

TONGUE

Introduction

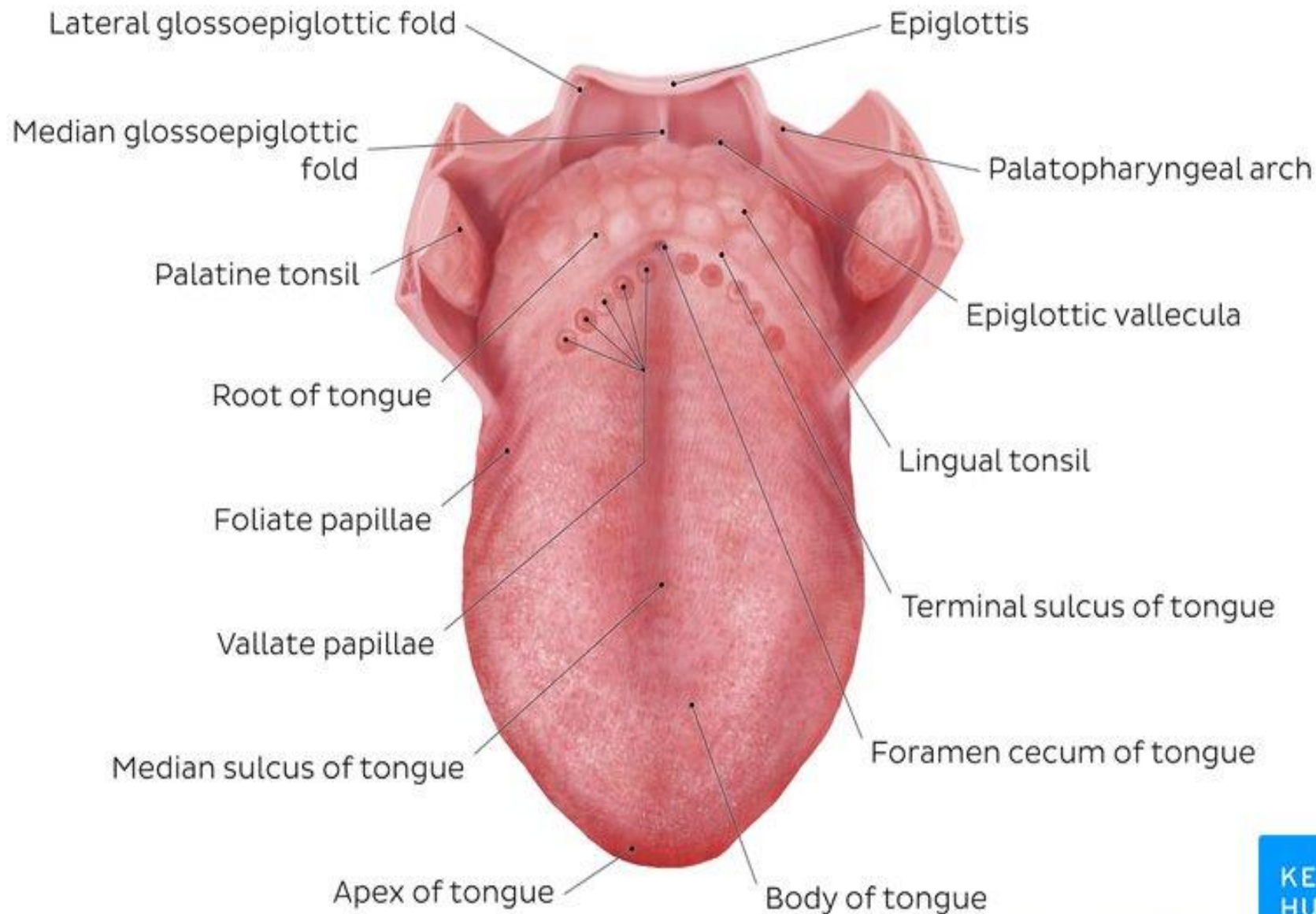
- **The tongue is a mobile muscular organ covered with mucous membrane.**

