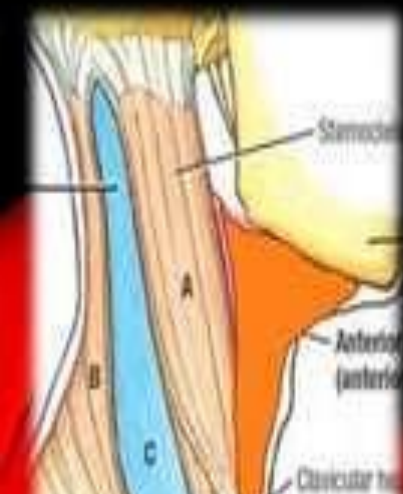


# ANTERIOR TRIANGLE OF THE NECK



Moamer Gabsa

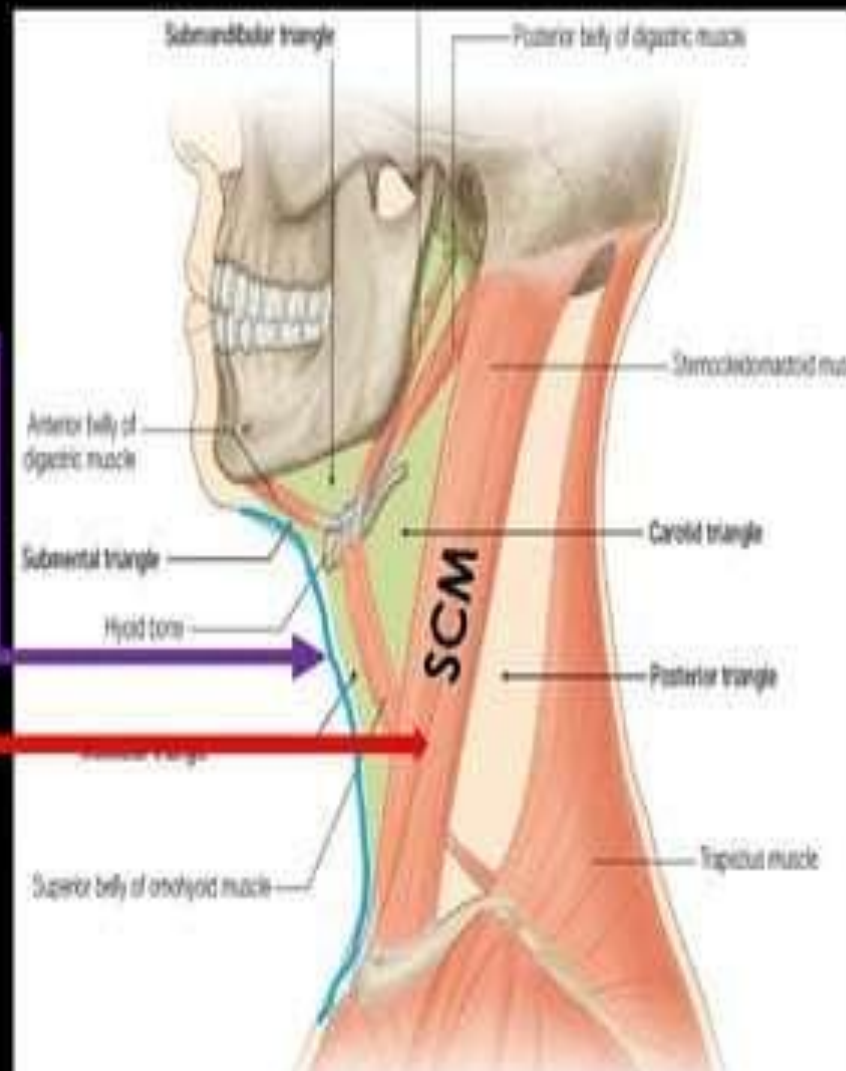
# Objectives

By the end of this presentation you should know :

Boundaries and contents of the anterior triangle of the neck

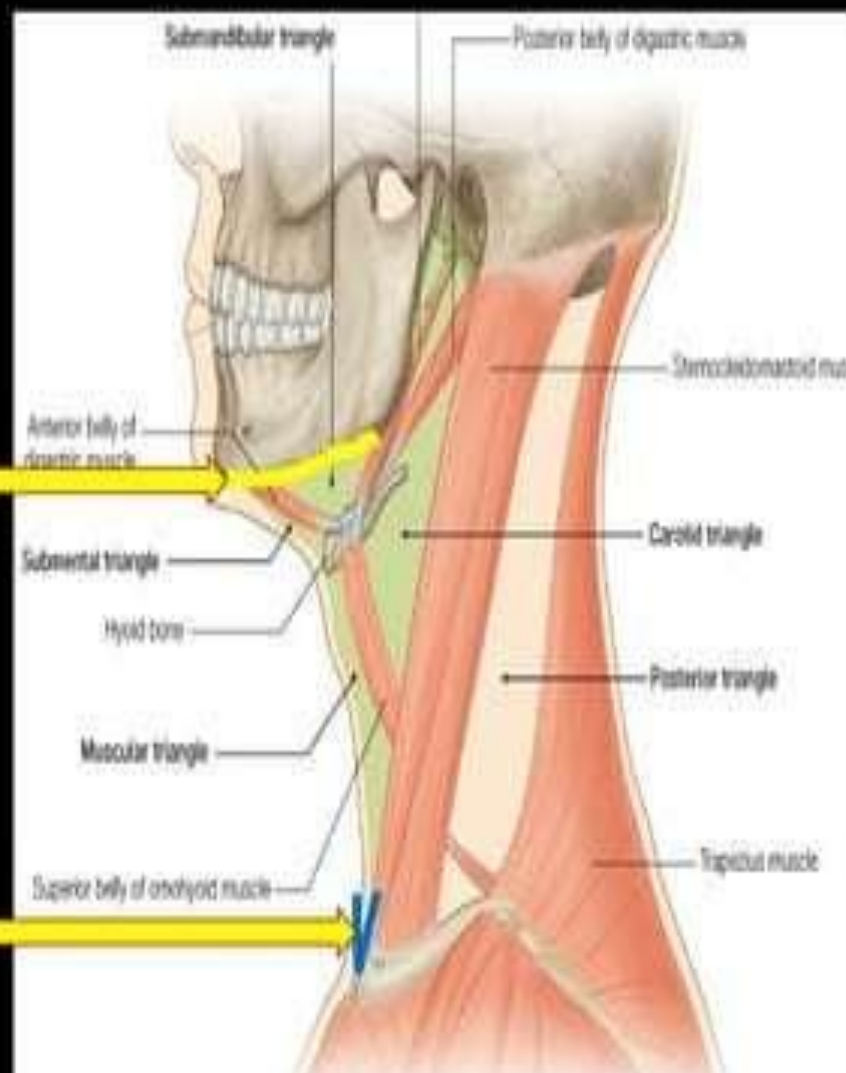
Sub-divisions of anterior triangle and content of each one of these triangle

- An **anterior** boundary: formed by the **median line** of the neck.
- A **posterior** boundary: formed by the anterior border of the **SCM**.

