

ANATOMY OF **Mouth cavity**

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Mouth cavity

Extend from the lips to the pharynx

Boundaries:

The mouth cavity is bounded by the following:

Superiorly: hard palate - soft palate.

Inferiorly : mylohyoid muscles.

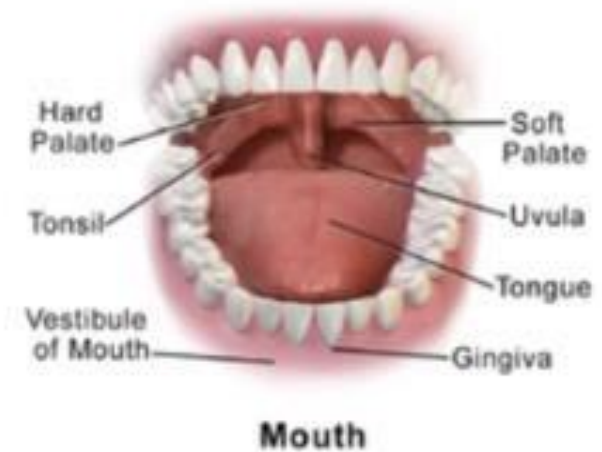
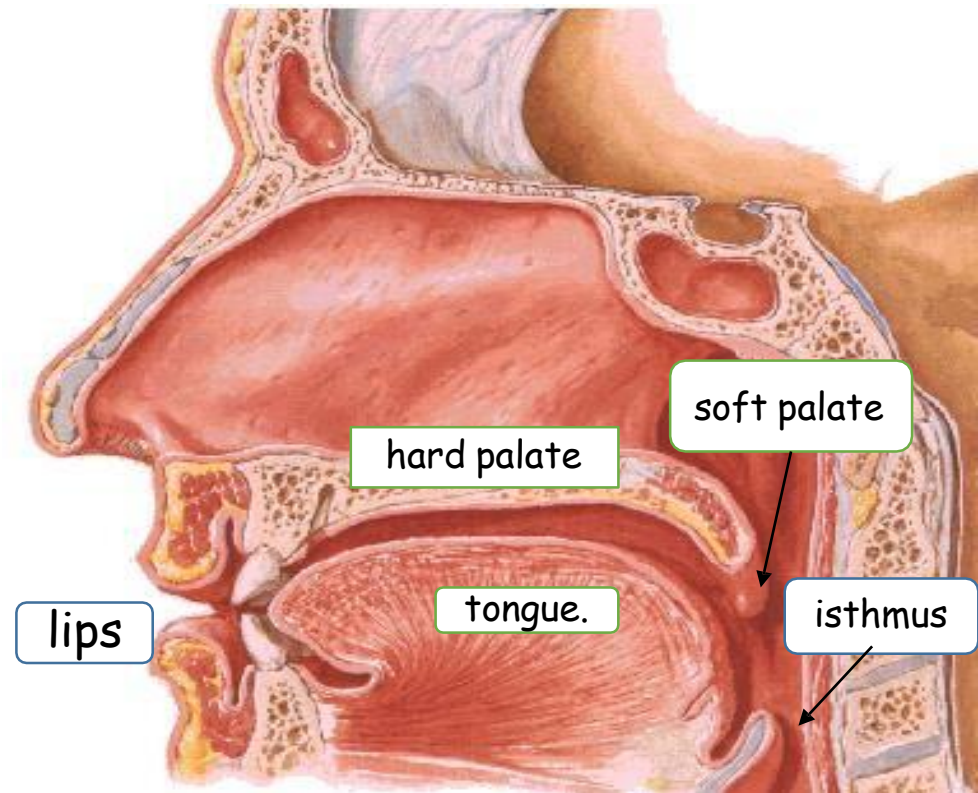
On both sides: lips - cheeks.

Anteriorly: lips - cheeks.

Posteriorly: oropharyngeal isthmus.

+ The oropharyngeal isthmus:

it is the communication between the oral cavity and the oropharynx.

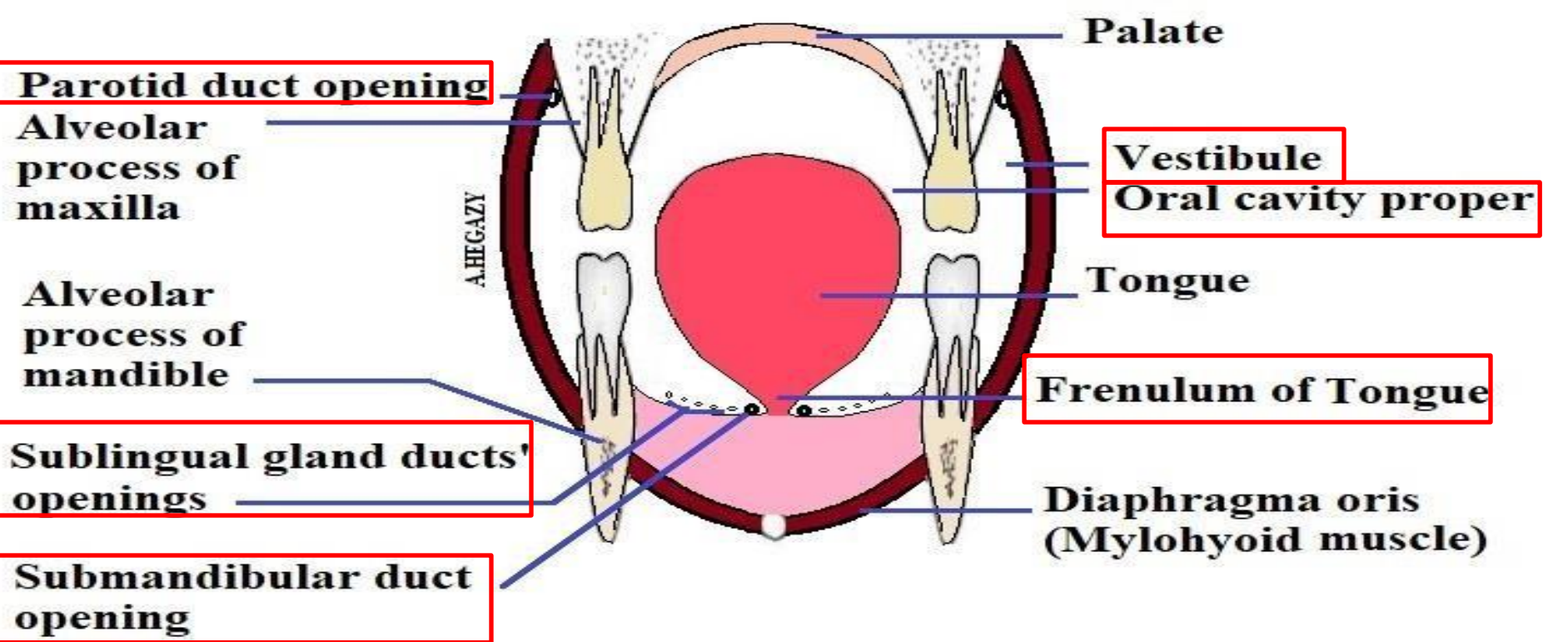


Divisions:

The mouth cavity is divided by the teeth and the alveolar margin into:

1**The vestibule:** the cavity on the outer side of teeth and gums. Receiving opening of **Parotid duct** opposite the upper 2nd molar tooth

2**The mouth cavity proper:** the cavity on the inner side of teeth and gums. Receiving opening of both **Submandibular duct** at each side of the frenulum & **Sublingual duct** at the sublingual fold