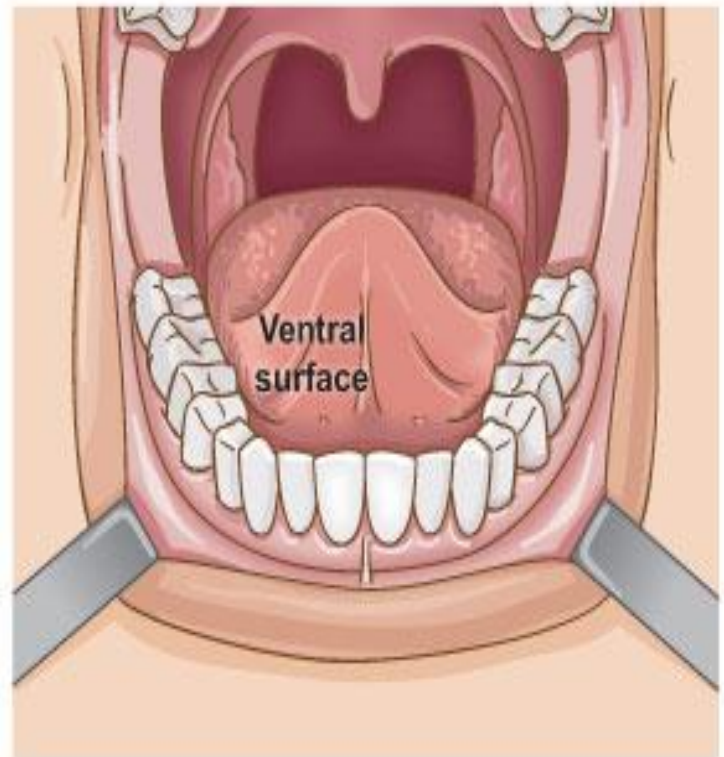
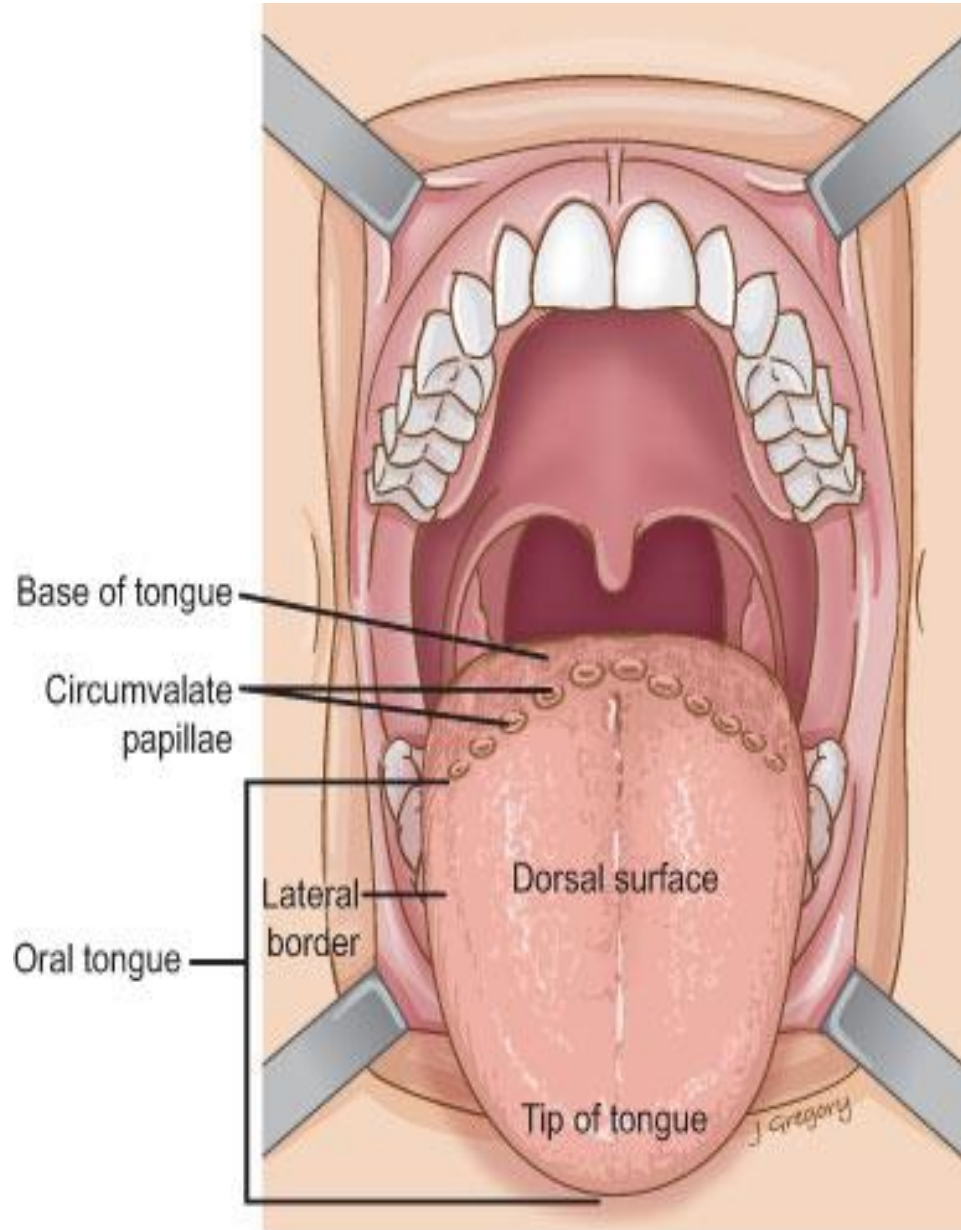
Location