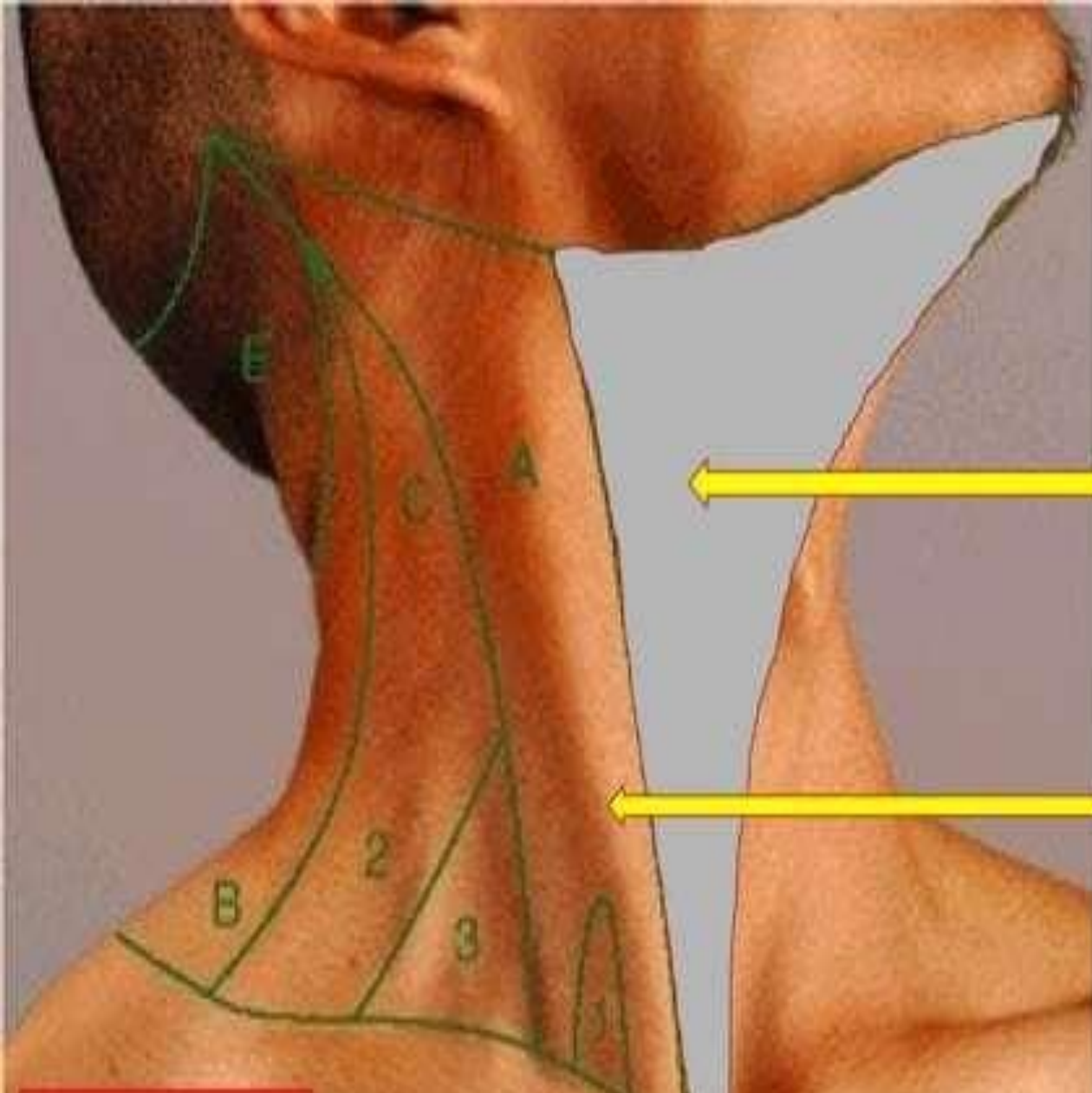


- A **superior** boundary: formed by the inferior border of the **mandible**.

- An **apex**: located at the **jugular notch** in the manubrium.

