

# TONGUE-II

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# Lesson Plan

❖ Intrinsic Muscles of Tongue

❖ Arterial supply

❖ Venous drainage

❖ Lymphatic drainage

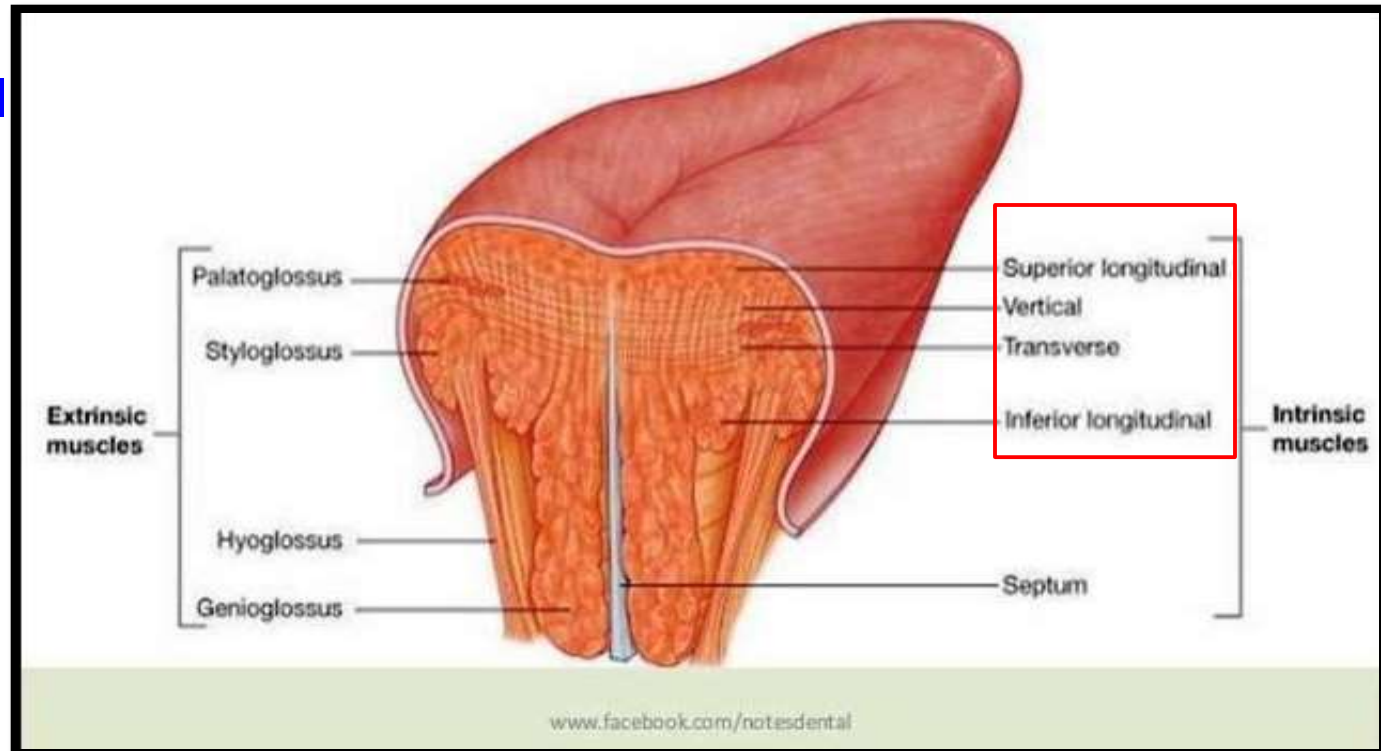
❖ Nerve supply

❖ Applied aspects

# Intrinsic Muscles

- ❖ Run in three directions:
  - Longitudinal.
  - Horizontal (Transverse).
  - Vertical.
- ❖ Occupy the upper part of the tongue.
- ❖ Attached to the submucosa and to the median fibrous septum.
- ❖ There are 4 intrinsic muscles in each half of the tongue:

- Superior longitudinal
- Inferior longitudinal.
- Transverse.
- Vertical.



# Intrinsic Muscles contd...

## Superior longitudinal-

### Location-

- Beneath the mucosa.

### Actions-

- Shortens the tongue.
- Makes the dorsum **concave**.

