



# Medicine for Managers

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## Taste and Covid-19

**Taste is probably the most underrated of the five senses. Sight, hearing and smell are regarded as crucial, taste often forgotten. Yet it allows you to distinguish and enjoy a dinner with lobster bisque, the marinated, spiced lamb shank and the individual fruits in the summer pudding. For spiders and butterflies, the legs provide the location of the taste buds; for humans they are mostly on the tongue.**

**S**o why do we have taste at all? After all we can smell food and taste seems almost unnecessary.

Well, for humans, not only does it provide us with the pleasurable sensation of flavours as we enjoy our food, but it actually provides a protective mechanism.

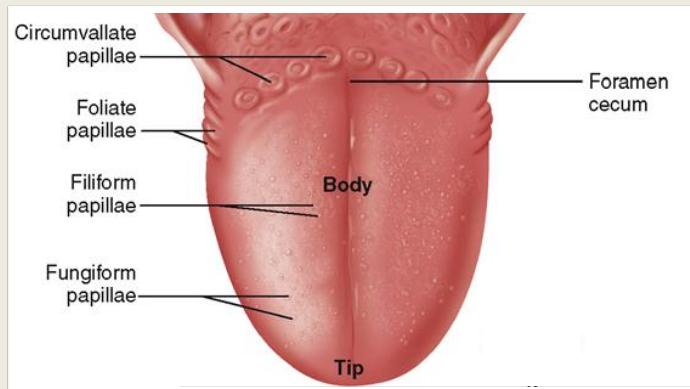
Foods that are decaying or toxic generally taste horrible and, immediately we taste them, we spit them out.

They also have a function in maintaining body chemistry though this is more important in other mammals.

Smell and taste are intimately linked and a disorder of smell, such as when suffering from a cold or, more recently, a Covid-19 infection, can

make it hard to identify all but the strongest flavours. A flavour is a combination of taste and smell.

The average tongue has in excess of 10,000 taste buds and their presence adds dramatically to the enjoyment of food.



The tongue is in essence a muscle that is covered in mucous membrane. Besides its taste function it also assists in speech, chewing (mastication),

swallowing (deglutition) and clearing food from the mouth. The surface of the tongue is covered in papillae. There are four different types found in various areas of the tongue.

The **circumvallate papillae** are the largest and clearly visible in a V-shape at the back of the tongue. There are about 10-12 of them.

**Foliate papillae** are folds of mucosa along the sides of the tongue.

**Filiform papillae** are the most numerous, thin and hair-like and cover the upper surface of the tongue. They are not involved in taste.

**Fungiform papillae** are mushroom-shaped, about 300 in number and found at the tip and along the sides of the tongue.

**Each papilla contains taste buds attached to nerve fibres and they can recognise the five different taste qualities, salt, sweet, acid, bitter (and umami).**

Umami is a response to salts of glutamic acid, such as MSG used in processed and Chinese food.

Interestingly 'bitter receptors' are present in the trachea and bronchi and are probably associated with the expulsion of inhaled irritants. 'Sweet receptors' are also located in the duodenum where, when activated, they stimulate the pancreas to increase insulin production.

Loss of taste frequently occurs temporarily as a result of colds and upper respiratory infections.

It is estimated that, in such circumstances, about 60% of people are affected. Of those sufferers, 95% of those who lose taste also experience reduced ability to smell.

Other causes of taste reduction are Bell's palsy, heavy smoking, dry mouth and a variety of medicines.

With the arrival of **Covid-19**, along with the flu-like symptoms, cough, temperature, fatigue and breathlessness, came loss of taste and smell for many and a new cause for the list.

It is regarded as an early symptom of Covid-19 and may present in a variety of ways:

- Loss or partial loss of taste and smell
- Food tasting peculiar
- Various odours smelling unusual or different.

A study in 2020 showed that up to half of sufferers of Covid-19 developed some sort of disturbance of taste and smell, varying from very mild to total.

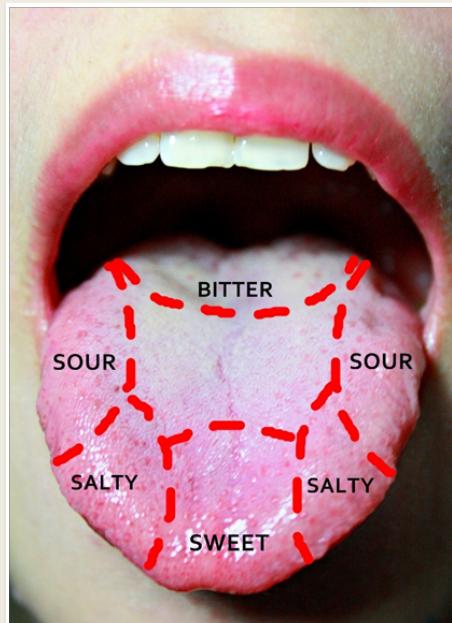
For some it was the only symptom of the infection.

The research led to the recommendation that anyone experiencing an unexpected change in smell or taste perception should self-isolate and obtain a Covid-19 test.

For most the loss of taste and smell is temporary. Studies have shown that about three-quarters of patients regain taste and smell within 8 weeks and that 95% of patients have recovered the senses within 6 months.

Patients who lost their taste and smell, and therefore their enjoyment of some foods, tended to lose weight.

For such patients, some authorities have recommended the use of foods with variations in colour and texture and strong spicy or herbal



flavours. For those with persisting loss, smell training may be helpful and involves smelling scents for a brief period several times a day.

What is unclear is the mechanism by which Covid-19 affects taste and smell to such a degree and often for such a prolonged period.

There are however mechanisms postulated.

- That the virus causes a prolonged inflammation of the mucosa in the nose leading to a loss or disablement of the nerve cells supplying the sensory organs.
- It has been speculated that the virus may bind to a protein called ACE2 that is found on the surface of potential host cells. ACE2 is abundant on cells found in the nose and mouth.

In summary, our sense of taste, and of smell, is very important for enjoyment and protection.

Colds and sinus infections can temporarily impair the ability to taste and smell and Covid-19 may produce such loss as an early sign. Indeed it may be the only symptom of the virus.

Most people recover in 4-8 weeks and almost all within six months.

The word 'taste' has also been appropriated to mean the ability to discriminate.

Perhaps the last word should go to Oscar Wilde who said:

"I have the simplest of tastes. I am always satisfied with the best".

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