Mouth, Pharynx, Tongue, Epiglottis

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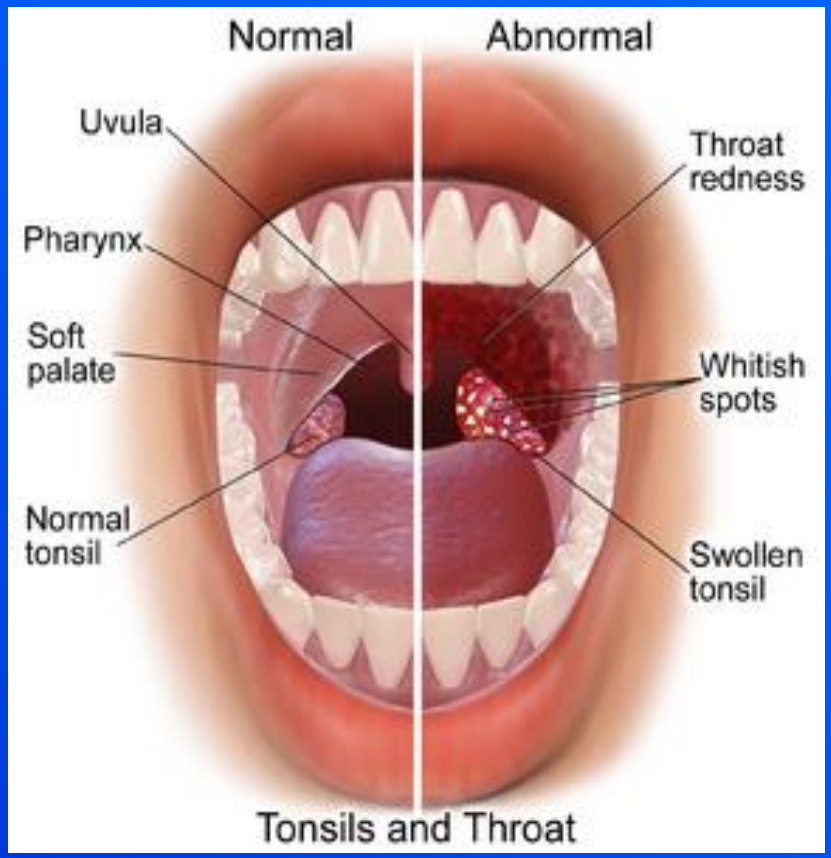
Clinical problems related to the Oral cavity



Clinical problems related to the Oral cavity

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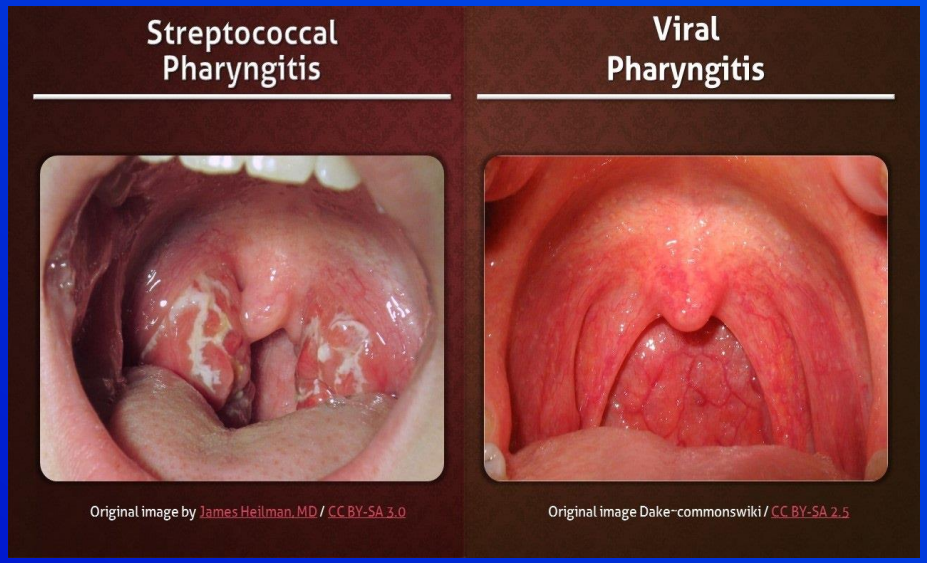
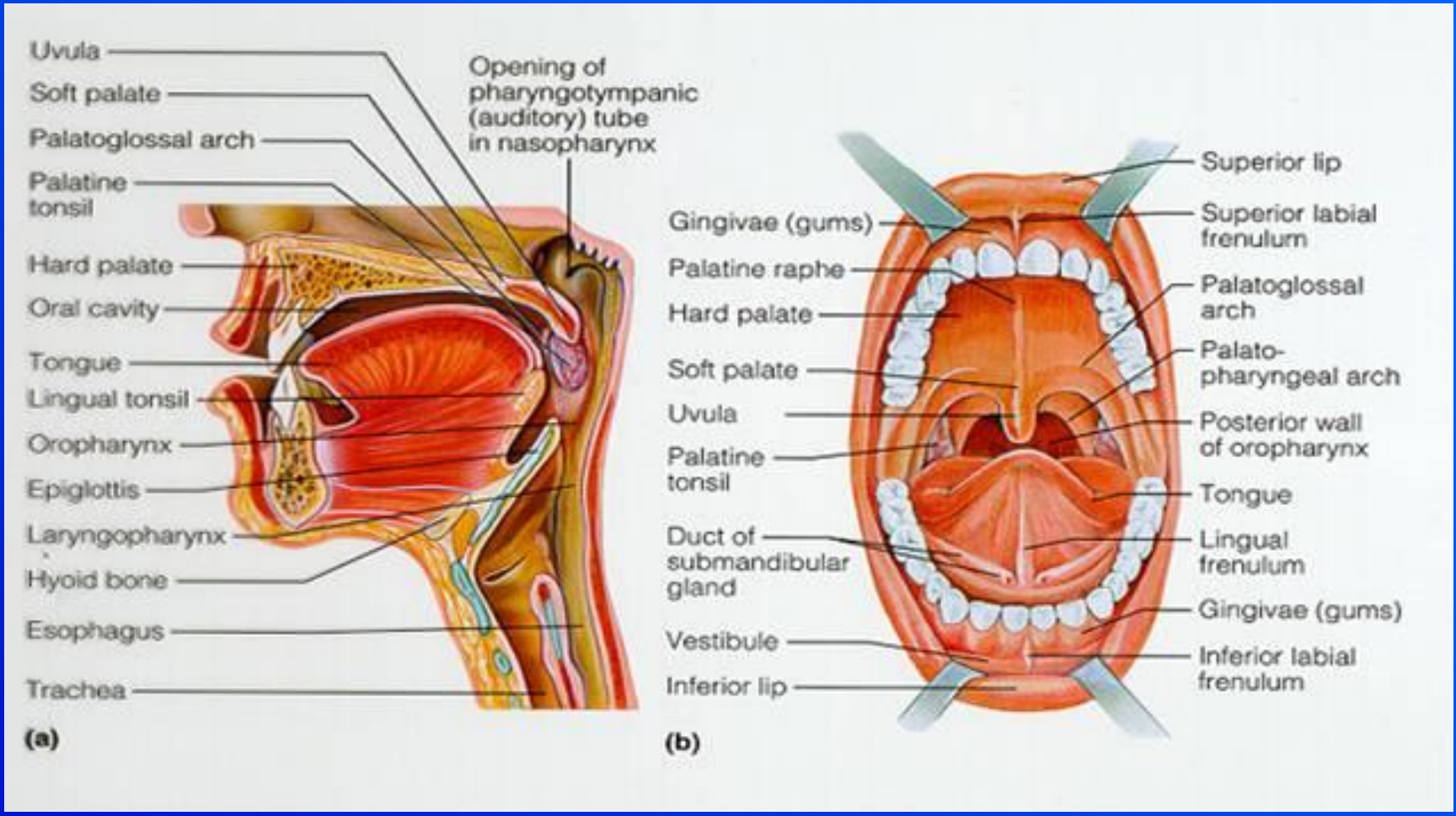


In side of the Oral cavity



Mouth

- **First part of GIT. Has two parts vestibule and oral cavity proper.**
- **Vestibule - Lies between lips and the teeth.**

- **Cheeks - Muscular flaps covered externally by skin and internally by mucous membrane. It is continuous anteriorly with the lips. Buccinator forms the muscle layer.**

- **Lips- Outer side skin. Inner side mucous membrane. Transitional zone has a rich vascular dermis. Has a thin lightly keratinised epidermal covering.**

Gums –

Composed of dense fibrous tissue covered with a smooth vascular membrane. They are attached to the alveolar margins of the jaws and necks of teeth.