- **It is situated mainly (anterior 2/3rd) in the oral cavity and partly (posterior 1/3rd) in the oropharynx.**

Functions

Speech, taste, chewing, deglutition and cleaning of mouth.





PARTS OF TONGUE

The tongue has a root, body, apex.

Root

- **The root of the tongue is the attached posterior portion extending between the mandible, hyoid and the nearly vertical posterior surface of the tongue**

Body

- **The body of the tongue is the anterior approximately two thirds of the tongue between root and apex.**

Apex

- **The apex (tip) of the tongue is the anterior end of the body, which rests against the incisor teeth. The body and apex of the tongue are extremely mobile.**

SURFACE

The tongue features two surface

- 1. A curved upper surface or dorsum.**
 - 2. An inferior surface.**
- The dorsum is divided into oral and pharyngeal part by v-shaped, the sulcus terminalis.**
 - The dorsum of the tongue is convex in all directions**
 - The inferior surface is confined to the oral part only.**

Tongue is divided into

- 1. The oral or papillary part – anterior two thirds**
 - ☐ **The tongue is placed on the floor of the mouth.**
 - ☐ **Its margins are free and it contact with the gums and teeth.**
- Just in front of the palato-glossal arch each margin shows 4 to 5 vertical folds named the foliate papillae.**
- The superior surface of the oral part show a median furrow and is covered with papillae which make it rough.**
- The inferior surface is covered with a smooth mucous membrane, which shows a median fold called the frenulum linguae**

2. The pharyngeal or lymphoid part

- Posterior one-third by a faint v-shaped groove, the sulcus terminalis.**
- The two limbs of the 'V' meet at median pit named the foramen cecum.**
- The tongue lies behind the palatoglossal arches and the sulcus terminalis.**
- Its posterior surface sometimes called the base of tongue form the anterior wall of the oropharynx.**
- The mucous membrane has no papillae, but has many lymphoid follicles that collectively constitute the lingual tonsil. mucous gland are also present.**

3. The posterior most part of the tongue is connected to the epiglottis by three-folds of mucous membrane.

- **These are the median glossoepiglottic fold**
- **The right and left lateral glossoepiglottic folds on either side of the median fold, there is a depression called the vallecula.**

PAPILLAE OF THE TONGUE

1 Vallate or circumvallate papillae

- Large and flat topped lie directly anterior the terminal sulcus and are arranged in a v-shaped row. They vary in number from 8-12.
- They are surrounded by deep circular trenches, the walls of which are studded with taste buds.
- The ducts of the serous glands of the tongue open into the trenches.

