



SNS COLLEGE OF ALLIED HEALTH SCIENCES
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DEPARTMENT : PHYSICIAN ASSISTANT

COURSE NAME : ANATOMY

UNIT : SENSE ORGANS

TOPIC : TONGUE



SENSE ORGANS



- Sensory Organs provide us with data for perception, and it is the physiological capacity of all living organisms.
- Five sense organs are equipped in the human body. Those organs provide us with first-hand information about our external or internal world.



The names of those organs are stated below

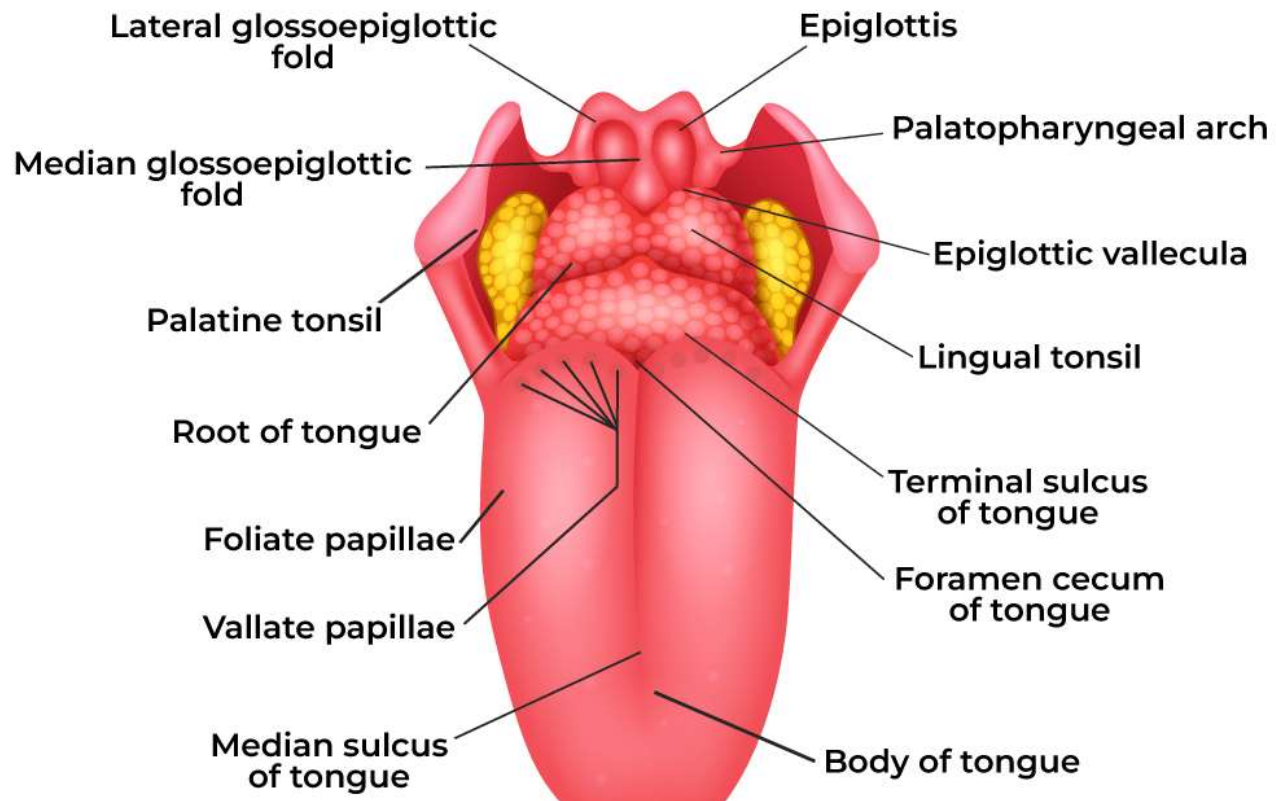
- Eye: perceives vision.
- Ear: perceives sound.
- Skin: perceives touch, temperature, roughness.
- Nose: perceives smell.
- Tongue: perceives taste.



