Anatomy

● Sheet ○ Slide

number 1

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1. Skull

Palate: roof of the oral cavity, it has two parts, an anterior hard palate and a posterior soft palate

a. Hard palate:

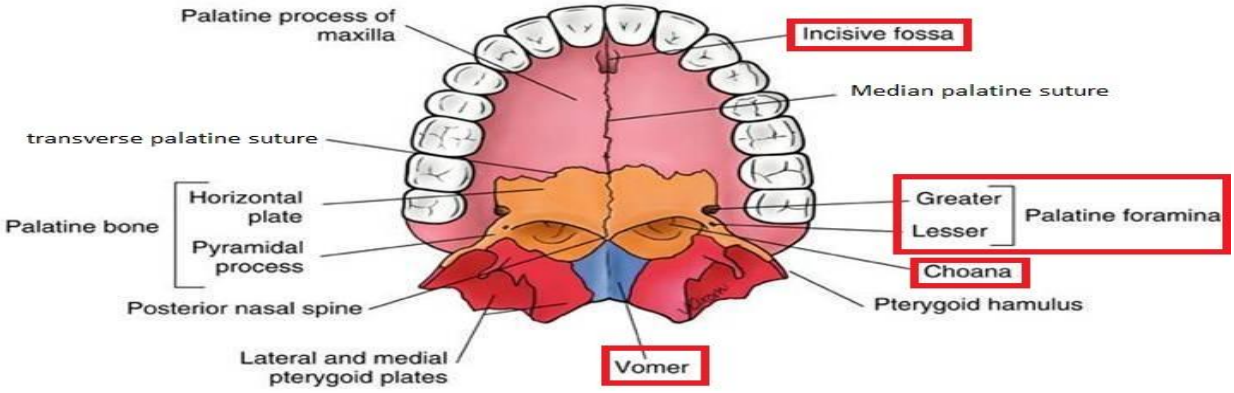
- Separate the nasal cavity from the oral cavity. At the end of the nasal cavity it forms choana it is posterior nasal opening that connect between nasal cavity and nasopharynx. Between two choanas → vomer
- Is made up from two bones → anteriorly: Maxilla, posteriorly: Palatine bone (you'll notice a suture between them).
- Hard palate posteriorly has posterior palatine process and it is the origin for the **soft palate**. An important muscle called tensor veli palatine muscle it extend to make the uvula

Tensor veli palatine muscle is the elevator muscle of the soft palate in the human body.

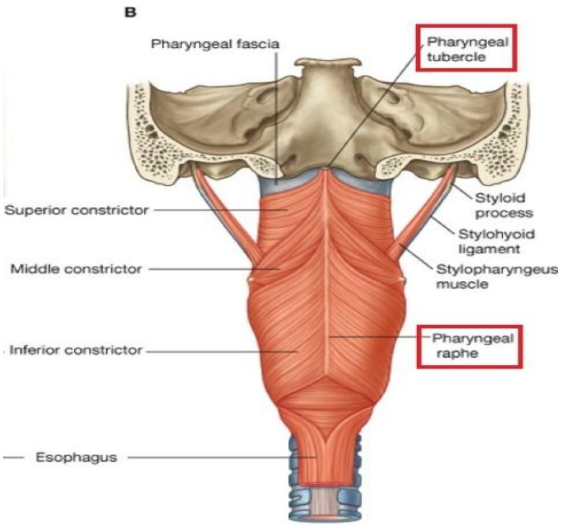
- Incisive foramen → passage for nerves and vessels between oral cavity and nasal cavity, and the incisive foramen either receives a nerve from the nasal cavity supplying the palate or the opposite (receive the nerve from the palate supplying the nasal cavity)