Oral cavity proper -

- **Roof - Hard and soft palate.**
- **Anterolaterally are teeth and gums.**
- **Floor - tongue.**

Hard palate –

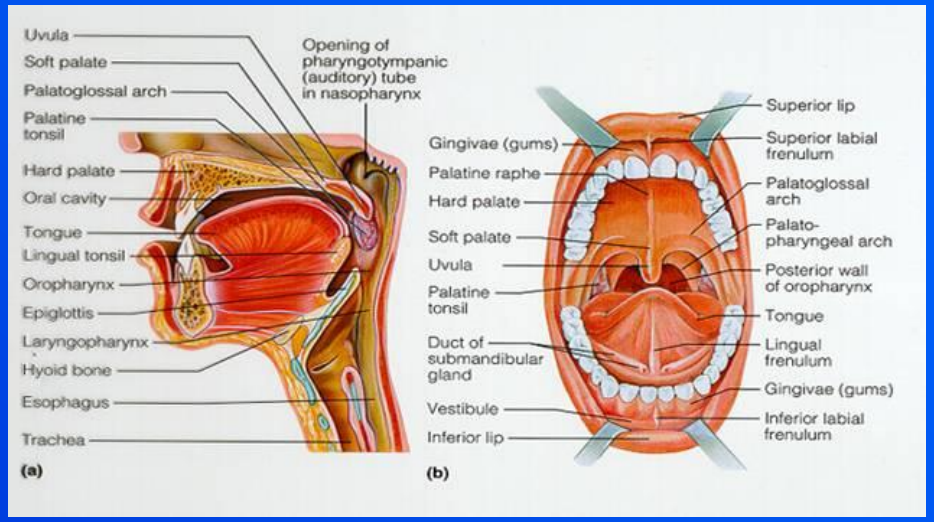
It is the partition between nasal and oral cavities. Anteriorly formed by palatine process of maxilla and horizontal plates of palatine bones.

Arterial supply - greater palatine artery.

Venous drainage - pterygoid venous plexus.

Nerve supply - greater palatine and nasopalatine.

Lymphatics- drain to deep cervical and retropharyngeal nodes.



Soft palate –

Moveable muscular fold suspended by post.part of hard palate.

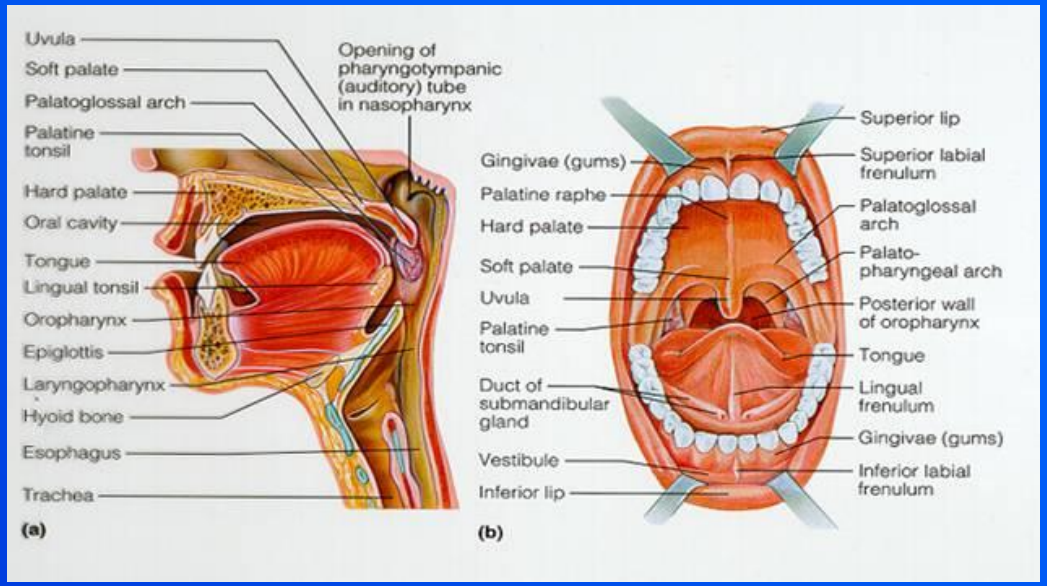
Has a superior and an inferior surface. Anterior border is attached and posterior border is free.