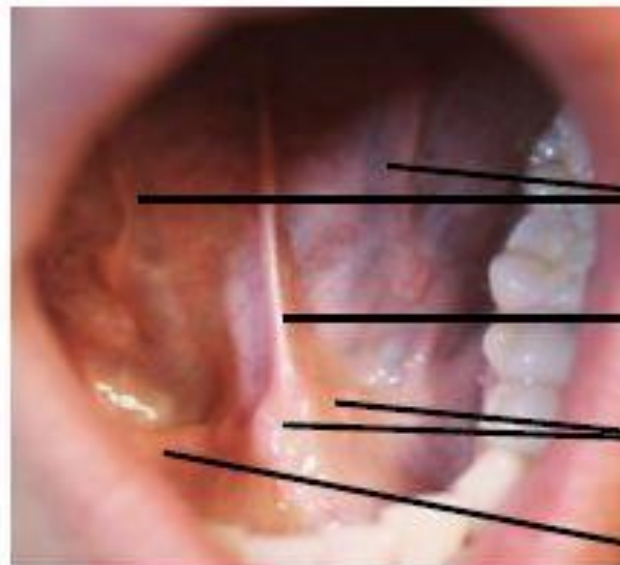




The vestibule



The mouth cavity proper



Frenulum

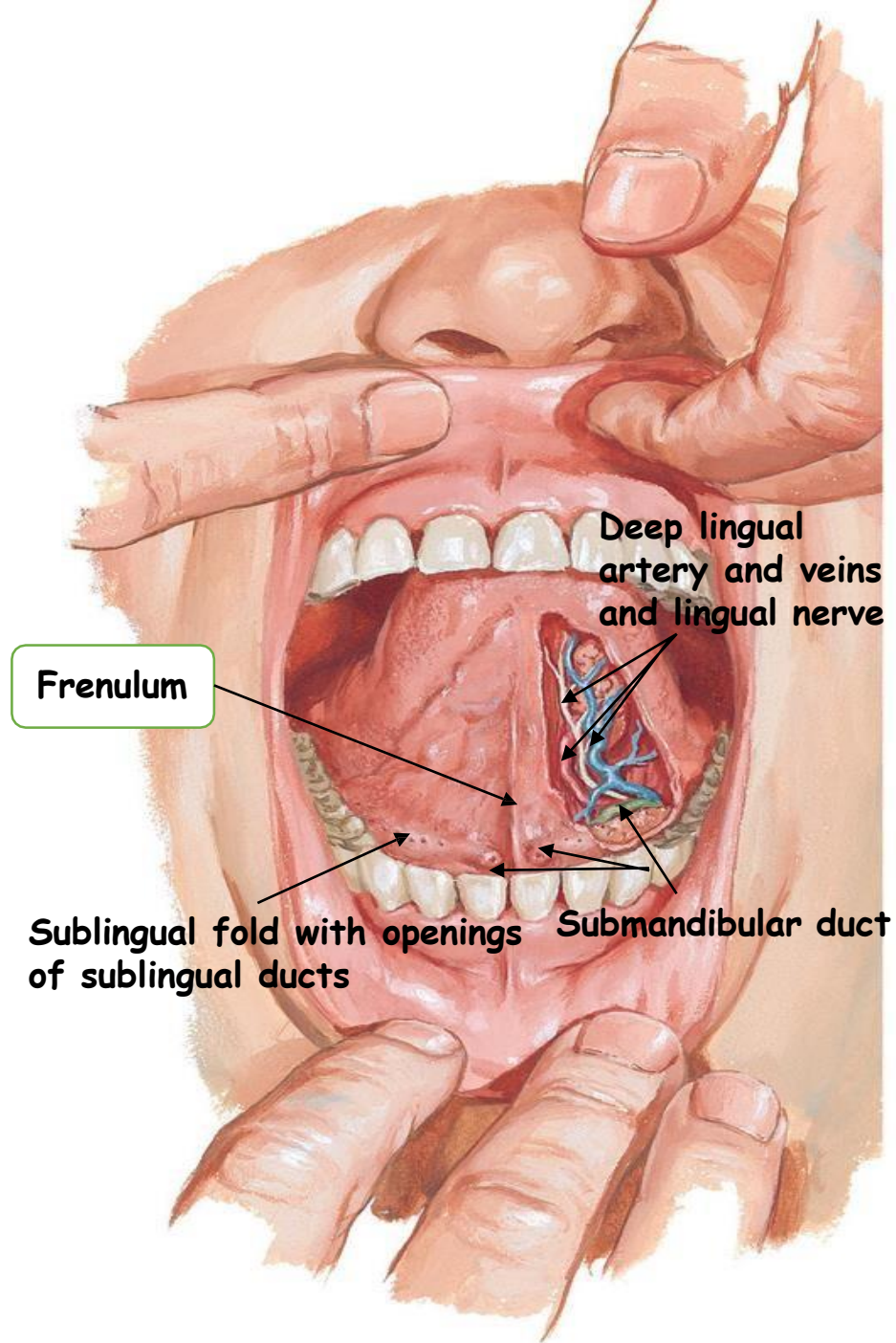
Puncta of submandibular ducts

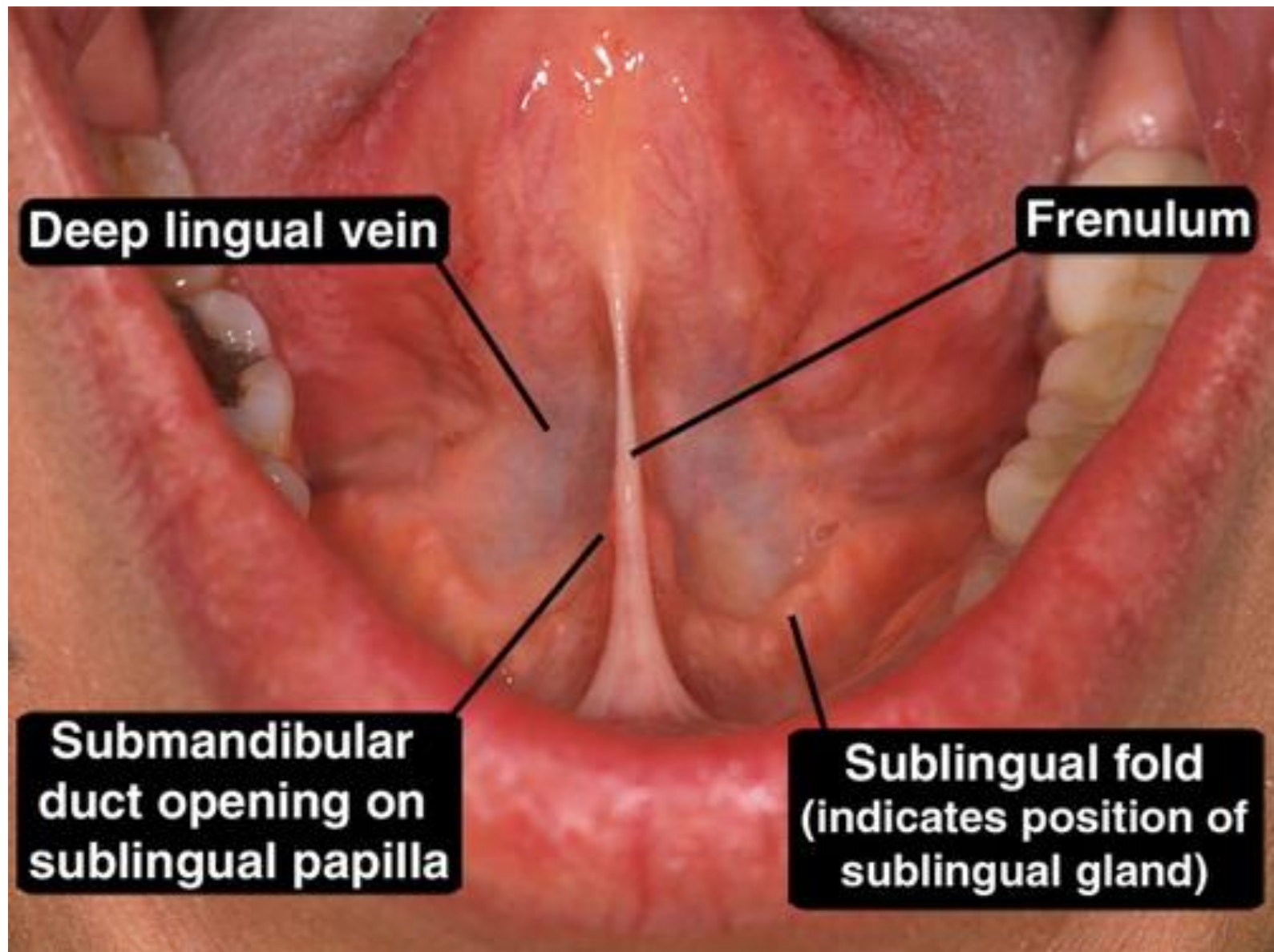
Submandibular duct

The mucous membrane of the mouth cavity:

Features:

- **Frenulum of the tongue:** a median fold of the mucous membrane connects under surface of the tongue to floor of the mouth.
- **Sublingual papilla:** an elevation on the floor of the mouth, on each side of the frenulum.
- **Sublingual fold:** an elevation on the floor of the mouth extends posterolaterally, on both sides of the frenulum & produced by the sublingual salivary glands and shows the openings of their ducts.