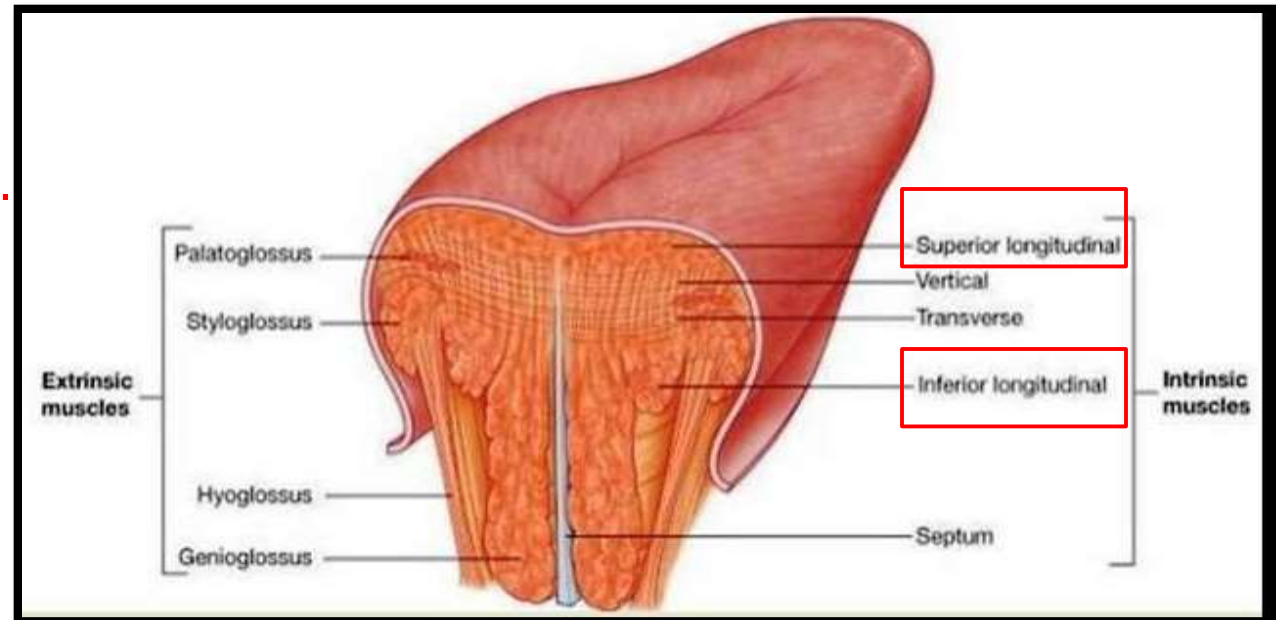
## Inferior longitudinal-

### Location-

- Close to inferior surface, between Genioglossus and Hyoglossus.

### Actions-

- Shortens the tongue.
- Makes the dorsum **convex**.



# Intrinsic Muscles contd...

## Transverse-

### Location-

- Extends from median septum to the margin.

### Actions-

- Makes the tongue narrow and elongated.

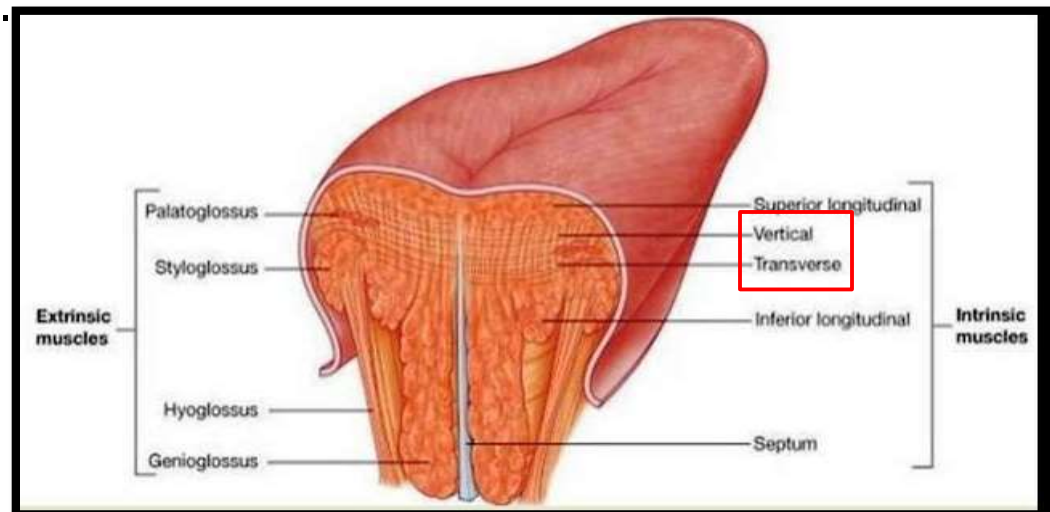
## Vertical-

### Location-

- At the border of anterior part of tongue.

### Actions-

- Makes the tongue broad and flattened.



