

TASTE

Taste is one of the five major senses in humans. There are five elements of taste perception: saltiness, sourness, bitterness, sweetness, and umami.

Gustaoception is based on the detection of chemical stimulants by taste buds in the oral cavity. Taste buds are mainly located on the tongue, but they are also found on the soft palate, upper oesophagus and epiglottis. Taste buds are innervated by the seventh, ninth and tenth cranial nerves. In general, gustaoception and olfaoception are considered less important than ophthmoception, audioception, and tactioception. However, taste disorders can affect the quality of life, lead to social and work-related issues. Taste may be a function of activation of tastes buds as well as other senses such as smell. Taste can be affected not only by changes to the taste buds but also by systemic disease and disorders of the nerves.

The majority of taste disorders can be classified into quantitative disorders (Hypergeusia, Normogeusia, Hypogeusia, and Ageusia) and qualitative disorders (Parageusia and Phantogeusia).¹ The taste changes due to quantitative disorder often localised, as there are three different nerves conducting taste sensations. However, qualitative taste disorders cannot be measured and are often reported by patients' own words. Both phantogeusia and parageusia can be found in patients with multiple sclerosis, mental health issue, and malignancy.¹⁻³

The main reasons for taste disorders are summarised in table 1

Physiological	Atrophy of oral epithelium Increase degrees of atrophy and fibrosis of acini of the salivary gland Reduction of taste buds
Diseases	Local: Dental Caries, periodontal diseases, candidosis, erythema migrans, fissure tongue, glossitis, dermatoses, denture faults Systemic diseases: Stroke, Alzheimer's disease, Parkinson's disease, Mental health issues, Multiple sclerosis, Diabetes mellitus types 1 and 2, Hypo/hyperthyroidism, Chronic renal failure, Acute and chronic liver disease, cirrhosis, Sjögren's syndrome, irritable bowel syndrome, Gastroesophageal reflux disease, Hiatus hernia, Inflammatory bowel diseases, HIV, and Tumors.
Iatrogenic	Drugs Chemotherapy/radiotherapy
Nutrition deficiencies	Iron deficiency, Folate/Vitamin B12 deficiency, Zinc deficiency
Allergy	Food and additives allergy



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Evaluation and management of taste disorders

The majority of taste disorders are caused by impairment of smell rather than gustatory loss. The distinction between gustatory loss and olfactory loss, the inability to perceive complex flavours of food, will help clarify the patient's diagnosis.

Qualitative gustatory dysfunction is more frequent than the quantitative dysfunction.

Assesment

1. Comprehensive subjective assessment of the chief complaint, head and neck exam, cranial nerve exam, and review of the patient's medical, dental, medication, and social history is necessary.
2. Chairside taste assessment: use easily available stimuli such as sugar (sweet), citric acid (acid), sodium chloride (salty), or caffeine or quinine (bitter).
3. Sialometry to measure the salivary flow.
4. Blood tests may include full blood count, serum folate/B12, iron study, urinalysis, thyroid-stimulating hormone and free T4, C-reactive protein, antinuclear antibody, antibodies associated with Sjögren's syndrome, and haemoglobin A1c.
5. Swab and smear tests to rule out bacterial or mycological diseases.
6. Imaging techniques to rule out or prove the presence of damage to central nervous structures.
7. Other workup to consider includes tissue biopsy, lumbar puncture with gel electrophoresis, allergy testing, laryngoscopy or endoscopy.

Management

Treatment is focused on the underlying and associated conditions as well as symptomatic management. Where a neuropathic disorder is suspected then topical and systemic neuropathic medications can be trialled.

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