Arterial supply of The mucous membrane :

1- Facial artery: 2- Lingual artery: 3- Maxillary artery:

Nerve supply: Generally, From trigeminal N

1- Roof

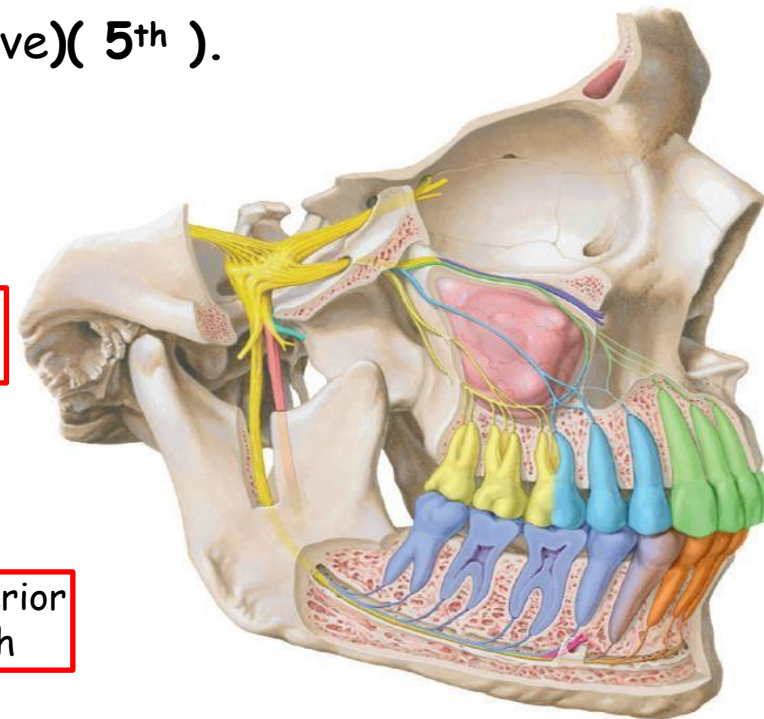
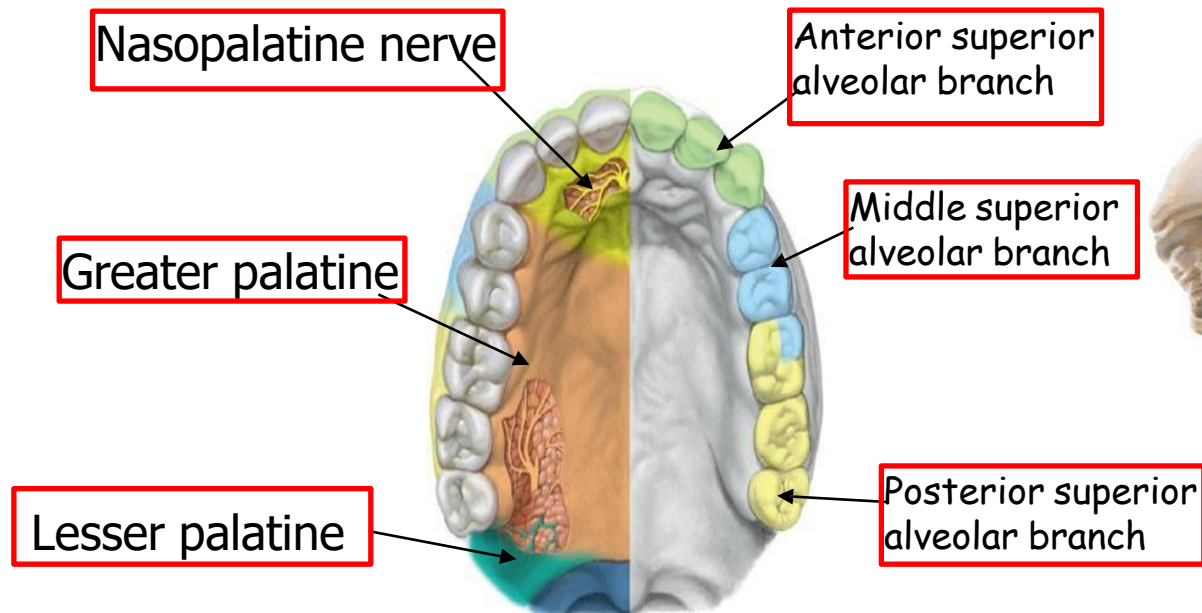
- Greater palatine - lesser palatine - nasopalatine (from sphenopalatine ganglion)

([click here](#) to know the clinical correlation to this piece of information)

- Alveolar branches (from the maxillary nerve)(5th).([click here](#))

2- Floor: Lingual nerve (from the mandibular nerve)(5th).

3- Cheek: Buccal nerve (from the mandibular nerve)(5th).





Tongue

Parts of the tongue:

1. **Tip:** tapering anterior free end.
2. **Root:** attached to the floor of the mouth & Transmits the vessels and nerve supply the tongue.

3. Sides (margin)

-Separated from the teeth by a deep alveolo-lingual sulcus (next slide).

-Shows 5 vertical folds of mucous membrane called **folia linguae**.

Numerous projections arranged in several transverse folds upon the lateral margins of the tongue

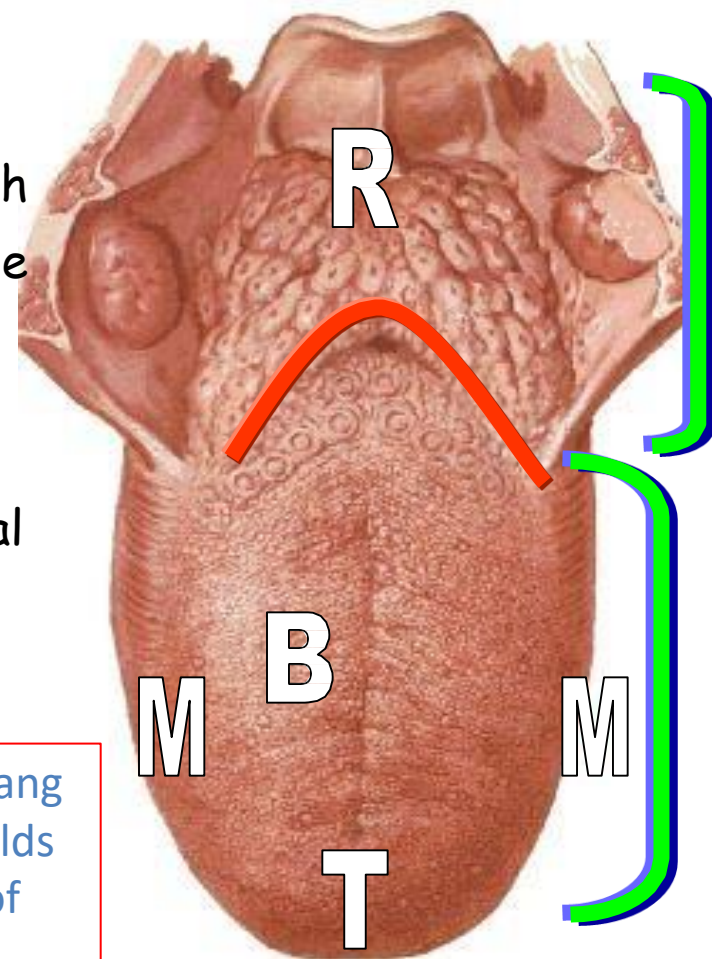
4. Body: has 2 Surfaces

a- Dorsal surfaces:

- Directed upwards and backwards

b-Inferior surfaces: **ventral**

Directed downwards towards the floor of the mouth.