Arterial supply –

Greater and lesser palatine

Ascending palatine

Ascending pharyngeal



Muscles of soft palate

Muscles Nerve supply–

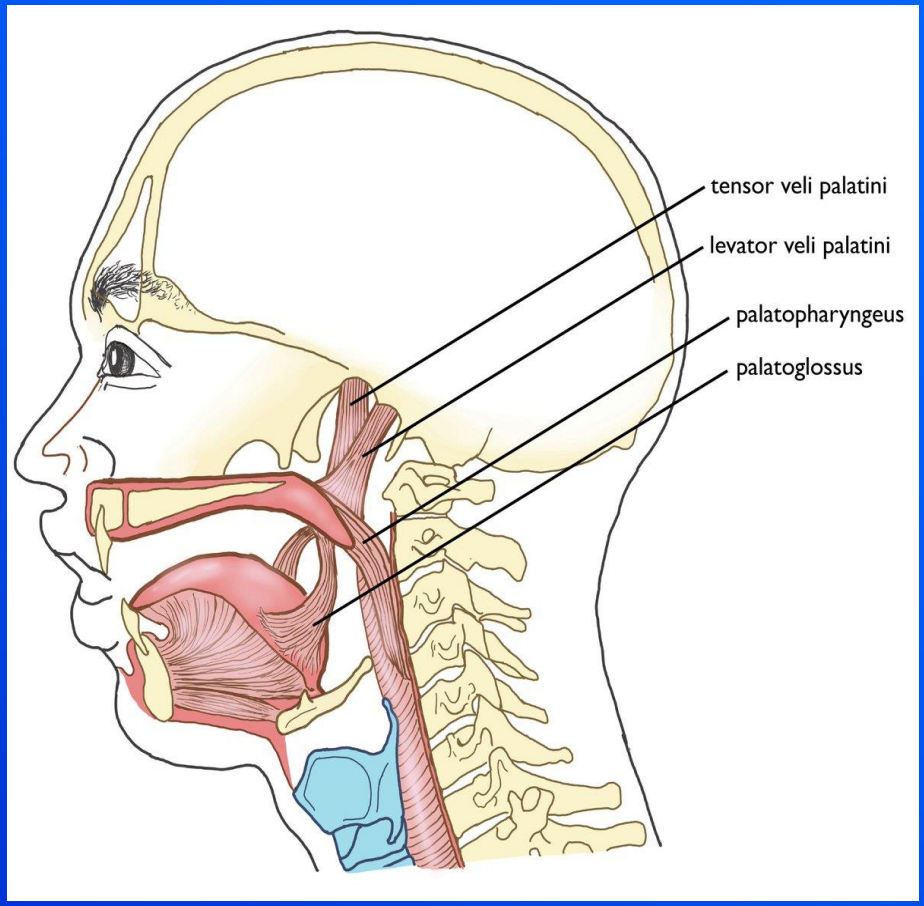
Palatoglossus - X

Palatopharyngeus- X

Levator veli palatine- X

Tensor veli palatine- V

Musculus uvulae – X



Venous drainage –

Pterygoid venous plexus

Lymphatics –

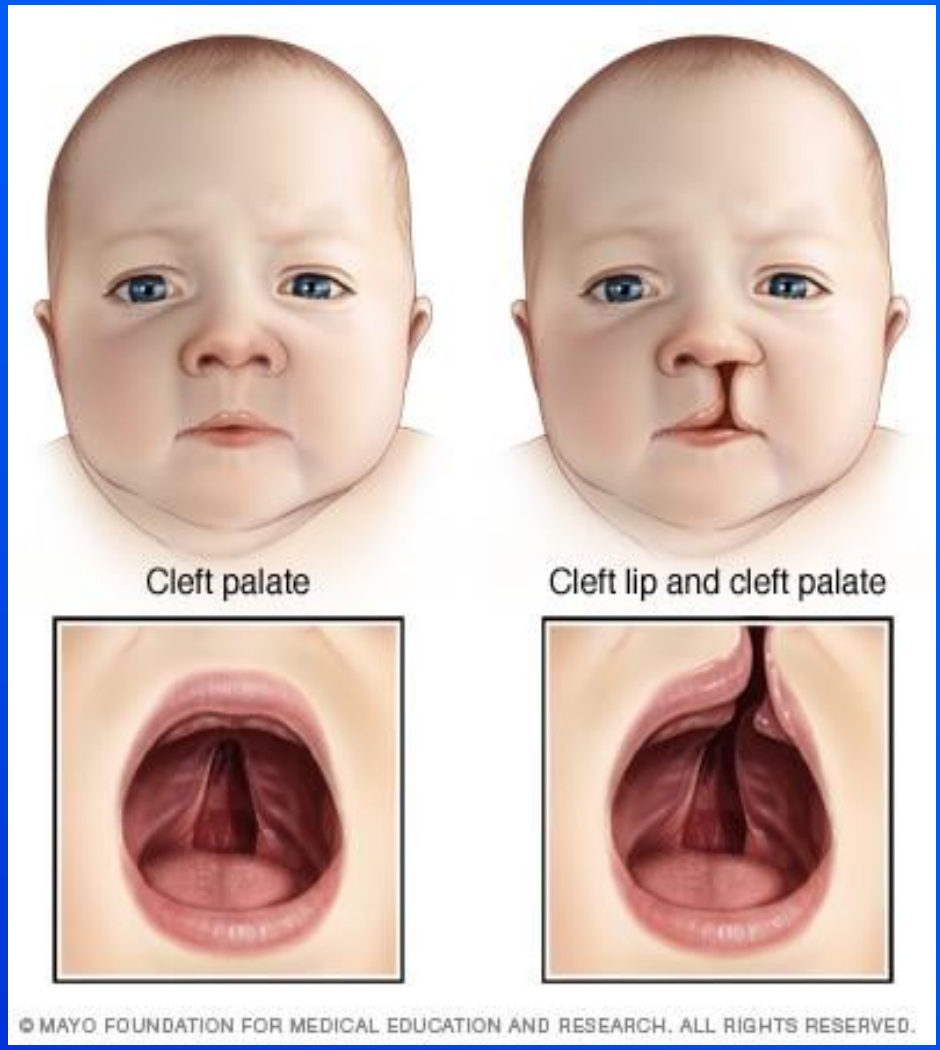
Lateral pharyngeal

Sub digastric

Deep cervical

Clinical importance –

Cleft palate

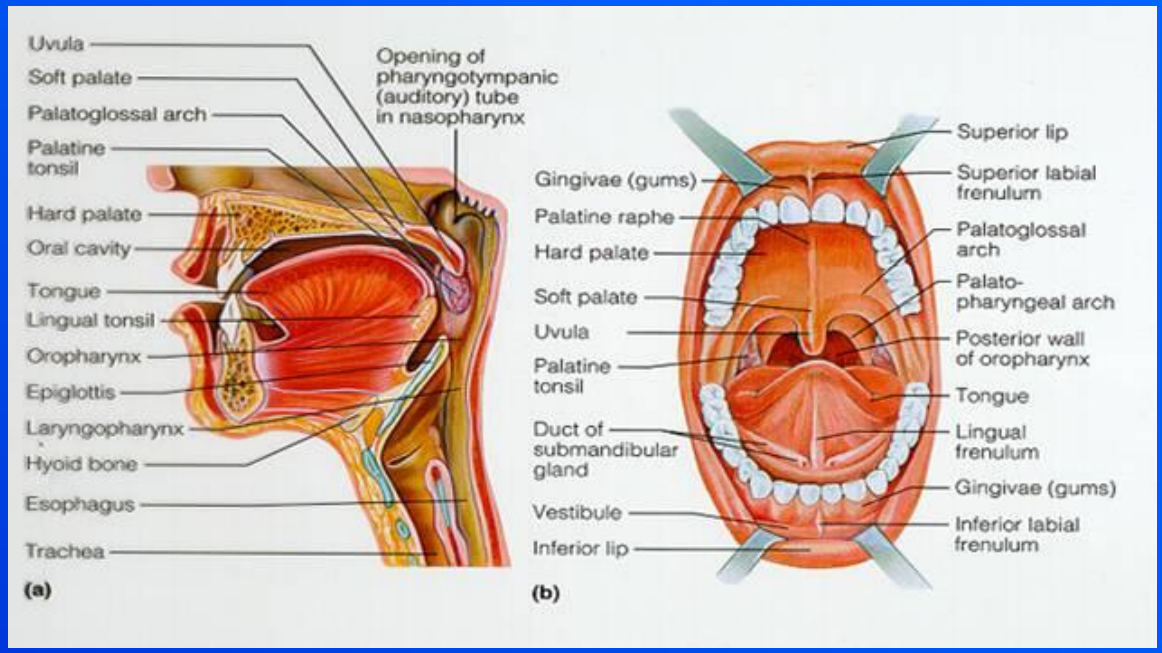


Tongue –

Highly mobile multifunctional organ which buldges upwards from the floor of the mouth.

Made up of muscles, connective tissues and stratified squamous epithelium.

In under surface of tongue mucosa is thin. The median fold is the frenulum linguae. There are lingual veins on either side of median fold. Lingual artery and nerve lies medial to the vein.



Anterior 2/3 and posterior 1/3 are separated by a V shape groove.

Anterior 2/3

Has various types of papillae. They are fungiform, filiform, circumvalate.

Glands present

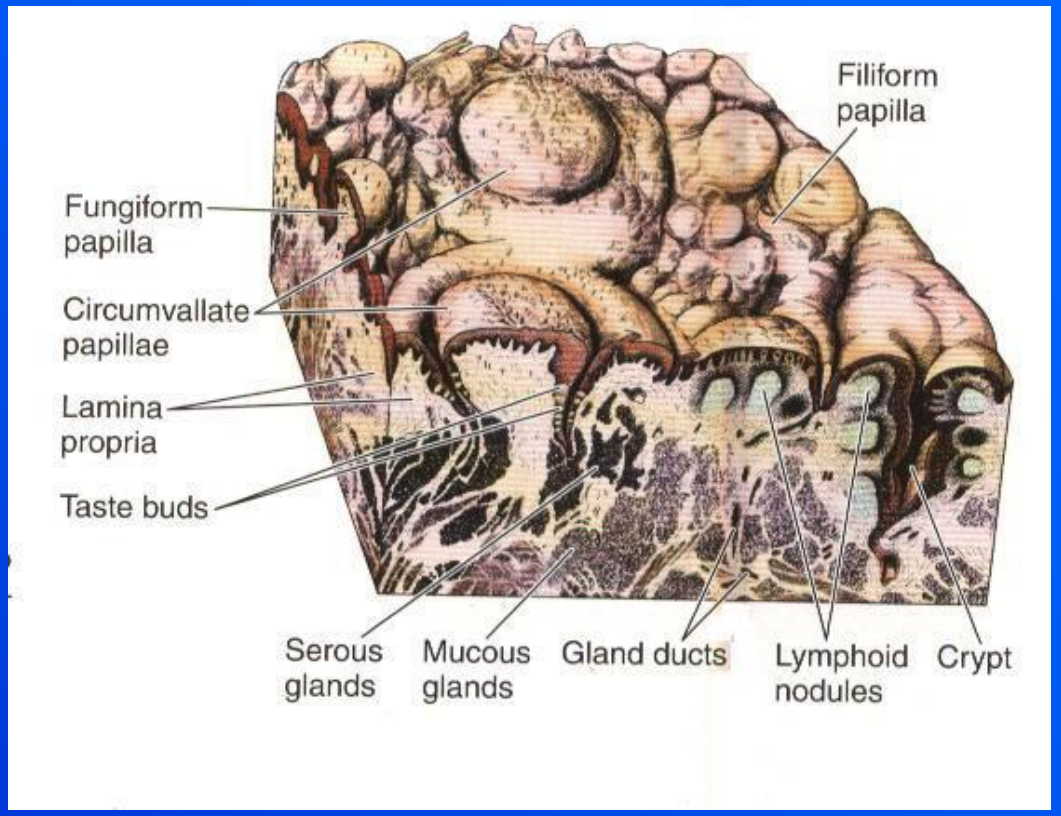
Few lymphatics

Posterior one third –

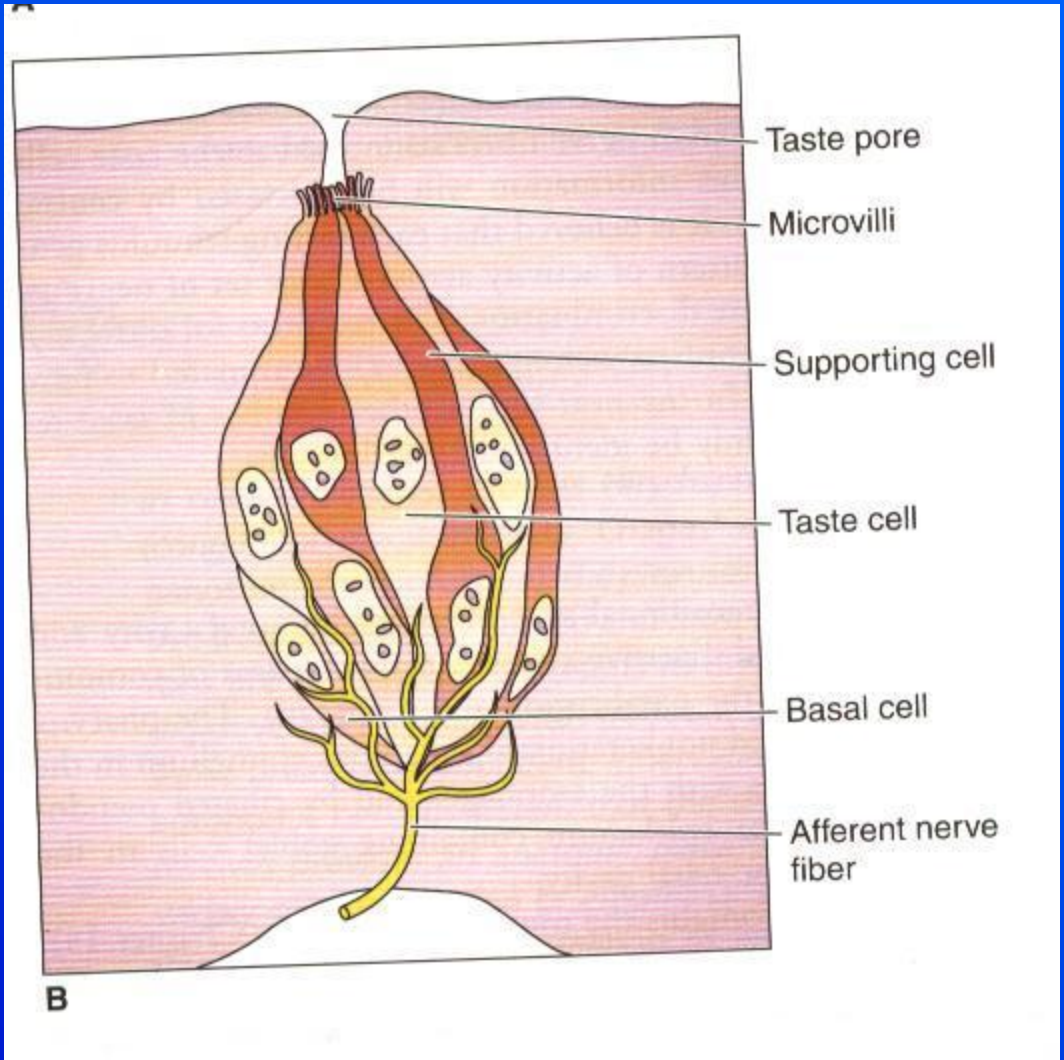
No papillae.

