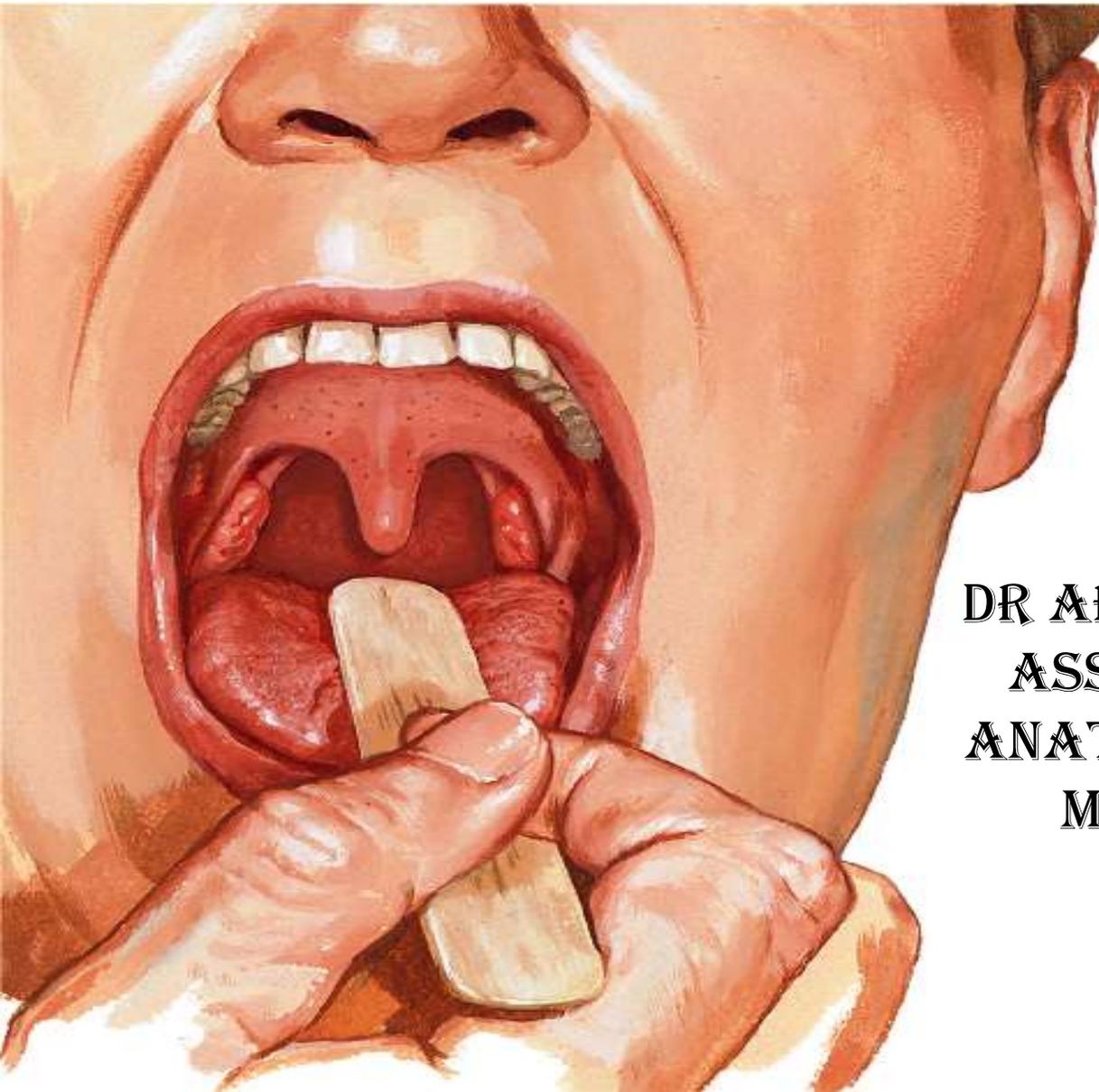


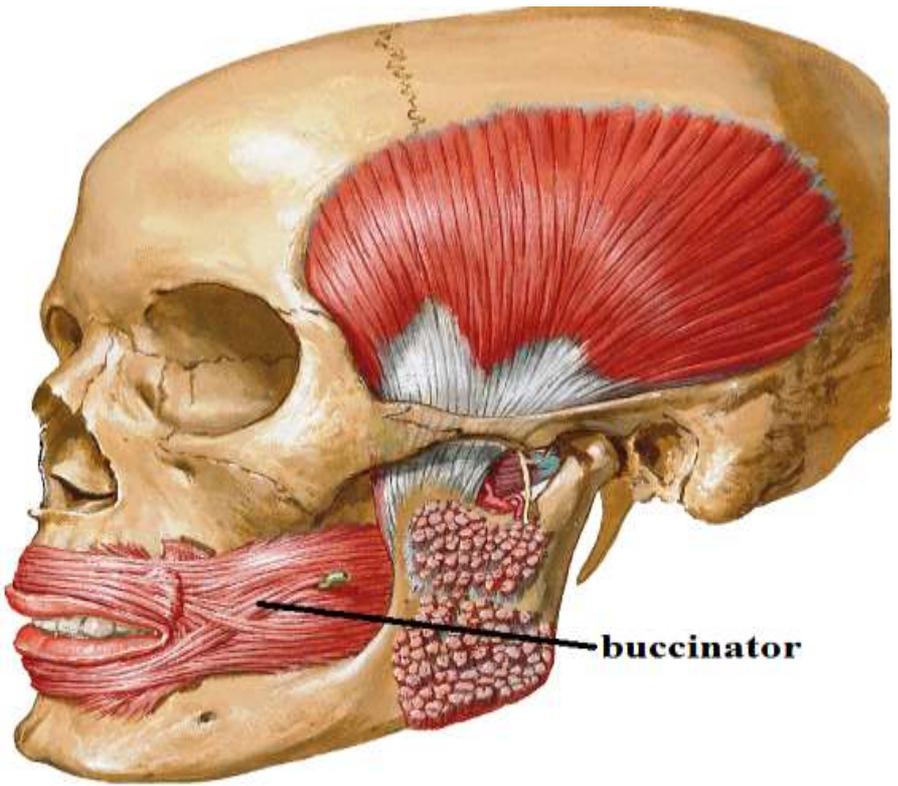
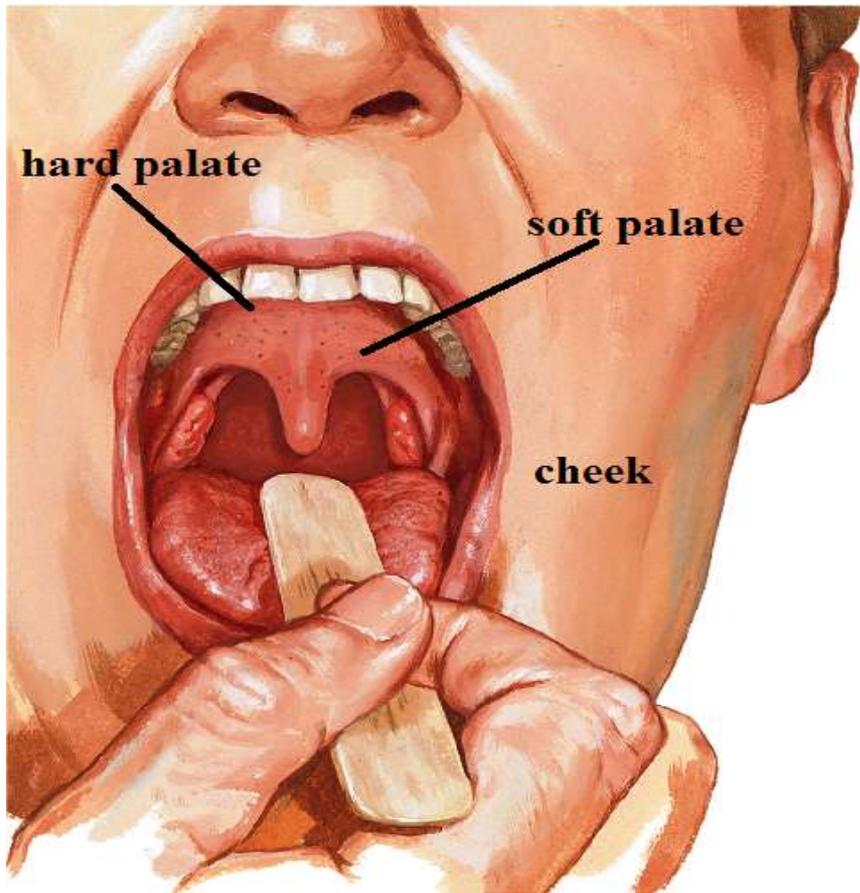
# ORAL CAVITY , TONGUE & PALATE



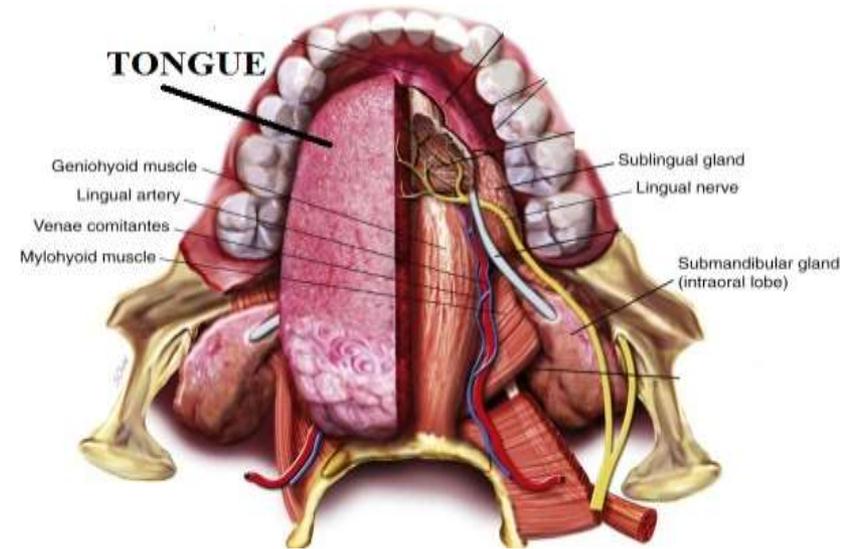
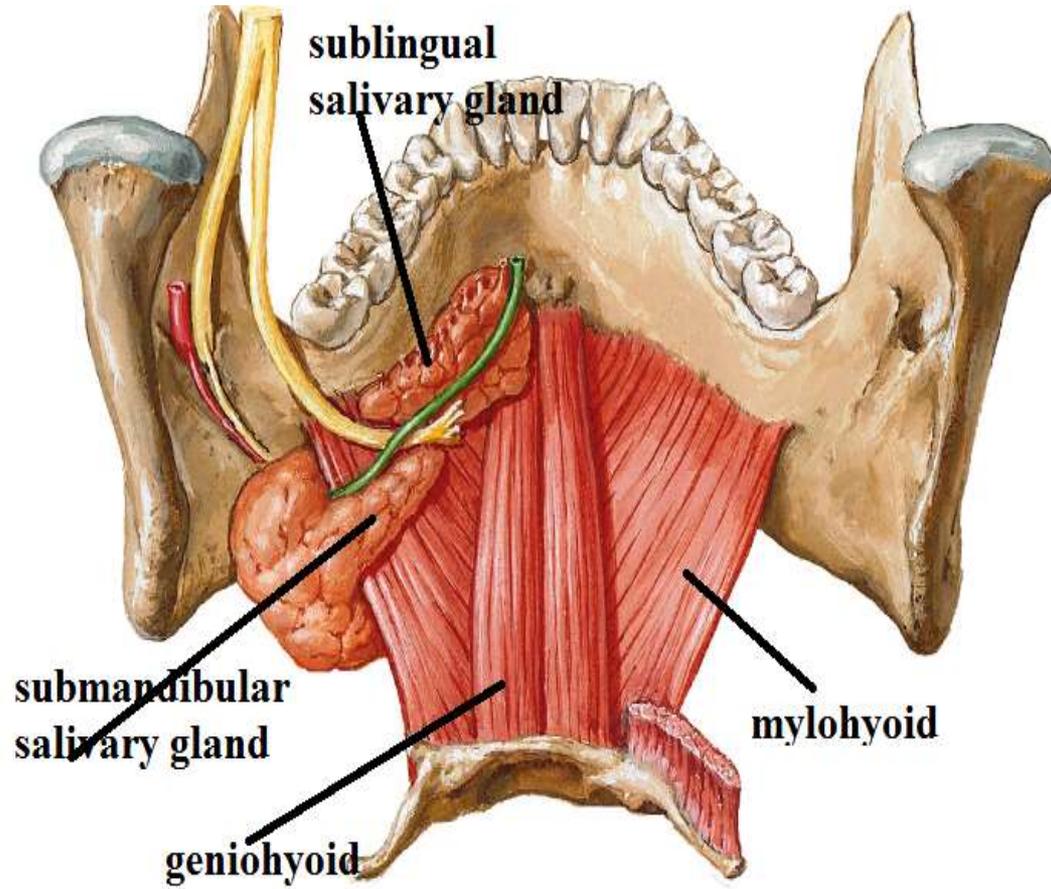
BY

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MUTAH UNIVERSITY

# ORAL CAVITY



# ORAL CAVITY



# ORAL CAVITY

## Boundaries:

### The floor:

Below the tongue the floor shows the following features:

- **Lingual frenulum**

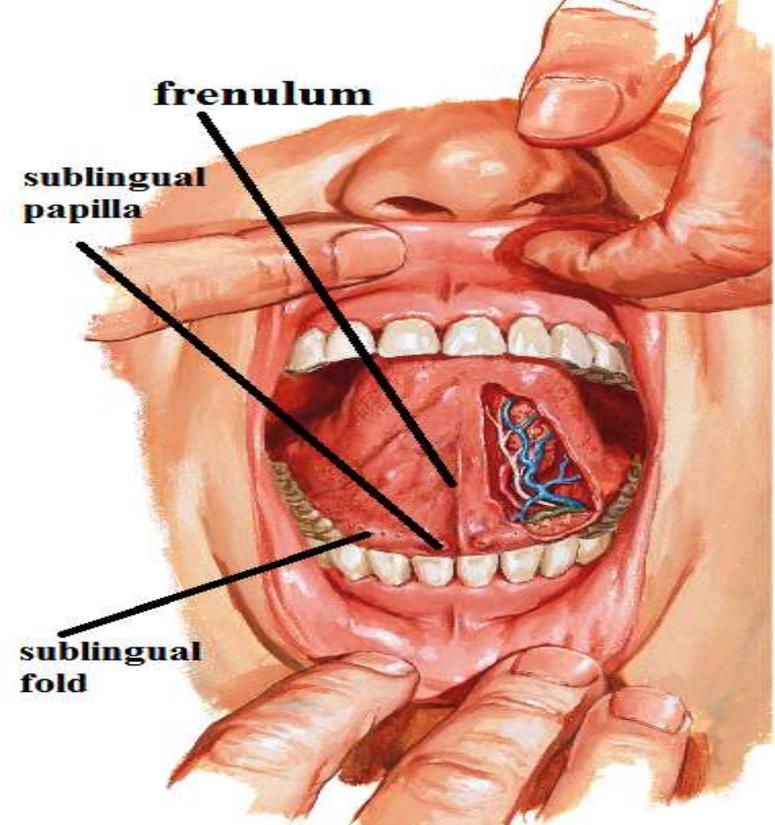
midline fold of mucous membrane connects the floor with the undersurface of tongue.

- **Sublingual papilla**

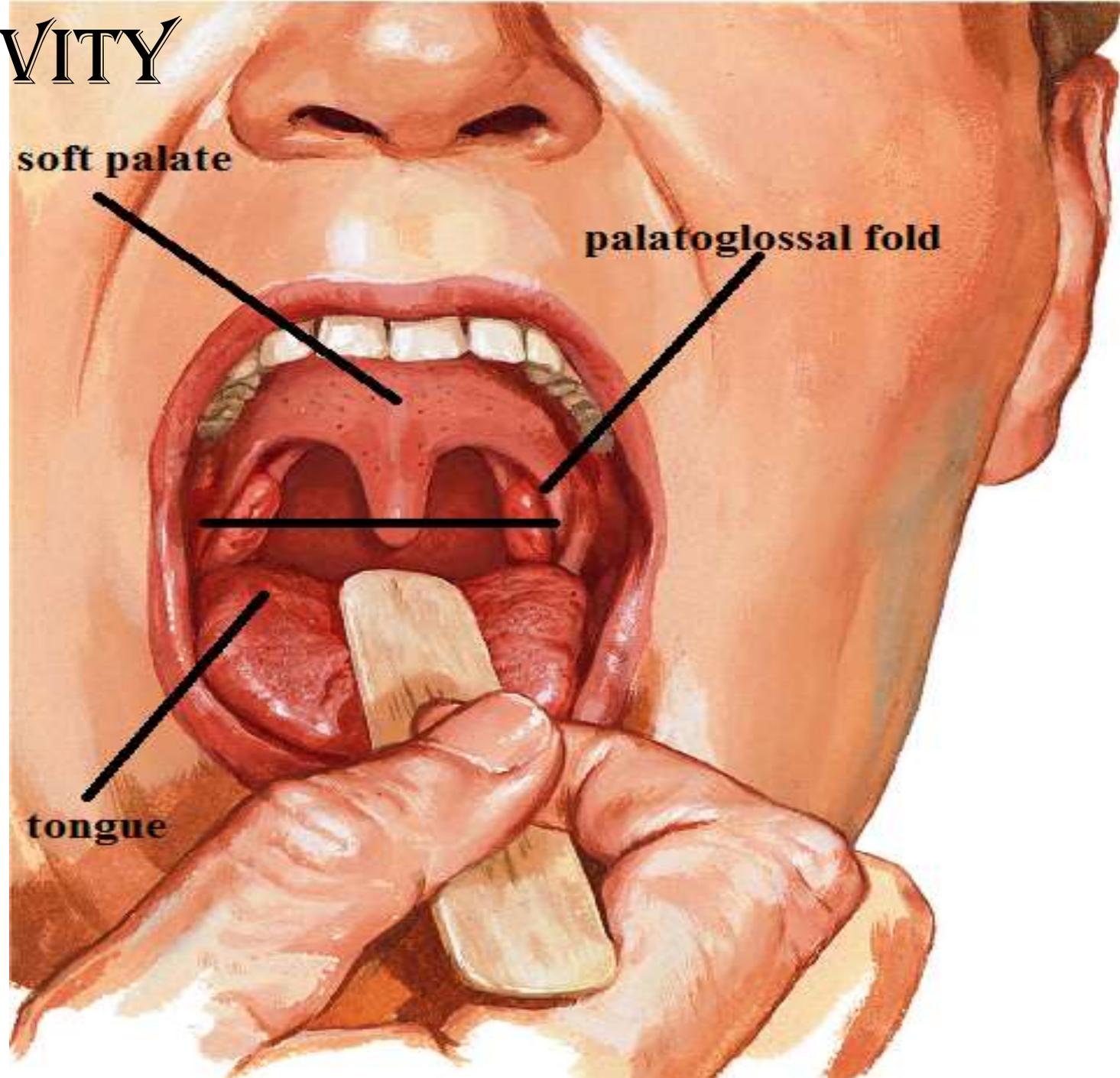
on the side of lingual frenulum at its attachment to the floor. for opening of submandibular duct

- **Sublingual fold:**

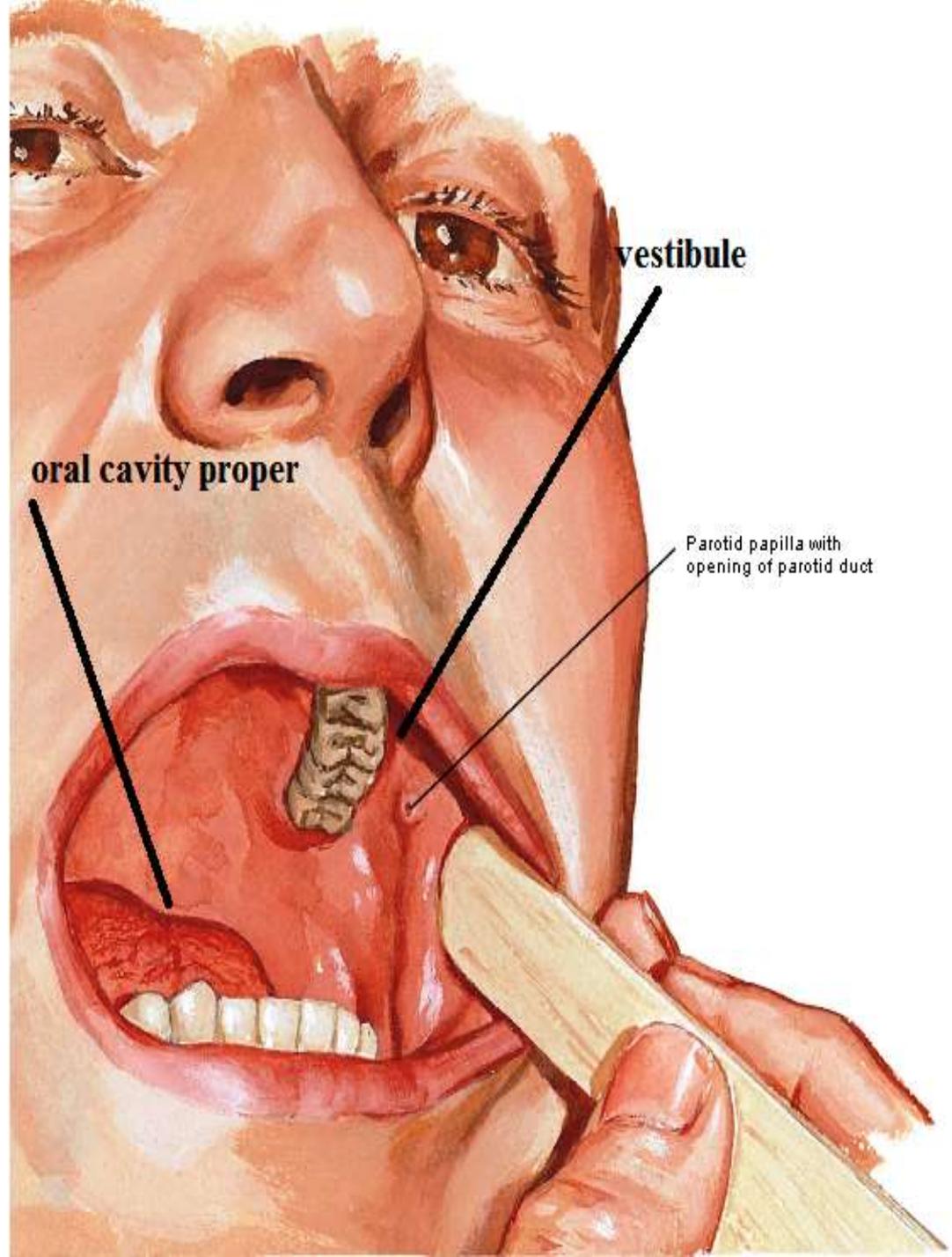
just lateral to the papilla, it is raised by sublingual salivary gland and receives the openings of most of the ducts of the gland.



# ORAL CAVITY



# ORAL CAVITY



# TONGUE

## Definition:

a mass of skeletal muscles covered by mucous membrane.

