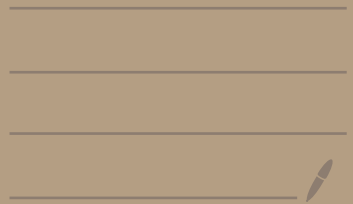
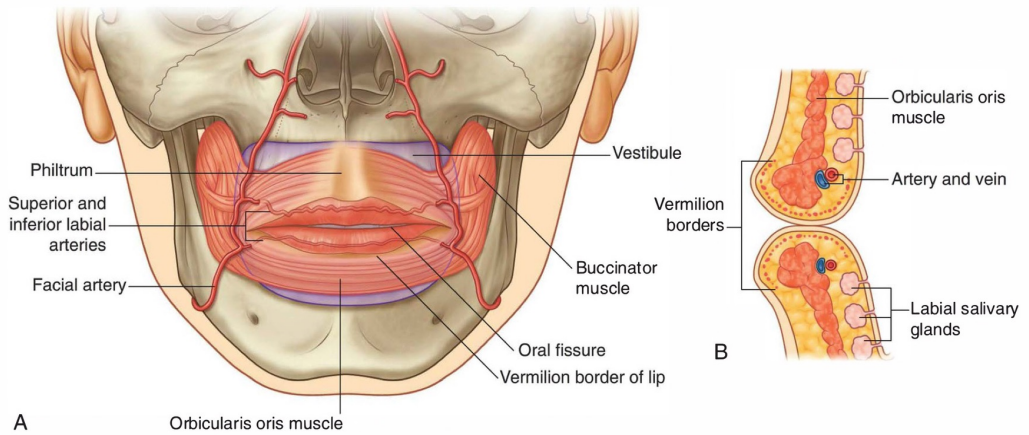


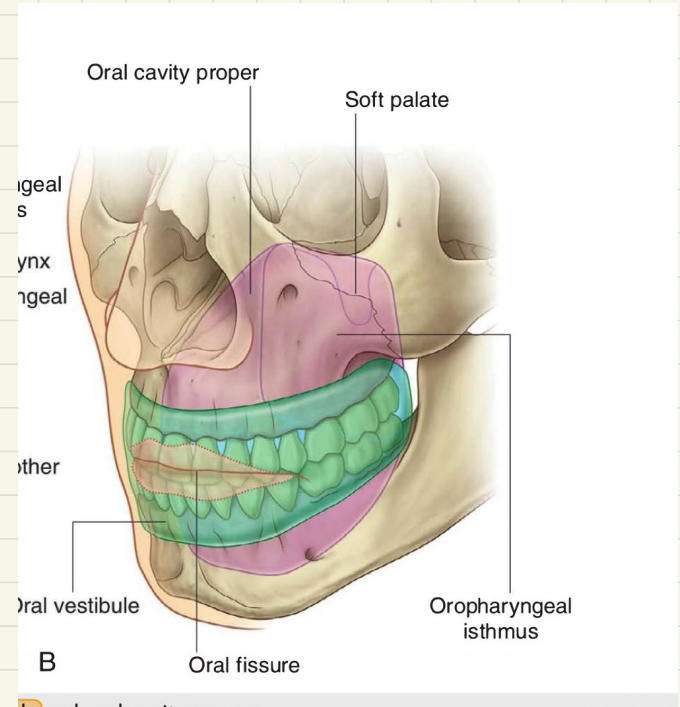
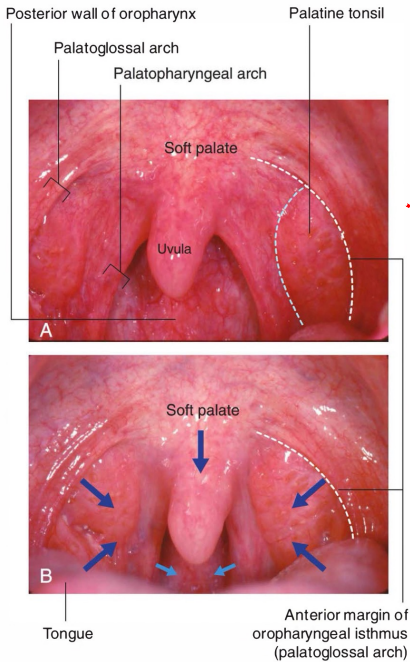
## Anatomy , lecture 1...pictures and tables

