

MOUTH (oral) CAVITY

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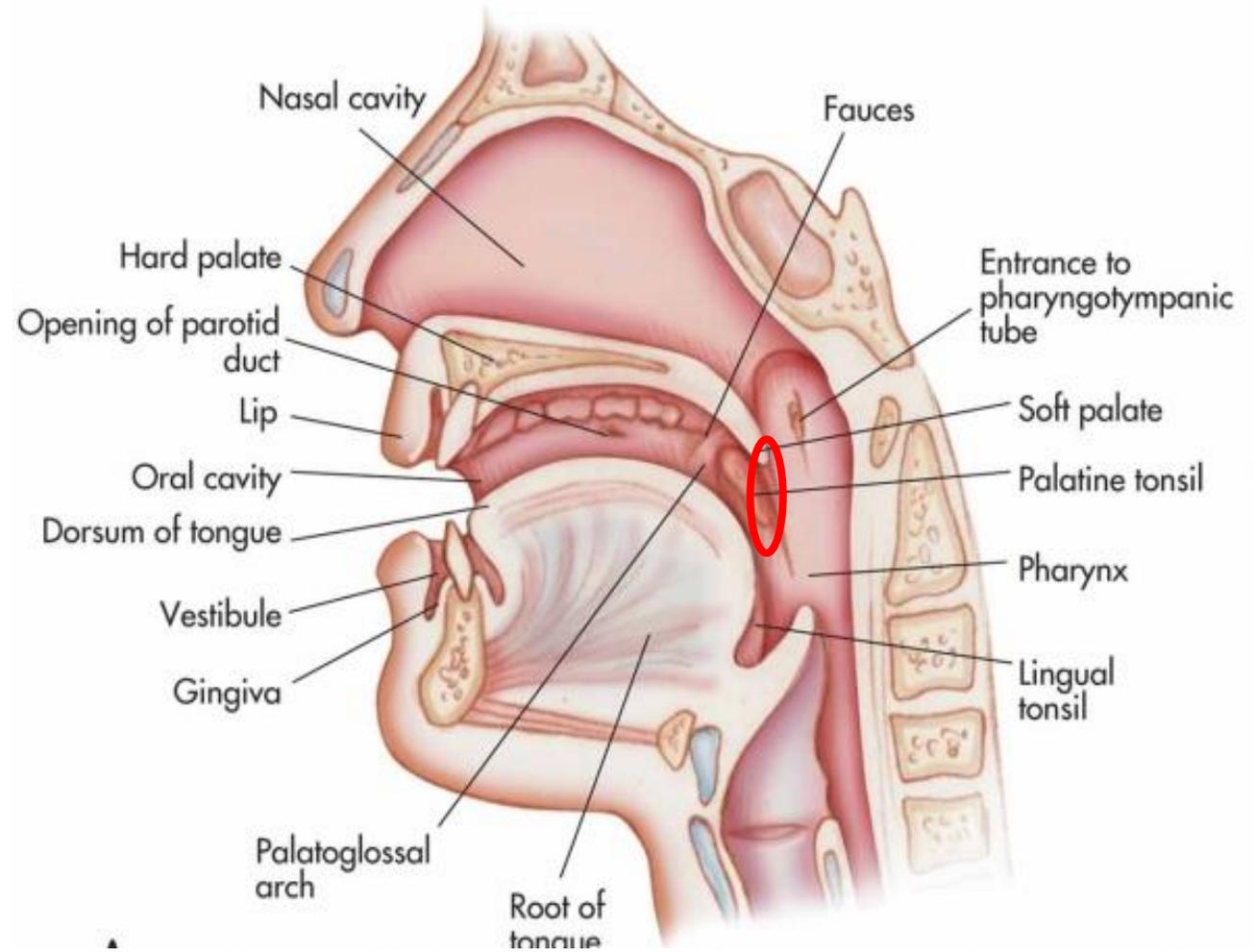
Lecture ILOS & Objectives:

By the end of this lecture the student should be able to:

- 1. Describe extension, parts and sensory nerve supply of the mouth cavity.**
- 2. Define the tongue and outline its parts**
- 3. Describe the muscles of the tongue and define their origin, insertion and actions**
- 4. Define nerve supply motor and sensory.**
- 5. Describe blood supply and lymphatic drainage of the tongue.**

MOUTH CAVITY

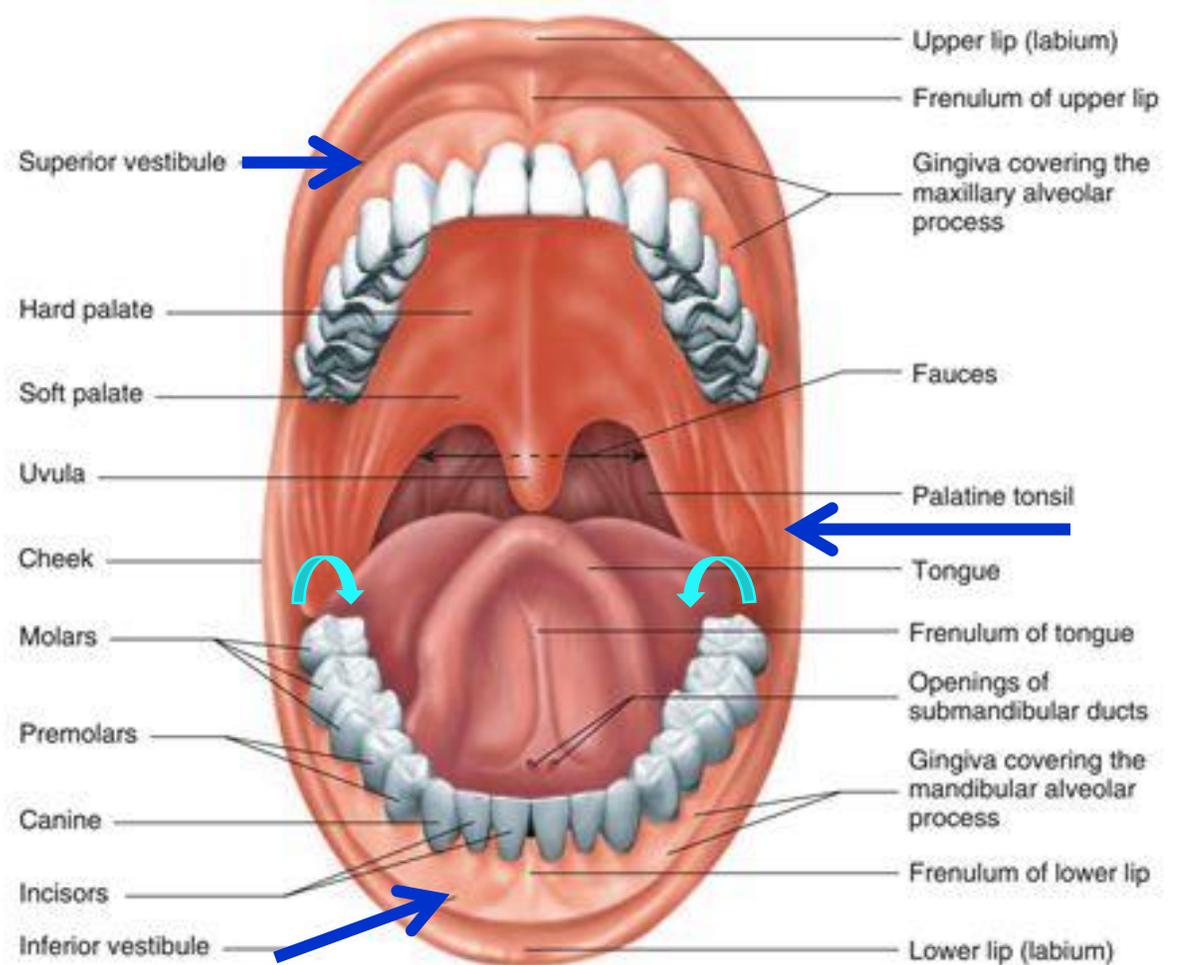
- It extends from the lips anteriorly to the oropharyngeal isthmus posteriorly.
- It is composed of 2 parts:
 1. **Vestibule**
 2. **Mouth (oral) cavity proper**



MOUTH CAVITY

Vestibule:

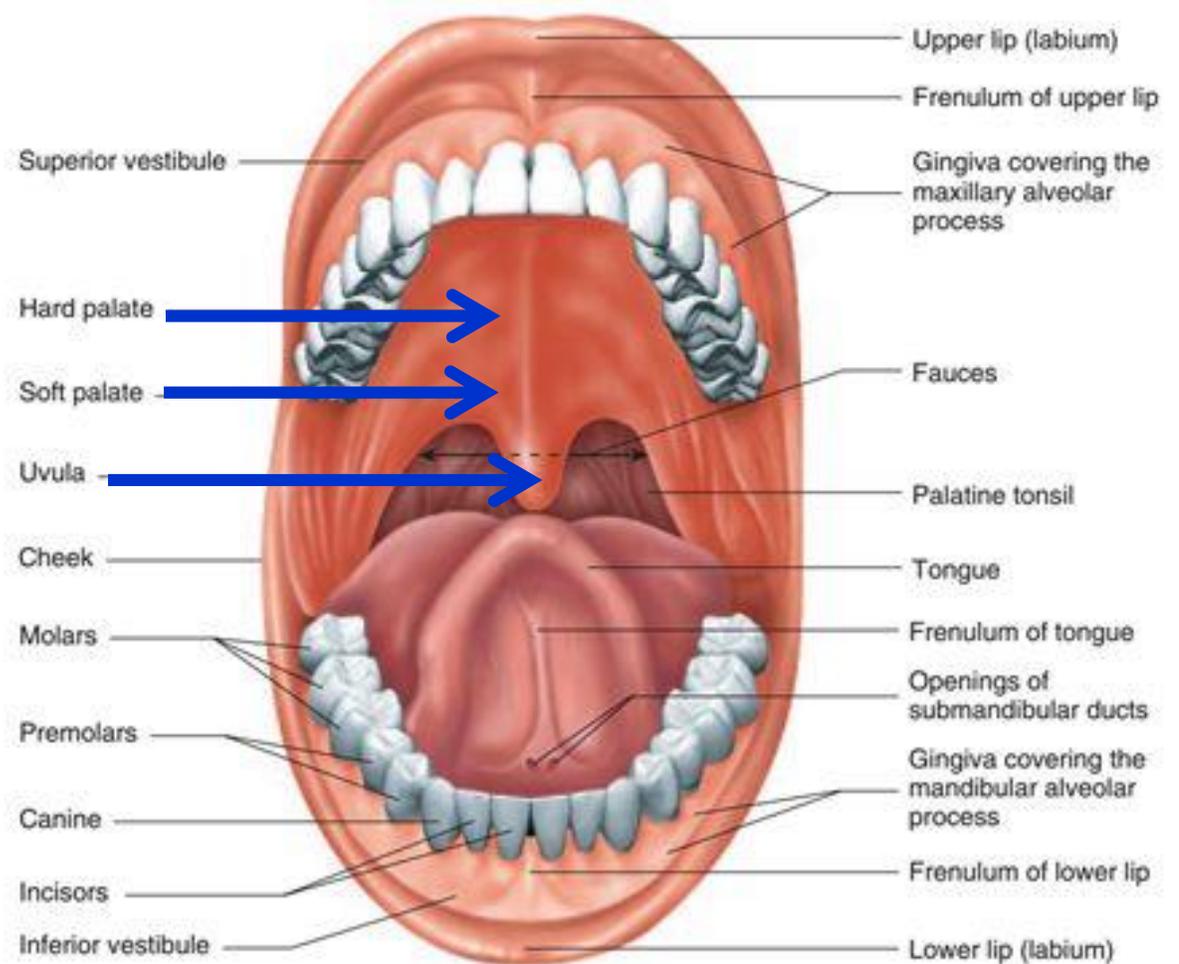
- Lies between lips and cheeks externally and gum and teeth internally.
- Communicate with mouth proper behind 3rd molar tooth.