## Parts: -

**Oral part:** ant. 2/3 lies in the floor of oral cavity

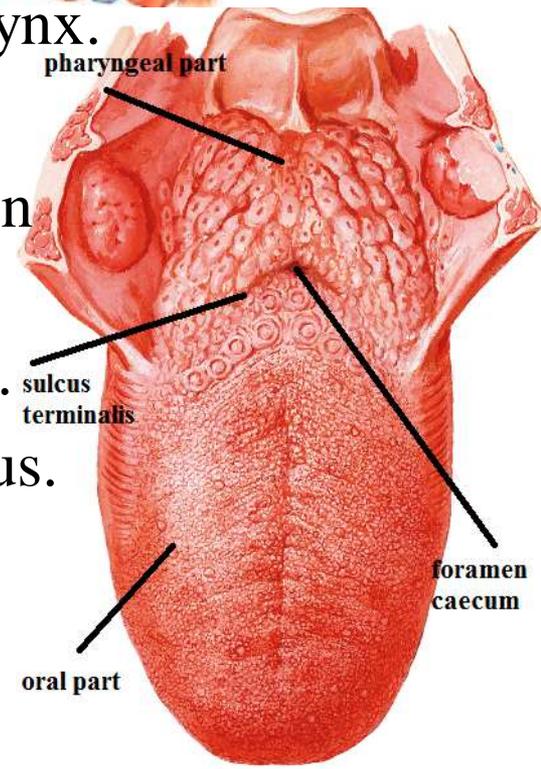
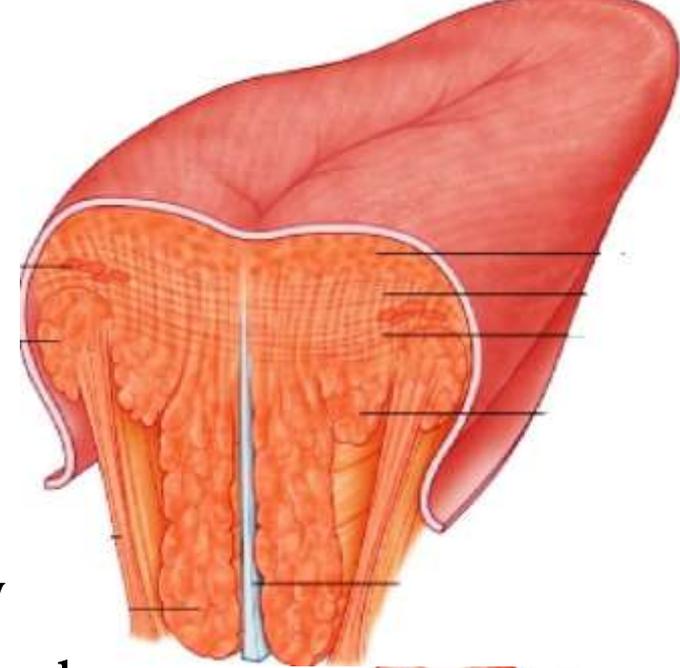
**Pharyngeal part:** post. 1/3 lies in ant. wall of oropharynx.

## Sulcus terminalis :

-It is v- shaped sulcus that marks the junction between ant. 2/3 and post. 1/3 of tongue.

-lies on sup. Surface and its apex directed backwards.

-Foramen caecum: depression at the apex of the sulcus.



# TONGUE

## Oral part of tongue

-triangular in shape with the apex (tip of tongue) lies just behind the incisors.

-It has 2 surfaces.

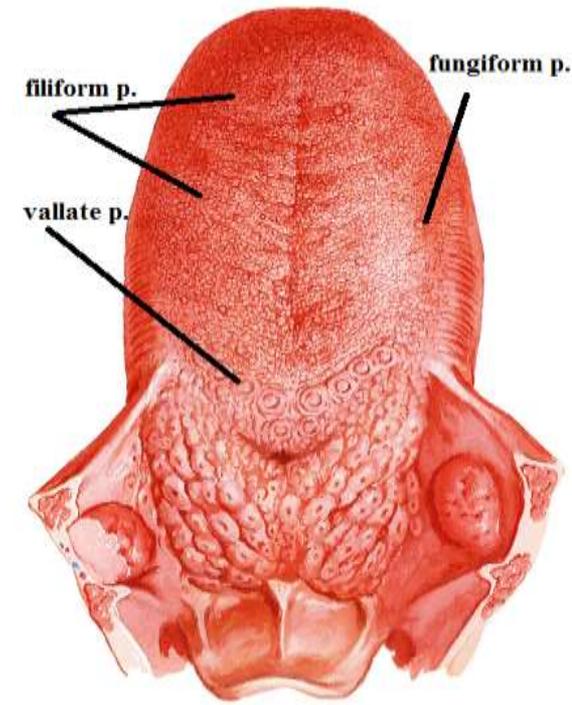
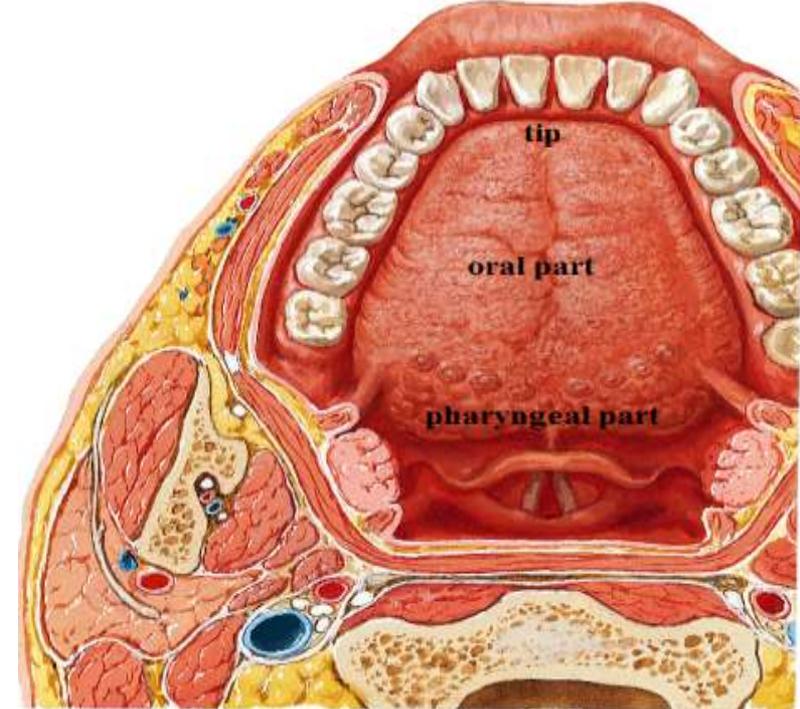
**Sup. Surface:** shows 3 types of papillae:

1-Filiform.

2-Fungiform

3-Vallate papillae: row of papilla in front of sulcus terminalis, it is large enough to be easily seen by naked eye.

-The papillae increase the surface area of mucous membrane of tongue and contains taste buds except filiform papillae has no buds.



# TONGUE

Oral part of tongue

Inferior surface

-Has no papilla, but it shows.

**-Lingual frenulum:**

**-Deep lingual vein:** appears as a dark line lateral to frenulum.

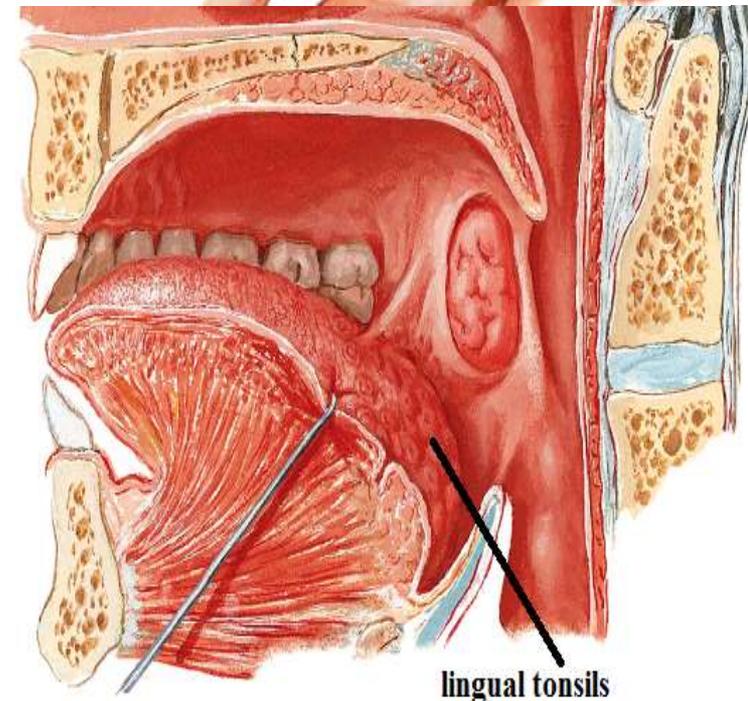
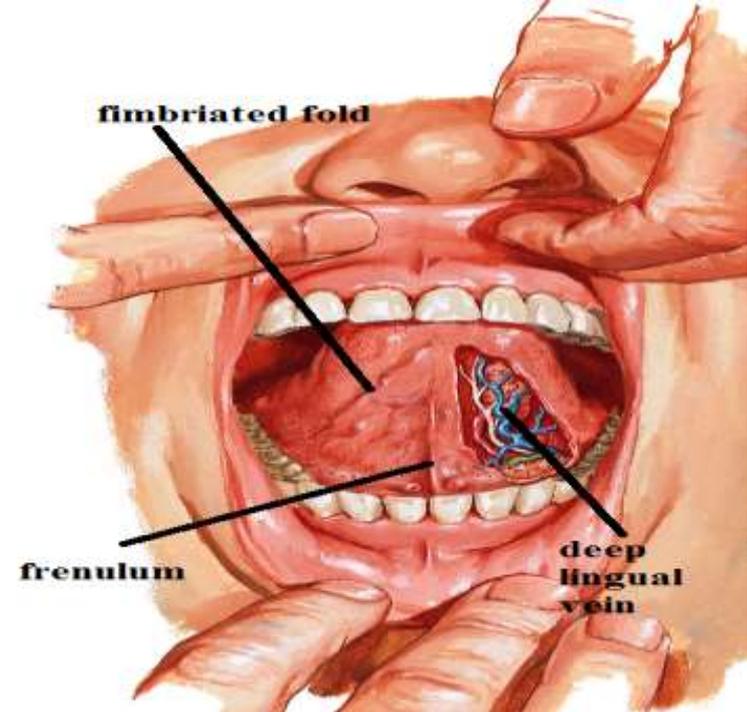
**-Fimbriated fold:** lateral to the vein.

Pharyngeal part of the tongue-

-It has only a pharyngeal surface which is continuous with sup. surface of oral part but it is nearly vertical

-It is irregular due to presence of nodules of lymphoid tissue in the submucosa (lingual tonsils).

-Has no papilla .

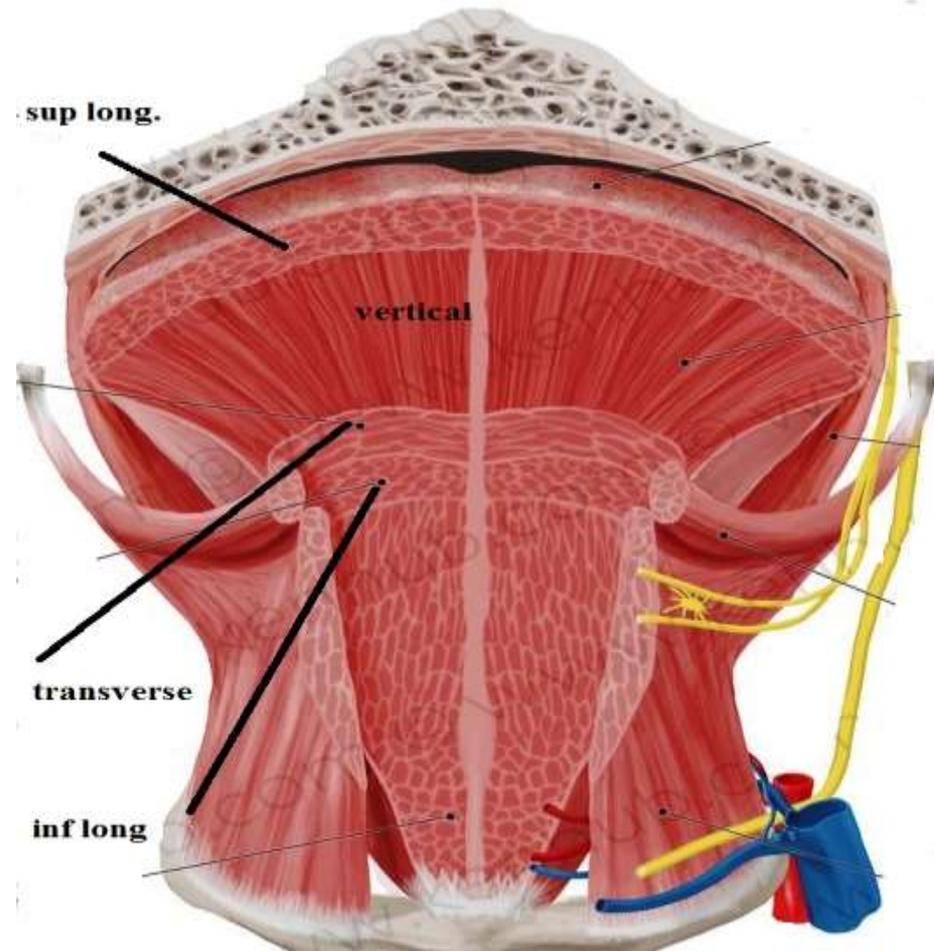


# TONGUE

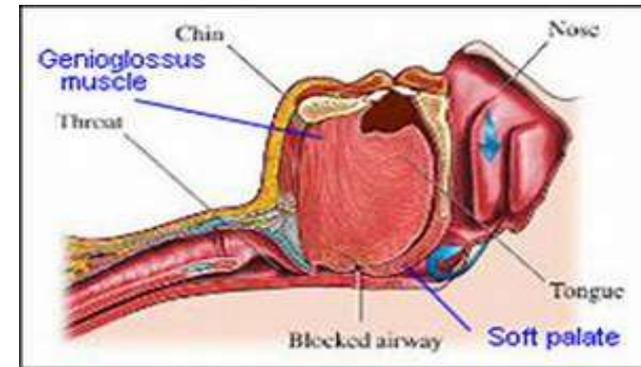
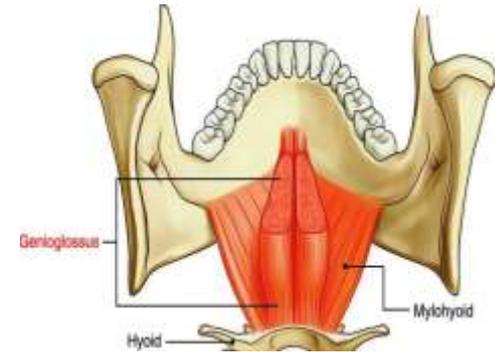
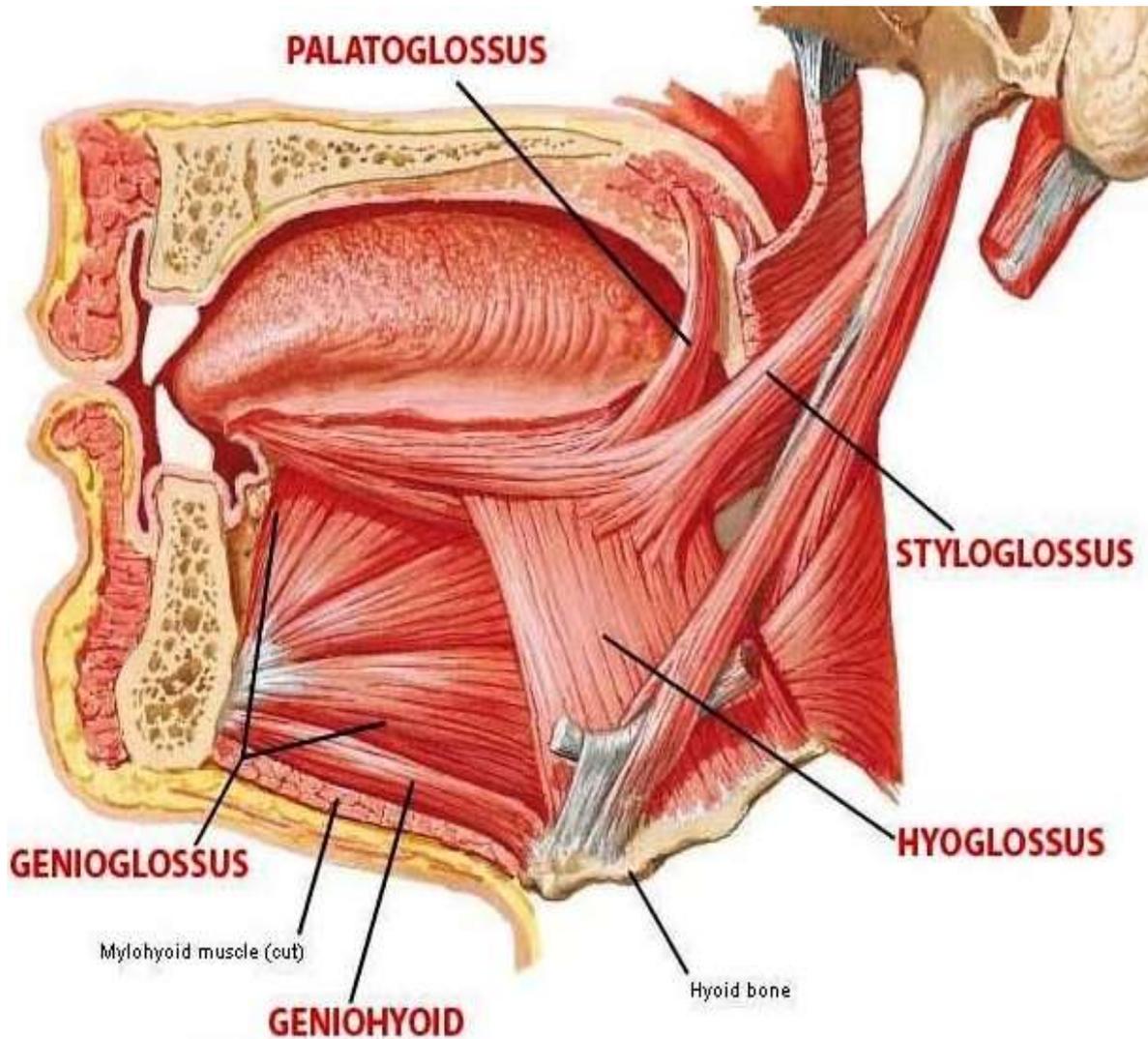
**Muscles** : intrinsic and extrinsic

**Intrinsic muscles**: -

- arise and end within the substance of tongue
- include: sup. longitudinal m.,  
inf. longitudinal m.,  
transverse m. and  
vertical muscle.
- They alter the shape of tongue.



# TONGUE



# TONGUE

## Muscles :

### Extrinsic muscles:

#### Hyoglossus

**O.** :- hyoid bone

**I.** :- Post. 1/2 of side of tongue

**A.** :- Depresses tongue

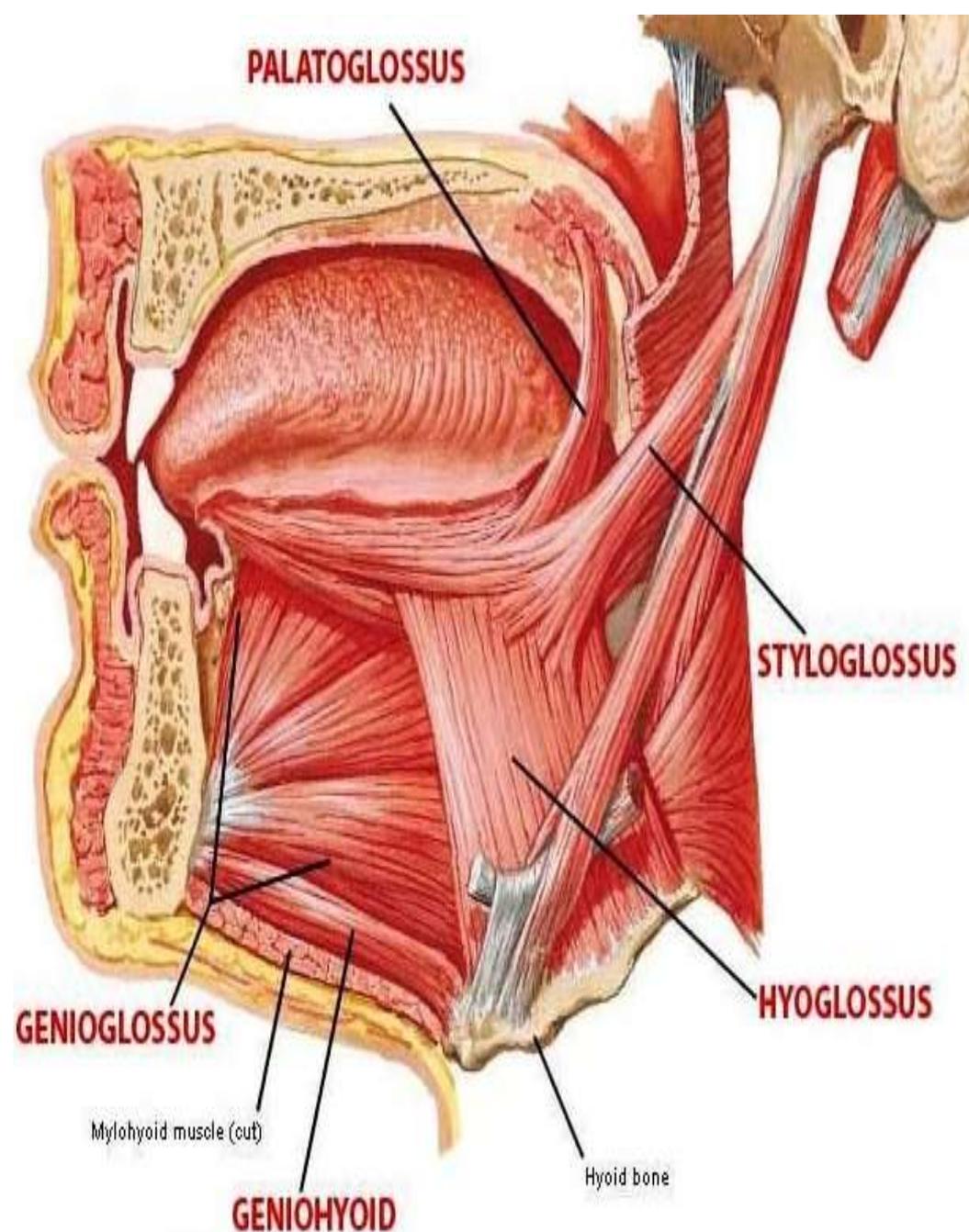
#### Palatoglossus

**O.** :- palate

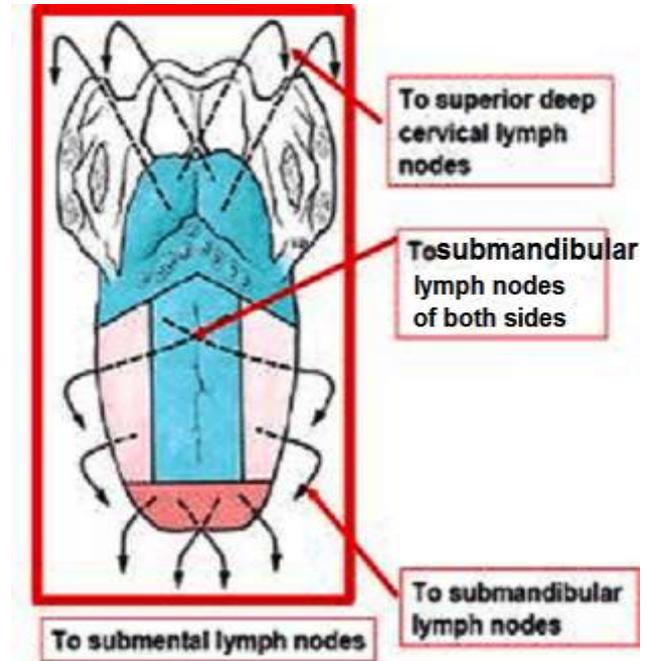
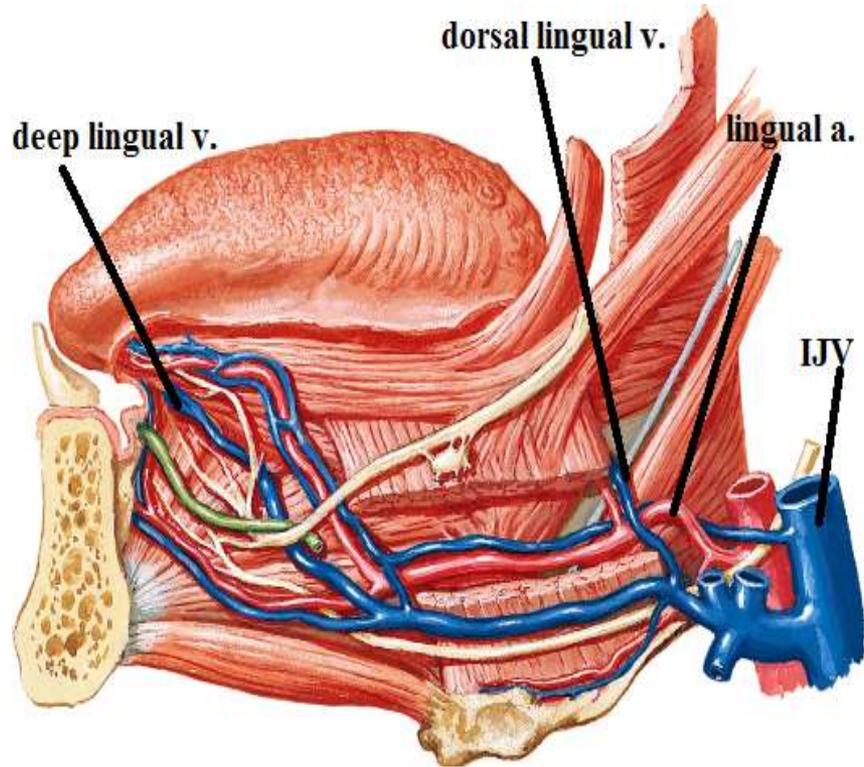
**I.** :- side of tongue