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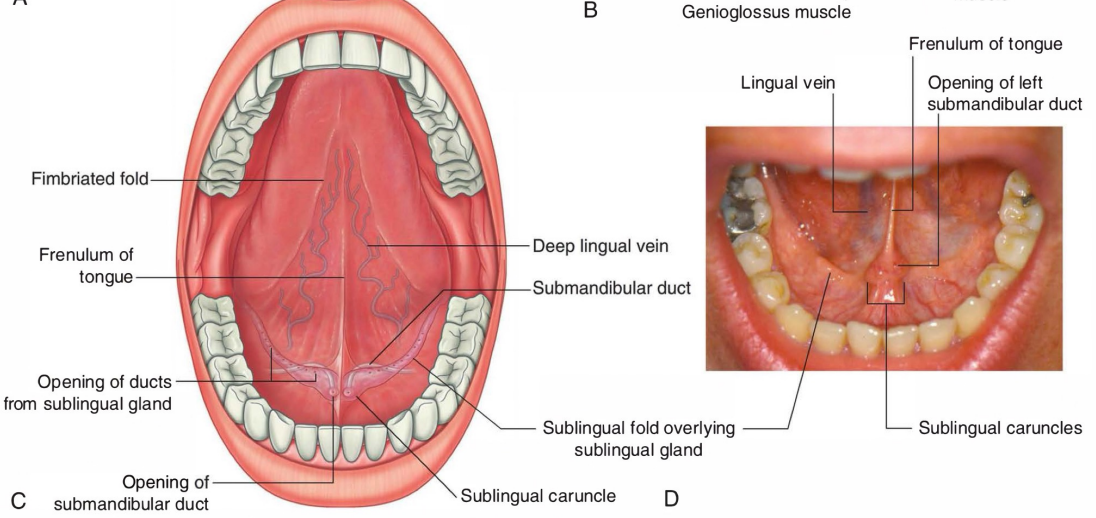


**Fig. 8.272** Oral fissure and lips. **A.** Anterior view. **B.** Sagittal section.

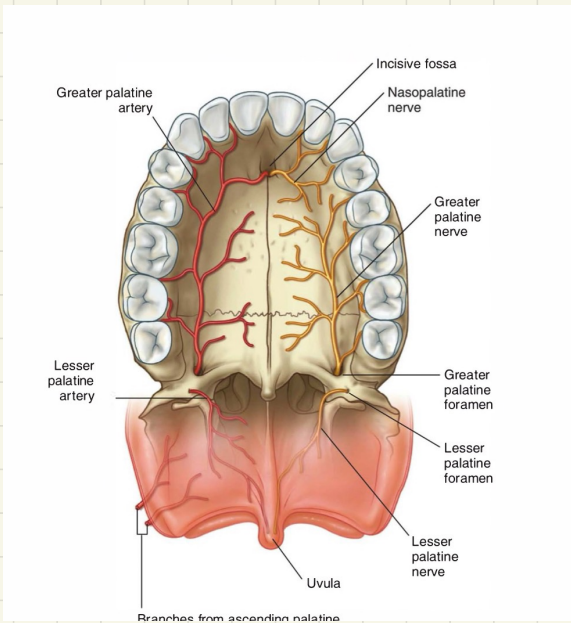


-Oropharyngeal isthmus located between the two palatoglossal arches...you can also see the palatine tonsil and uvula  
 Note : A represents an opened oropharyngeal isthmus  
 B represents a closed oropharyngeal isthmus

**Vestibule and oral cavity proper**



In picture C , you can see the frenulum of the tongue and the fimbriated fold (plica fimbriata) lateral to it .Also , you can see the opening of the submandibular gland as well as openings of ducts of sublingual gland along the sublingual fold .