TONGUE



- One of the main muscle organs in the oral cavity is the tongue. There are numerous lingual papillae that contain the taste buds that cover the tongue's dorsum, or upper surface. It has many nerves and blood vessels and is sensitive.
- Saliva also keeps it moist. The natural tooth-cleaning process is assisted by the tongue. Speech production in humans and animal vocalization in other species are both major functions of the tongue.





MUSCLES



The muscles are divided into intrinsic and extrinsic muscle groups:

- **Extrinsic Muscles:** The four extrinsic muscles stretch to the tongue from their osseous origins. They are genioglossus, hyoglossus, styloglossus, and palatoglossus. Their primary purposes involve moving the tongue's position to protrude, retract, and move from side to side.



- **Intrinsic Muscles:** Along the length of the tongue, four pairs of intrinsic muscles have their origins and inserts there. They are the transverse muscle, the vertical muscle, the inferior longitudinal muscle, and the superior longitudinal muscle. This gives shape and makes it easier to speak, swallow, and eat.



PARTS



- **Tip:** The front-most and most movable portion of the tongue is its tip or apex.
- **Body:** The body of the tongue comes next. It has a smooth ventral (inferior) surface that is connected to the floor of the oral cavity by the lingual frenulum, and a rough dorsal (superior) surface that abuts the palate and is covered in taste buds and lingual papillae.
- **Base:** The most posterior portion of the tongue is its base. It is covered with foliate papillae along the posterolateral surface and many lymphoid aggregates known as the lingual tonsils.



PAPILLAE



- **Filiform:** Filiform papillae, which are found in the front two-thirds of the tongue, have the appearance of threads. Filiform papillae are distinct from other papillae types in that they lack taste receptors.
- **Fungiform:** The mushroom-like form of these papillae gives them their name. Fungiform papillae, which are largely on the sides and tip of the tongue, contain about 1,600 taste buds.



- **Circumvallate:** The circumvallate papillae are the little bumps on the back of the tongue. They resemble the other kinds of papillae but are bigger and have about 250 taste buds.
- **Foliate:** The foliate papillae, which are found on either side of the back of the tongue, resemble rough tissue folds. There are roughly 20 foliate papillae on each person, and each one houses several hundred taste buds.



TASTE BUDS



- There are five different gustatory sensations that people can experience. These taste umami, sweet, salty, sour, and bitter.
- The taste cells' apical surface is home to microvilli that have a variety of receptors that can bind to different substances.



BLOOD SUPPLY



Arterial supply

- lingual artery (principally) but also branches from the facial and ascending pharyngeal arteries 4

Venous drainage

- follows arterial supply draining to the lingual, facial and/or internal jugular veins



NERVE SUPPLY



Hypoglossal nerve (CN XII): intrinsic and extrinsic muscles (except palatoglossus muscle, which is supplied by the pharyngeal plexus)

lingual nerve

- sensory supply to the anterior two-thirds
- special sensory (taste) fibres diverge from the lingual nerve and travel with the facial nerve (CN VII) via chorda tympani

Glossopharyngeal nerve (CN IX): sensory supply to posterior one-third



LYMPHATIC SUPPLY



- The anterior tongue drains to several nodal groups:
- Apex: drains to submental and submandibular nodes
- Body: drains to submandibular nodes then to the deep cervical nodes (especially the jugulodigastric and juguloomohyoid nodes)
- The posterior tongue drains directly to deep cervical nodes.



APPLIED ANATOMY



Neoplastic

- squamous cell carcinoma of the tongue
- haemangioma
- lipoma

Non neoplastic

- neck tongue syndrome
- ankyloglossia (tongue tie)
- macroglossia



ASSESSMENT



- What is the Arterial supply of Tongue ?
- What all are the Muscles in Tongue ?