2. Foliate papillae

- **Short vertical folds and are present on each side of the tongue. They are poorly developed in humans.**

3. Filiform papillae

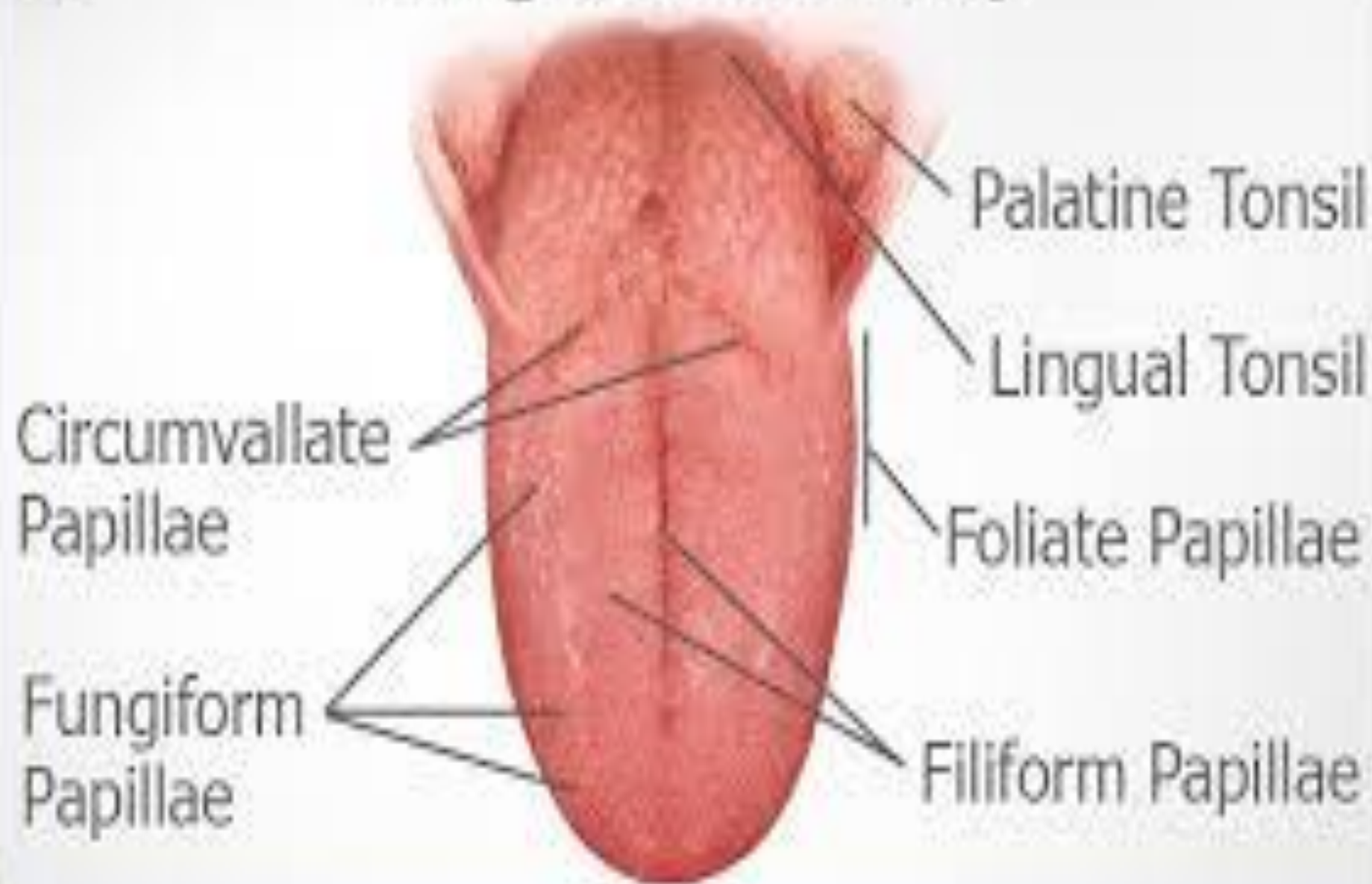
- **Long and numerous contains afferent nerve endings that are sensitive to touch.**
- **These scaly conical projections are pinkish gray and are arranged in**

v-shaped rows that are parallel to the terminal sulcus

4. Fungiform papillae

- **Mushroom shaped pink or red spots scattered among the filiform papillae but most numerous at the apex and margins of the tongue.**
- **The vallate, foliate and most of the fungiform papillae contain taste receptors in the taste buds.**

Tongue Anatomy



MUSCLES OF THE TONGUE

- **A middle fibrous septum divides the tongue into right and left halves.**
- **Each half contains Four intrinsic and four extrinsic muscles**