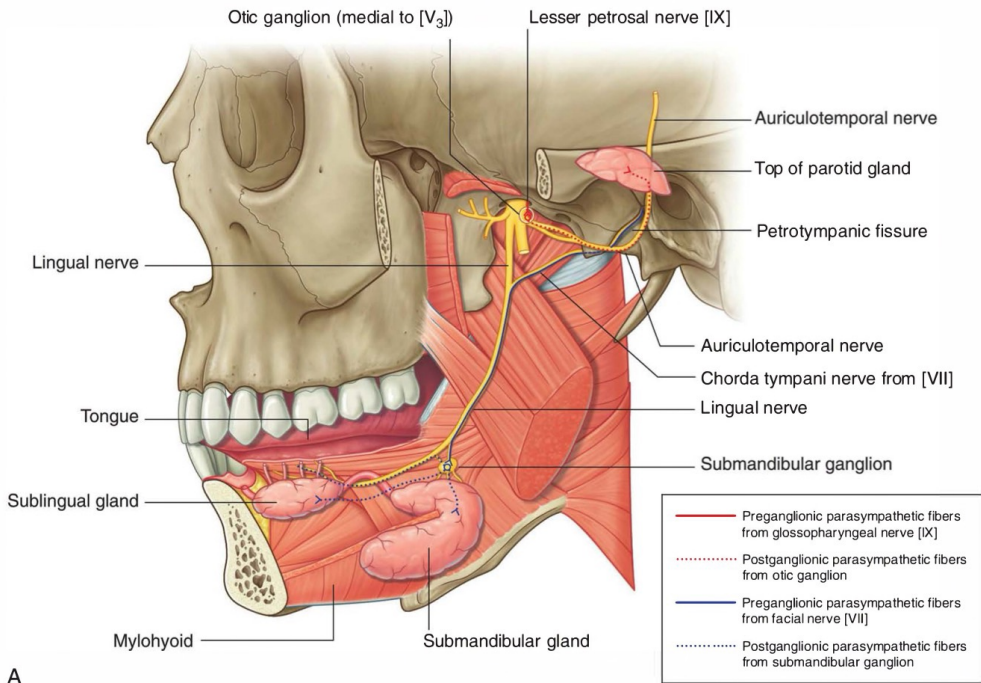


Sensory innervation of the palate (roof of oral cavity)

-Greater palatine nerve

-nasopalatine nerve

Branches from maxillary nerve



Sensory innervation of the floor of the tongue ...here is the story :

-Lingual nerve ( a branch of the posterior trunk of mandibular nerve) carries general sensations( pain,temperature ,and touch ) from the anterior two thirds of the tongue,oral mucosa of the floor of the oral cavity , and gingivae associated with the lower teeth .

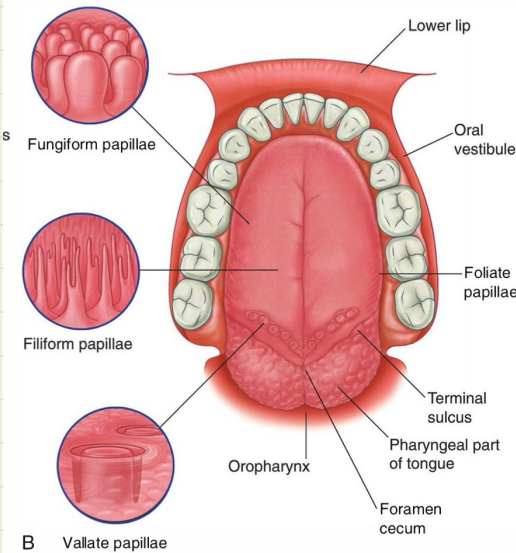
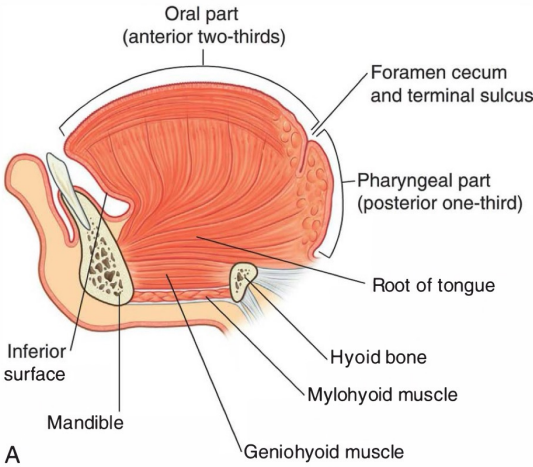
- In the infra temporal fossa , the chorda tympani ( a branch of facial nerve ) joins the lingual nerve .Chorda tympani carries two types of fibers :

- fibers to carry taste from the anterior two thirds of the tongue  
 -preganglionic parasympathetic fibers (they will relay in the submandibular ganglion to innervate all the glands below the level of the oral fissure).

The tongue:  
 Notice that the tongue is divided into two parts :  
 -anterior two thirds (oral part)  
 and it runs horizontally  
 -posterior one third  
 (pharyngeal part) and it curves inferiorly to run in almost a vertical plane .