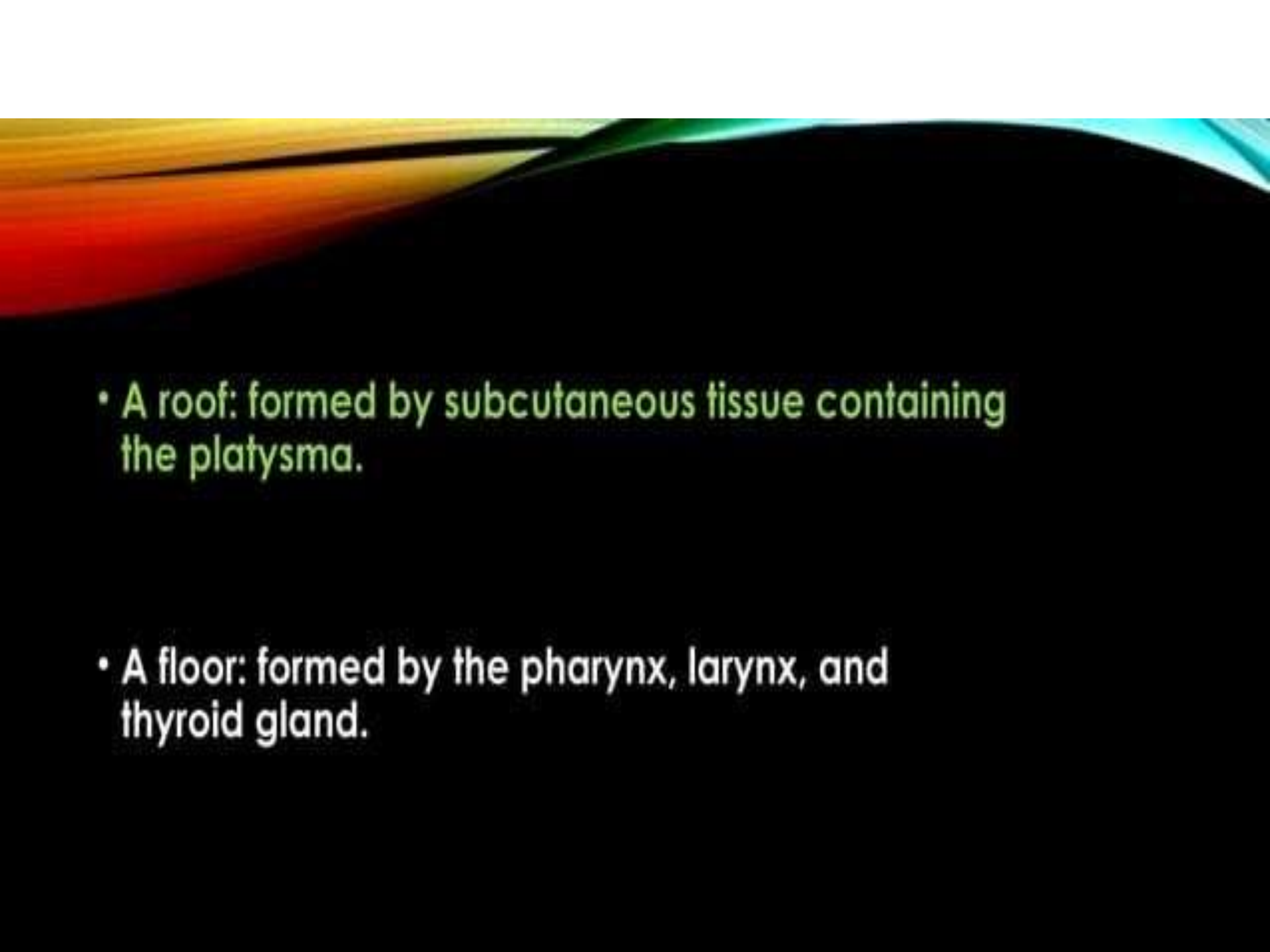




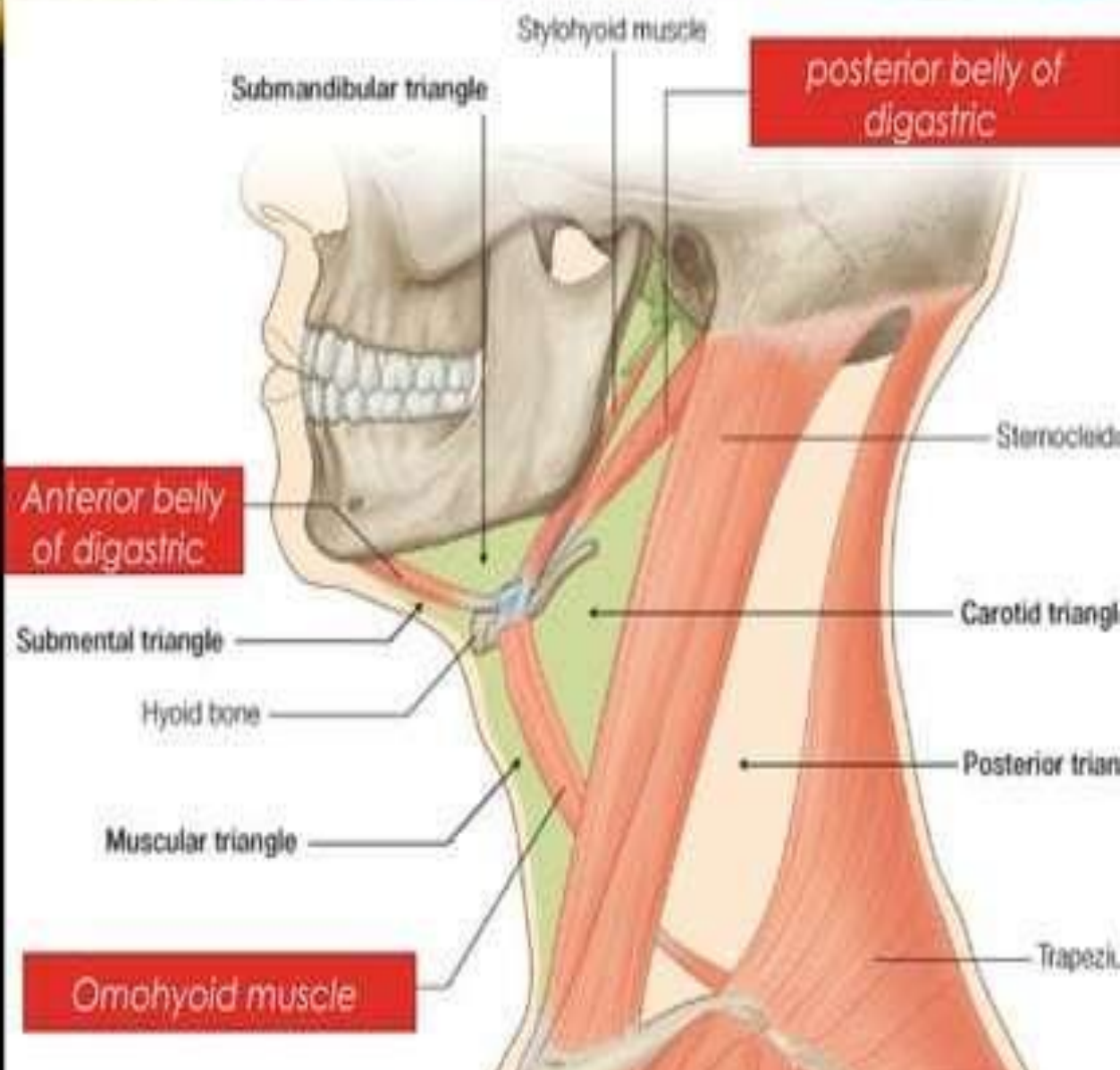


Anterior triangle

SCM

- 
- A roof: formed by subcutaneous tissue containing the platysma.
  - A floor: formed by the pharynx, larynx, and thyroid gland.

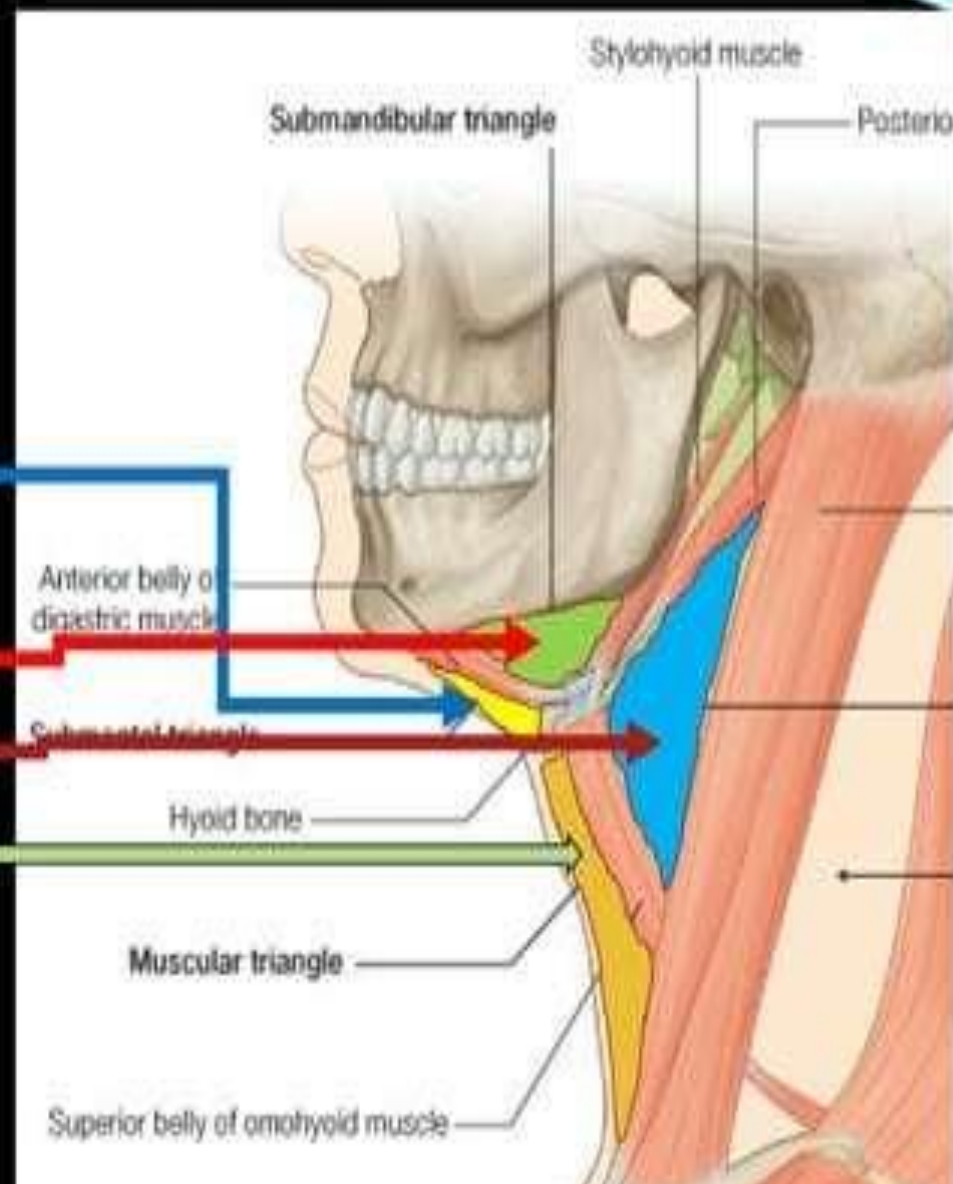
- the digastric and omohyoid muscles divides the anterior triangle to small triangles .



