GIT -Anatomy
Oral Cavity -Anatomy pt (1)

Structures of oral cavity :

1.Lips 2.Cheeks 3.Hard and soft palates 4.Tongue 5.Salivary glands 6.Teeth

Lips :

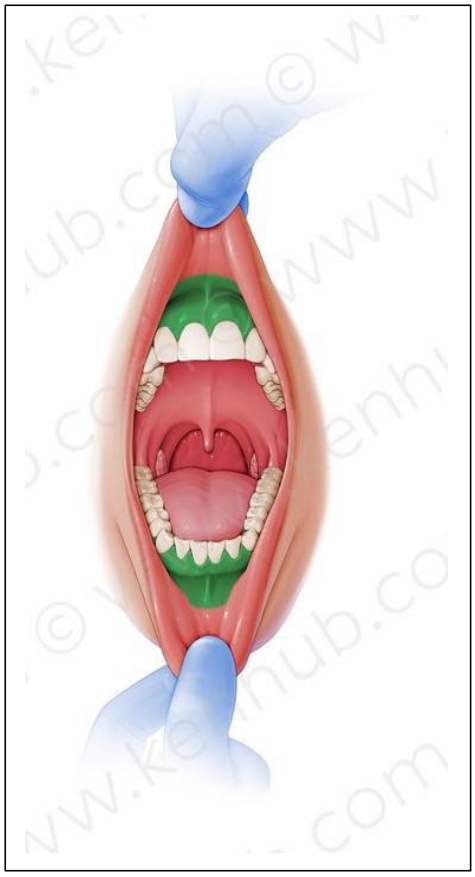
- Fleshy folds around mouth orifice .
-The two lips are separated by Oral fissure and joined laterally at the angle of the mouth .

Oral cavity is separated into 2 regions by the upper and lower dental arches consisting of the teeth and alveolar bone supporting them :

(1) Outer Oral Vestibule
(2) Inner oral cavity proper

1st : Oral Vestibule

- Slit-like space b/w the dental arches and deep surfaces of cheeks and lips .
- Boundaries :



Externally
(1)Anteriorly --> surrounded by the lips .
(2)Laterally --> Cheeks .

Internally is bounded by the teeth and gums
- Interconnected with Oral cavity proper through:

(1) slits b/w teeth .
(2) Retro molar area ;behind the moral teeth .

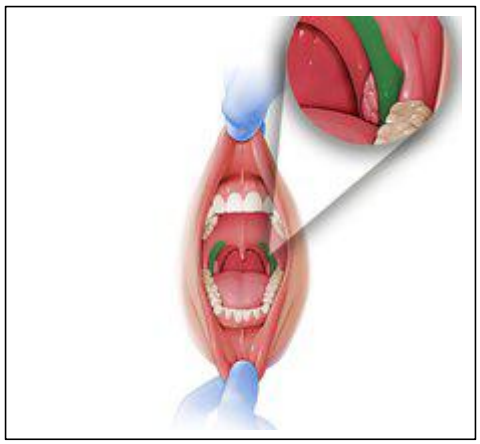
2nd : Oral cavity proper

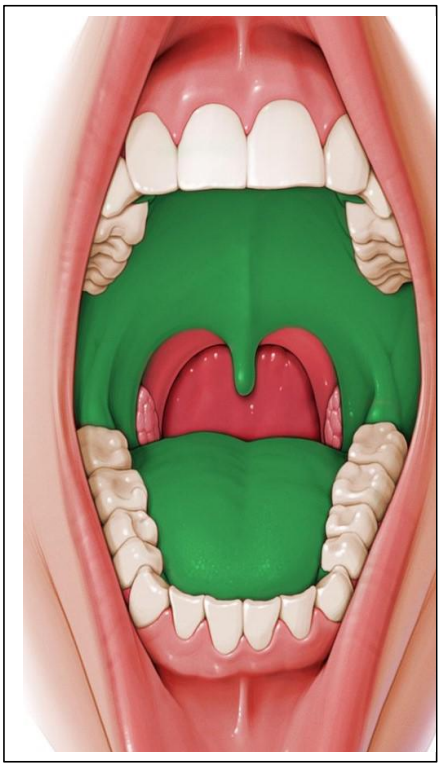
- The space b/w the upper and lower dental arches (Maxillary and mandibular dental arches and the teeth they bear)