MOUTH CAVITY

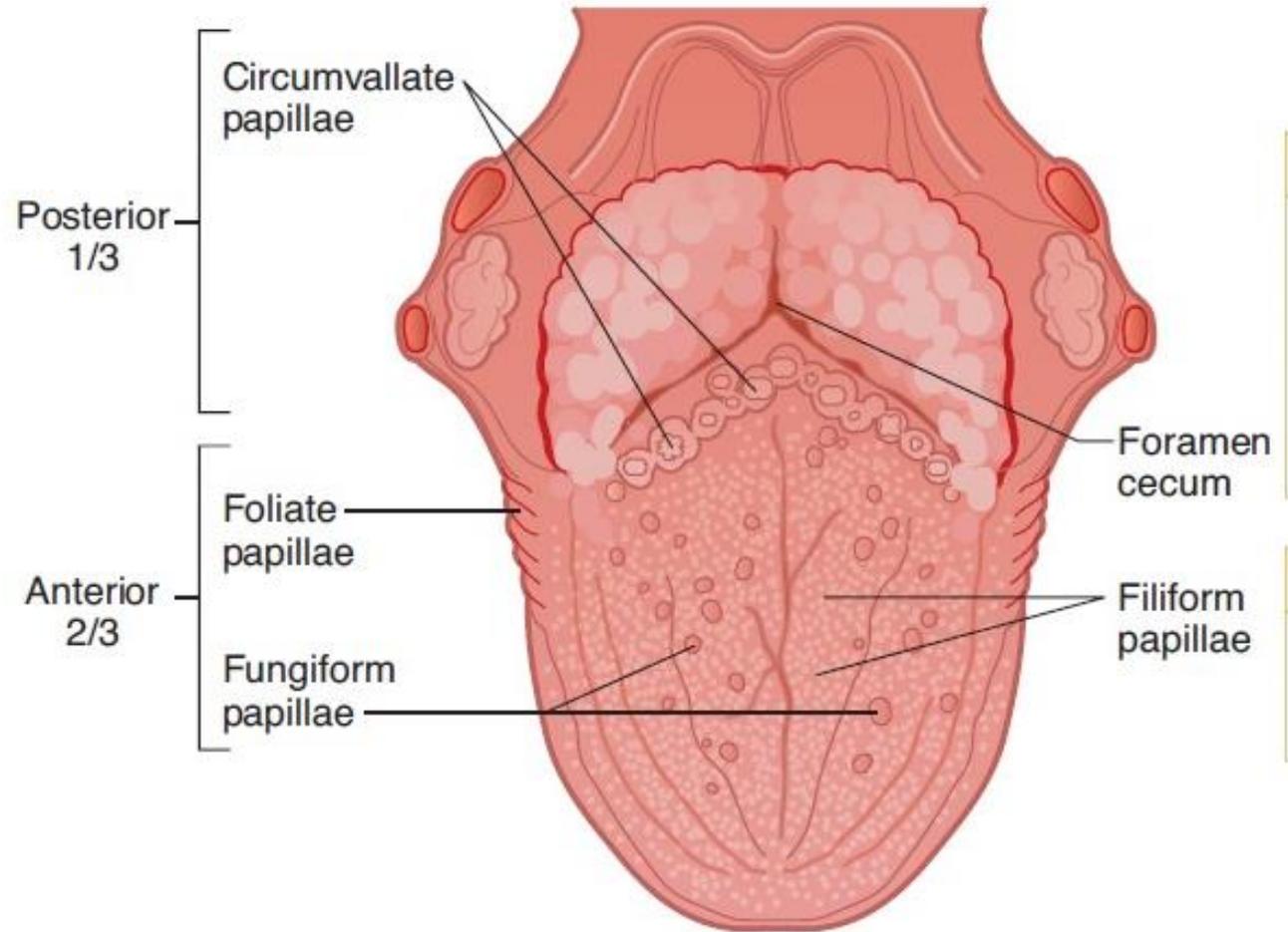
Mouth cavity proper:

- Lies within the gums and teeth
- **Roof:** formed by hard palate anteriorly and soft palate posteriorly.
- **Floor:** formed by anterior 2/3 of the tongue and by reflection of mucous membrane from tongue to gums.



TONGUE

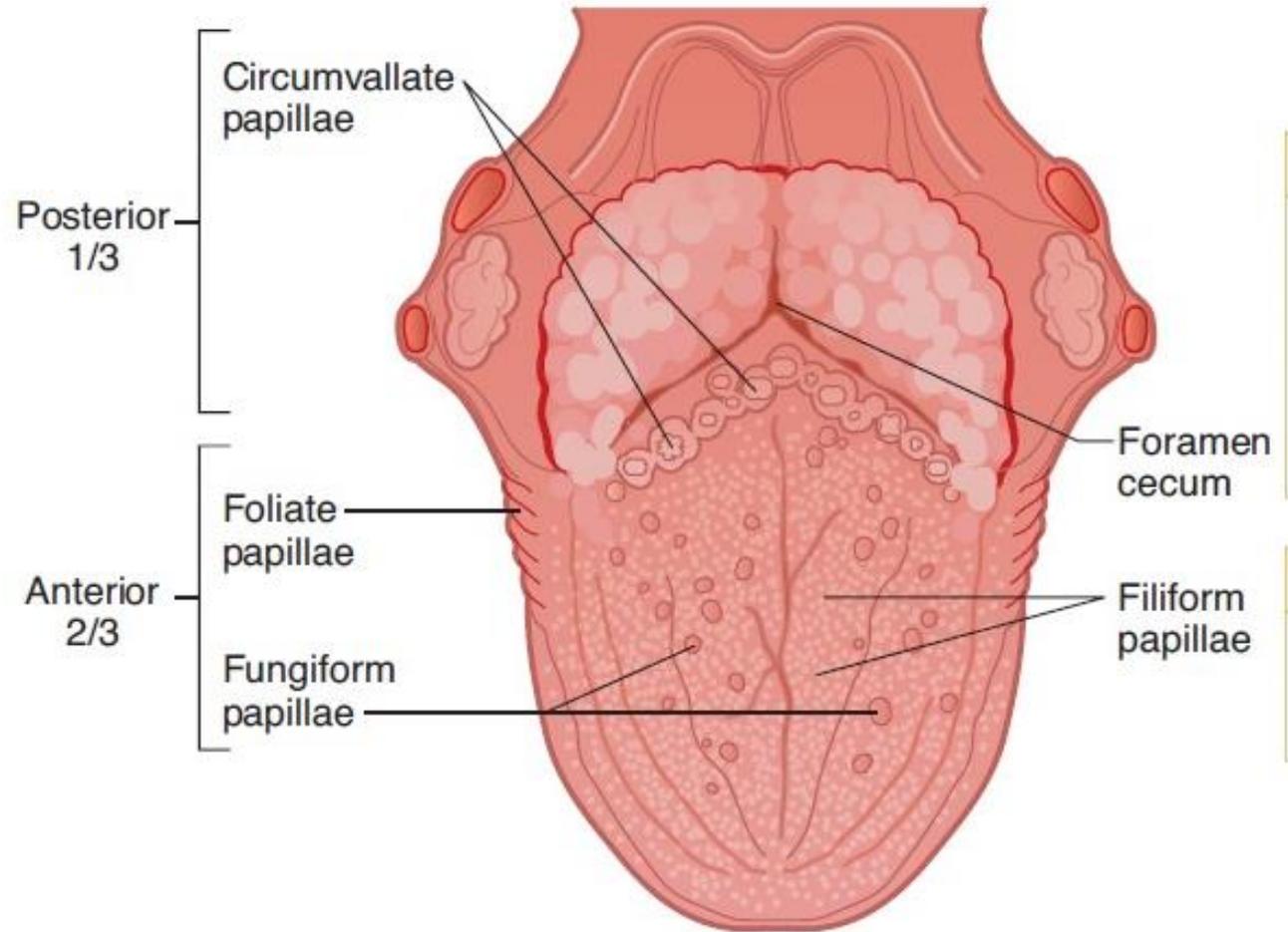
- It is a striated muscular mass covered by a mucous membrane.
- Its anterior 2/3 lies in the mouth.
- Its posterior 1/3 lies in the oropharynx.



