

# ***Submandibular & Sublingual Glands***

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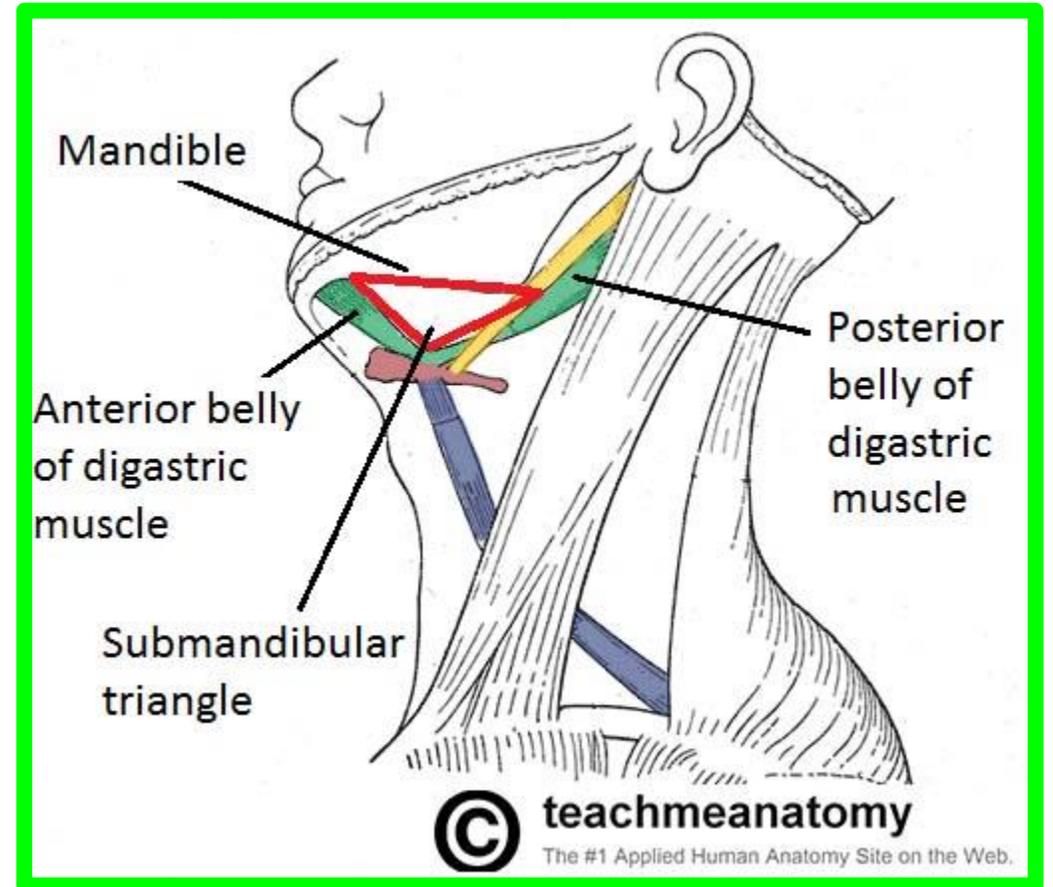
# The submandibular triangle / Anterior Cervical Region

✓ is a glandular area between **the inferior border of the mandible** and **the anterior and posterior bellies of the digastric muscle**.

✓ **The floor** is formed by **the mylohyoid** and **hyoglossus muscles** and **the middle constrictor muscle of the pharynx**.

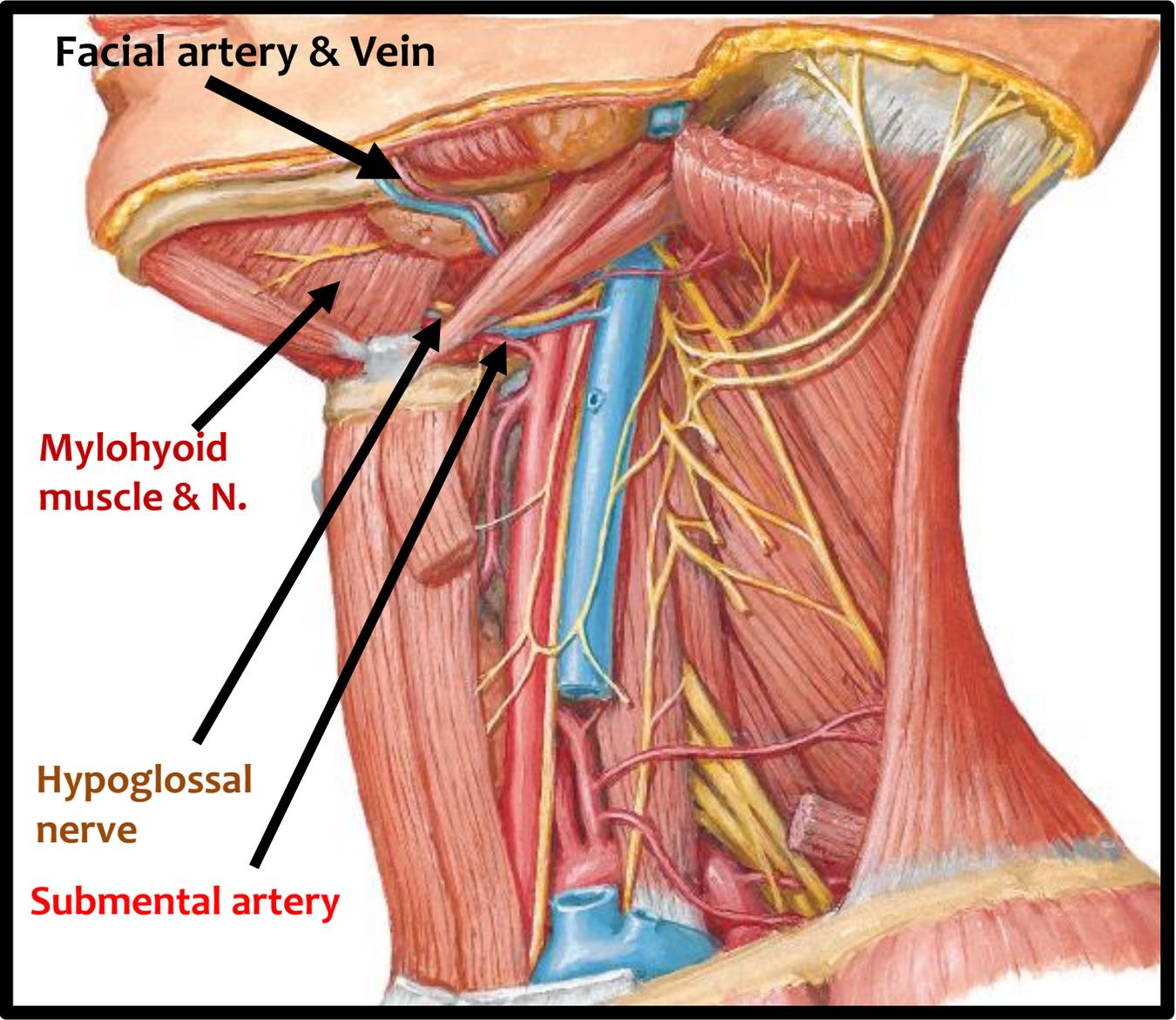
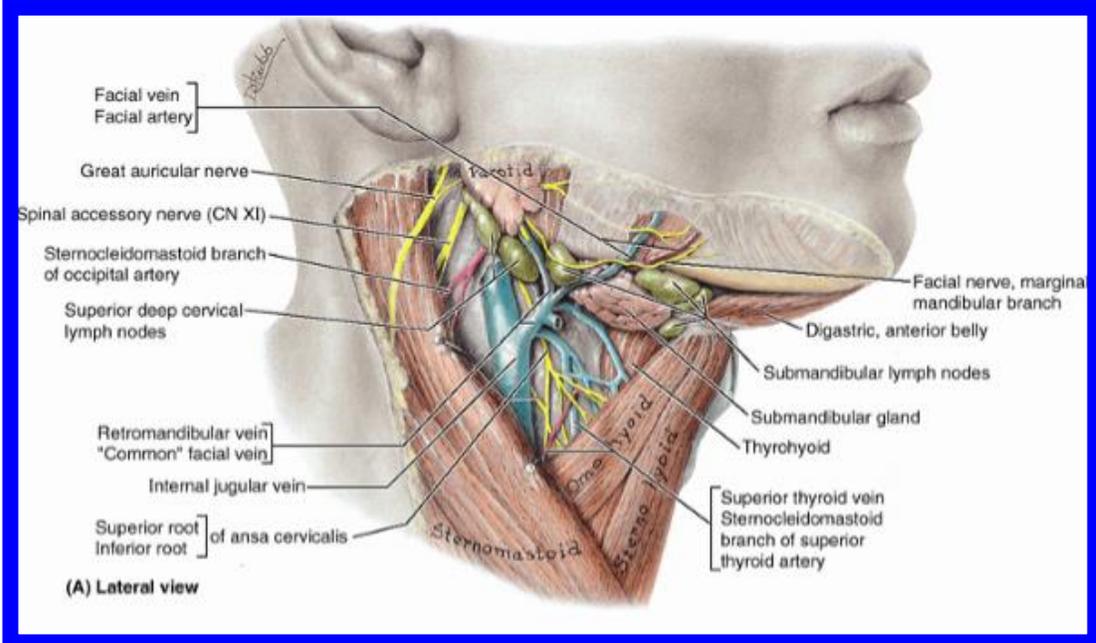
✓ **The submandibular gland** nearly fills this triangle.

✓ **Submandibular lymph nodes** lie on each side of the submandibular gland and along the inferior border of the mandible



# The submandibular triangle Anterior Cervical Region

- ✓ The hypoglossal nerve (CN XII)
- ✓ The mylohyoid muscle Nerve (a branch of CN V<sub>3</sub>, which also supplies the anterior belly of the digastric),
- ✓ Parts of the facial artery and vein,
- ✓ The submental artery (a branch of the facial artery)

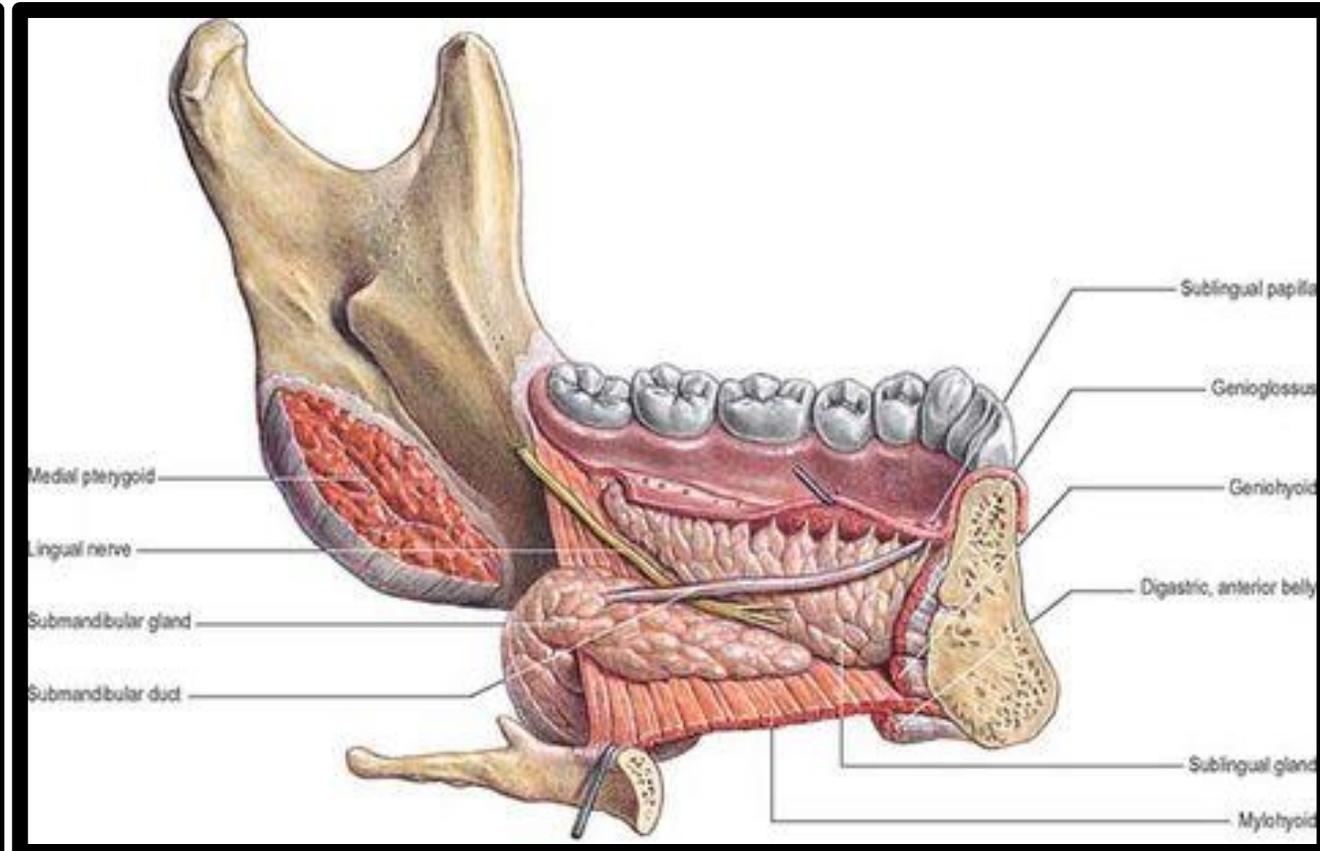
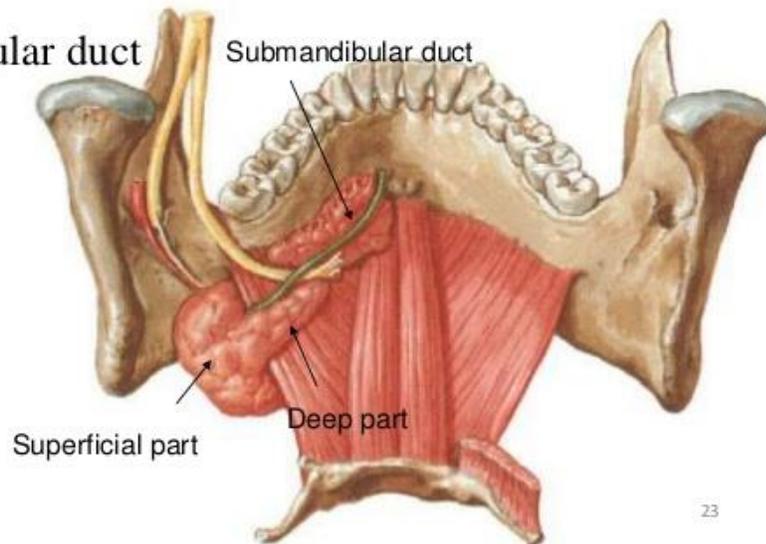