Contains lymphoid nodules.

Glands present.



Features of a Taste Bud

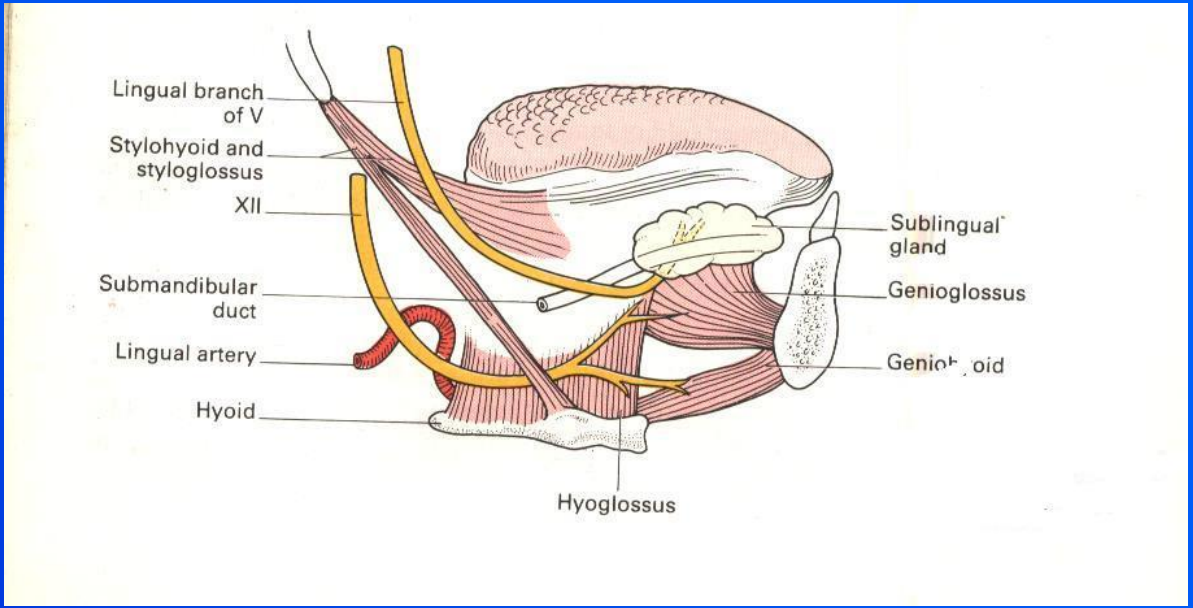


Intrinsic muscles –

Arranged vertically, longitudinally and transversely. They alter the shape of the tongue.

Extrinsic muscles –

They move the tongue as a whole. Ex - Genioglossus, hyoglossus, styloglossus, and palatoglossus.



Arterial supply -

Lingual artery.

Venous drainage –

Lingual vein

Lymphatics –

Tip - submental nodes.

Anterior 2/3 –

submental,

submandibular

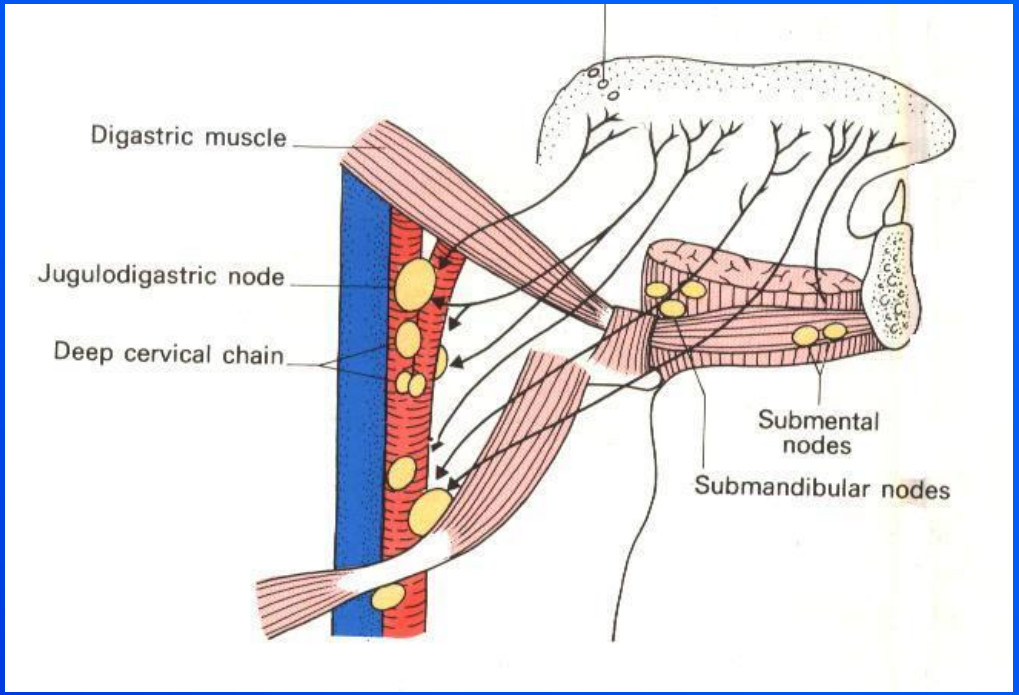
lower deep cervical.

Posterior1/3

Upper deep cervical.

Posterior 1/3 there is a rich anastomosis between the lymphatics of right and left sides.

In the anterior 2/3 only little cross communication.



Nerve supply –

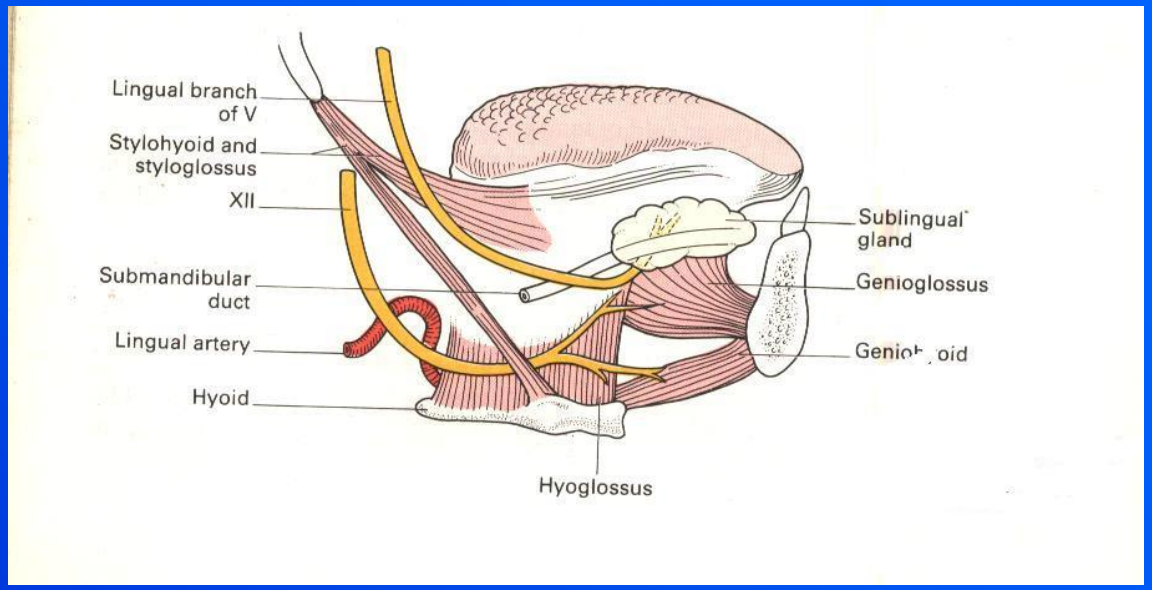
Motor supply-

It is by the xii nerve except the palatoglossus. It is supplied by the pharyngeal plexus.

Sensory supply –

Ant 2/3 is by Lingual. Taste is by chordatympani of seventh cranial nerve.

Post 1/3 is by ninth cranial nerve. It supplies taste and common sensation.



Movements -

Hyoglossus and genioglossus –

- Depresses the lateral and medial parts of tongue.

