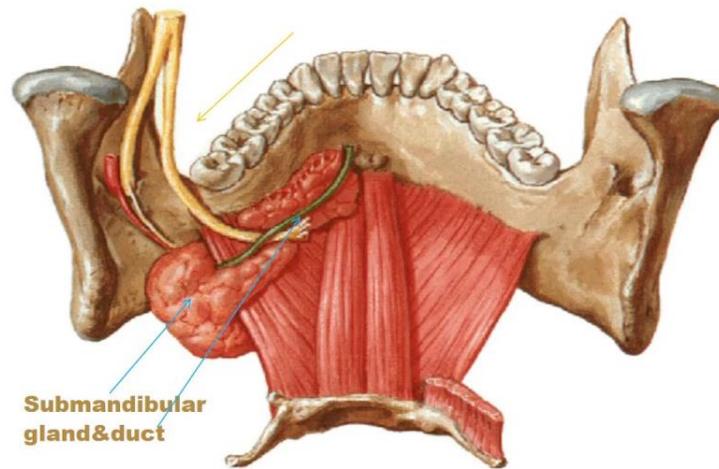


Anatomy lec9

Salivary glands

- 1) Parotid gland:
- 2) Submandibular salivary gland:



Position:

- It lies deep to the mandible between the **mylohyoid muscle** and the **mandible**, within the **digastric triangle**
- It lies in the **submandibular fossa** on the body of mandible
- It extends from the level of **mental foramen** *anteriorly*, to the **angle of mandible** *posteriorly*

Parts:

1. **Superficial part** (large): superficial to the mylohyoid m.
2. **Deep part** (small, tongue shaped): it curves around the free posterior border of the mylohyoid muscle, and lies on the **hyoglossus muscle**

ال mylohyoid m. موجودة مابينهم

3. **The submandibular duct:** it emerges from the superficial part to run anteriorly along the deep part

Relations:

- **The superficial part**
 - The **lateral surface** is related anteriorly to the mandible, posteriorly to the medial pterygoid muscle
 - The **inferolateral** surface is covered by **skin**
 - The **medial surface** is related anteriorly to the mylohyoid muscle and the anterior belly of digastric, posteriorly it is **grooved by the facial artery**
- **The deep part (between 2 muscles and 2 nerves)**
 - It extends forwards along the duct of the gland on the hyoglossus muscle, deep to the mylohyoid muscle.
 - It's between the lingual nerve (above) & hypoglossal nerve (below)

The submandibular duct:

- It's 5cm (2" inches) long from the medial surface of the superficial part
- It runs along the deep part
- It runs below the **sublingual fold** in the floor of the oral cavity
- It opens into the floor of the mouth close to the frenulum of the tongue on the **sublingual papillae**
- **Lingual nerve** has triple relation with the duct (lateral then inferior then medially)

Note: the sublingual fold contains **submandibular duct** and **sublingual salivary gland**

the blood supply:

- Mainly from branches of the **facial artery**, few branches from lingual artery
- Drained mainly by the **facial vein**

The nerve supply:

- **The secretomotor (parasympathetic) (for sublingual & submandibular glands):** preganglionic fibers from the **superior salivary nucleus**, pass along the **facial nerve** then along **corda tympani** branch which joins **lingual nerve**. They relay in **submandibular ganglion**, the postganglionic fibers supply the **submandibular & sublingual glands**
- **Sensory** → lingual nerve

Lymph drainage:

The gland is drained mainly into the **submandibular** and **upper deep cervical** lymph nodes

3) Sublingual salivary gland:

- It's the smallest salivary gland
- It has 10 to 20 ducts that open directly into floor of the mouth or into the submandibular duct
- **Relations:**
 - **Superiorly:** the mucous membrane of the floor of the mouth that forms the sublingual fold
 - **Inferiorly:** the mylohyoid muscle
 - **Laterally:** the sublingual fossa of the mandible
 - **Medially:** the genioglossus muscle, submandibular duct, and lingual nerve
- **Nerve supply and lymph drainage:** same as submandibular gland
- **Blood supply:** lingual nerve

The tongue

- It's a muscular organ that lies on the floor of the oral cavity proper
- It has a **free apex** (anteriorly) and a **fixed base** (posteriorly)

- Its inferior (ventral) surface is smooth, there is a median mucous fold at the midline (**frenulum**) & **plica fimbriata** on each side
- On each side of the frenulum there are also the sublingual papillae
- The upper (dorsal) surface is rough with tongue papillae
- There is a V-shaped sulcus terminalis which separated it into:
 - 1) **Oral part (anterior 2/3)**: has papillae
 - 2) **Pharyngeal part (posterior 1/3)**: nodular & no papillae