# Submandibular gland

The submandibular gland, mixed mucous and serous in type, consists of **a large superficial part** and a **small deep part** which are continuous with one another round the free posterior margin of mylohyoid

## PARTS

1. Superficial part
2. Deep part
3. Submandibular duct

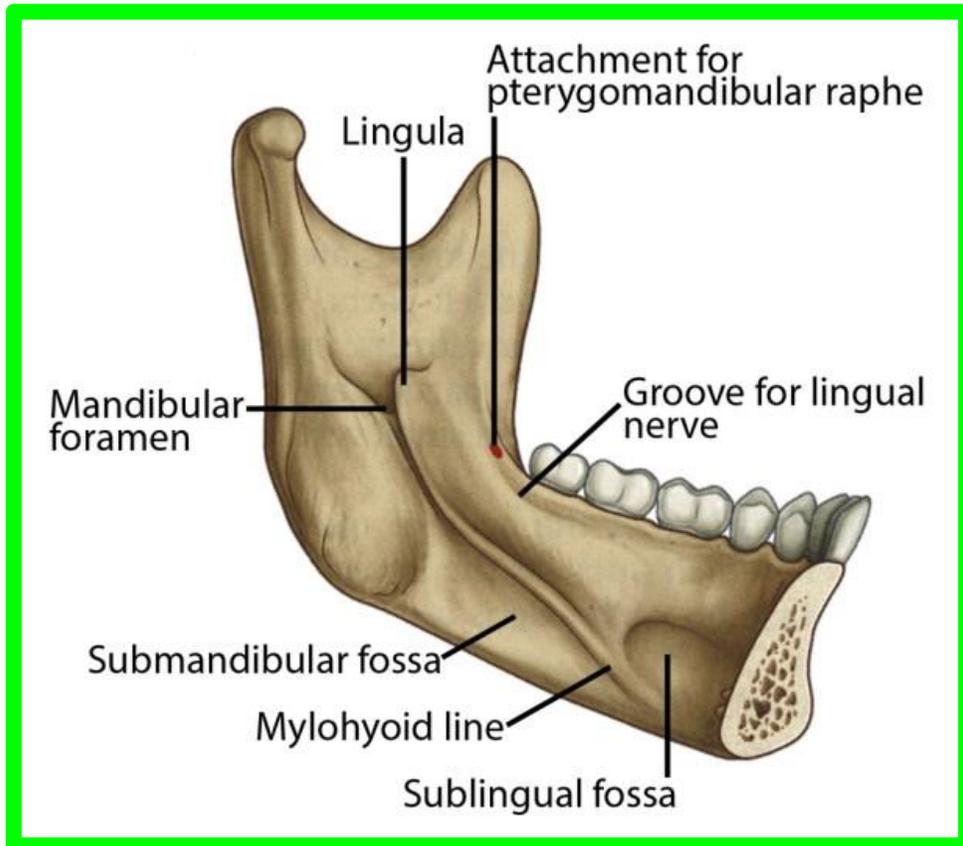


# Submandibular gland

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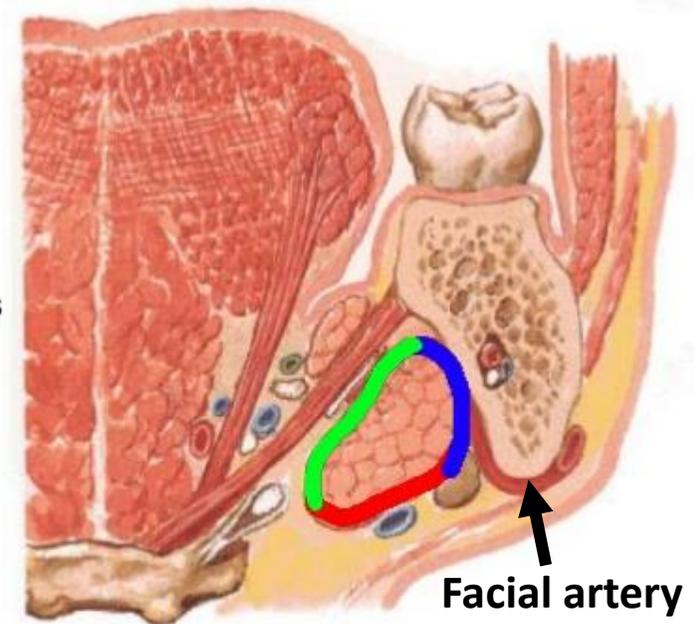
The superficial part has three surfaces: lateral, inferior and medial.

□ The lateral surface lies against the submandibular fossa of the mandible, overlapping the front of the medial pterygoid insertion and being deeply grooved posteriorly by the facial artery which hooks under the mandible to reach the face at the front of the masseter muscle.



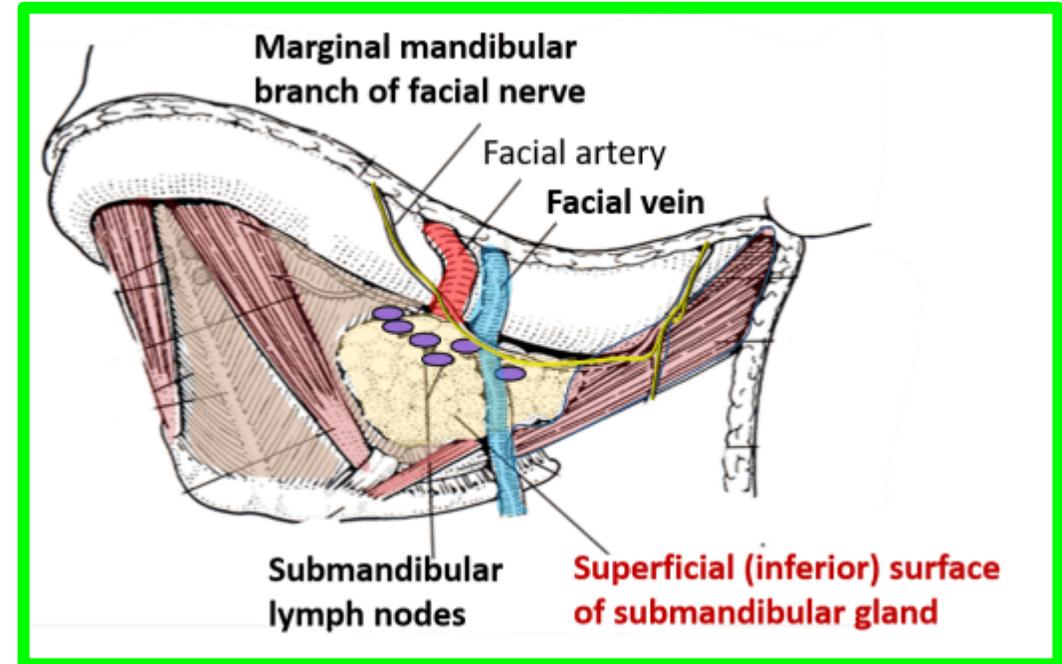
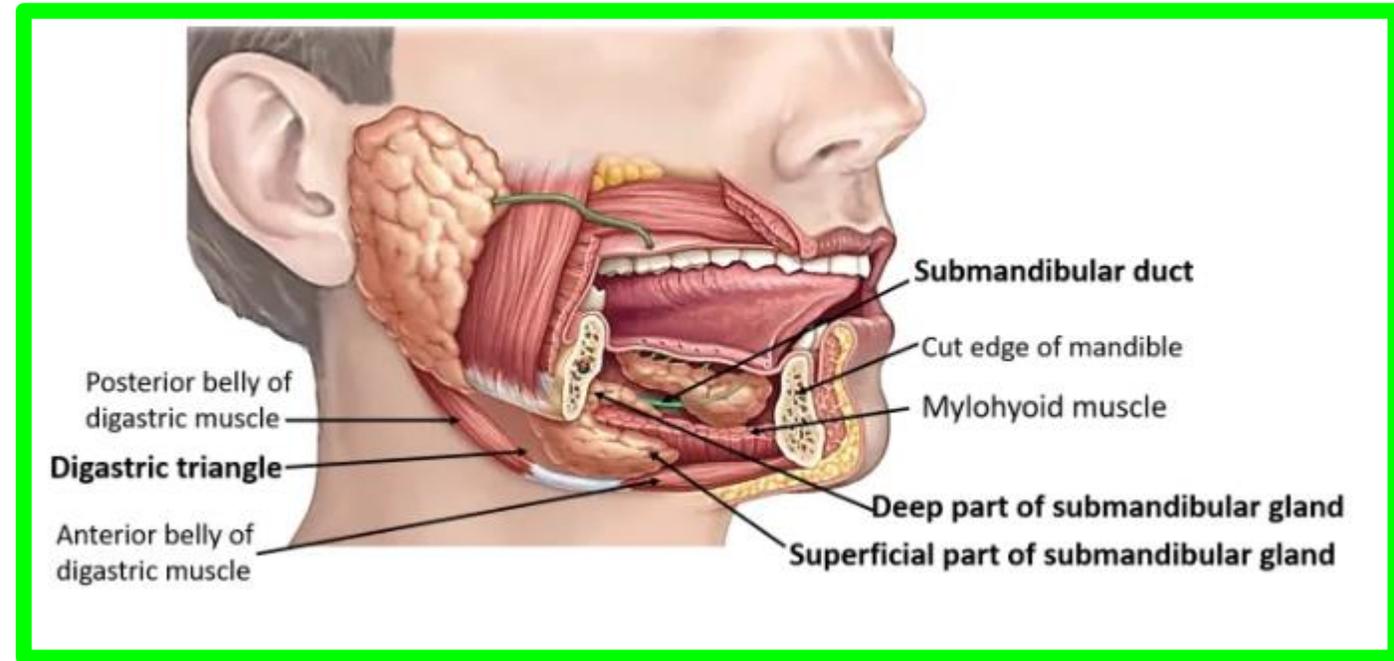
## Relations

- 1. Inferolateral surface:** related to skin, superficial fascia (containing platysma, cervical branch of facial n., ant. facial v., LNs) & deep fascia.
- 2. Lateral surface:** related to body of mandible, facial a., mylohyoid n. & a.
- 3. Medial surface:** related to 2 muscles (mylohyoid & hyoglossus) & 2 nerves (lingual & hypoglossal).