Mucous membrane of Tongue

Upper surface (dorsum) of the tongue:

- it is divided into anterior **2/3** and posterior **1/3** by V- shaped groove called **sulcus terminalis**.
- The apex of this sulcus is directed posteriorly and shows a blind pit called **foramen cecum**



Mucous membrane of Tongue

Anterior 2/3 of tongue shows 4 types of papillae:

1. Circumvallate papillae:

- They are **10- 12** in number
- They are situated in a row in front of sulcus terminalis
- Taste buds lie in their walls

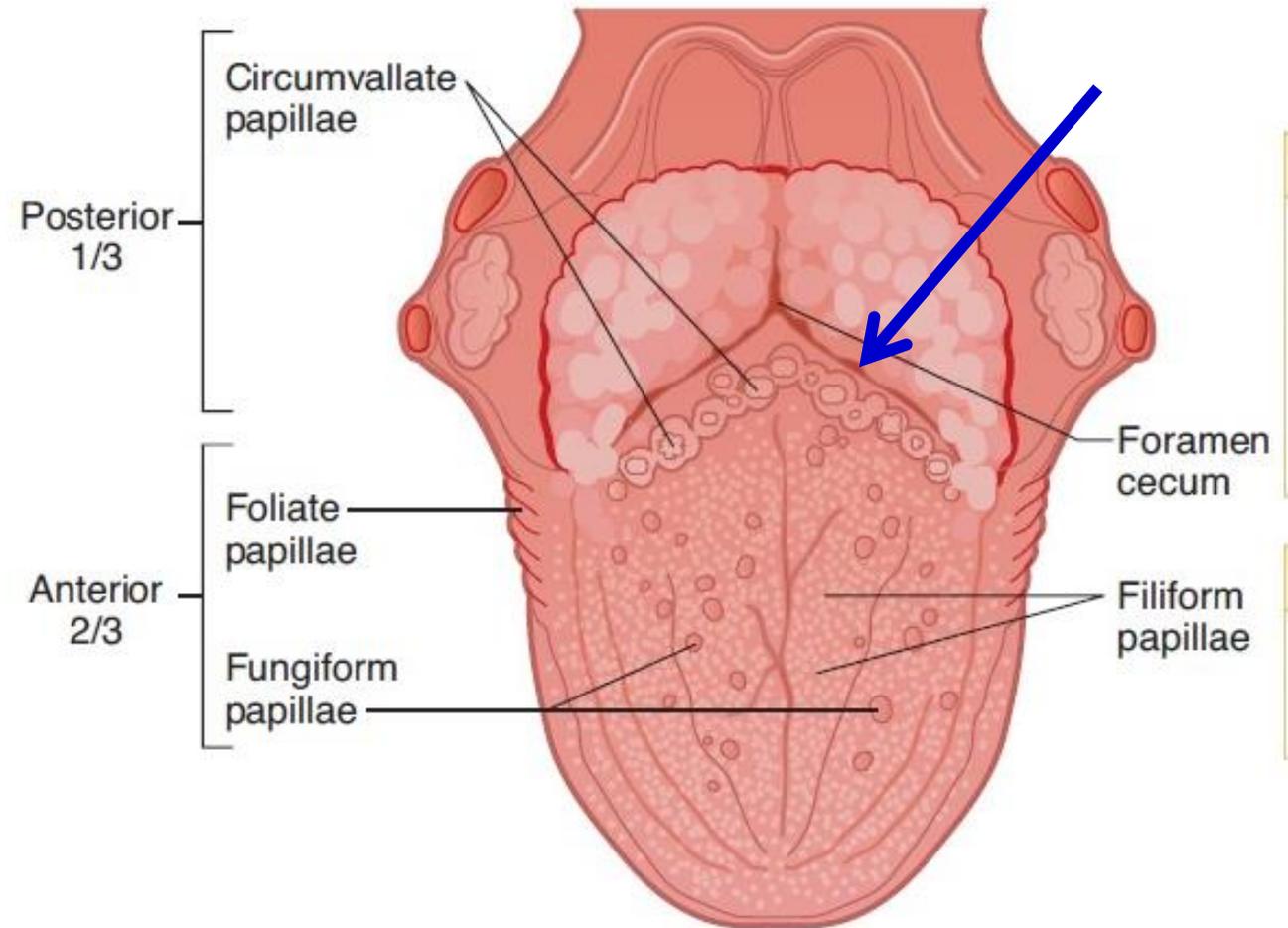
2. Fungiform papillae:

- They are present on the sides and apex of the tongue

3. Filiform papillae:

- Very numerous
- Scattered on the rest of dorsal surface

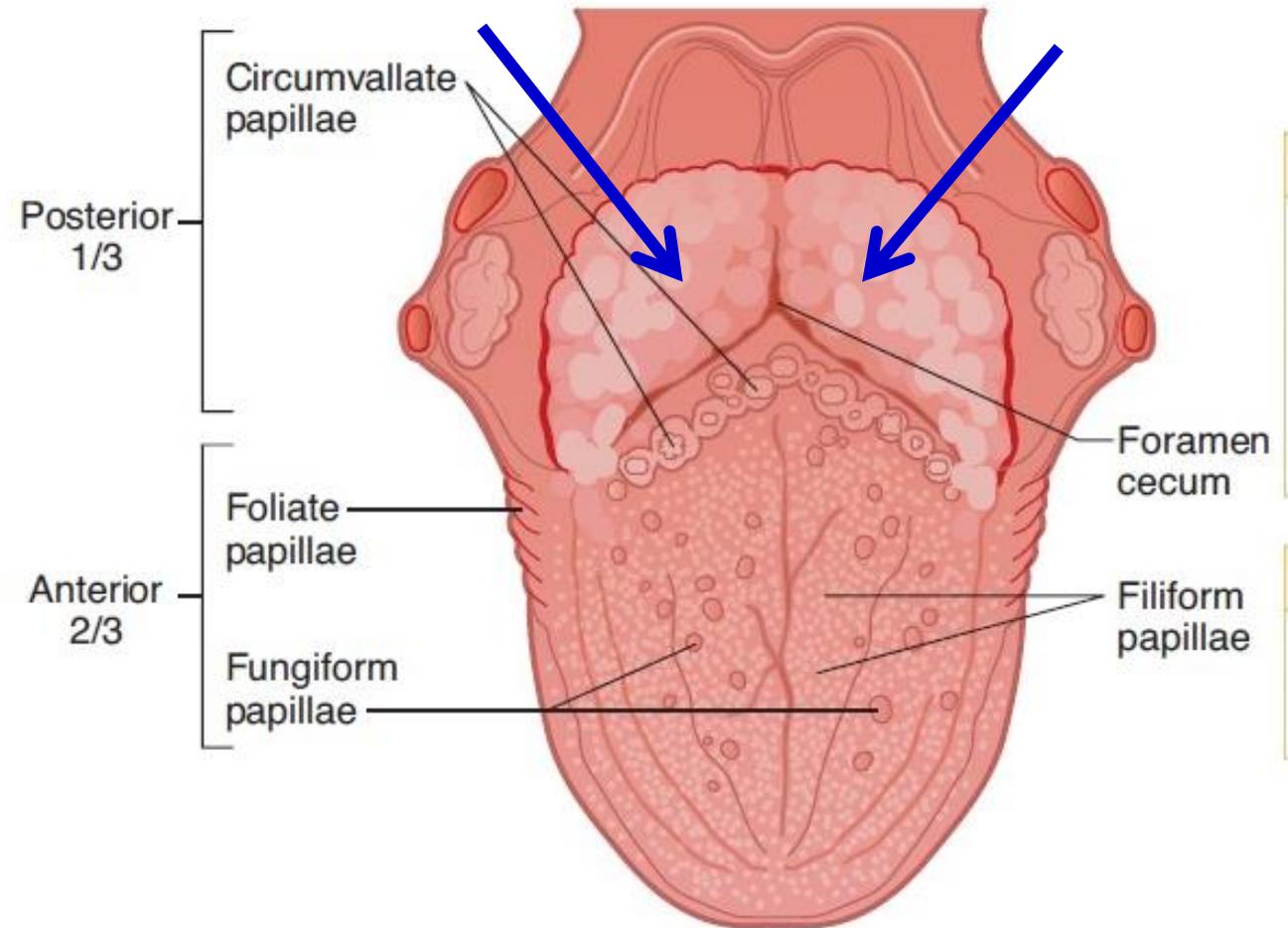
4. Foliate papillae: on sides



Mucous membrane of Tongue

Posterior 1/3 of mucous membrane:

- It is devoid of papillae
- It has irregular surface caused by presence of lymphatic nodules called **lingual tonsil**