You can see that the tongue is attached to the mandible and hyoid bones inferiorly (the root of the tongue)

The oral and pharyngeal surfaces are separated by a V-shaped terminal sulcus of the tongue. This terminal sulcus forms the inferior margin of the oropharyngeal isthmus between the oral and pharyngeal cavities. At the apex of the V-shaped sulcus is a small depression (the foramen cecum of the tongue)



Notice the median fibrous septum that divides the tongue into right and left halves



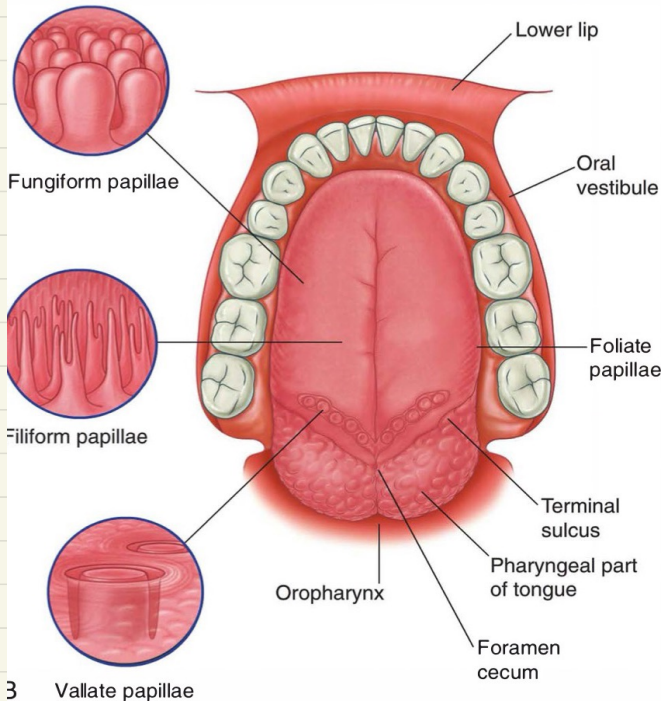
## Papillae

The superior surface of the oral part of the tongue is covered by hundreds of papillae (Fig. 8.250B):

- **Filiform papillae** are small cone-shaped projections of the mucosa that end in one or more points.
- **Fungiform papillae** are rounder in shape and larger than the filiform papillae, and tend to be concentrated along the margins of the tongue.
- The largest of the papillae are the vallate papillae, which are blunt-ended cylindrical papillae invaginations in the tongue's surface—there are only about 8 to 12 vallate papillae in a single V-shaped line immediately anterior to the terminal sulcus of the tongue.
- **Foliate papillae** are linear folds of mucosa on the sides of the tongue near the terminal sulcus of tongue.

The papillae in general increase the area of contact between the surface of the tongue and the contents of the oral cavity. All except the filiform papillae have taste buds on their surfaces.

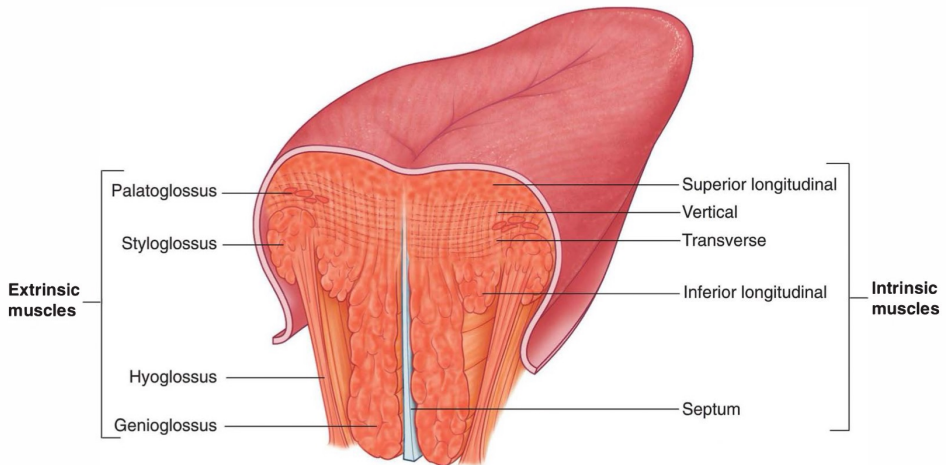
Read this part  
...the description  
of the shape of  
each type of  
papillae may help  
you later on