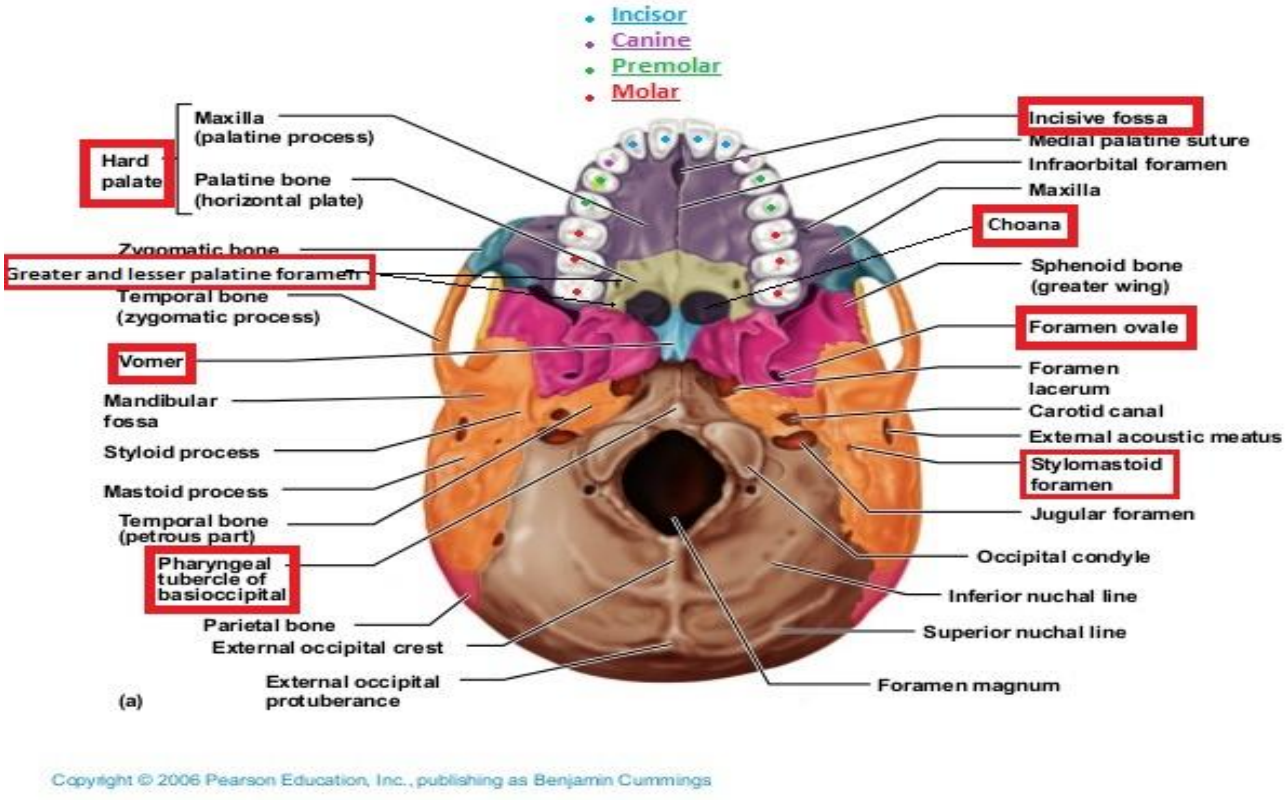
It's opening in the bone of the oral hard palate immediately behind the **incisor** teeth where blood vessels and nerves pass.

- Greater palatine foramen & lesser palatine foramen pass through them greater and lesser palatine vessels and nerves.



b. Pharyngeal raphe starts from the pharyngeal tubercle and the pharyngeal raphe serves as the insertion of all constrictor pharyngeal muscles.





c. Foramen ovale → Otic ganglia is a parasympathetic ganglion located immediately below the foramen ovale which innervate the parotid.

Parotid is innervated by postganglionic from the otic ganglia through the secretomotor nerve auriculotemporal.

