

Pharynx

The pharynx is a 12 cm funnel-shaped tube with its upper wide part 2.5 cm situated under the base of the skull.

Its lower narrow part 1.8 cm continues as the esophagus at the level of the Sixth Cervical Vertebra (or lower border of Cricoid Cartilage).

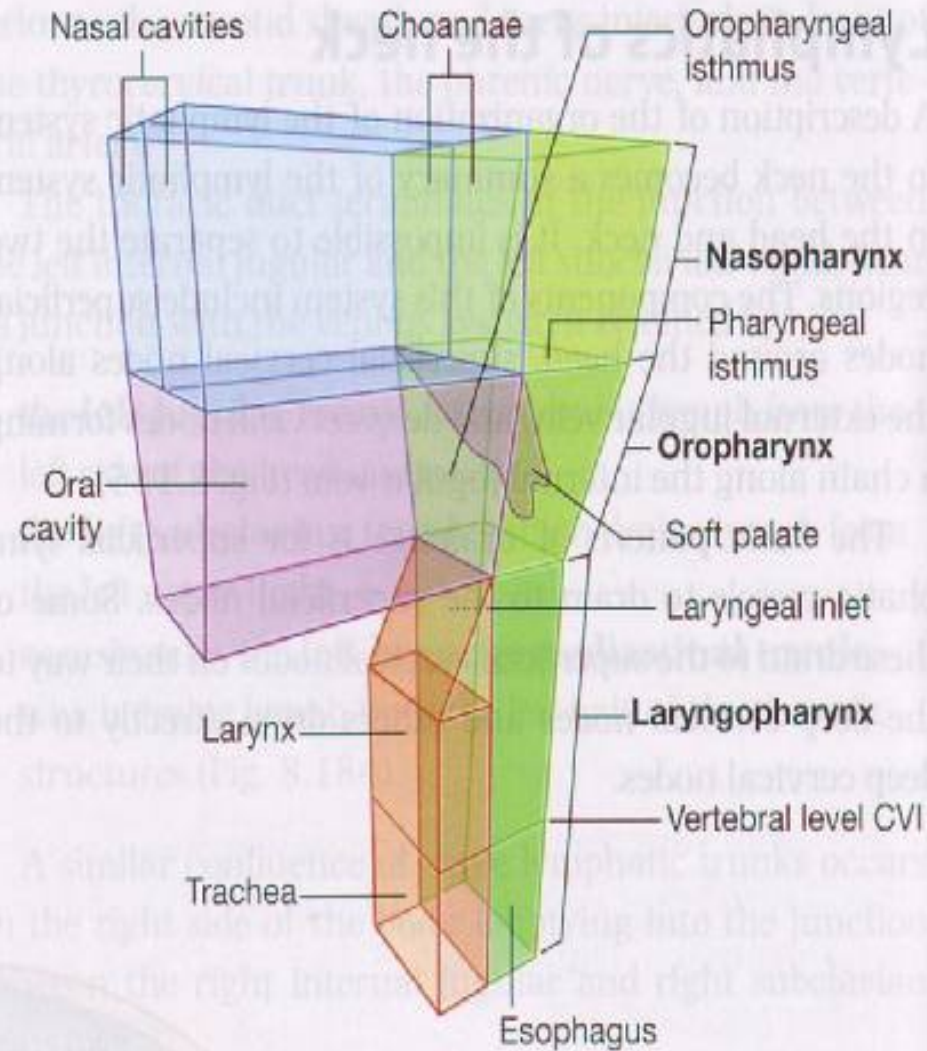


Fig. 8.186 Pharynx.

It lies behind the nasal cavity, oral cavity and larynx.

Its wall is deficient anteriorly where the nose, mouth and larynx open into it.

It is a passage for food, and air so it is connected with nose, mouth, trachea, and esophagus.

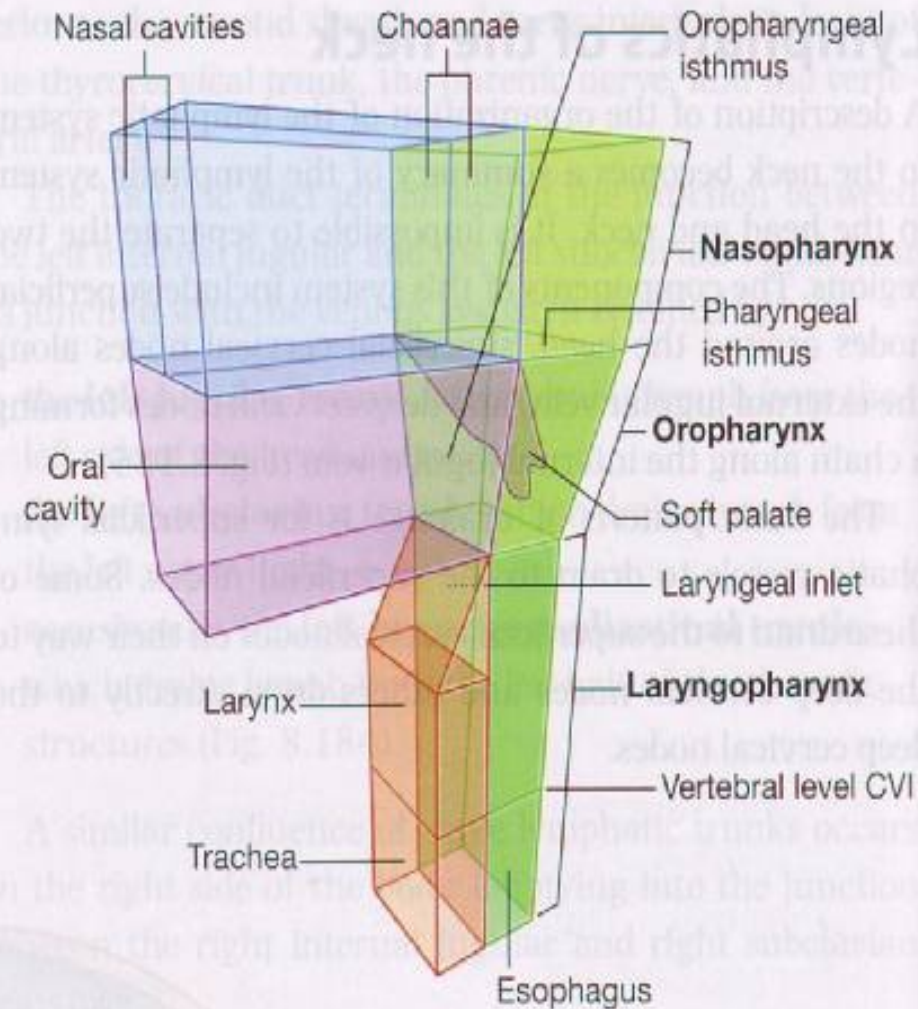


Fig. 8.186 Pharynx.

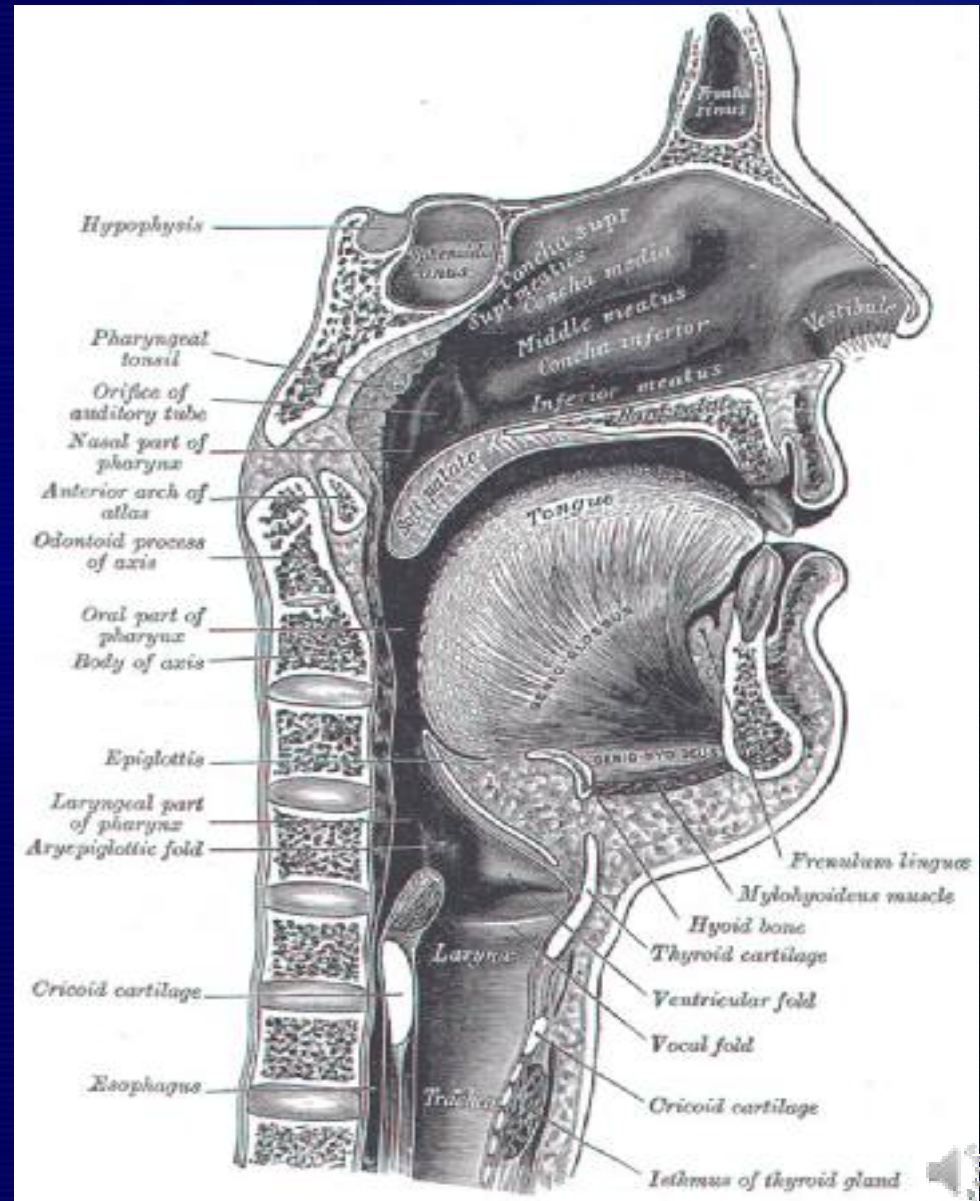
Walls of Pharynx

Ant. :

Deficient
Communicates with Nose ,
Mouth, larynx.