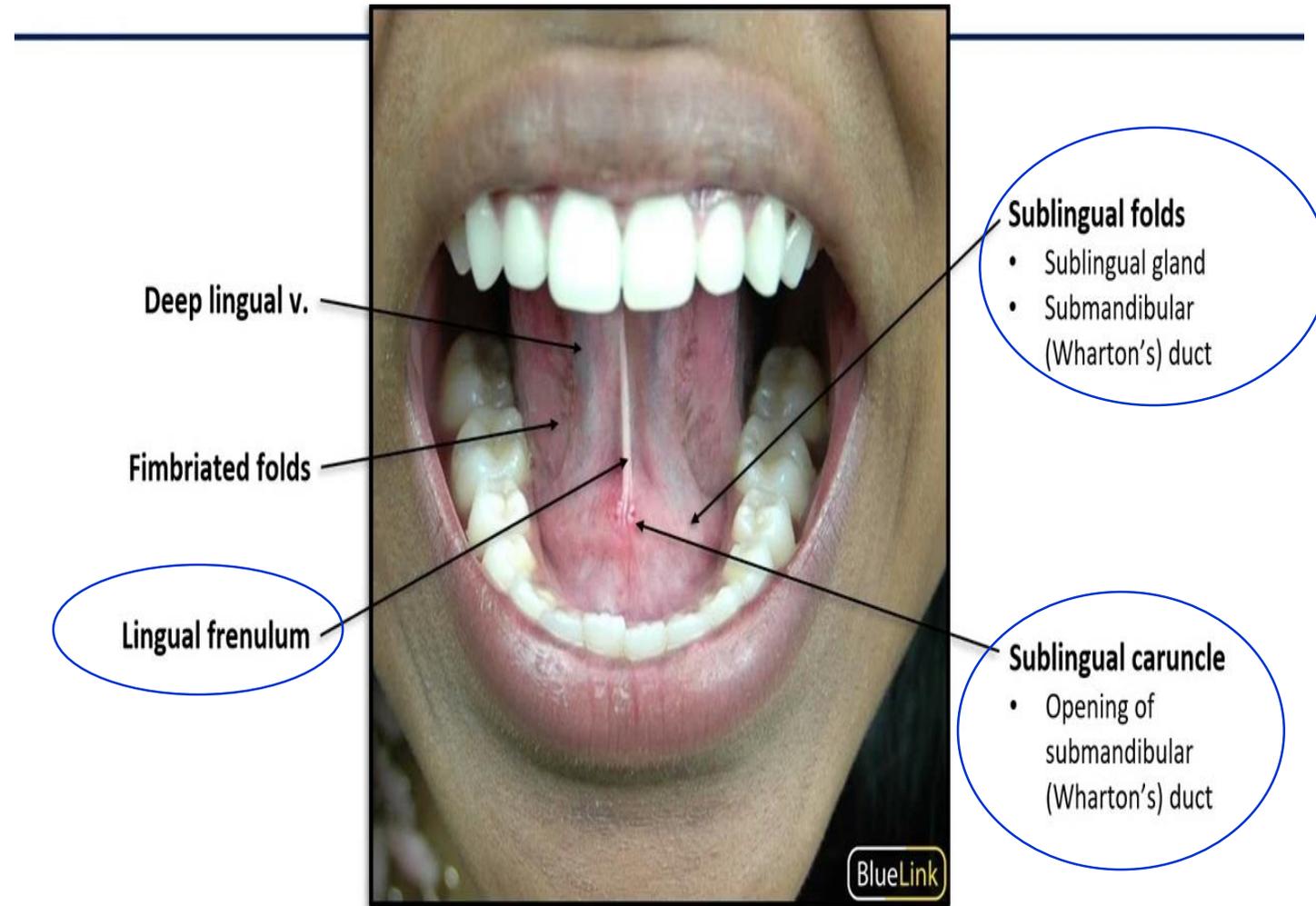


Floor of mouth and Inferior surface of Tongue

Sublingual Region:

Shows the following structures:

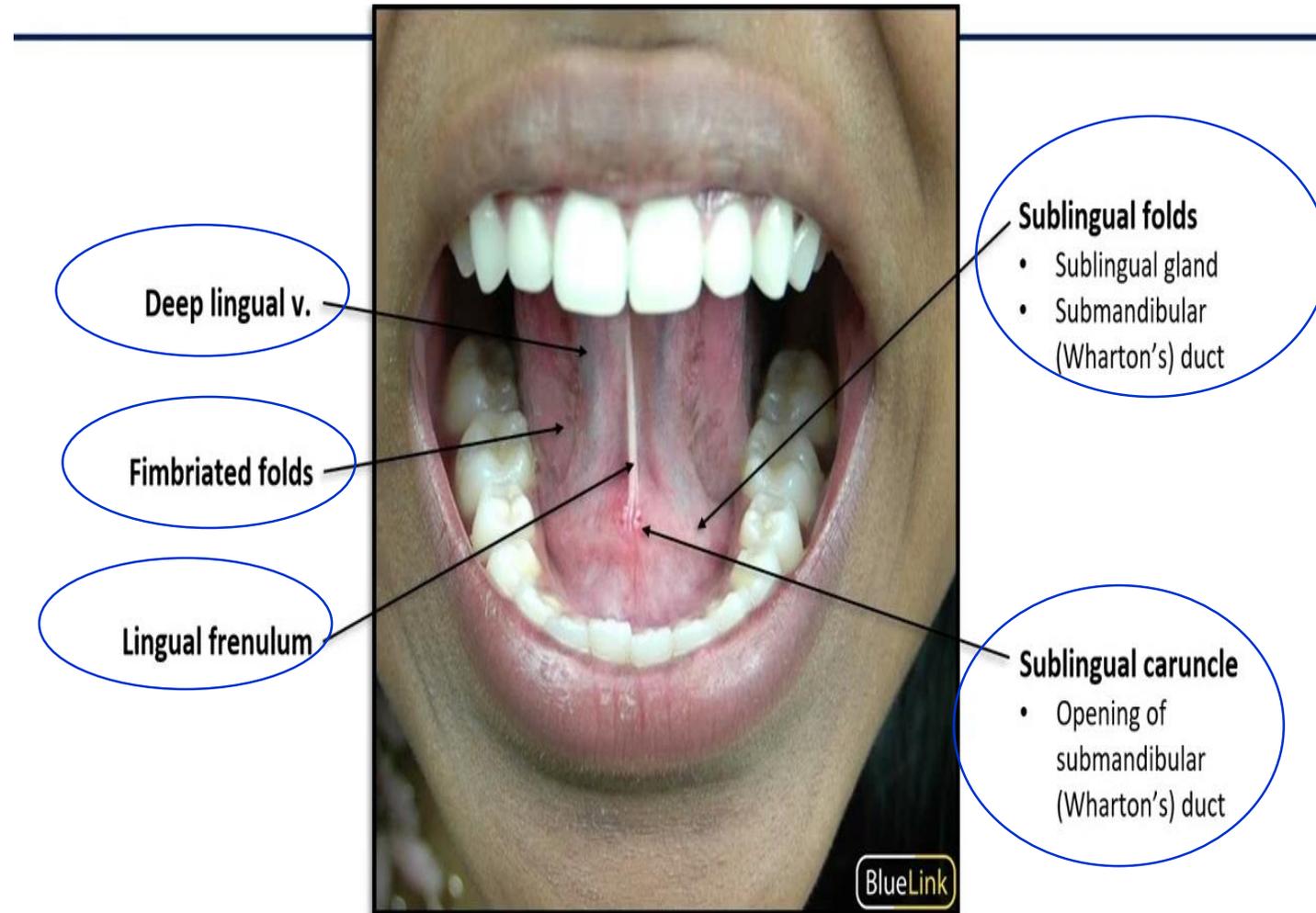
- **Frenulum of the tongue:**
mucous fold connects the undersurface of the tongue to the floor of mouth
- **Sublingual papilla (Caruncle):**
a small papilla lies on each side of frenulum for the opening of the submandibular duct.
- **Sublingual fold:**
a fold produced by the underlying sublingual salivary gland and the ducts of the gland open on the summit of the fold



Floor of mouth and Inferior surface of Tongue

Inferior surface of the tongue:

- Smooth and connected to floor of mouth by **frenulum of tongue**.
- **Deep lingual vein** can be seen on each side of frenulum
- **Plica fimbriata** a fringed fold mucous membrane lateral to the deep lingual vein.



MOUTH CAVITY

Sensory nerve supply of the mouth:

Roof:

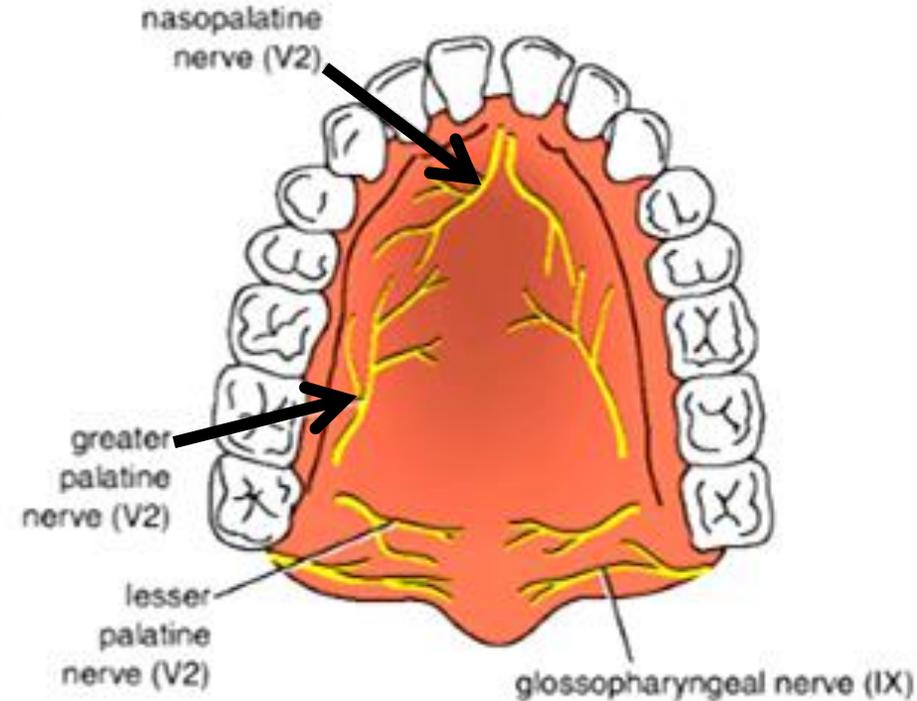
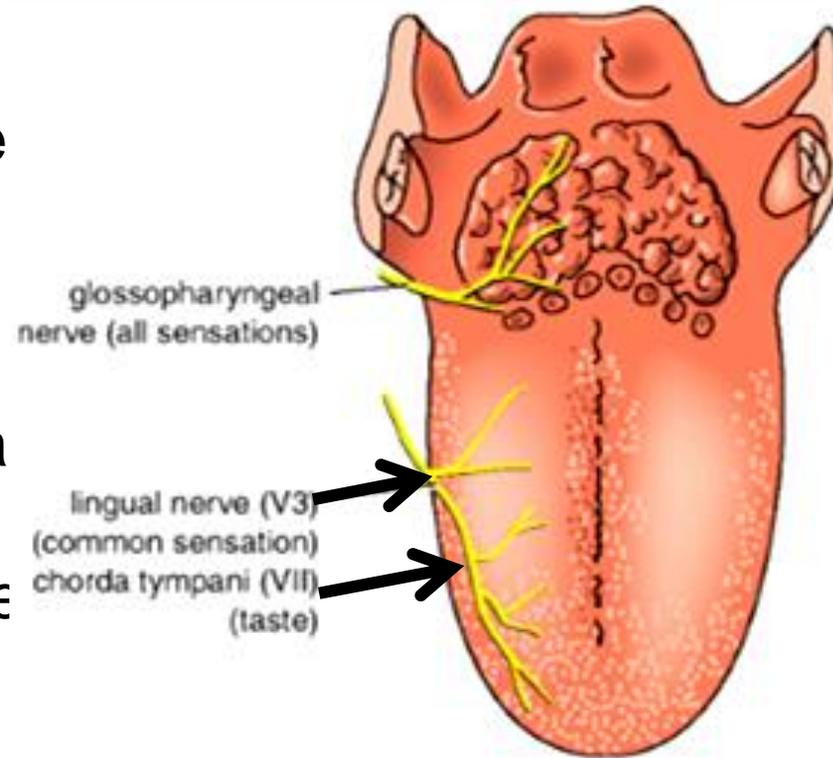
- Greater palatine nerve
- Nasopalatine nerve