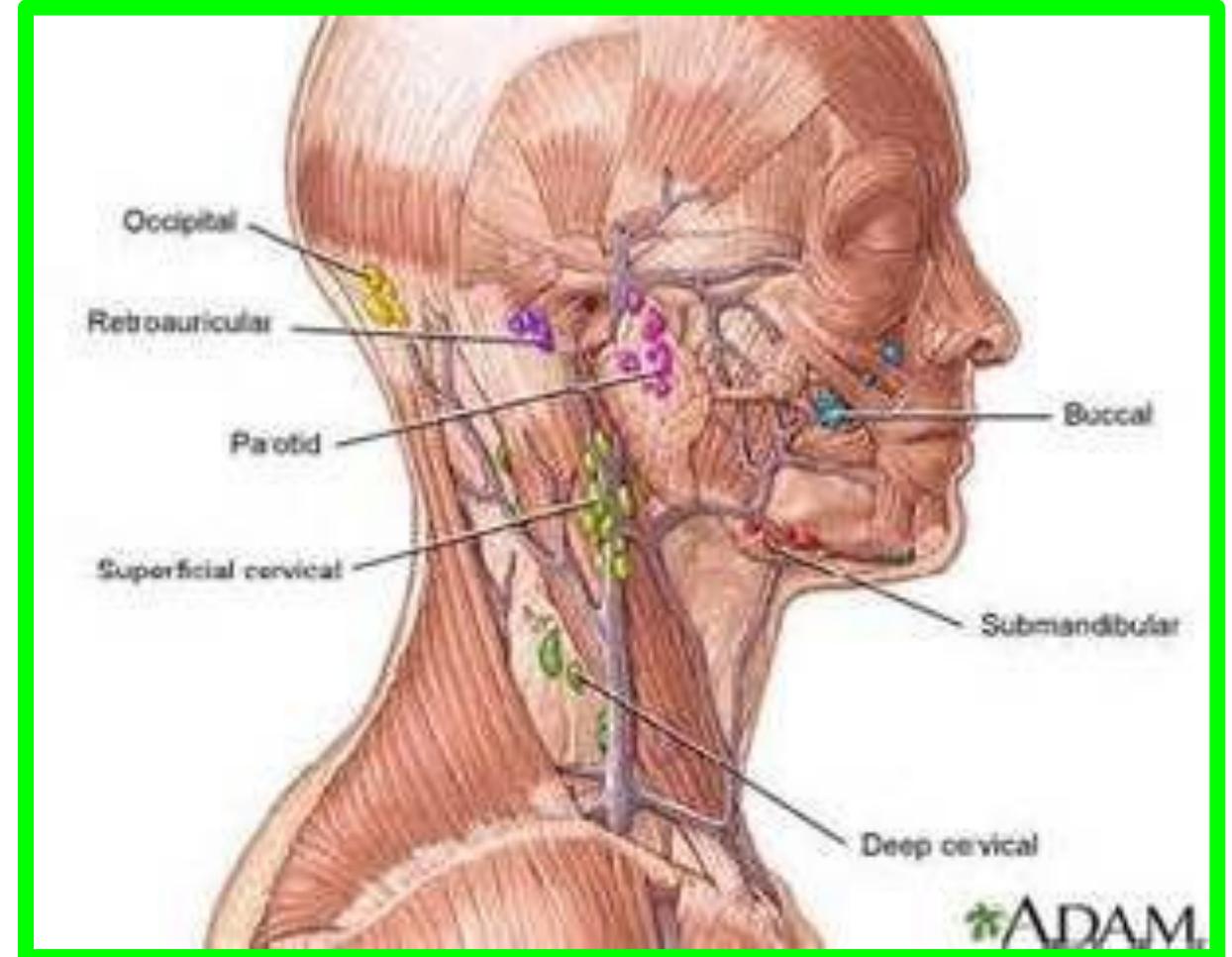
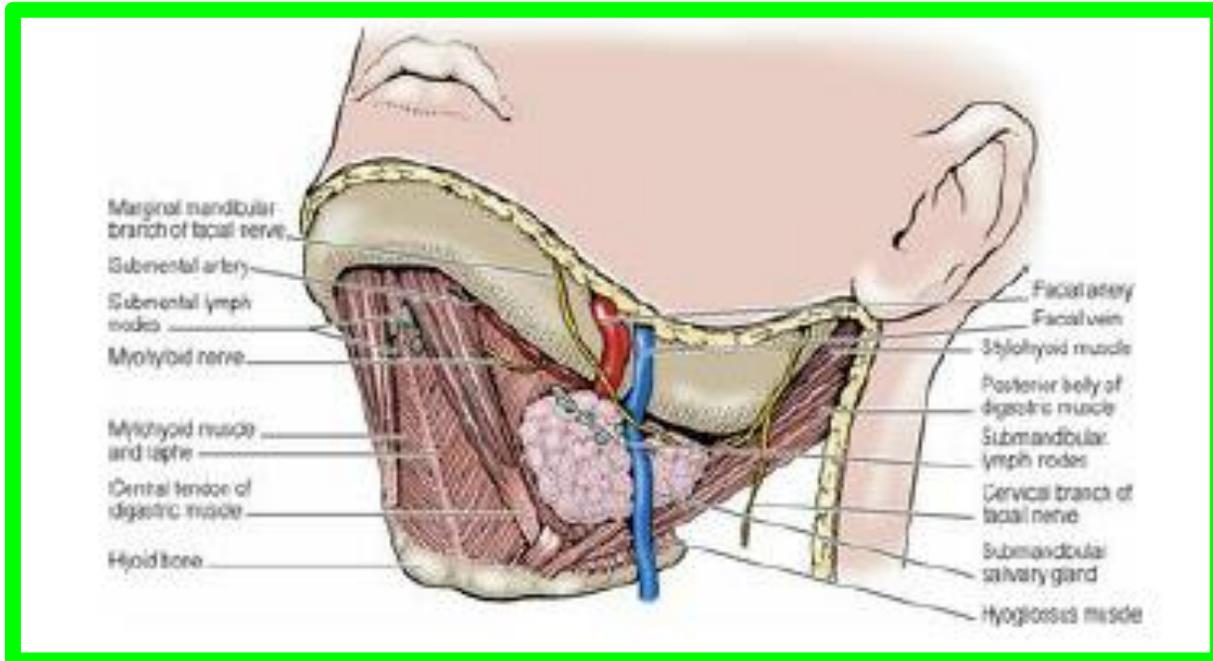
# Submandibular gland

- ❑ The inferior or superficial surface is covered by;
- ❖ Skin,
- ❖ platysma and
- ❖ the investing fascia and
- ❖ is crossed by the facial vein and
- ❖ the cervical branch of the facial nerve, and sometimes
- ❖ by the marginal mandibular branch of the facial nerve,
- the nerves lying outside the investing fascia.



# Submandibular gland

**Submandibular lymph nodes** lie in contact with the surface of the gland and within its substance, hence **the need to remove the gland as well as nodes** in the operation of **radical neck dissection**.



# Submandibular gland

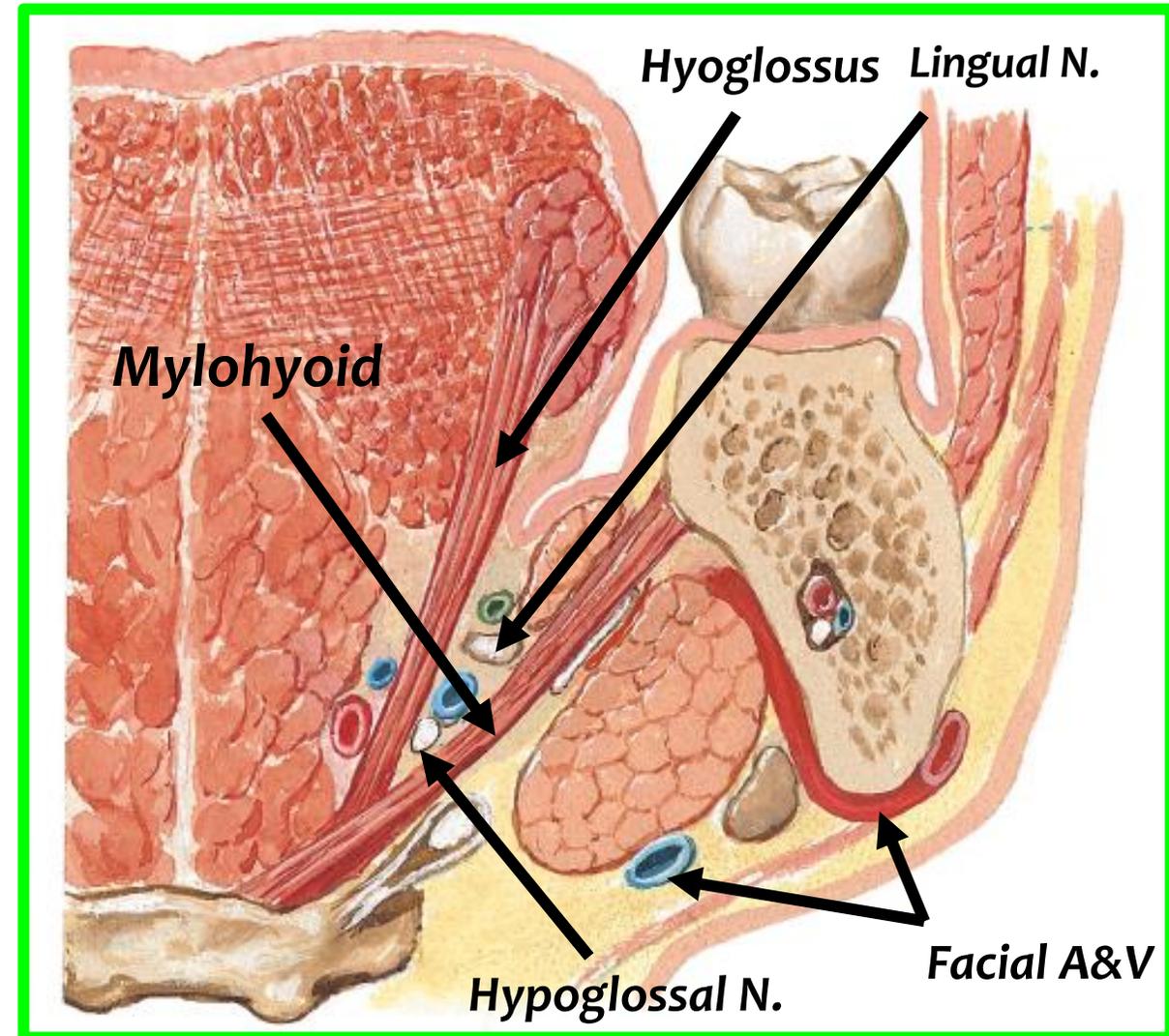
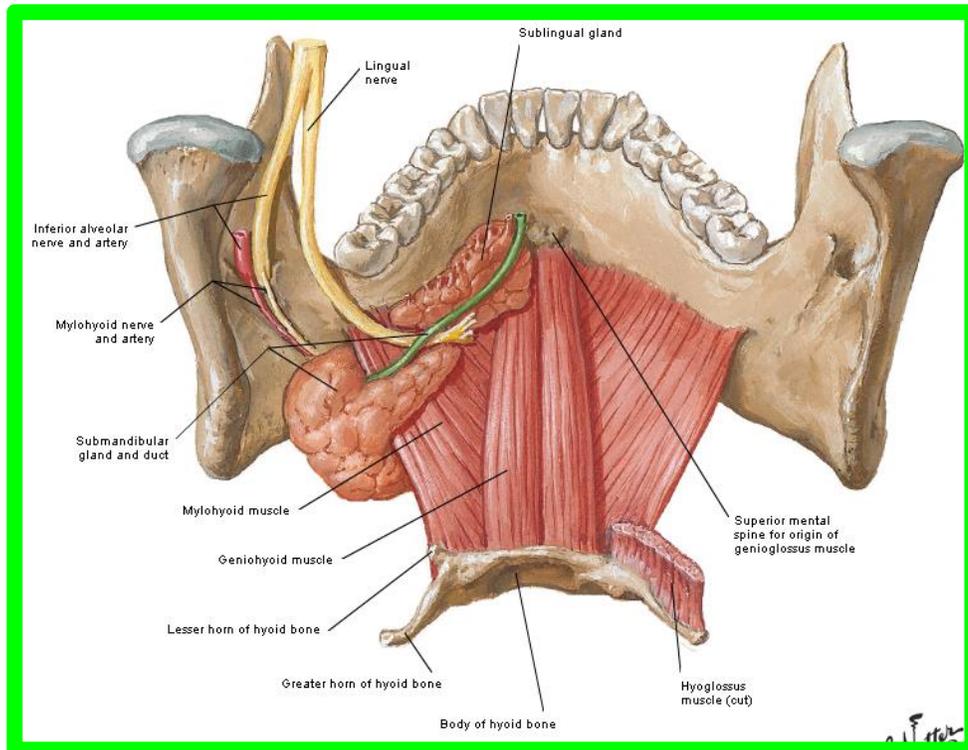
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❑ The medial surface lies against the mylohyoid, and behind it on the hyoglossus, lingual nerve, hypoglossal nerve and its accompanying veins.