Genioglossus –

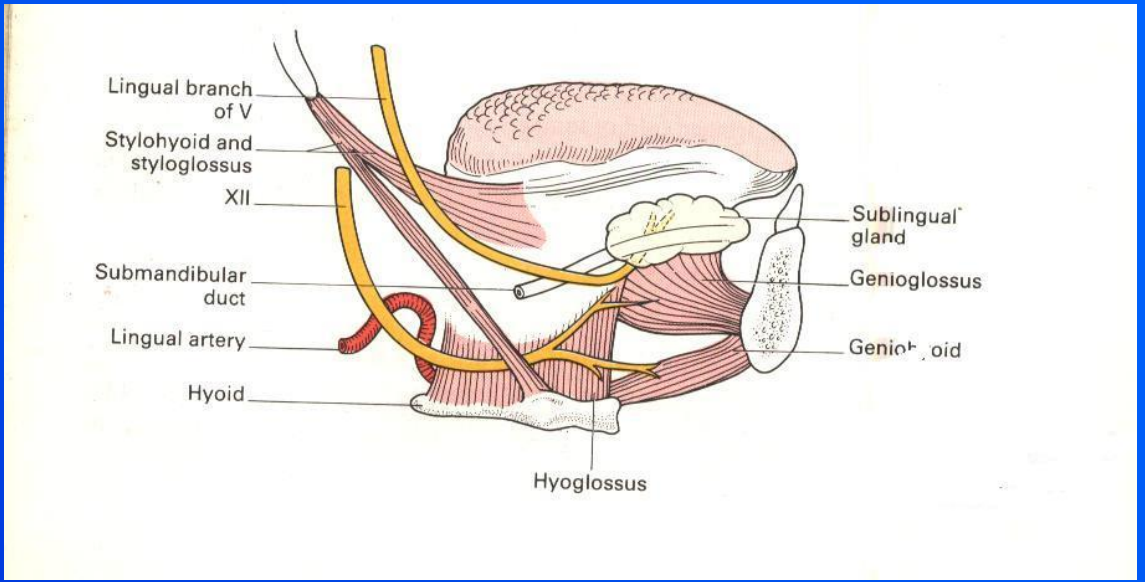
- Protruding and retracting the tongue.

Styloglossus and palatoglossus –

- Elevate the posterior part of the tongue.
- Styloglossus also helps to retract the tongue.

Palatoglossus –

- Helps to draw the palate down onto the tongue and help to close the mouth from the pharynx.



Clinical Problems of Tongue

Salivary glands

Parotids

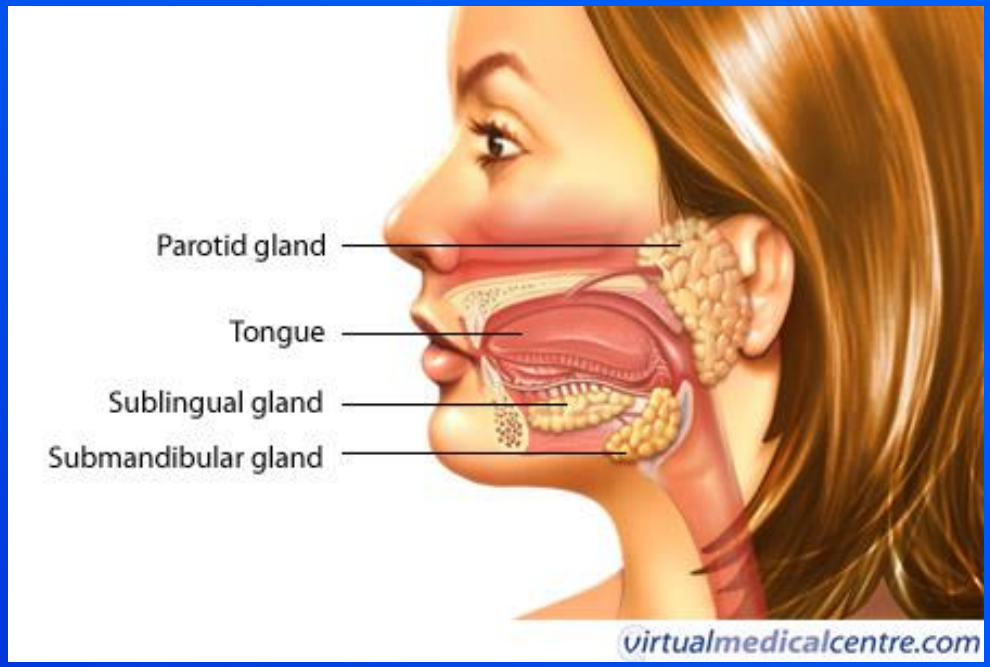
They are large, irregular shaped glands located under the skin on the side of the face.

They secrete 25% of saliva.

They are situated below the zygomatic arch (cheekbone) and cover part of the mandible (lower jaw bone).

Histologically it is a serous gland and produces a watery secretion which is also rich in proteins, Immunoglobins and has a-amylase enzyme.

Its duct opens into the mouth opposite second upper molar tooth.



Salivary glands

Submandibular

Secrete 70% of the saliva in the mouth.

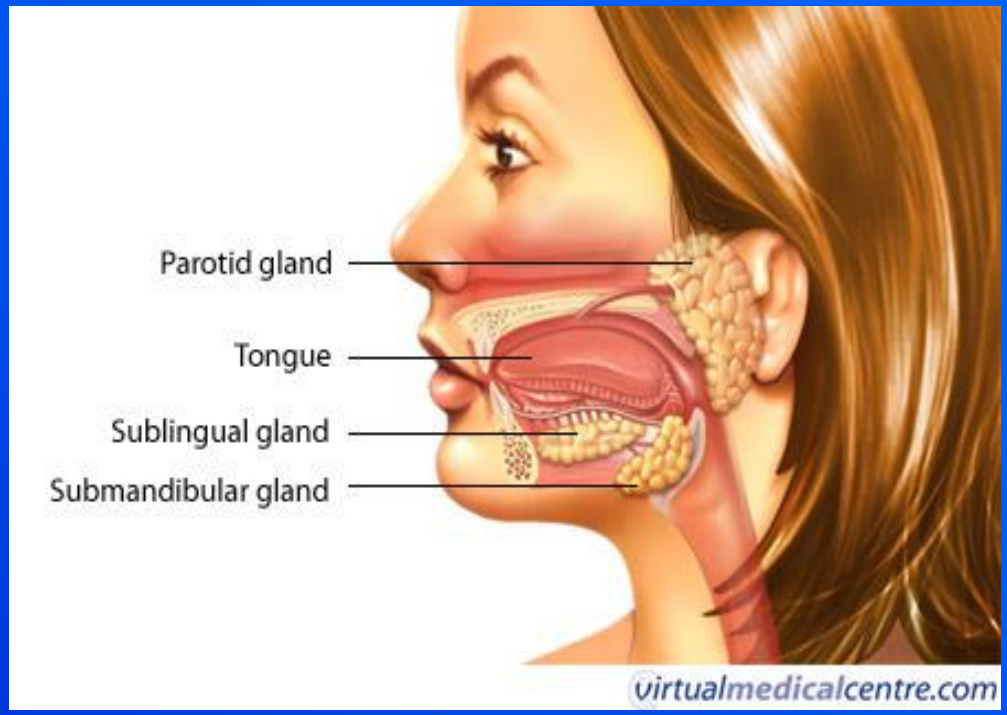
Found in the floor of the mouth, in a groove along the inner surface of the mandible.

It has a superficial and a deeper part in relation to the myelohyoid muscle.

Histologically it is a mucus gland with serous demilunes.

These glands produce a more viscid (thick) secretion, rich in mucin and with a smaller amount of protein.

Mucin is a glycoprotein that acts as a lubricant.



Salivary glands

Sublingual

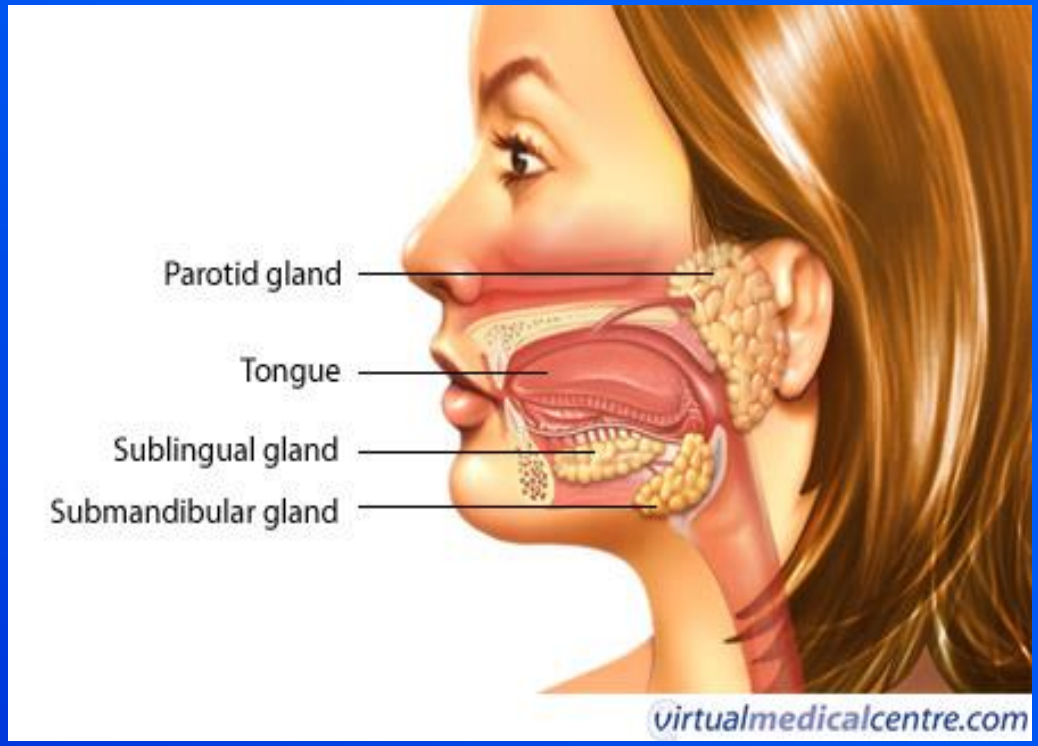
They are the smallest salivary glands,

Covered by a thin layer of tissue at the floor of the mouth.