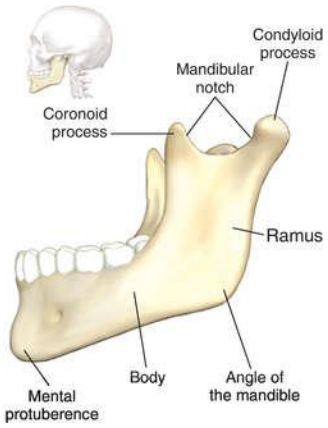
d. Stylomastoid foramen its between styloid and mastoid bones, it transmits the facial nerve. The facial nerve exist in the parotid gland but remember it is only a superficial structure it is from the parotid gland content which has no function over it, it is motor to the muscles of the face.

e. Teeth (in adult)

- Incisors →4
- Canine → 2
- Premolars →4
- Molars → 6

Adult jaw contains 16 teeth.

2. **Mandible** (very important and it comes in the exam)



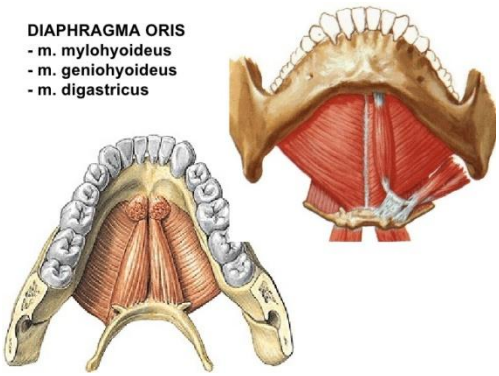
- Parts
  - ✓ Ramus
- Muscles of mastication: masseter, lateral pterygoid, medial pterygoid, and temporalis.
- It has an angle and in the inner part of ramus it contains the insertion of medial pterygoid muscle.
- And on the neck of the condyloid process insertion of lateral pterygoid muscle (it is called pit or fovea on the neck of mandible).
- The head of the condyloid process articulates with the temporal fossa of the skull and it is called tempromanndibular joint and it is the only joint between the mandible and the skull.
- Temporalis muscle is inserted to the coronoid process
- Masseter muscle is inserted to the ramus and coronoid process of the mandible and innervated by the masseteric nerve which crosses the mandibular notch.
- Ramus has two processes and between them notch.
- Inferior alveolar nerve cross the mandibular notch
- Parotid is located on the ramus. Above the masseter muscle.
- Mandibular foramen transmit inferior alveolar nerves (arise from the mandibular nerve) and inferior alveolar vessels (arise from the maxillary artery)
- Mylohyoid groove transmits mylohyoid vessels and nerves (branches from inferior alveolar)