Floor:

- Lingual nerve: general sensation
- Chorda tympani: taste sensation

Cheek:

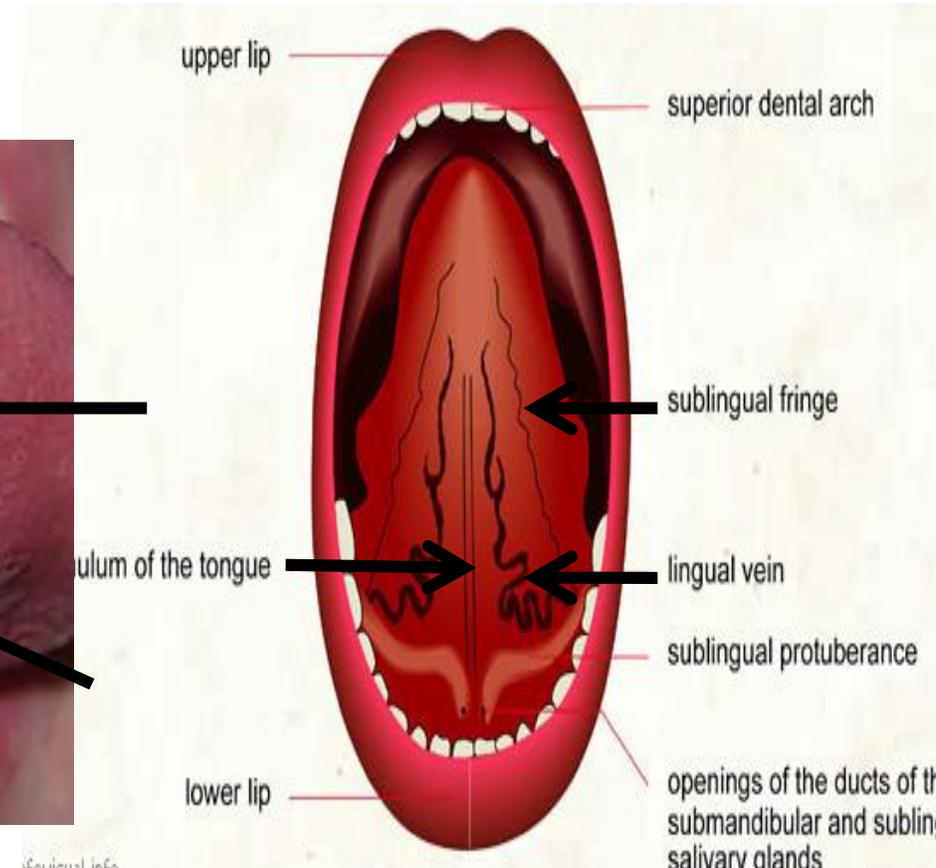
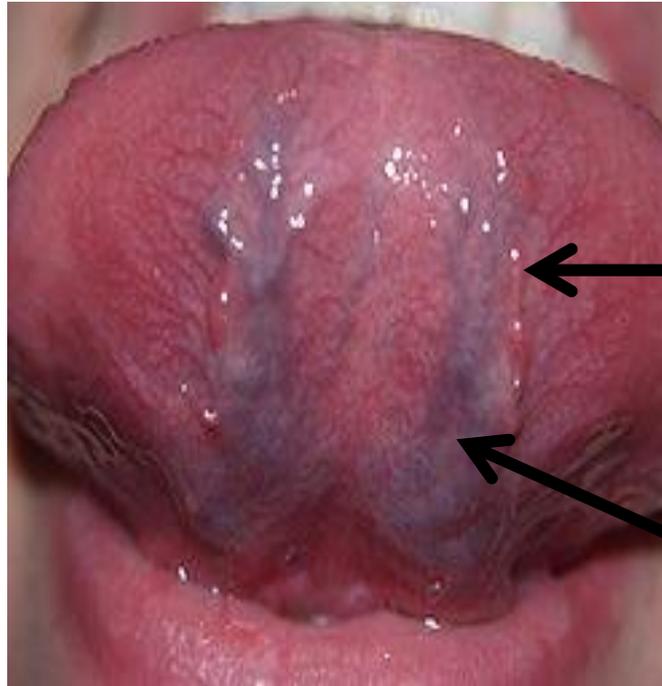
- Buccal branch of mandibular nerve.



TONGUE

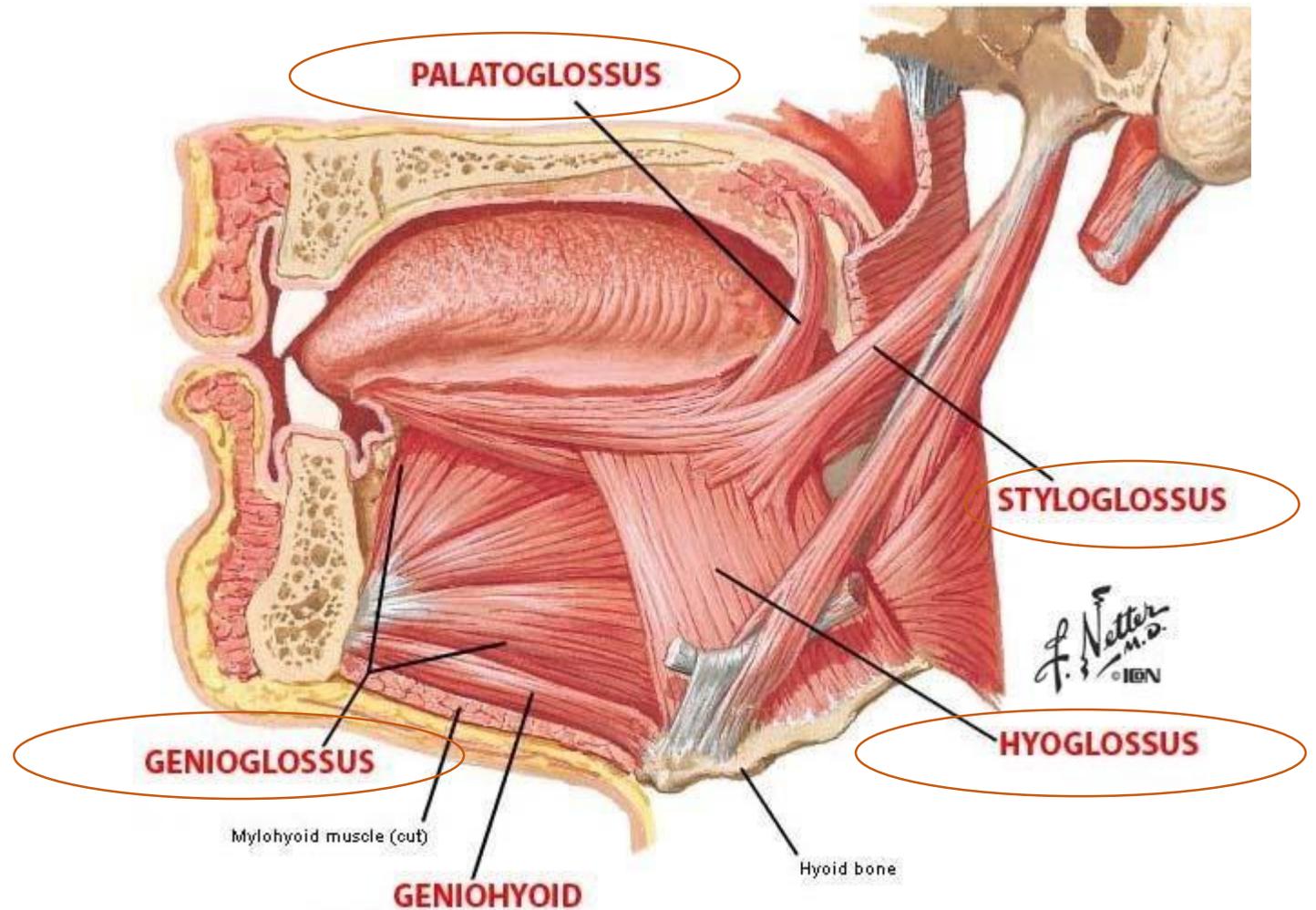
Lower surface of the tongue:

- Smooth and connected to floor of mouth by **frenulum of tongue**.
- **Deep lingual vein** can be seen on each side of frenulum
- **Plica fimbriata** a fringed fold mucous membrane lateral to the deep lingual vein.