Produce approximately 5% of the saliva and their secretions are very sticky due to the large concentration of mucin.

Histologically it is a mucus gland.

The main functions are to provide buffers and lubrication.



Teeth-

Incissors (8),

Canines (4),

Premolars (8),

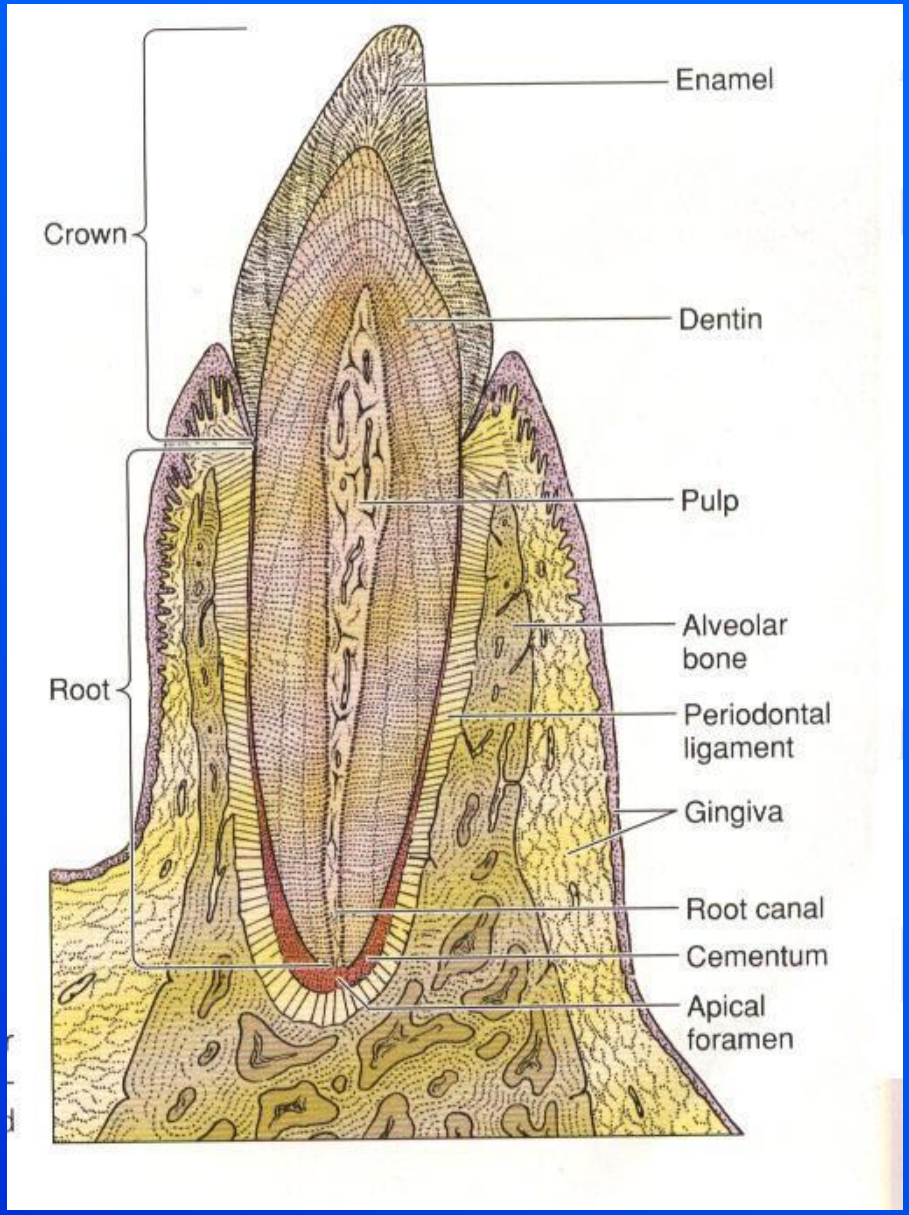
Molars (12).

Tooth has two parts – crown and a root

Crown – pulp, dentine, enamel, gingiva

Root – pulp, dentine, cementum, periodontal ligament, alveolar bone, gingiva.

Periodontal tissues – cementum, periodontal ligament, alveolar bone.



Pharynx –

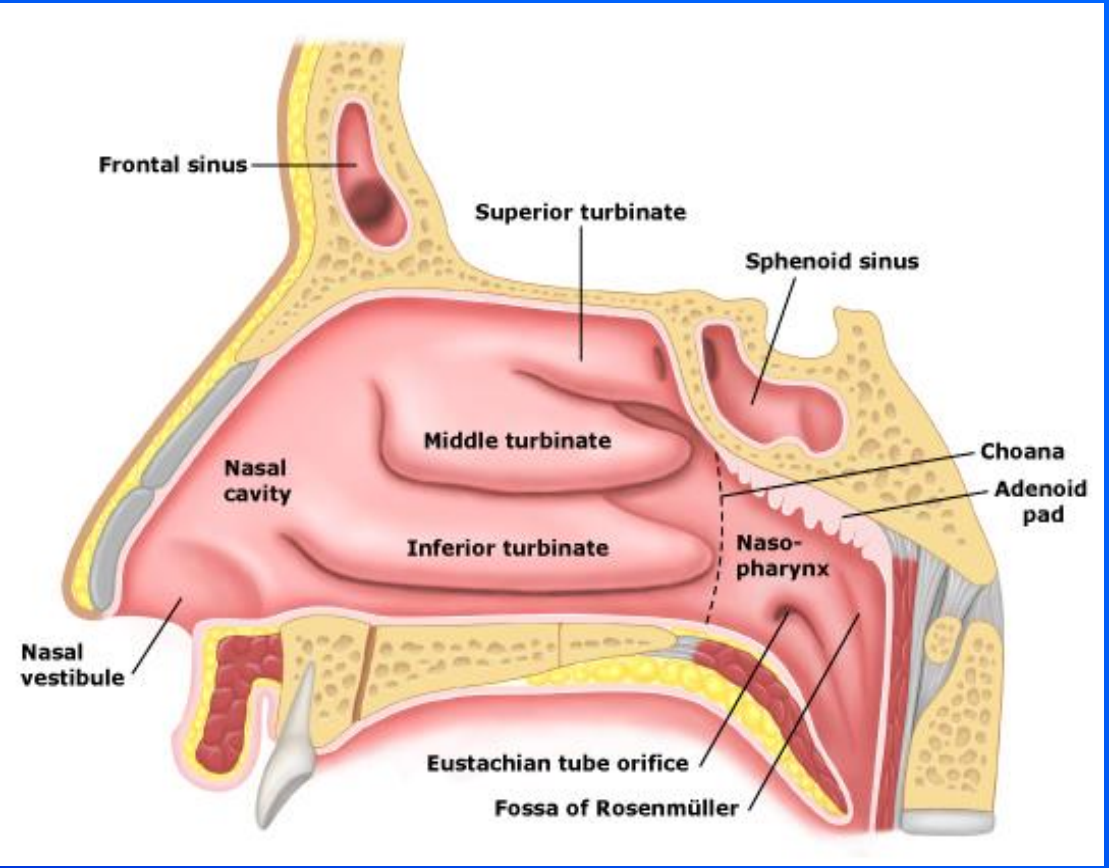
- Is a musculo fascial tube. Extends from base of skull to the oesophagus. Twelve centimeters long. Has three parts.
- Behind nasal fossae - Nasopharynx.
- Behind anterior pillar of fauces - Oropharynx
- Behind the larynx - Laryngopharynx.

Naso pharynx-

- Lies above the soft palate. Soft palate prevents food from getting in.
- Important contents are adenoids, orifice of pharyngotympanic tube.