- Boundaries :

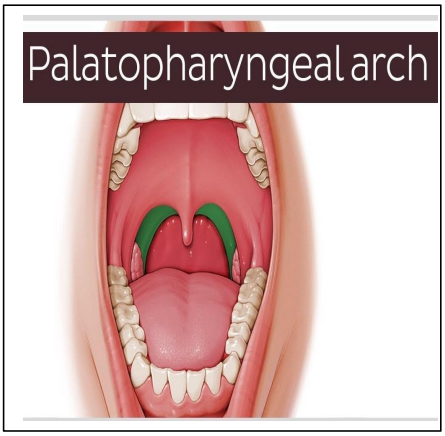
Superiorly --> Hard and soft palates .
Inferiorly --> floor of the mouth ; where the tongue is found.
Posteriorly --> connected to the oropharynx by an opening termed the faucial isthmus ;b/w the palatoglossal arches .

• Superior to the **FAUCIAL ISTHMUS** is the soft palate , Inferiorly is the tongue ;Laterally is palatoglossus muscle; create ridges of mucous membrane in the lateral wall called the palatoglossal arches(aka anterior pillars of the fauces)





• palatopharyngeal arche(aka posterior pillar of fauces) is formed by the projection of the pharyngopalatinus Covered by mucous membrane, projects farther toward the Midline than the palatoglossal arch .

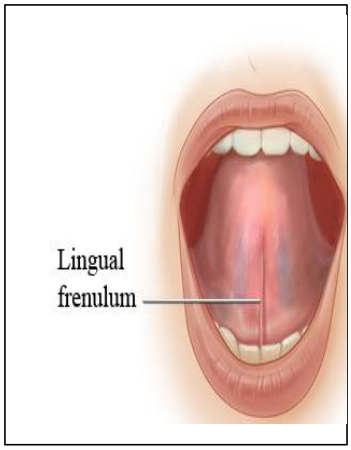


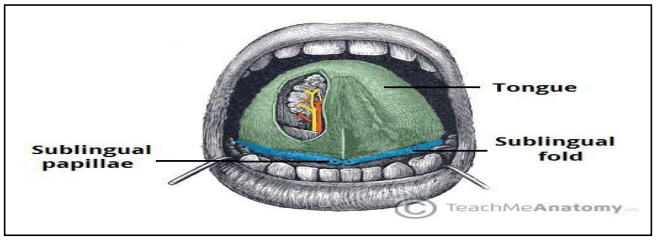
3RD : THE TONGUE

• Covered superiorly and inferiorly by mucous membrane;Inferior mucous membrane connects the inferior surface of the tongue to the floor of the mouth , termed lingual frenulum.

• On both sides of the frenulum , there is and elevation termed sublingual papilla, where submandibular duct (of submandibular Salivary glands)opens .

• Laterally , the sublingual fold(elevated);cover the sublingual salivary Glands ,contains the openings of sublingual ducts .





4TH : TEETH

The 3 basic structures of a tooth :

(1) Crown

(2) Neck

(3) Root ; root canals open by apical foramina (Root end opening) which transmit nerves and BVs to the pulp .

•Thus , root canal comprises of Nerves , Bvs supplying the tooth and the pulp .