The anterior cervical region is subdivided into **four smaller triangles**

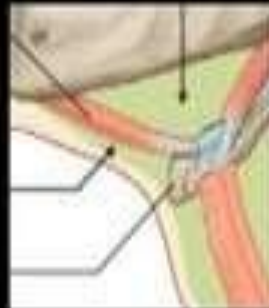
- The unpaired **submental triangle** and three small paired triangles:
- **submandibular**
- **carotid**
- **Muscular**

by the **digastric** and **omohyoid** muscles.

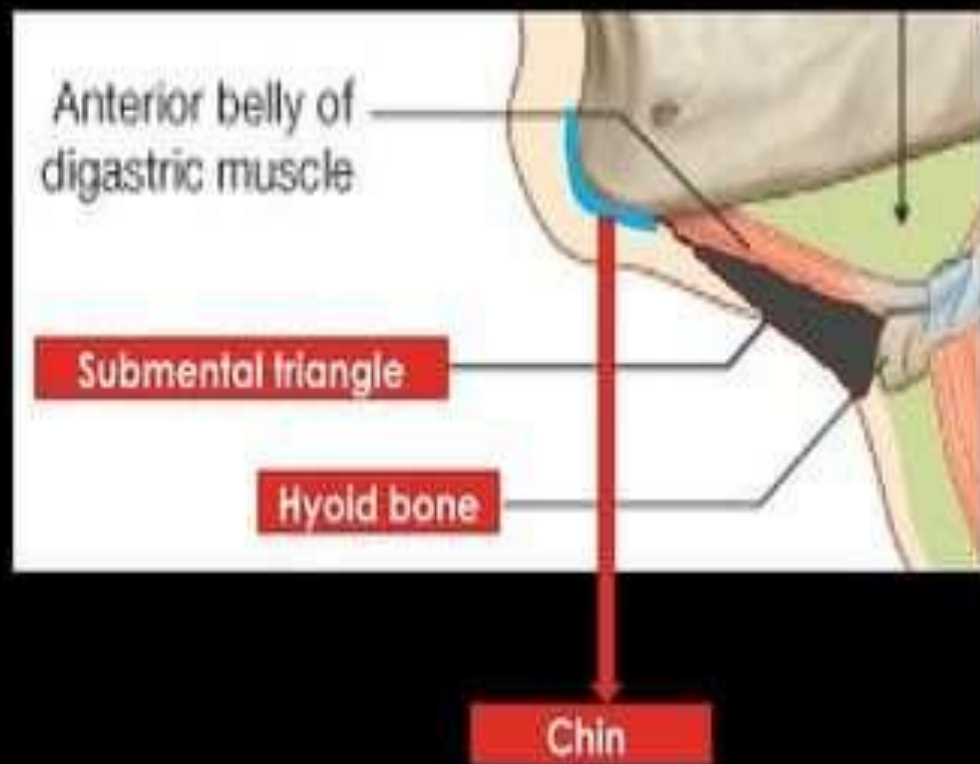




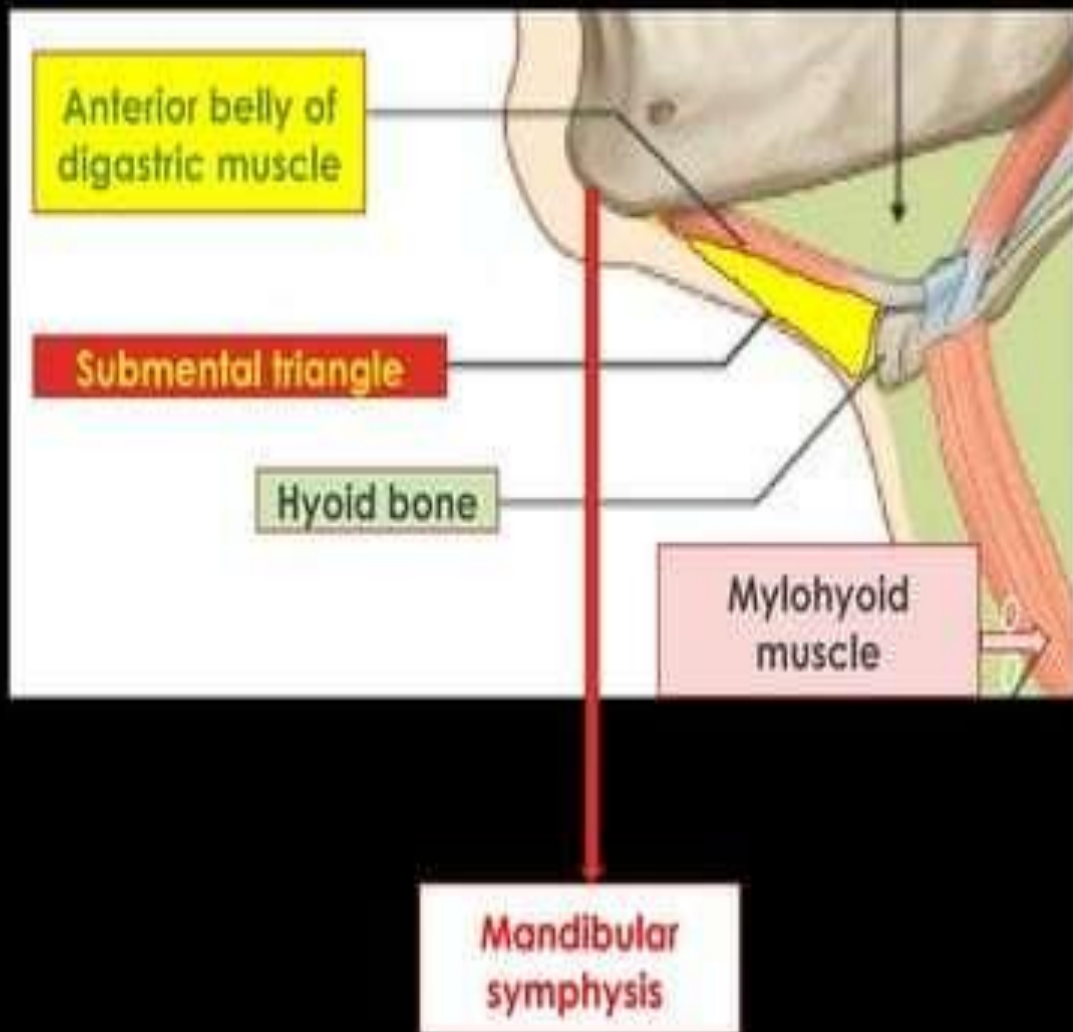
# THE SUBMENTAL TRIANGLE



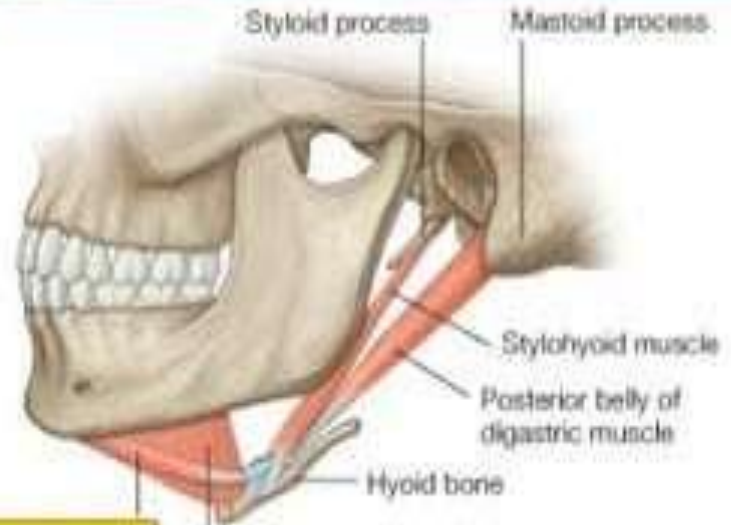
- The *submental triangle*, inferior to the chin, is an unpaired suprahyoid area



- **Inferiorly** : body of the hyoid.
- **Laterally** : right and left anterior bellies of the digastric muscles.
- **Floor**: the two mylohyoid muscles.
- The **apex** of the submental triangle is at the mandibular symphysis.