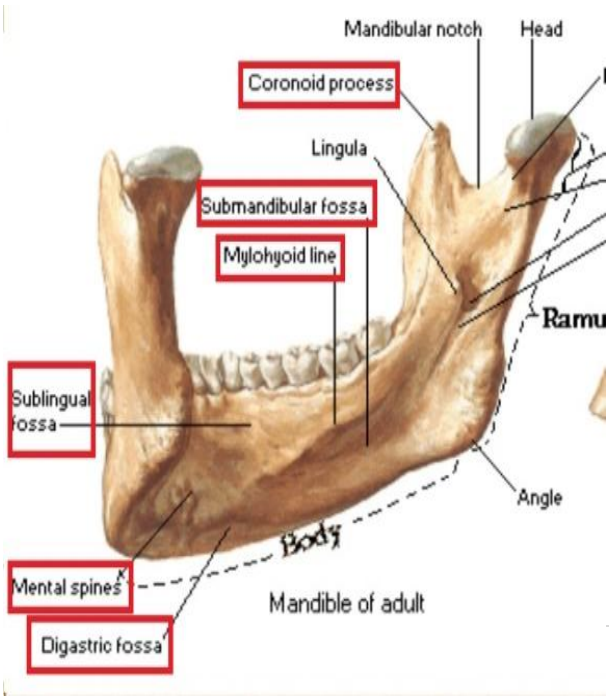
✓ Body

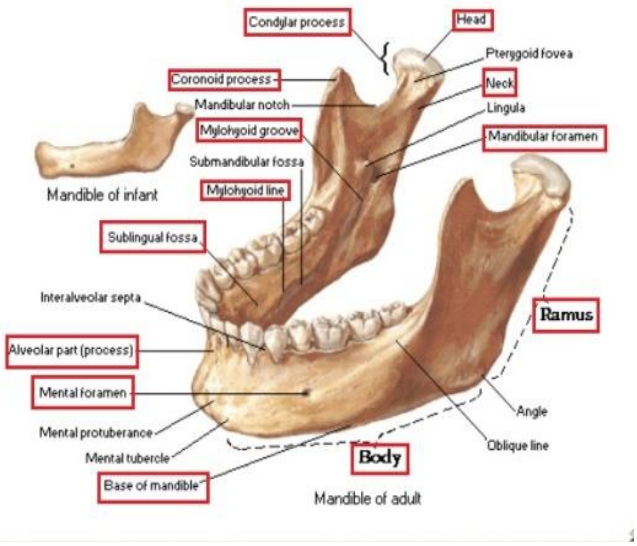
- Mental foramen transmit from it mental nerve and mental vessels
- Alveolar border It has socket for lower teeth
- Last molar tooth deep to it is the linguinal nerve, when removing last molar might injury the linguinal nerve which is responsible for the general sensation(touch, pain, temperature) of the floor of the cavity and the gums internal
- Lower border
- Symphesis menti → anteriorly, Internally it gives inferior genial tubercle and superior genial tubercle they are also called mental spine(origin for genioglossus muscle: extrinsic tongue muscle, it depresses and protrudes the tongue.)
- Digastric fossa (origin for anterior belly of digastric)

✓ Mandible internally

- Mylohyoid line (origin for mylohyoid muscle descend obliquely from the line and make diaphragma oris which is the floor of the oral cavity)
  It separates the submandibular fossa from the sublingual fossa (seperates between two glands) it also separate between the deep and superficial submandibular.