(at junction between  
ant 2/3 and post. 1/3)

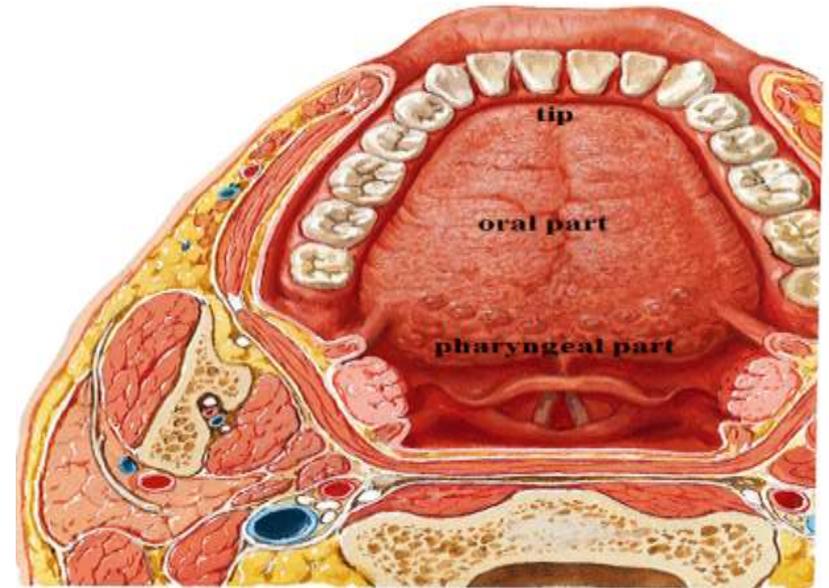
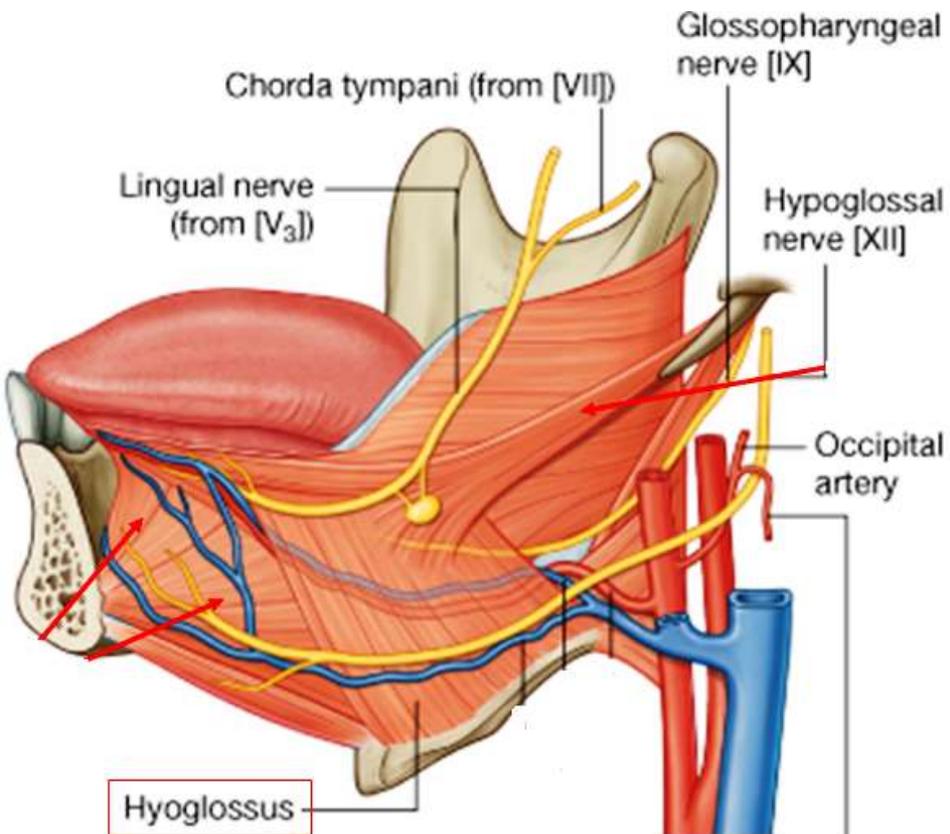
**A.** :- Elevates tongue  
depresses palate



# TONGUE



# TONGUE. Nerve supply



# PALATE

## Soft palate

**Def.:-** it is a fold of mucous membrane filled with muscle extending posteriorly from hard palate.

## Surfaces and borders:

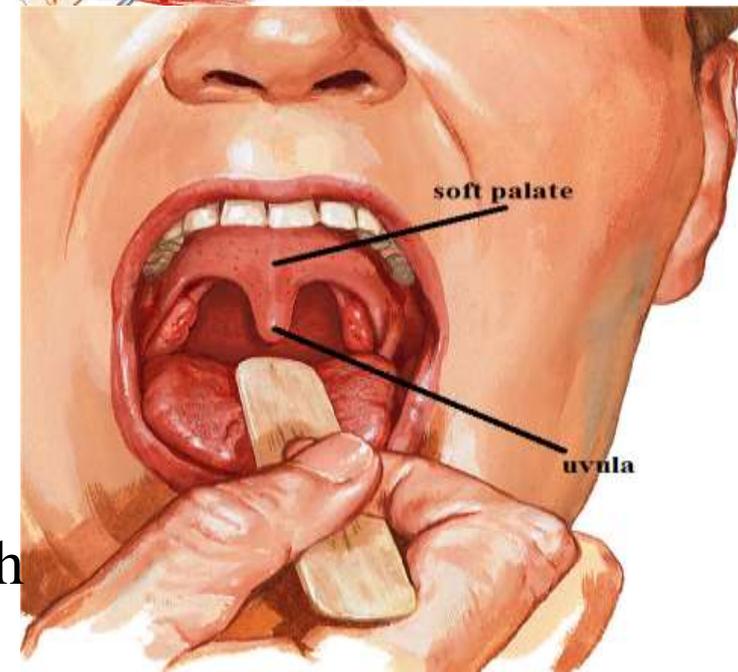
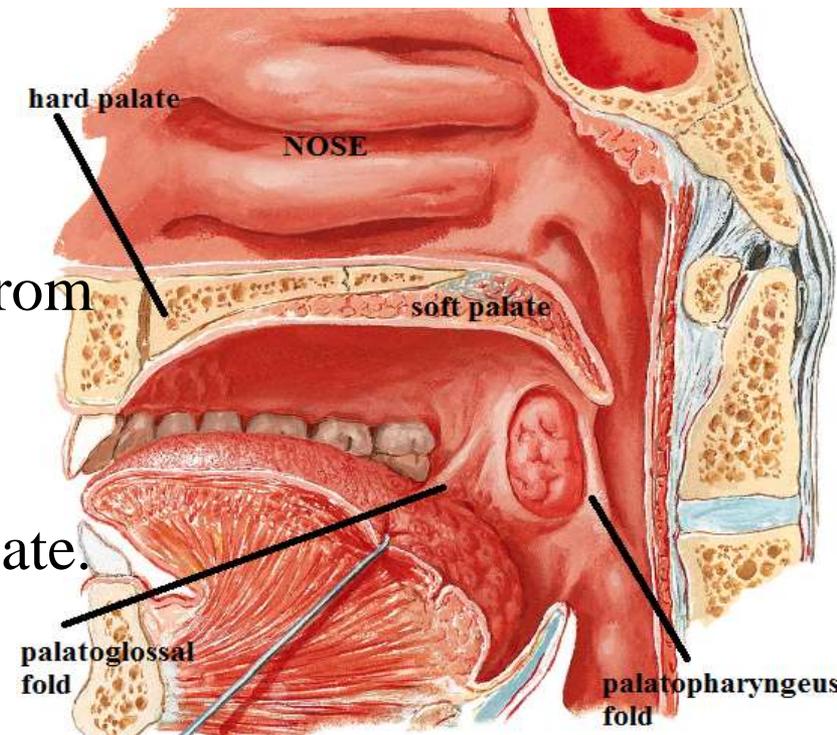
**Attached ant. Border:** attached to hard palate.

**Free posterior (posteroinferior) border:**

shows the uvula at midline, the uvula is a conical projection that hangs from the post. border in midline,

**Upper surface:** its mucous membrane continuous with that of floor of nose.

**Inferior surface:** its mucous membrane is continuous with that covering hard palate, Palatoglossal arch and palatopharyngeal arch start at this surface.



# PALATE

**Muscles of soft palate** 5 pairs of muscles

## 1- Tensor palati:

**O.:** - Scaphoid fossa

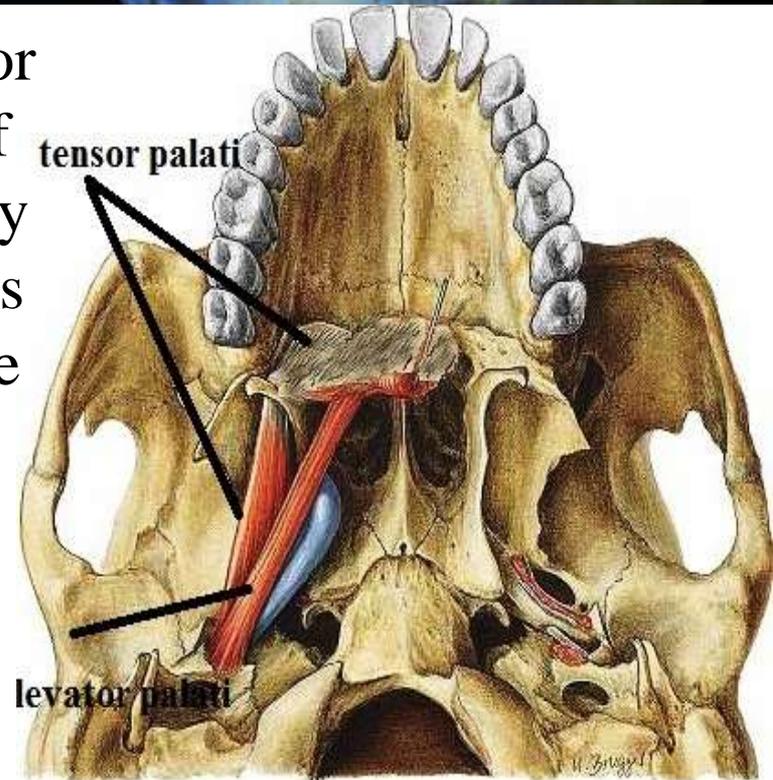
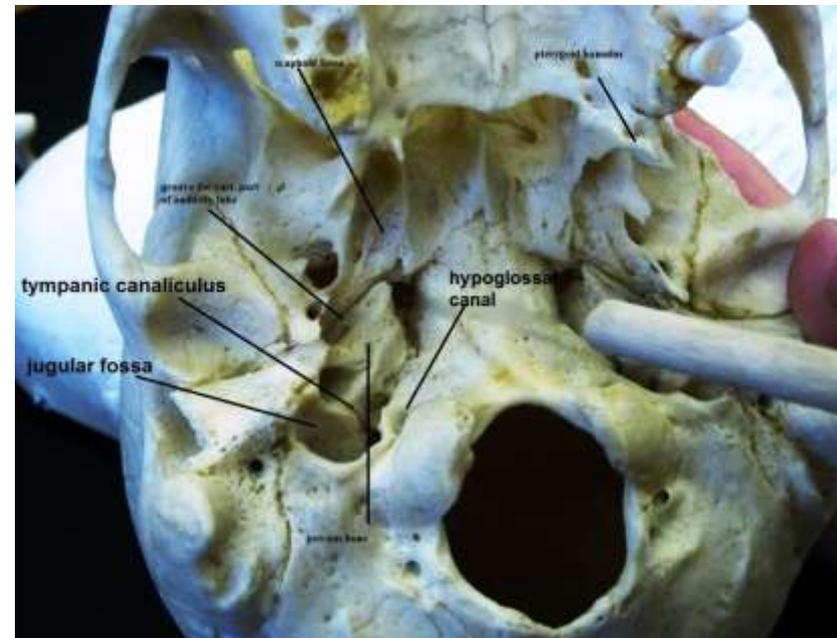
- Cartilaginous part of auditory tube.

**I.:** by a palatine aponeurosis into post. border of hard palate

*Palatine aponeurosis:* Muscle fibres of tensor palati form a slender tendon at lateral side of pterygoid hamulus, the tendon turns medially and expands to form the palatine aponeurosis which forms the basic structure of soft palate to which are inserted or from which-arise other structures of the palate

**Action:**-tensor for soft palate.

-assists in opening of auditory tube.



# PALATE

## 2-Levator palati muscle.

**O.:** - petrous bone

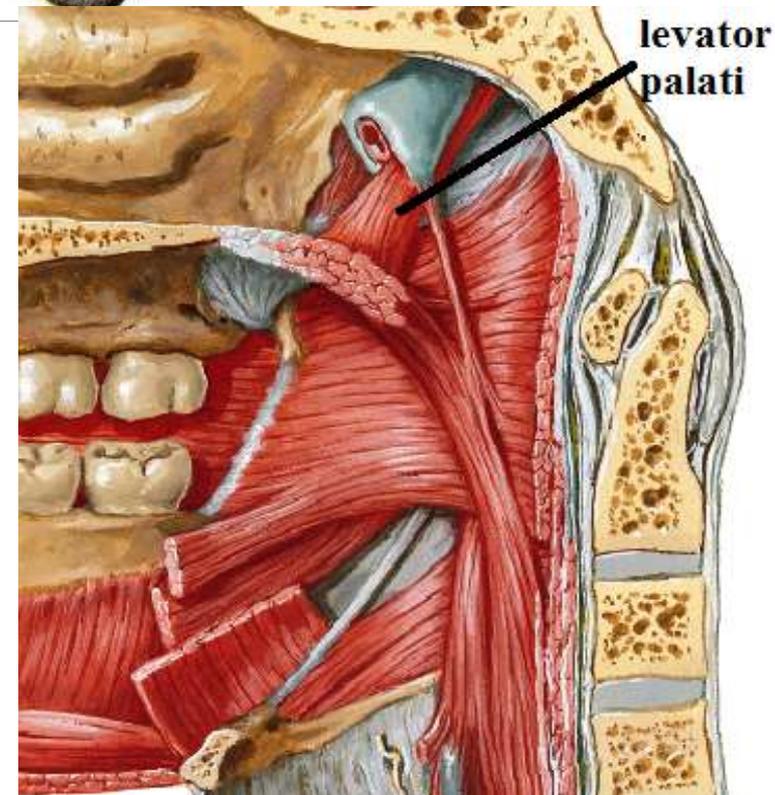
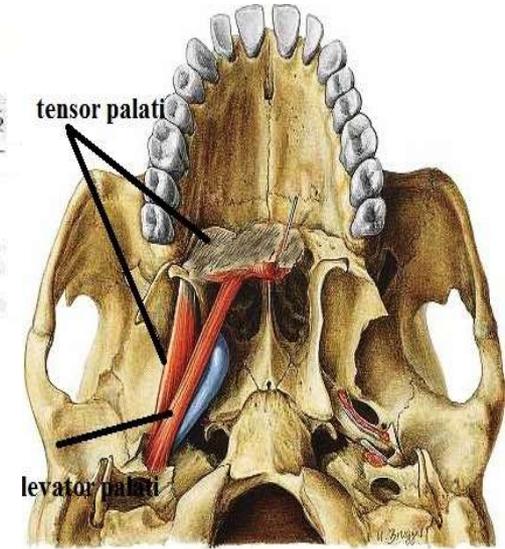
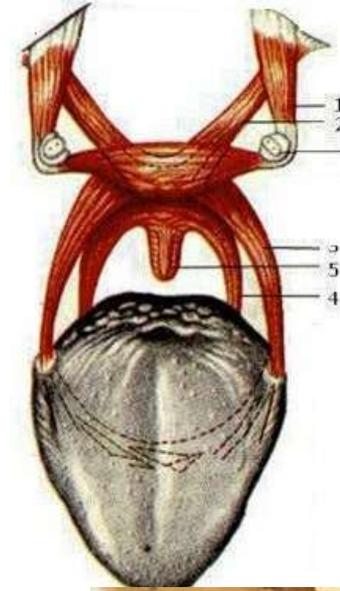
- Cartilaginous part of auditory tube.

**I.:** - upper surface of palatine aponeurosis

**Action:-** -elevates the palate.

-open auditory tube.

-Both actions of tensor palati and levator palati leads to elevation of soft palate to be applied to post, wall of pharynx closing the pharyngeal isthmus, this occurs during swallowing to prevent regurge of food to nasal cavity.



# PALATE

**3-Palatoglossus muscle:**

**4-Palatopharyngeus muscle: .**

**5-Musculus uvulae:**

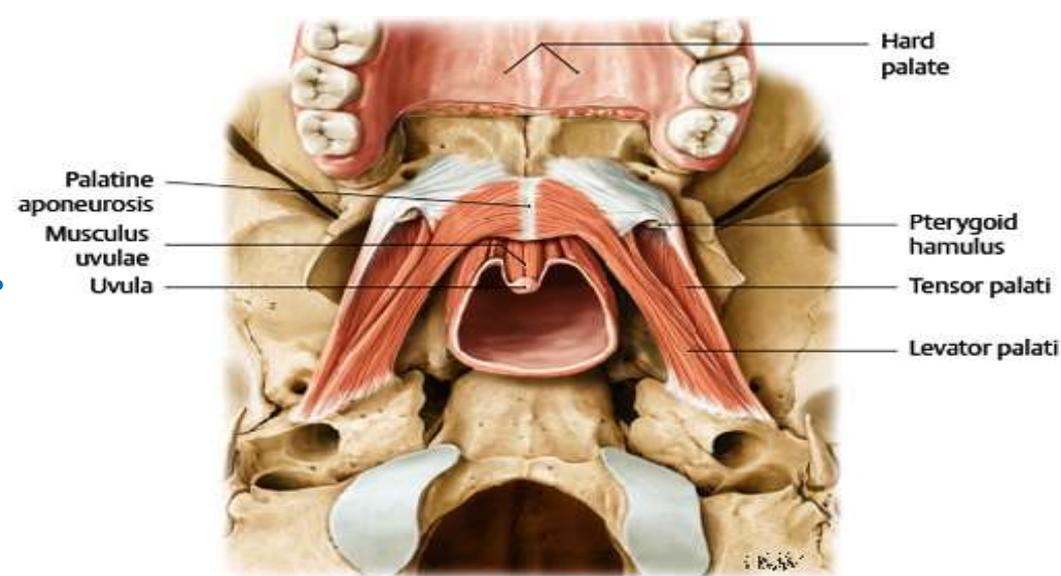
**O.:** post. nasal spine.

**I.:** mucous membrane of uvula.

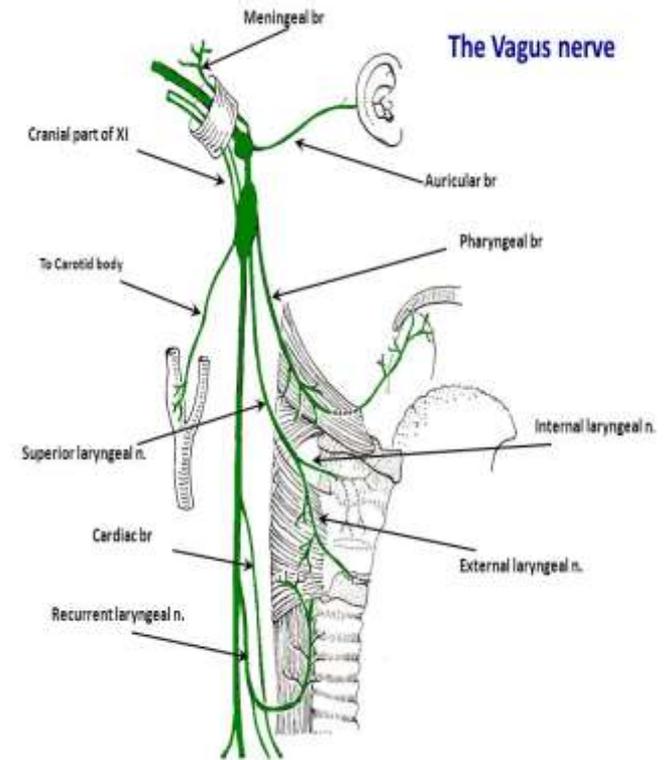
**Action:** pull uvula to its own side.

**Nerve supply of palate**

**Motor:** all muscles of palate are supplied by cranial part of accessory nerve through vagus except tensor palati which is supplied by mandibular branch of the trigeminal nerve



Inferior View of Hard and Soft Palate



# PALATE

## Nerve supply of palate

### Sensory:

Lesser palatine nerves: of pterygopalatine ganglion.

Tonsillar branch of Glossopharyngeal n.