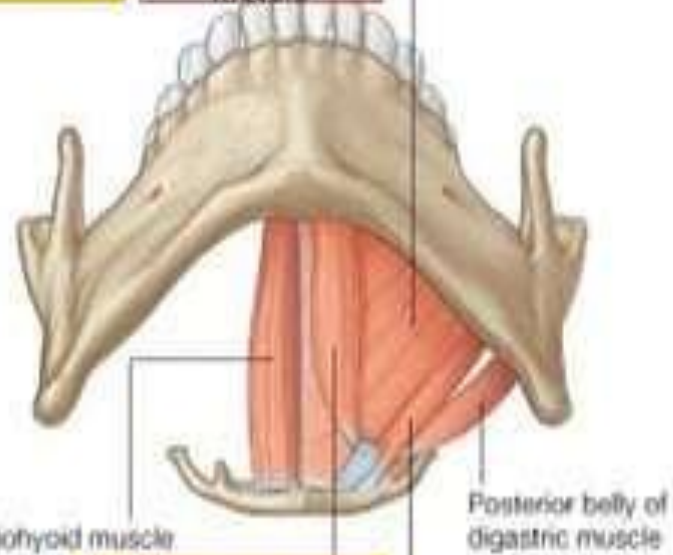
A



Anterior belly of digastric muscle

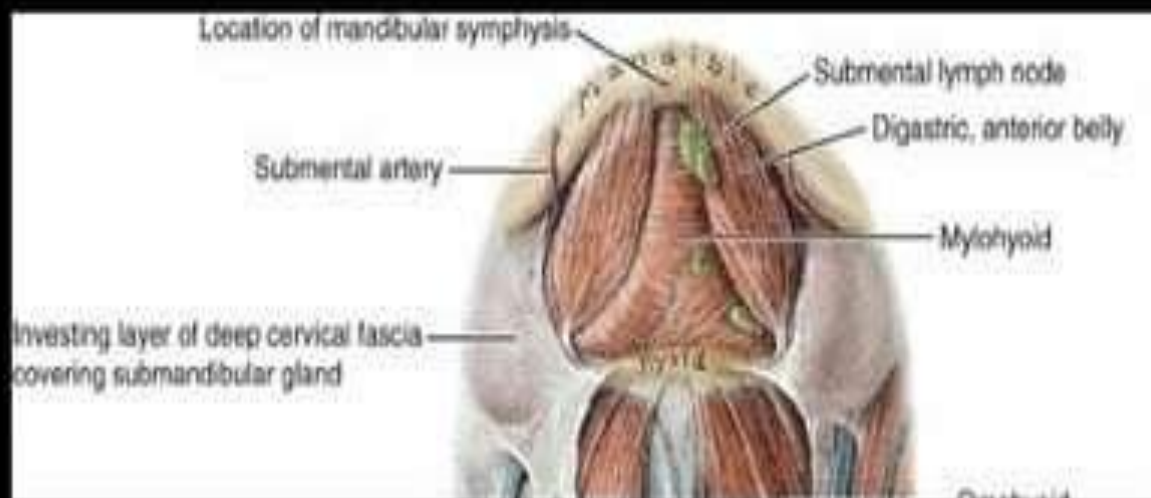
Mylohyoid muscle

B





- Contents:  
submental lymph nodes and  
anterior jugular vein.



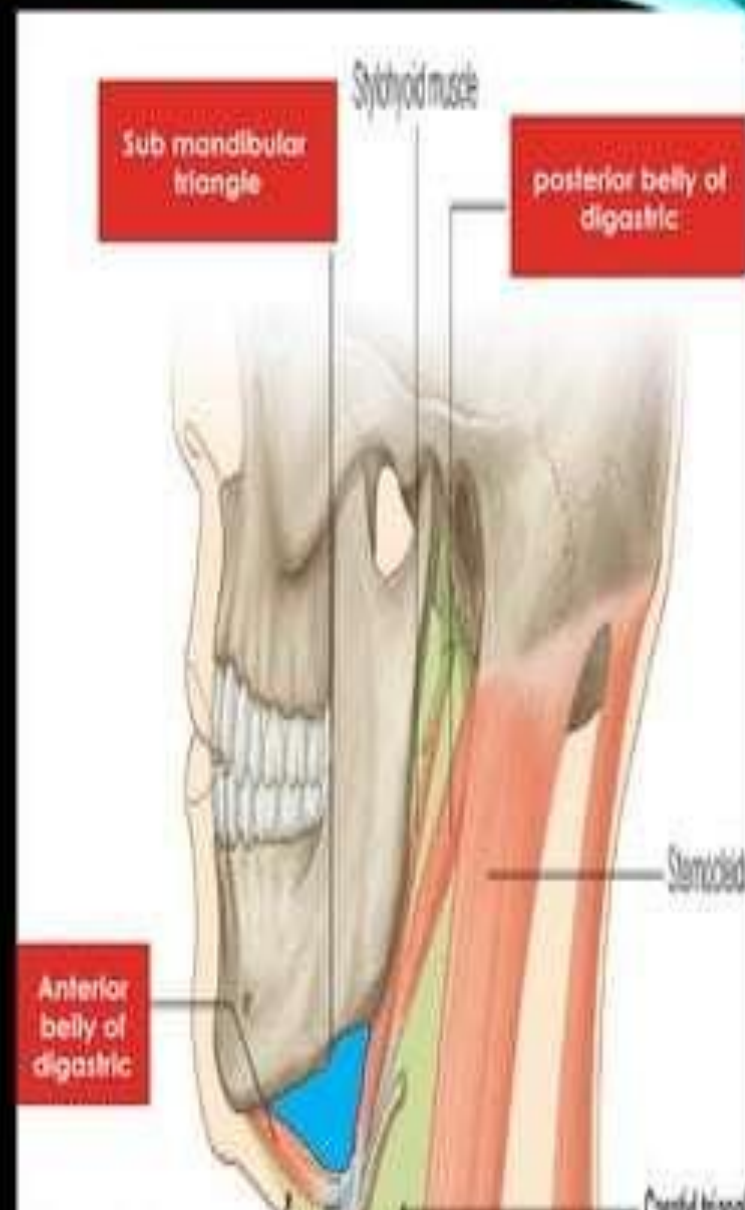
# Port Sudan



# THE SUBMANDIBULAR TRIANGLE



- It is an 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.