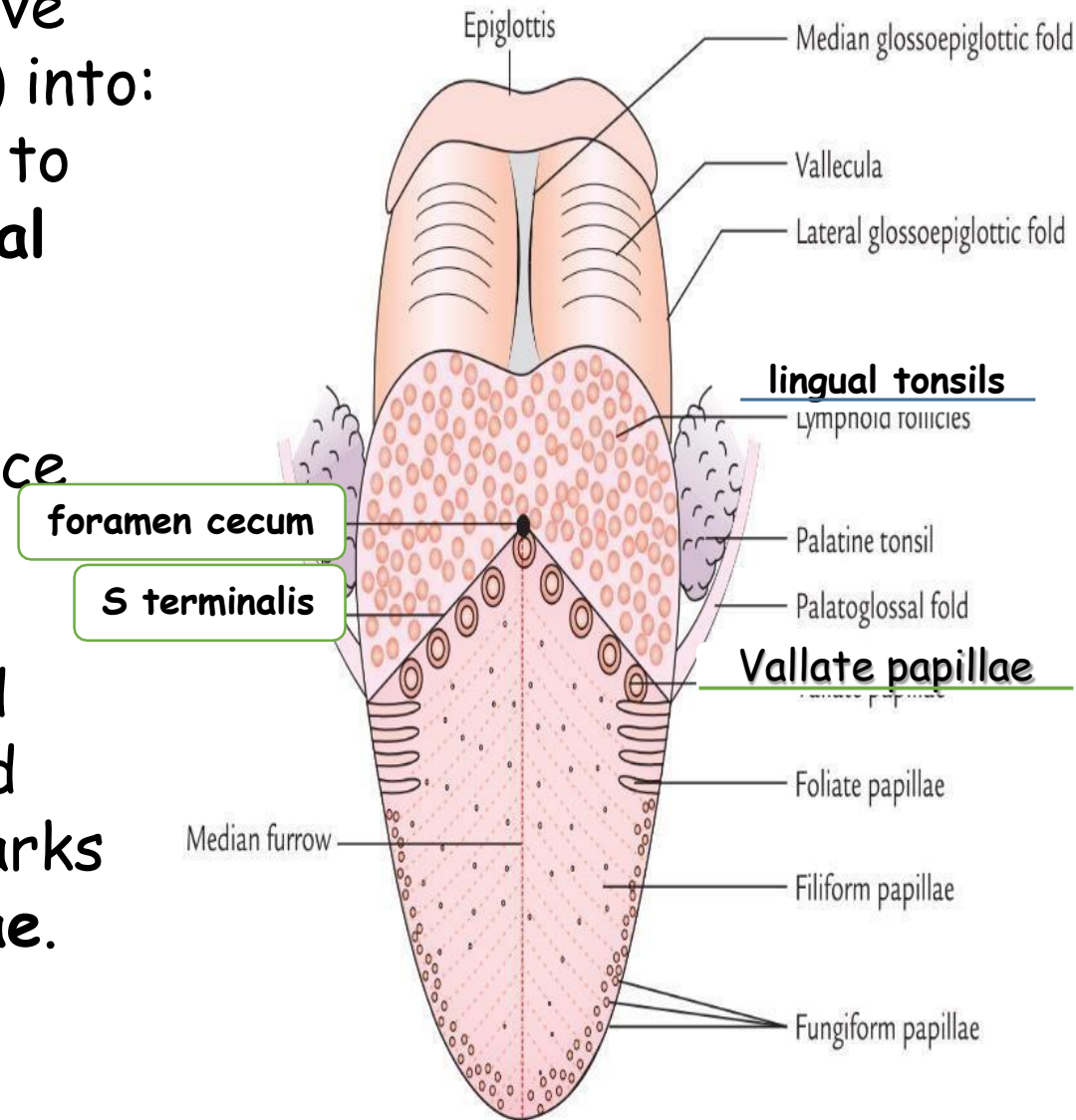




alveolo-lingual sulcus

a. Dorsal surface:

- Divided by V-shaped groove called (**sulcus terminalis**) into:
1 anterior 2/3: rough, due to presence of different **lingual papillae**.
- 2 posterior 1/3: smooth**, but irregular due to presence of underlying **lymphatic Tissue (lingual tonsils)**.
- this is sulcus shows blind opening at the apex called **foramen cecum** which marks the site of **Lingual papillae**.



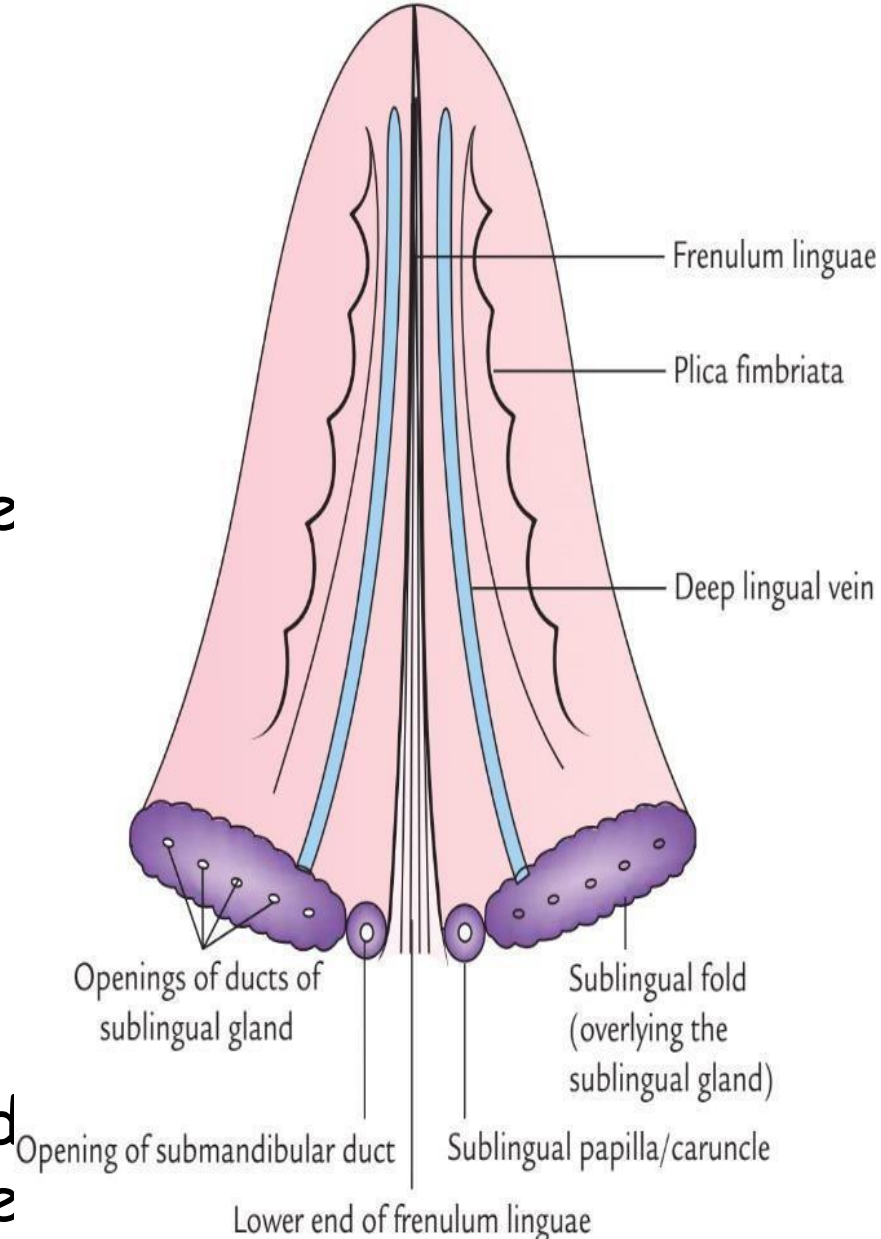
Features on the dorsal surface of the tongue.