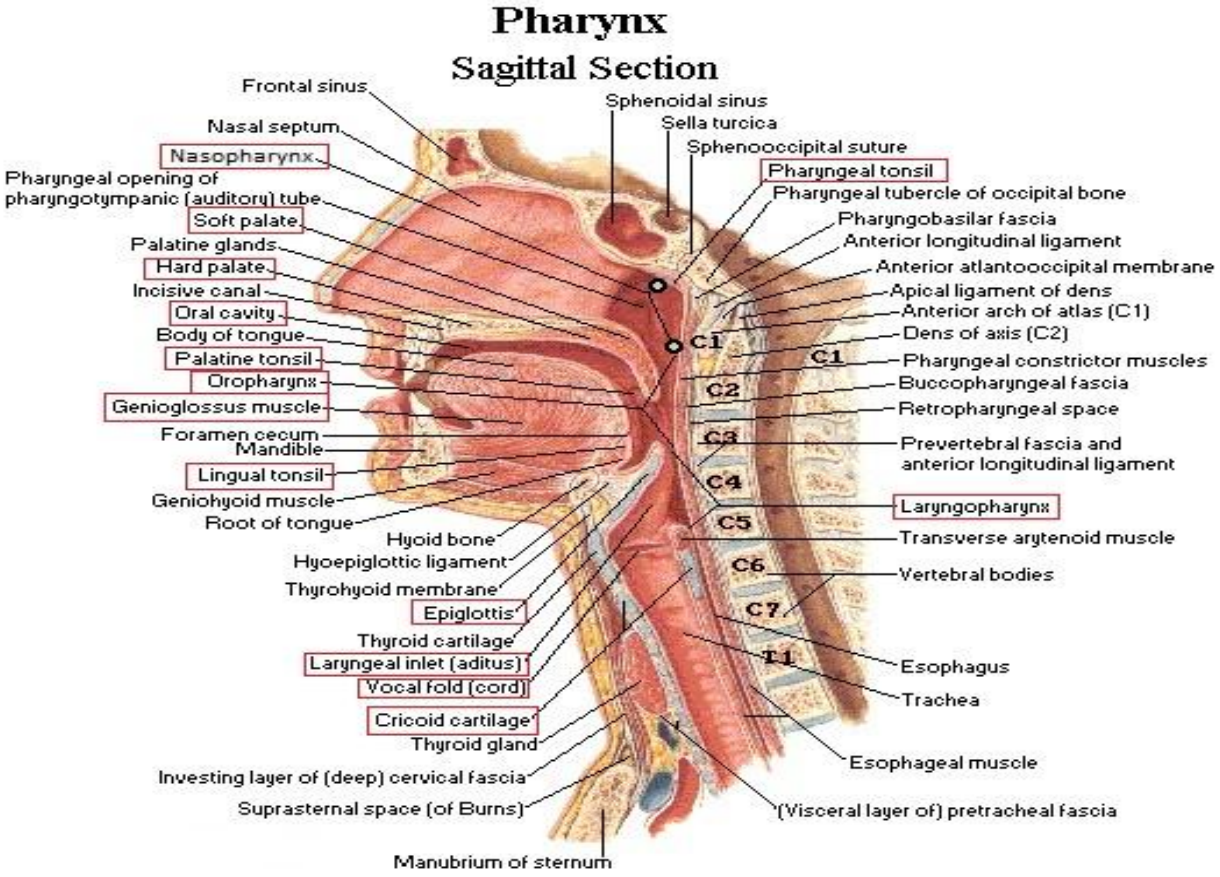


Nerves related directly to the mandibular:

- Lingual nerve
- Inferior alveolar nerve
- Buccal nerve which is a branch from the mandibular
- Masseteric nerve
- Mylohyoid nerve
- Mental nerve

Arteries related directly to the mandibular:

- Facial artery
- Inferior alveolar vessels
- Mental vessels
- Massetric vessels
- Maxillary vessels
- Auricotemporal vessels
- Mylohyoid vessels



In the picture above you can see the nasal cavity, the hard palate, the soft palate and the oral cavity.

On the lateral wall after the hard palate there's the soft palate and you can see the palatine tonsil, the lingual tonsil, but on the roof you can see adenoid tonsil (pharyngeal tonsil).

Pharynx begins at the base of the skull and end at the cricoid cartilage and it divide into 3 parts: the nasopharynx, the

oropharynx, and the laryngopharynx. Notice the epiglottis, the inlet of the larynx.

Infront of the esophagus → trachea

The fan shaped muscle is called Genioglossus muscle originated from superior genial tubercle.

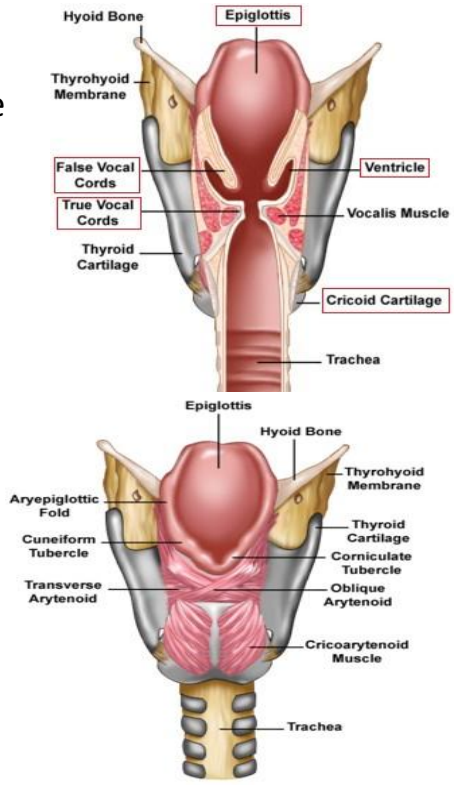
Look at the **larynx** it has the epiglottis, the vocal cords (notice the true vocal cord and the false vocal cord), ventricle.