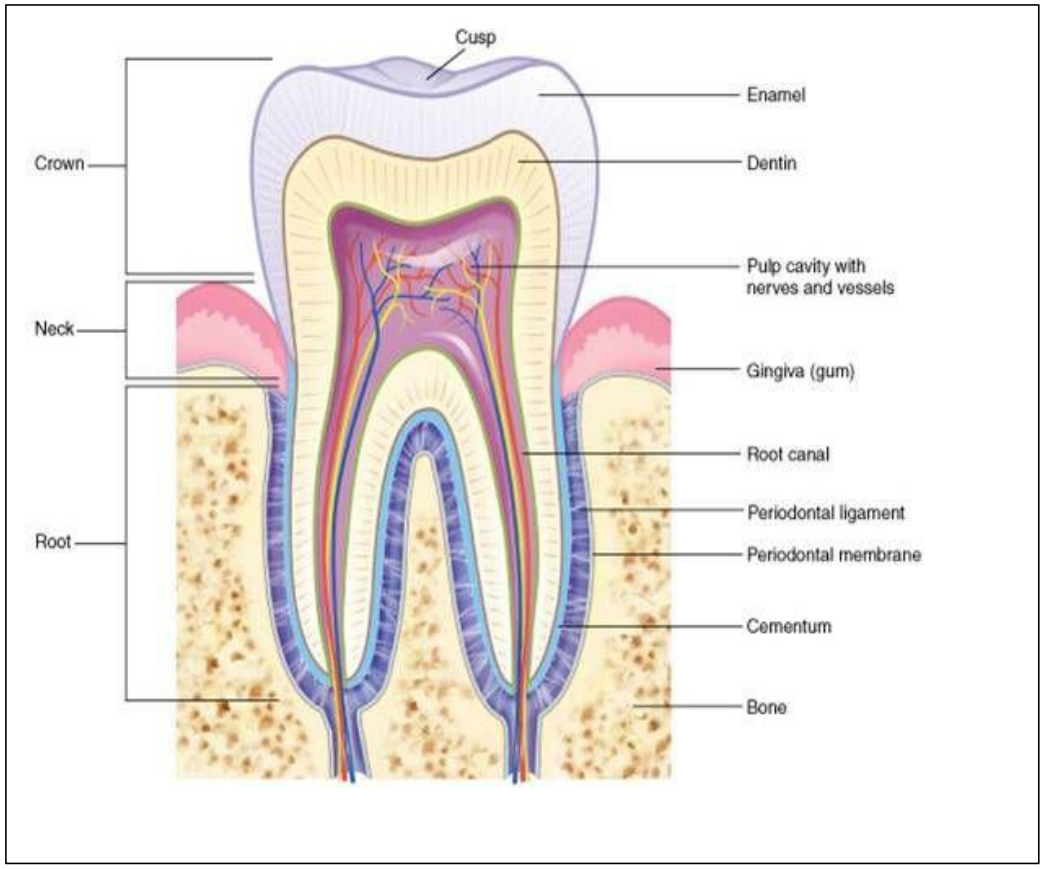
•The pulp itself is covered by 3 calcified tissues :

(1) Dentin ; calcified bony material of the tooth .

(2) Enamel ; the most superficial layer(inorganic) , covering tooth crown .

(3) Cementum ;covering the root of the tooth , connected to the alveolar bone by periodontium to form a fibrous joint b/w the tooth and its socket(alveolus).

•The pulp occupies the pulp cavity .



•The mucous membrane surrounding the tooth is called : Gum ; surrounding the neck loosely not adherent (not fixed to the tooth neck) ,making a cuff-like structure around the neck .

•Teeth of an adult :

(1) The eight incisors cut the food by their edges .

(2) The canines assist in cutting .

(3) The premolars (bicuspids)assist in chewing (crushing)food .

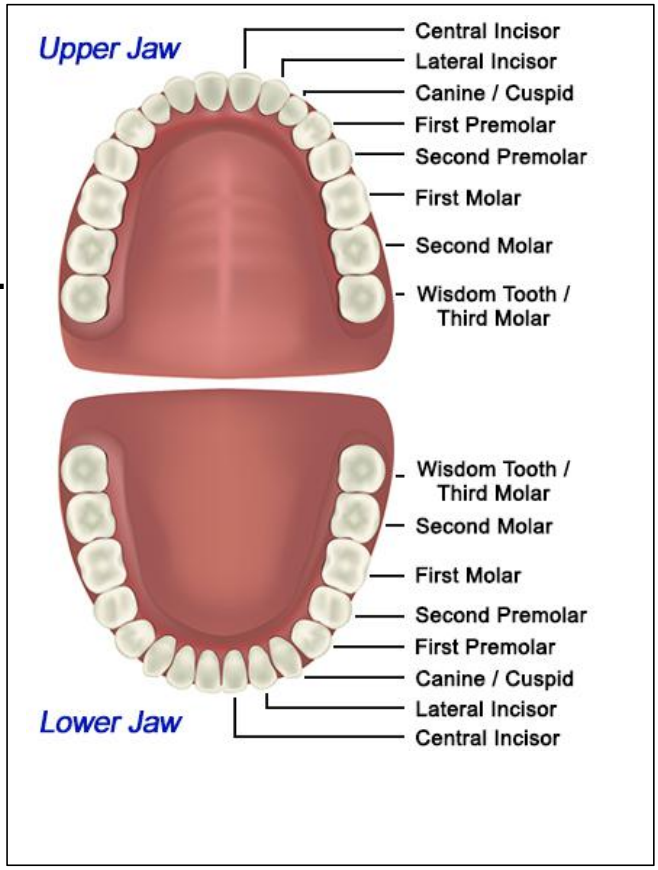
(4) The molars also assist in food chewing and crushing .