Muscles of Tongue

- **Intrinsic Muscles:**
alter the shape of the tongue
- **Extrinsic Muscles**
Moves the tongue in different directions
- Genioglossus
- Hyoglossus
- Styloglossus
- Palatoglossus



Intrinsic Muscles of Tongue

They consist of:

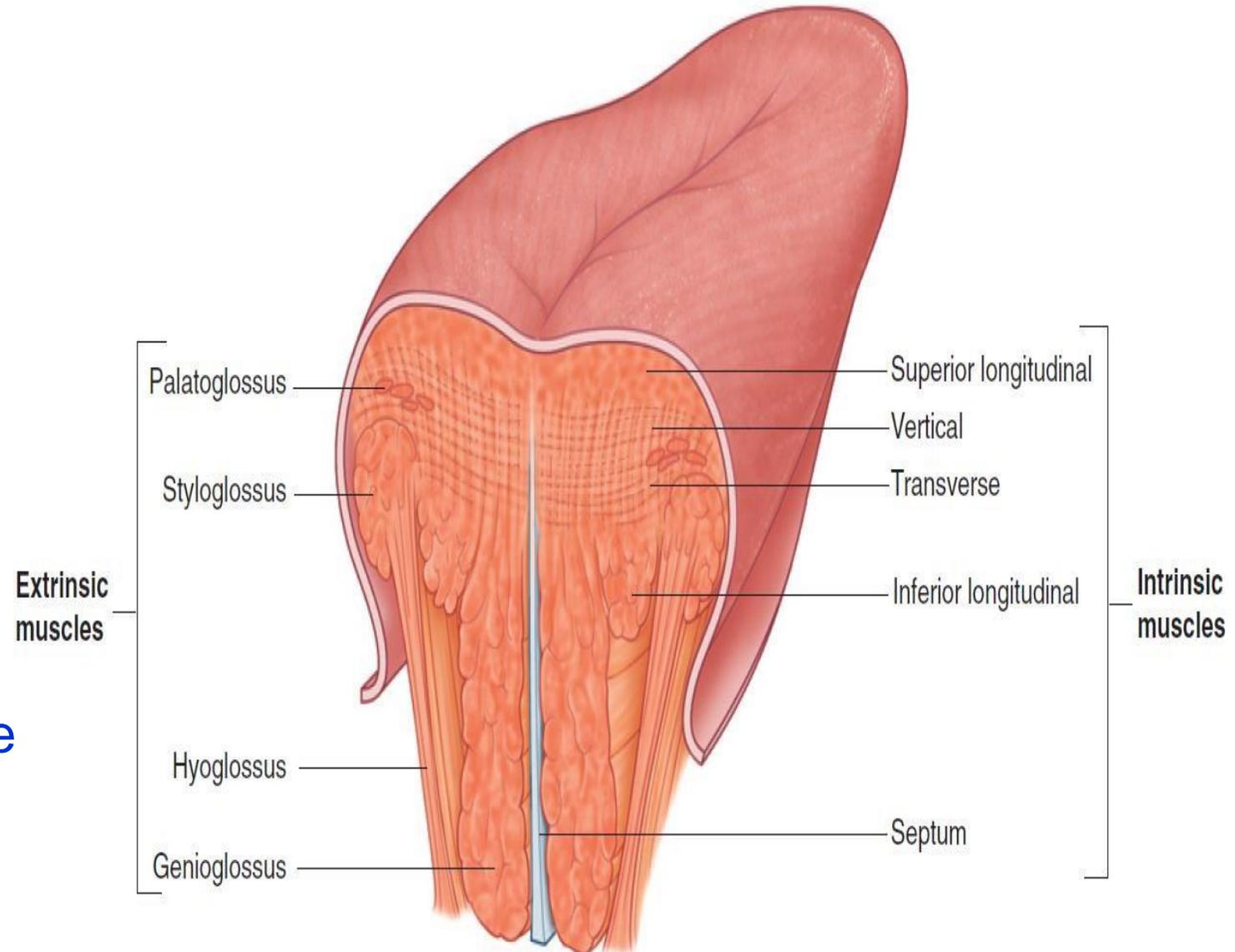
-Longitudinal fibres:

1. Superior longitudinal fibres
2. Inferior longitudinal fibres

-Transverse fibres

- Vertical fibres

- **Nerve supply:** Hypoglossal nerve



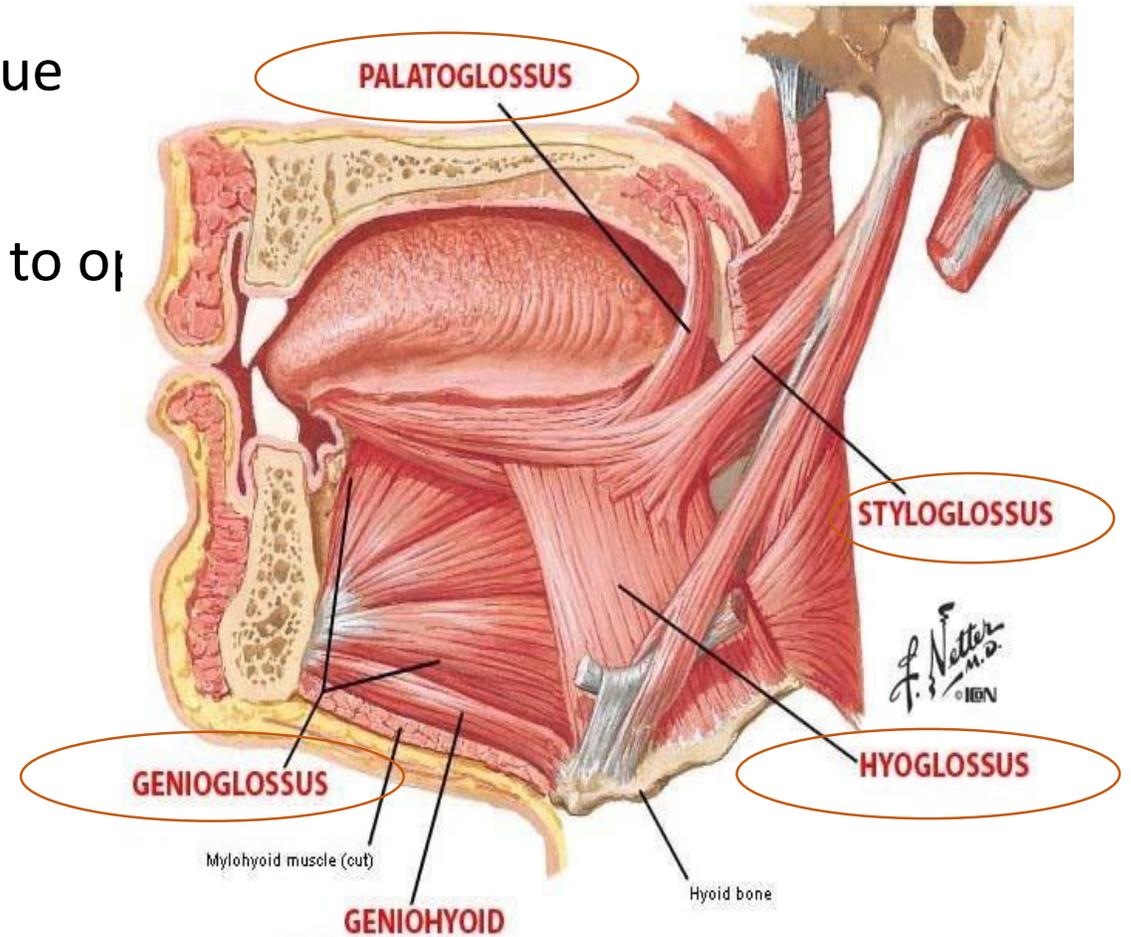
Extrinsic Muscles of Tongue

- **Genioglossus**

- **Origin** : Superior genial spine of mandible
- **Insertion**: the whole length of the side of tongue
- **Nerve supply** : Hypoglossal nerve
- **Action** : Protrudes apex of tongue forward and to opposite side

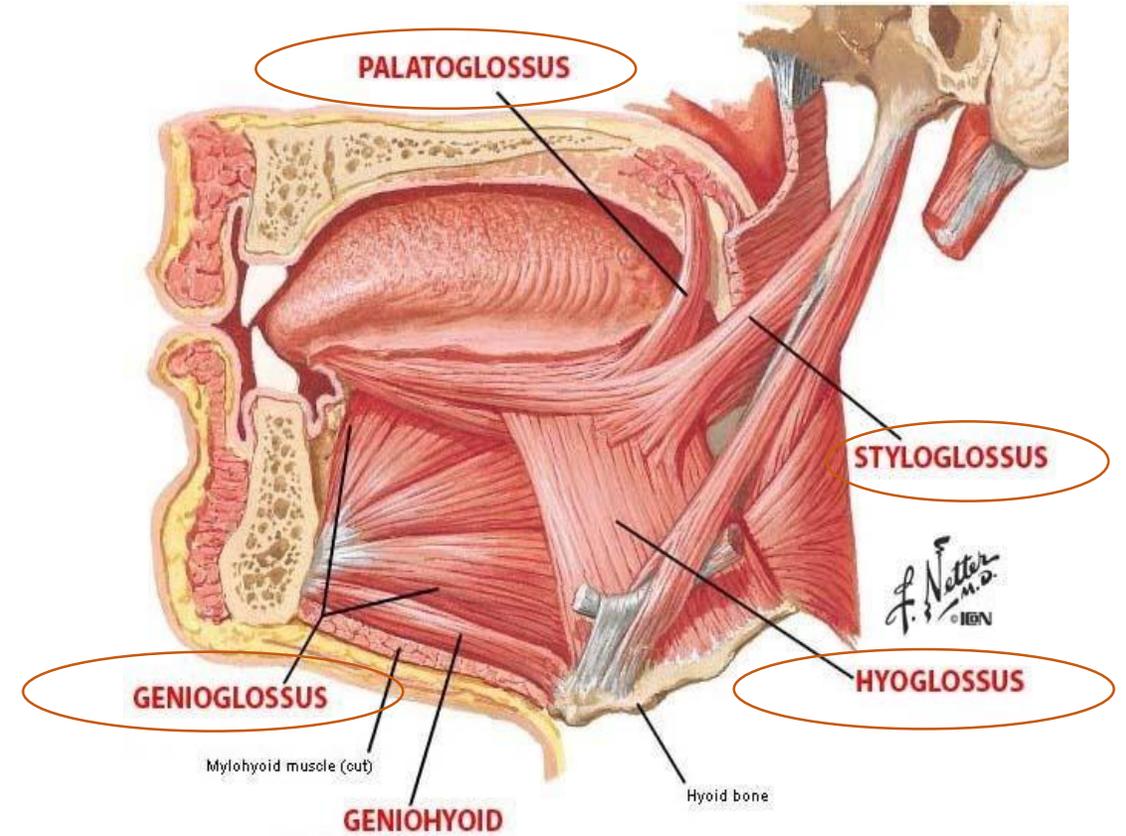
- **Hyoglossus**

- **Origin** : Body and greater cornu of hyoid bone
- **Insertion** : posterior 1/5 of side tongue
- **Nerve supply**: Hypoglossal nerve
- **Action**: Depresses tongue