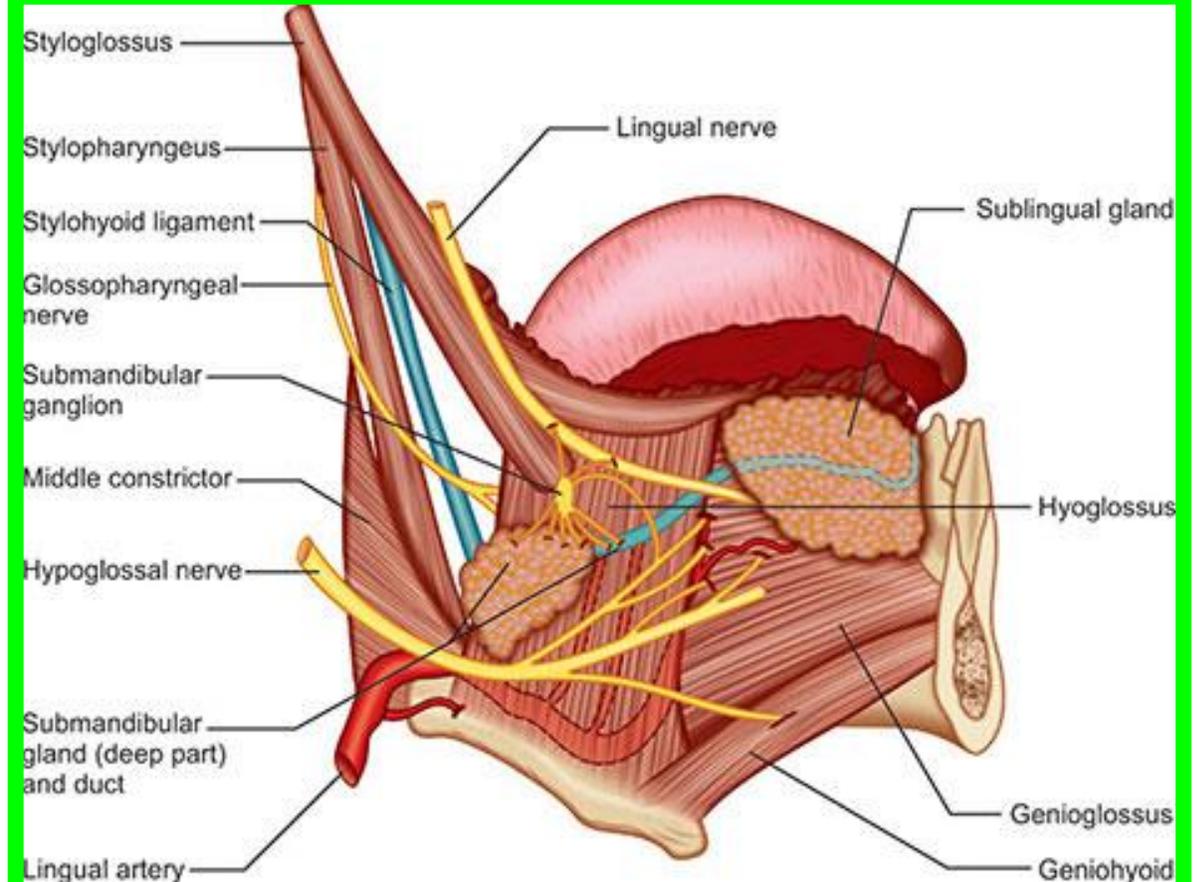
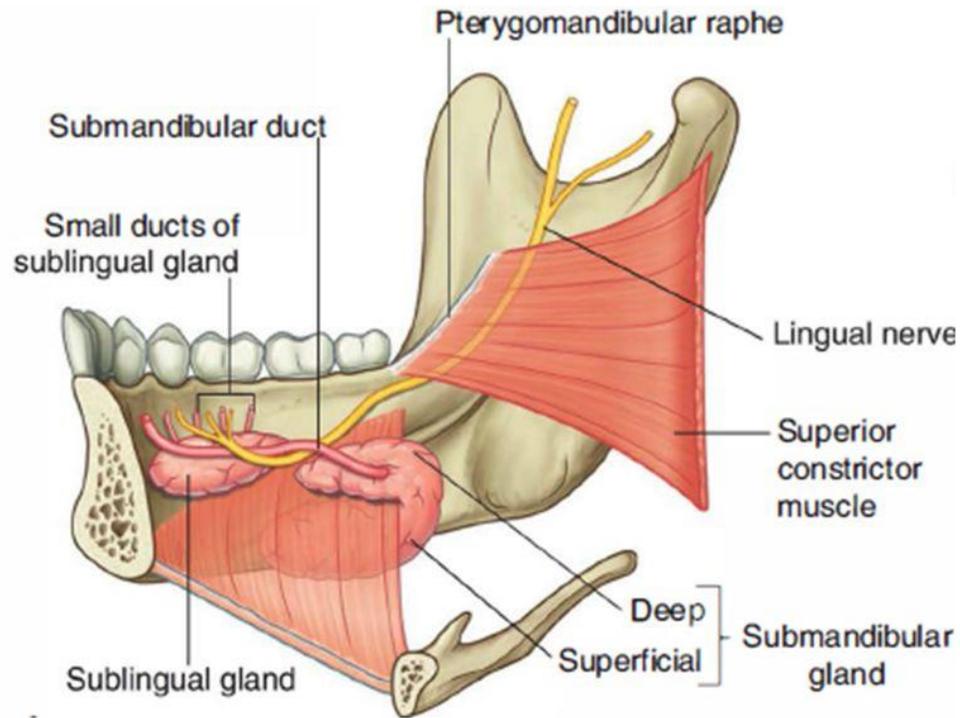
The facial artery is at first deep to the gland, and then grooves the posterosuperior part as it hooks over the top of the gland on to its lateral surface.



# Submandibular gland

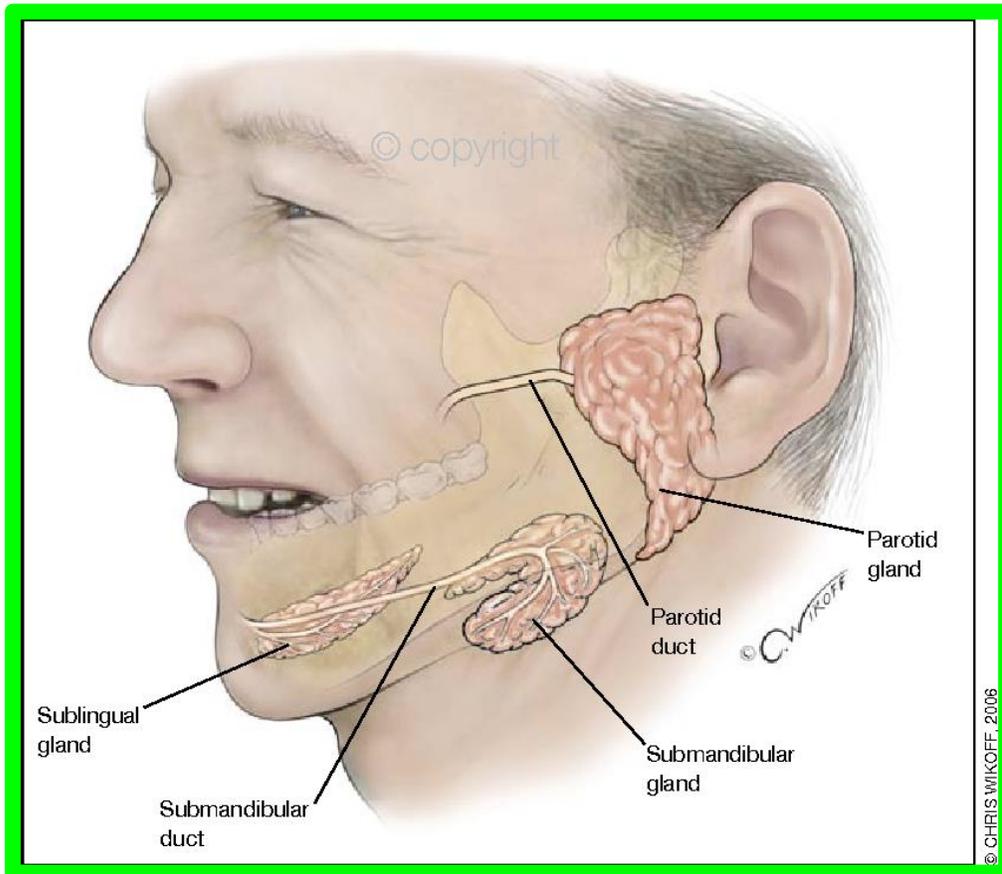
The deep part of the gland extends forwards for a variable distance, between mylohyoid and hyoglossus, below the lingual nerve and above the hypoglossal nerve.

## Submandibular and sublingual glands:

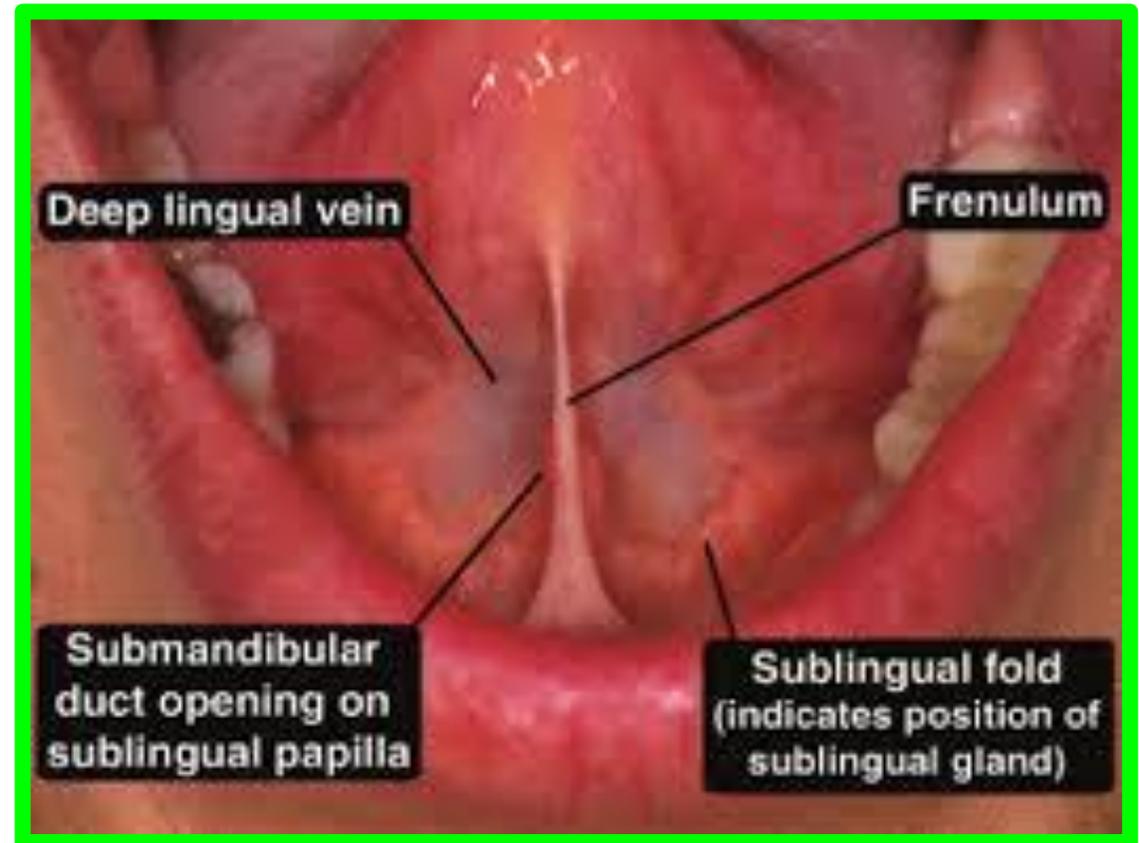


# Submandibular gland

- ❖ The submandibular duct (of Wharton) is 5 cm long (the same length as the parotid duct) and emerges from the medial surface of the superficial part of the gland near the posterior border of mylohyoid.