b- Ventral or Inferior surface:
connected to floor of mouth by
frenulum and covered by
transparent mucosa & shows:

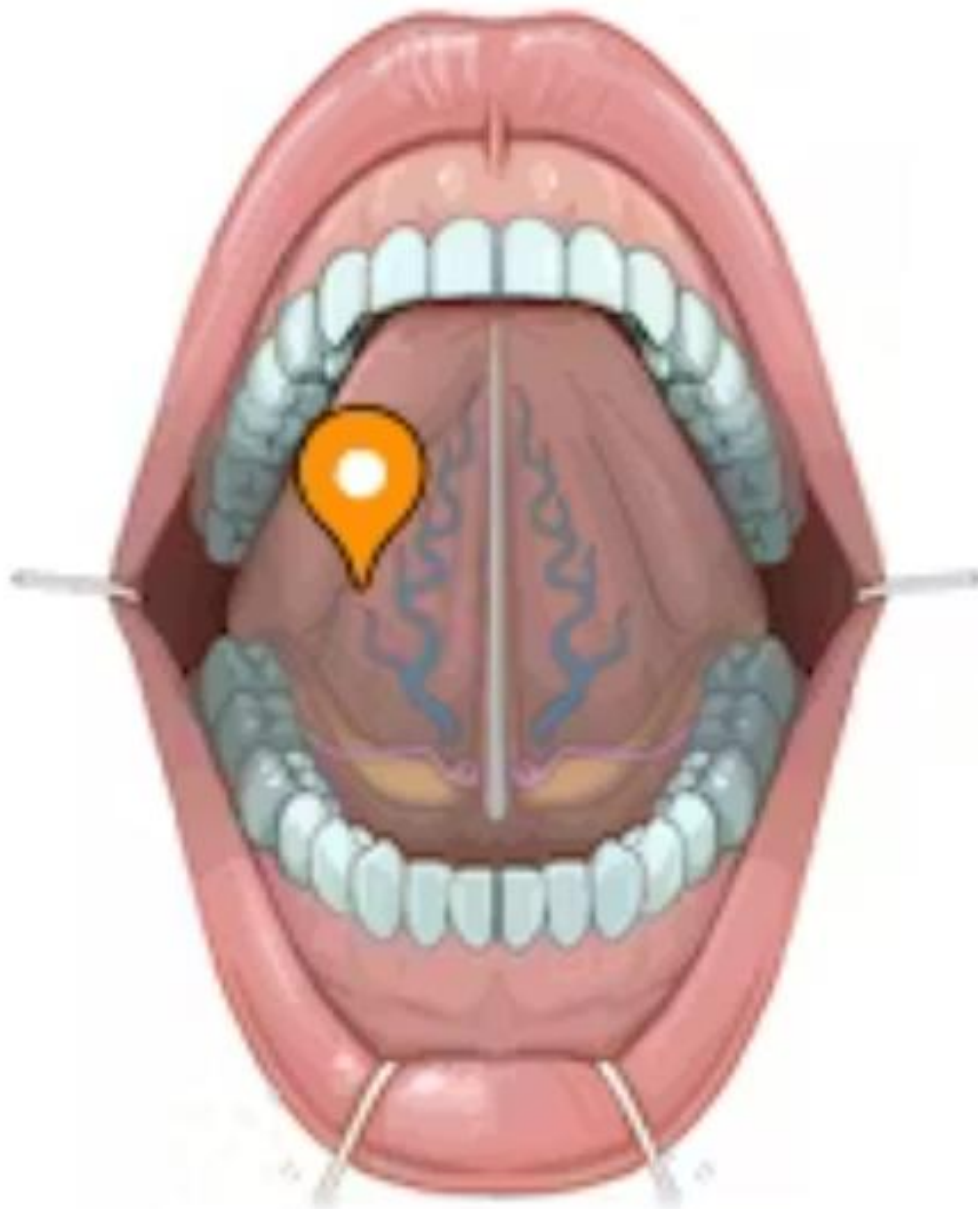
1. Frenulum linguae: a median-fold
of mucus membrane connecting the
tongue to the floor of the mouth.

2. Deep lingual vein: may be seen
through mucous membrane on
either side of frenulum linguae
(the lingual nerve and lingual
artery are medial to the vein
but not visible).

3. Plica fimbriata: fimbriated fold
of mucous membrane lateral to the
lingual vein . (next slide)



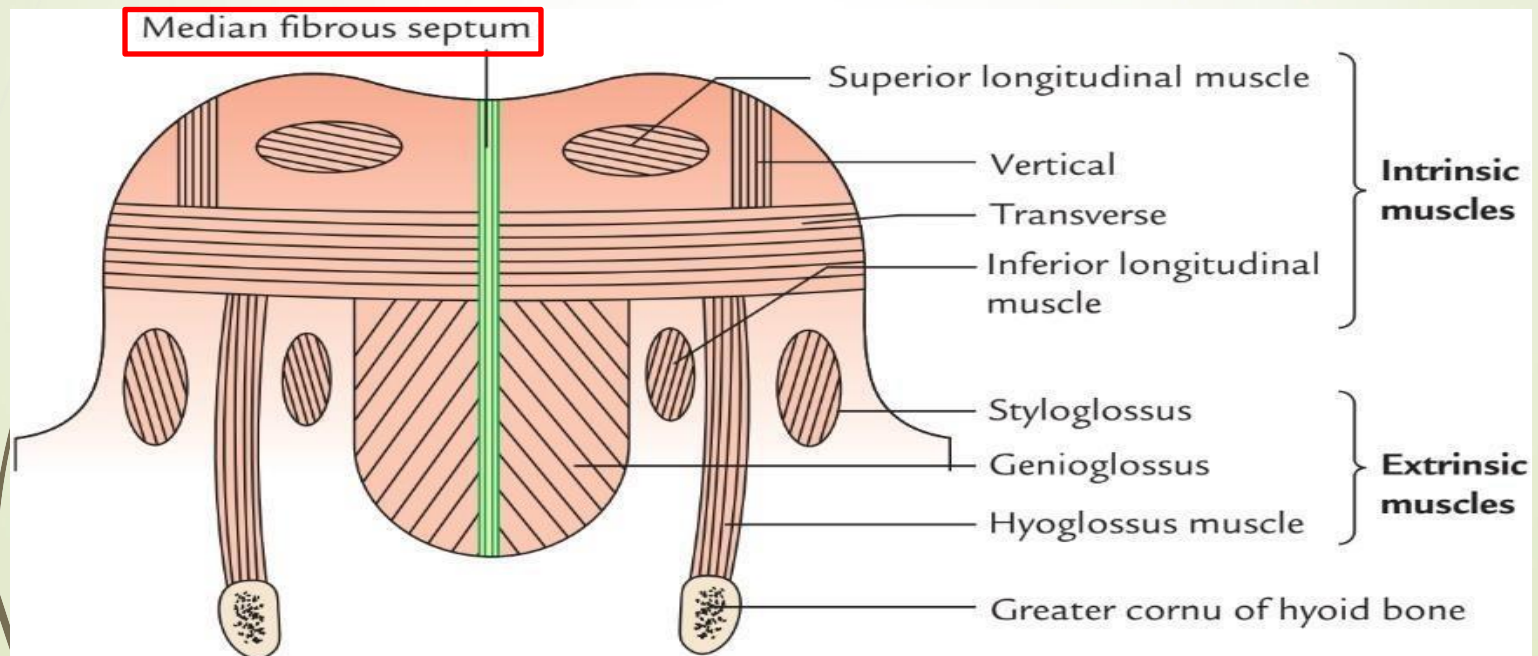
Features on the ventral (inferior) surface of
the tongue and floor of the mouth.