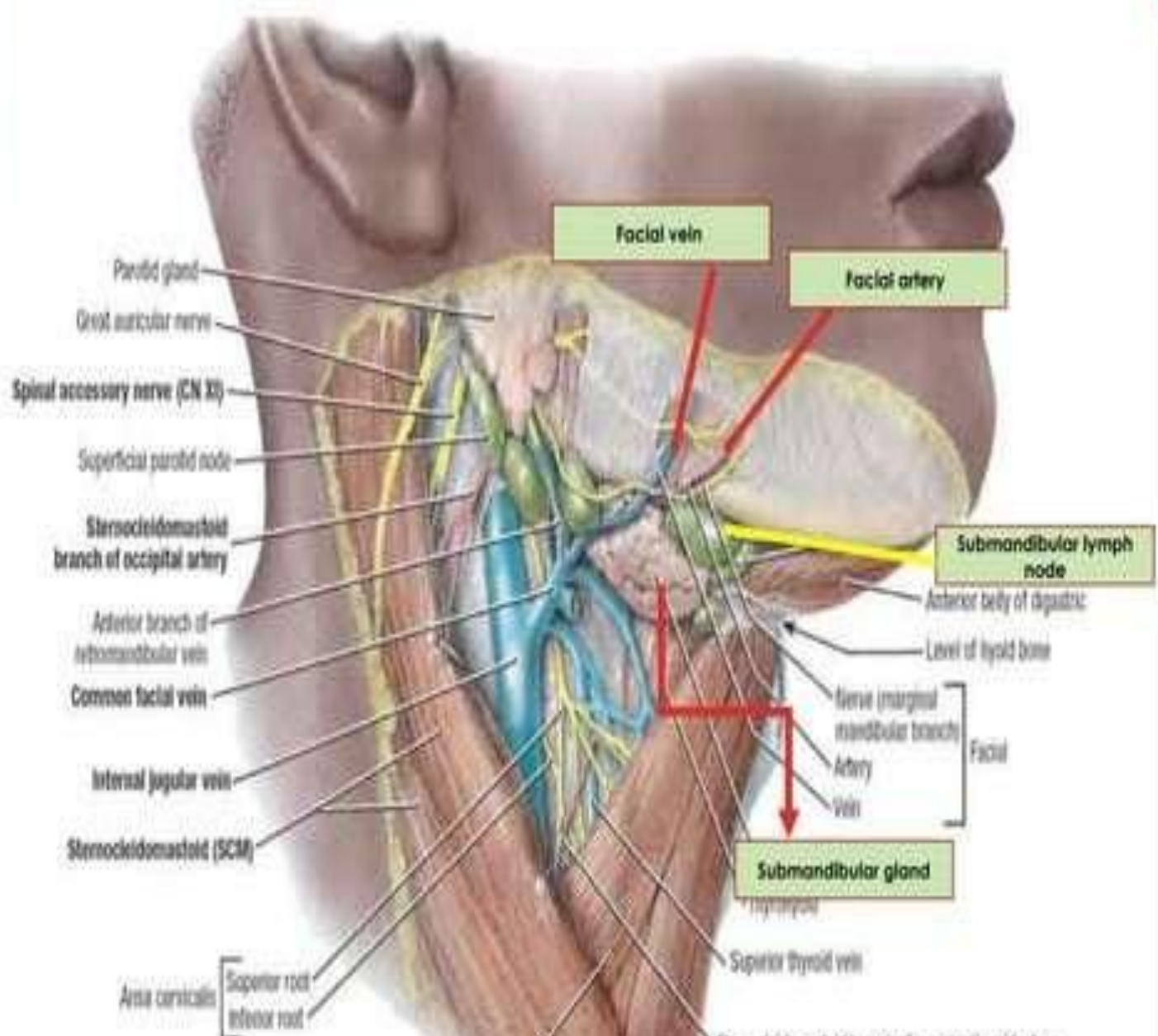




# CONTENTS OF SUBMANDIBULAR TRIANGLE



- The submandibular gland.
- Submandibular lymph nodes.
- The hypoglossal nerve (CN XII).
- The nerve to the mylohyoid muscle (a branch of CN V<sub>3</sub>, which also supplies the anterior belly of the digastric).
- Parts of the facial artery and vein, and the submental artery (a branch of the facial artery).



Parotid gland

Great auricular nerve

Spinal accessory nerve (CN XI)

Superficial parotid node

Sternocleidomastoid  
branch of occipital artery

Anterior branch of  
submandibular vein

Common facial vein

Internal jugular vein

Sternocleidomastoid (SCM)

Area cervicalis

Superior root

Inferior root

Facial vein

Facial artery

Submandibular lymph  
node

Anterior belly of digastric

Level of hyoid bone

Nerve (marginal  
mandibular branch)