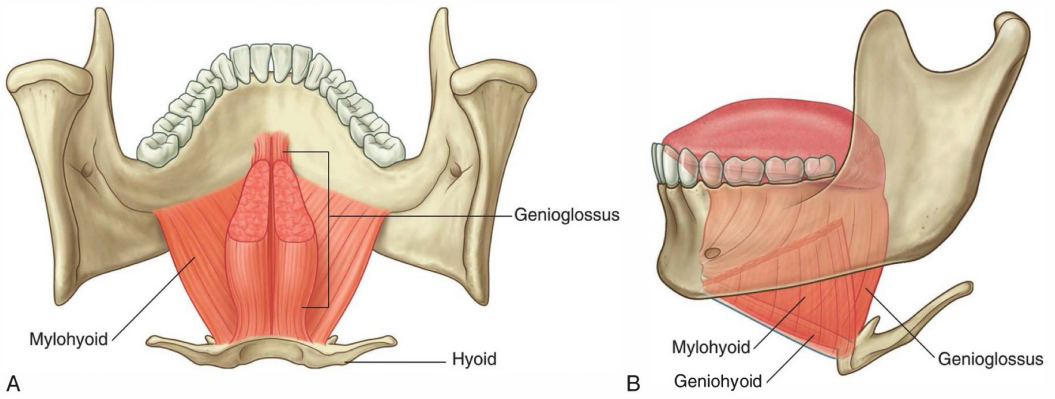


**Table 8.21** Muscles of the tongue

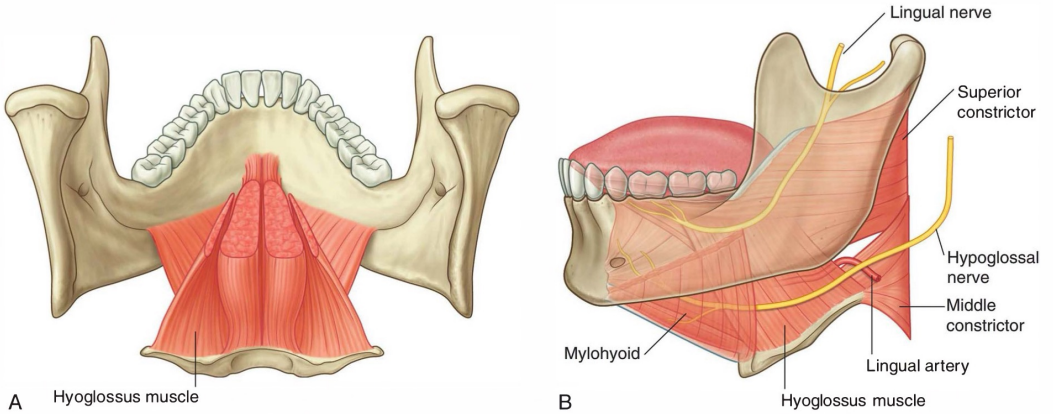
Muscle	Origin	Insertion	Innervation	Function
<b>Intrinsic</b>				
Superior longitudinal (just deep to surface of tongue)	Submucosal connective tissue at the back of the tongue and from the median septum of the tongue	Muscle fibers pass forward and obliquely to submucosal connective tissue and mucosa on margins of tongue	Hypoglossal nerve [XII]	Shortens tongue; curls apex and sides of tongue
Inferior longitudinal (between genioglossus and hyoglossus muscles)	Root of tongue (some fibers from hyoid)	Apex of tongue	Hypoglossal nerve [XII]	Shortens tongue; uncurls apex and turns it downward
Transverse	Median septum of the tongue	Submucosal connective tissue on lateral margins of tongue	Hypoglossal nerve [XII]	Narrows and elongates tongue
Vertical	Submucosal connective tissue on dorsum of tongue	Connective tissue in more ventral regions of tongue	Hypoglossal nerve [XII]	Flattens and widens tongue
<b>Extrinsic</b>				
Genioglossus	Superior mental spines	Body of hyoid; entire length of tongue	Hypoglossal nerve [XII]	Protrudes tongue; depresses center of tongue
Hyoglossus	Greater horn and adjacent part of body of hyoid bone	Lateral surface of tongue	Hypoglossal nerve [XII]	Depresses tongue
Styloglossus	Styloid process (anterolateral surface)	Lateral surface of tongue	Hypoglossal nerve [XII]	Elevates and retracts tongue
Palatoglossus	Inferior surface of palatine aponeurosis	Lateral margin of tongue	Vagus nerve [X] (via pharyngeal branch to pharyngeal plexus)	Depresses palate; moves palatoglossal fold toward midline; elevates back of the tongue

This table summarises the muscles of the tongue...we are concerned with Extrinsic muscles .