Lat. & Post. Walls:

1. Mucous memb.
2. Fibrous covering (2).
3. Muscles



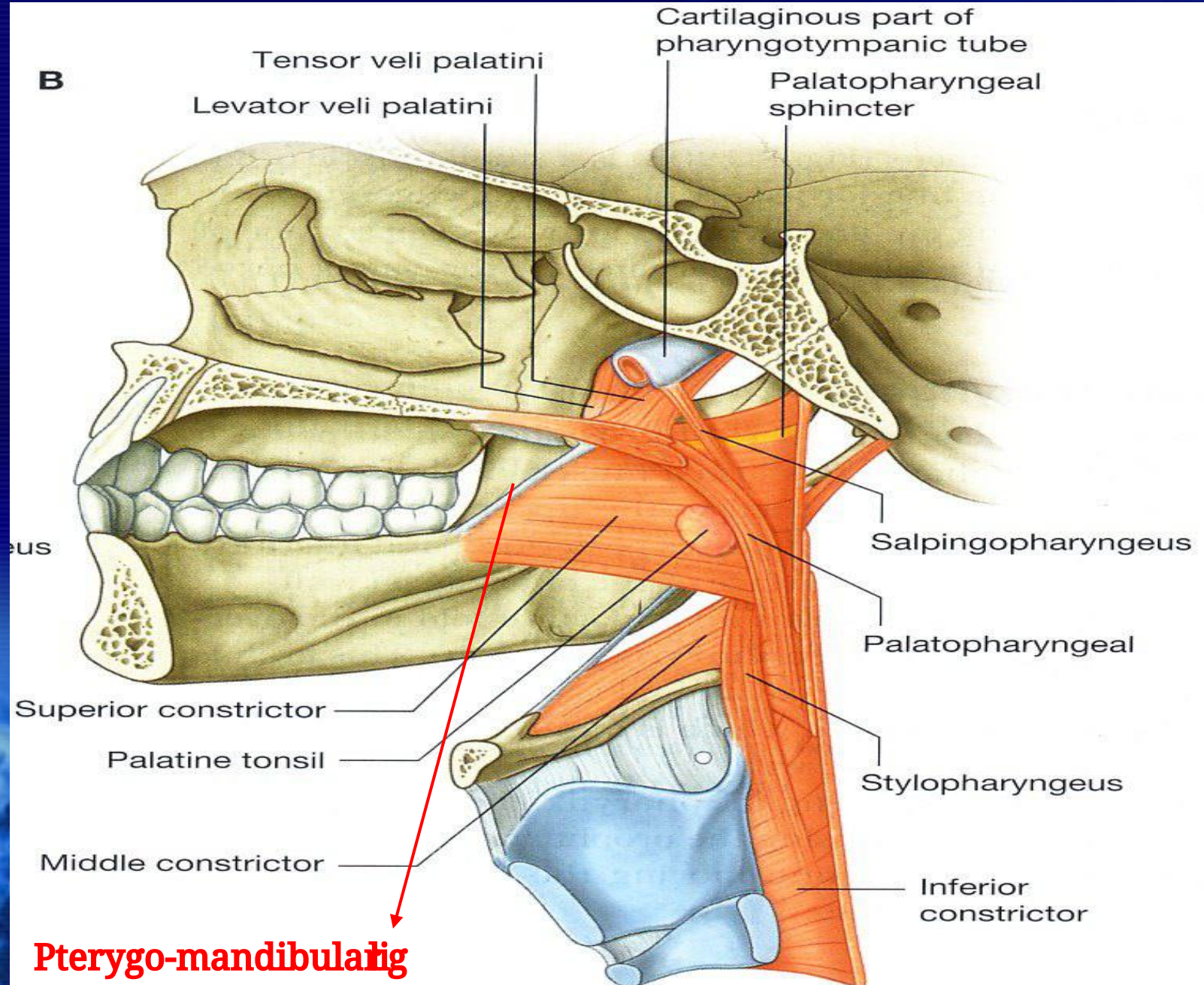
Muscles of the pharynx

- Are arranged into two directions:

Outer Circular the Three constrictors
(superior, middle and inferior).

Inner Longitudinal the *Three* pharyngeus
(Stylo - pharyngeus Salpingo - pharyngeus
and Palato-pharyngeus).

B



Muscles of the pharynx

They are all supplied by Pharyngeal Plexus (cranial part of accessory nerve through Vagus nerve), except Stylopharyngeus Glossopharyngeal n

They work during swallowing, the constrictors make rapid peristaltic wave to propel the bolus to the esophagus, and the longitudinal muscles elevate the larynx during swallowing

Muscles of Pharynx

6 Muscles

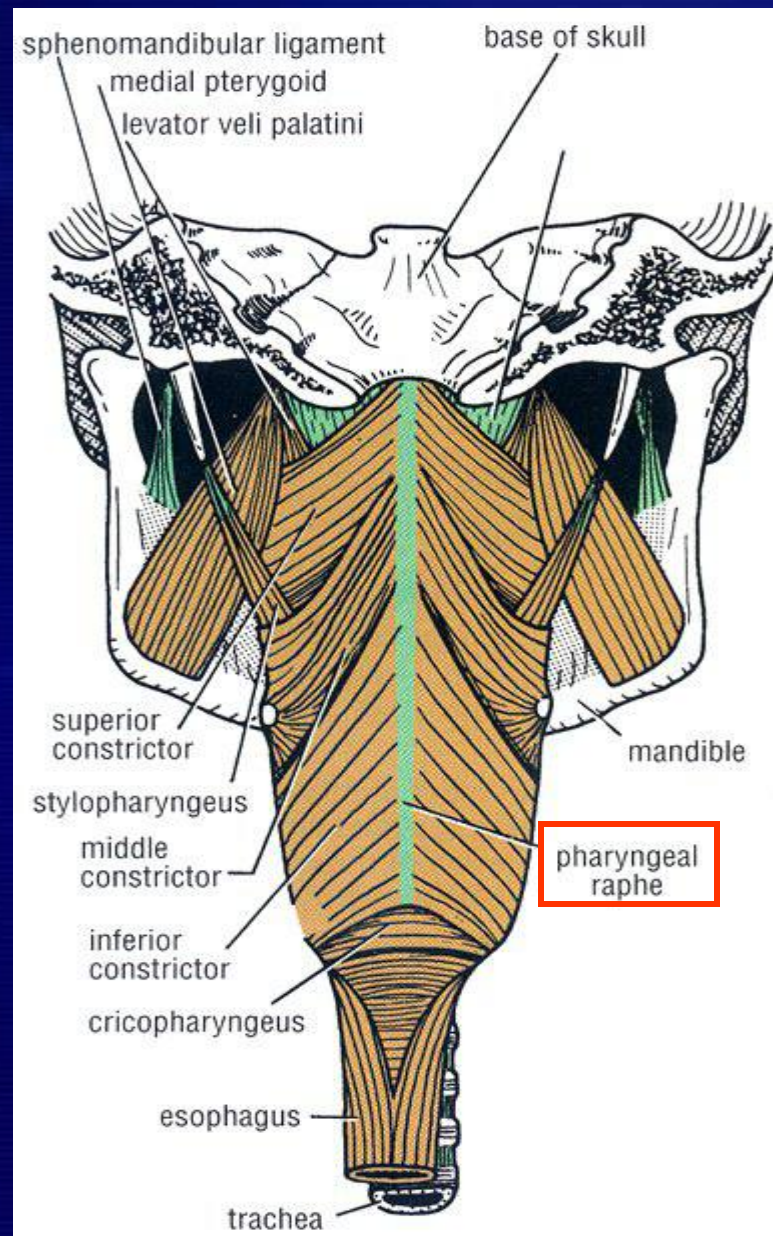
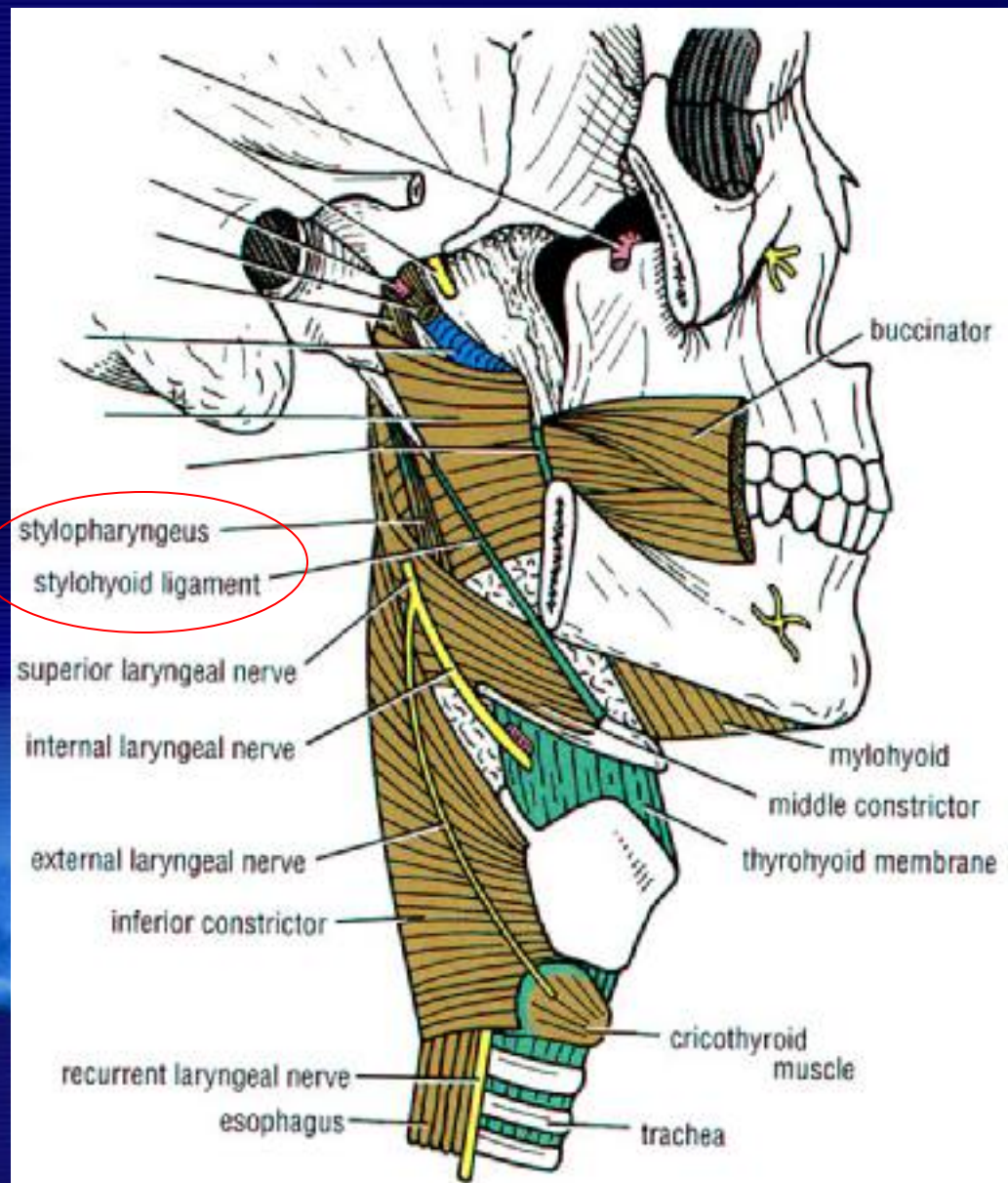
3 Constrictors: (Sup., Mid. & Inf).

Run in circular direction & attached posteriorly
Pharyngeal Raphe.

They lie on the side wall and posterior wall of pharynx.

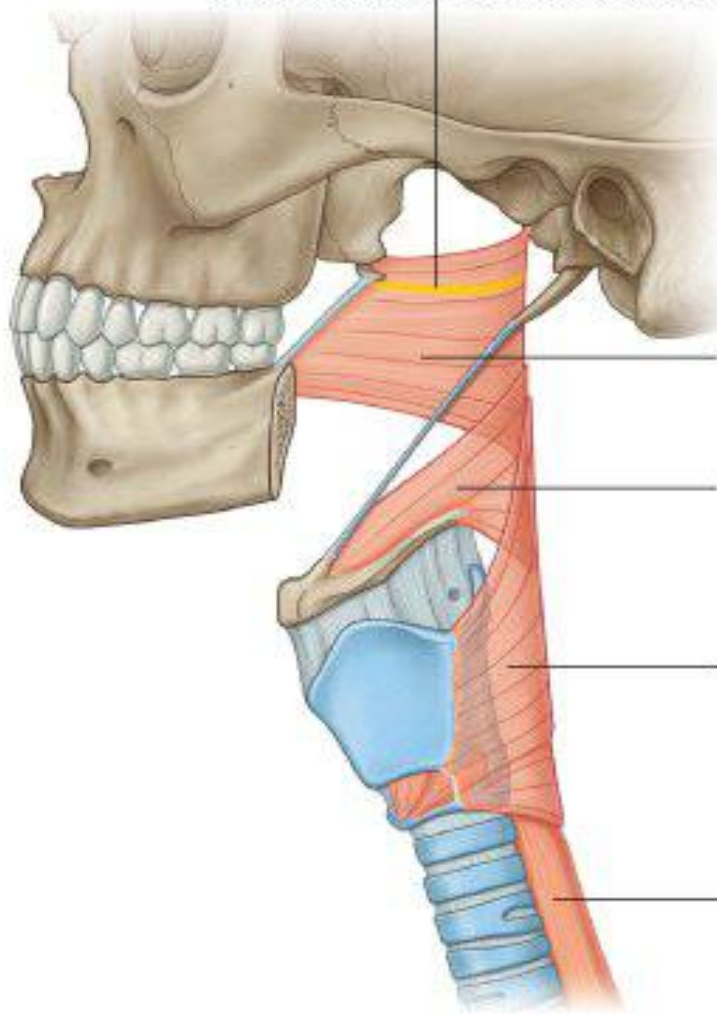
The Successive contraction of these muscles produces the action of Swallowing.