∞ Muscles of the tongue:

- 4 **extrinsic muscles** (change position)
- 4 **intrinsic muscles** (change shape)

1. The extrinsic muscles:

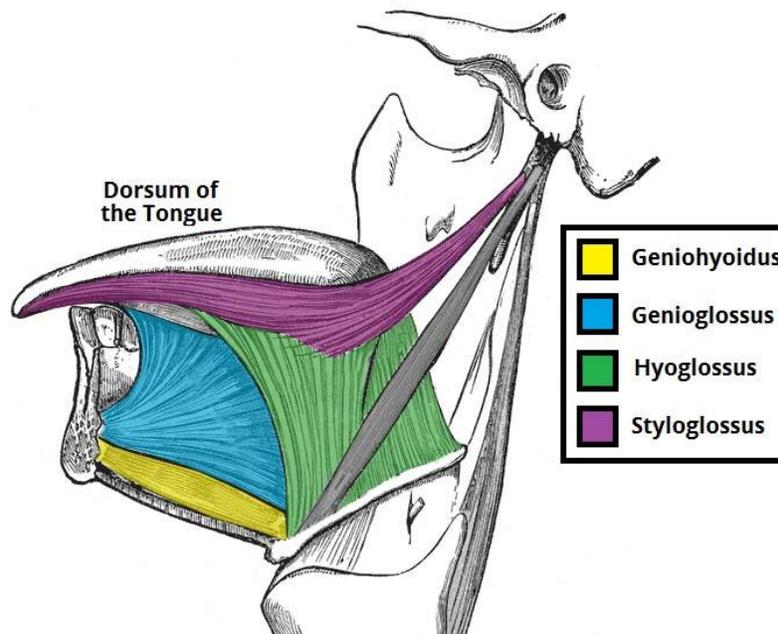
- **Genioglossus:**

- **Origin:** upper genial tubercle
- **Insertion:** all parts of the tongue
- **Nerve supply:** hypoglossal n.
- **Action:** both muscles (bilateral) **protrude the tongue**. One muscle (unilateral) **pulls the tongue to the opposite side**

- **Hyoglossus:**

- It's a **quadrilateral muscle**
- **Origin:** hyoid bone
- **Insertion:** posterior part of the **side** of the tongue
- **Nerve supply:** hypoglossal n.
- **Action:** depress tongue
- **Relations of hyoglossus muscle of tongue:**
 - **Superficial to it:**
 - Lingual nerve
 - Hypoglossal nerve
 - Deep part of submandibular salivary gland & submandibular duct

- Deep to it:
 - Lingual artery
 - Glossopharyngeal nerve
 - Stylohyoid ligament
- **Styloglossus:**
 - **Origin:** styloid process
 - **Insertion:** posterior part of tongue
 - **Nerve supply:** hypoglossal n.
 - **Action:** retract tongue
- **Palatoglossal:**
 - **Nerve supply:** nerve fibers from cranial accessory (11th) through pharyngeal branch of vagus
 - **Action:** weak elevator of tongue (main elevator is mylohyoid)



2. The intrinsic muscles:

- They are responsible for changing the shape of the tongue
- **Nerve supply:** hypoglossal n.
- **Superior longitudinal**
- **Inferior longitudinal**

- **Verticalis**
- **Horizontalis**

∞ Blood supply of tongue

- **lingual artery:**
 - it's a branch of external carotid artery
 - it passes deep to hyoglossus muscle
 - it's divided by hyoglossus m. into 3 parts:
 1. **first part:** it gives the suprahyoid artery
 2. **second part:** it gives the dorsal arteries of the tongue (dorsal lingual a.)
 3. **third part:** it gives the sublingual artery to sublingual s.g.
- **lingual vein:** it drains into the internal jugular vein

∞ nerve supply of the tongue

- **motor:**
 - all muscles of the tongue are supplied by the **hypoglossal nerve** (12th cranial) except **palatoglossus** which is supplied by **pharyngeal branch of vagus**
- **sensory:**
 - **anterior 2/3 of tongue:** **lingual nerve** (general sensation) and **corda tympani** (taste sensation)
 - **posterior 1/3 of tongue:** **glossopharyngeal nerve** (9th cranial) for both general & taste sensations

∞ lymph drainage of the tongue

- **tip of tongue** → submental lymph node
- **sides of tongue** → submandibular lymph node
- **posterior 1/3** → jugulo-omohyoid lymph node (deep cervical l.n.)