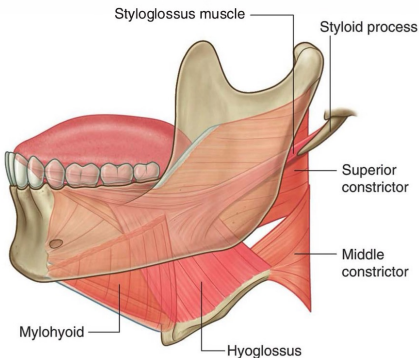
**Fig. 8.251** Muscles of the tongue.



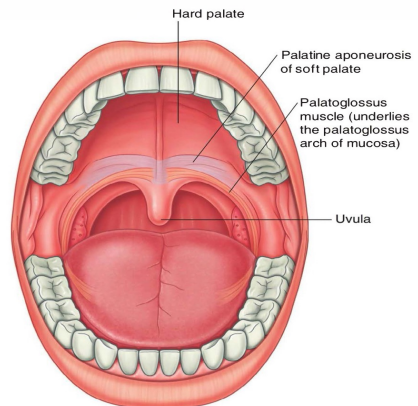
**Fig. 8.252** Genioglossus muscles. **A.** Posterior view. **B.** Lateral (left) view.



**Fig. 8.253** Hyoglossus muscles. **A.** Posterior view. **B.** Lateral (left) view.



**Fig. 8.254** Styloglossus muscles.



**Fig. 8.255** Palatoglossus muscles.



## Sensory

Anterior two-thirds (oral)

- General sensation  
mandibular nerve [V<sub>3</sub>]  
via lingual nerve
- Special sensation (taste)  
facial nerve [VII] via  
chorda tympani

Posterior one-third (pharyngeal)

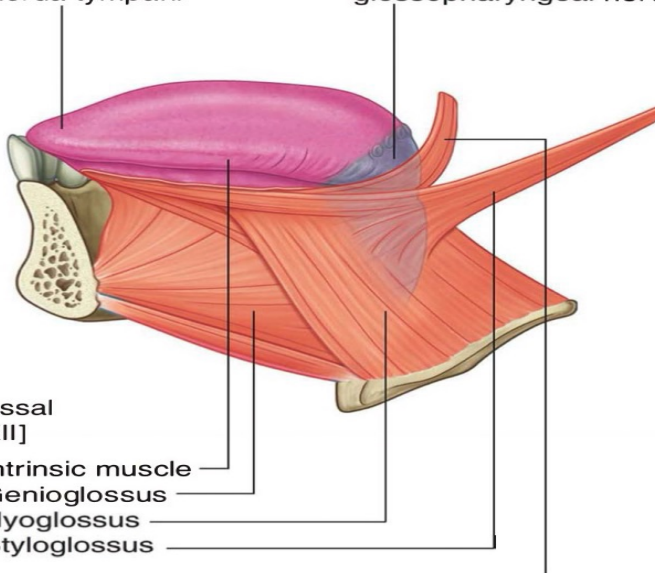
- General and special  
(taste) sensation via  
glossopharyngeal nerve [IX]

## Motor

Hypoglossal  
nerve [XII]

- Intrinsic muscle
- Genioglossus
- Hyoglossus
- Styloglossus

Palatoglossus – vagus nerve [X]



**Fig. 8.257** Innervation of the tongue.

Summary of motor and sensory innervations of the  
tongue

## Parotid gland

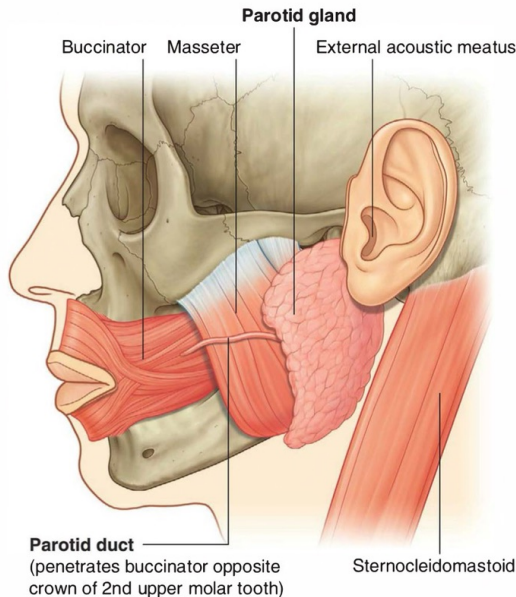
The parotid gland (see pp. 911–912) on each side is entirely outside the boundaries of the oral cavity in a shallow triangular-shaped trench (Fig. 8.260) formed by:

- the sternocleidomastoid muscle behind,
- the ramus of the mandible in front, and
- superiorly, the base of the trench is formed by the external acoustic meatus and the posterior aspect of the zygomatic arch.