Overlap each other in the direction of midline.



A

Position of palatopharyngeal sphincter
on deep surface of superior constrictor



Superior constrictor

Middle constrictor

Inferior constrictor

Esophagus

B

Pharyngeal fascia

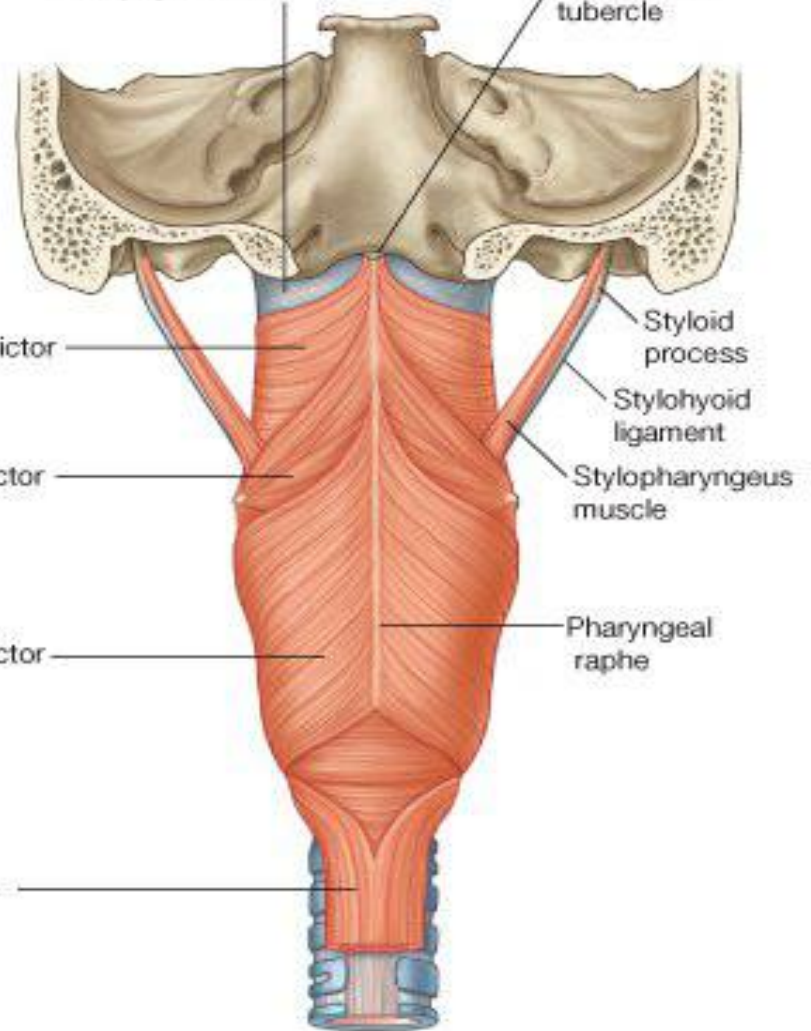
Pharyngeal
tubercle

Styloid
process

Stylohyoid
ligament

Stylopharyngeus
muscle

Pharyngeal
raphe



3. Stylopharyngeus m.:

Styloid process post. Border
of thyroid cartilage pass between
sup, mid constr

Innervation Glossopharyngeal

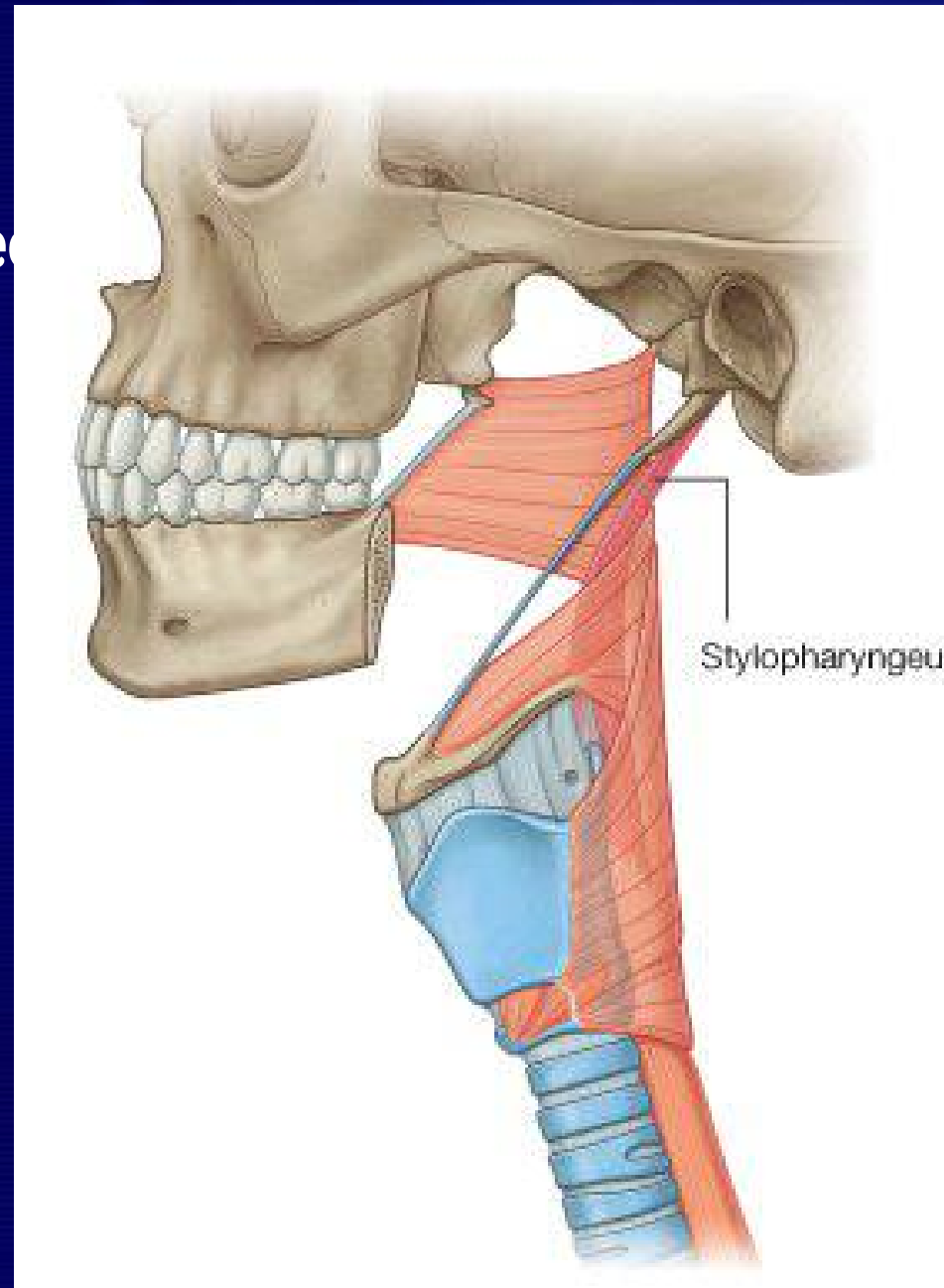
4. Palatopharyngeus m.:

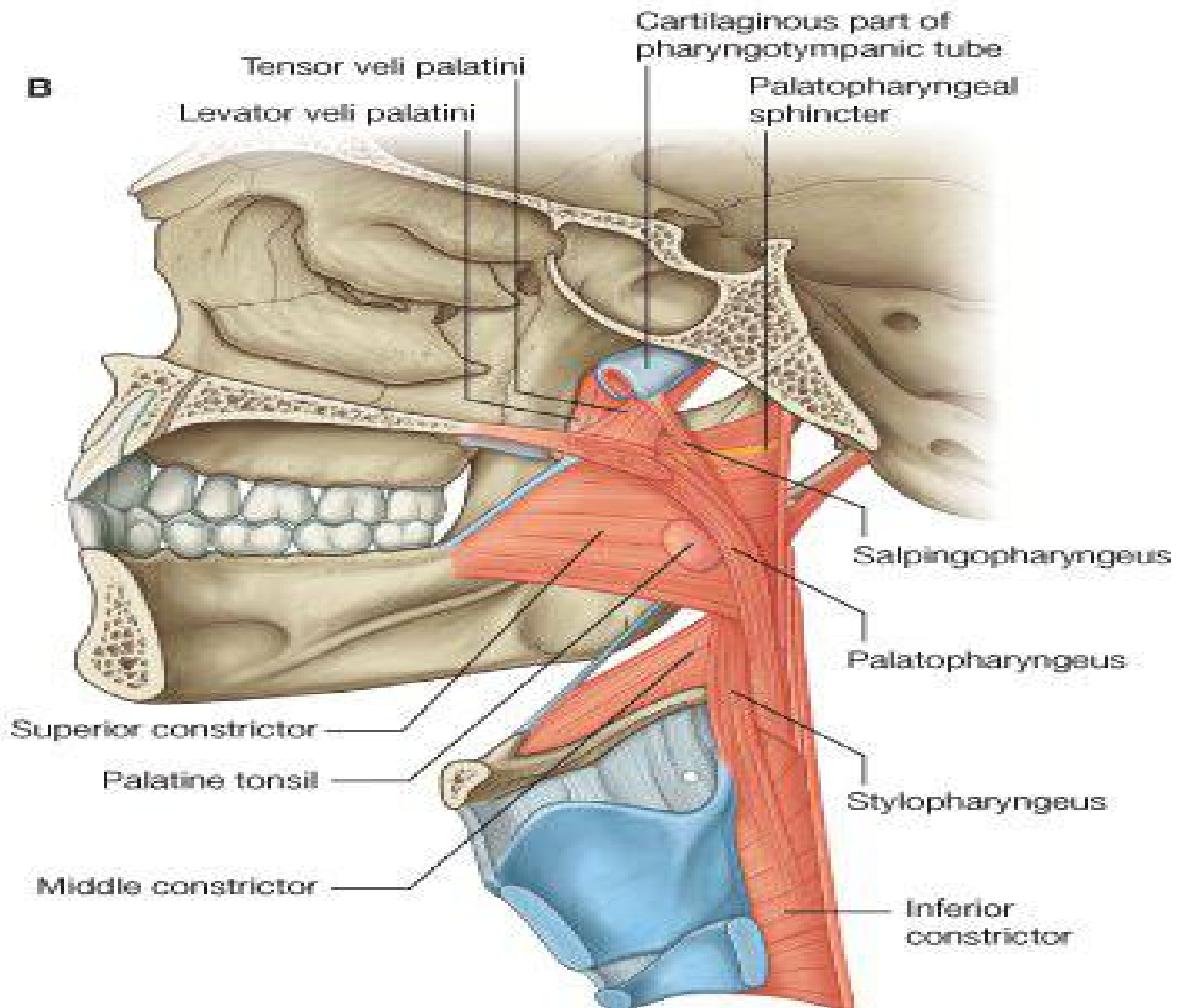
Palatine apoph. thyroid cart
Palato-pharyngeal fold