Inlet of larynx superiorly in epiglottis → aryepiglottic fold

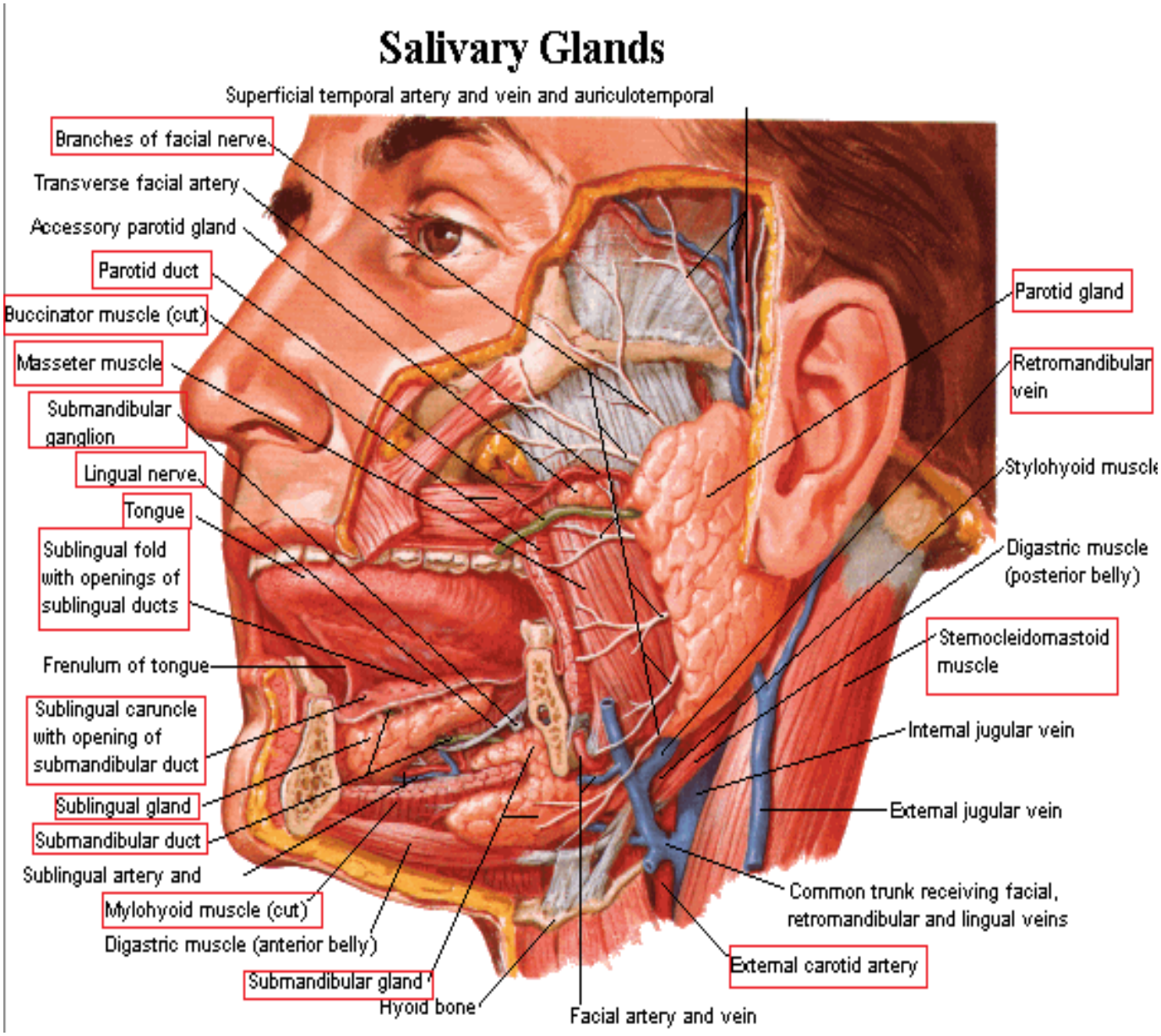
Deglutition process ?