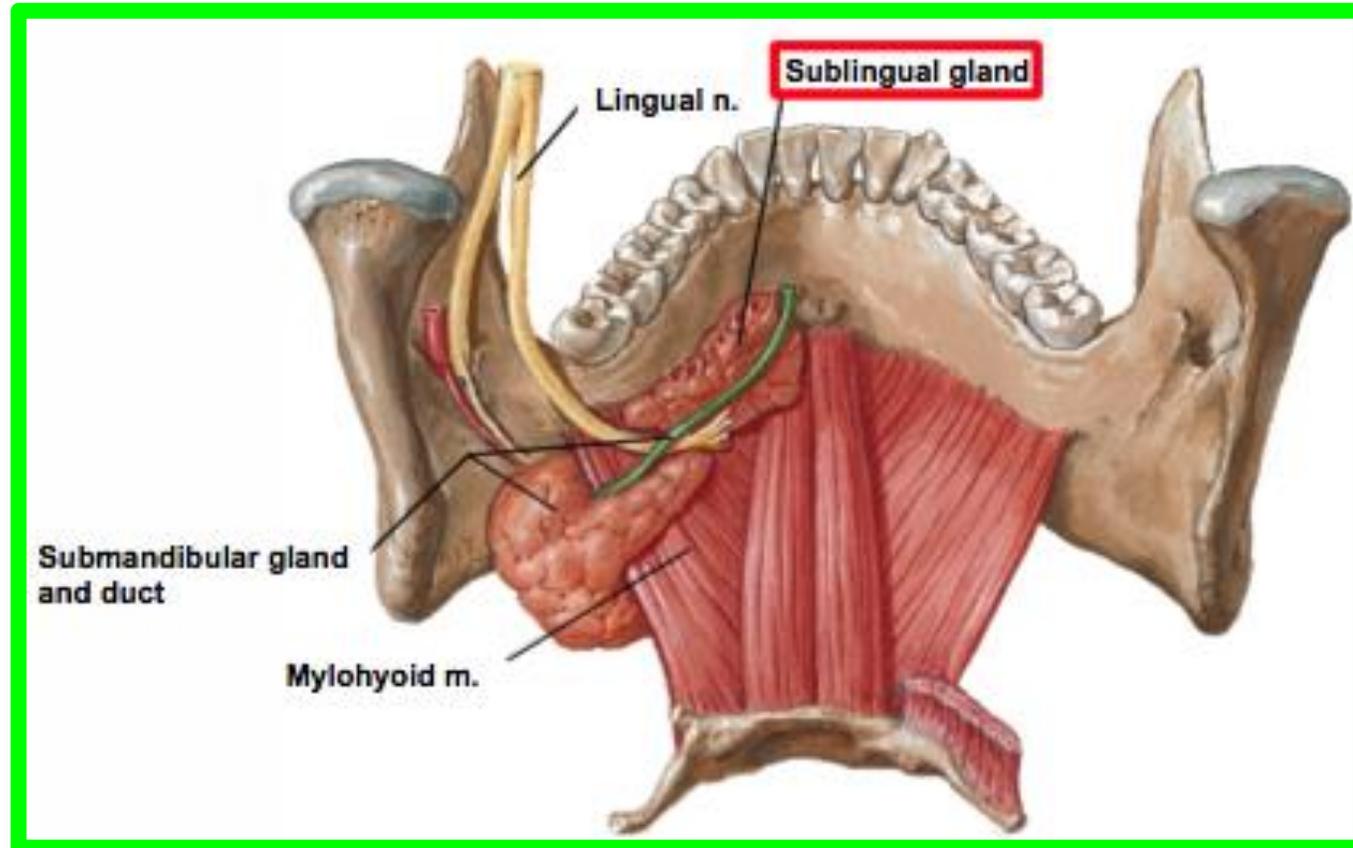
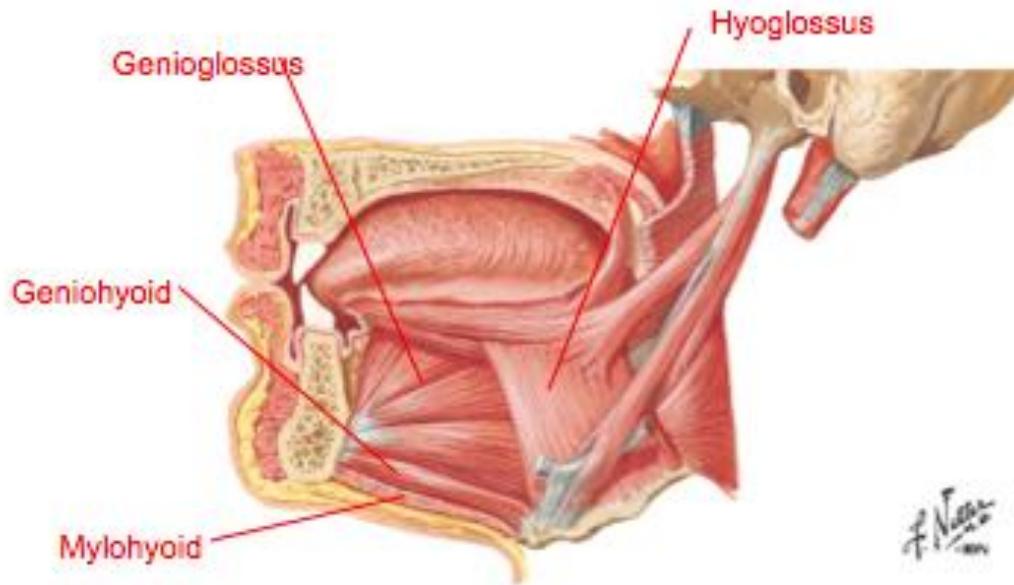
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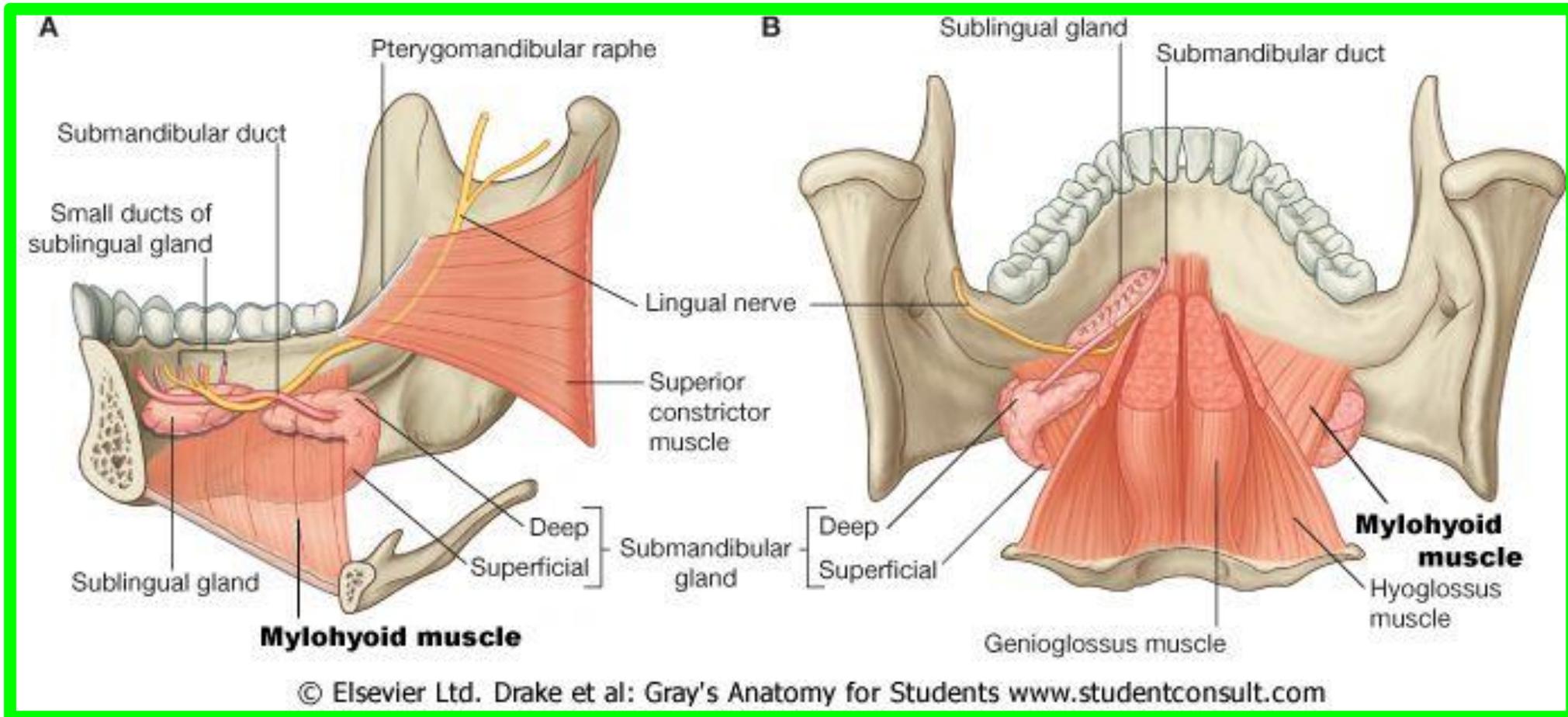
# Submandibular gland

- ❖ It runs with the deep part, forwards and slightly upwards, first between **mylohyoid** and **hyoglossus**, and then between the **sublingual gland** and **genioglossus**,
- ❖ to open into the floor of the mouth on the **sublingual papilla** beside the **frenulum** of the tongue.



# Submandibular gland

As it lies **on hyoglossus**, the duct is crossed laterally by **the lingual nerve** which then turns under the duct to pass medially to the tongue.



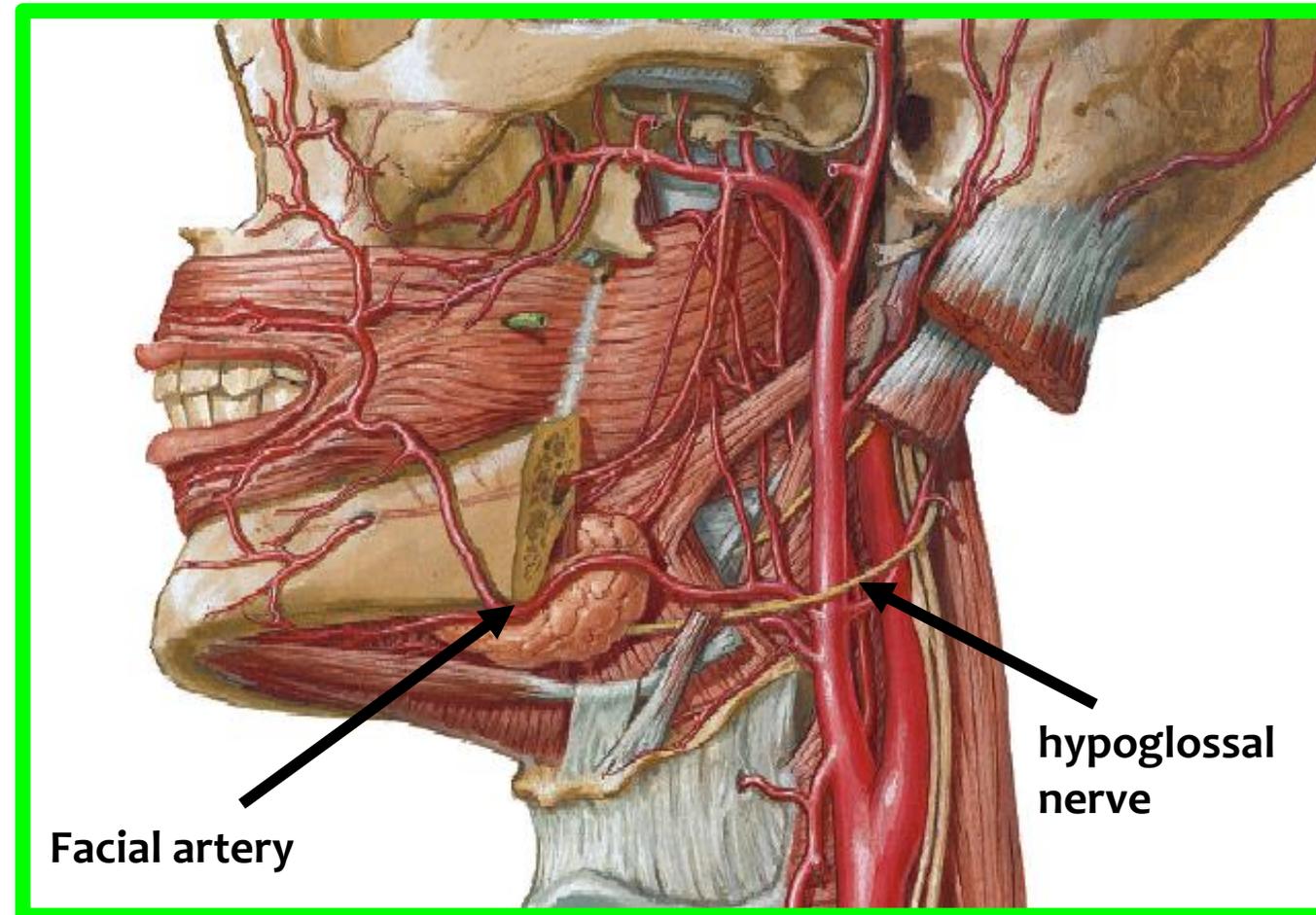
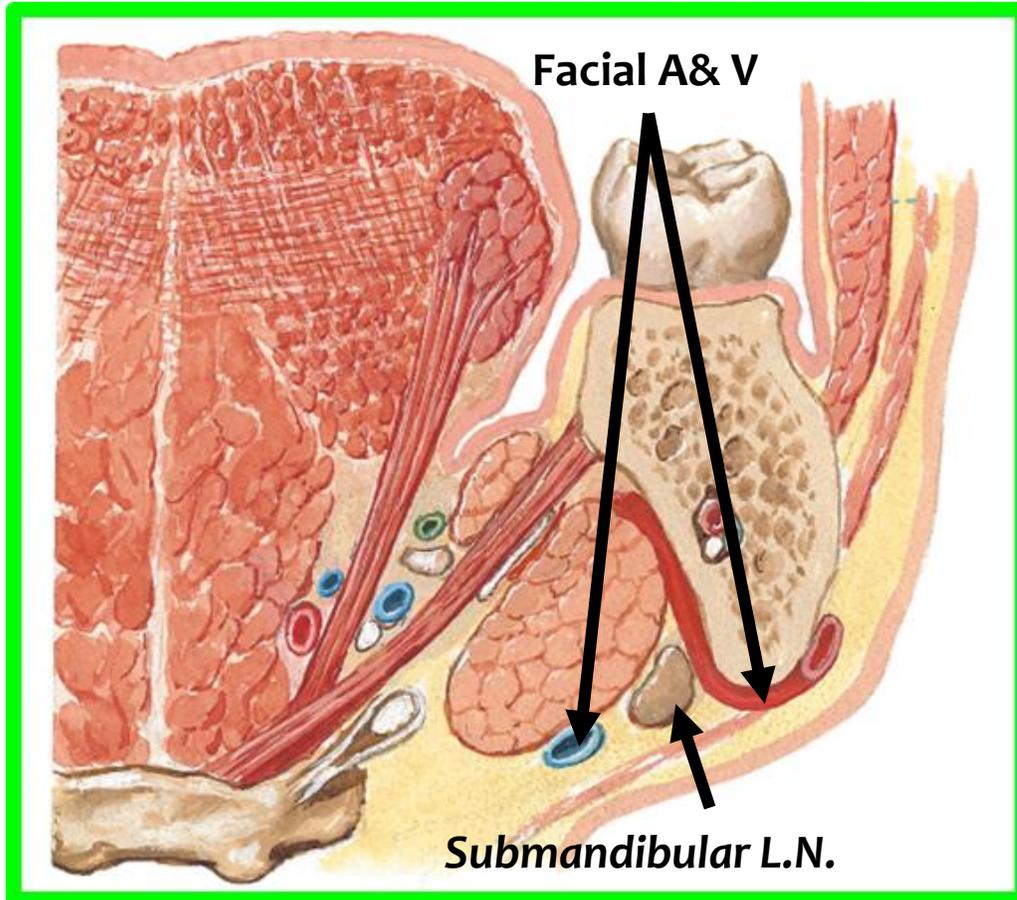
# Submandibular gland