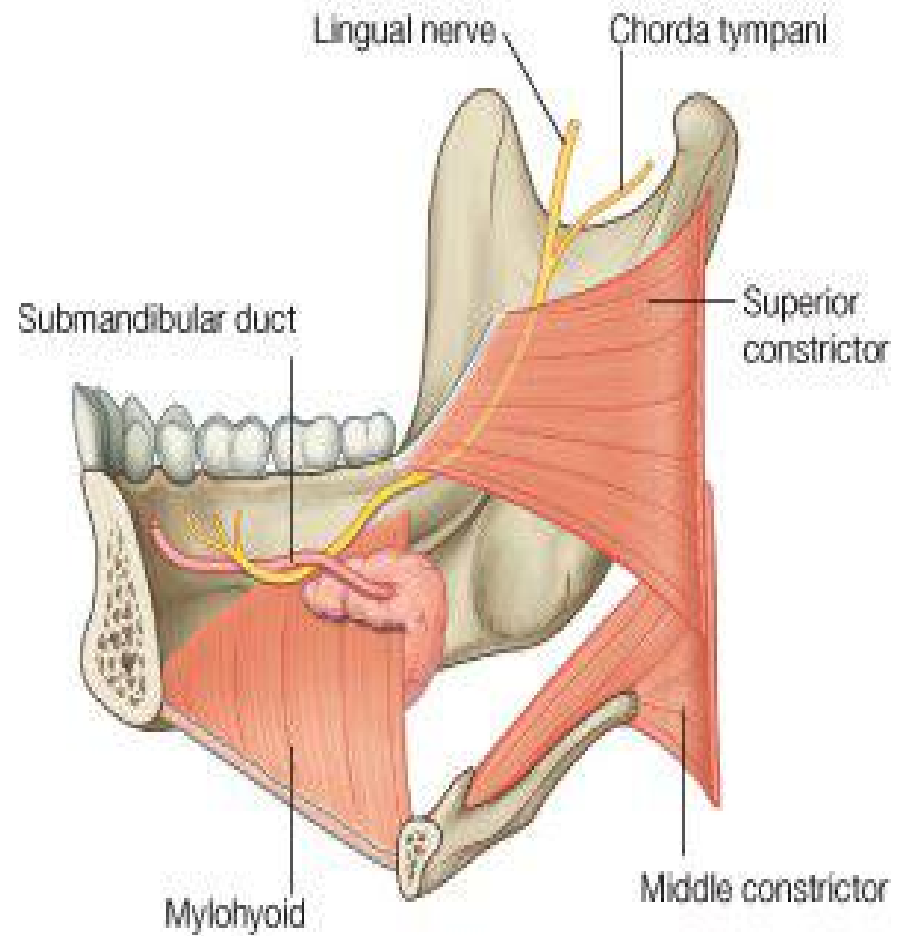
5. Salpingopharyngeus m.:

Auditory tube (medial end)

Blends with thyroid cart







Nasopharynx

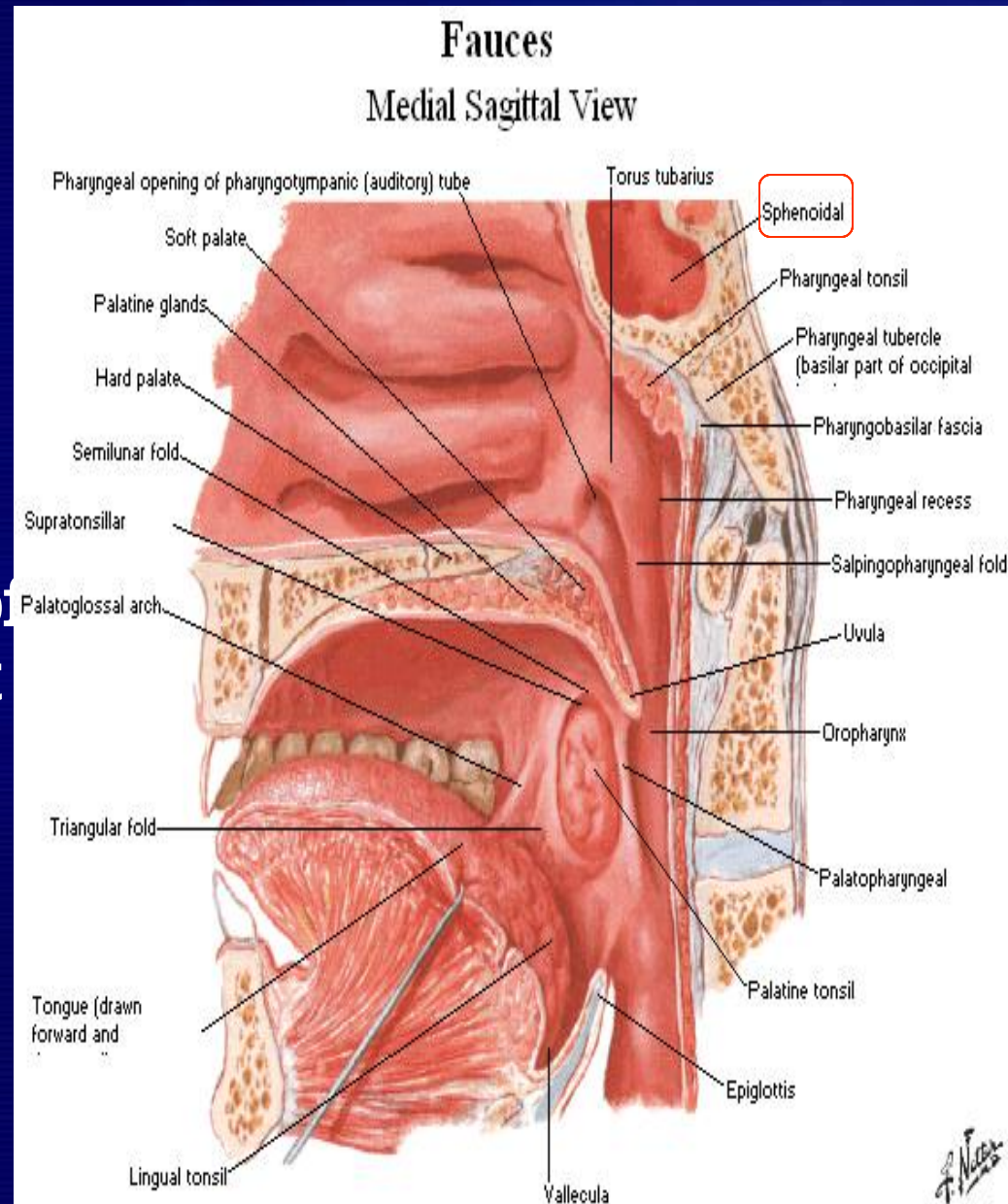
Extends from the base of the skull to the lower border of Atlas Vertebra.

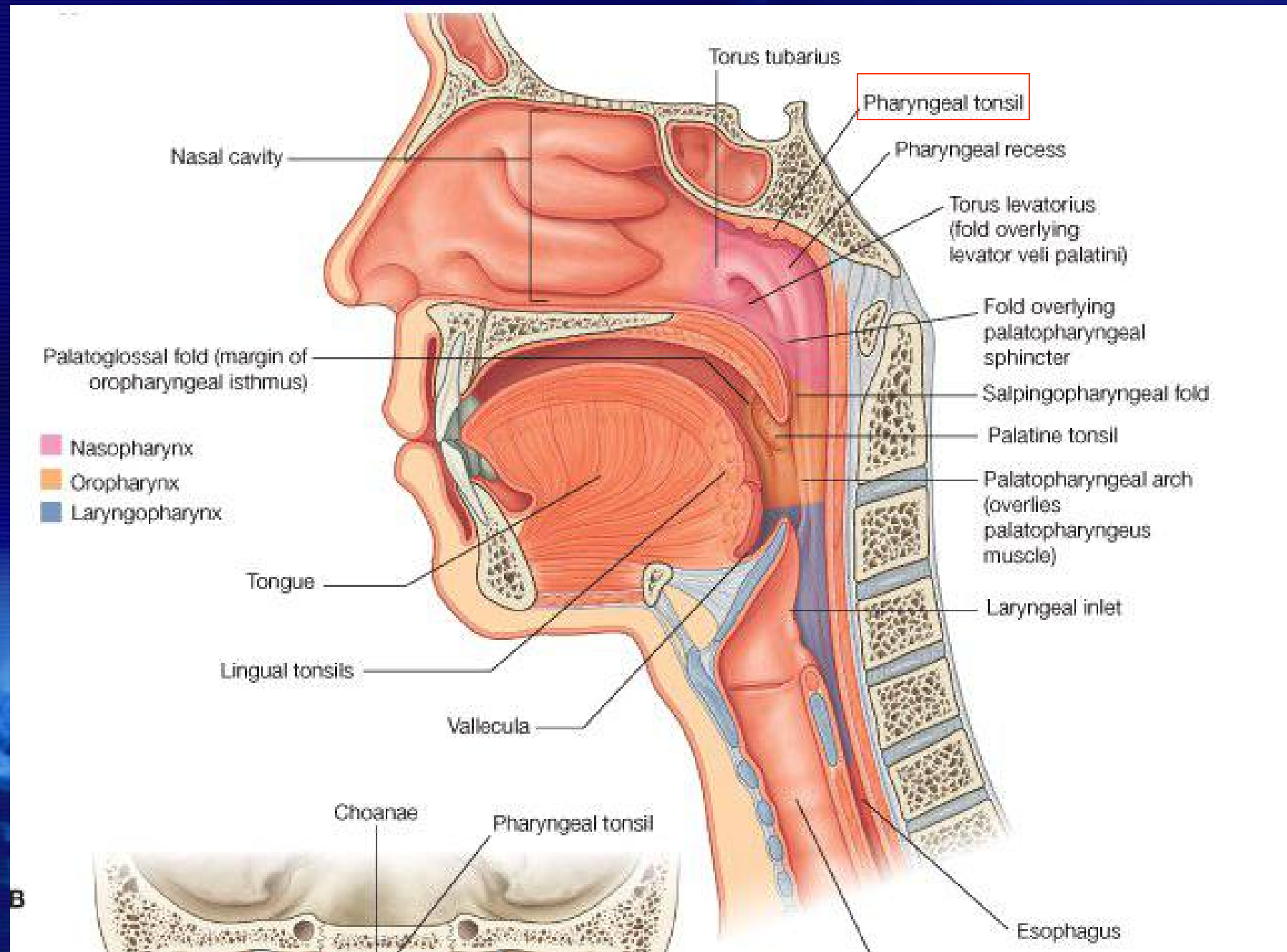
Boundaries:

Roof: supported by body of Sphenoid and Basilar part of Occipital bone .

It has the Pharyngeal Tonsils in its Submucosa.

