

"Mouth and Palate"

-> Components

- Lips
- Oral cavity
 - Teeth
 - Tongue
 - Palate

» Lips:

- Two fleshy folds surrounding the oral orifice
- Covered on outside by skin and on the inside by mucous membrane
 - Substance: Orbicularis oris
 - Philtrum: A shallow vertical groove seen in the midline on the superficial surface of upper lip
 - Labial frenulae: Median folds of mucous membrane which connects inner surface of the lips to gums

» Oral cavity:

- Mouth extends from lips to pharynx
- Entrance of mouth cavity into pharynx is called oropharyngeal isthmus → Is formed on each side by palatoglossal folds

• Divided into:

- i) Vestibule
- ii) Mouth cavity proper

→ Vestibule

• Boundaries :

- Lips and cheeks externally
 - Tongue and gums internally
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- Communicates to outside of the body by a slit-like space called oral fissure
 - Communicates with mouth cavity proper behind 3rd molar teeth
 - Limited above and below by reflection of mucous membrane from lips and cheeks to gums

- Lateral wall of Vestibule:

- Formed by cheek which is made up of buccinator muscles and is lined by mucous membrane which is attached to buccinator by elastic fibers in submucosa

- Mucous membrane of gingiva (gums) is attached to alveolar periosteum

- Duct of parotid gland opens on a small papillae into the Vestibule opposite the upper second molar teeth

-> Oral cavity proper

- Characteristics:

- Floor: Anterior 2/3 of tongue and by reflection of mucous membrane from side of tongue to gum of mandible

- Frenulum: A midline fold of mucous membrane which connects the undersurface of tongue to the floor of mouth

- Lateral to frenulum: mucous membrane forms a fringed fold called the plica fimbriata

- Submandibular duct opens onto the floor of mouth on either side of frenulum
- Sublingual gland forms sublingual fold (of mucous membrane) in mouth and its ducts open in this fold

» Sensory Innervation:

-> Roof

- Greater palatine and Nasopalatine nerves (maxillary division of Trigeminal nerve)

-> Floor

- Lingual nerve (mandibular division of Trigeminal nerve)
- Taste sensations through chorda tympani branch of facial nerve

-> Cheeks

- Buccal nerve (mandibular division of Trigeminal nerve) → supplies cheeks itself
- Buccal branch of Facial nerve → supplies buccinator

» Palate:

- Forms roof of mouth

- Divided into 2 parts:

- i) Hard palate in front

- ii) Soft palate behind

-> Hard palate

- Formed by palatine process of maxilla and horizontal plates of palatine bone

- Continuous behind with soft plate

-> Soft Palate

- A mobile fold

- Attached to posterior border of hard palate

- Posterolaterally: Continuous with lateral wall of pharynx

- Posteromedially: Free posterior border presents in the midline a conical projection called the uvula

> Composed of:

- Mucous membrane

- Covers upper and lower surfaces of soft palate

– Palatine aponeurosis

- The muscle fibers of the tensor veli palatini converge as they descend from their origin to form a narrow tendon, which turns medially around the pterygoid hamulus.
- The tendon, together with the tendon of the opposite side, expands to form the palatine aponeurosis
- When the muscles of the two sides contract, the soft palate tightens so that it may move upward or downward as a tense sheet
- Attached to posterior border of hard palate

MUSCLE	ORIGIN	INSERTION	NERVE SUPPLY	ACTION
Tensor veli palatini	Spine of sphenoid, auditory tube	With muscle of other sides, forms palatine aponeurosis	Nerve to medial pterygoid from mandibular nerve	Tenses soft palate
Levator veli palatini	Petrous part of the temporal bone, auditory tube	Palatine aponeurosis	Pharyngeal plexus (vagus nerve)	Raises soft palate
Palatoglossus	Palatine aponeurosis	Side of the tongue	Pharyngeal plexus (vagus nerve)	Pulls root of the tongue upward and backward, narrows oropharyngeal isthmus
Palatopharyngeus	Palatine aponeurosis	Posterior border of thyroid cartilage	Pharyngeal plexus (vagus nerve)	Elevates wall of the pharynx, pulls palatopharyngeal folds medially
Musculus uvulae	Posterior border of the hard palate	Mucous membrane of the uvula	Pharyngeal plexus (vagus)	Elevates uvula

» Sensory Innervation of Palate:

- Greater and lesser palatine nerves from the maxillary division of the trigeminal nerve enter the palate through the greater and lesser foramina
- The nasopalatine nerve also a branch of maxillary division of Trigeminal nerve enters the front of the hard palate through the incisive foramen
- The glossopharyngeal nerve also supplies the soft palate

» Blood Supply:

- Greater palatine branch of the maxillary artery
- Ascending palatine branch of the facial artery
 - Ascending pharyngeal artery

» Lymph Drainage:

- Deep cervical lymph nodes

» Palatoglossal arch:

- Fold of mucous membrane containing palatoglossal muscles
- Extends from the soft palate to the side of the tongue
- Marks where mouth becomes the pharynx

» Palatopharyngeal arch:

- Fold of mucous membrane
 - Behind the palatoglossal arch.
- Runs down and laterally to join the pharyngeal wall
 - Muscle contained within
- The fold is the palatopharyngeus muscle

» Movement of Soft Palate:

- Pharyngeal isthmus is closed by raising the soft palate
- Closure occurs during the production of the explosive consonants in speech
- Soft palate is raised by the contraction of the levator veli palatini on each side

- Upper fibers of the superior constrictor muscles contract and pull the posterior pharyngeal wall forward
- The palatopharyngeus muscles are on both sides also contract so that the palatopharyngeal arches are pulled medially, like side curtains
- Nasal part of the pharynx is closed off from the oral part