# Arterial Supply

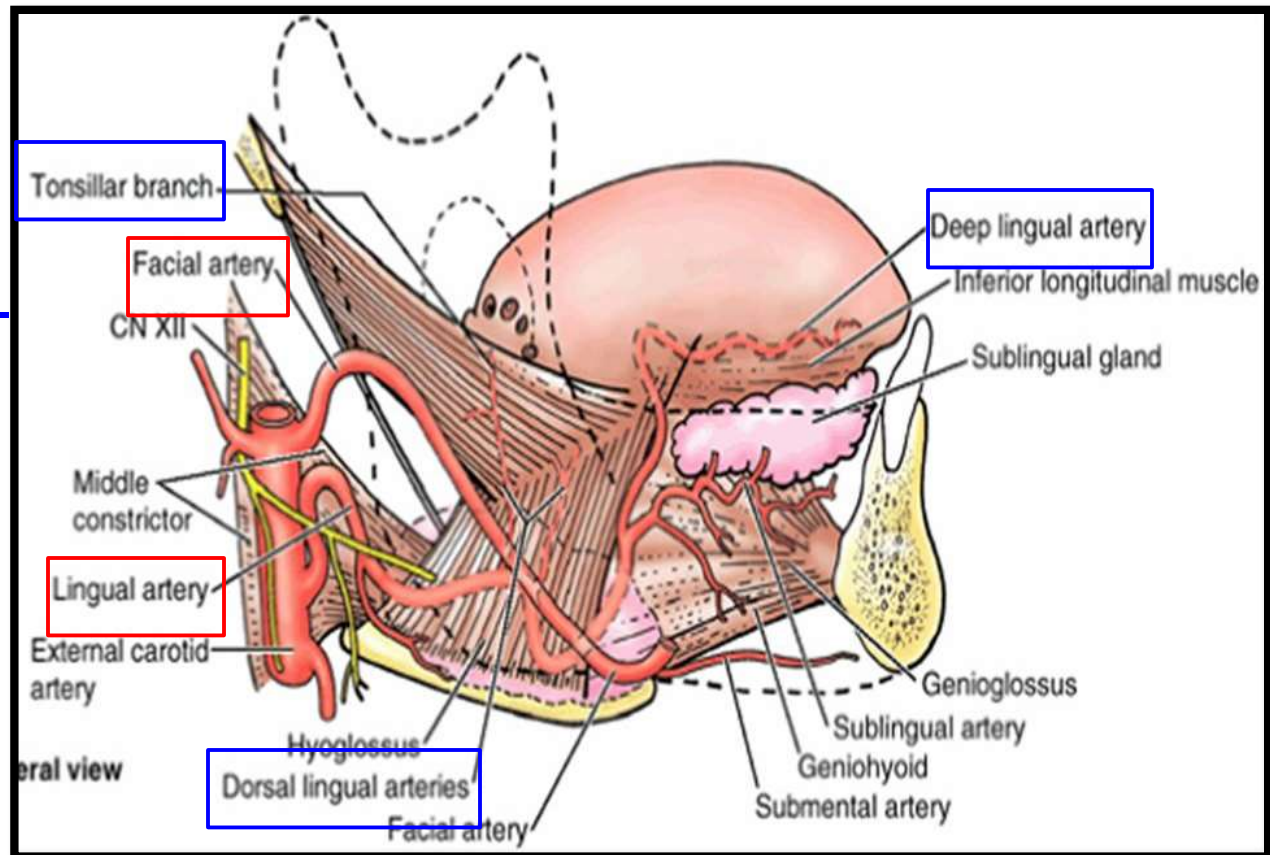
- Lingual artery.
- Facial artery.
- Ascending pharyngeal artery.

## Lingual artery:

- Deep lingual arteries-  
to anterior part.
- Dorsal lingual arteries-  
to posterior part.

## Facial artery:

- Tonsillar branch.