### Blood supply:

#### Arteries:-

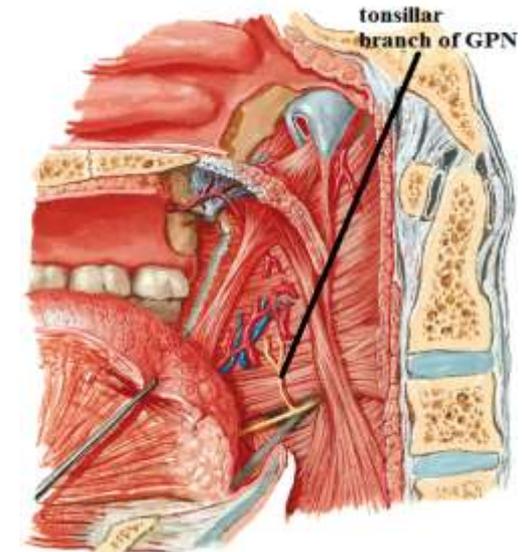
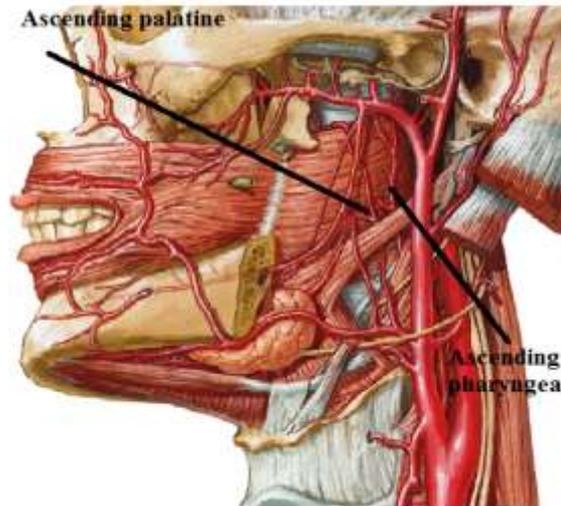
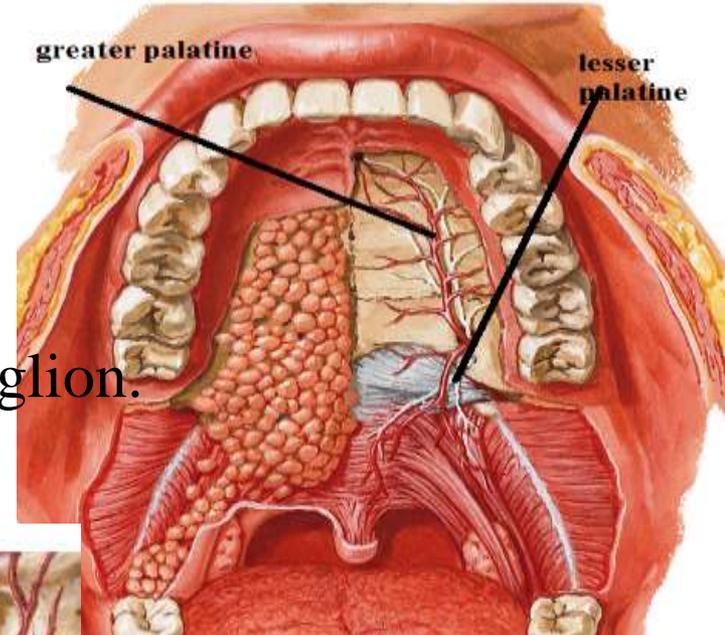
greater palatine art.

Ascending palatine art.

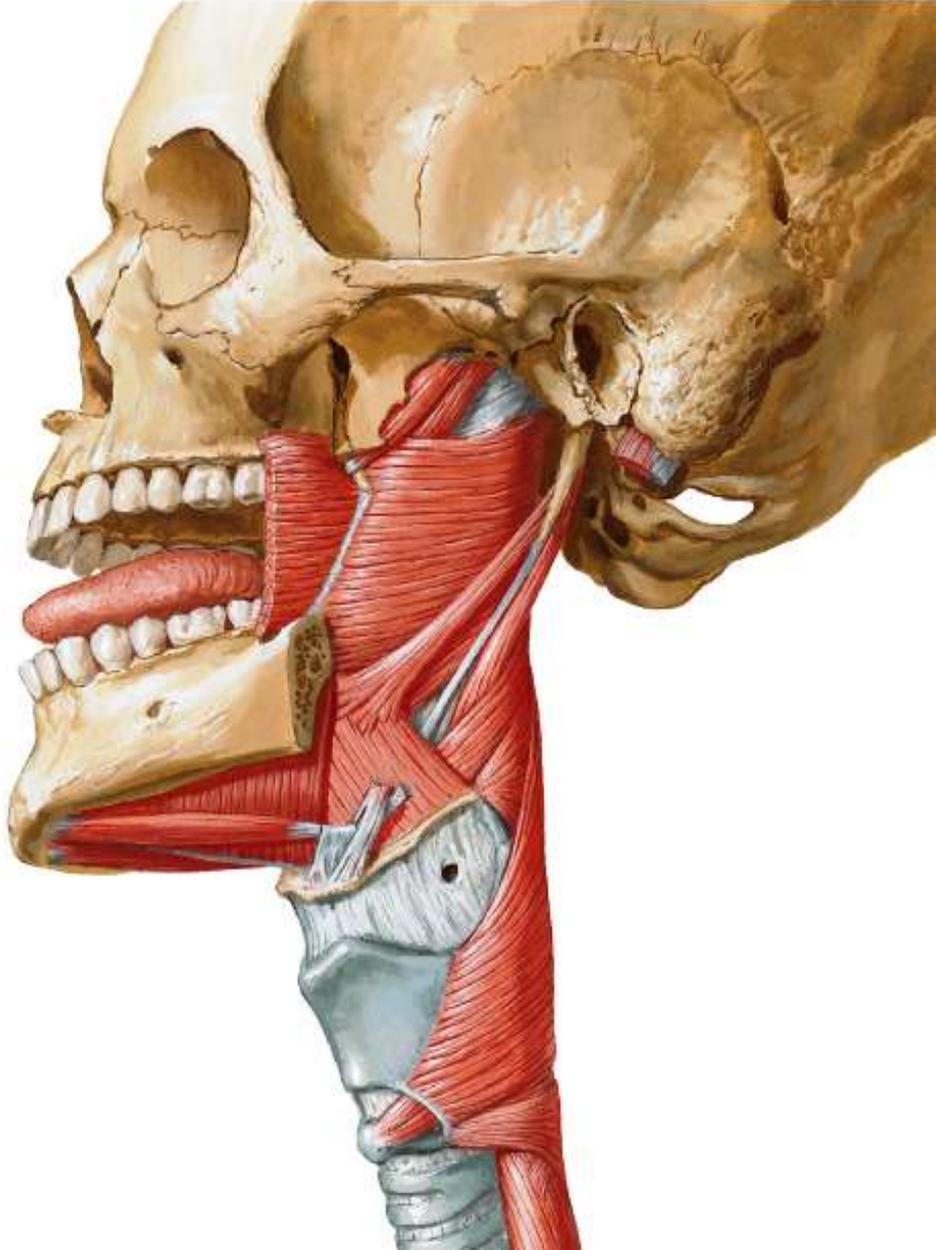
Ascending pharyngeal art.

#### Veins:

-Accompanying veins end in: pterygoid and pharyngeal venous plexuses



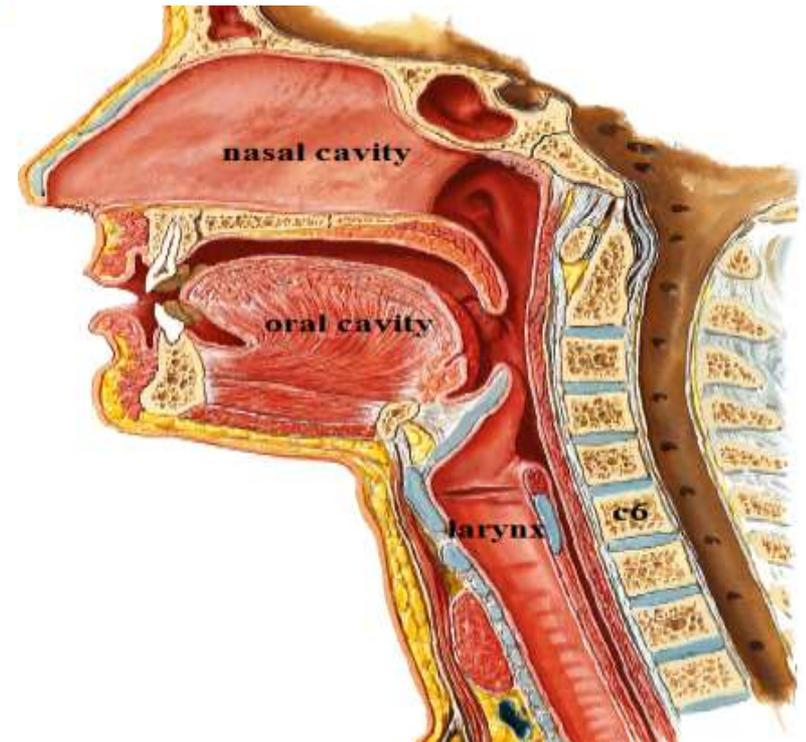
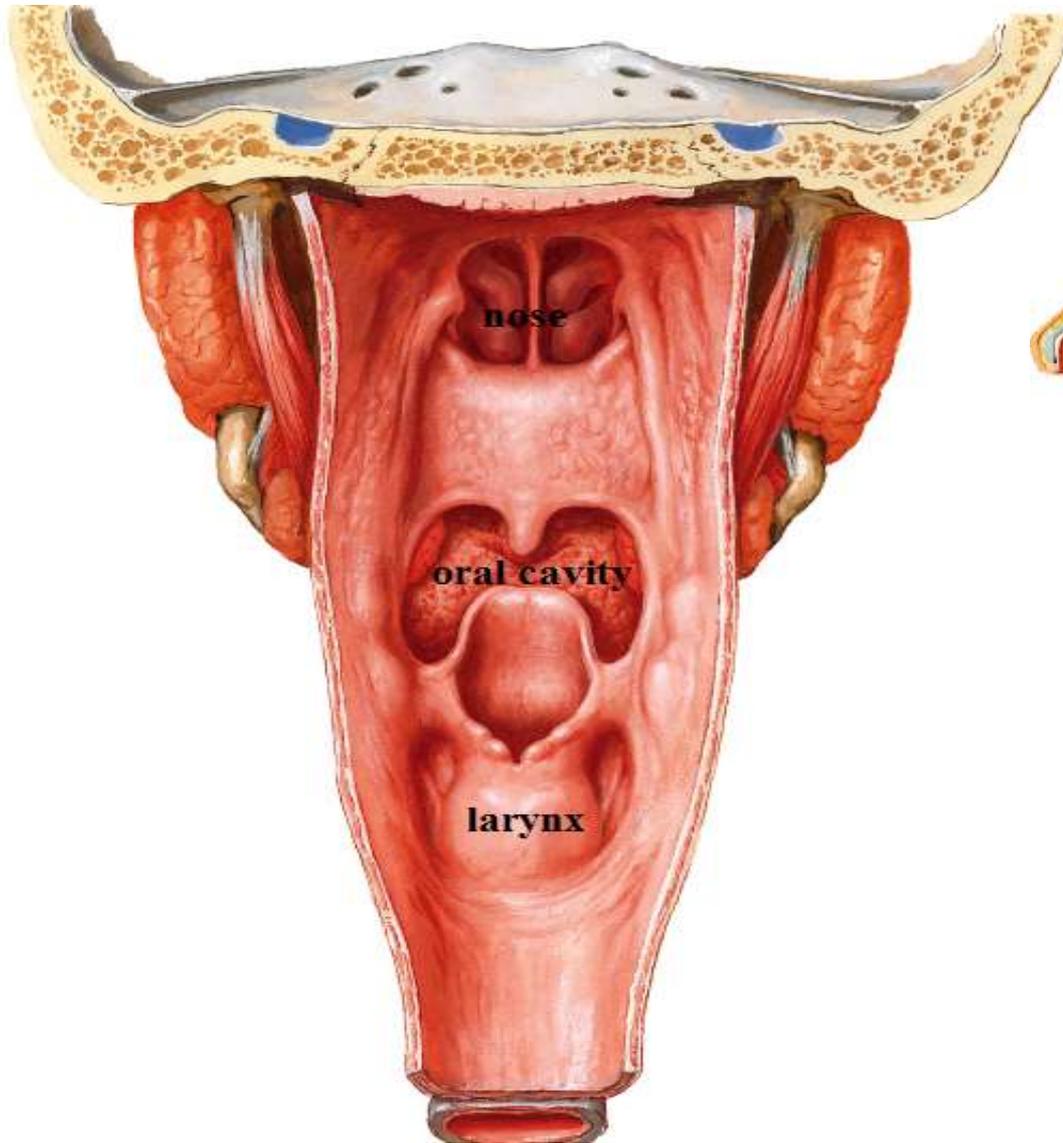
# PHARYNX



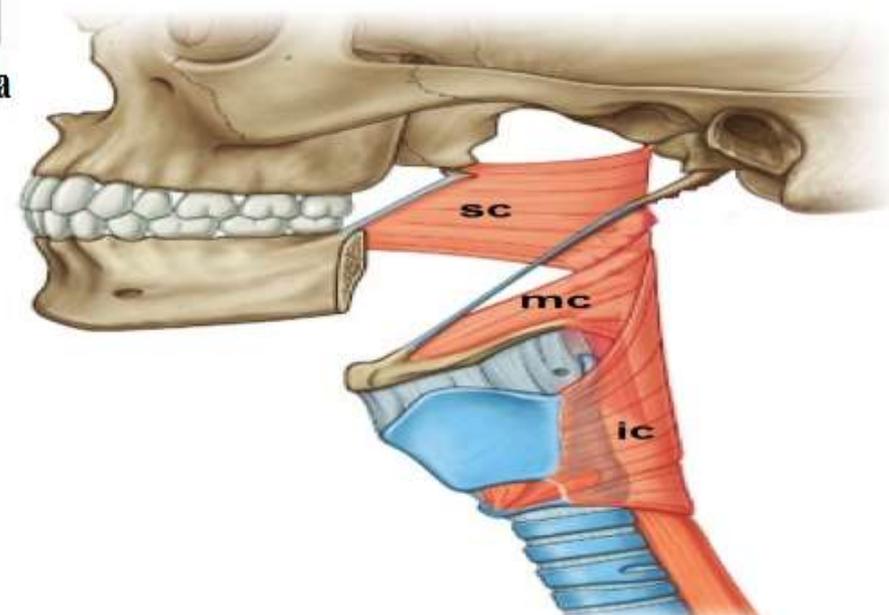
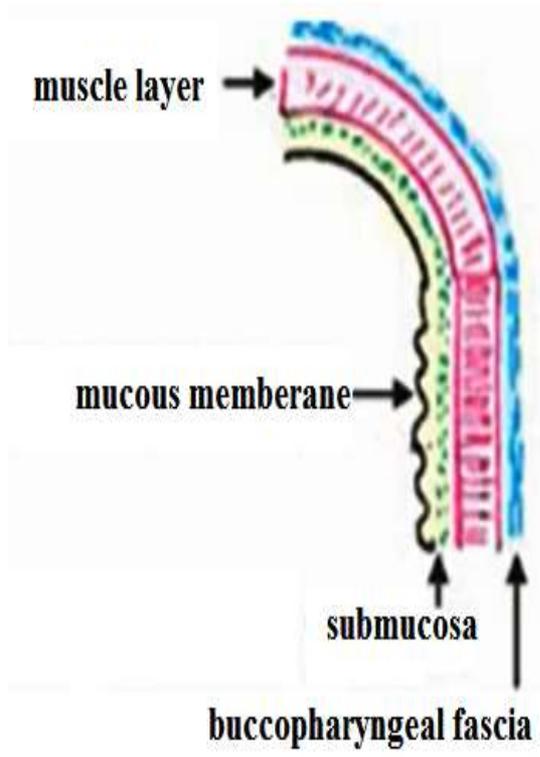
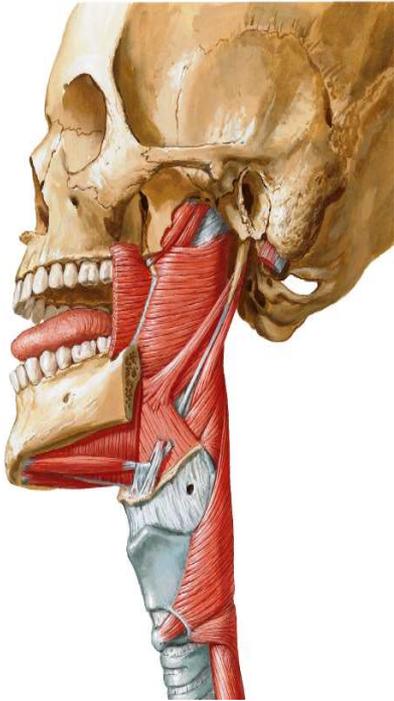
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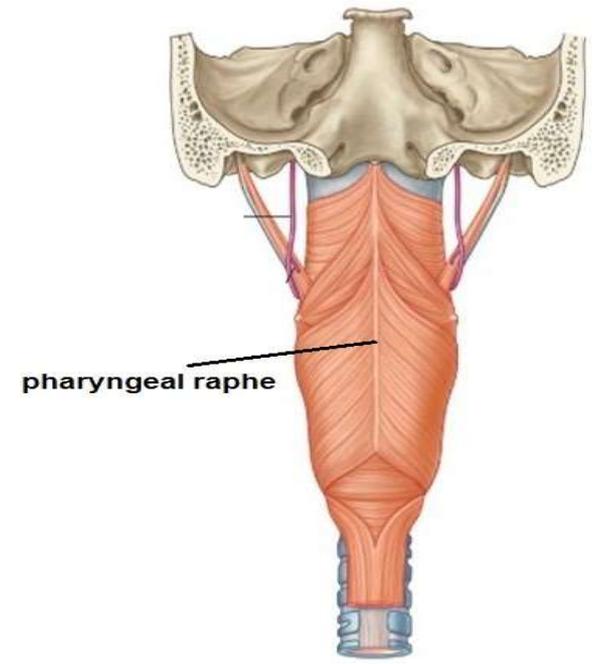
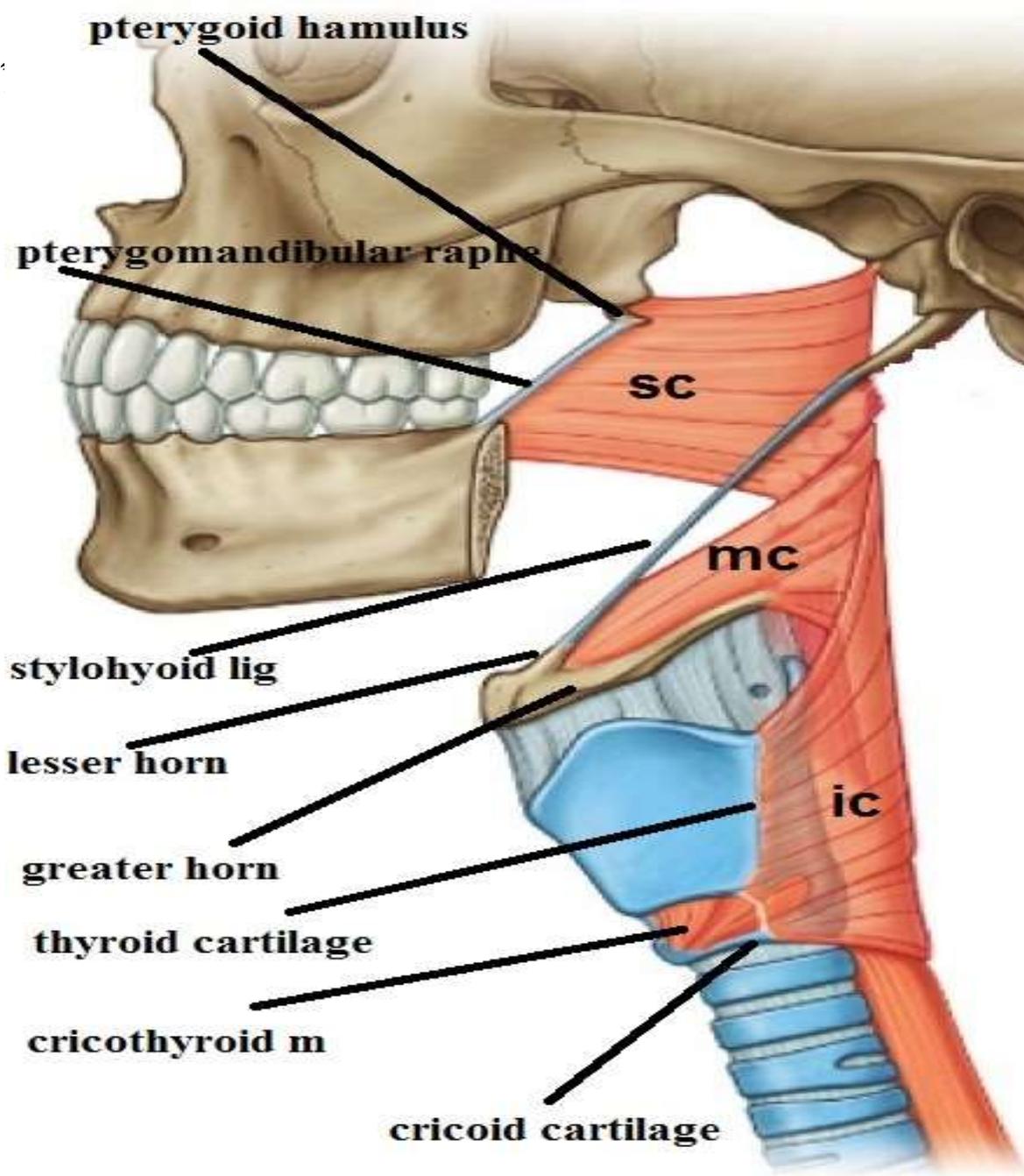
DR ABULMAATY MOHAMED  
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MUTAH UNIVERSITY