Plica fimbriata

Muscles of the tongue:

The tongue is divided into 2 halves by a median fibrous septum. Each half contains intrinsic and extrinsic muscle.



Coronal section of the tongue showing arrangement of intrinsic and extrinsic muscles of the tongue.

1. Intrinsic muscles of tongue

- These muscles are short and confined to the tongue, i.e. they begin and end within the substance of the tongue.

• They are arranged into

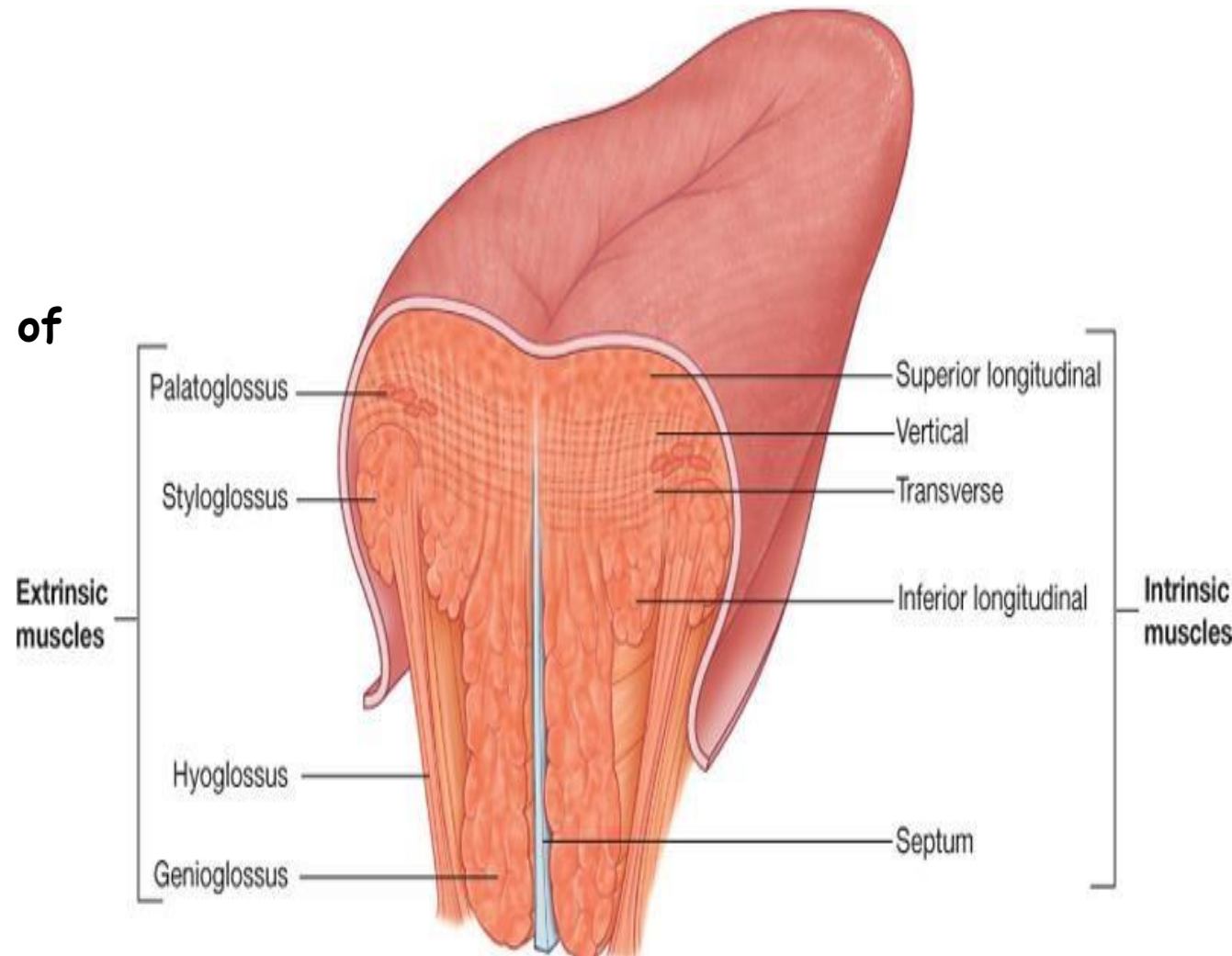
a- Longitudinal fibers:

b- Transverse fibers :

c- Vertical fibers :

Action:

They change the shape of the tongue.



1. Extrinsic muscles of tongue

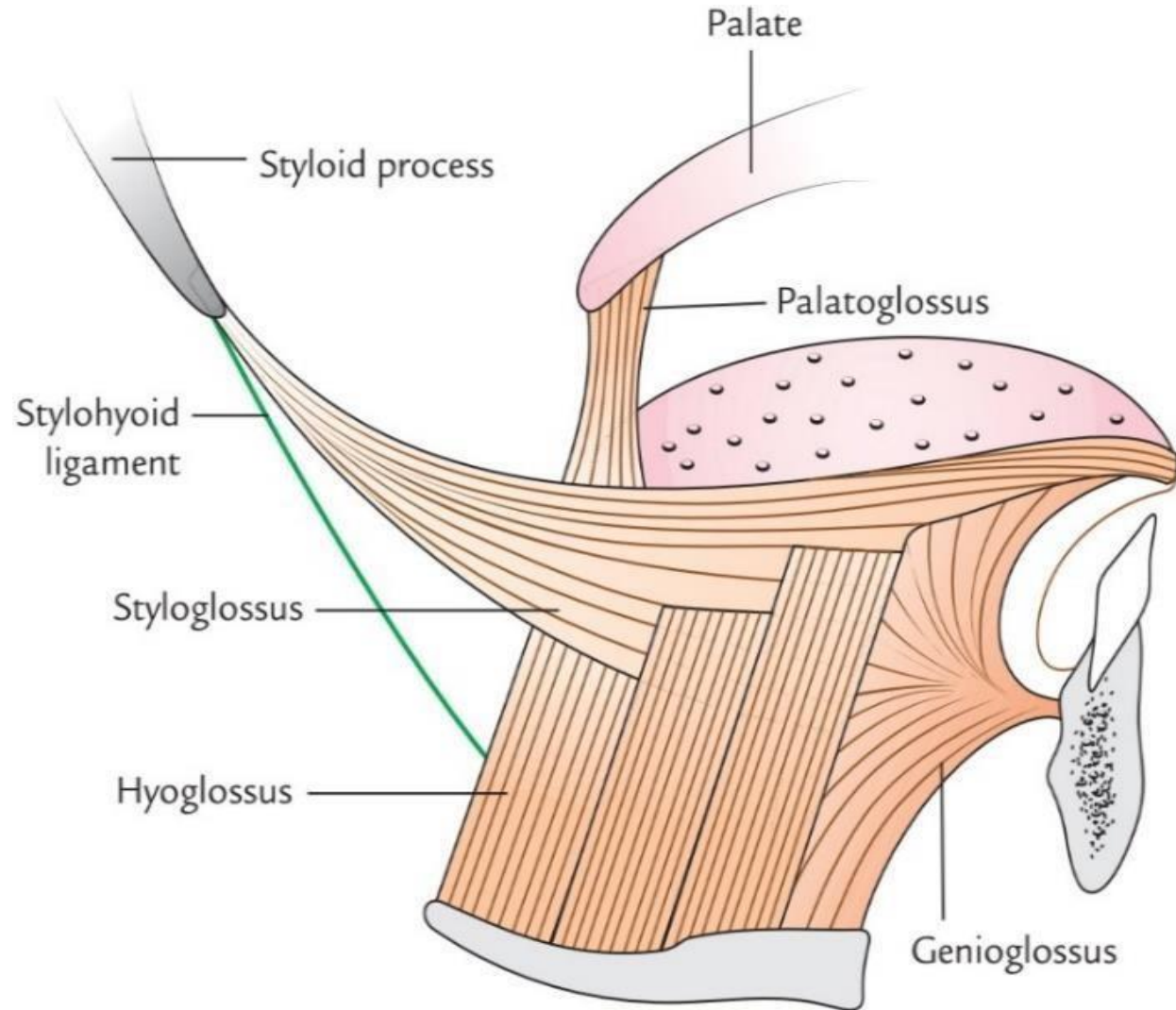
1. Genioglossus.