Artery

Vein

Facial

Submandibular gland

Superior thyroid vein

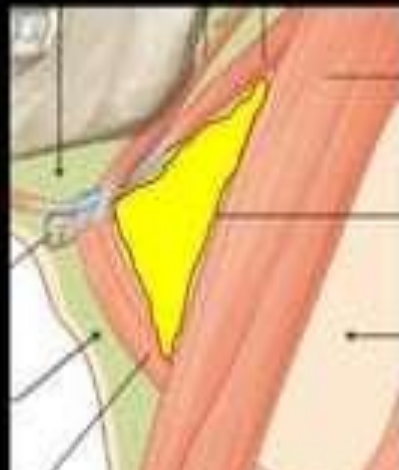


**Kadogly- kordufan**



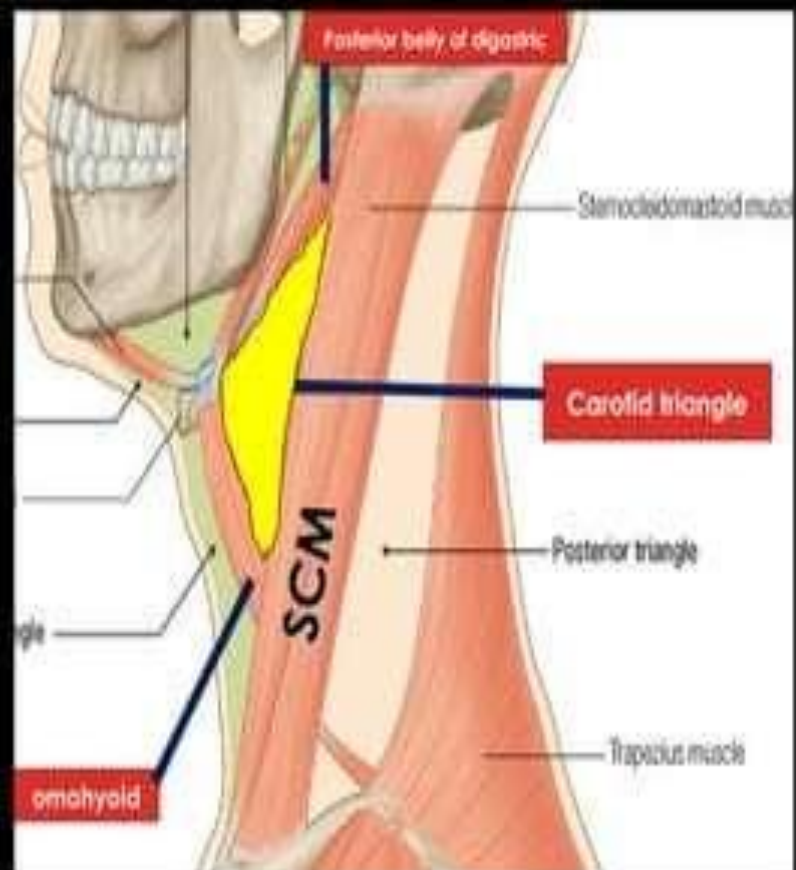


# THE CAROTID TRIANGLE

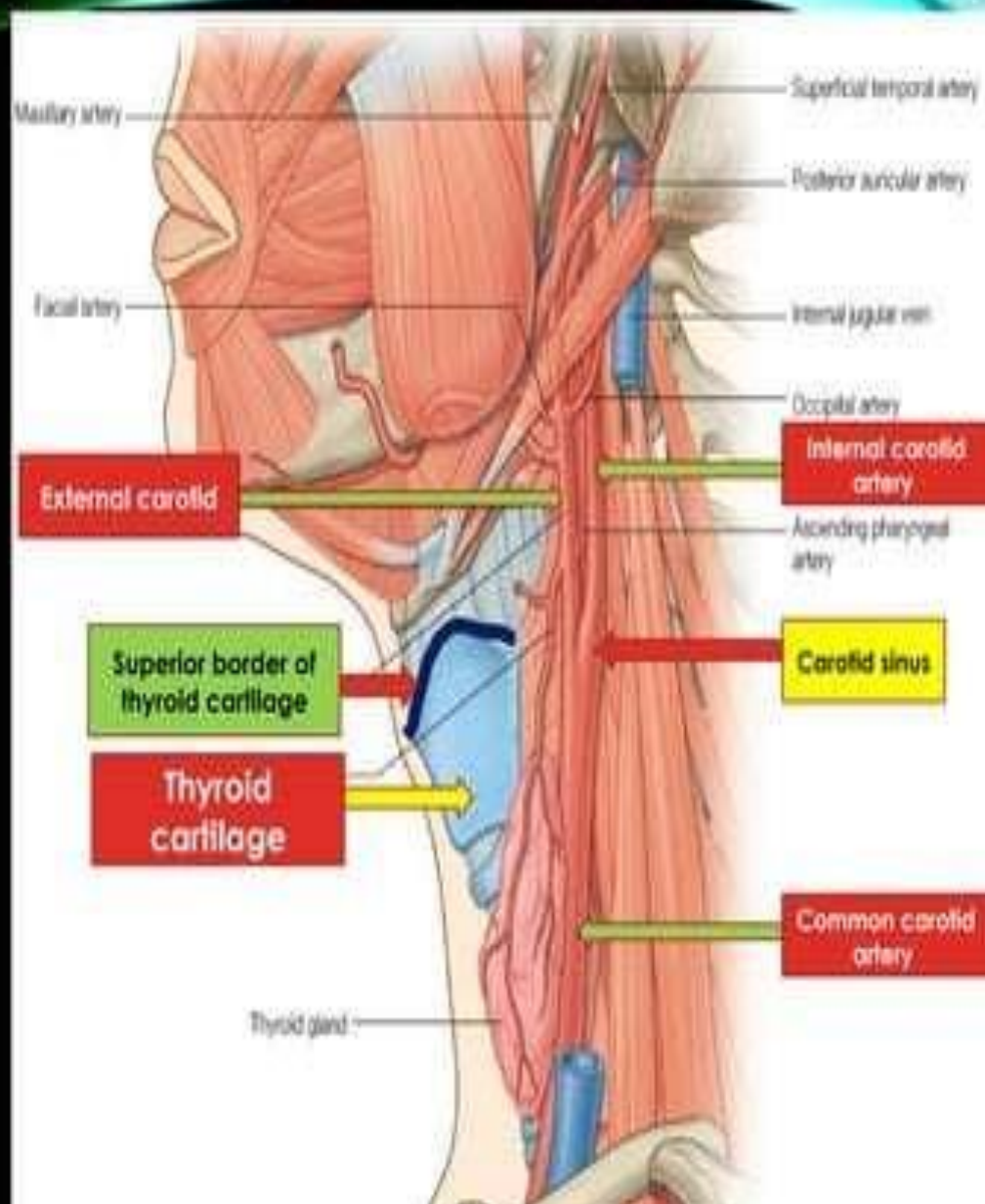


# Carotid triangle

- It is a **vascular area** bounded by the superior belly of the **omohyoid**, the **posterior belly of the digastric**, and the anterior border of **the SCM**.



- At the level of the superior border of the thyroid cartilage, the common **carotid artery** divides into the internal and external carotid arteries.



# CONTENT OF CAROTID TRIANGLE

- The **common carotid artery**
- The *internal carotid artery*
  - The *internal jugular vein*
    - The *vagus nerve*

This structure covered by carotid sheath





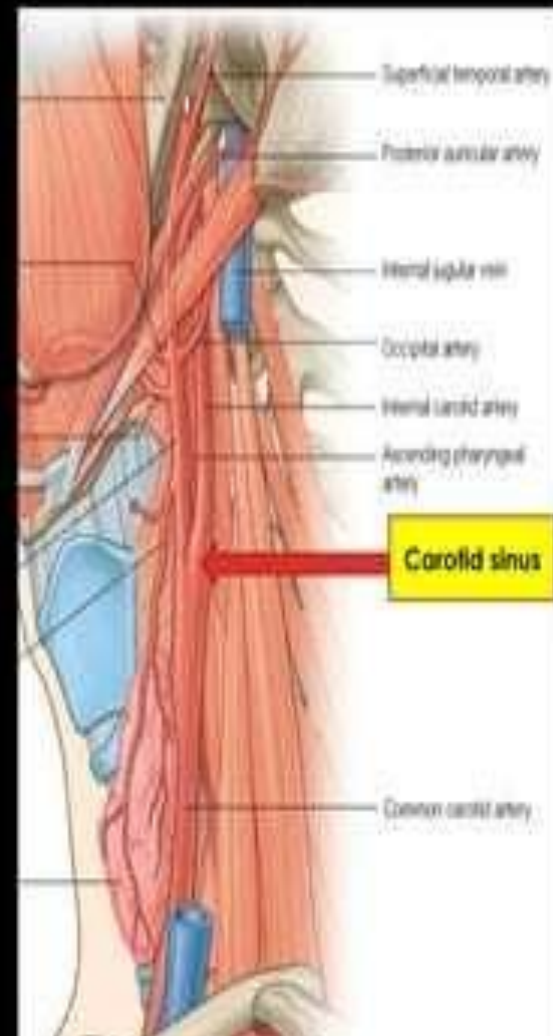
# CAROTID SHEATH

## carotid sheath

- The neurovascular structures of the carotid triangle are surrounded by the carotid sheath and its contents.  
carotid sheath is a column of fascia that surrounds
    - The **common carotid artery**
    - The *internal carotid artery*
      - The *internal jugular vein*
        - The *vagus nerve*
- as these structures pass through the neck

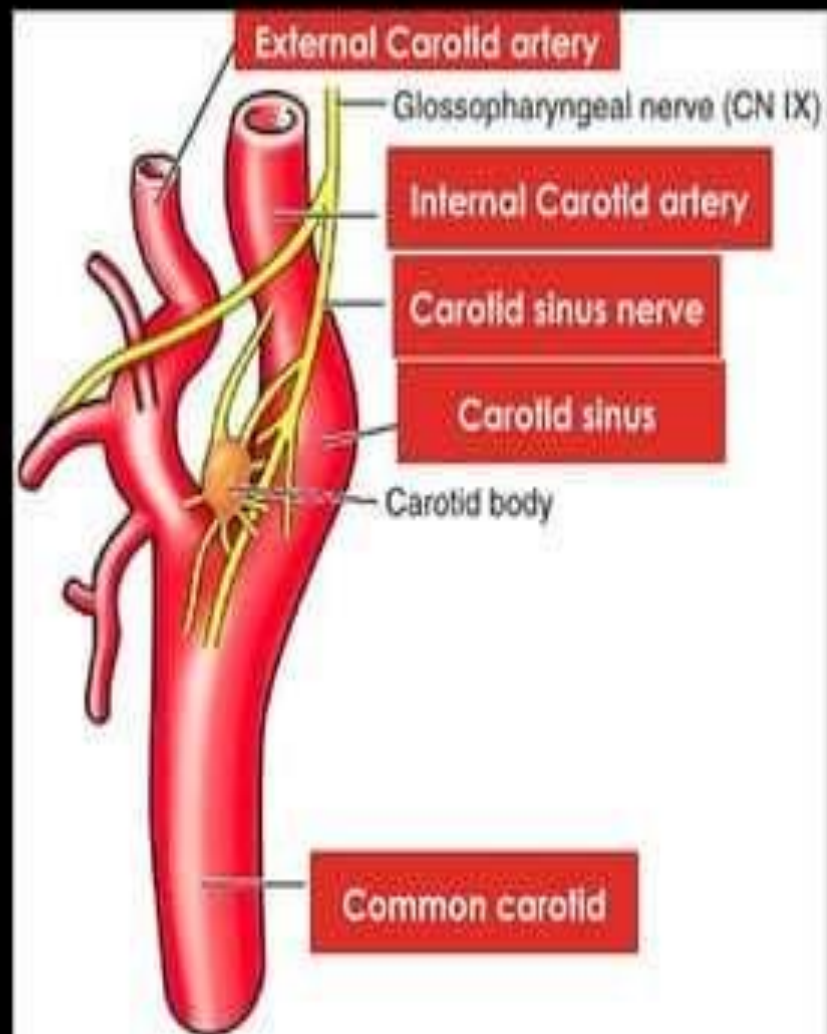
# CAROTID SINUS

- A slight dilation of the proximal part of the internal carotid artery, which may involve the common carotid artery.



