specialist who specialises in smell and taste disorders for further assessment, investigation or advice.

Assessing smell and taste disorders

A physical examination will be performed in the ENT clinic. This will often include an endoscopic examination where a small camera is inserted into the nose. More specific tests of smell may be performed. Patients may also be tested for nasal allergies. Occasionally, computed tomography (CT) scans or magnetic resonant imagine (MRI) 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 smell and taste, whilst others have longer-term, or even permanent changes to their smell or taste.

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

Head trauma can result in injuries to the nose, the nerves that control and transmit the sense of smell, or the brain where the signal is received. The smell system can sometimes repair itself and restore some of the smell sense. This can be variable depending on the site and severity of the injury, but there are clinical studies to show that some recovery can occur up to 10 years after the injury in 50% of sufferers.

Parosmia and phantosmia may also occur after head injury or viral infections. They tend to happen early after trauma but may occur several months after viral infections. In the majority of people they gradually reduce or resolve over a period of months. .

Age results in a reduction in the number of smell receptors, as when a person gets older their body’s ability to repair damaged smell receptors lessens.

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. Consider your health, safety and wellbeing, as well as of those around you.

It may be difficult to identify faulty gas appliances. Therefore, ensure gas appliances are switched off when not in use and are serviced every year. If you can, change from a gas appliance to an electric version 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 service recommends checking them routinely, and at the very least monthly.

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 therefore a good personal hygiene routine will be important to maintain your confidence.

If your sense of smell is necessary for your occupation, you should discuss this with your employer. 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 therefore reduce your appetite. You should try and maintain your nutrition levels by weighing yourself regularly (once per week) or setting reminders for mealtimes. Cooking with ingredients that stimulate the taste buds, that are more colourful or textured, may restore some of your interest in food.

Further information and support

SmellTaste is a UK charity 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.smelltaste.org.uk

AbScent is another useful resource with a website (www.abscent.org) and YouTube videos.

For dietary advice see “Navigating Smell & 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. This concept is supported by evidence from various studies which demonstrate that the sense of smell can change and recover. However, it is important to note that the extent of any recovery may depend on the degree of damage that resulted in the impairment in your sense of smell.

How do I perform smell-training?

Smell-training steps:

1. Choose a group of odorants which have distinctive smells (e.g. rose, clove, lemon or eucalyptus). This may be in the form of odorant bottles (e.g. aromatherapy oils).

2. Select your first odorant from your group.

3. Apply a few drops to a cotton pad or clean handkerchief and hold this about an inch from your nose.

4. Relax and gently inhale through your nose for 10 seconds (avoid sniffing too quickly or deeply as this may reduce the change of detecting the smell).

5. Rest and repeat inhalation a few times if required.

6. Rest for a few minutes before repeating steps 1-4 with the next odour.

Using images (e.g. a picture of a rose) and words (e.g. write rose) can help to reinforce the smell training. The order in which you smell the odorants does not matter.

To increase your success:

- Perform smell training twice a day for a minimum of four weeks for each group of odours.
- Change odorants every one to three months, depending on success with each group.
- If you do not smell anything at first, do not be disheartened. It is a slow process – stick with it!

Listed below are other types of smells to consider:

- Fragrant – flowers/perfume
- Woody/resinous – pine, cedar, cut grass
- Fruity – any non-citrus fruit
- Citrus – lemon, orange, lime
- Sharp/pungent – sour milk, manure, onion, garlic
- Chemical – petrol, alcohol, disinfectants
- Minty – mint, menthol
- Sweet – vanilla, almond, chocolate, caramel
- Popcorn – popcorn, peanut butter
- Pungent – ginger, mustard, garlic, onion, decay, sewage.

Caution – some groups may contain harmful odorants, please only use safe odours.

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