Genioglossus

Dorsal lingual arteries

Middle constrictor

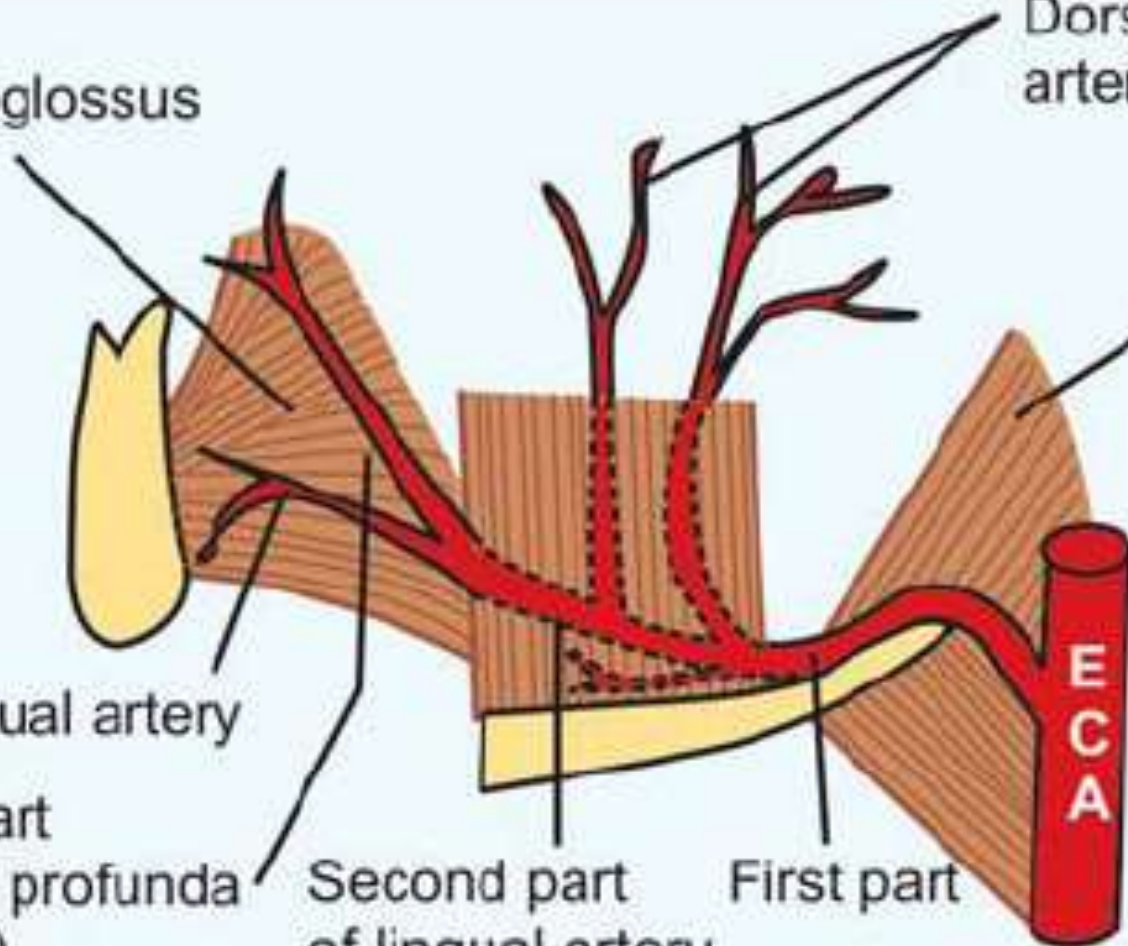
Sublingual artery

Third part  
(Arteria profunda linguae)

Second part  
of lingual artery

First part

E  
C  
A





# Venous Drainage

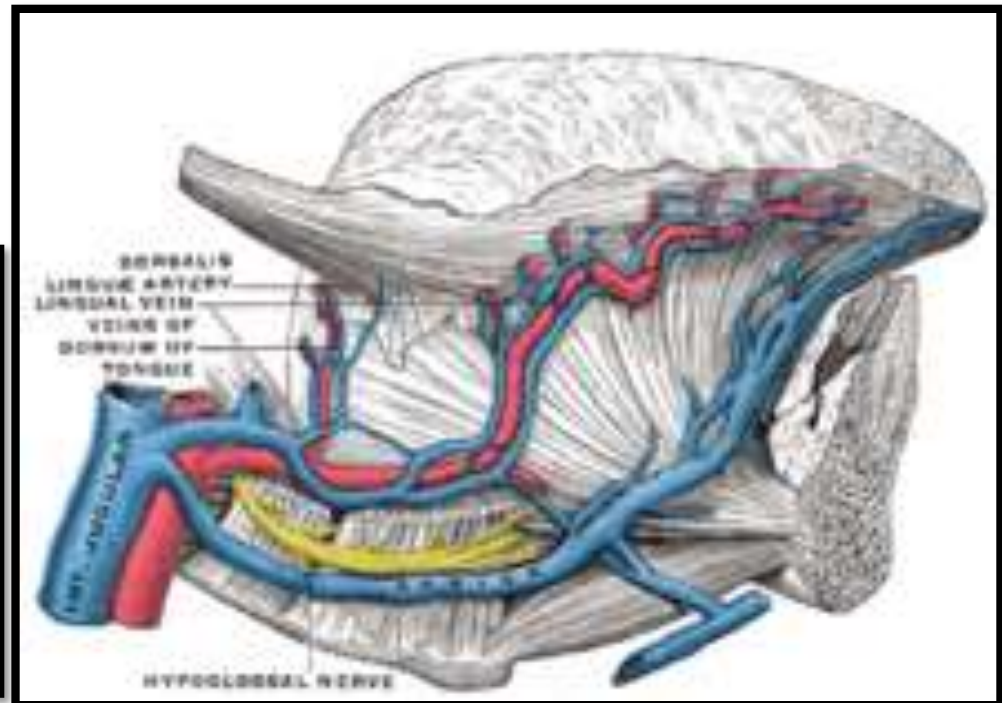
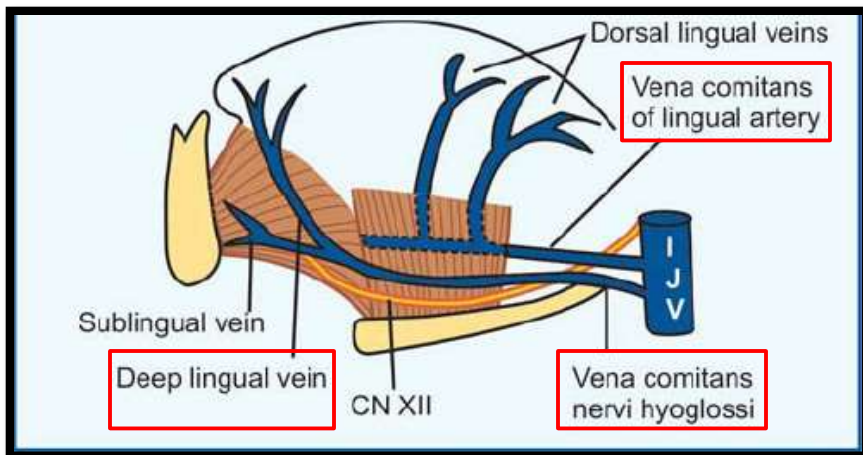
- Deep lingual vein.
- Vanae comitantes accompanying lingual artery.
- Vanae comitantes accompanying hypoglossal nerve.