-Premolars are bicuspid;whereas molars have tubercles(3-5).

-The tooth is fixed to the alveolar process of mandible and maxilla by : cementum and the periodontal membrane .

((Membrane covering the bone is called periosteum ; in teeth it's called periodontal membrane assists in tooth fixation))

• We have 2 types of teeth ; deciduous (milk) Teeth;counting 20(10/jaw);and permanent teeth.



1ST :DECIDUOUS TEETH

• 20 teeth; 10 in the upper jaw +10 in the Lower.
• They are :
Central incisors , lateral incisors , canines ,first Molar,secondary molars .
• Begins to appear at age of 6 months continue Till the age of 24 months .
• The first tooth to develop is : inferior central Incisor .

2ND : PERMANENT TEETH

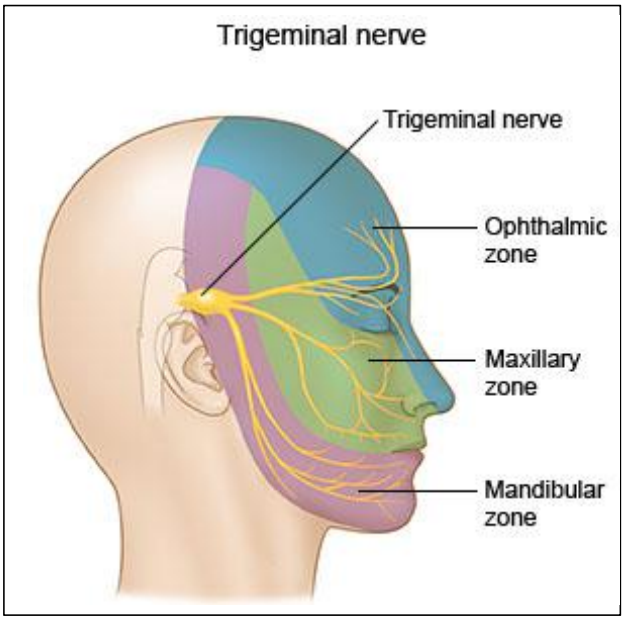
• Begin to appear in the age of 6 years , continue Till the age of 25th .

• The so-called wisdom tooth appears in 18th y and above .
• Counting 32 teeth .
• They are :
2 incisors , 2 canines ,2 premolars , and 3 molars .(18/jaw).
• The 1st tooth of the permanent to appear is the 1st inferior molar tooth (by the age of 6-7y).

• Each of the incisors ,canines and premolars teeth has got only one root ;except the 1st superior premolar tooth which has got 2 roots as to the inferior molars .
• Superior molars have 3 roots .

TEETH INNERVATION :

• The trigeminal nerve (aka 5th cranial nerve/CN V) Is the largest of the cranial nerves ;gives 3 imp Branches :
(1) Ophthalmic nerve ; going through the superior orbital fissure entering the orbital cavity to supply the eye ball .
(2) Maxillary nerve ;passing out of the infraorbital Foramen , in the floor of the orbital cavity,giving off several branches , 2 of them responsible for supplying the upper teeth in the upper jaw and they are : Anterior superior alveolar nerve and posterior superior alveolar nerve .



Thus ; the upper teeth are innervated by the maxillary nerve through the anterior superior alveolar nerve and posterior superior alveolar nerve . The blood supply is also by the maxillary artery accompanied with the nerve supply .

(3) Mandibular nerve ;gives off the inferior alveolar nerve which is responsible for lower teeth innervation .

Inferior alveolar nerve enters mandibular foramen on medial surface of the ramus of the mandible , travels anteriorly through the bone in the mandibular canal .

Branches to the back teeth of the lower jaw originate directly from the inferior alveolar nerve .

Adjacent to the 1st premolar tooth, the inferior alveolar nerve divides into 2 branches to supply the anterior teeth ,they are :

(1) The mental nerve ; exits the mandible through the mental foramen .