# PHARYNX



# PHARYNX



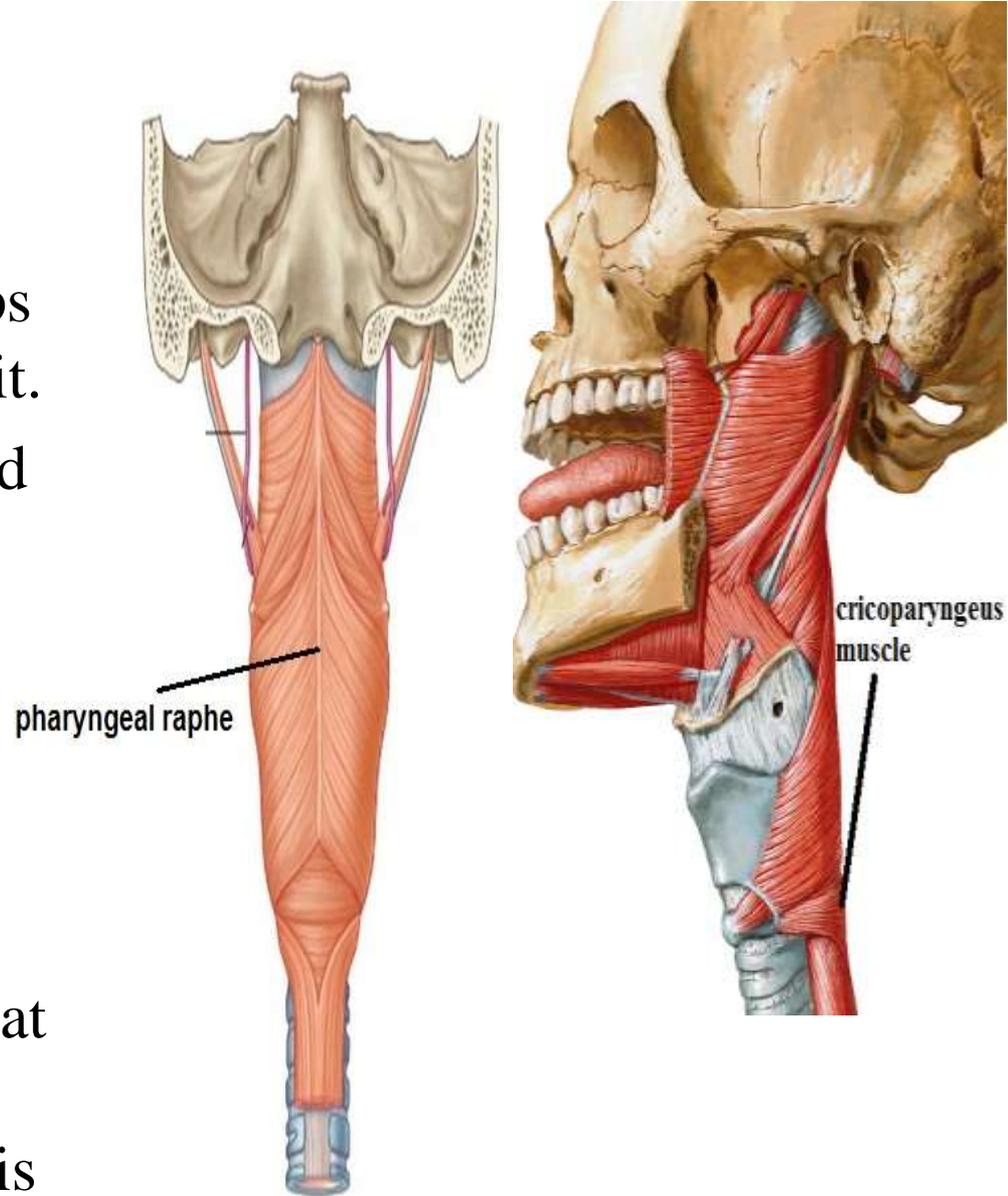


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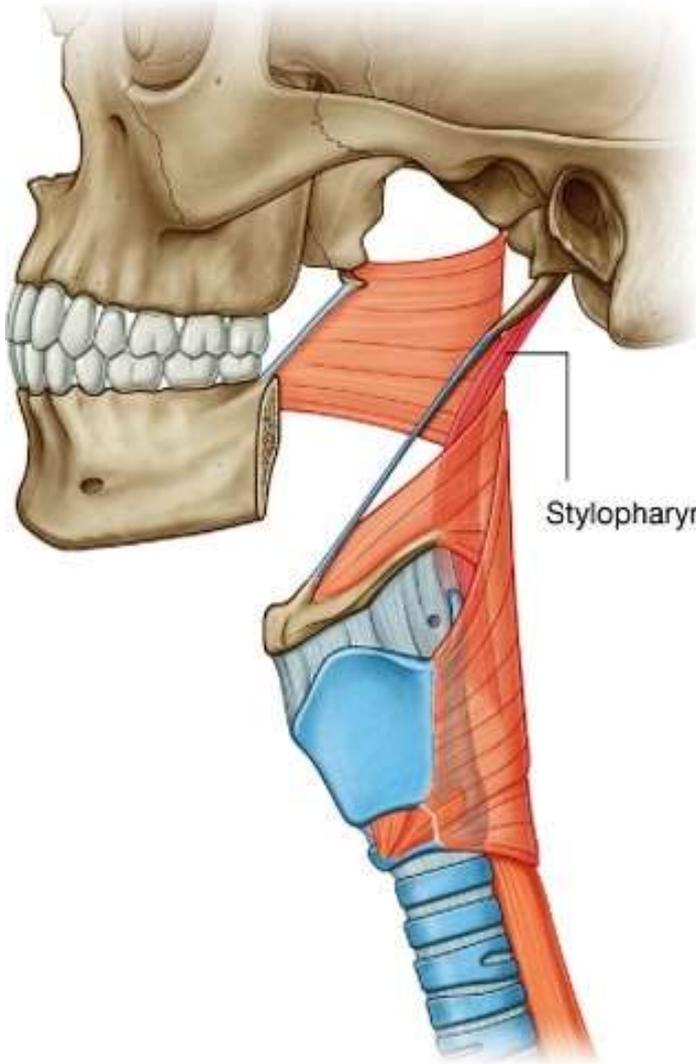
## Muscles:

**N.B.1:-** middle constrictor overlaps the superior constrictor enclosing it. & Inferior constrictor, overlaps and encloses the middle.

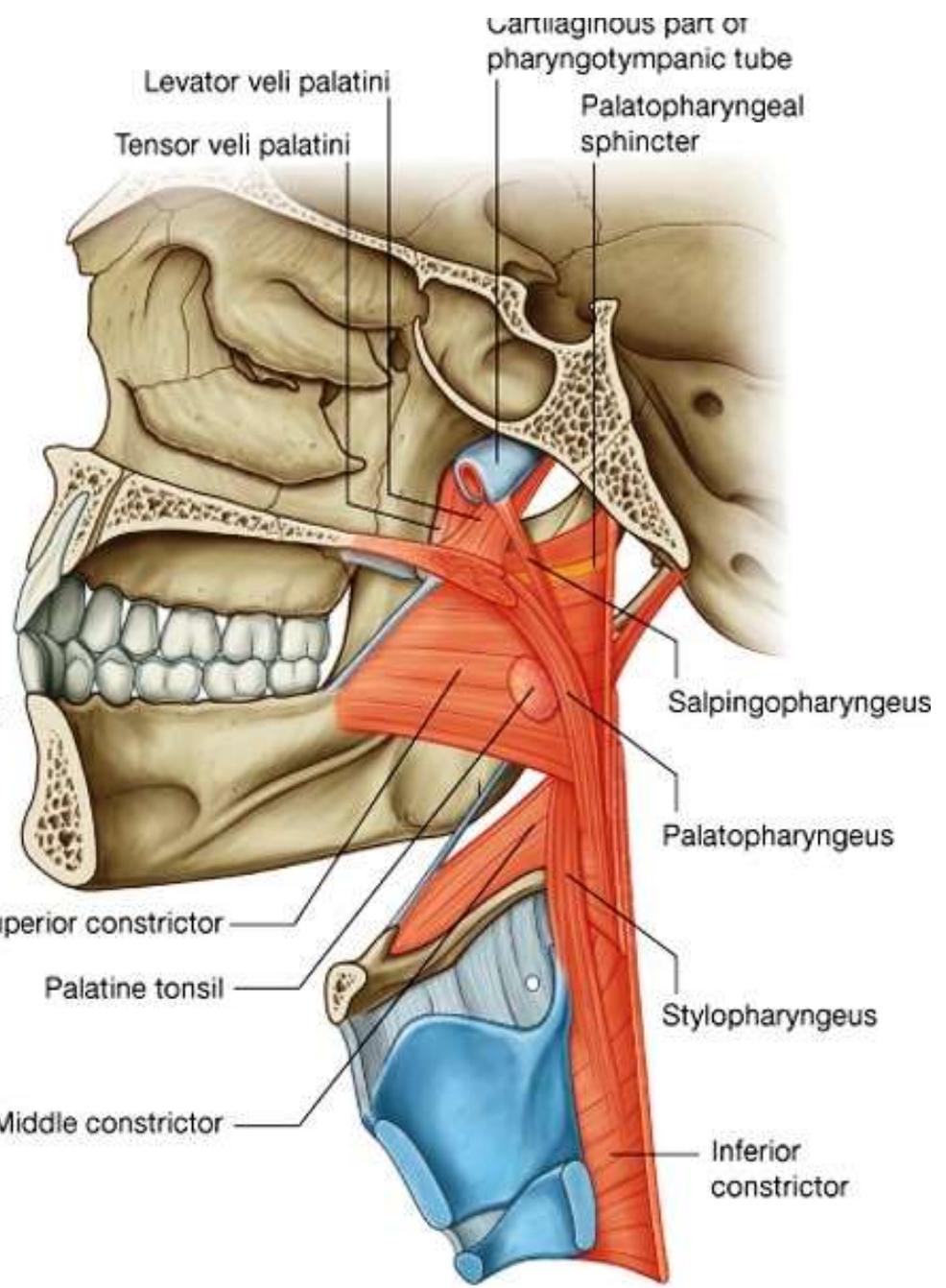
**N.B.2:-** lower fibres of inferior constrictor arise from one side of cricoid and pass uninterrupted to other side of cricoid cartilage, this part is called cricopharyngeus muscle which forms a sphincter that open only for passage of a bolus during swallowing. This part also is the narrowest part of GIT except appendix.



# PHARYNX



Stylopharyngeus



Levator veli palatini

Tensor veli palatini

Cartilaginous part of pharyngotympanic tube

Palatopharyngeal sphincter

Salpingopharyngeus

Palatopharyngeus

Stylopharyngeus

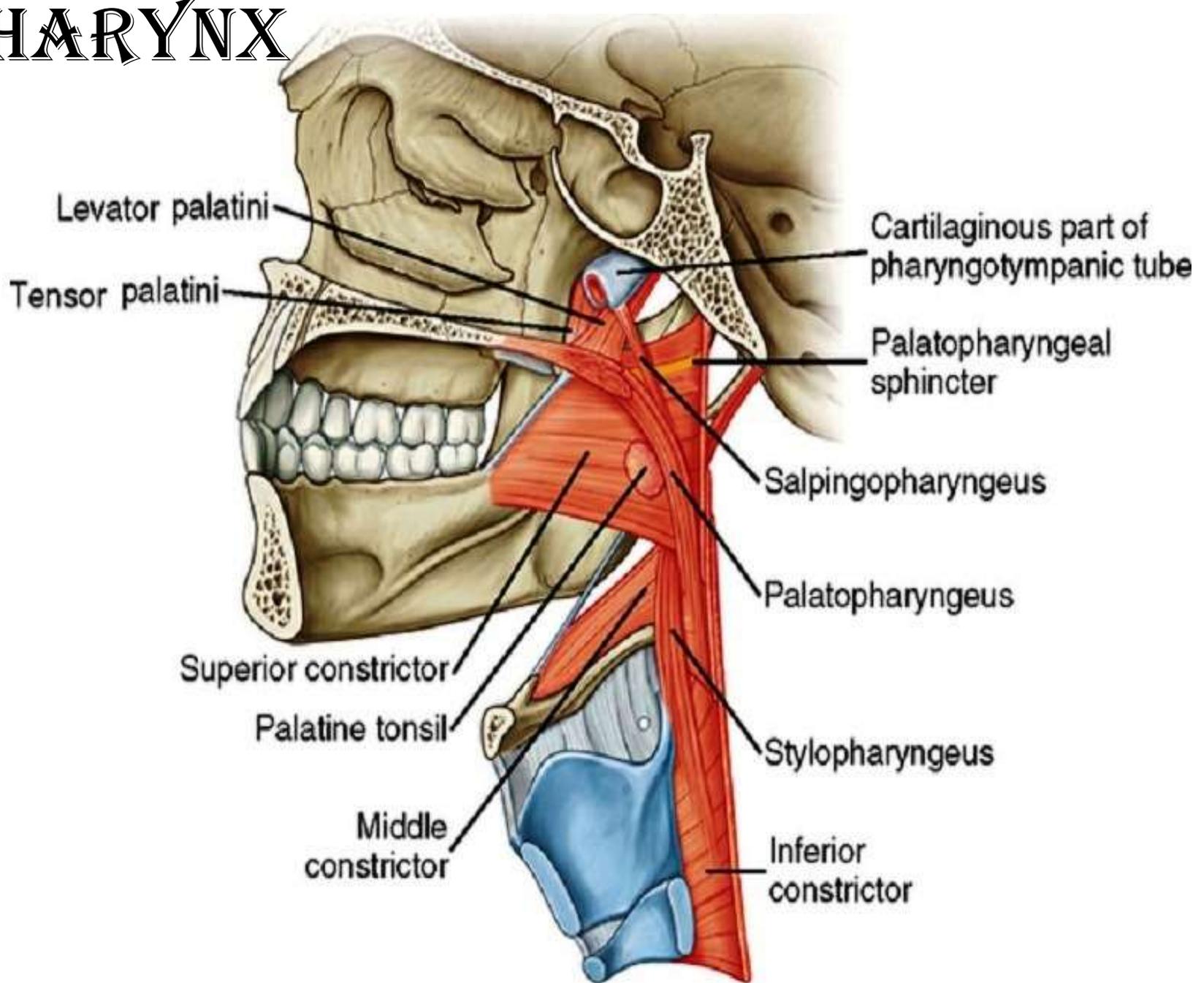
Superior constrictor

Palatine tonsil

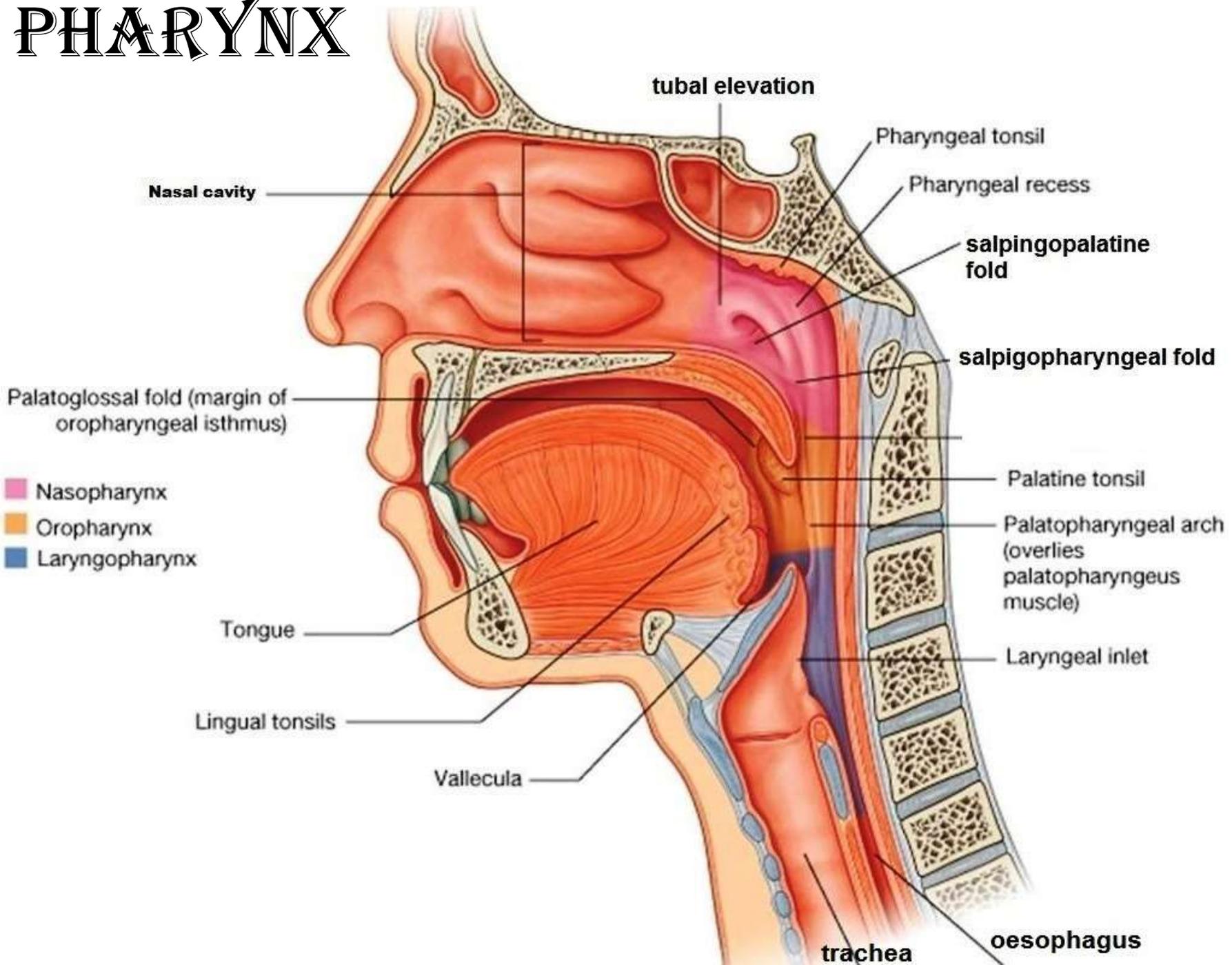
Middle constrictor

Inferior constrictor

# PHARYNX



# PHARYNX



# PHARYNX

## I-Nasopharynx:

### Features:

#### 4-Salpingopharyngeal fold

-Produced by salpingopharyngus muscle

-Extend from post. part of tubal elevation to fades away on the side wall of pharynx.

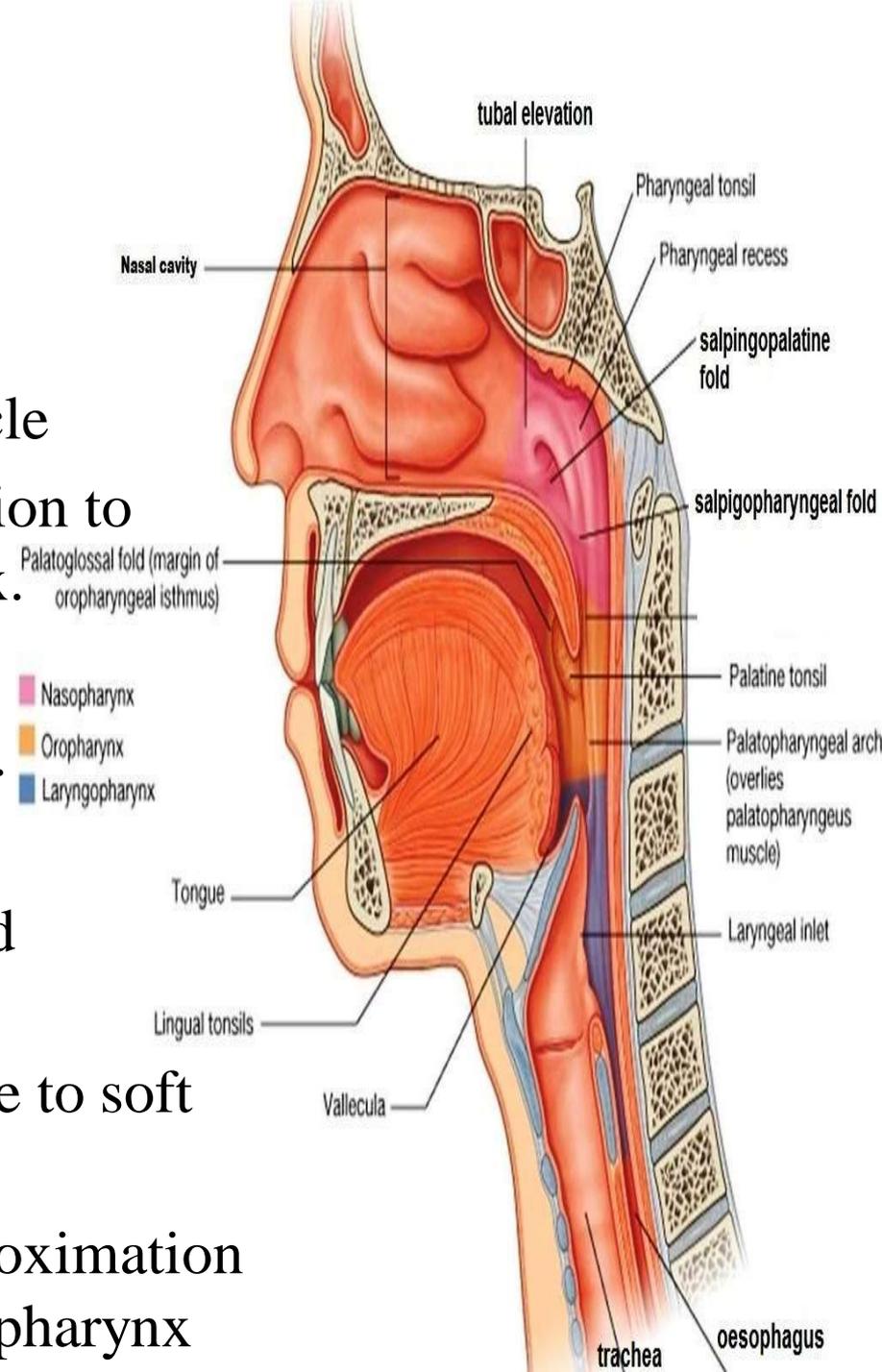
#### 5-Pharyngeal recess

Depression just behind tubal elevation.

#### 6-Pharyngeal isthmus

The junction between nasopharynx and oropharynx Bounded by soft palate anteriorly and wall of pharynx opposite to soft palate posteriorly.