Floor: Sloping upper surface of the soft palate

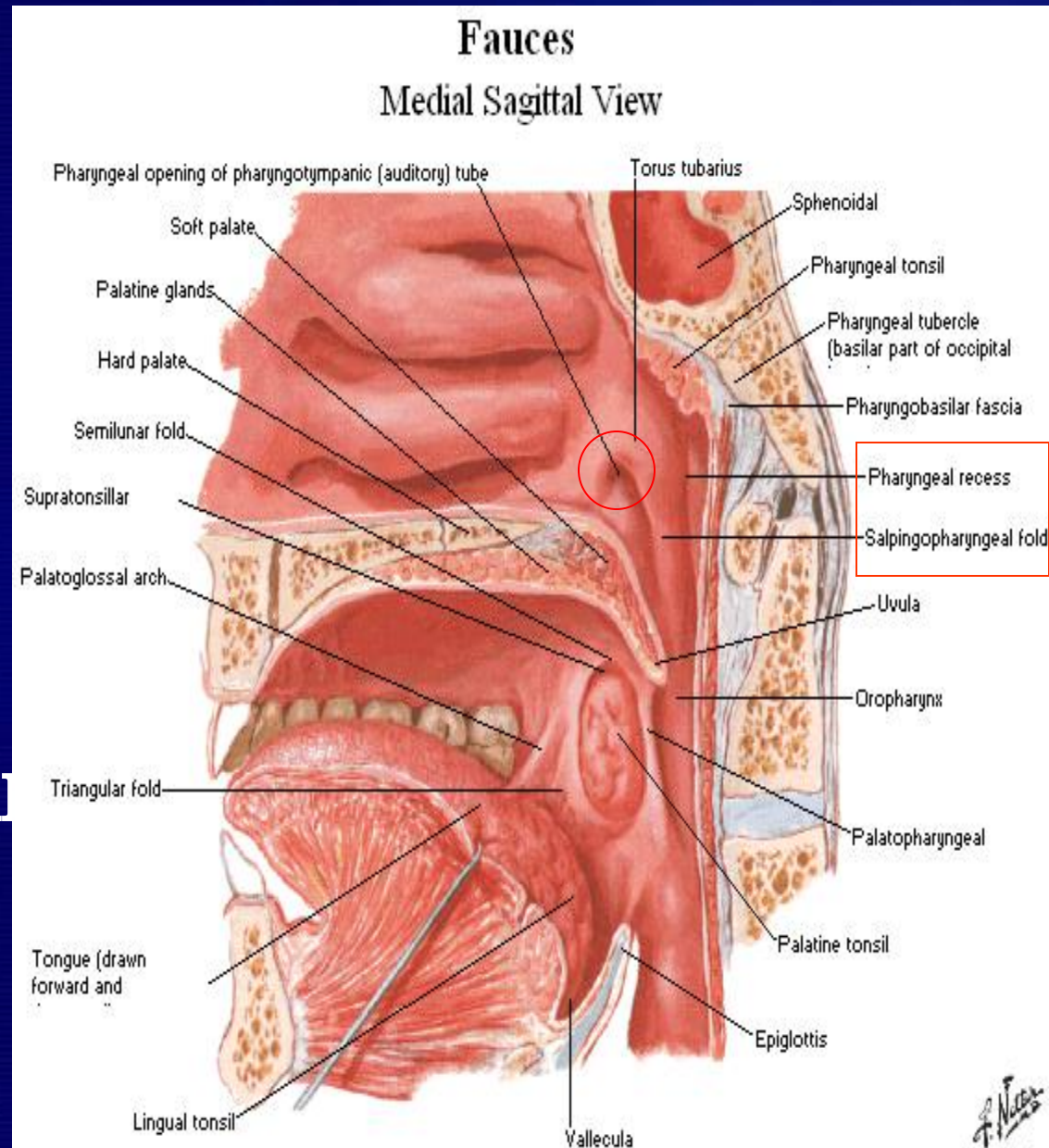




Boundaries:
Anterior wall posterior
nasal aperture.

Posterior wall:
supported by the
anterior arch of atlas.

Lateral wall has the
pharyngeal opening of
the auditory tube, tubal
elevation,
salpingopharyngeal
fold and pharyngeal
recess.

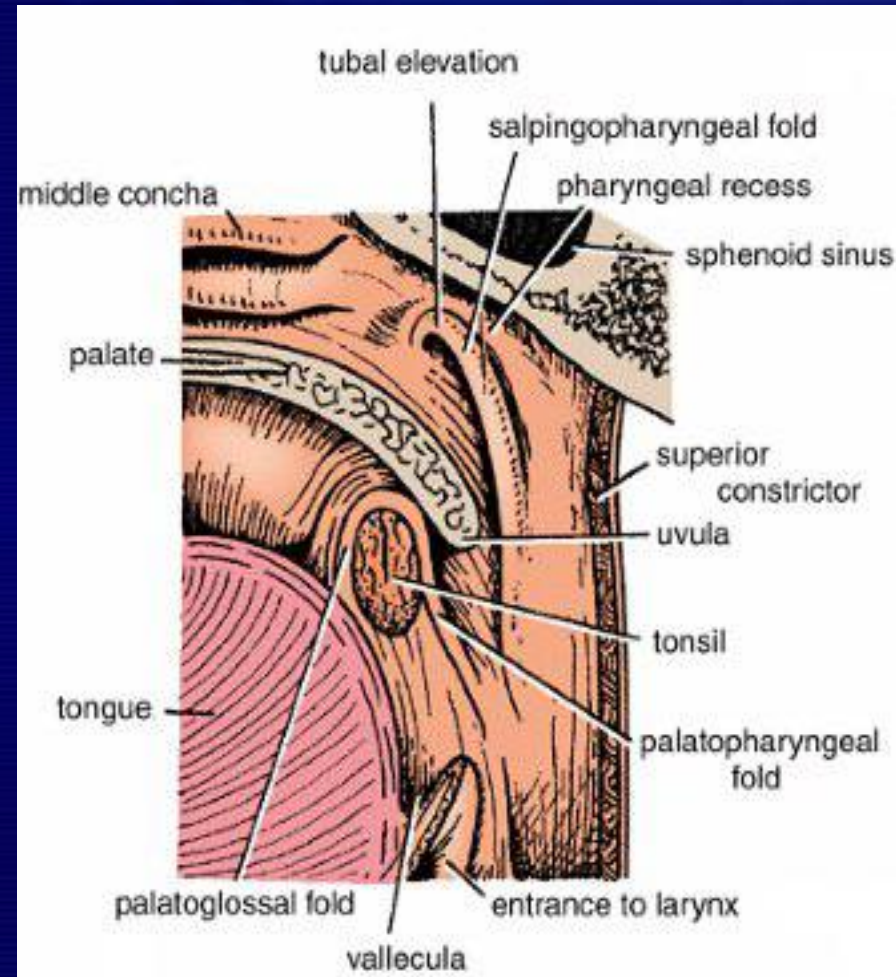


Oropharynx

Post. To oral cavity & opens to it
Through Oropharyngeal isthmus
The floor is made by:
post. 1/3 of tongue & epiglottis
Contains:

Palatine tonsils:

Between anterior and posterior
pillar
over sup. Constrictor m.
tonsillar bed



Oropharynx

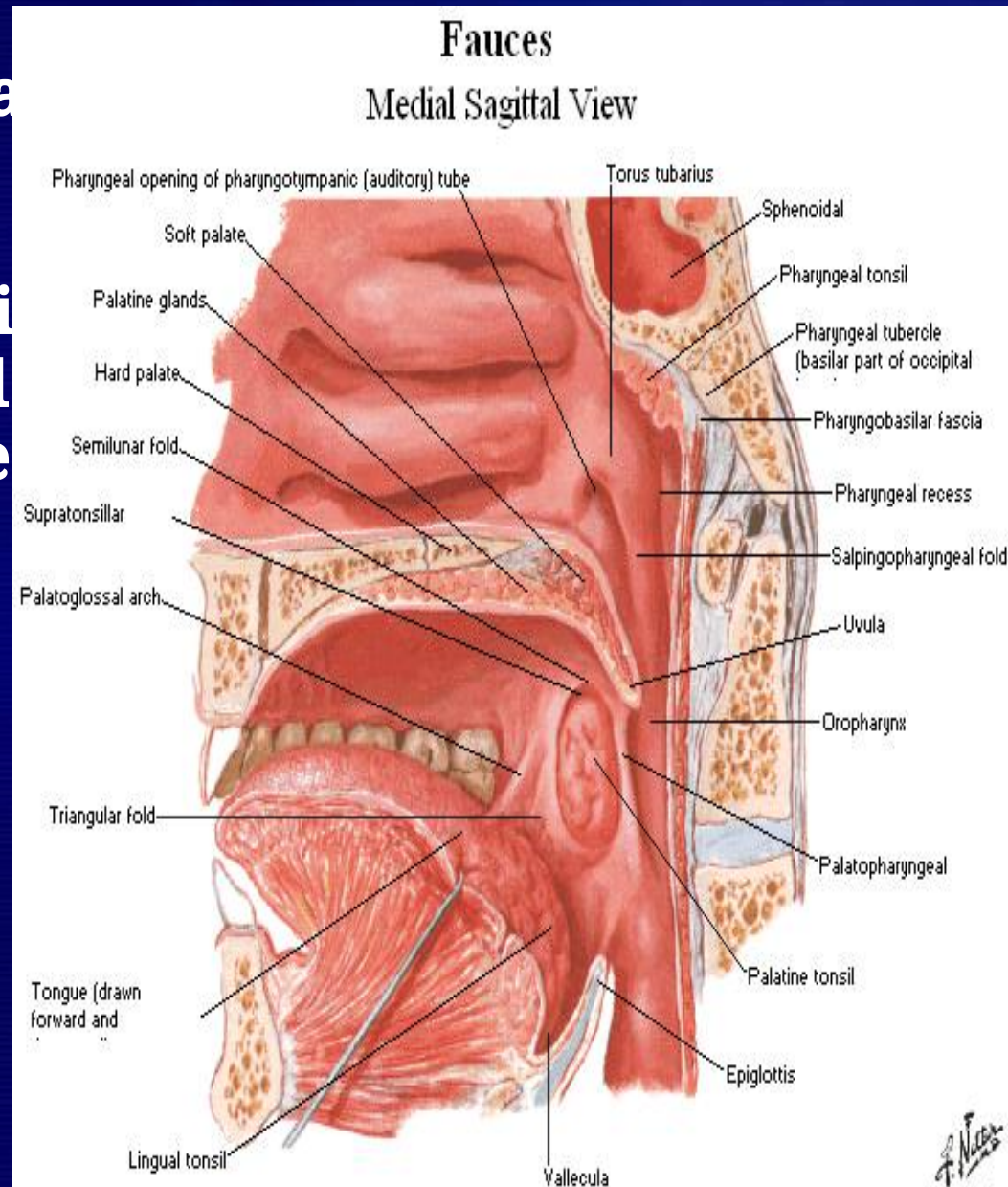
Extends from the soft palate to the upper border of epiglottis.

It lies behind the oral cavity and in front of the second and third cervical vertebrae

Boundaries:

Roof: undersurface of the soft palate and the pharyngeal isthmus.