As the bolus move, it pushes the epiglottis downward and the larynx will move upward with contraction of of the aryepiglottis fold → closure of the inlet

Piriform fossa→ anterolateral



3. Salivary Glands:



- **Parotid gland** base is <u>superficial</u> and the apex descends downward to the angle of mandible and the parotid gland posteriorly overlies the <u>sternocleidomastoid muscle and the masseter muscle</u>. Notice the <u>facial nerve</u> and its branches (five branches).

  Contents: facial nerve, retromandibular vein, external carotid artery, parotid lymph nodes, auriclotemporal nerve

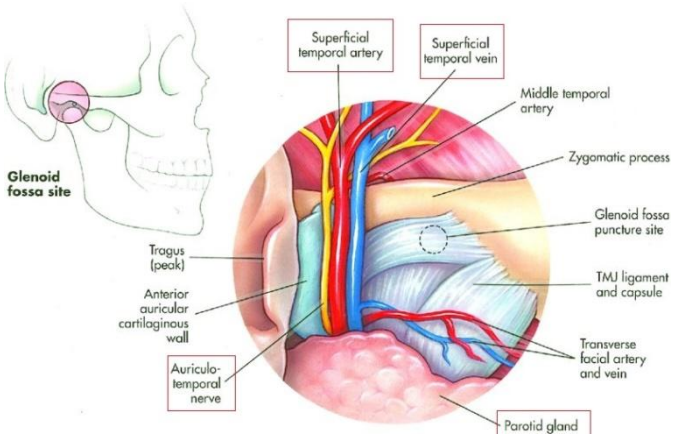
Notice the **parotid duct** <u>crosses the masseter</u> and <u>peirce the buccinators</u> and it is finger below zygomatic arch (surface anatomy).

- **Submandibular gland** is divided into superficial and deep lobes, which are separated by the mylohyoid muscle: The superficial is located on the submandibular fossa while the deep is deep to mylohyoid muscle.
  Lingual nerve joins the chorda tympani through an acute angle which carries the preganglionic parasympathetic fibers.

The origin of the mandibular nerve is under the foramen ovale and it gives its branches.

- **Sublingual gland** is located under the tongue.

Notice Mylohyoid , Superficial temporal vessels (artery and vein)
Superficial temporal vessels run with auriculotemporal nerve but the auricotempral n. is deep and more medial.



On the other side submandibular notice the mandibular nerve branches **inferior alveolar** and mylohyoid and **lingual**