Clinical Importance –

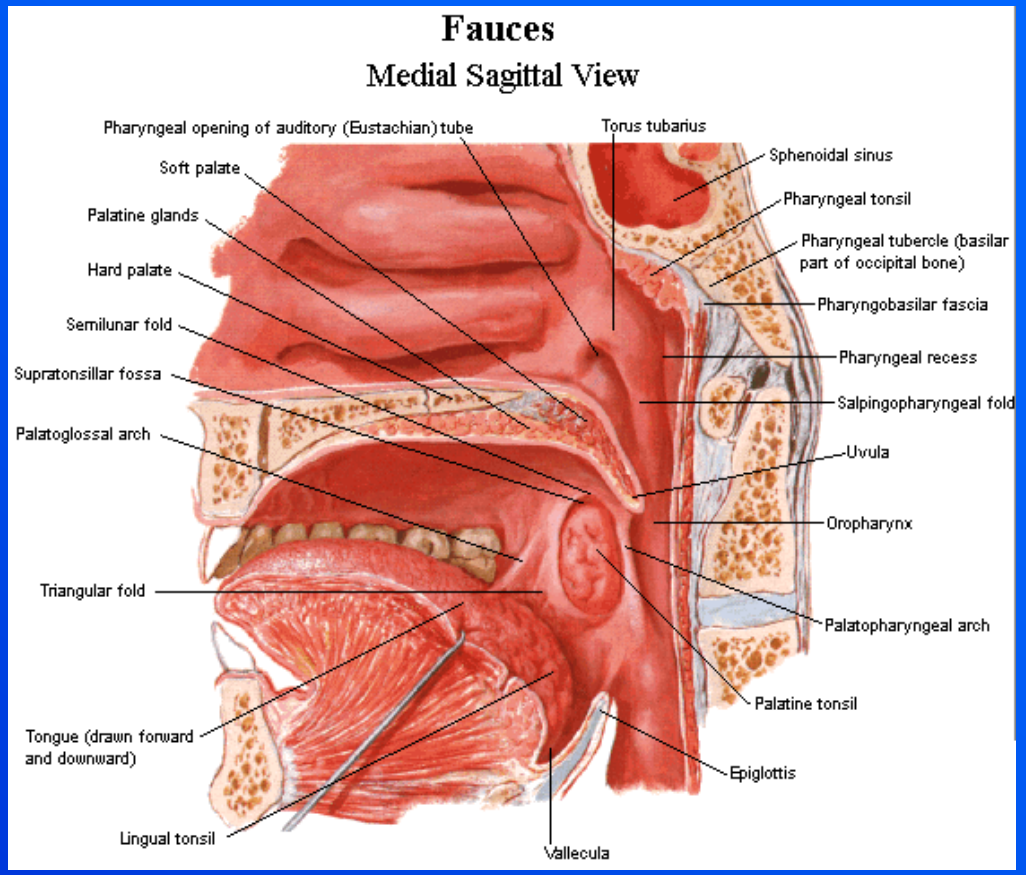
Middle ear can be intubated by a catheter passed into the eustachian tube.



Oro pharynx –

- Lies behind the mouth and tongue.
- Contains the palatine tonsil. The palatine tonsil is a collection of lymphoid tissue covered by a squamous epithelium. Lies between the palatoglossal arch and the palatopharyngeal arch.

- The tonsillar fossa is the area where the tonsil lies. The floor of the fossa is made out of superior constrictor of the pharynx. Tonsil is covered by pharyngobascilar fascia.



Laryngo pharynx -

- **Lies behind the larynx. Inlet of the larynx**

Structure of the pharynx -

Mucosa –

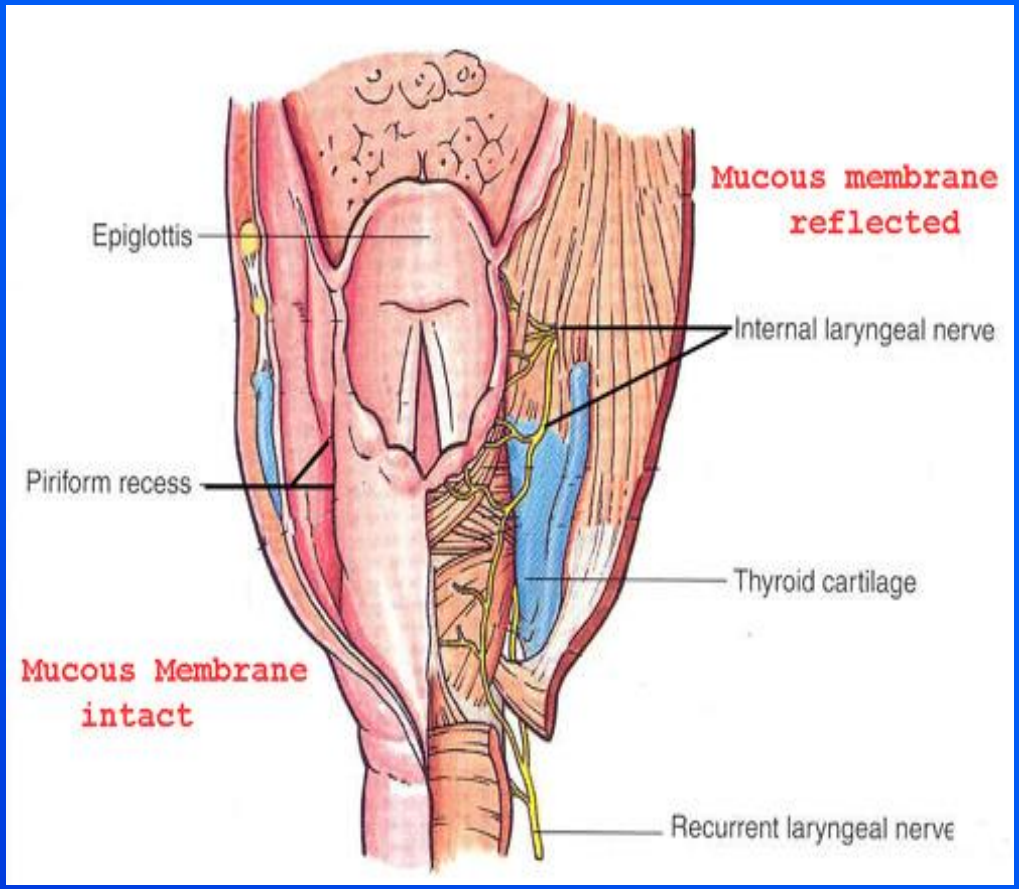
Columnar ciliated in nasopharynx.

Stratified squamous in other areas.

\Sub mucosa –

Lies beneath the mucosa. It is thick and fibrous.

Larynx projects into the pharynx. On either side of laryngeal inlet anteriorly lies two fossae (Piriform fossae). Ingested sharp foreign bodies can lodge there.



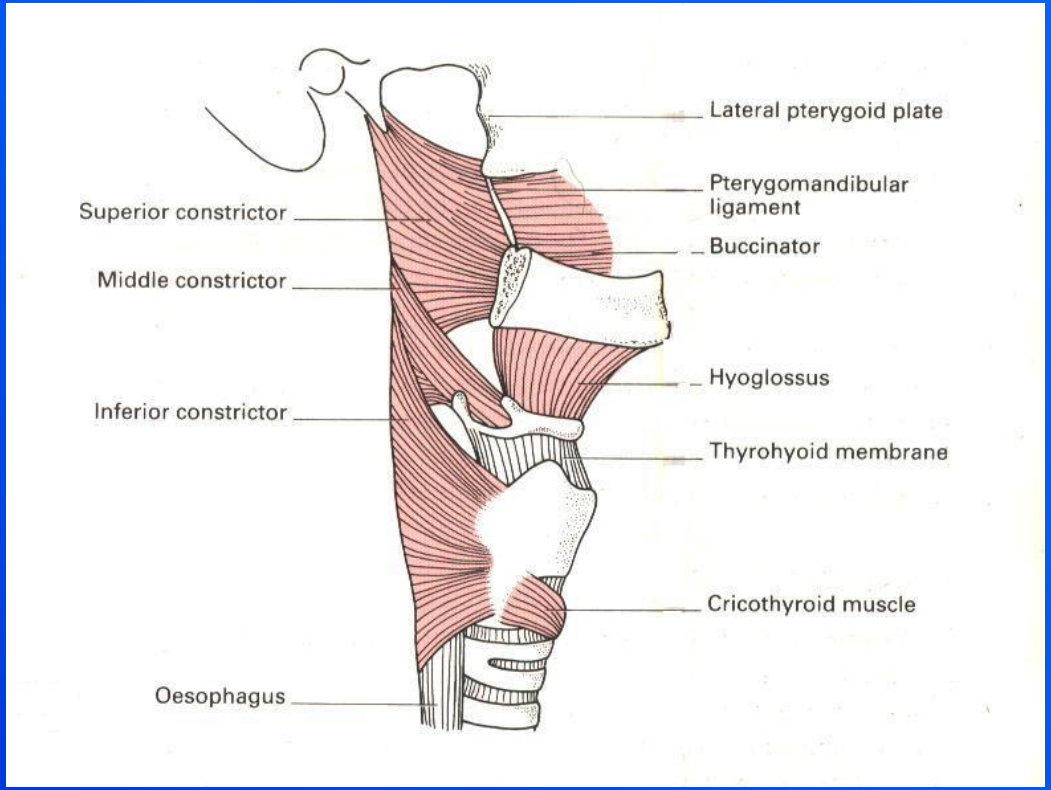
Muscles –

There are three constrictor muscles (superior, middle and inferior).

They are arranged like flower pots placed one inside other, but open in front at the entries of nasal, buccal and laryngeal cavities.

These constrictors are attached anteriorly to the side wall of these cavities.

There are gaps between these constrictors.



Posteriorly they are attached to the median raphe on posterior aspect of pharynx which extend from base of skull to the oesophagus. These muscles are covered by an areolar sheath which is continuous with the buccinator.