2. Hyoglossus.

3. Styloglossus.

4. Palatoglossus

.



Extrinsic muscles of the tongue.

1) Genioglossus muscle:

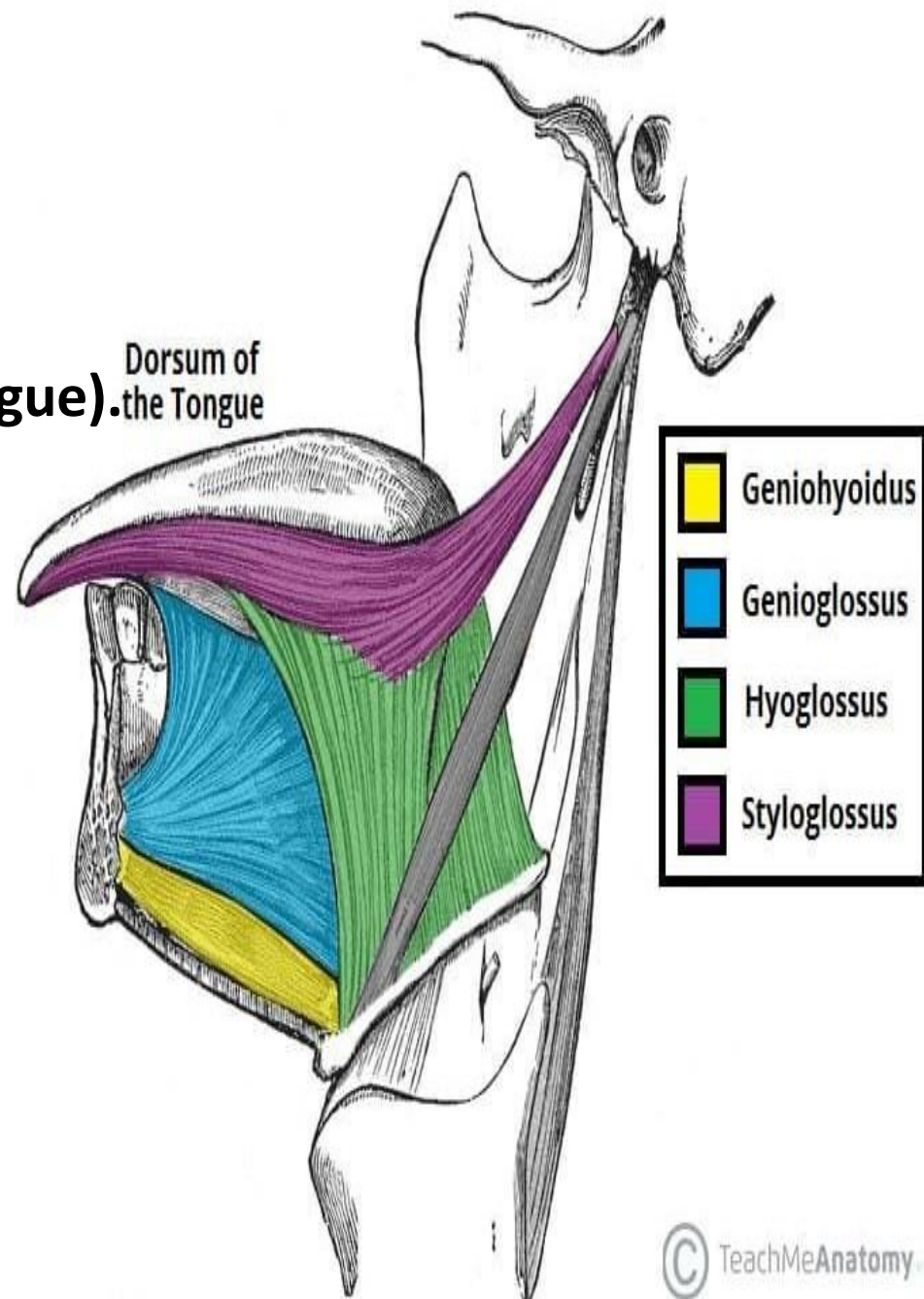
fan shaped

- **Origin:** superior genial tubercle.
- **Insertion:** Inferior surface of the tongue .
- **Action:** depress & protrude the tongue).

2) Styloglossus muscle:

elongated slip

- **Origin:** styloid process & Stylomandibular ligament.
- **Insertion:** sides of the tongue
- **Action:** retracts the tongue.



3) Hyoglossus muscle:

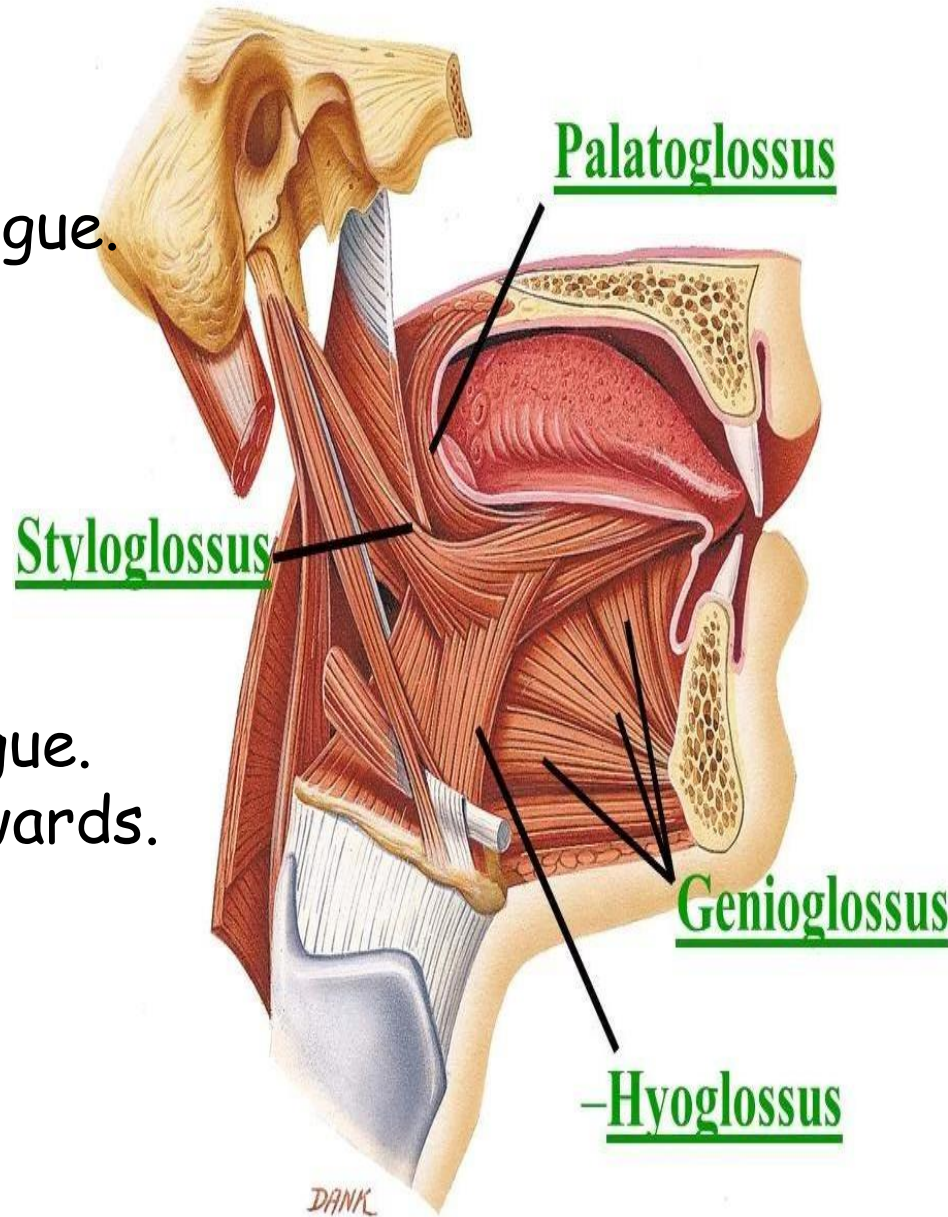
flat quadrilateral

- Origin: hyoid bony.
- Insertion: on the sides of tongue.
- Action: depress the tongue

4) Palatoglossus muscle:

slender slip

- Origin: palatine aponeurosis.
- Insertion: on the sides of tongue.
- Action: elevate the tongue upwards.