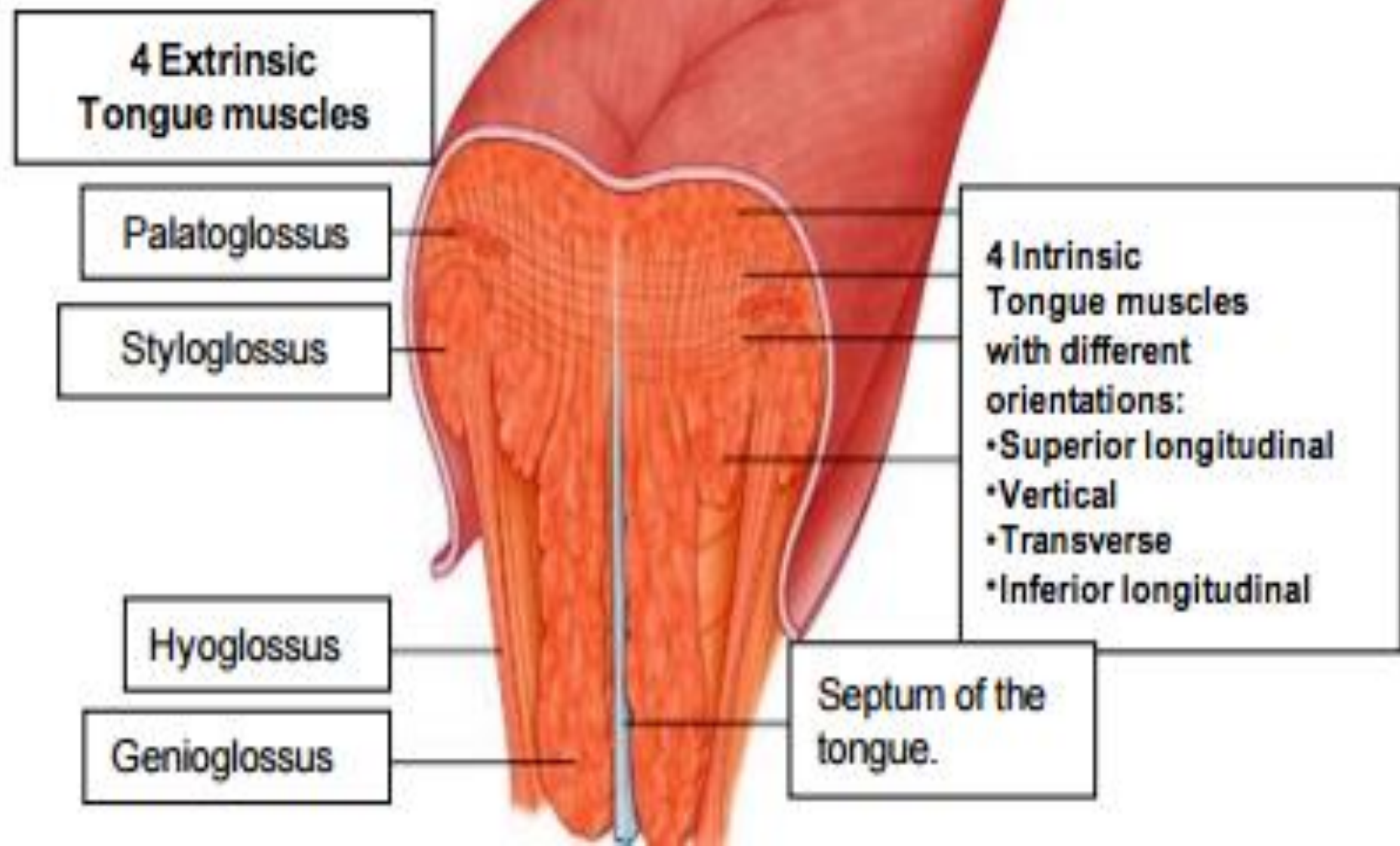
1. Intrinsic muscles –

1. Superior longitudinal

2. Inferior longitudinal

3. Transverse

4. Vertical



2. **Extrinsic muscles**

1. **Palatoglossus**

Origin – oral surface of palatine aponeurosis
insertion – descends in the palatoglossal arch to the side of tongue at the junction of oral and pharyngeal parts.