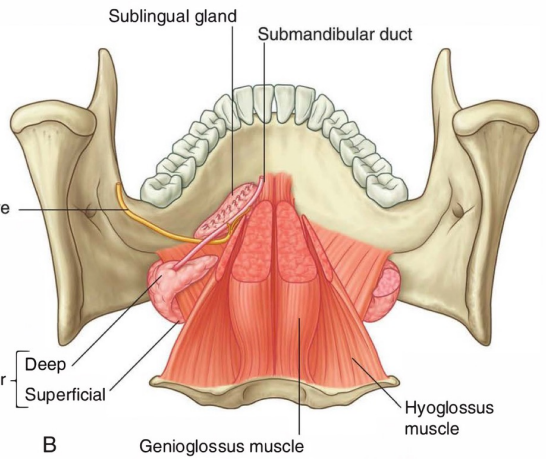
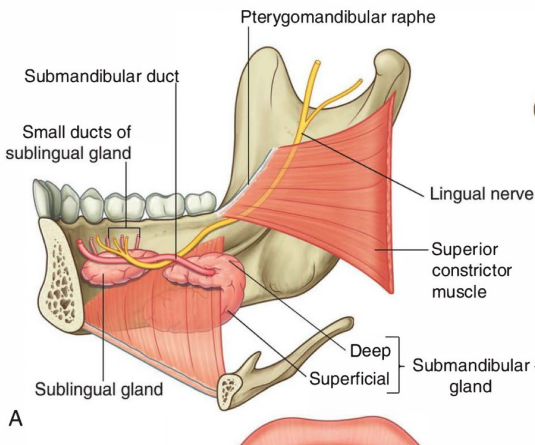
The gland normally extends anteriorly over the masseter muscle, and inferiorly over the posterior belly of the digastric muscle.

The parotid duct passes anteriorly across the external surface of the masseter muscle and then turns medially to penetrate the buccinator muscle of the cheek and open into the oral cavity adjacent to the crown of the second upper molar tooth.

The parotid gland encloses the external carotid artery, the retromandibular vein, and the origin of the extracranial part of the facial nerve [VII].



**Fig. 8.260** Parotid gland.



### Submandibular glands

The elongate **submandibular glands** are smaller than the parotid glands but larger than the sublingual glands. Each is hook shaped (Fig. 8.261A,B):

- The larger arm of the hook is directed forward in the horizontal plane below the mylohyoid muscle and is therefore outside the boundaries of the oral cavity—this larger superficial part of the gland is directly against a shallow impression on the medial side of the mandible (submandibular fossa) inferior to the mylohyoid line.
- The smaller arm of the hook (or deep part) of the gland loops around the posterior margin of the mylohyoid muscle to enter and lie within the floor of the oral cavity where it is lateral to the root of the tongue on the lateral surface of the hyoglossus muscle.

The **submandibular duct** emerges from the medial side of the deep part of the gland in the oral cavity and passes forward to open on the summit of a small **sublingual caruncle** (papilla) beside the base of the frenulum of the tongue (Fig. 8.261C,D).

The lingual nerve loops under the submandibular duct, crossing first the lateral side and then the medial side of the duct, as the nerve descends anteromedially through the floor of the oral cavity and then ascends into the tongue.