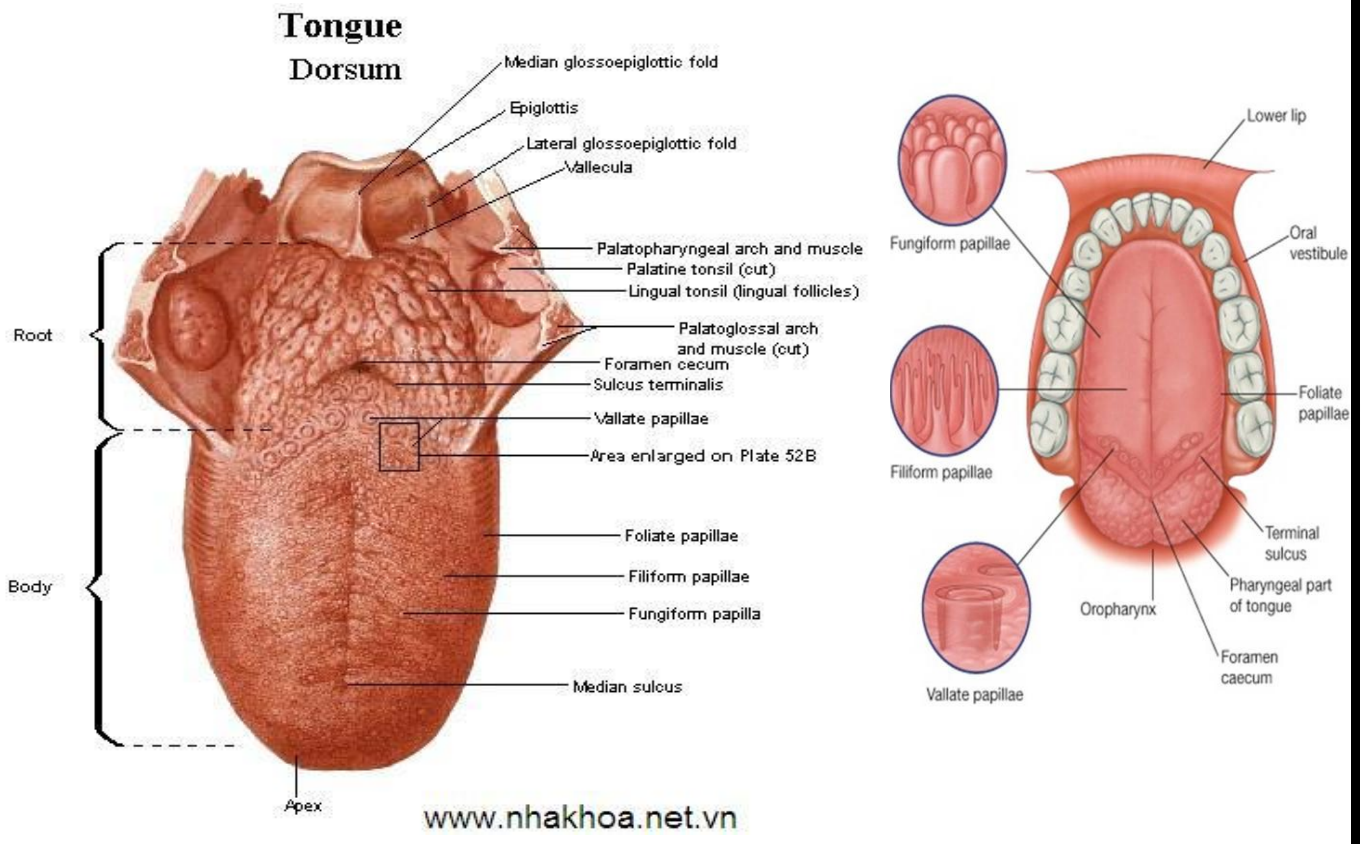
4. **Tongue**
   Foramen cecum thyroid gland develop from it, thyroglossal duct descend from it.
   Sulcus terminalis separate posterior 1/3 (lingual tonsil) from the anterior 2/3 which has Filiform papillae

Circumvallaete papillae around it groove

- Epithelium:

- 2/3 dorsal surface of the tongue: para keratinized stratified squamous
- Lower surface of the tongue: non keratinized stratified squamous

Between the tongue and the epiglottis: in the middle→ median glossoepiglottic fold, lateral glossoepiglottic fold and between them vallecula.



<u>5 structure between hyoglossus and mylohyoid</u>

1. Hypoglossal nerve → tongue muscle
2. Lingual nerve → give ganglia
3. **Deep** part of submandibular.
4. Submandibular duct→ crossing with lingual
5. Submandibular ganglion

<u>Medial to sublingual gland</u>

- Lingual nerve
- Submandibular duct
- Styloglossus and genioglossus muscles

<u>Inner surface</u>

- Tongue
- Soft palate
- Eustachian tube
- Choanae
- Hard palate
- Tubal elevation
- Salpingopharyngeal fold
- Adenoid in the roof
- Palatine tonsil infornt of it palatglossal fold behind it palatopharyngeal fold