## Deep lingual vein:

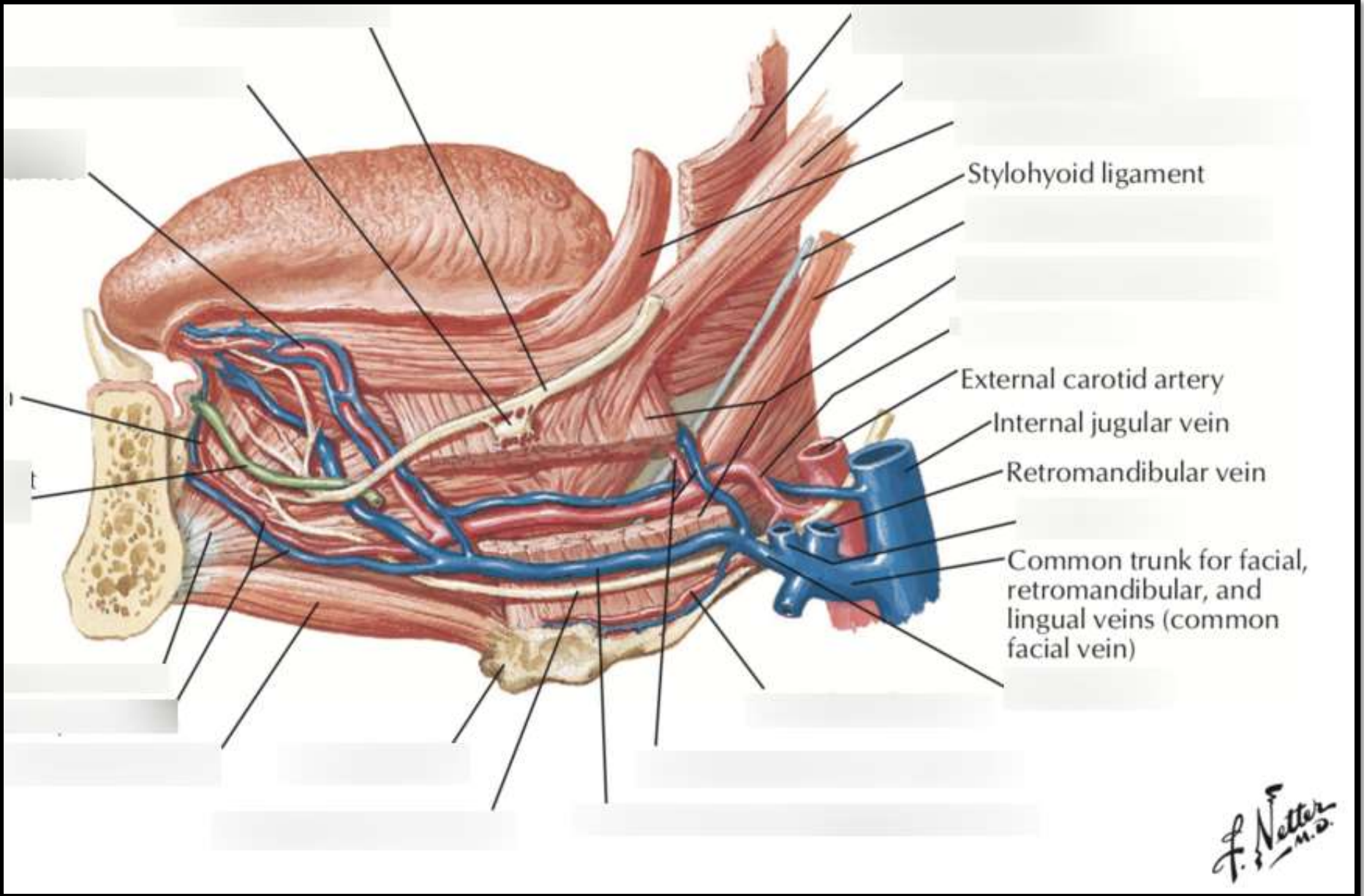
- Principal vein of the tongue.
- Visible on inferior surface of tongue, near the median plane.

## Vanae comitantes accompanying lingual artery:

- Joined by dorsal lingual veins.