Extrinsic Muscles of Tongue

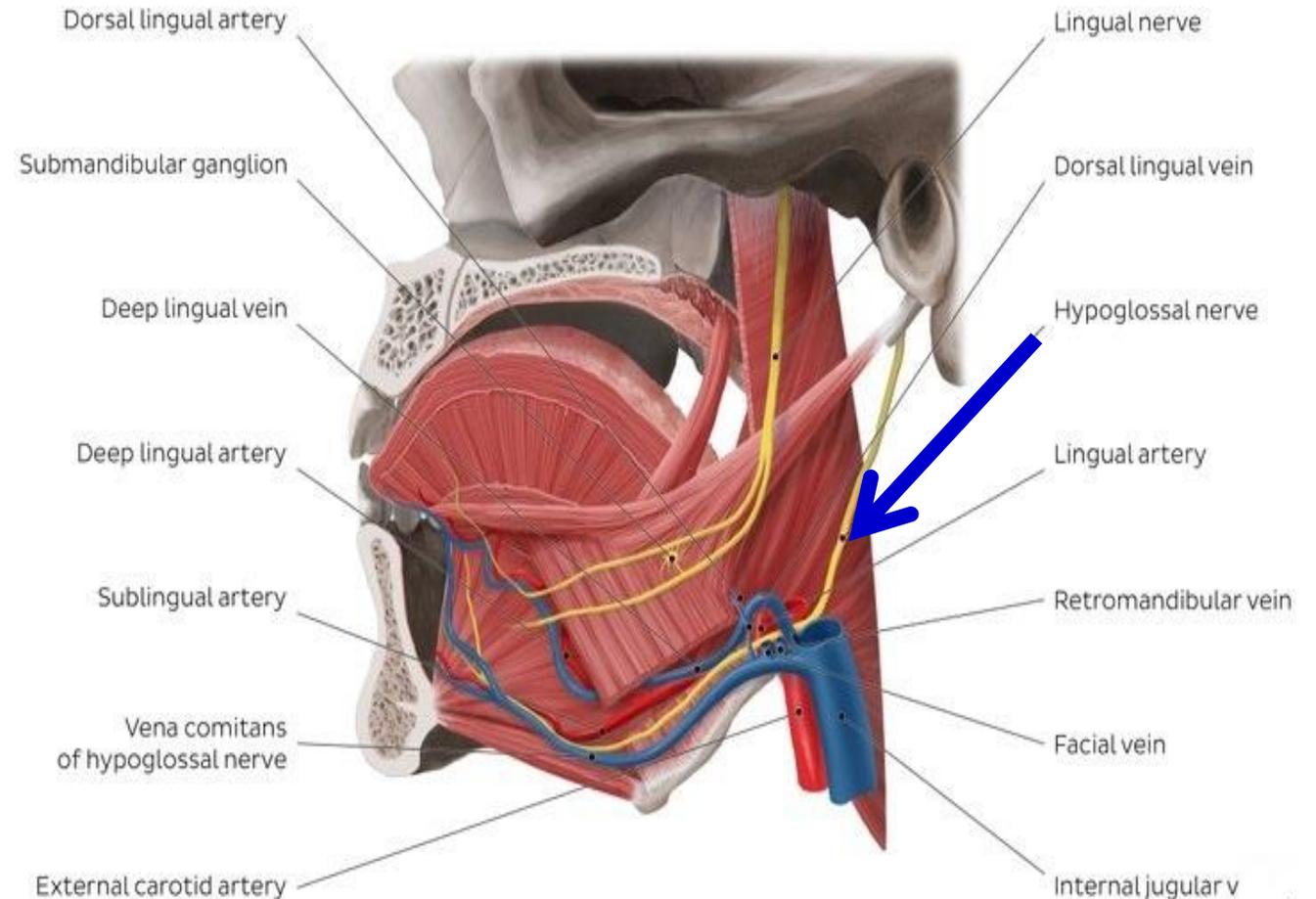
- **Styloglossus**
- **Origin** : Styloid process of temporal bone
- **Insertion**: Blends with other muscles of tongue
- **Nerve supply** :Hypoglossal nerve
- **Action**: Draws tongue upward and backward
- **Palatoglossus**
- **Origin**: Palatine aponeurosis
- **Insertion**: Side of tongue
- **Nerve supply** : Pharyngeal plexus
- **Action**: Pulls roots of tongue upward and backward, narrows oropharyngeal isthmus



NERVE SUPPLY OF THE TONGUE

Motor:

- **ALL** intrinsic and extrinsic muscles of the tongue are supplied by **hypoglossal nerve**
- **EXCEPT** palatoglossus muscle which is supplied by **cranial root of accessory nerve through pharyngeal plexus**



NERVE SUPPLY OF THE TONGUE

Sensory:

Anterior 2/3:

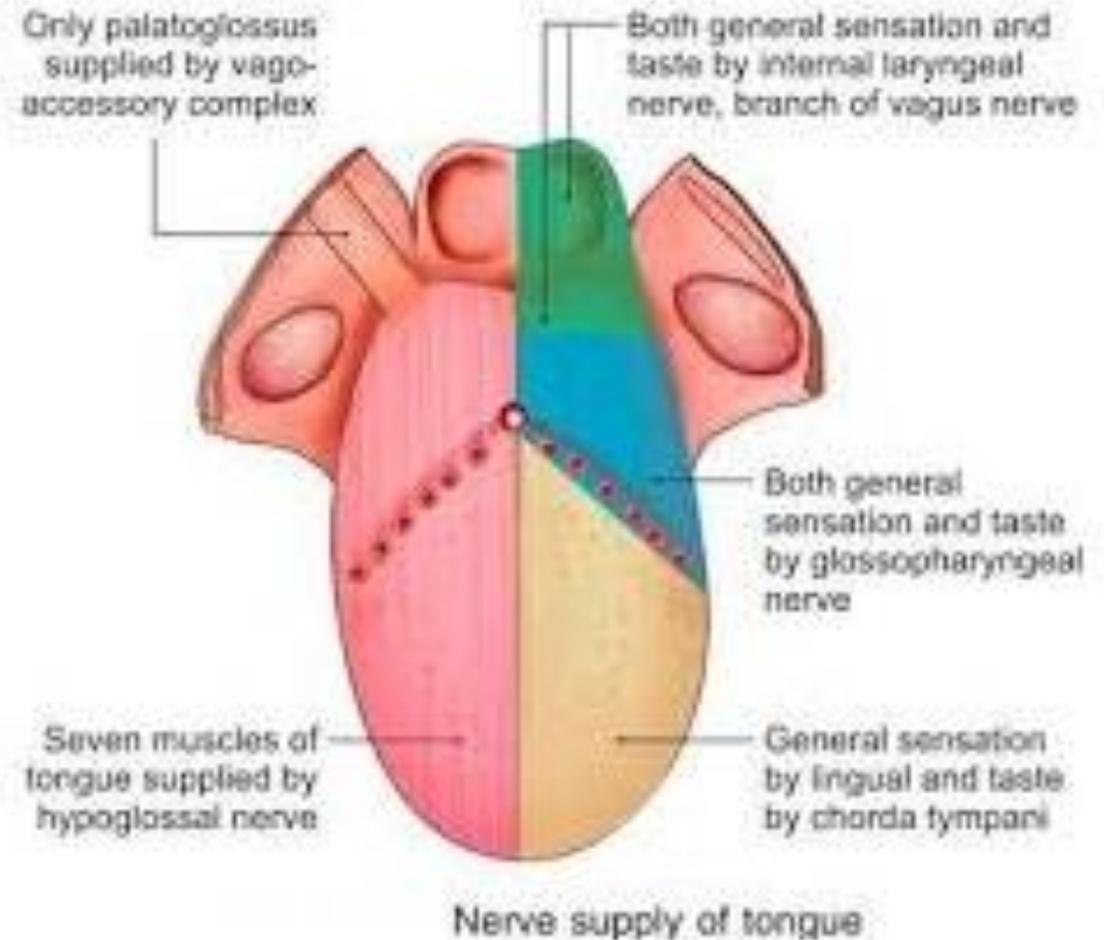
- Lingual nerve: general sensation
- Chorda tympani: taste sensation

Posterior 1/3:

- Glossopharyngeal nerve: general and taste sensation

Most posterior part (root):