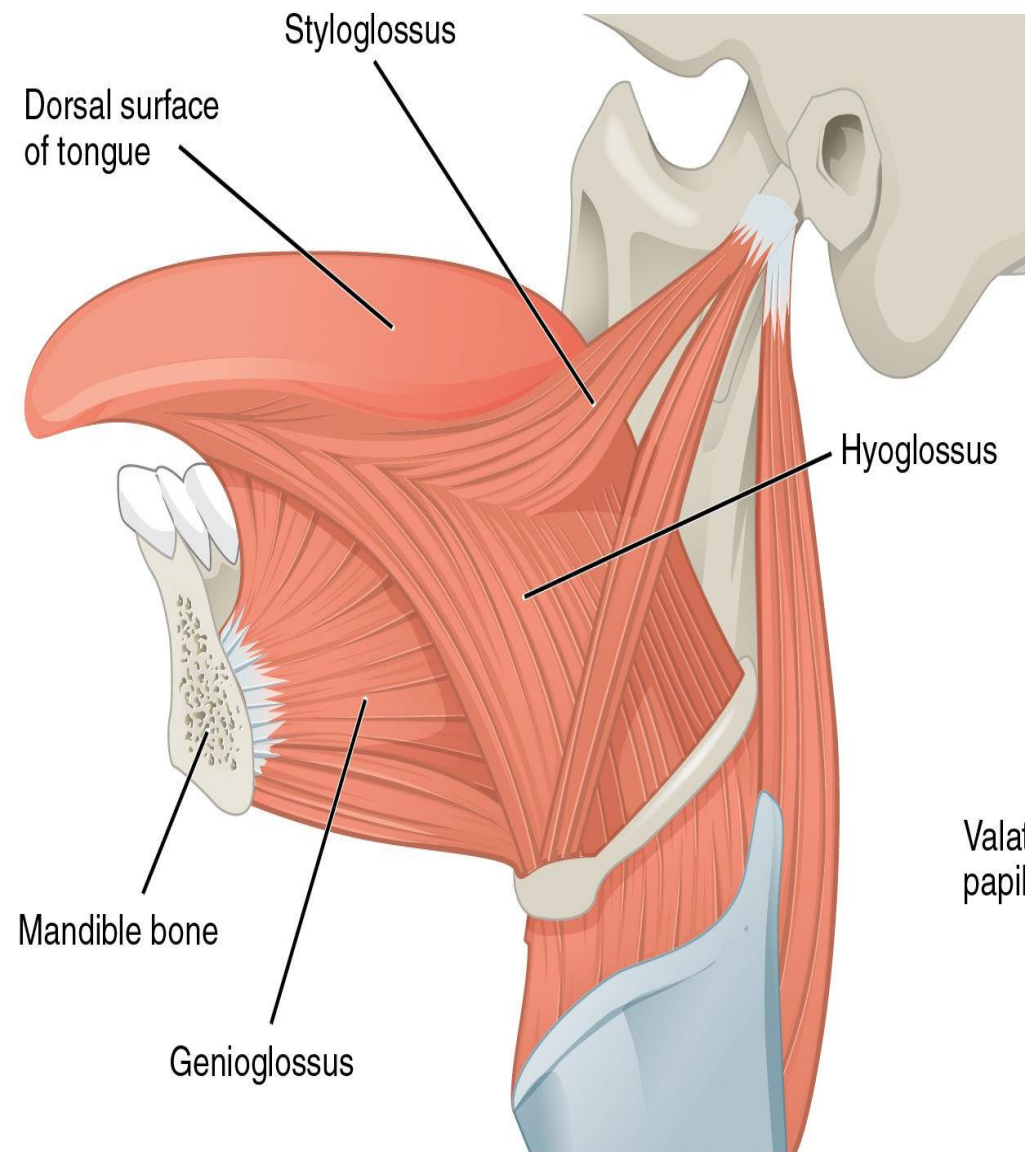
Actions – elevates the posterior aspect of tongue.