## Blood supply

From **the facial artery**, with veins draining into **the facial vein**.

## Lymph drainage

To **the submandibular lymph nodes**.

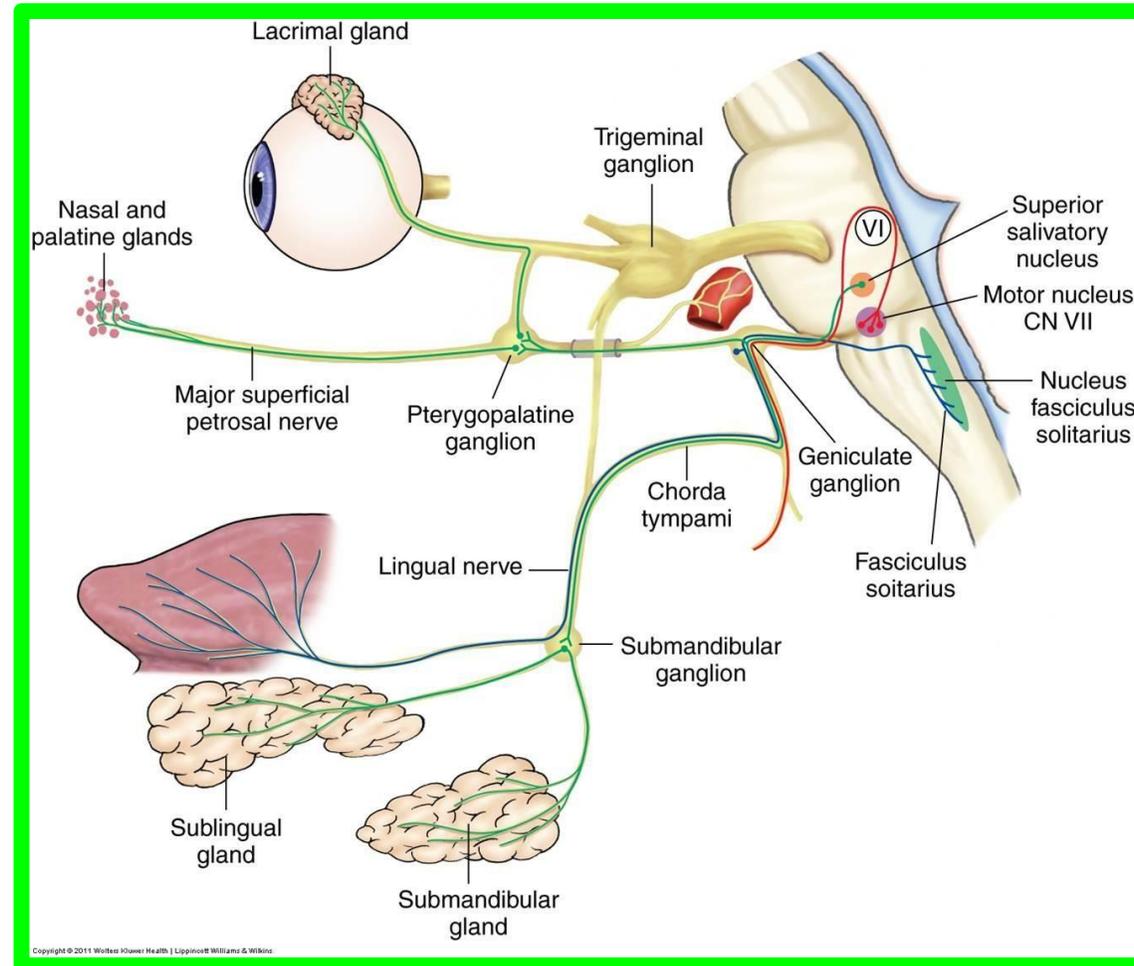


# Submandibular gland

## Nerve supply

Secretomotor fibers to the gland have their cell bodies in **the submandibular ganglion** which hangs suspended from **the lingual nerve** on the surface of hyoglossus.

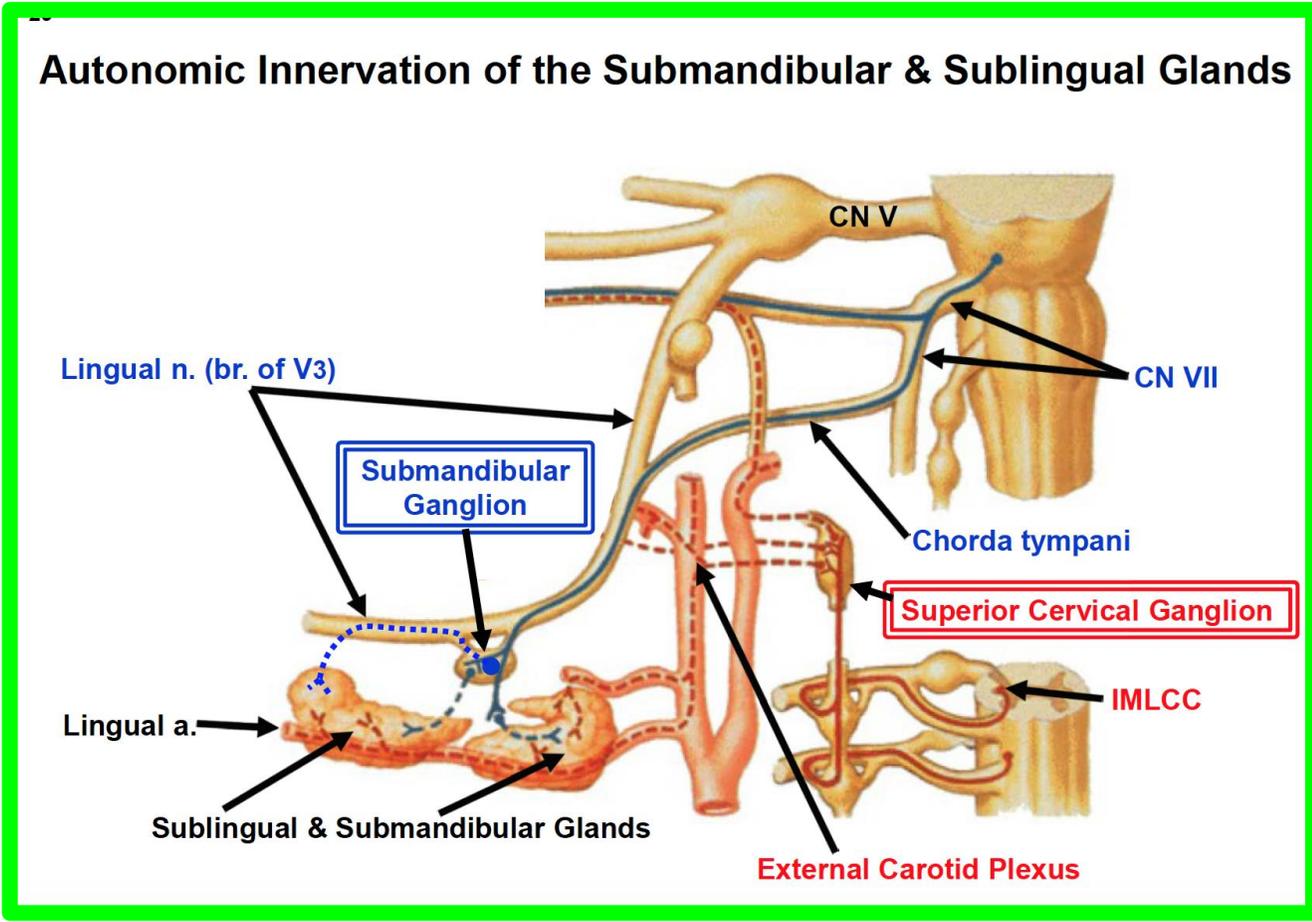
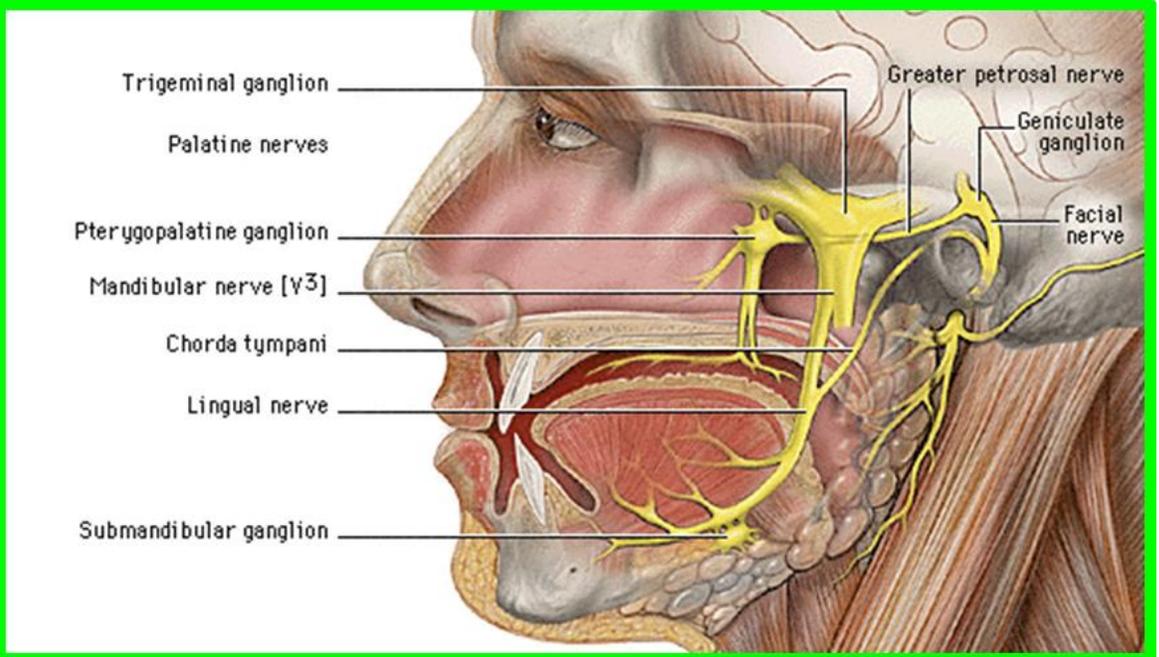
The preganglionic fibers pass from cell bodies in the **superior salivary nucleus** in the pons by way of **the nervus intermedius, facial nerve, chorda tympani and the lingual nerve**



# Submandibular gland

Postganglionic fibers pass to the submandibular gland and also to the lingual nerve for transmission to the sublingual gland.