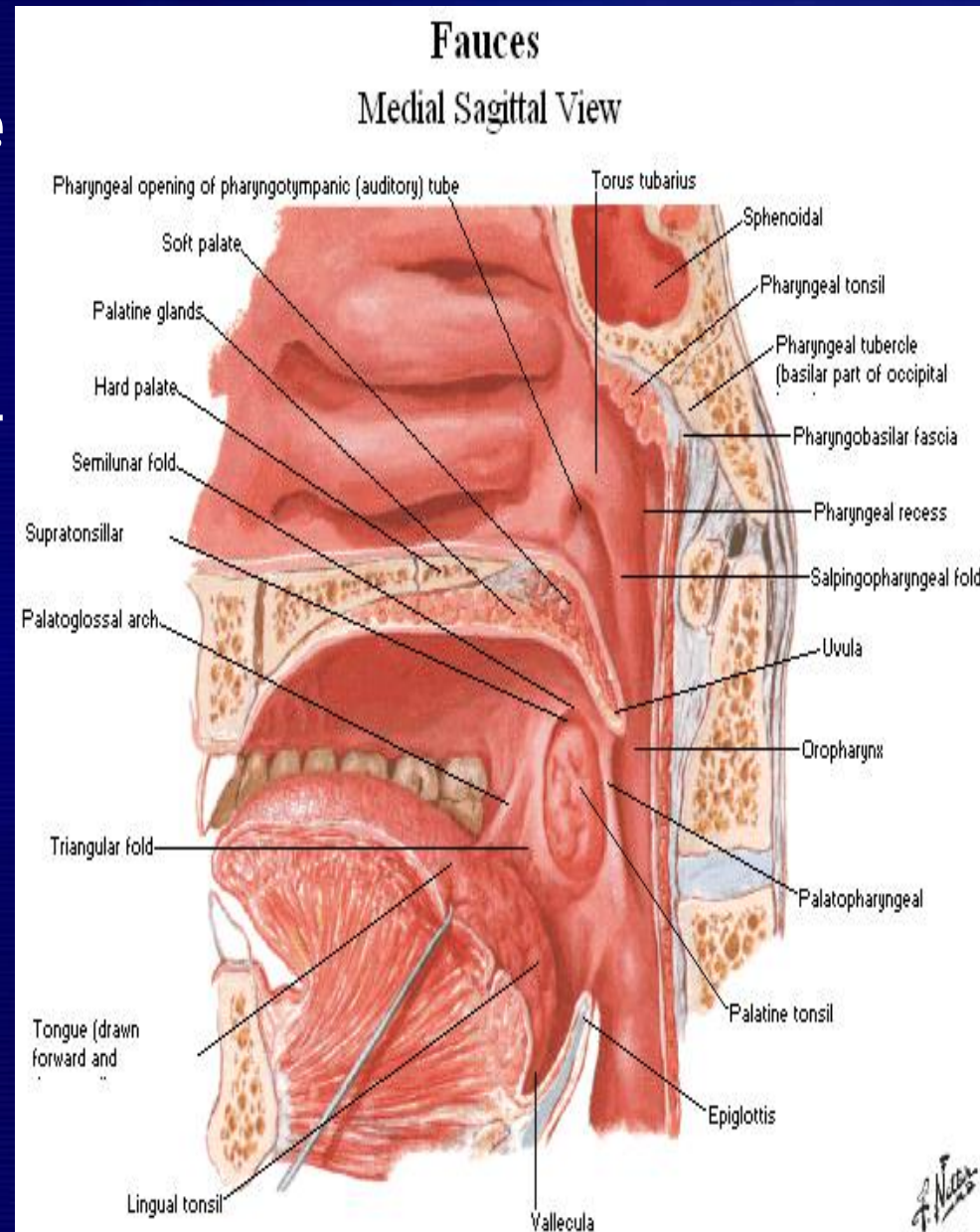
Floor: posterior third of the tongue and the interval between the tongue and the anterior surface of the epiglottis.



Anterior wall Opens into the mouth through the oropharyngeal isthmus.

Posterior wall Supported by the 2nd and 3rd cervical vertebrae.

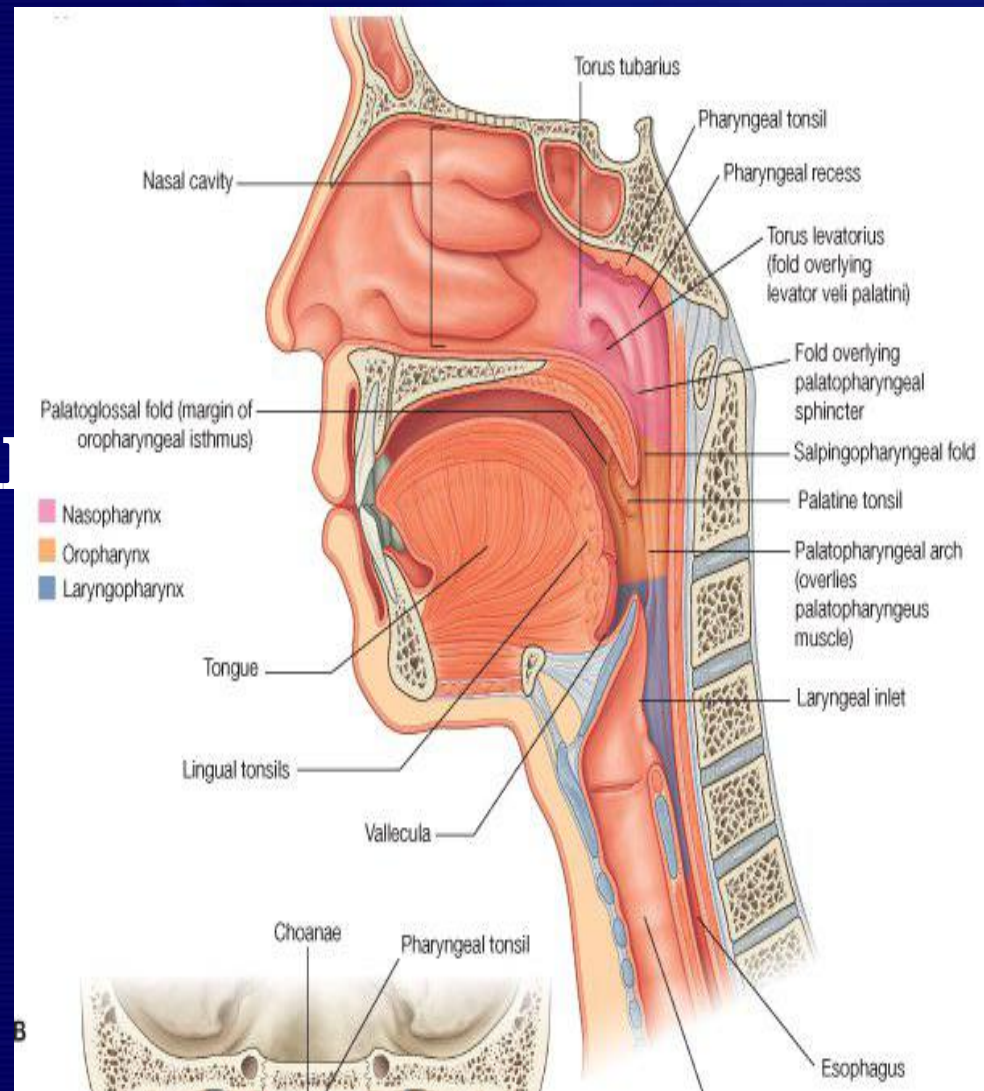
Lateral wall has the palatoglossal and palatopharyngeal arches and tonsillar sinus in-between.



Laryngopharynx

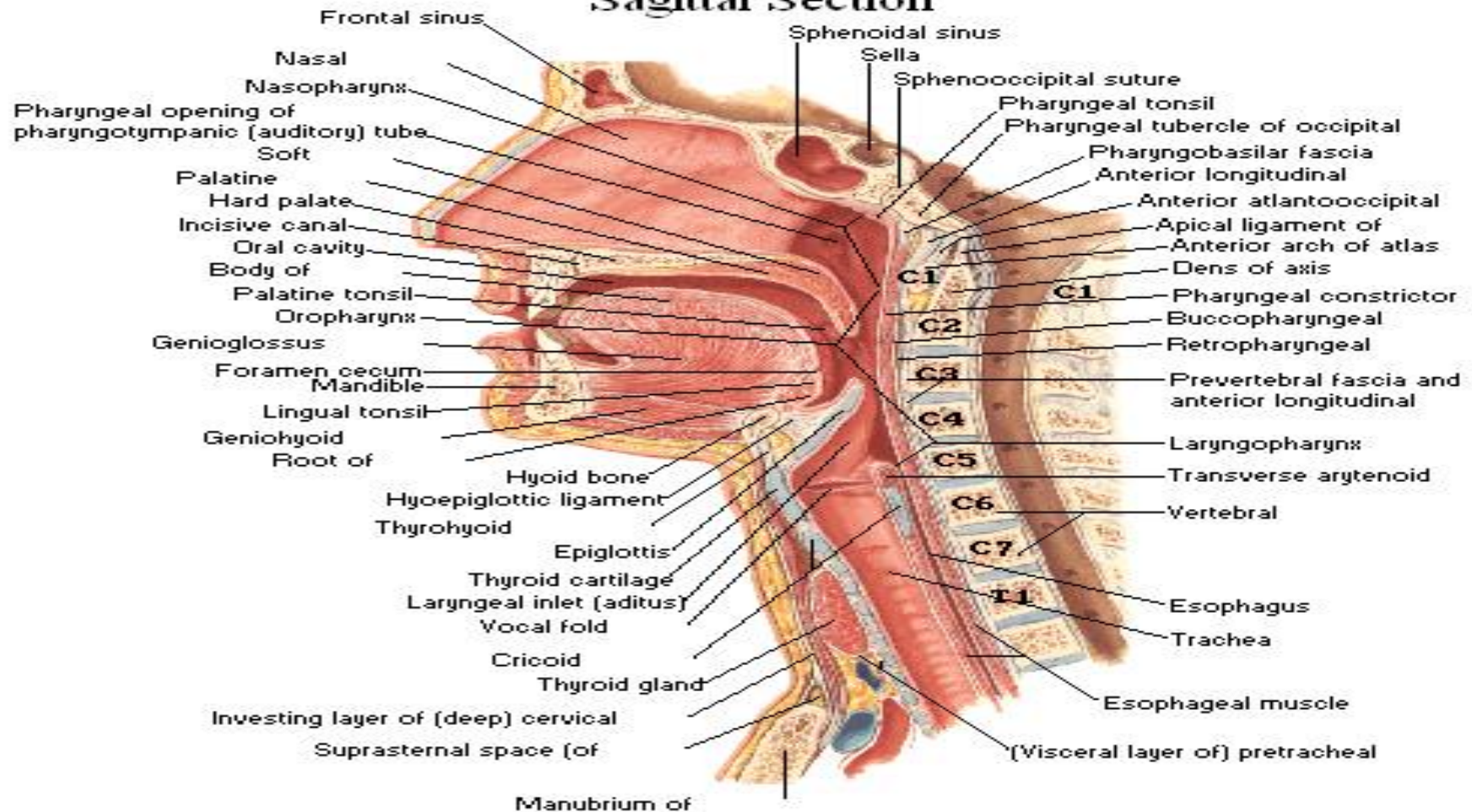
Extends from the upper border of epiglottis to the lower border of cricoid cartilage esophagus.

It lies behind the laryngeal inlet above and posterior surface of the larynx below, and in front of the 4th, 5th and 6th cervical vertebrae.



Pharynx

Sagittal Section

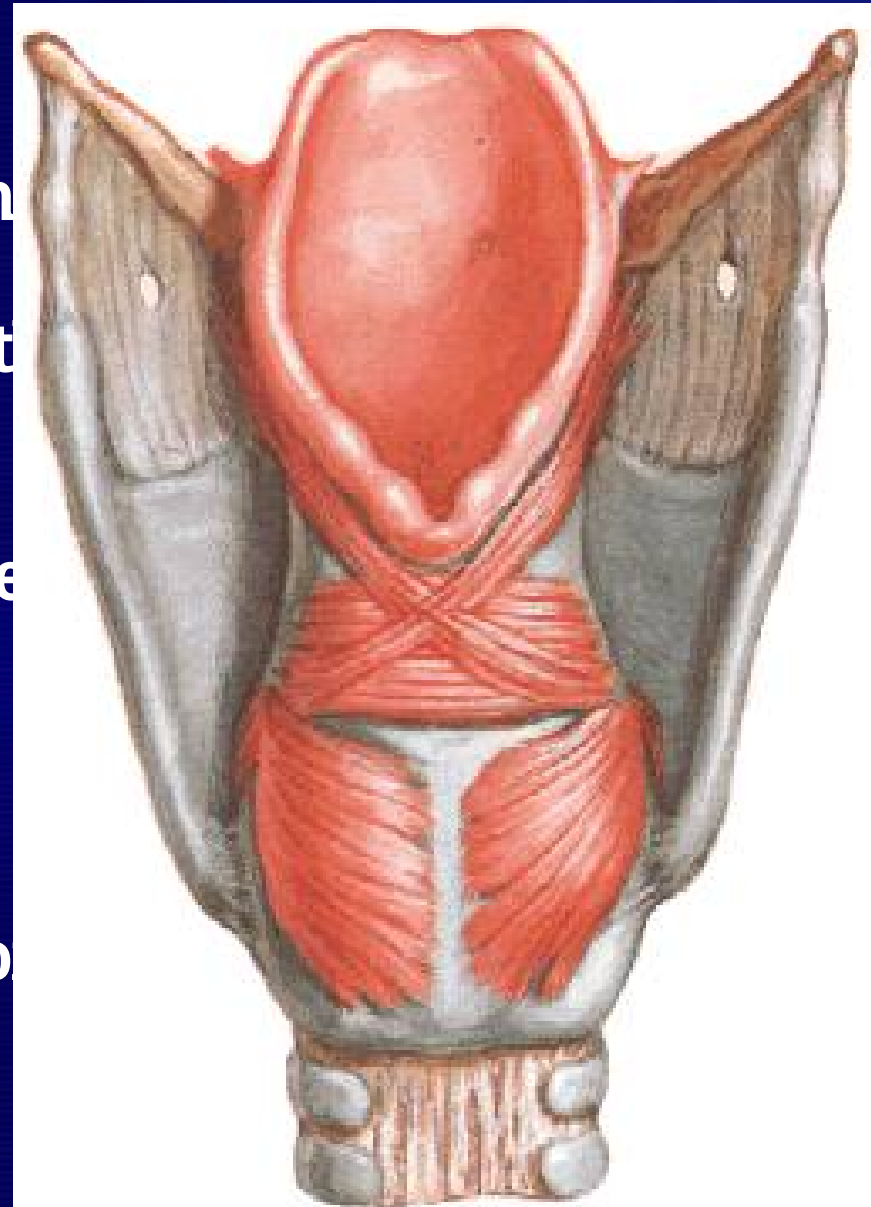


Boundaries:

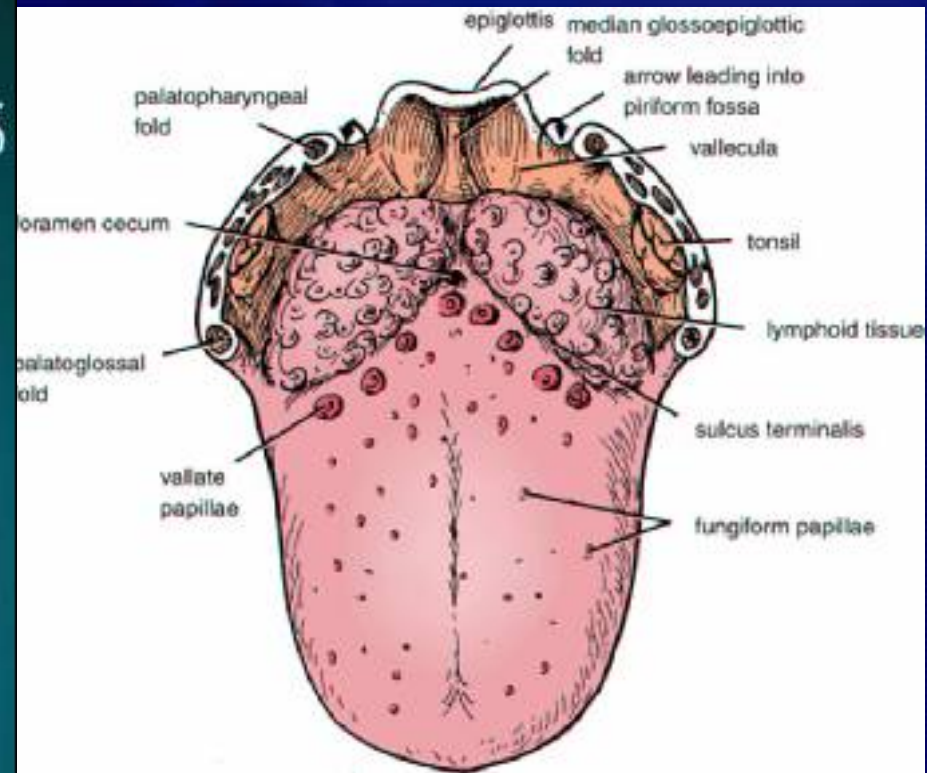
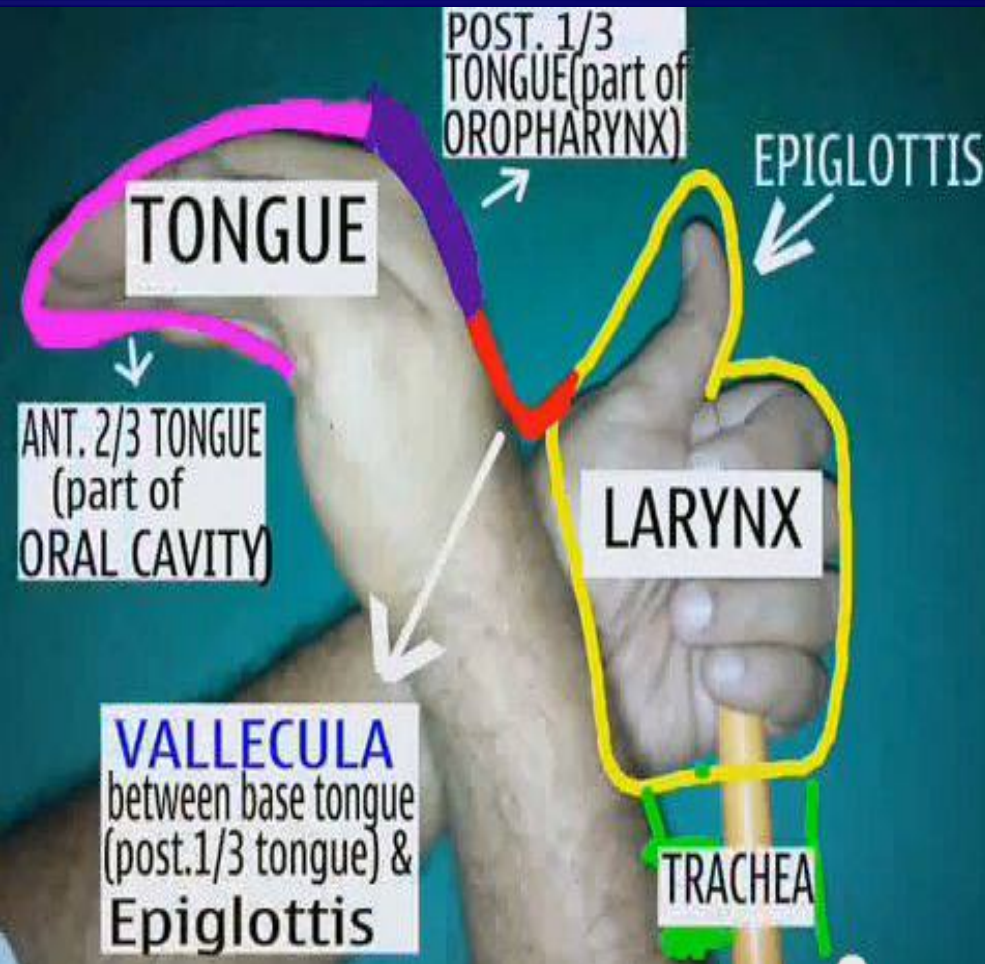
Anterior wall laryngeal inlet and posterior wall of the larynx (mucous membrane covering the cricoid cartilage).

Posterior wall supported by the bodies of 4th, 5th and 6th cervical vertebrae.

Lateral wall supported by the thyroid cartilage and thyrohyoid membrane.

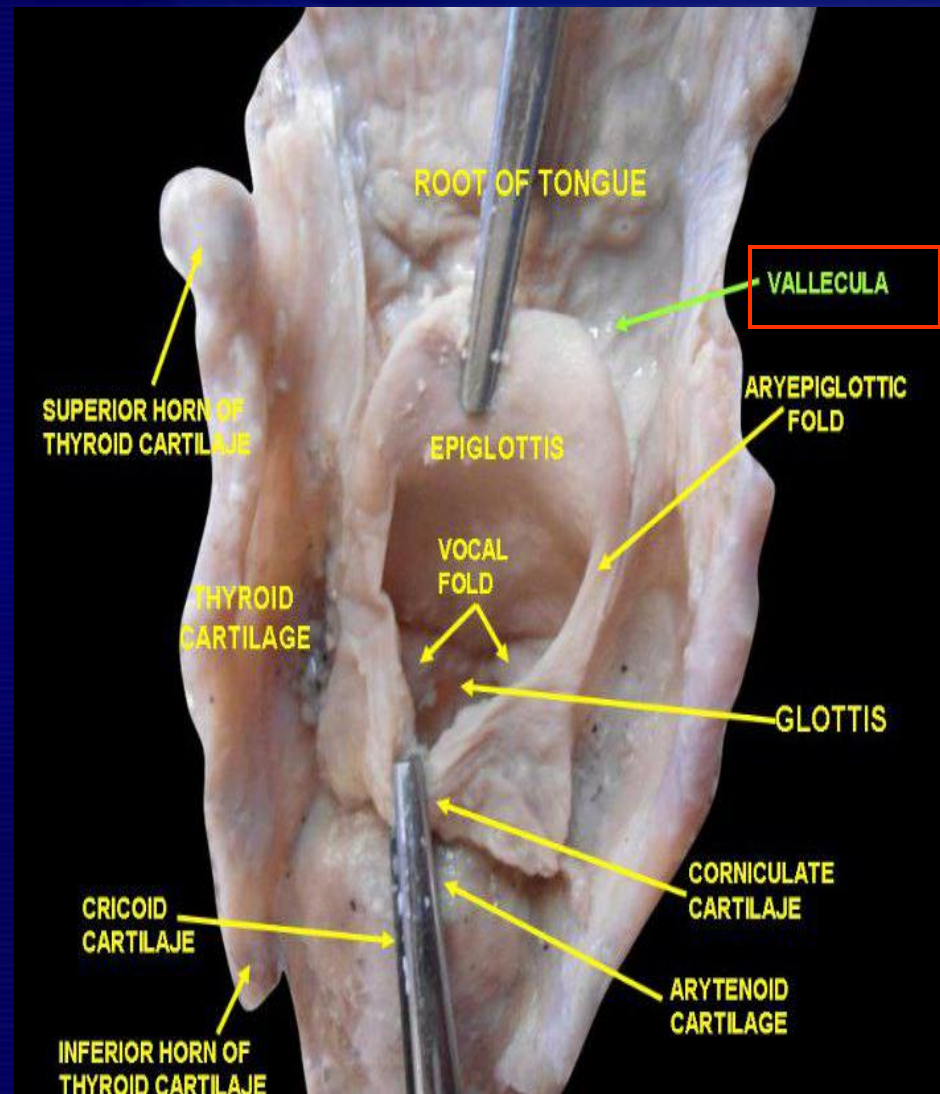


Oropharyngeal isthmus & Valleculae



vallecula

Is Depression behind the Root of tongue, Infront of epiglottis.
It is a guide to vocal cords and entrance of larynx.