2. **Hyoglossus**

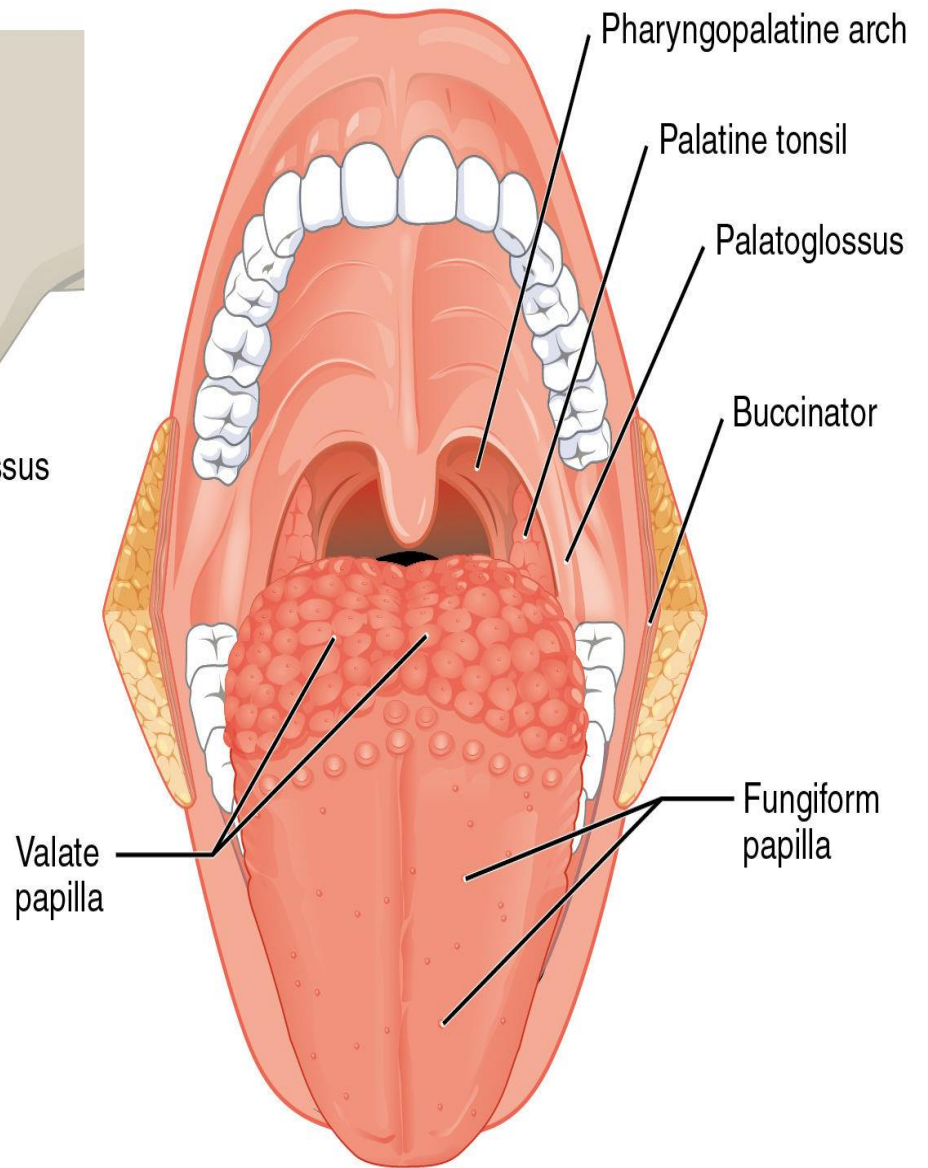
Origin – whole length of greater cornua and lateral part of hyoid bone.