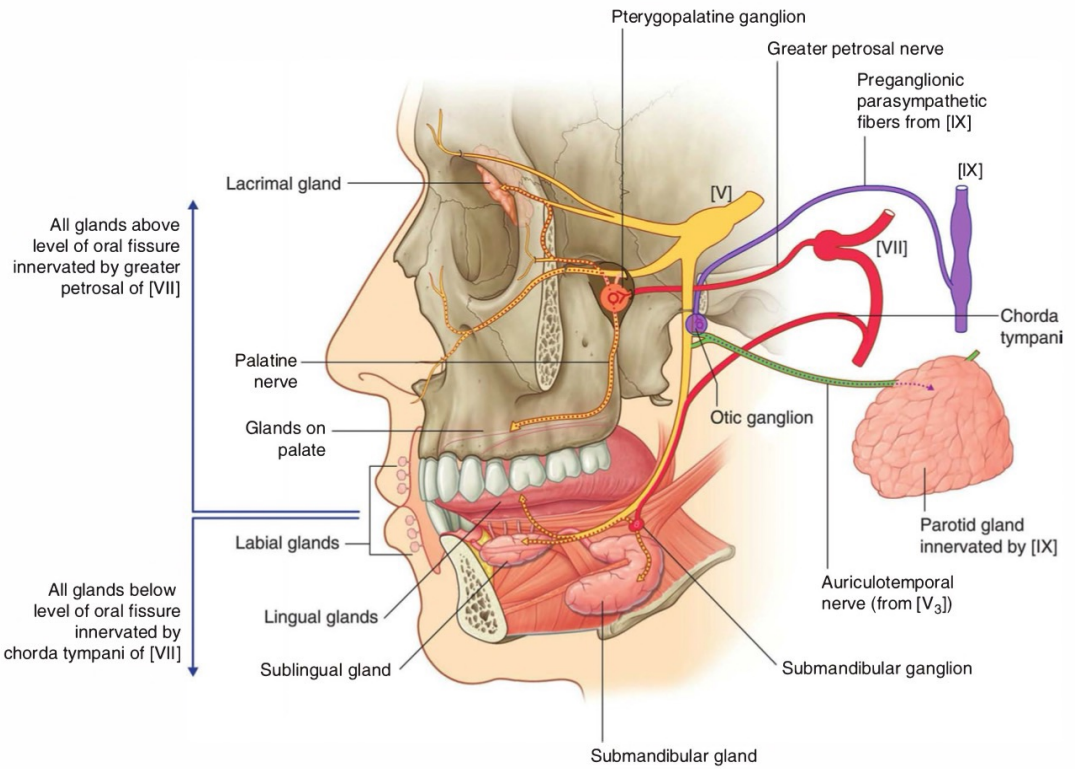
### Sublingual glands

The sublingual glands are the smallest of the three major paired salivary glands. Each is almond shaped and is immediately lateral to the submandibular duct and associated lingual nerve in the floor of the oral cavity (Fig. 8.261).

Each sublingual gland lies directly against the medial surface of the mandible where it forms a shallow groove (sublingual fossa) superior to the anterior one-third of the mylohyoid line.

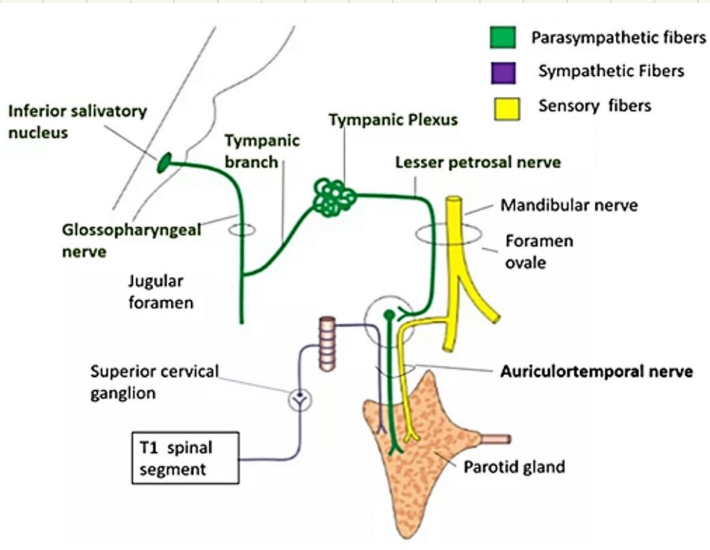
The superior margin of the sublingual gland raises an elongate fold of mucosa (**sublingual fold**), which extends from the posterolateral aspect of the floor of the oral cavity to the sublingual papilla beside the base of the frenulum of the tongue at the midline anteriorly (Fig. 8.261D).

The sublingual gland drains into the oral cavity via numerous small ducts (minor sublingual ducts), which open onto the crest of the sublingual fold. Occasionally, the more anterior part of the gland is drained by a duct (major sublingual duct) that opens together with the submandibular duct on the sublingual caruncle.



**Fig. 8.262** Secretomotor (parasympathetic) innervation of the salivary gland and lacrimal gland.

This picture shows the innervations of the glands  
 ....focus and study !



This picture shows the details of the otic ganglia , I recommend studying from it since the doctor has mentioned these details in the slides.