Stylohyoid ligament

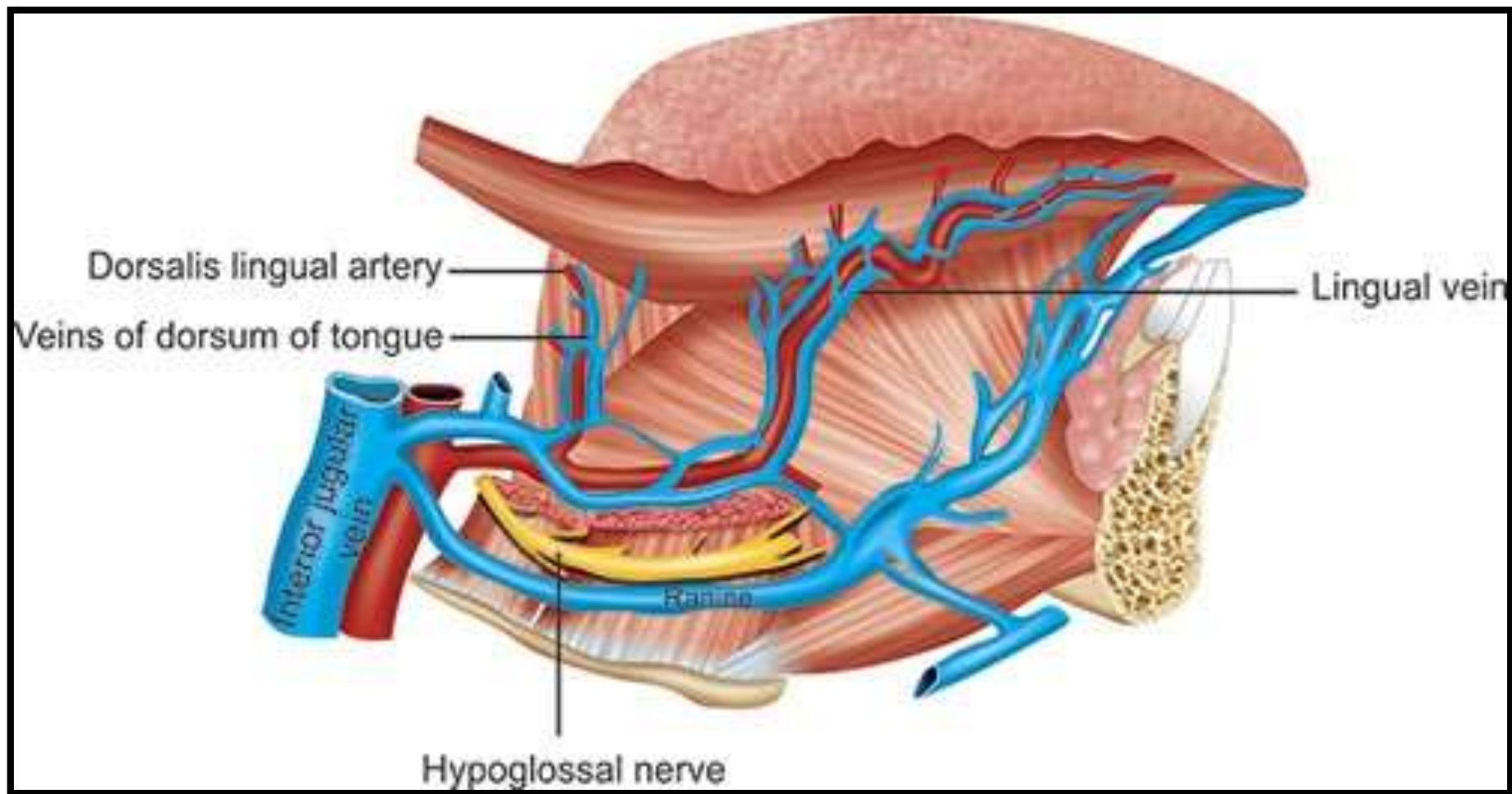
External carotid artery

Internal jugular vein

Retromandibular vein

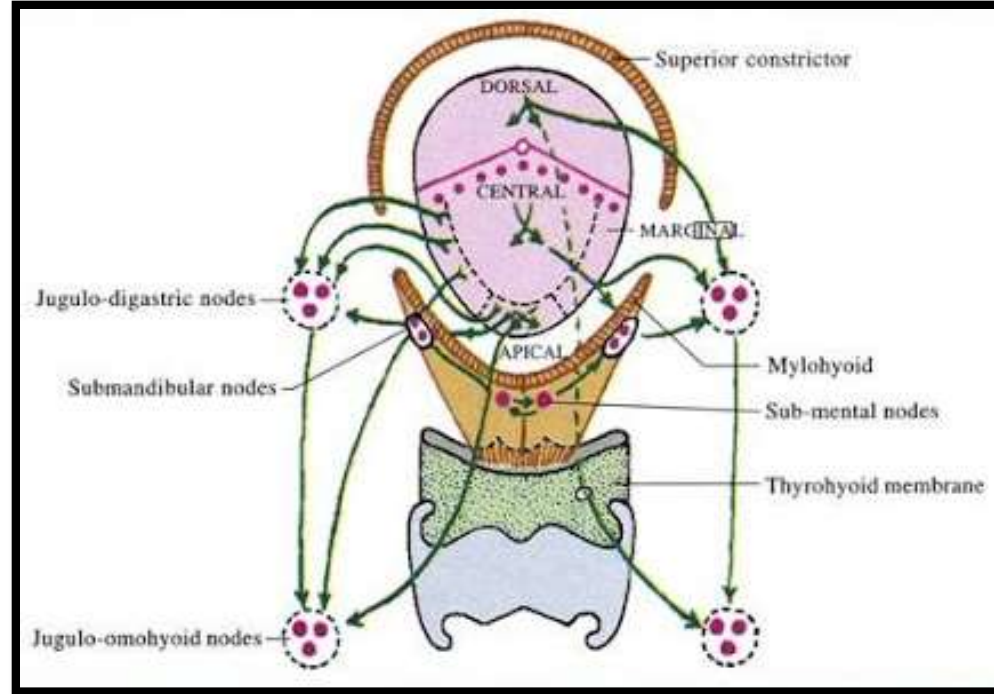
Common trunk for facial, retromandibular, and lingual veins (common facial vein)

F. Netter  
M.D.



# Lymphatic Drainage

- Lymphatics are grouped into 4 sets:
- Apical.
- Marginal.
- Central.
- Basal [Dorsal].