Insertion – Side of tongue

Action – depresses and retracts tongue

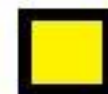
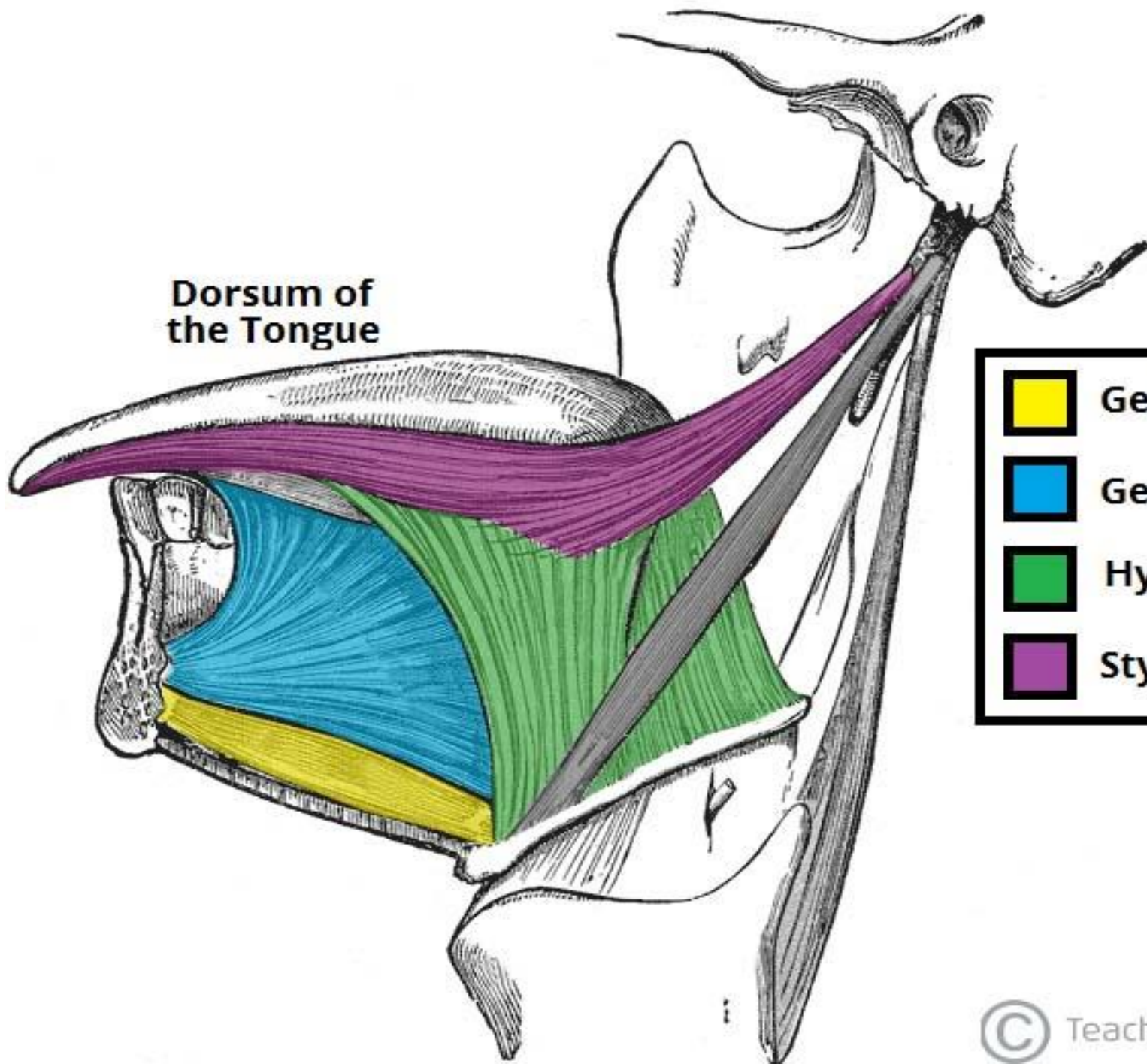


(a) Extrinsic tongue muscles



(b) Palatoglossus and surface of tongue

Dorsum of
the Tongue



Geniohyoidus



Genioglossus



Hyoglossus



Styloglossus



III. Styloglossus

Origin – Tip and part of anterior surface of styloid process.

Insertion – into the side of tongue

Action – retracts and elevates the tongue.

IV. Genioglossus

Origin – upper genial tubercle of mandible

Insertion – dorsum of tongue

Action – inferior fibres protrude the tongue, middle fibres depresses the tongue and superior fibres draw the tip back and down.

Arterial supply

The lingual artery, which arises from the external carotid artery.

Venous drainage

The veins of the tongue are the dorsal lingual veins which accompany the lingual artery

Lymphatic drainage

- **Superior Deep Cervical Lymph Nodes**
- **Inferior Deep Cervical Lymph Nodes**
- **Submandibular Lymph Nodes**
- **Submental Lymph Nodes.**

Nerve supply

Motor nerves

- All the intrinsic and extrinsic muscles except the palatoglossus are supplied by the hypoglossal nerve.
- The palatoglossus is supplied by vagus n

Sensory nerves

- The lingual nerve is the nerve of general sensation and the chorda tympani is the nerve of taste for the anterior two-thirds of the tongue.

- **The glossopharyngeal nerve is the nerve for both general sensation and taste for the posterior one third of the tongue**
- **The posterior most part of the tongue is supplied by the vagus nerve through the superior laryngeal branch**