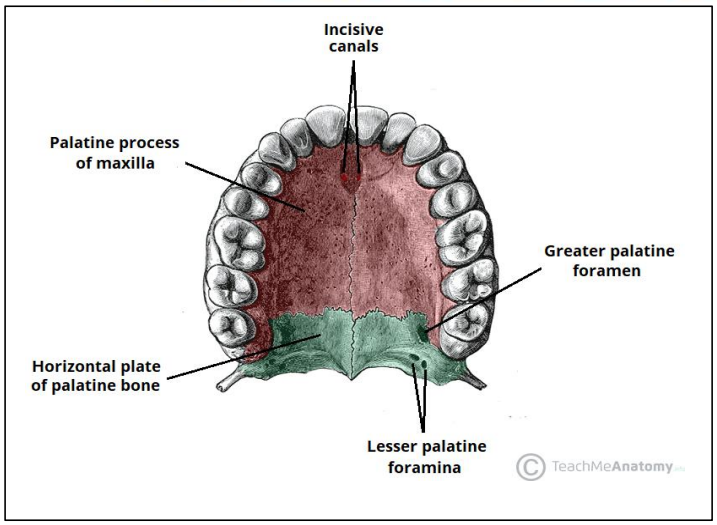
(2) The incisive nerve ; innervates the 1st premolar , canines and the incisors .

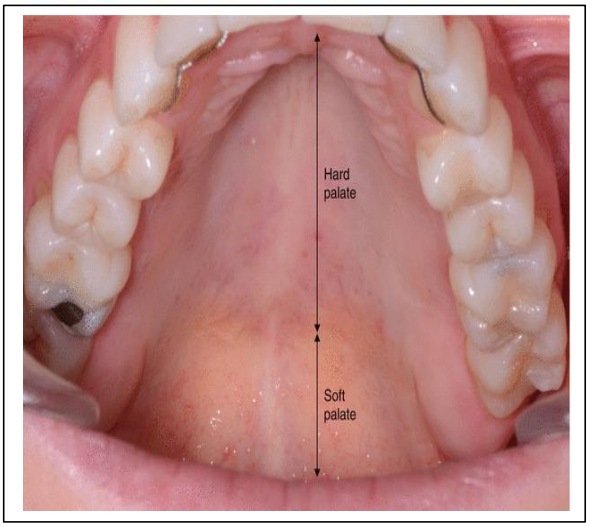
- The incisor is innervated from both sides .

5TH : HARD AND SOFT PALATES

Hard palate

- The hard palate separates the oral cavity from the nasal cavities. It consists of a bony plate covered above and below by mucosa:
- Above, it is covered by respiratory mucosa and forms the floor of the nasal cavities;
- Below , it is covered by a tightly bound layer of oral mucosa and forms much of the roof of the oral cavity





•The hard palate is made up of 2 facial bones ; the palatine process of the maxilla and the horizontal plate of the palatine bone .

•Anteriorly ; there is a foramen called Incisive foramen ;through which the nasopalatine nerve passes (a branch of maxillary nerve).

•Posteriorly , in the horizontal plate there are 2 foramina :
(1) Greater palatine foramen : through which the greater palatine nerve passes .
(2) Lesser palatine foramen : through which the lesser palatine nerve passes.
{Both greater and lesser palatine nerves are branches of the maxillary nerve}.