## Apical lymphatics drain:

- Tip.
- Inferior surface.

[Submental] → Submandibular  
 [Submental] → Jugulo-Omohyoid

## Marginal lymphatics drain:

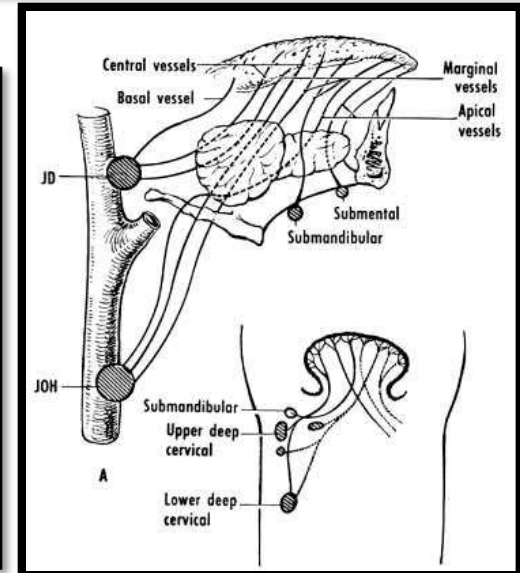
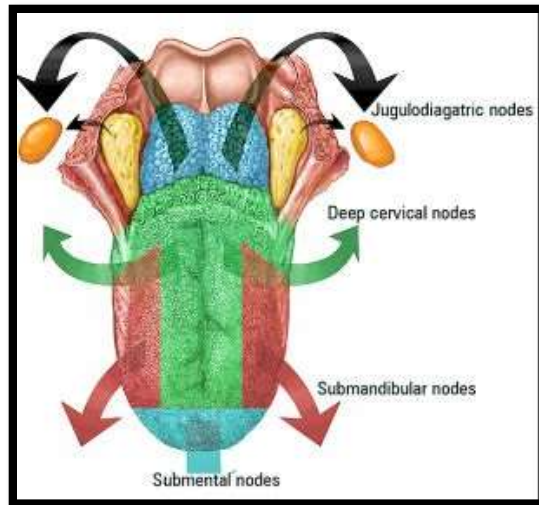
- Marginal portions of anterior 2/3<sup>rd</sup> of tongue.
- [Submandibular] → Lower Deep Cervical]

## Central lymphatics drain:

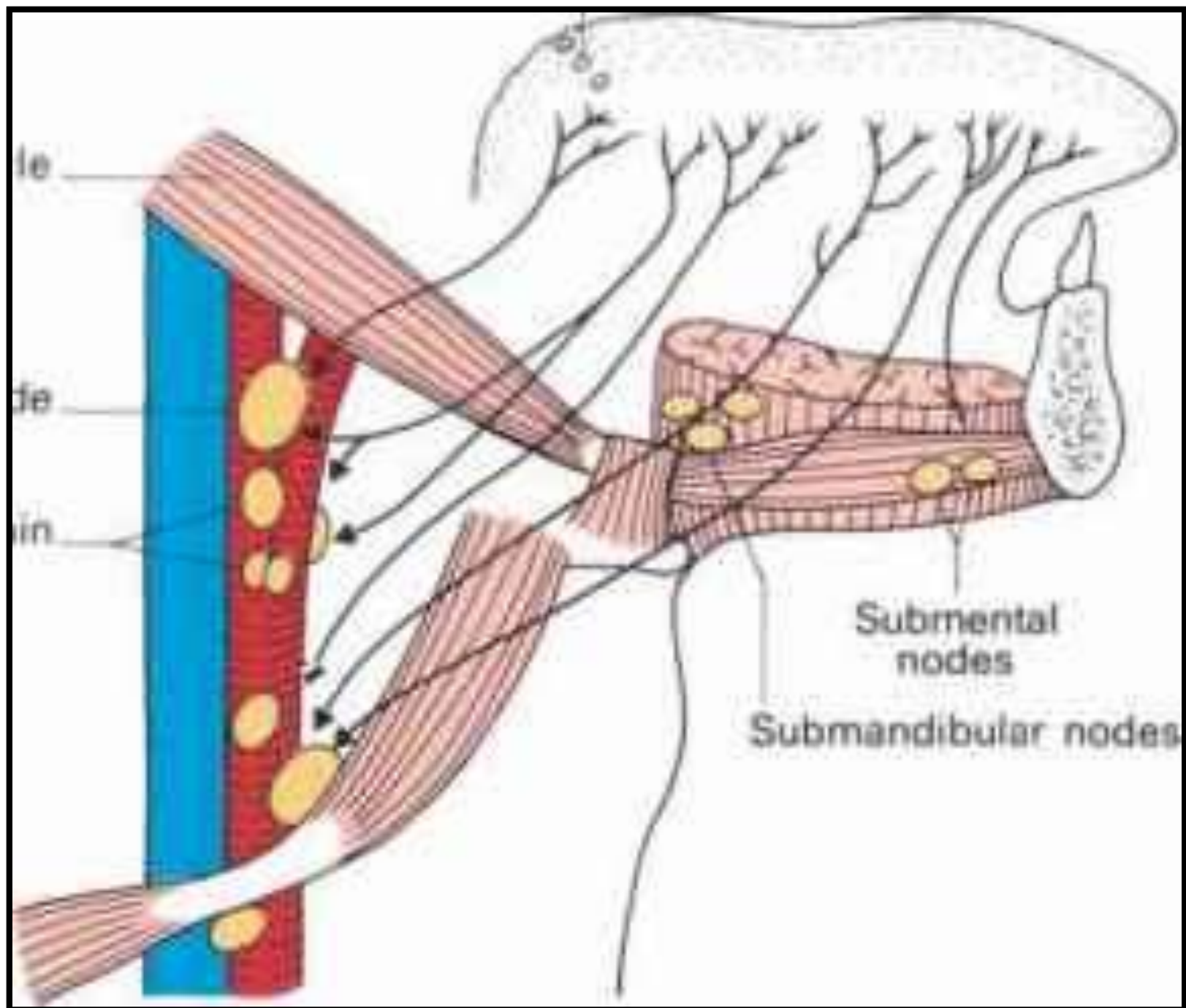
- Central portions of anterior 2/3<sup>rd</sup> of tongue
- [Deep Cervical] Bilaterally