It is closed during swallowing by approximation of soft palate and the opposite wall of pharynx



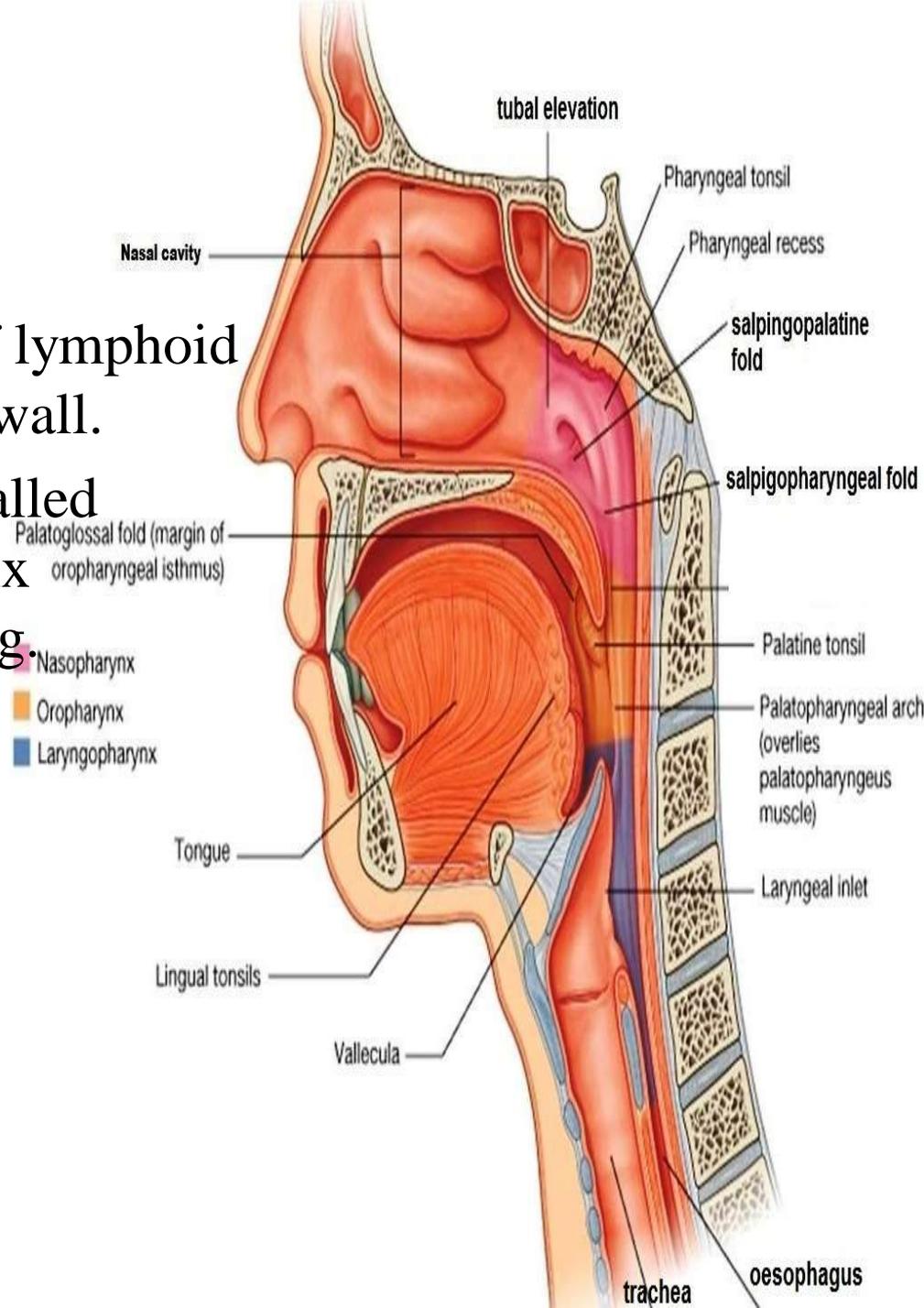
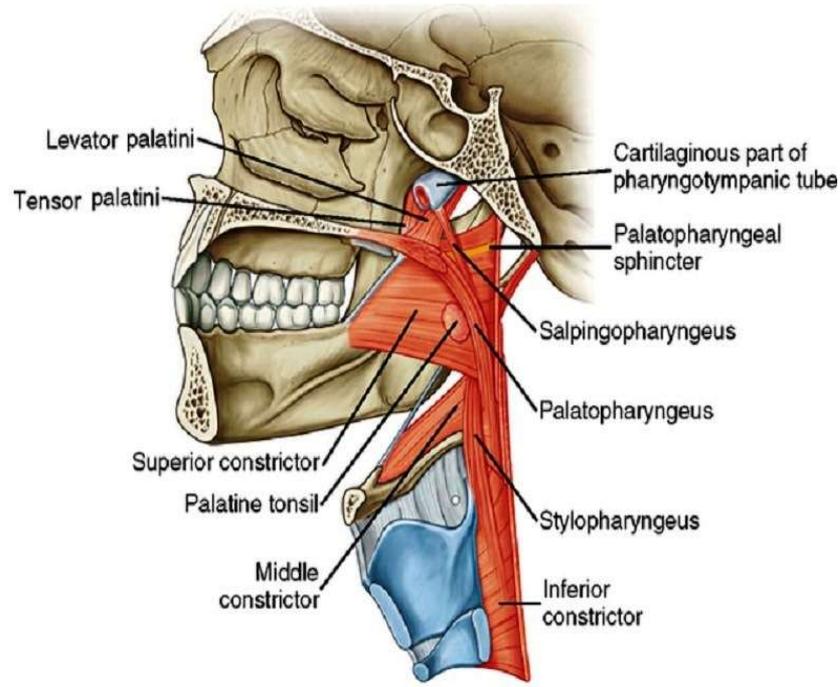
# PHARYNX

## I-Nasopharynx:

### Features:

**7-Pharyngeal tonsils** collection of lymphoid tissue at meeting of roof and post. wall.

In children, if it is enlarged, it is called adenoids that can close nasopharynx completely leading to oral breathing.



# PHARYNX

## II-Oropharynx :

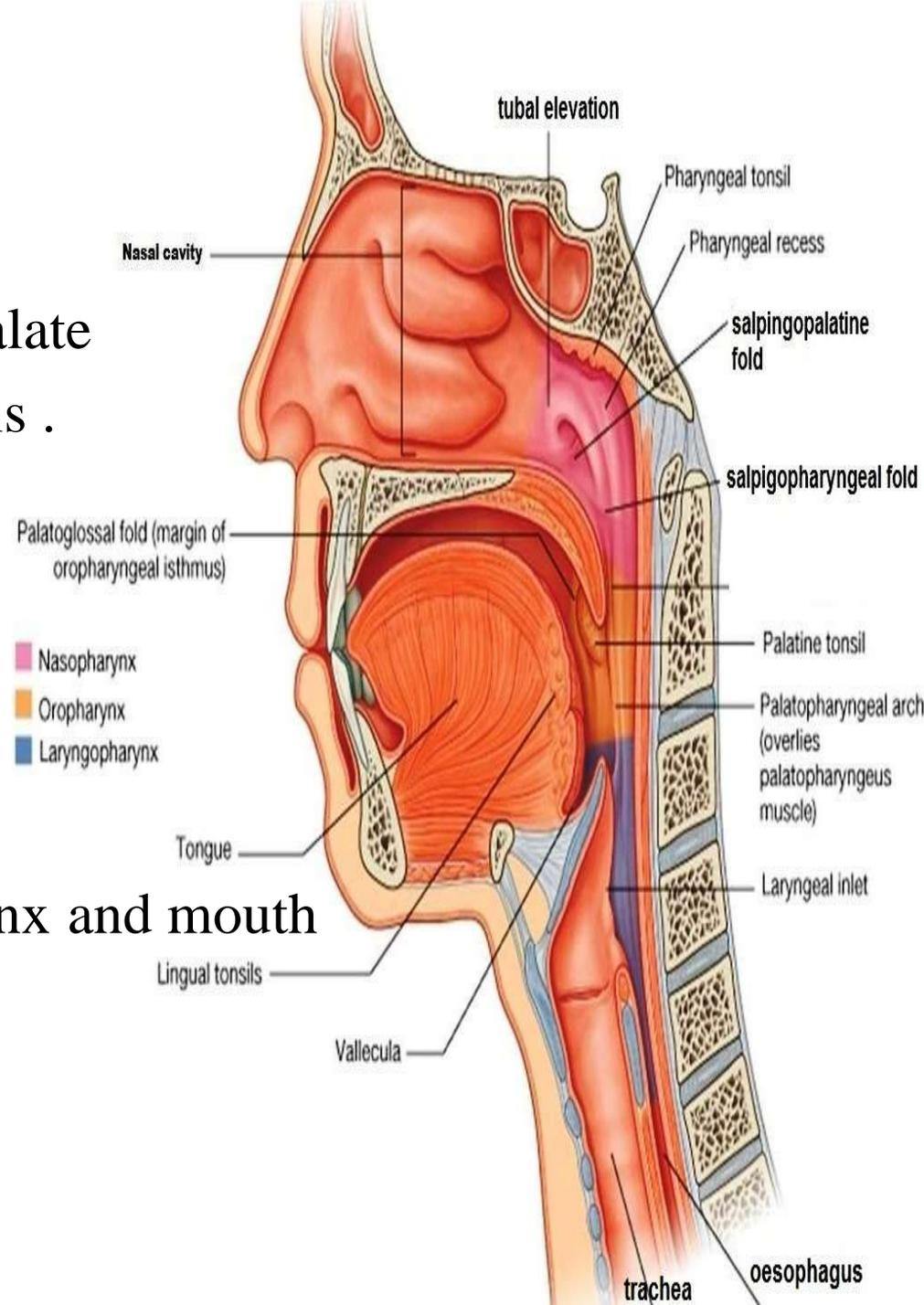
Lies behind oral cavity

Extent: from post. border of soft palate to upper border of epiglottis .

Features:

1-Its ant. wall is formed by back of tongue and oropharyngeal isthmus.

The latter is the opening communicating between oropharynx and mouth



# PHARYNX

## II-Oropharynx :

Features:

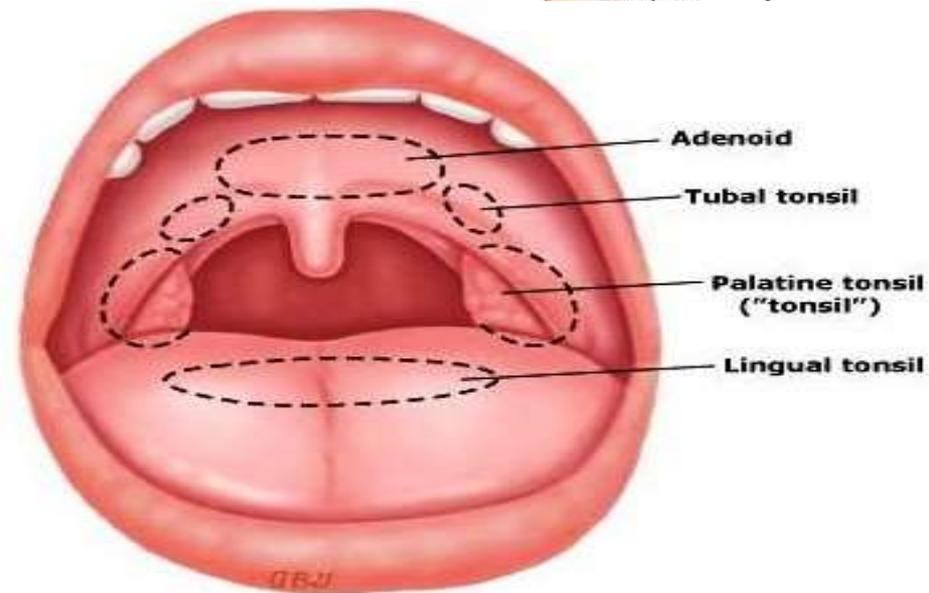
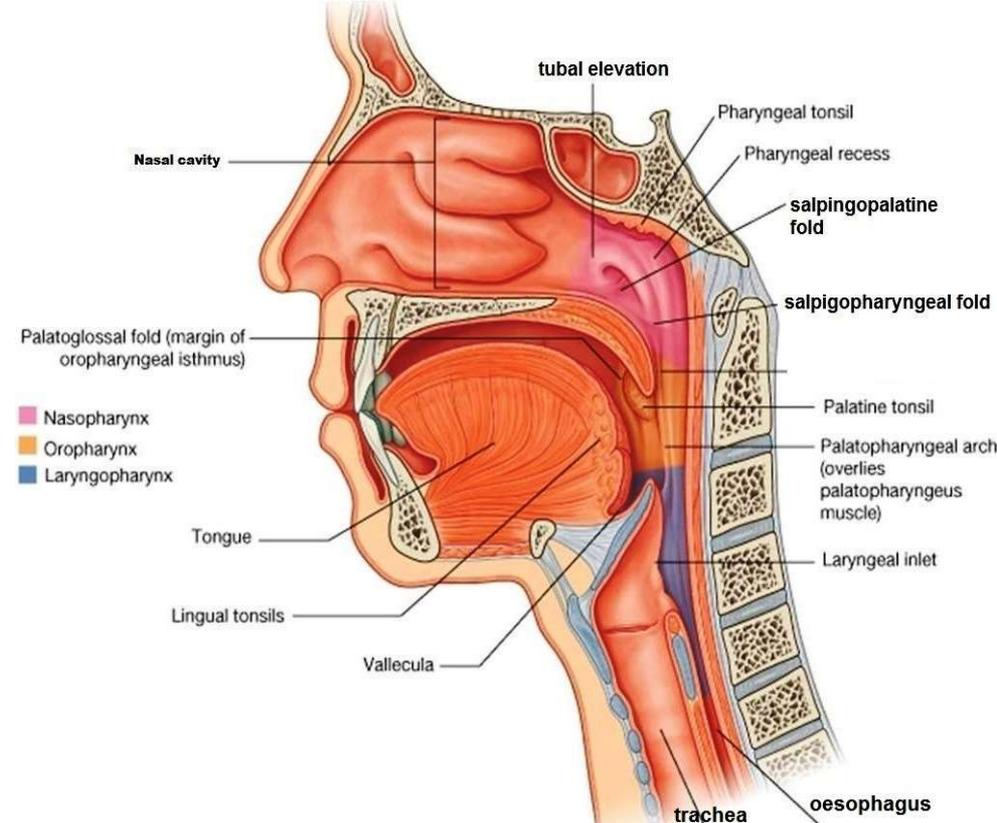
### 2- Palatine tonsil:

**def.:** collection of lymphatic tissue projecting into the oropharynx just behind Palatoglossal arch.

**Site:** Tonsillar fossa:

the part of side wall of oropharynx lodging the tonsil it is bounded by:

- Palatoglossal arches: anteriorly,
- Palatopharyngeal arches; posteriorly.
- Soft palate: above.
- Tongue: below.
- floor: sup. constrictor



# PHARYNX

## II-Oropharynx :

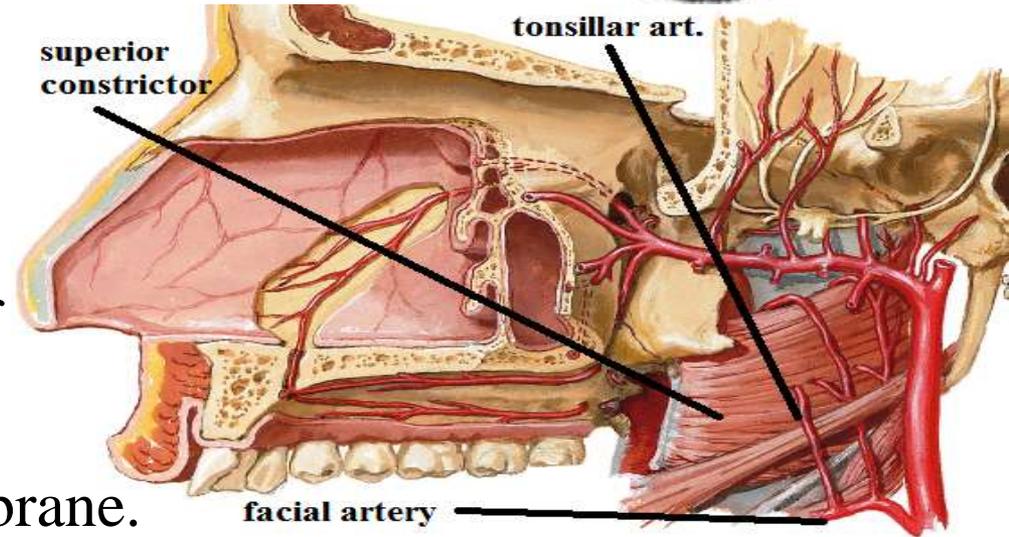
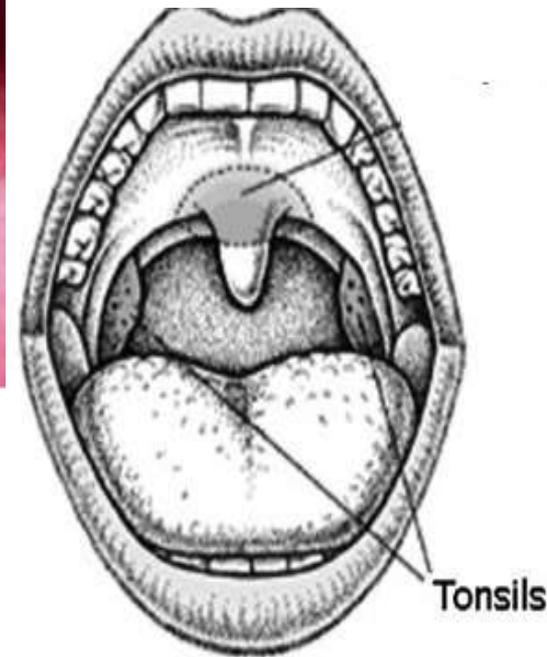
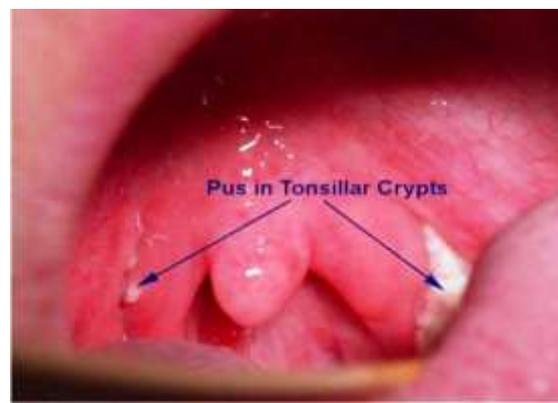
Features:

### 2- Palatine tonsil:

**Tonsillar crypts:** the medial surface of tonsil is covered by mucous membrane.

Minute tubular extensions from the mucous membrane invaginate the tonsil, end blindly within the collection of lymphoid tissue and open on the surface of the mucous membrane.

**Blood supply :** main blood supply is tonsillar artery, a branch of facial art.

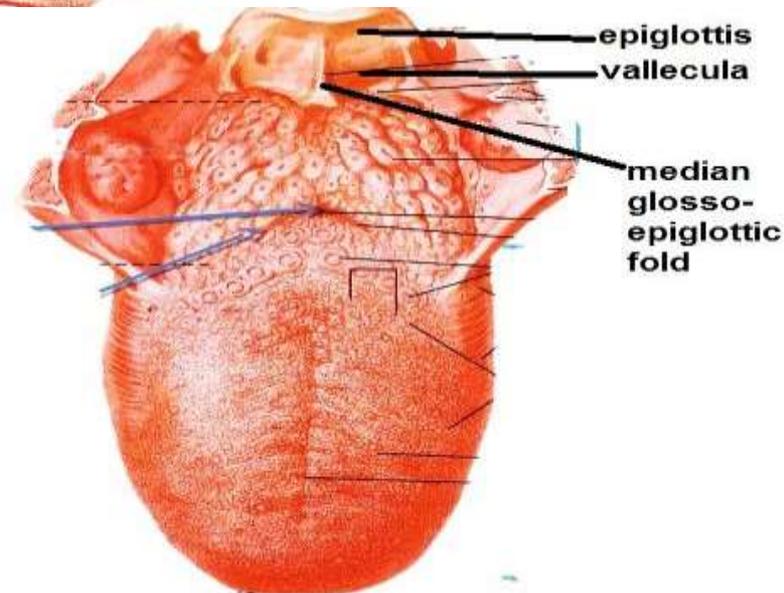
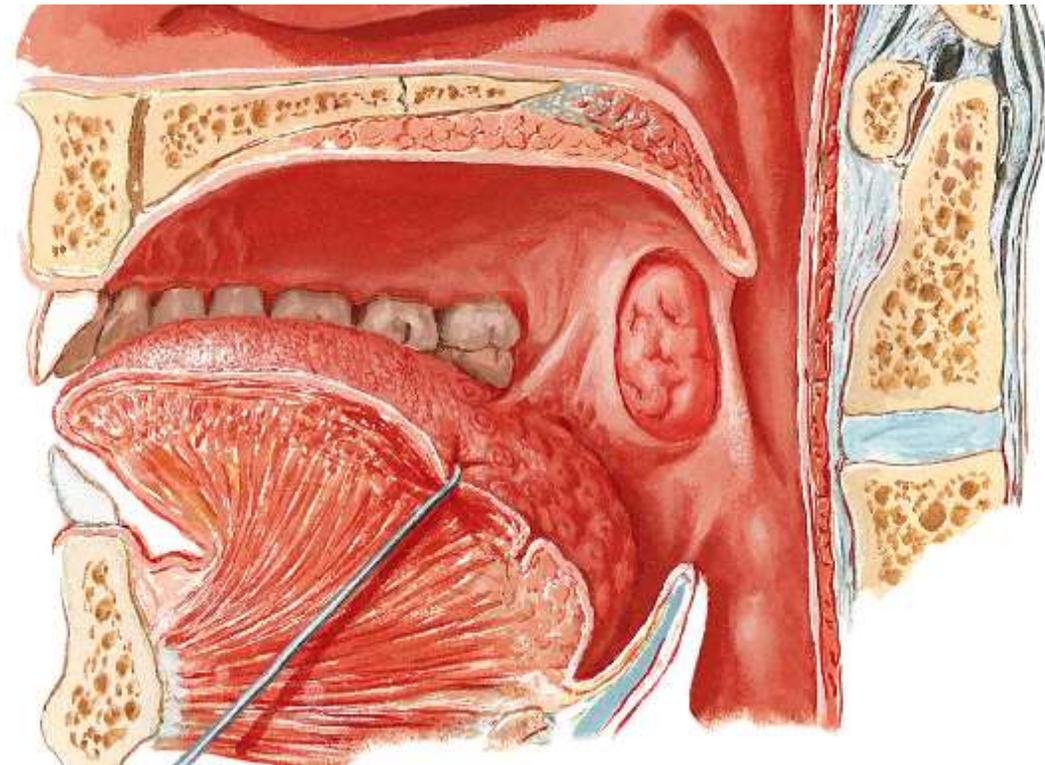


# PHARYNX

## II-Oropharynx :

Features:

- 3- Median glossoepiglottic fold:  
fold of mucous membrane  
connects back of tongue with  
front of upper part of epiglottis,
- 4- Vallecula:  
depression on each side  
of median glossoepiglottic fold.



# PHARYNX

## III- Laryngopharynx:

Lies opposite to larynx

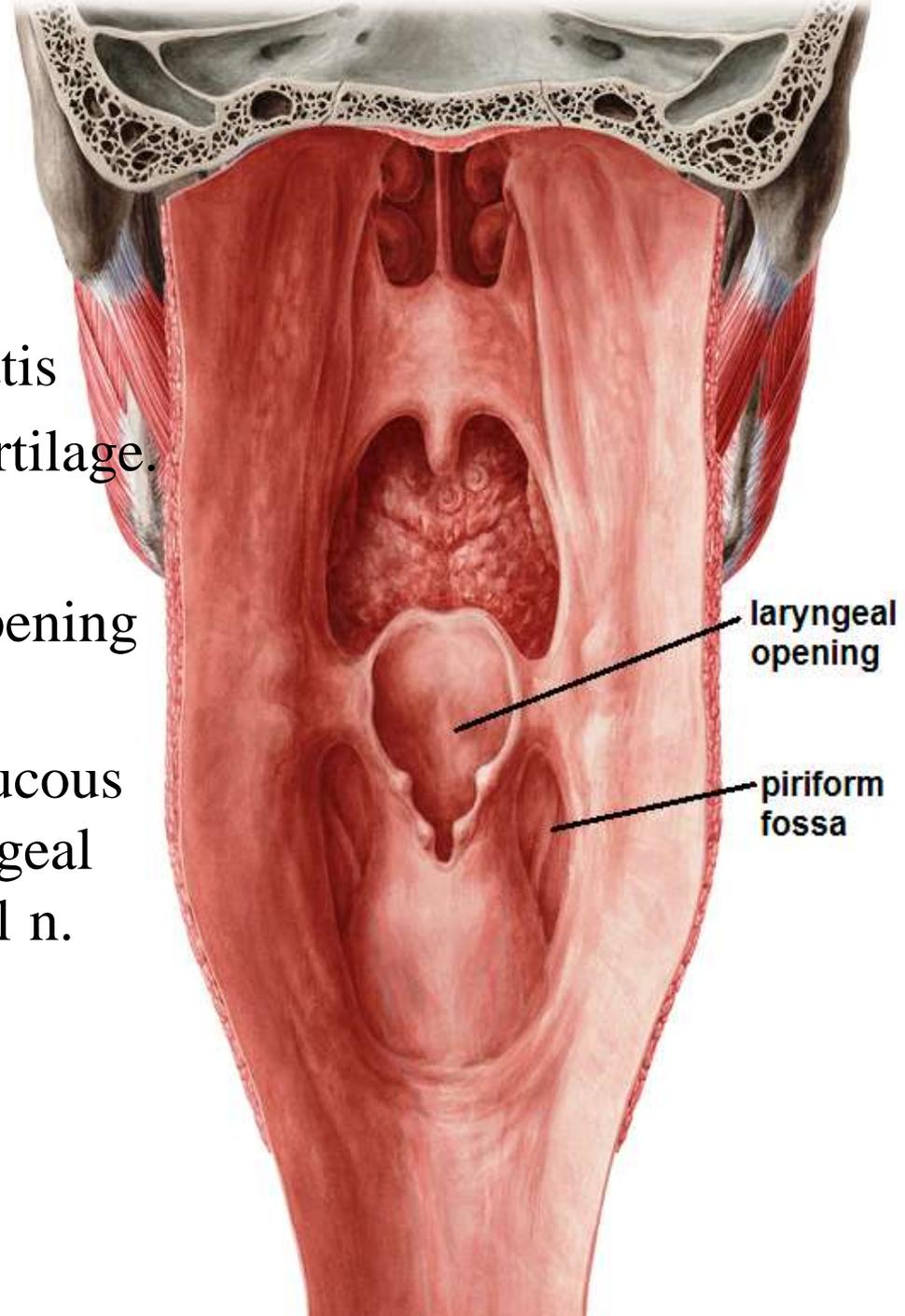
**Extent:** from upper border of epiglottis  
to lower border of cricoid cartilage.