Important structures related to the constrictors

Passing above the superior constrictor

- Levator palate
- Tensor palate
- Auditory tube
- Ascending palatine artery
- Ascending pharyngeal artery

Passing between the superior and Middle constrictors

- Stylopharyngeus
- Glossopharyngeal

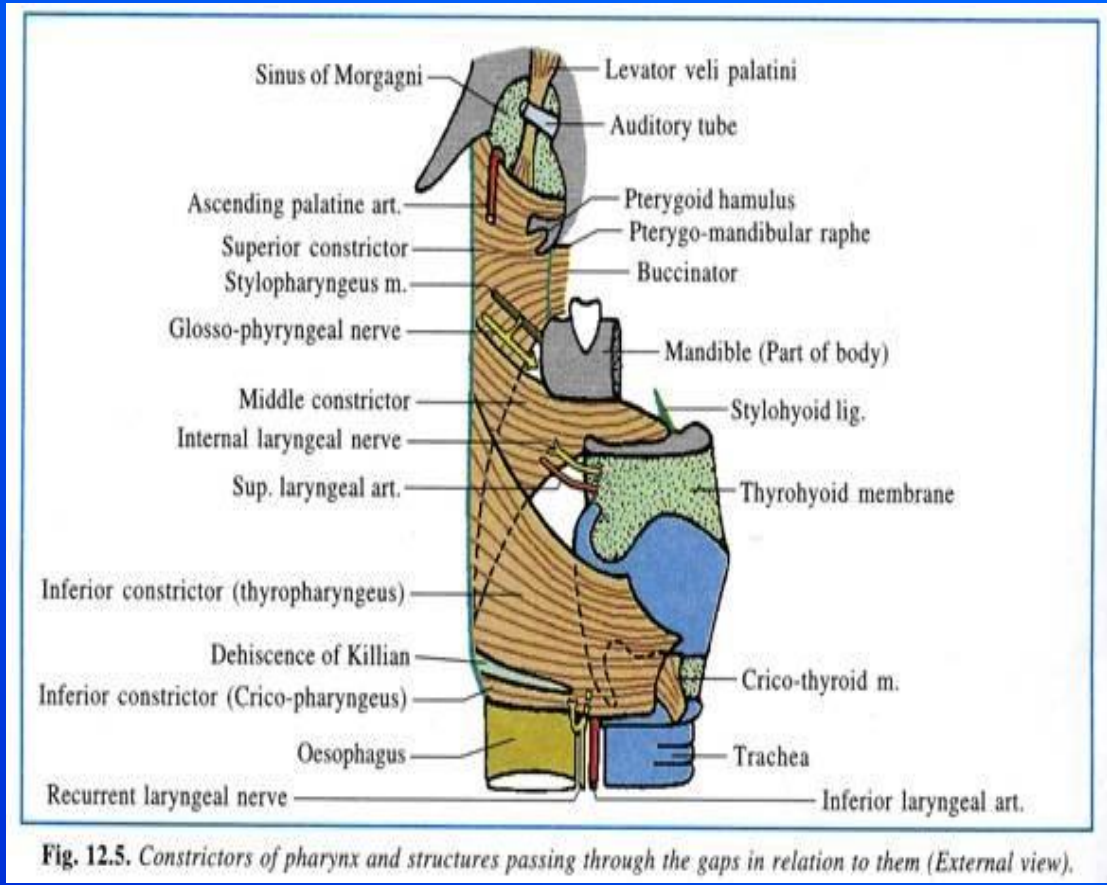


Fig. 12.5. *Constrictors of pharynx and structures passing through the gaps in relation to them (External view).*

Important structures related to the constrictors

Passing between middle and inferior constrictor

Internal laryngeal nerve

Superior laryngeal artery

Passing below the inferior constrictor

Inferior thyroid artery

Recurrent laryngeal nerve

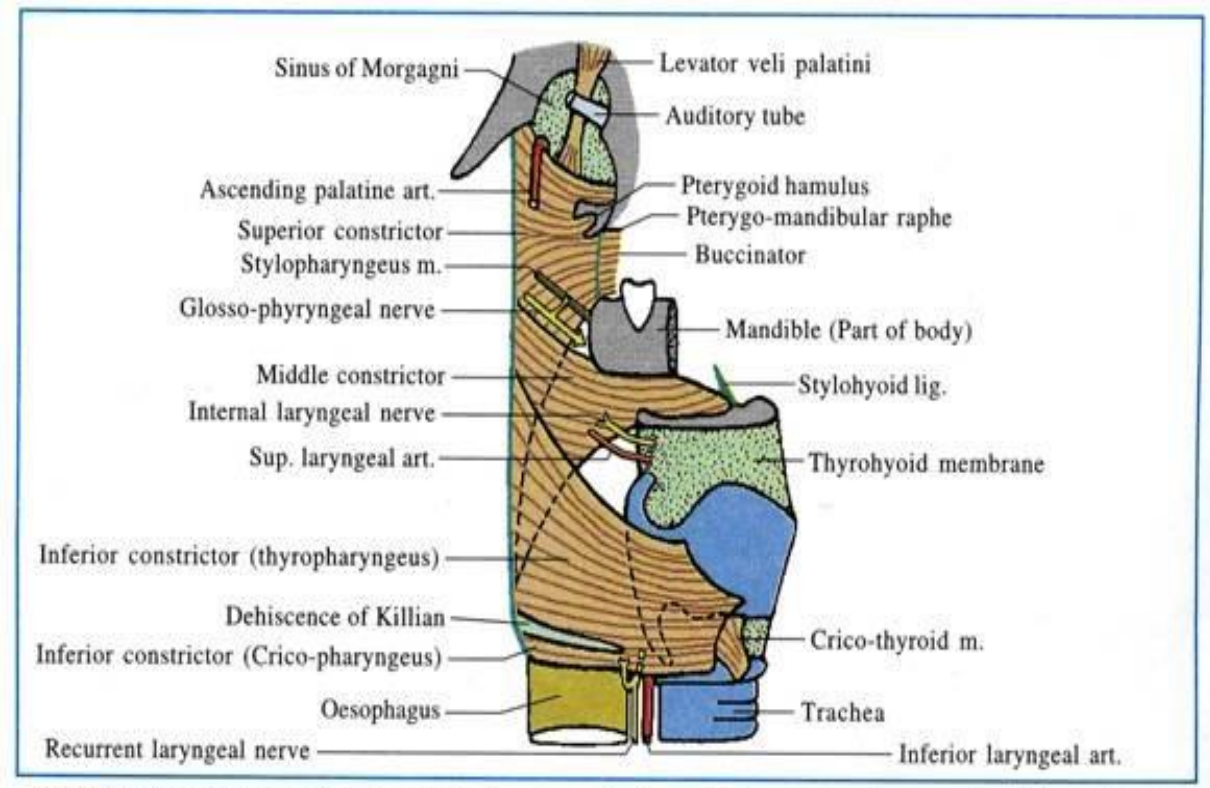


Fig. 12.5. *Constrictors of pharynx and structures passing through the gaps in relation to them (External view).*

Arterial supply –

Ascending pharyngeal and superior thyroid artery.

Venous drainage –

Pharyngeal venous plexus drains into internal jugular vein.

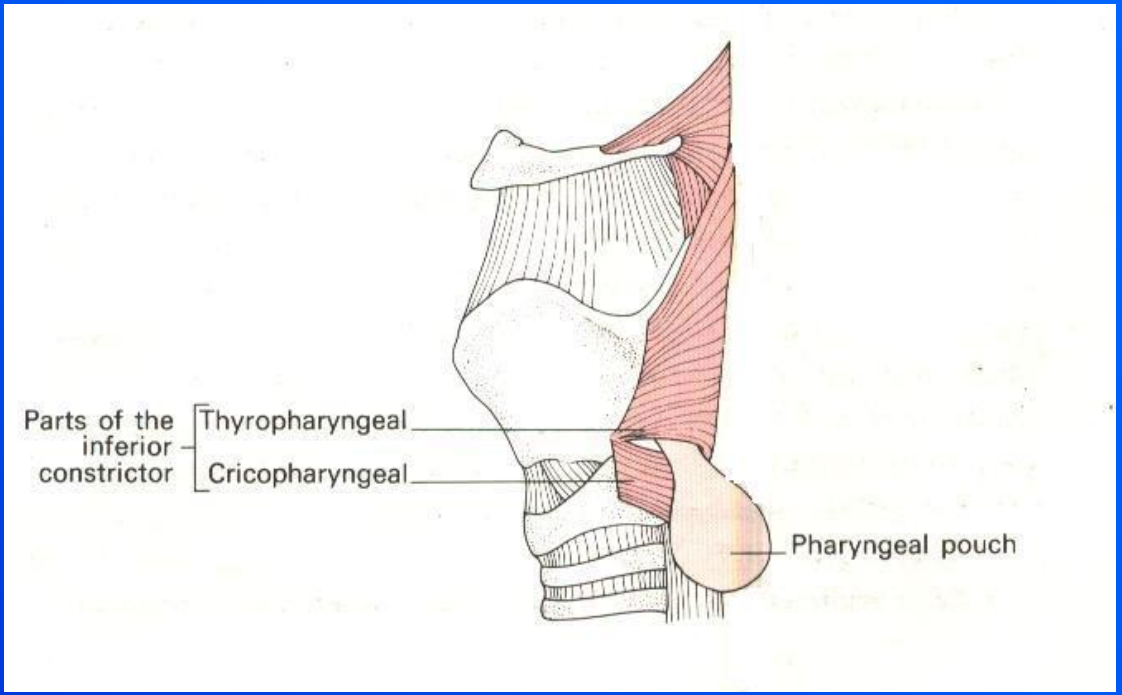
Nerve supply –

Pharyngeal branches of 9th and 10th cranial nerve provides motor and sensory supply. Maxillary branch of 5th nerve is sensory to nasopharynx.

C.F –

Pharyngeal pouch

Deglutition



Epiglottis-

- Leaf shape structure attached to the thyroid cartilage.
- Prevents food from entering the larynx.
- Has a superior and an inferior surface.
- Superior surface lined by stratified squamous epithelium. Inferior surface lined by pseudo stratified columnar cilliated epithelium. There is a transitional zone.