## Basal lymphatics drain:

- Root of tongue.
- [Upper Deep Cervical] Bilaterally







# Nerve Supply

## Motor Supply-

- All muscles of tongue are supplied by **Hypoglossal Nerve** except **Palatoglossus**.
- **Palatoglossus** is supplied by **cranial root of Accessory Nerve**.

## Sensory Supply-

Anterior 2/3<sup>rd</sup> –

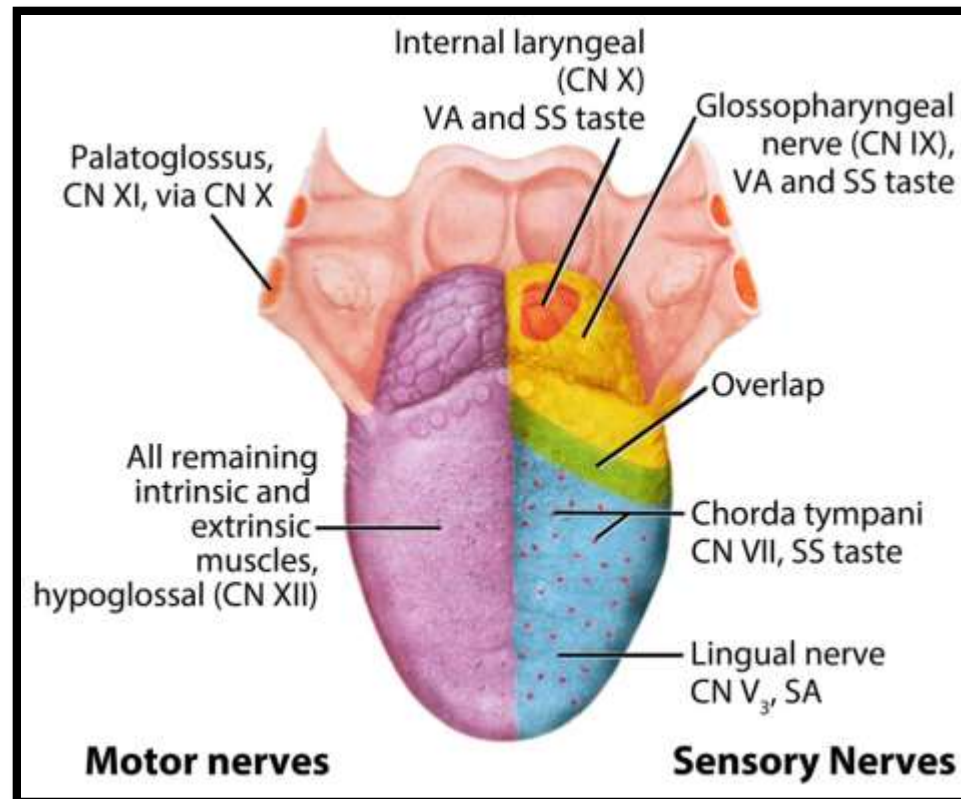
General Sensations- Lingual Nerve

Special Sensations of Taste- Chorda Tympani Nerve [except **circumvallate papillae** which are supplied by Glossopharyngeal Nerve.

Posterior 2/3<sup>rd</sup> –

General Sensations & Special Sensations of Taste- Glossopharyngeal Nerve.

Posterior-most part- Internal Laryngeal Nerve.



# Applied Aspects

## Unilateral paralysis of Tongue:

- Ipsilateral deviation of tongue.
- Action of Genioglossus muscle is used for clinical testing of Hypoglossal Nerve.
- Unilateral contraction of Genioglossus deviates the tongue to the opposite side.





Thank  
You