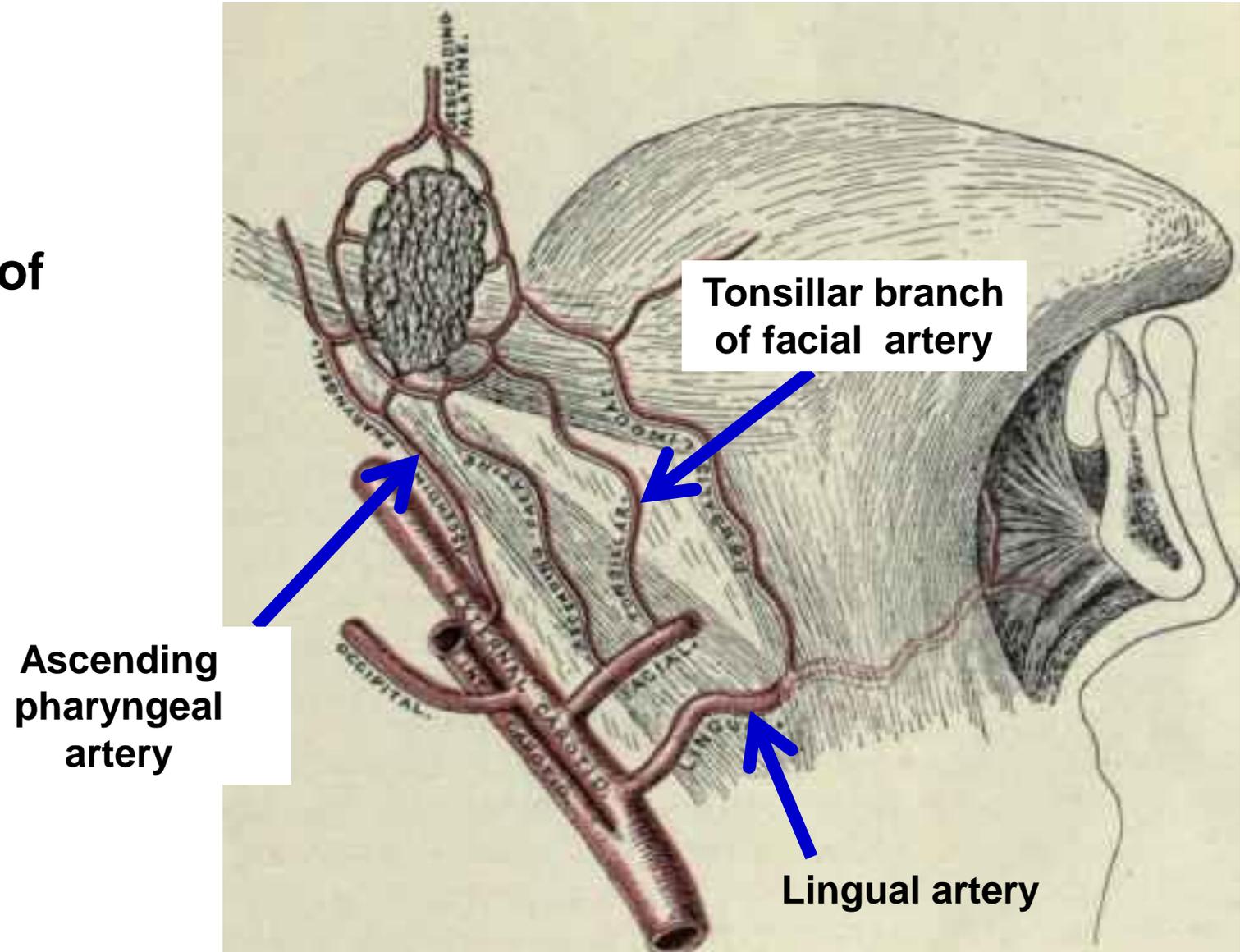
- Vagus nerve through internal laryngeal branch



BLOOD SUPPLY OF THE TONGUE

Arteries:

1. Lingual artery
2. Tonsillar branch of facial artery
3. Ascending pharyngeal artery



BLOOD SUPPLY OF THE TONGUE

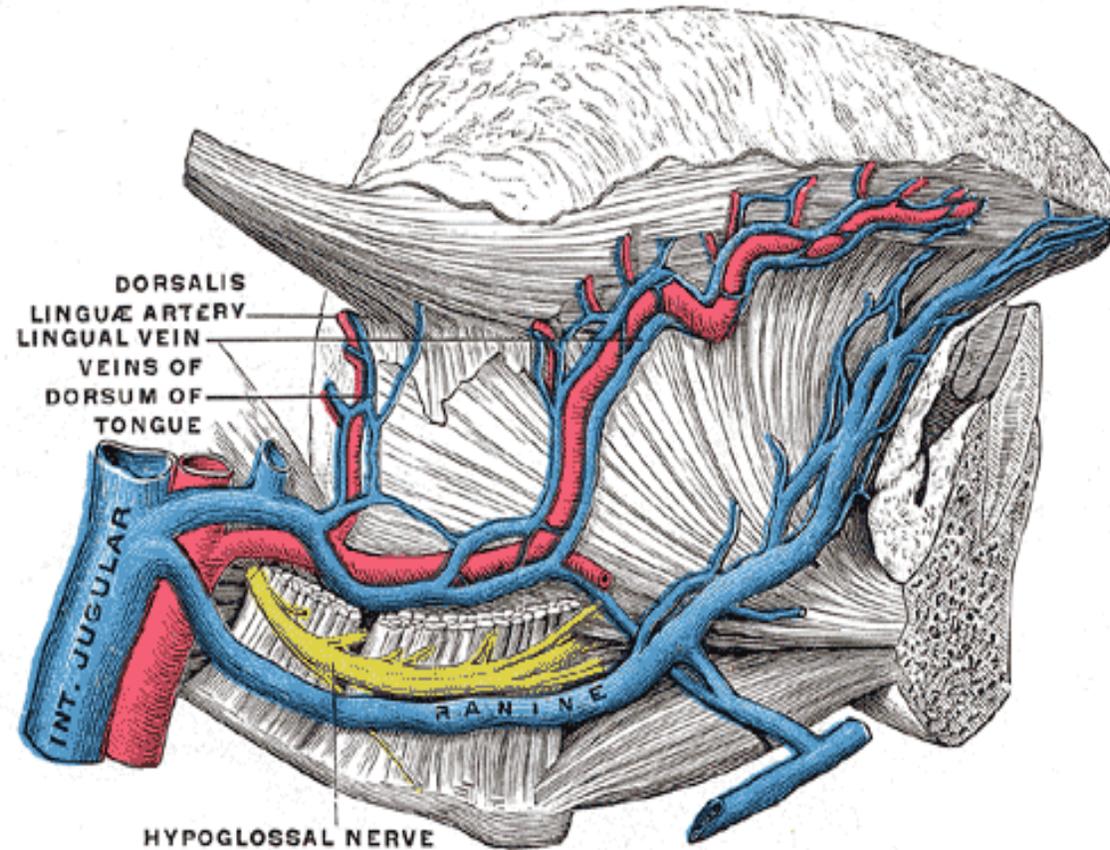
Veins:

1. Deep lingual vein:

- Runs on the under surface of tongue
- Forms vena comitans of hypoglossal nerve

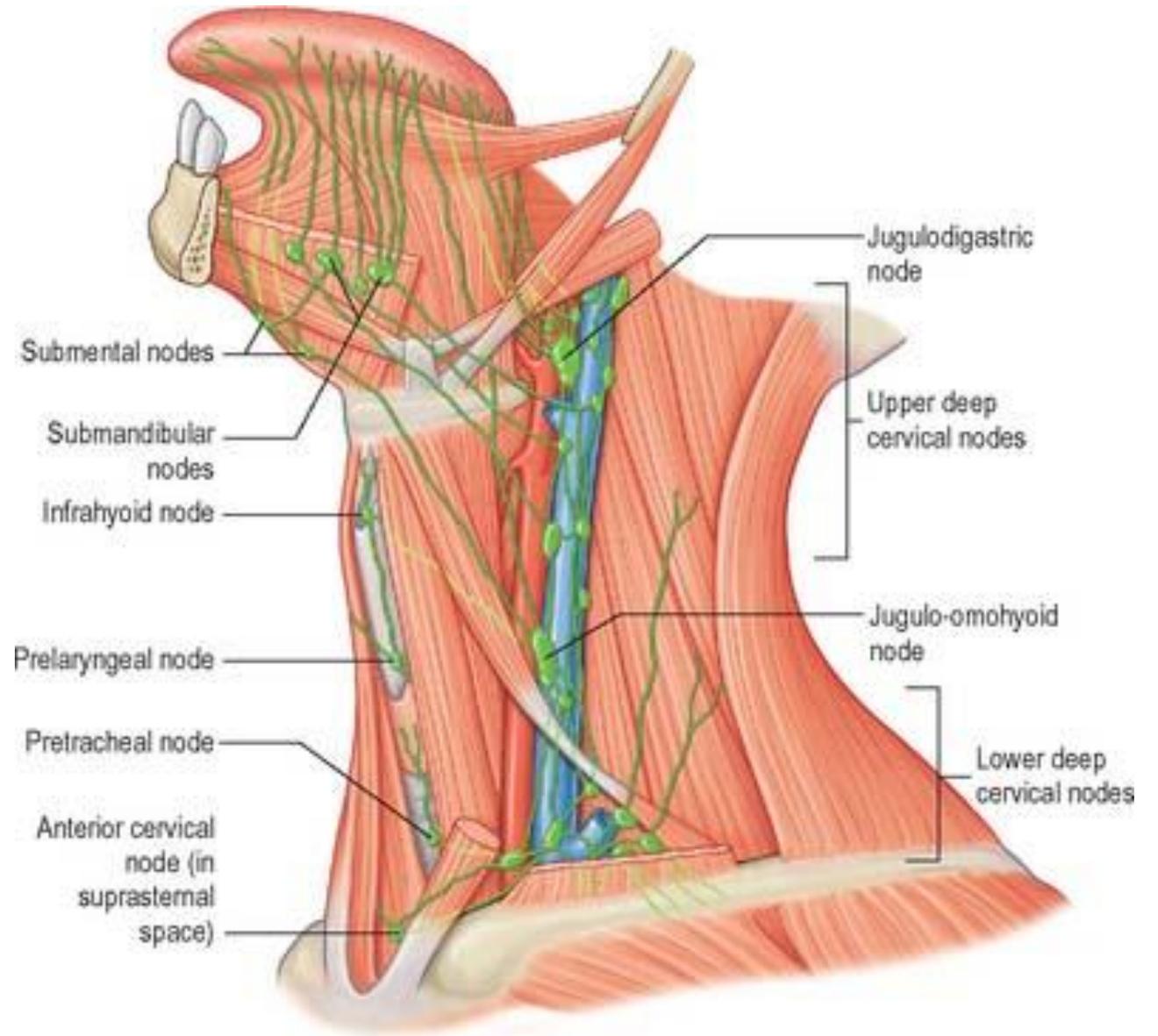
2. Dorsal lingual veins:

- Run on dorsum of tongue
 - End in lingual vein.
-
- Veins of the tongue ends in internal jugular vein



LYMPHATICS OF THE TONGUE

- **Tip:**
Submental lymph nodes
- **Sides of the anterior two thirds:** Submandibular and deep cervical lymph nodes
- **Posterior third:** Deep cervical lymph nodes



REFERENCES

- **Snell`s clinical anatomy by regions ,Tenth Edition**
- **Gray`s Anatomy for students, Third Edition**
- **Grant`s Atlas of Anatomy**

Thank
you