Sympathetic (vasoconstrictor) fibers come from the plexus around the facial artery



# Submandibular gland

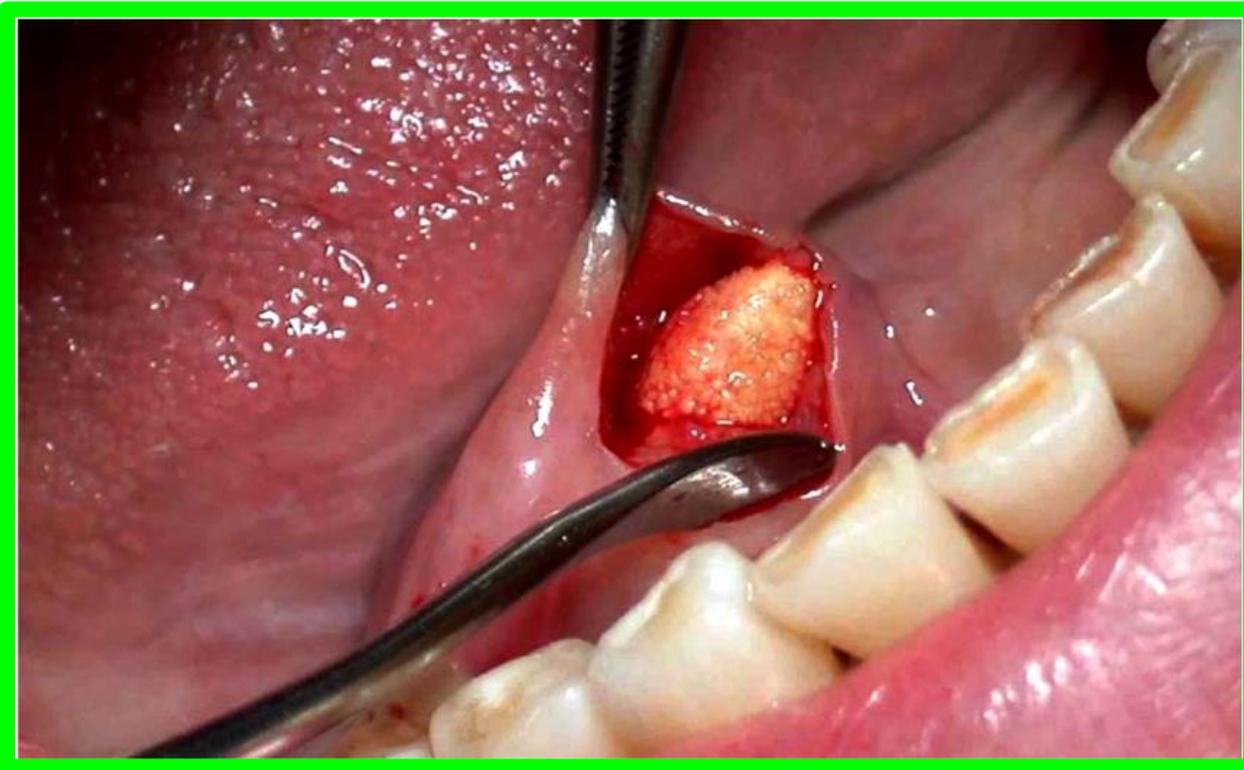
## Submandibular Salivary Gland: Calculus Formation

- ✓ The submandibular salivary gland is **a common site of calculus formation**.
- ✓ This condition is rare in the other salivary glands.
- ✓ The presence of **a tense swelling below the body of the mandible**, which is greatest **before or during a meal** and is **reduced in size** or **absent between meals**, is diagnostic of the condition.



# Submandibular gland

- ✓ Examination of the floor of the mouth will reveal **absence of ejection of saliva** from the orifice of the **duct of the affected gland**.
- ✓ Frequently, **the stone can be palpated in the duct**, which lies below the mucous membrane of the floor of the mouth.

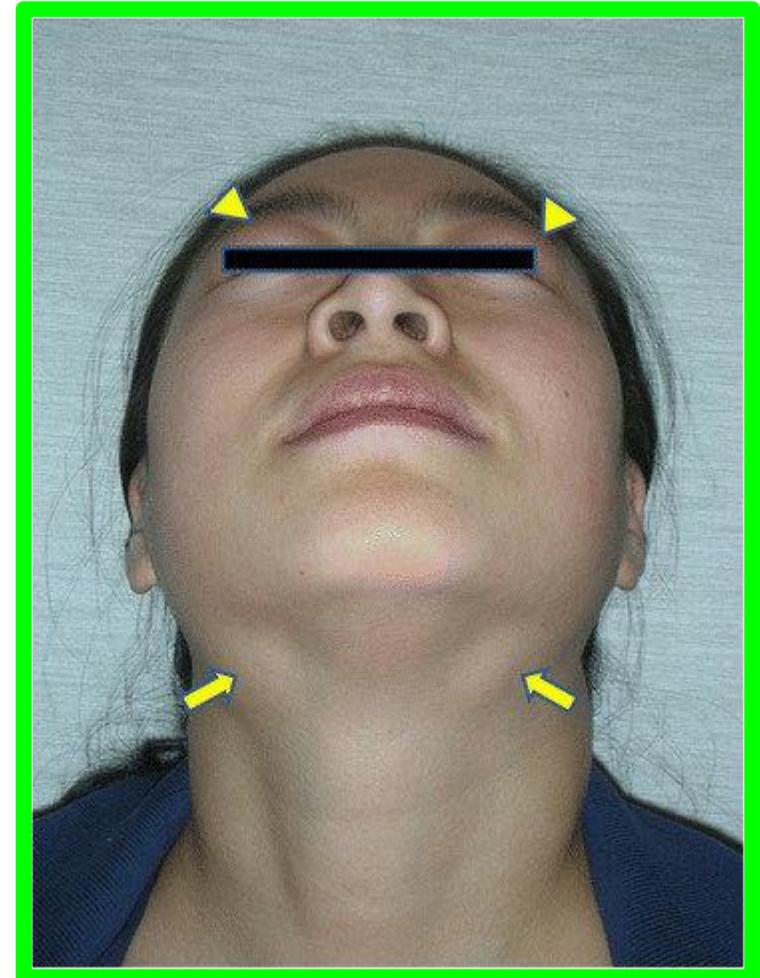


# Enlargement of the Submandibular Lymph Nodes and Swelling of the Submandibular Salivary Gland

❖ The submandibular lymph nodes are commonly enlarged as a result of a pathologic condition of the scalp, face, maxillary sinus, or mouth cavity

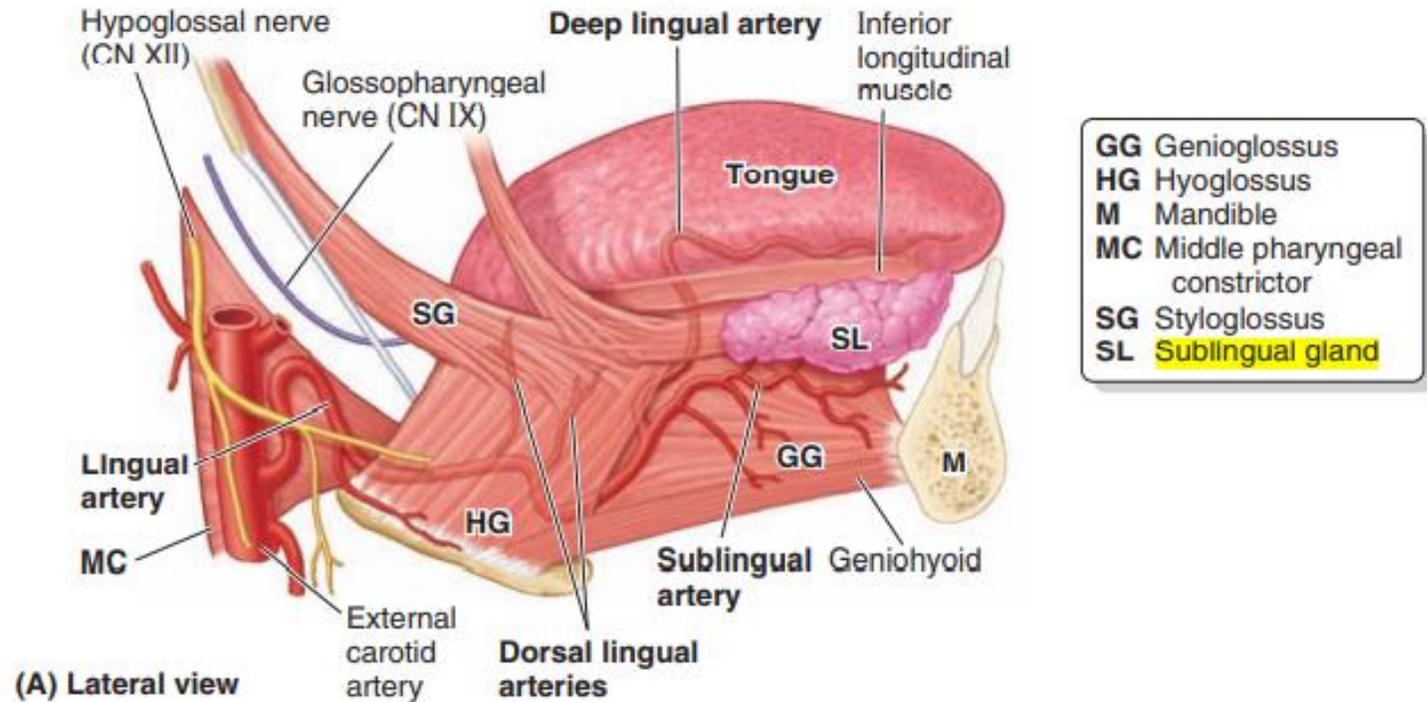
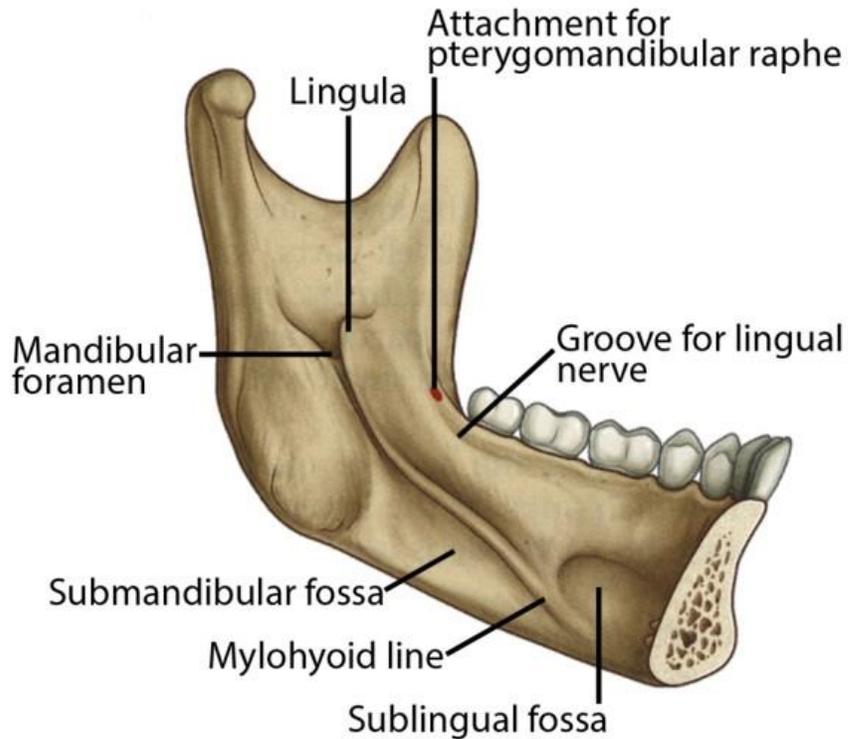
❖ One of the most common causes of painful enlargement of these nodes is **acute infection of the teeth**.

❖ Enlargement of these nodes should not be confused with pathologic swelling of the submandibular salivary gland.



# SUBLINGUAL SALIVARY GLAND

- **Site:** It lies under the mucous membrane of the floor of the mouth forming sublingual fold and occupying **the sublingual fossa of the mandible**.
- **Size:** it is the smallest of the 3 salivary glands.
- **Shape:** **almond – shaped**.