Nerve supply

(innervation)

1. Motor innervation

Very important

ALL the intrinsic and the extrinsic muscles of the tongue are supplied

BY

Hypoglossal nerve(12 cranial N)

EXCEPT

palato-glossus THAT IS

SUPPLIED BY

pharyngeal plexus

(cranial -accessory through the vagus)

2. Sensory innervation: General & special

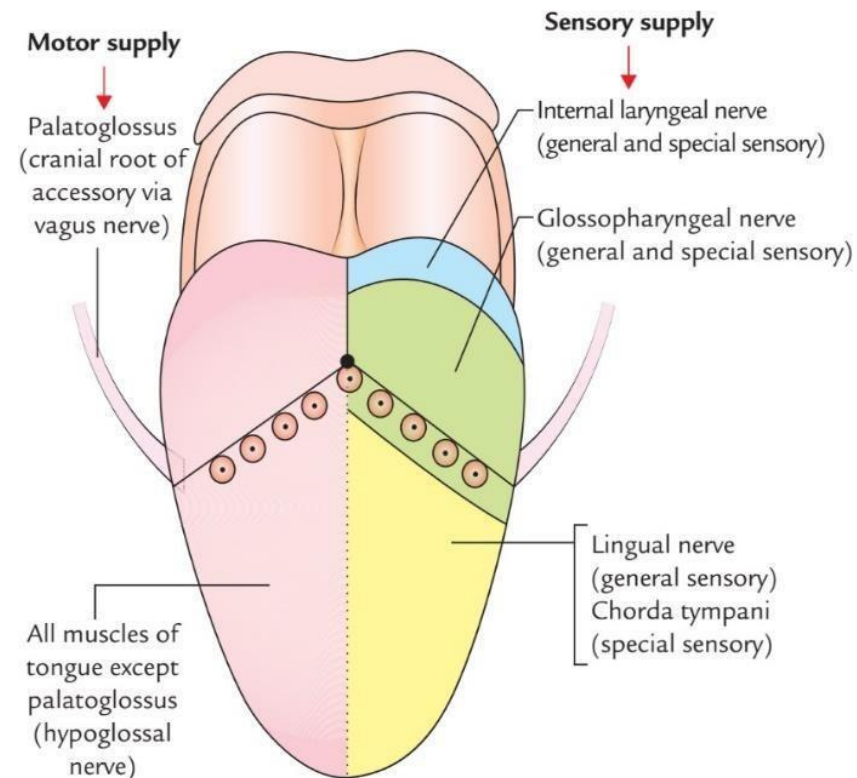
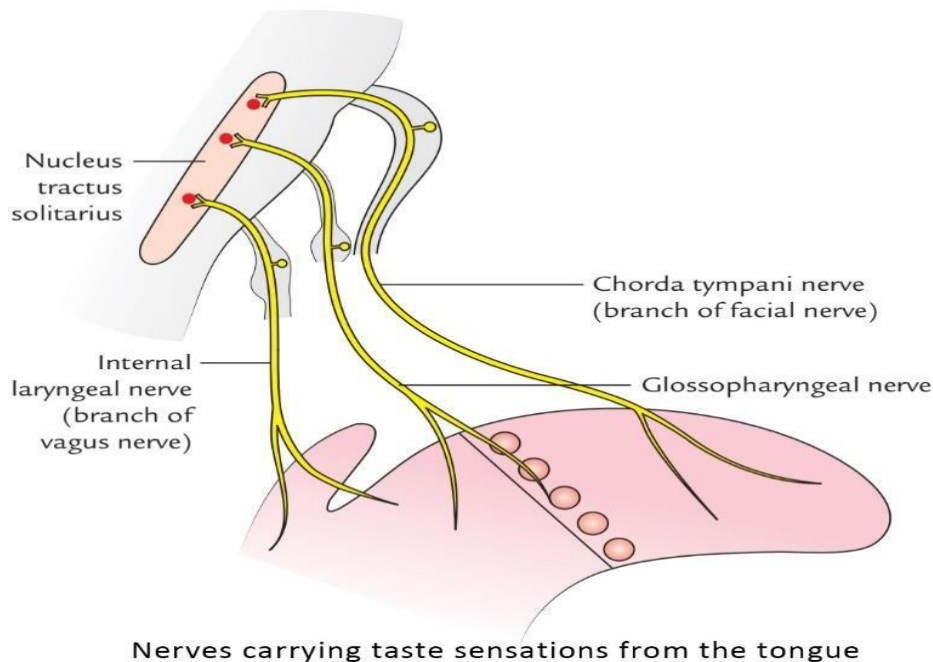
1- Anterior 2/3:

a) General sensation: lingual n. (mandibular N)(5th)

b) Taste sensation: chorda tympani (facial n.) (7th).

2- Post 1/3 : glossopharyngeal nerve G & T (9th).

3- Root of The Tongue: vagus n via internal laryngeal nerve (branch of sup. Laryngeal n.) (10th).



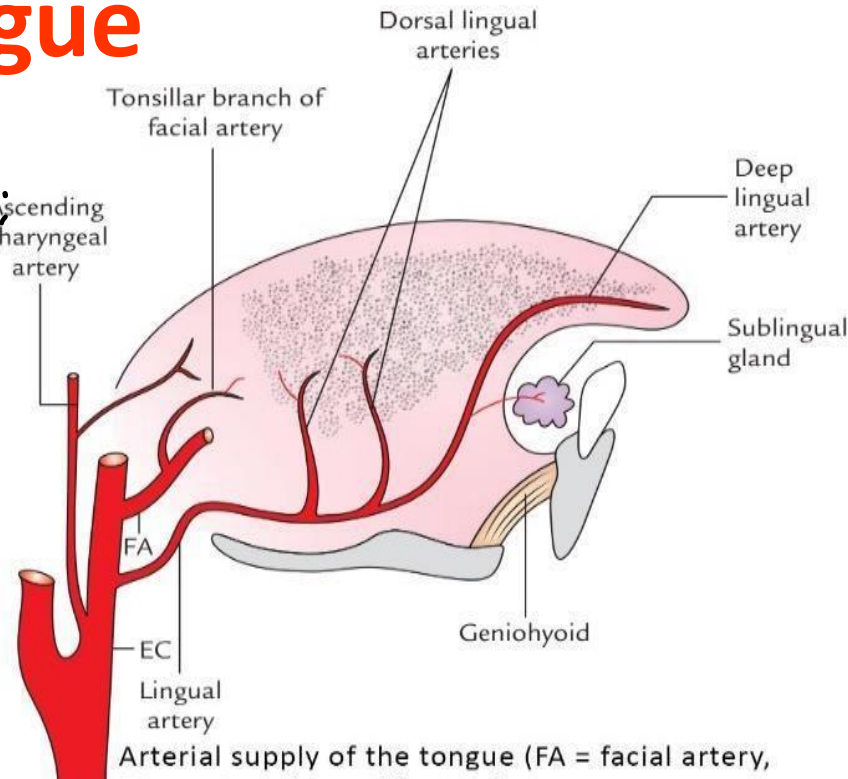
Blood supply of the tongue

A. Arterial:

1. lingual artery: chief artery of tongue;
2. Tonsillar branch of the facial artery.
3. Ascending pharyngeal artery.

B. Venous:

1. lingual vein: drain into I J V.



Lymph Drainage

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