Relations of Palatine Tonsils

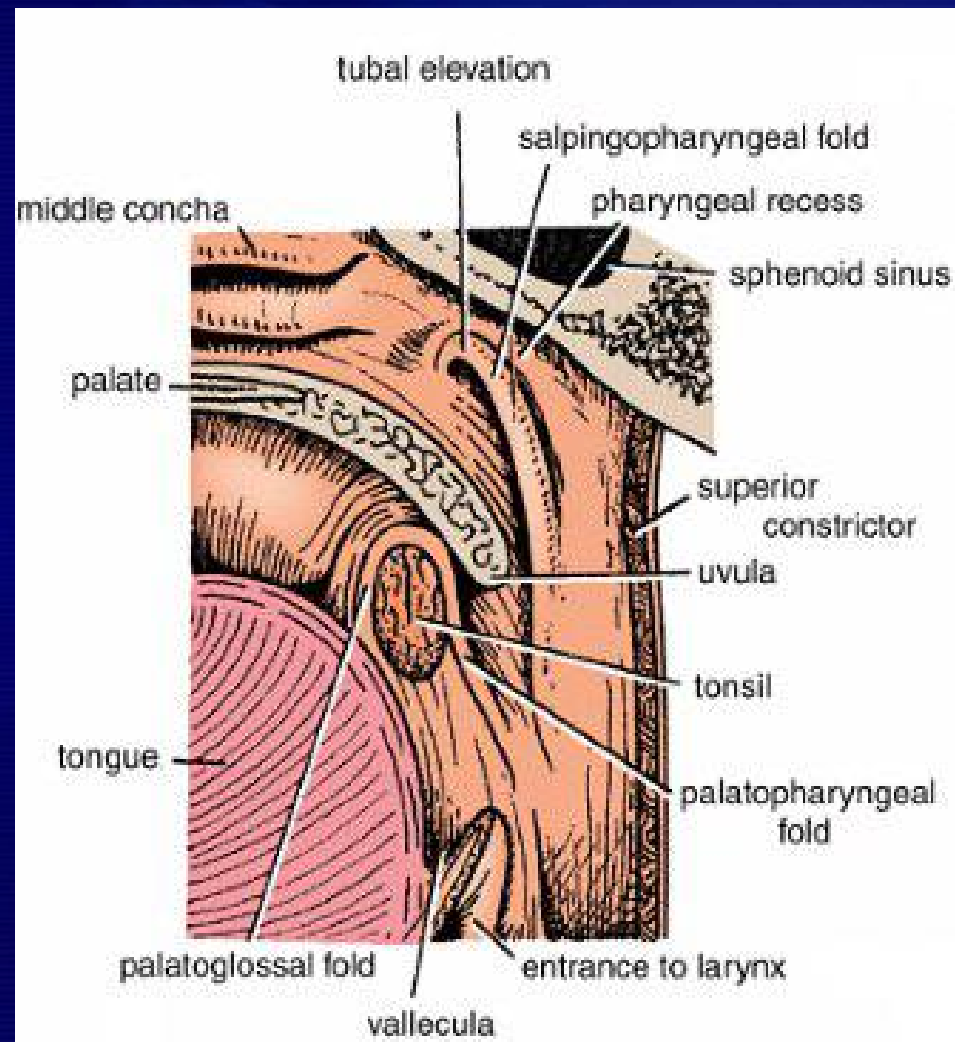
Ant: Palatoglossal fold

Post.: Palatopharyngeus fold

Sup.: Soft palate

Inf.: Tongue

Medially: Show pits, largest is upper tonsillar sinus



Piriform fossa:

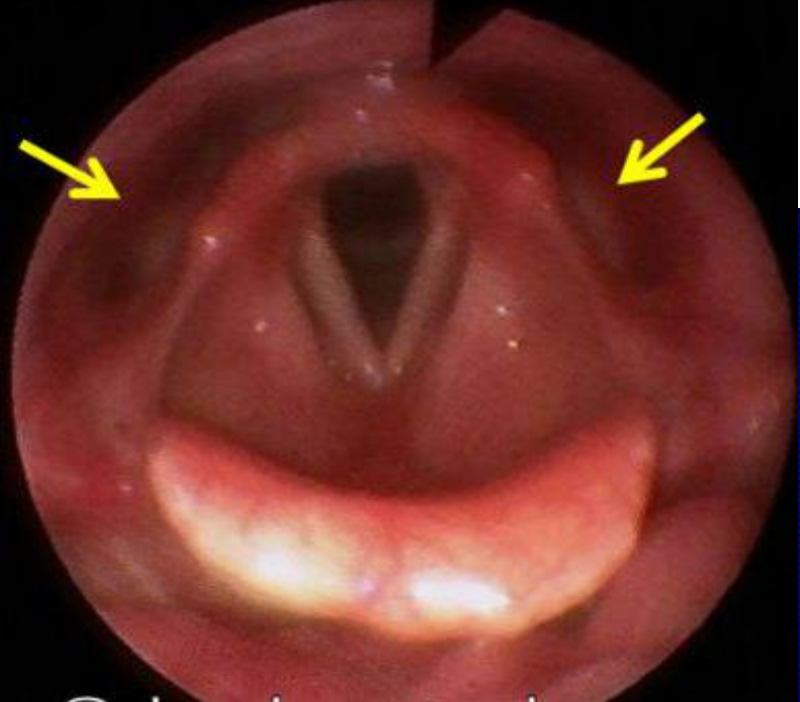
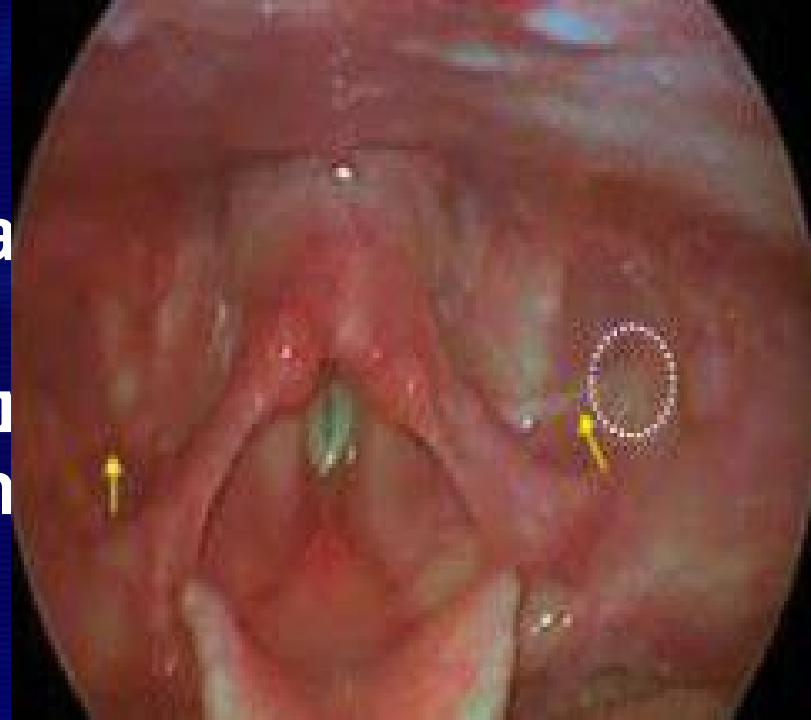
A small important groove in the mm of the Laryngopharynx, situated on each side of the laryngeal inlet.

It leads obliquely, downward and backward from the region of the back of the tongue to the esophagus.

It is bounded medially by the aryepiglottic fold and laterally by the lamina of the thyroid cartilage and thyrohyoid membrane.

It is a common site for the lodging of sharp ingested bodies such as fish bones.

Internal laryngeal n. pass In the fossa just beneath the mm.



ROOT OF TONGUE

VALLECULA

SUPERIOR HORN OF
THYROID CARTILAGE

ARYEPIGLOTTIC
FOLD

EPIGLOTTIS

THYROID
CARTILAGE

VOCAL
FOLD

GLOTTIS

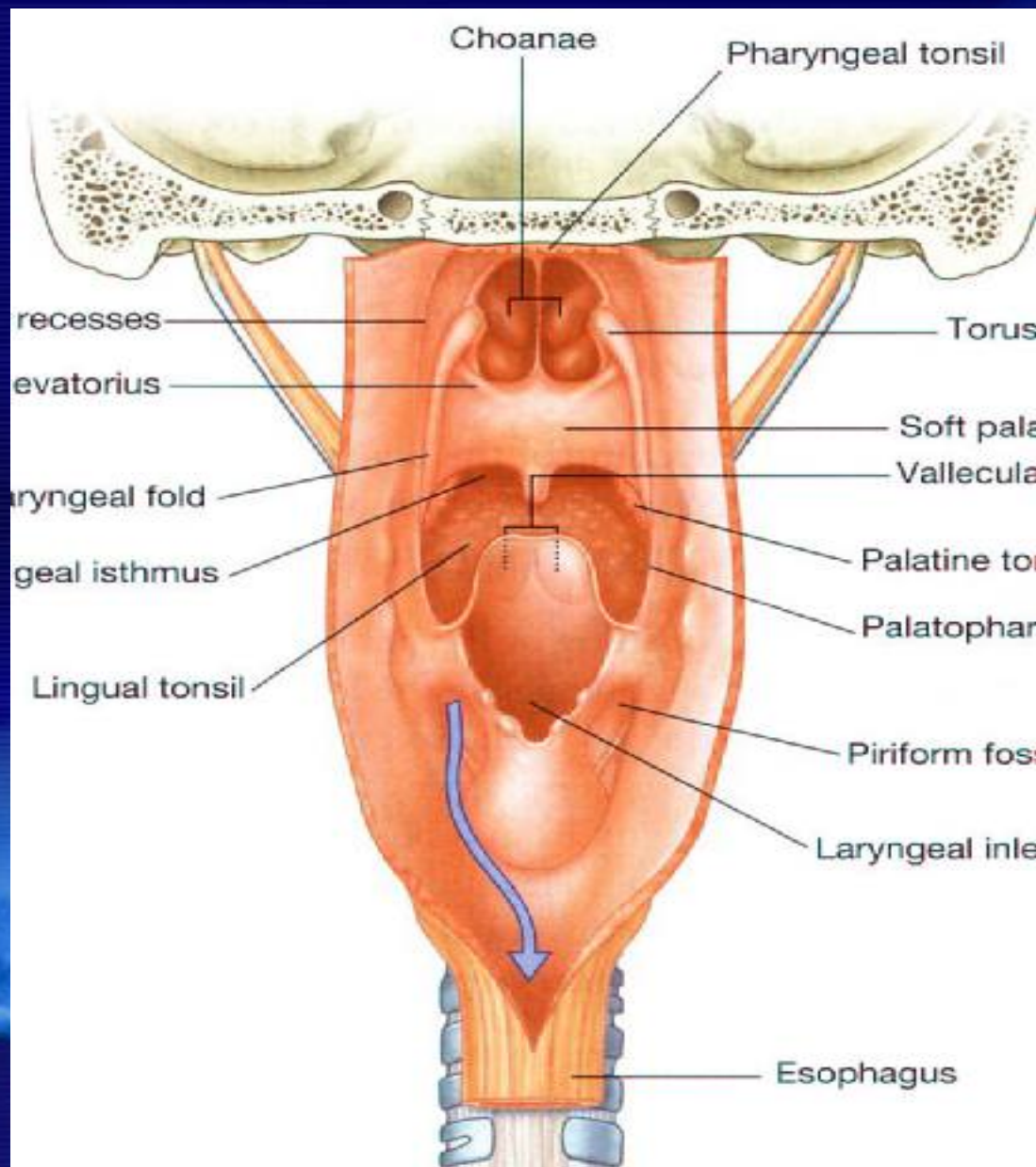
Piriform fossa:

CRICOID
CARTILAGE

CORNICULATE
CARTILAGE

INFERIOR HORN OF
THYROID CARTILAGE

ARYTENOID
CARTILAGE



Sensory Innervation of pharynx

The Nasopharynx is supplied by Maxillary nerve.

The Oropharynx and Laryngopharynx are supplied by the Glossopharyngeal nerve (through the Pharyngeal plexus).

The area surrounding the laryngeal inlet (of the Laryngopharynx) is supplied by the Internal laryngeal branch of the Vagus nerve.



Gag Reflex

Involved both sensory & motor innervations of pharynx working together

Sensory stimulation of pharyngeal mucosa

(Via IX)

Contraction of pharyngeal musculature

(pharyngeal plexus)

X



Waldeyer's Tonsillar Ring

Pharyngeal Tonsil:

Single, roof of
nasopharynx.

Tubal Tonsils:

On lat. Walls of
Nasopharynx.

Palatine Tonsils:

On lat. Walls of mouth
cavity.

Lingual Tonsil:

Single, base of tongue.

Tonsillar Tissue in the Nasopharynx & Oropharynx