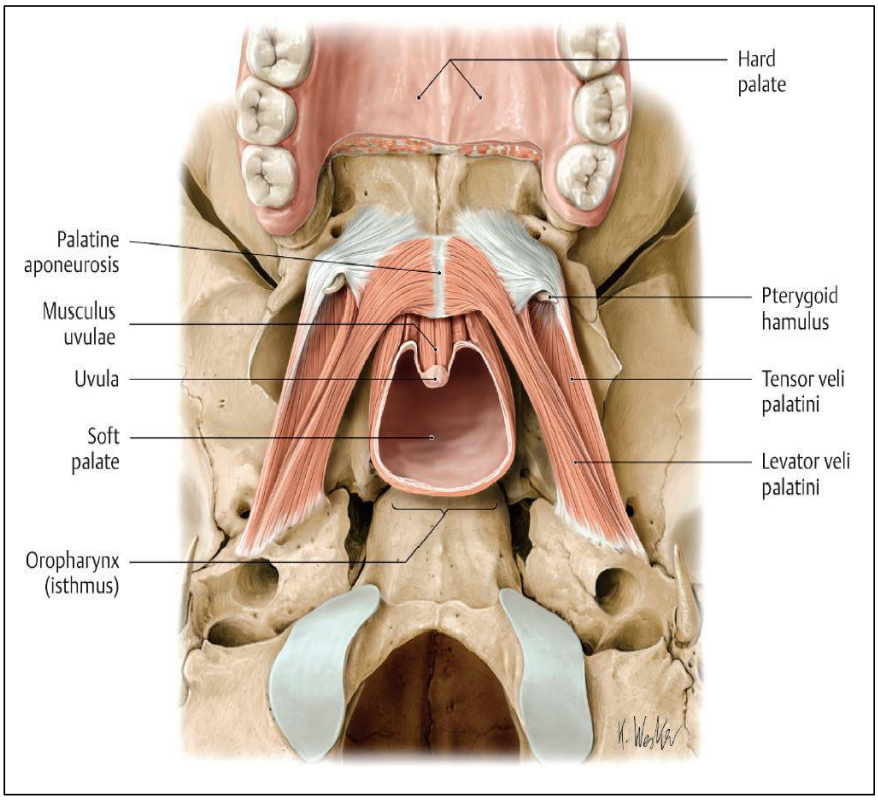
•Bones of the hard palate are covered by a mucous membrane(mucoperiosteum) ; keratinized stratified squamous epithelium .

SOFT PALATE

•Movable part ; separates the oropharynx from the nasopharynx .
{pharynx is divided into 3 parts : Nasopharynx , Oropharynx , laryngopharynx} .

•Inferior part of the soft palate is called Uvula .
•Soft palate is muscular in structure ;whereas the hard palate is bony covered by a mucous membrane .

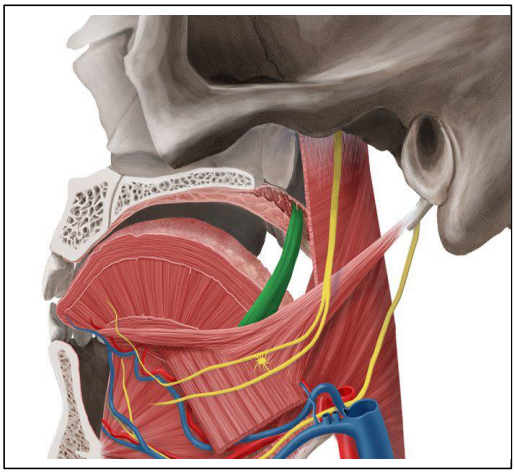
•4 muscles of the Soft Palate :
(1) Tensor veli palatini muscle originates from base of the skull going down , wraps around the Pterygoid hamulus ending with a membrane meets with that of the other side making ,by meeting up Palatine aponeurosis is formed. Superiorly , this muscle is connected with Eustachian tube (aka auditory canal)that connects b/w the middle ear and the pharynx.



(2) Levator veli palatini muscle : Originates from the auditory tube and inserted in the palatine aponeurosis .

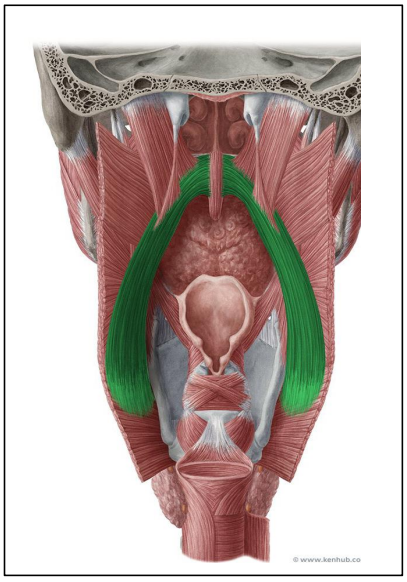
(3)Palatoglossal muscle

Originates from the palate ,inserts in to the side of the tongue .



(4)Palatopharyngeus muscle

Originates from the palate, ending up to the pharynx .



INNERVATION :

Muscles of the soft palate are innervated by the pharyngeal plexus via the vagus nerve, with the exception of the tensor veli palatini which is innervated by the mandibular division of the trigeminal nerve(i.e. Medial pterygoid nerve).