**Features:-**

1-its **ant. Wall:** receives the upper opening of larynx (laryngeal inlet).

2- **Piriform fossa:** recess lined by mucous membrane lying on the side of laryngeal inlet and is supplied by int. laryngeal n.

It is tapering inferiorly.



# PHARYNX

## Arterial supply :

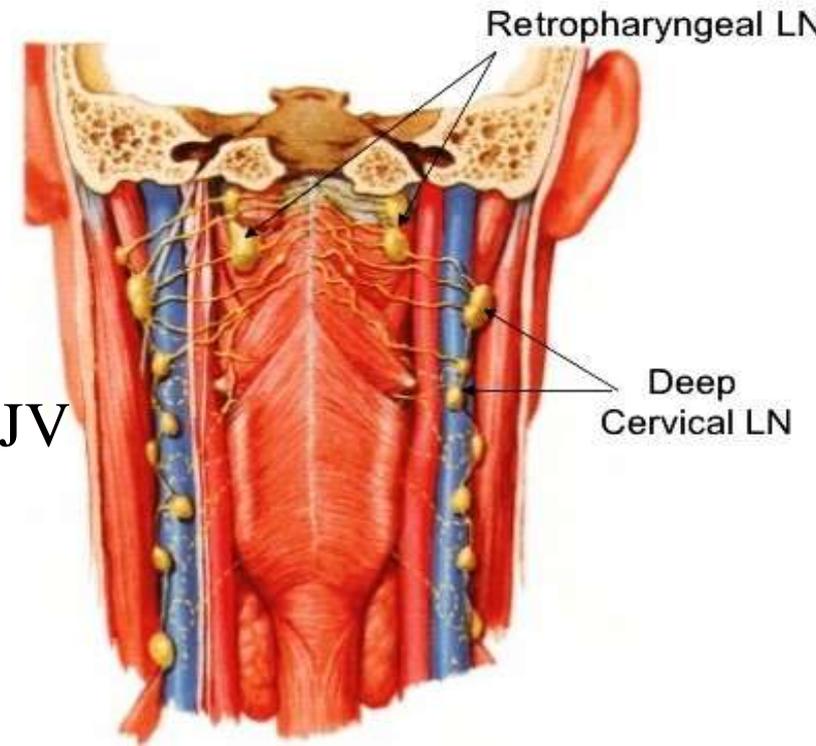
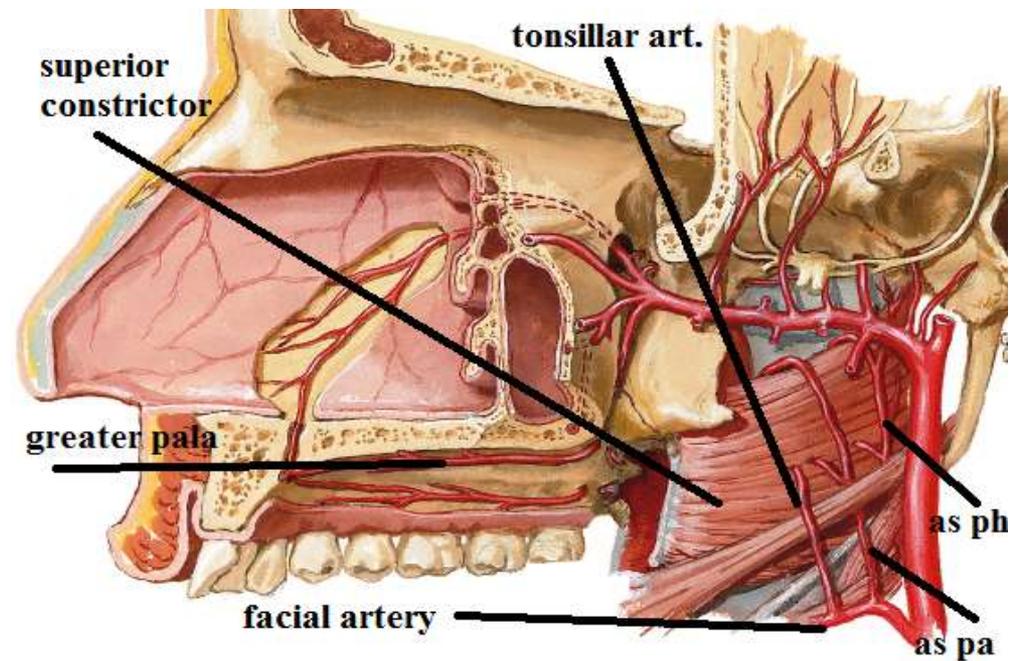
- Pharyngeal br of maxillary art.
- Greater palatine art
- Ascending pharyngeal art.
- Ascending palatine art.
- Tonsillar art
- Sup. Laryngeal art.
- Inf. laryngeal art.

## Venous drainage:

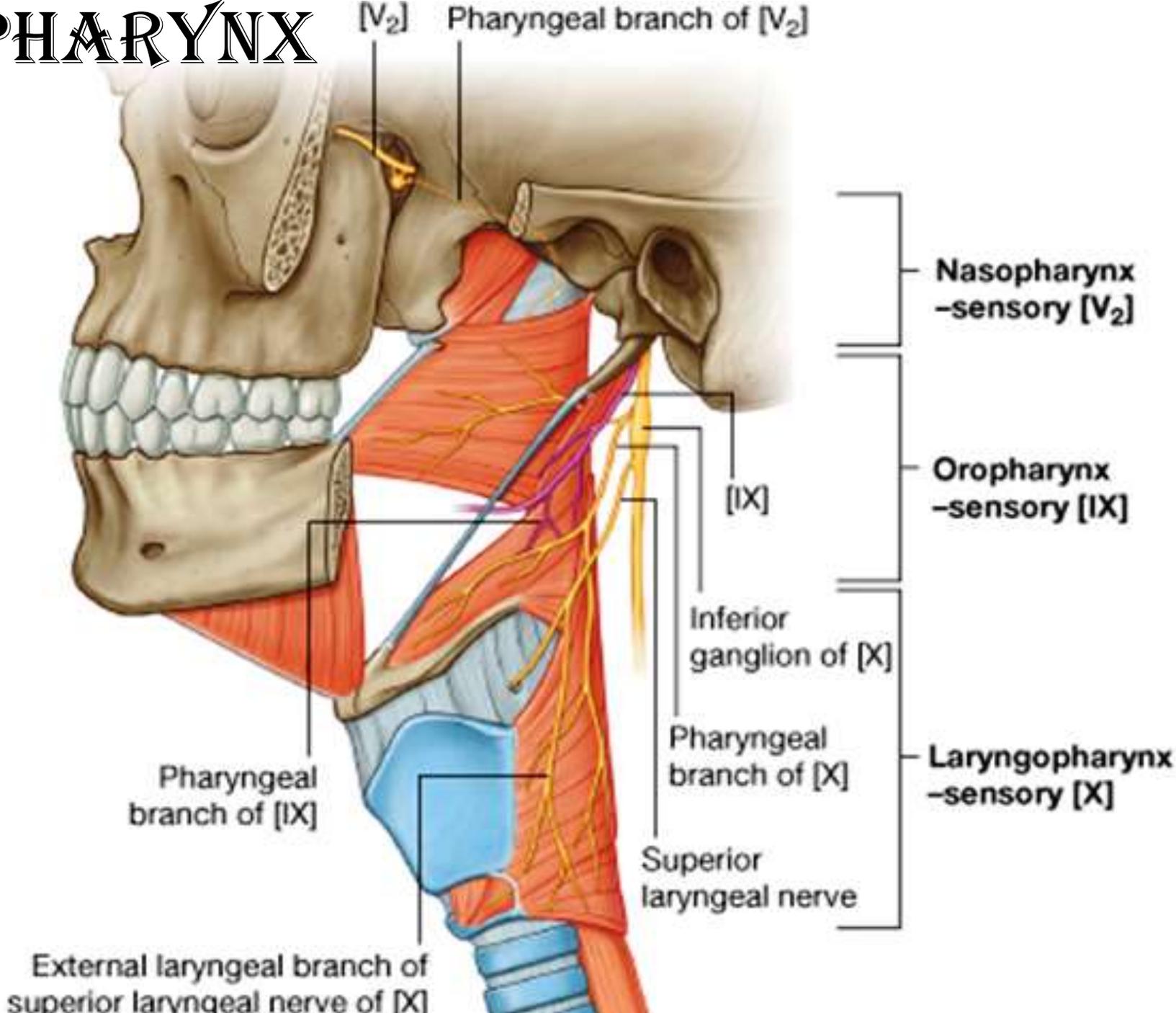
- Veins from pharynx end in the pharyngeal plexus, which drains into IJV

## Lymphatic drainage:

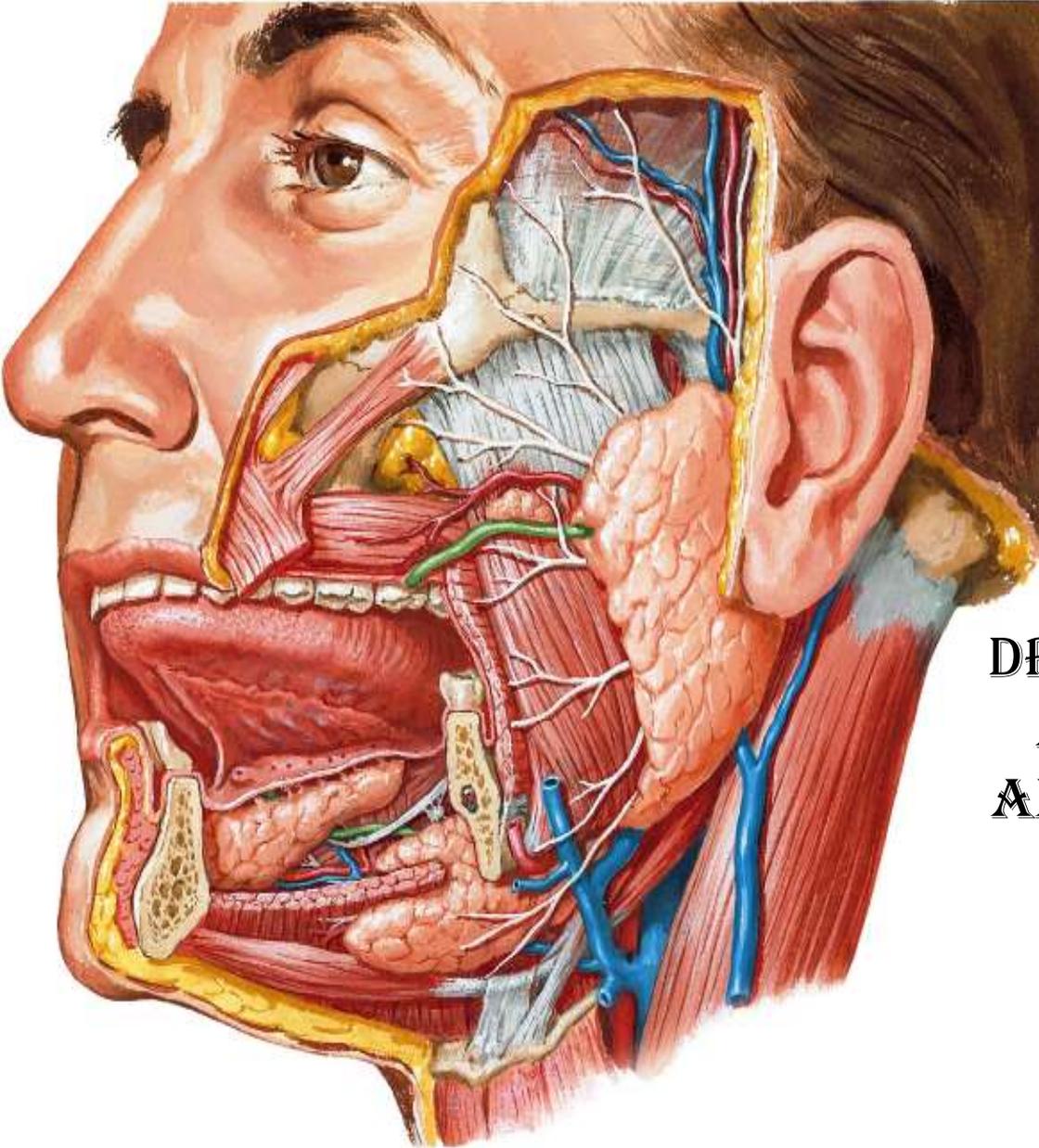
- Retropharyngeal LNs
- Deep cervical LNs



# PHARYNX



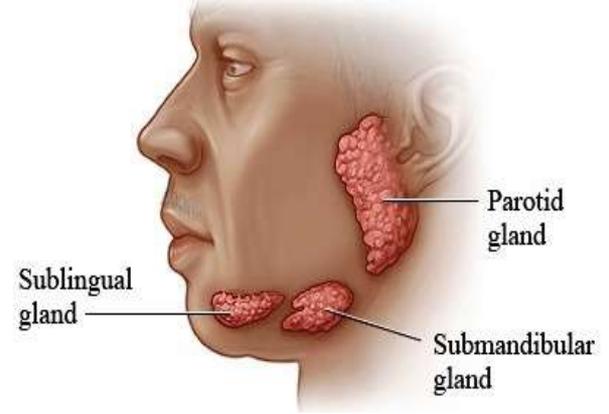
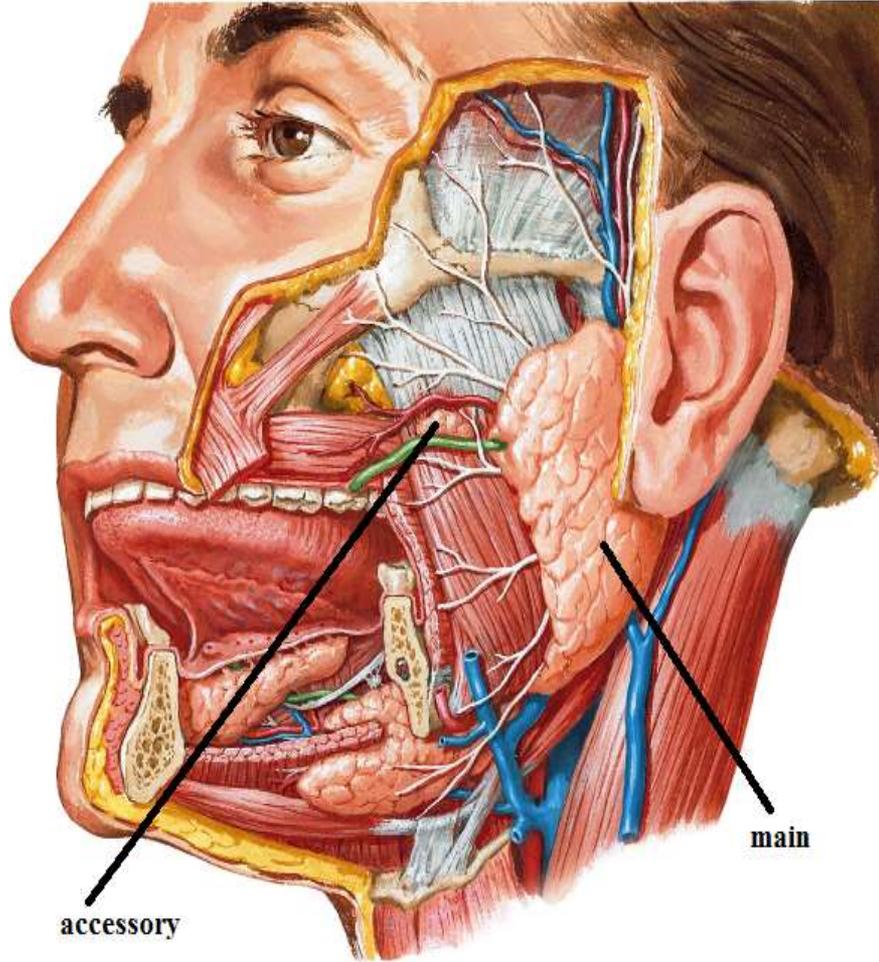
# PAROTID GLAND



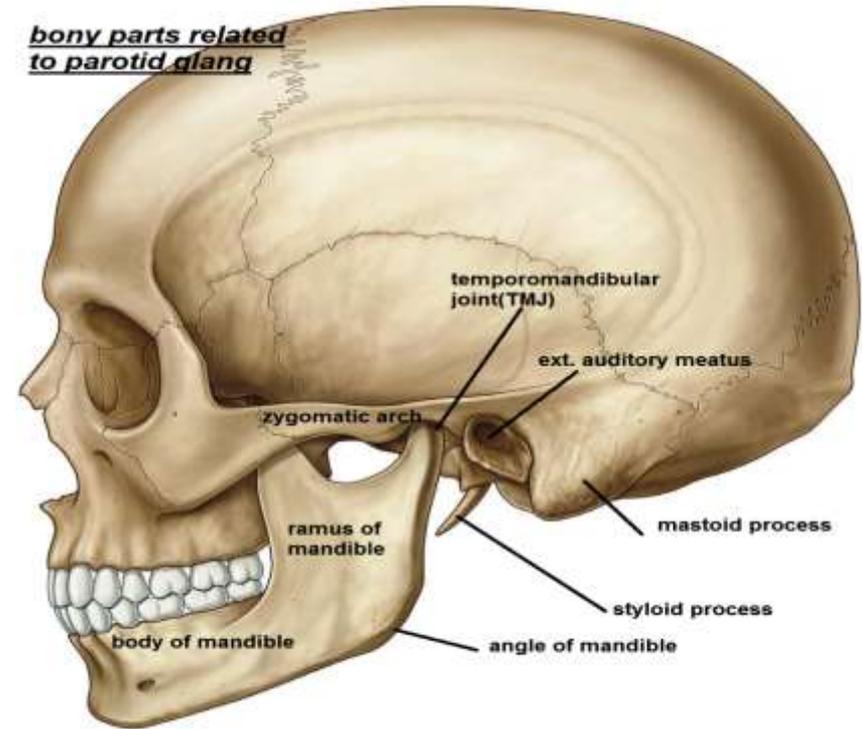
BY

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# PAROTID GLAND



## bony parts related to parotid gland



# PAROTID GLAND

**shape:** inverted 3 sided pyramid with

**2 ends:** upper(base):concave

lower(apex):rounded

**3 surfaces:** lateral (superficial)

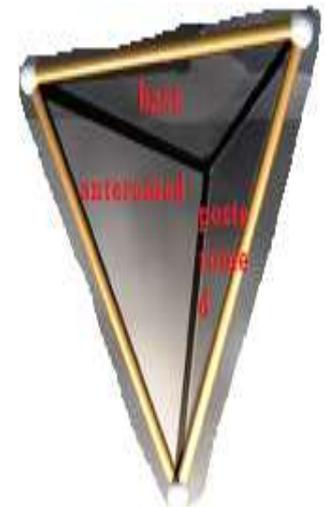
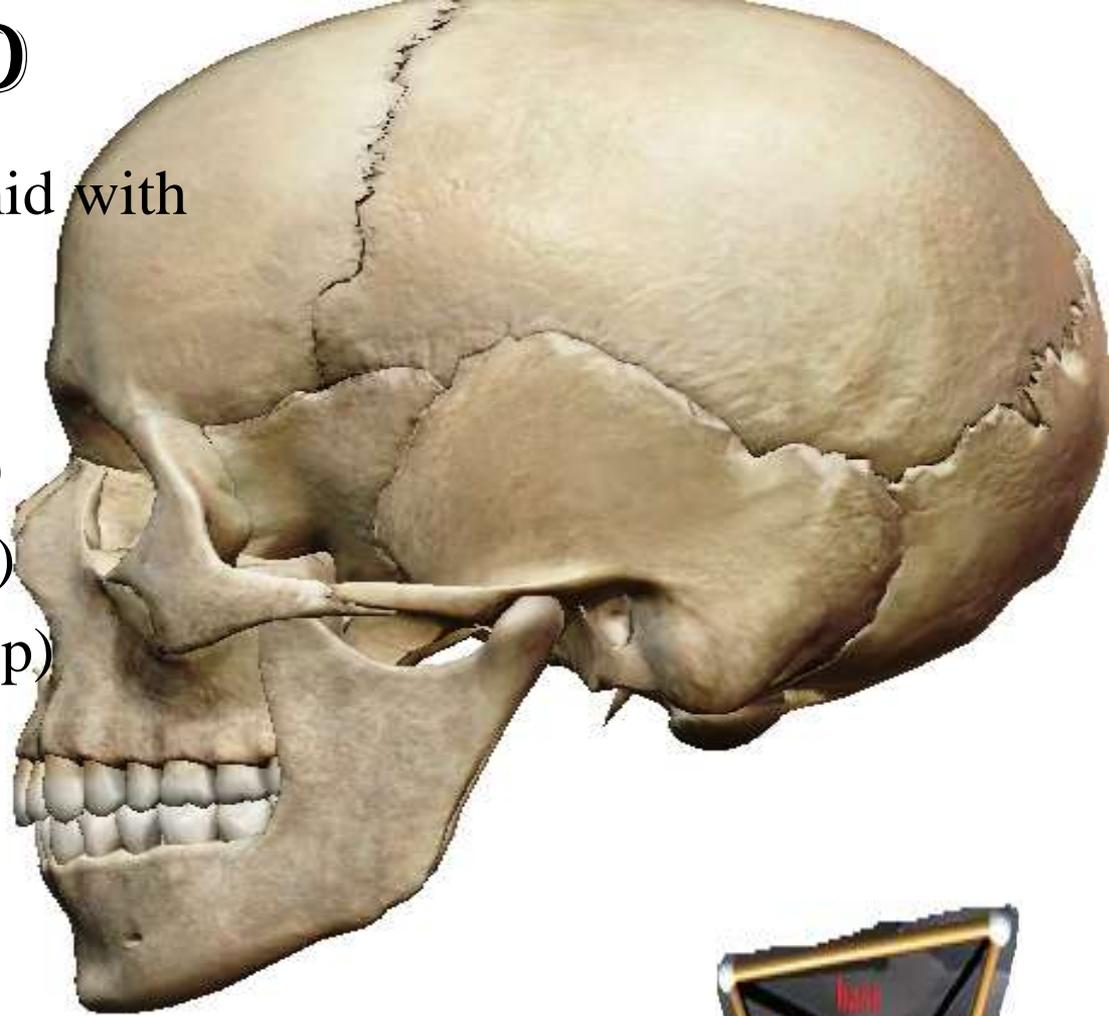
anteromedial (ant.)

posteromedial(deep)