# SUBLINGUAL SALIVARY GLAND

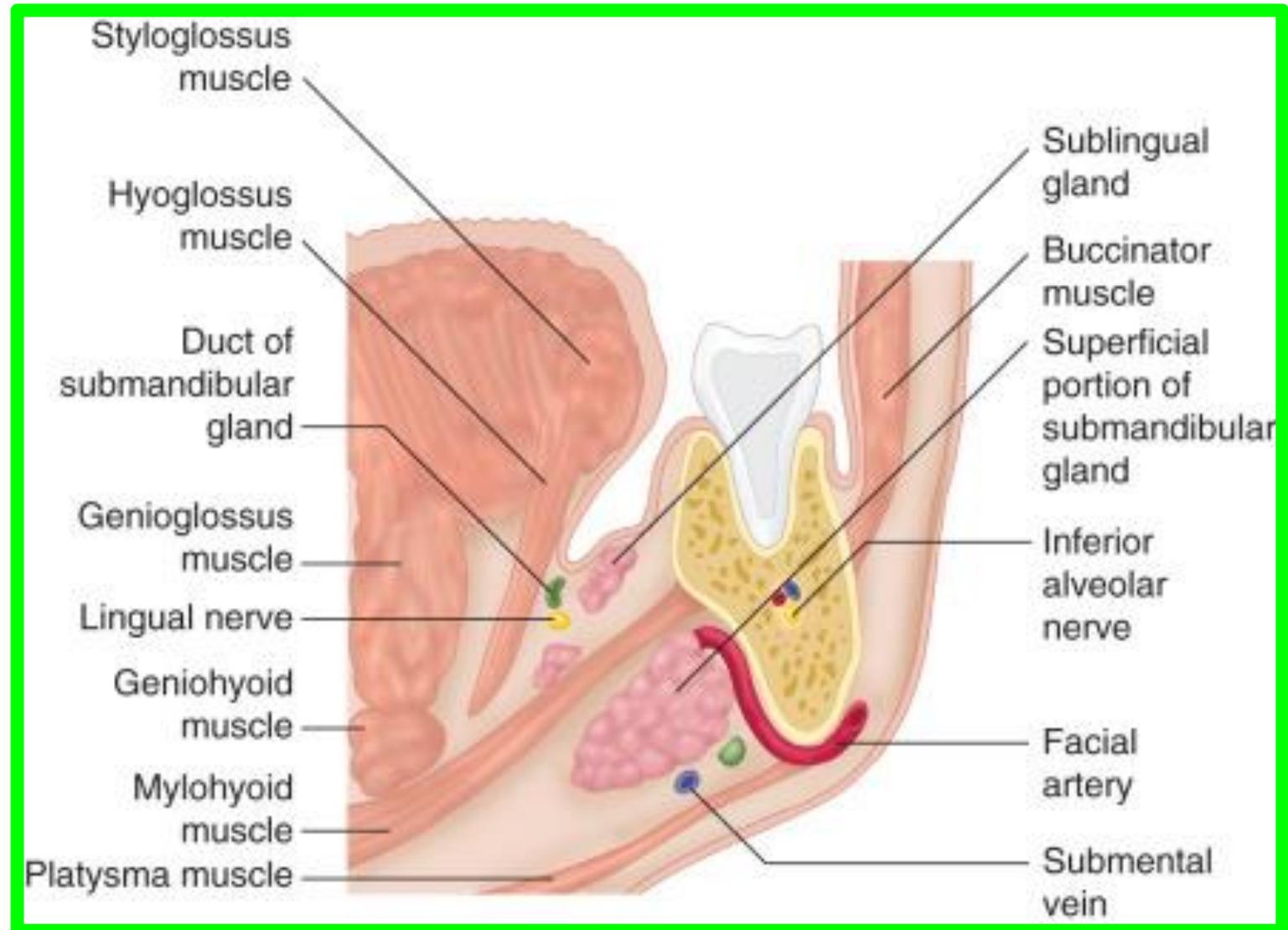
- **Relations:**

(1) **Superiorly:** mucous membrane of the floor of the mouth.

(2) **Inferiorly:** mylohyoid muscle.

(3) **Laterally:** sublingual fossa of mandible.

(4) **Medially:** genioglossus muscle separated from it by **lingual nerve** and **submandibular duct**.



# SUBLINGUAL SALIVARY GLAND

## ■ Ducts of the gland:

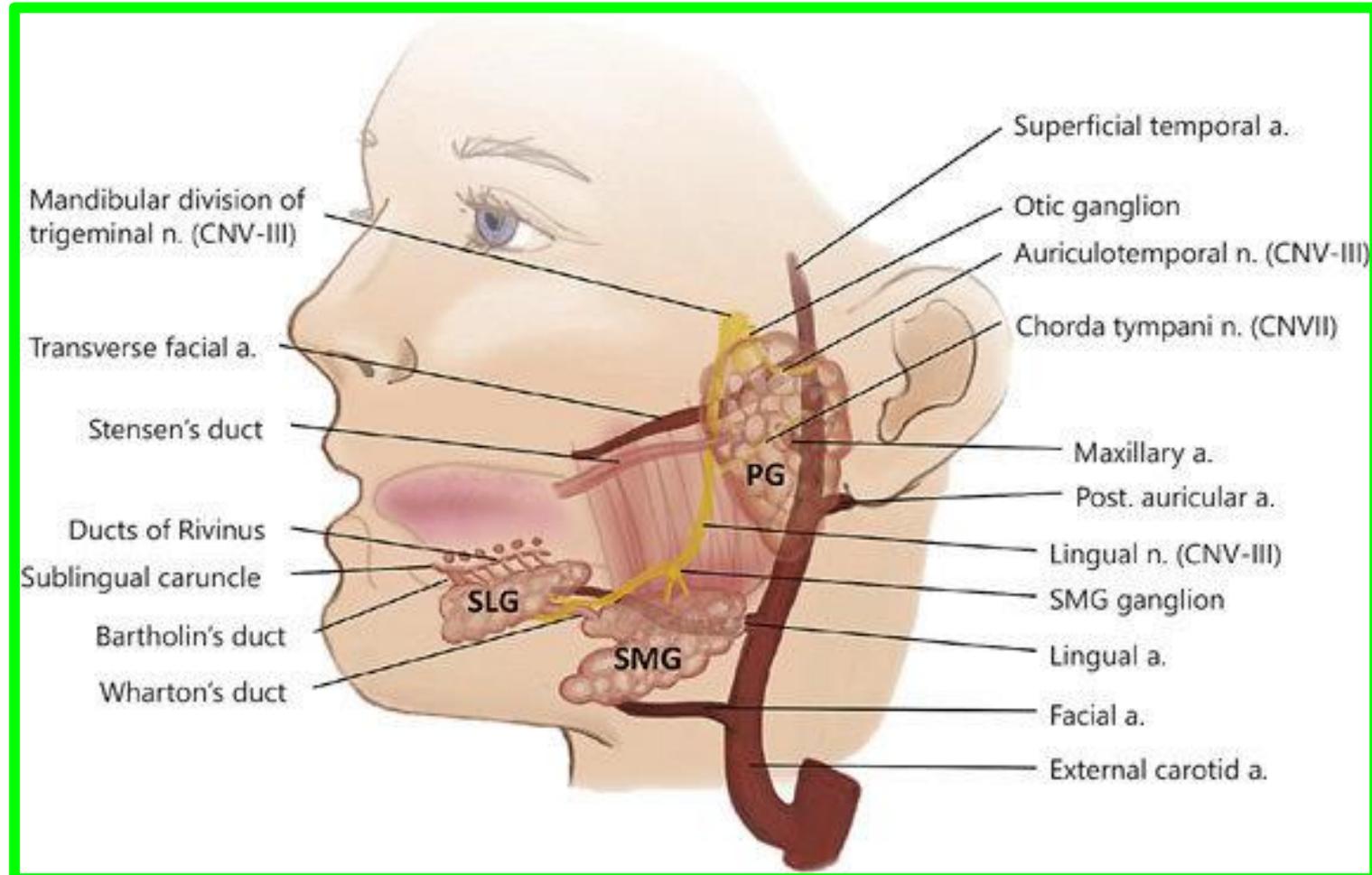
- The gland gives about **10-20 ducts** which open into **mucous membrane of floor of mouth** along the sublingual fold.

## ● Nerve supply:

(1) **Sensory fibres** from the **lingual nerve**.

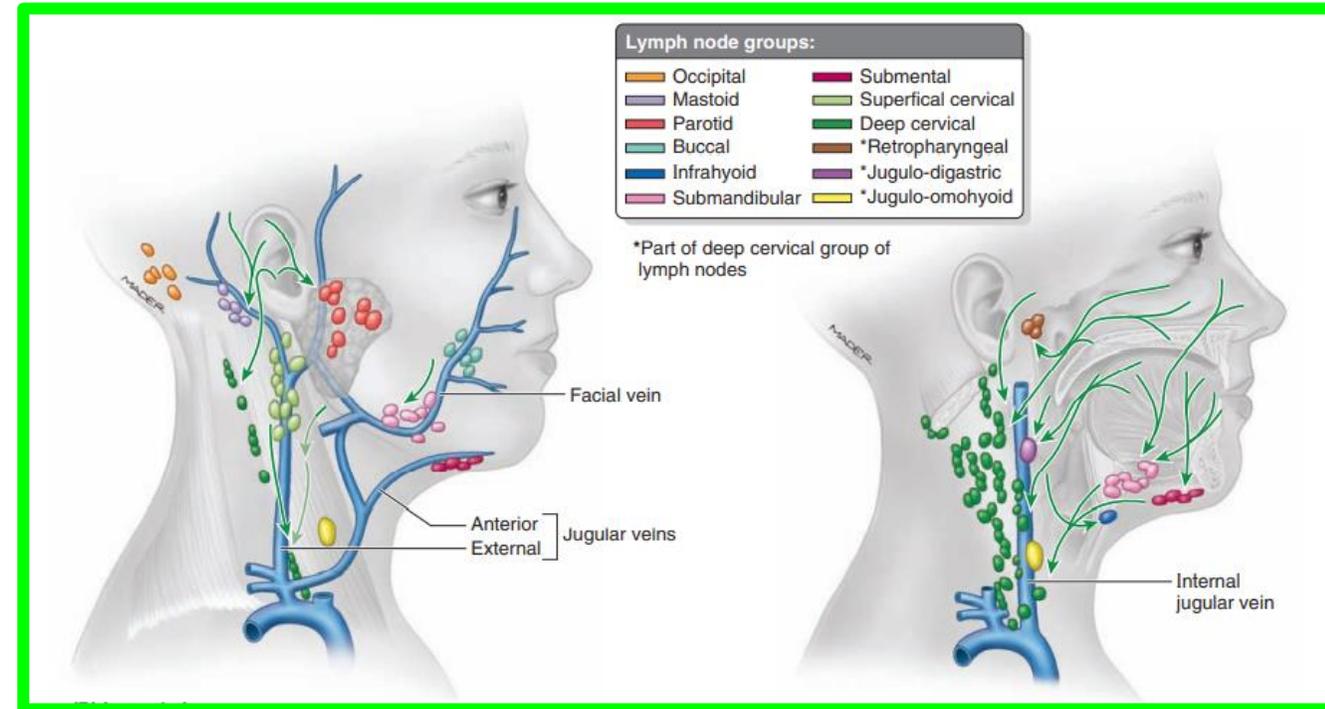
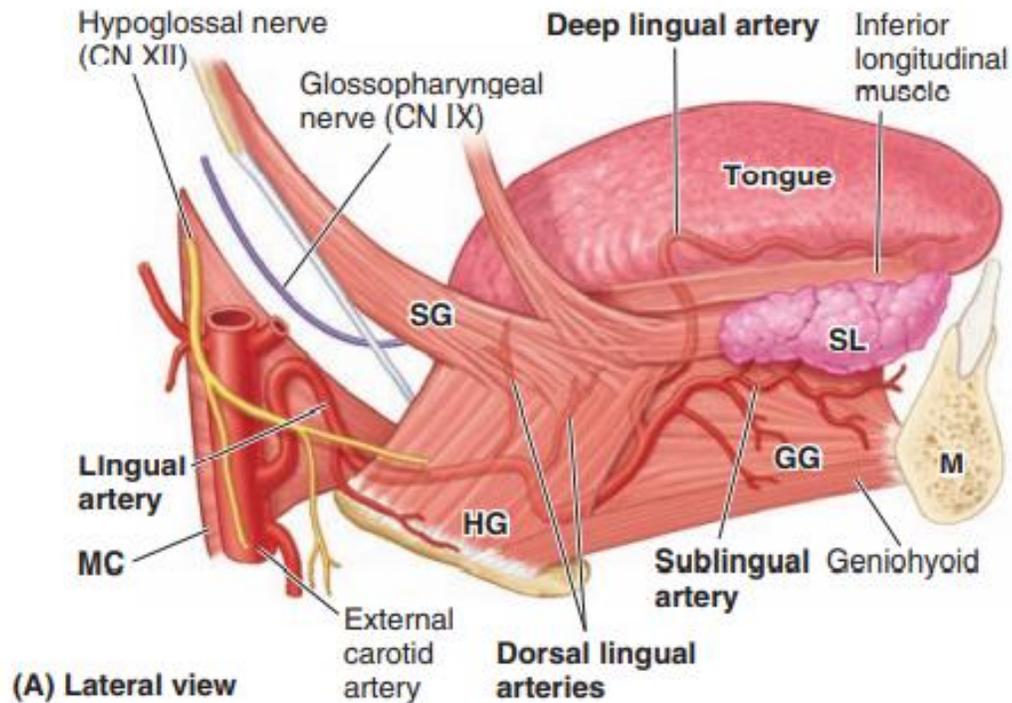
(2) **Sympathetic fibres** from the **plexus** around **the lingual artery**.

(3) **Parasympathetic fibres** as the **submandibular gland**.



# SUBLINGUAL SALIVARY GLAND

- Arterial supply: **sublingual branch of lingual artery.**
- Venous drainage; by the corresponding **veins into the lingual and facial veins.**
- Lymphatic drainage; **Submental and submandibular lymph nodes**



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