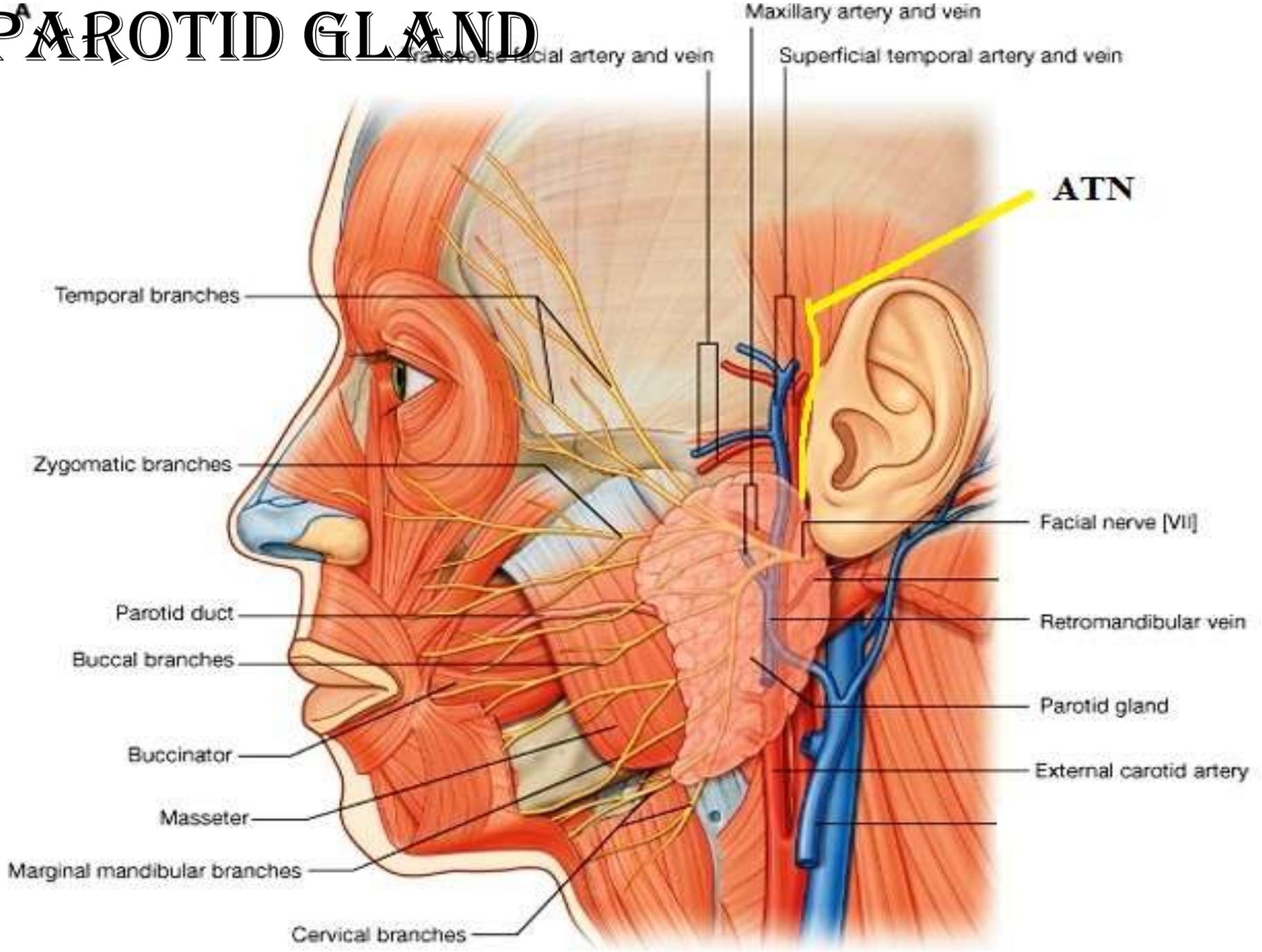
**3 borders:** ant. :convex

post.

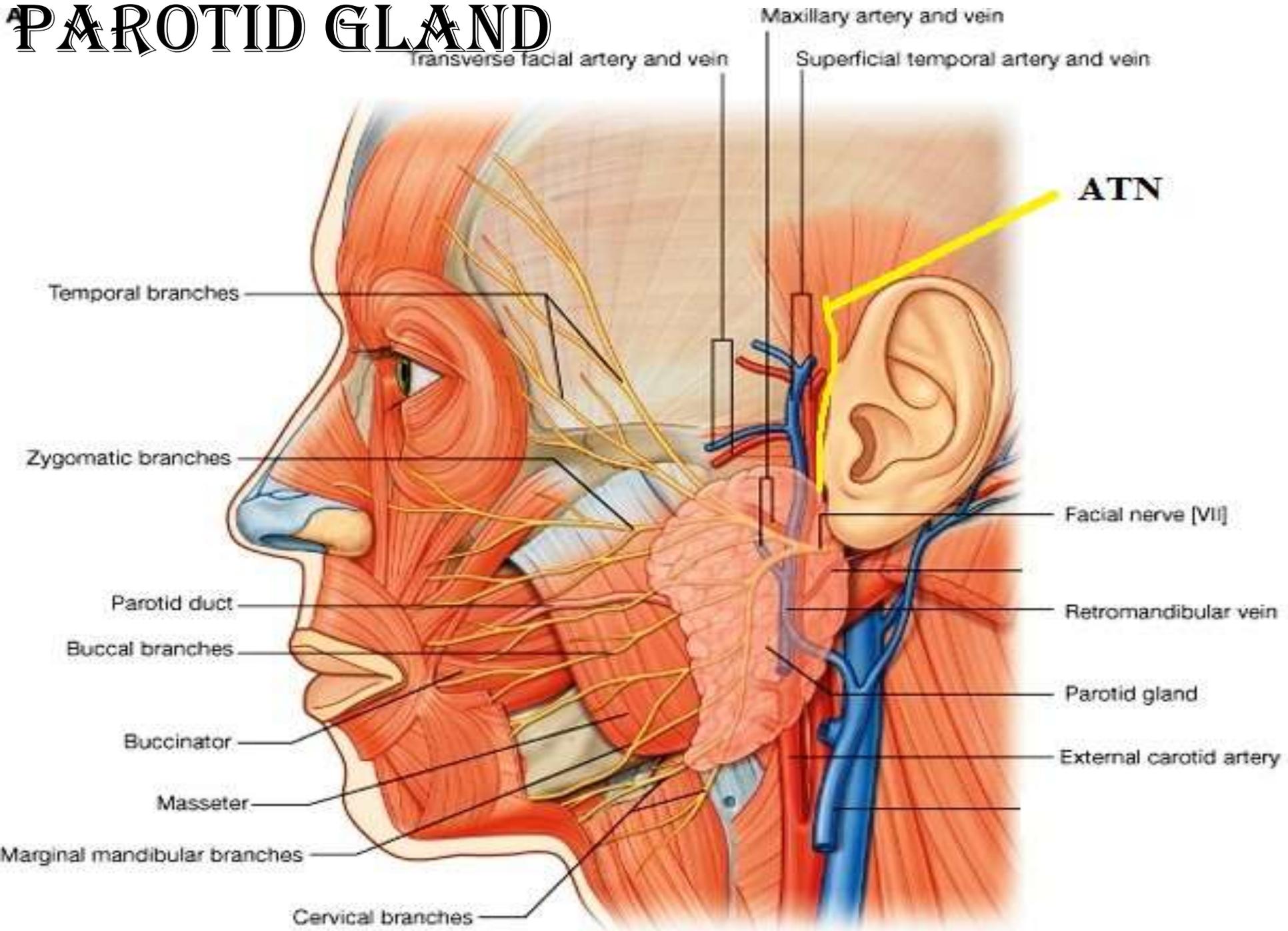
medial



# PAROTID GLAND

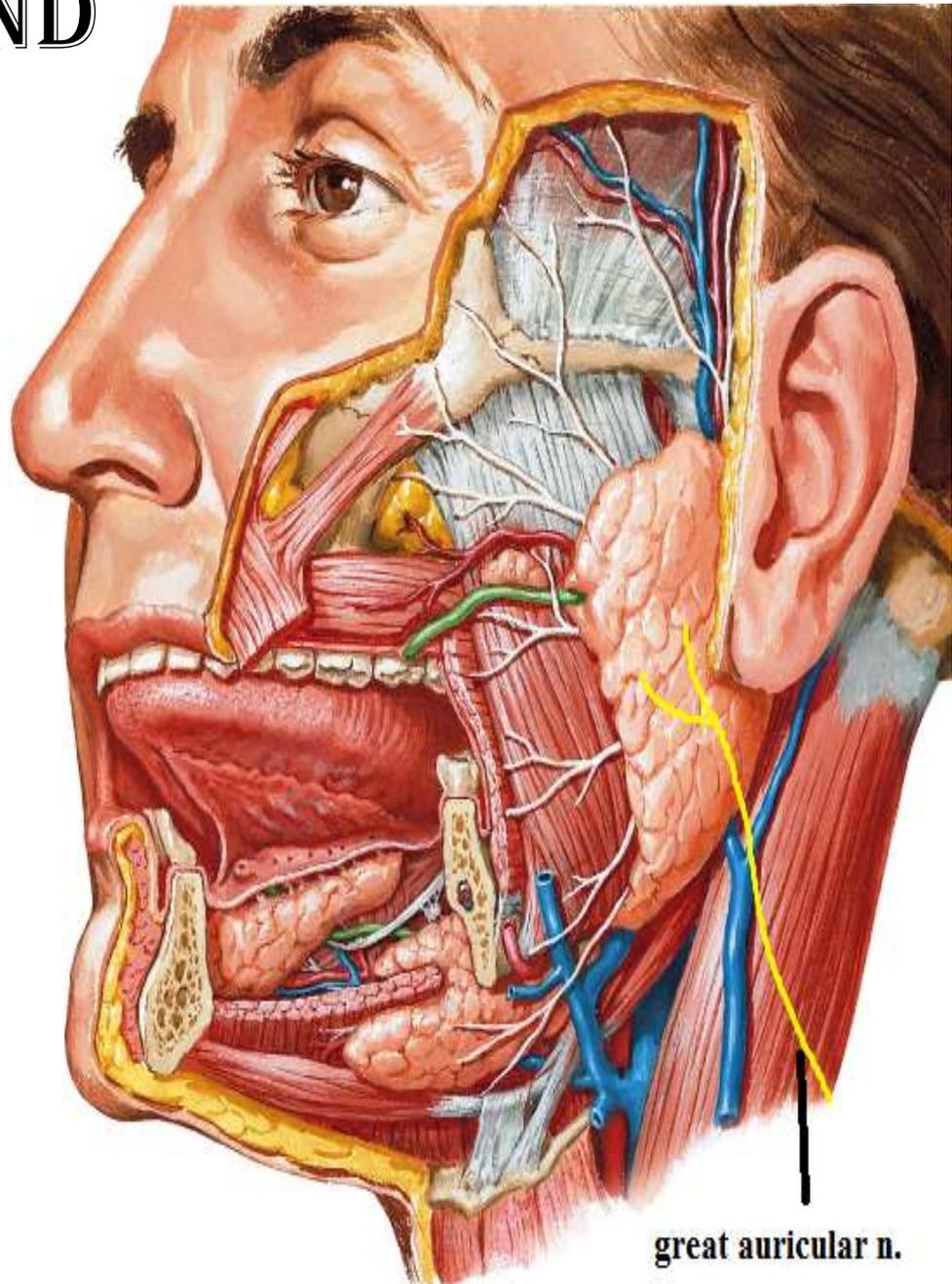
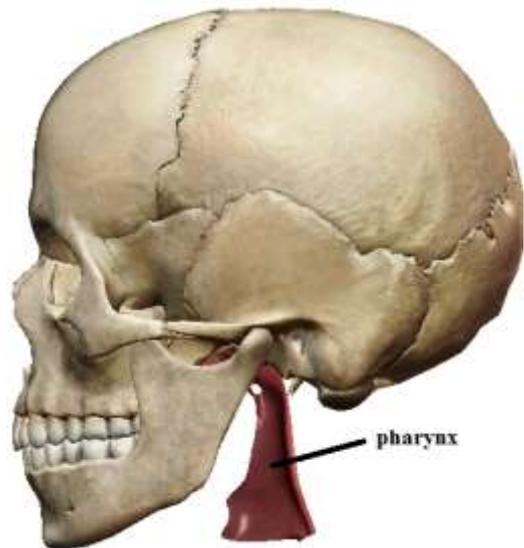


# PAROTID GLAND





# PAROTID GLAND



# PAROTID GLAND

## relations:

anteromedial surface:- related to

1-masseter. 2-ramus of mandible.

3-medial pterygoid

give passage to -maxillary vessels

posteromedial surface: related to

1-mastoid process &

-sternomastoid.-post belly of digastric.

2-styloid process & the attached structures

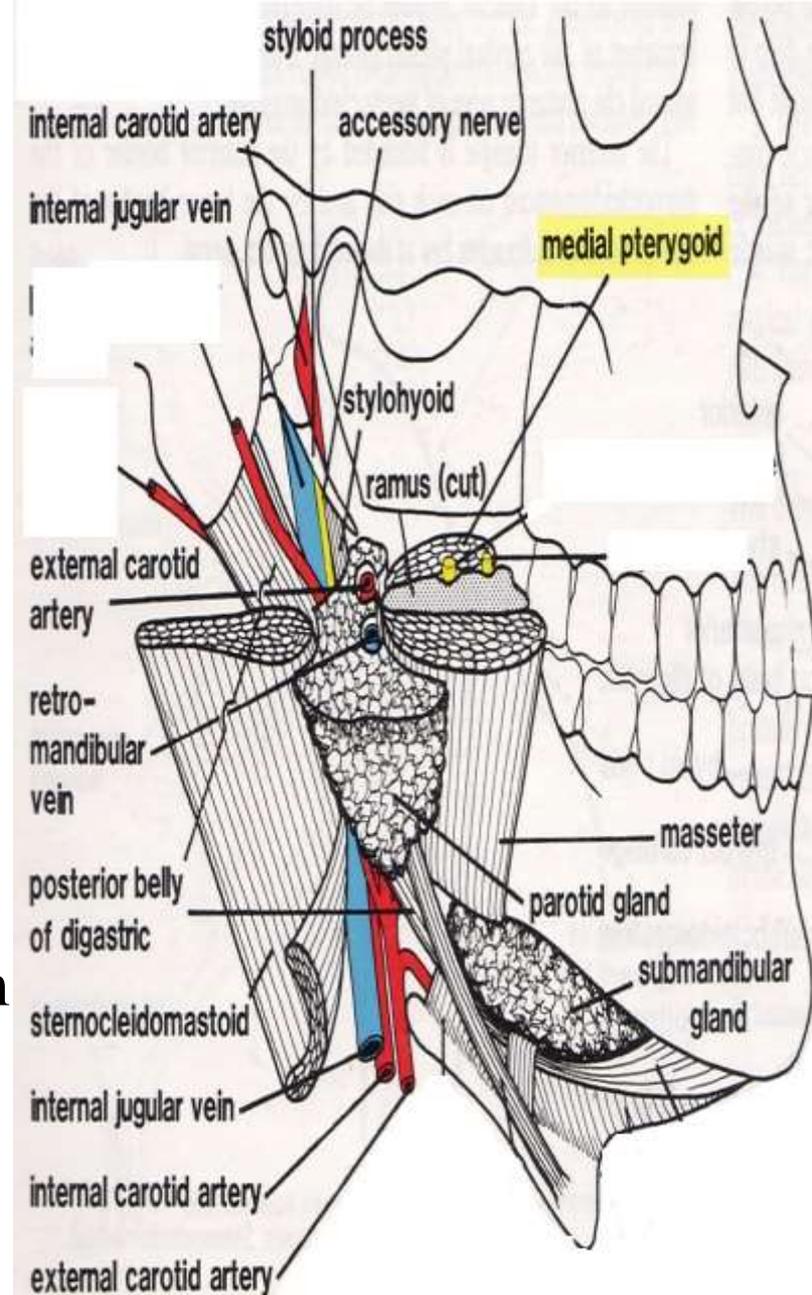
3-styloid process separate the surface from

Carotid sheath with:-int. carotid art.

-int jugular v.

Last 4 nerves:

gives passage to: -facial n. & -ext. carotid art.



# PAROTID GLAND

## Surface anatomy:

main part: 4 points:

1-at head of mandible in front tragus.

2-center of mastoid.

3-point below & behind angle of mandible by 2 cm

4-center of masseter.

upper end: Line Concave upward between 1 & 2.

post. border: Line between 2 & 3

lower end: 3

ant. border: line between 3,4 & 1

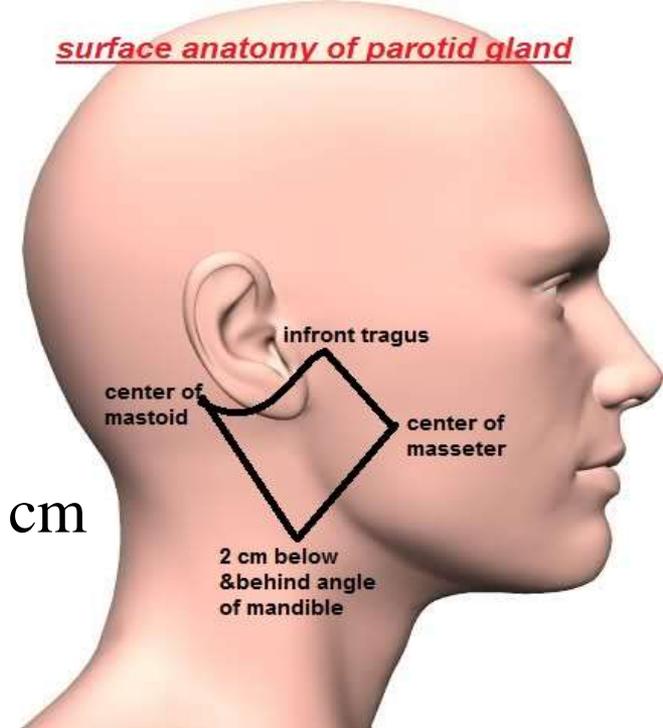
## parotid duct:

middle 1/3 of line between

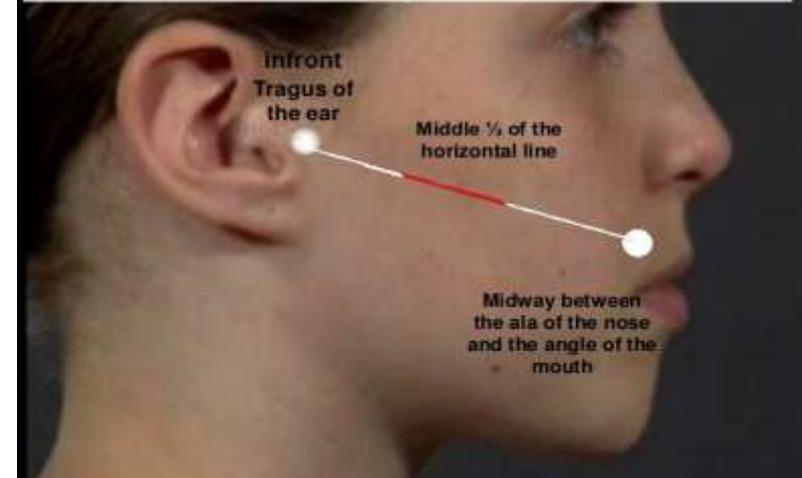
-tragus.

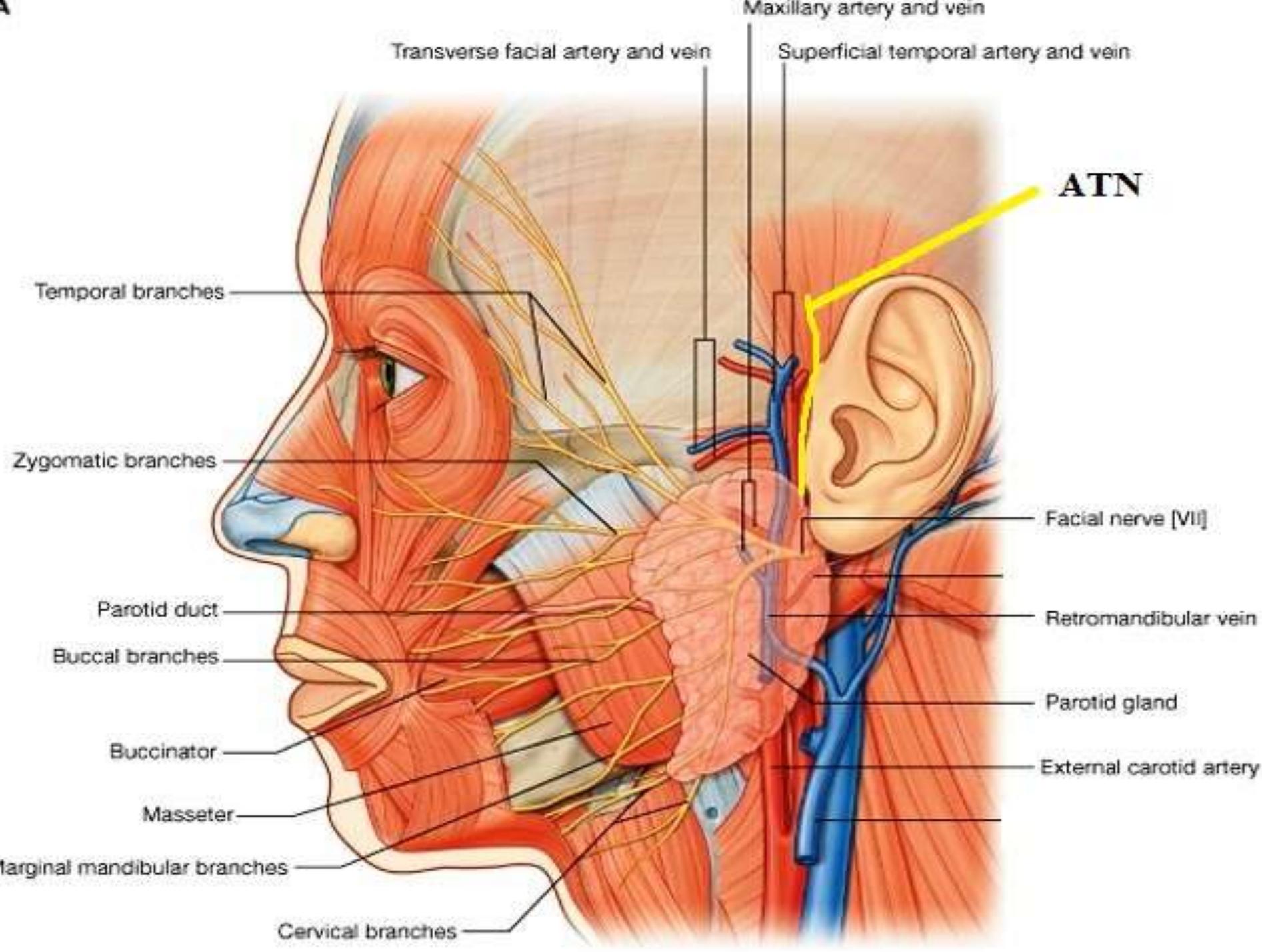
-point midway between ala of nose & angle of mouth.

## surface anatomy of parotid gland



## Surface Anatomy of Parotid Duct





# PAROTID GLAND

nerve supply:

branches from otic ganglion

these branches contain 3 types of fibers:

**sensory:** from auriculotemporal n.

**sympathetic:** from middle meningeal plexus

**parasym.** (secretomotor, secretory):

from lesser petrosal n.

from tympanic br. of glossopharyngeal n.

from inferior salivary nucleus

these fibers pass from otic ganglion to parotid gland through auriculotemporal n.

N. B: the capsule of the gland is supplied by great auricular n.