Innervated principally by the **glossopharyngeal nerve (CN IX)** through the carotid sinus nerve, as well as by the vagus nerve (CN X).

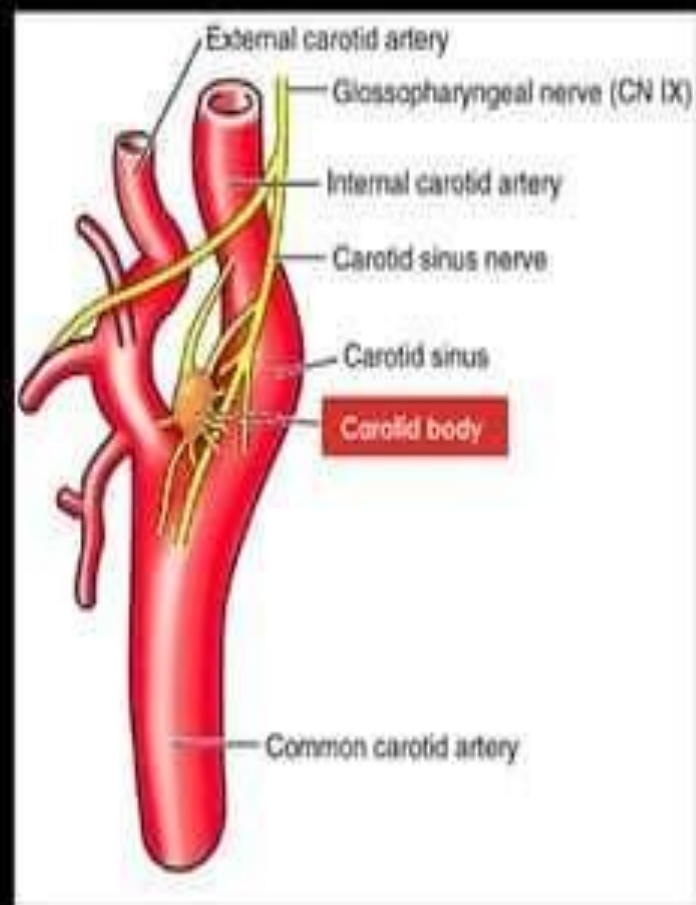
It is a **baroreceptor** (pressoreceptor) that reacts to changes in arterial blood pressure.





# CAROTID BODY

- A small, reddish brown ovoid mass of tissue that lies on the medial (deep) side of the bifurcation of the common carotid artery in close relation to the carotid sinus .
- Supplied mainly by the carotid sinus nerve (CN IX) and by CN X.
- It is a **chemoreceptor** that monitors the level of oxygen in the blood. It is stimulated by low levels of oxygen and initiates a reflex that increases the rate and depth of respiration, cardiac rate, and blood pressure.



# Jabl Mara – Darfur

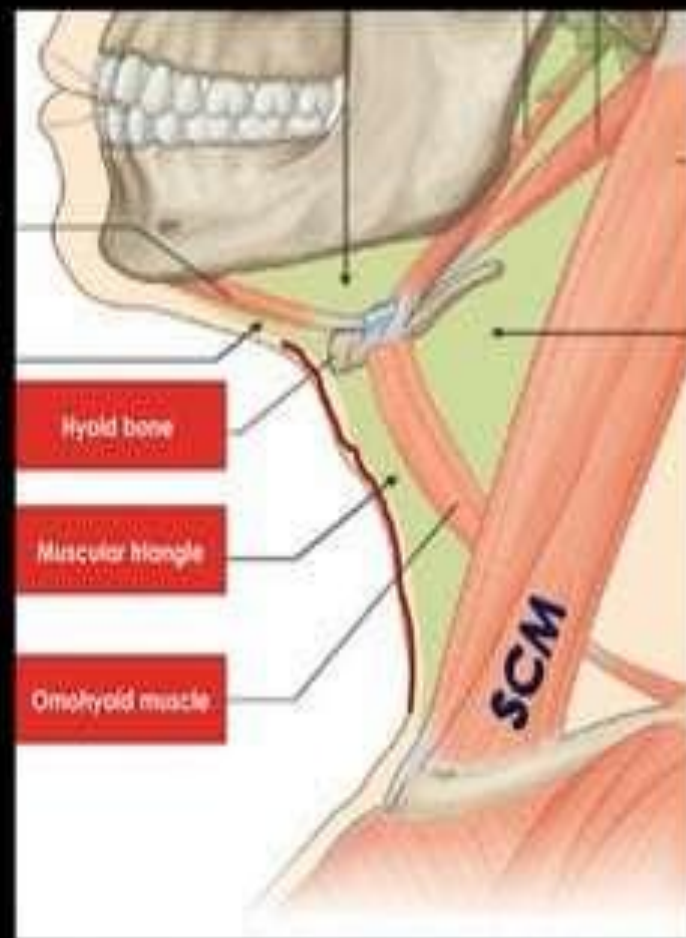




# THE MUSCULAR TRIANGLE



- It is bounded by the superior belly of the omohyoid muscle, the anterior border of the SCM, and the median plane of the neck.



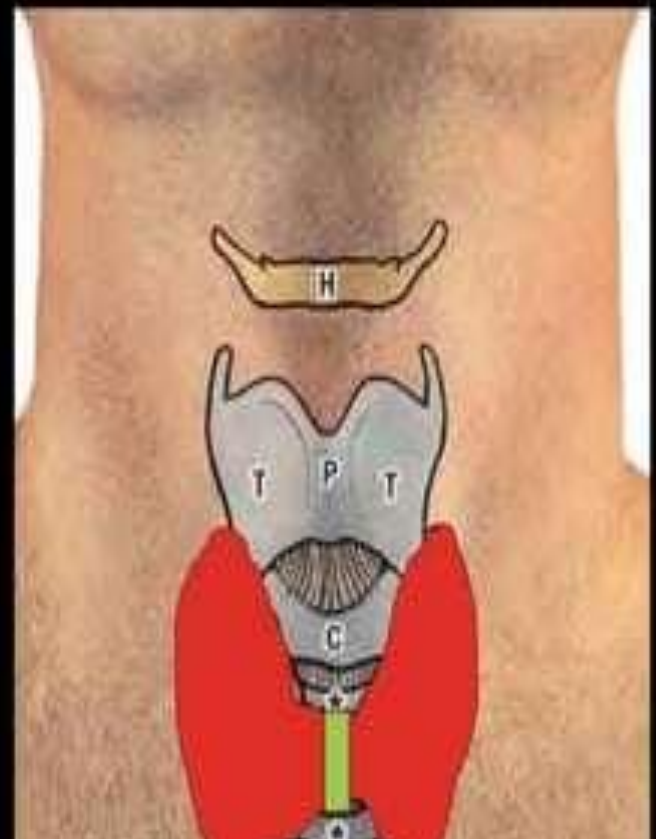


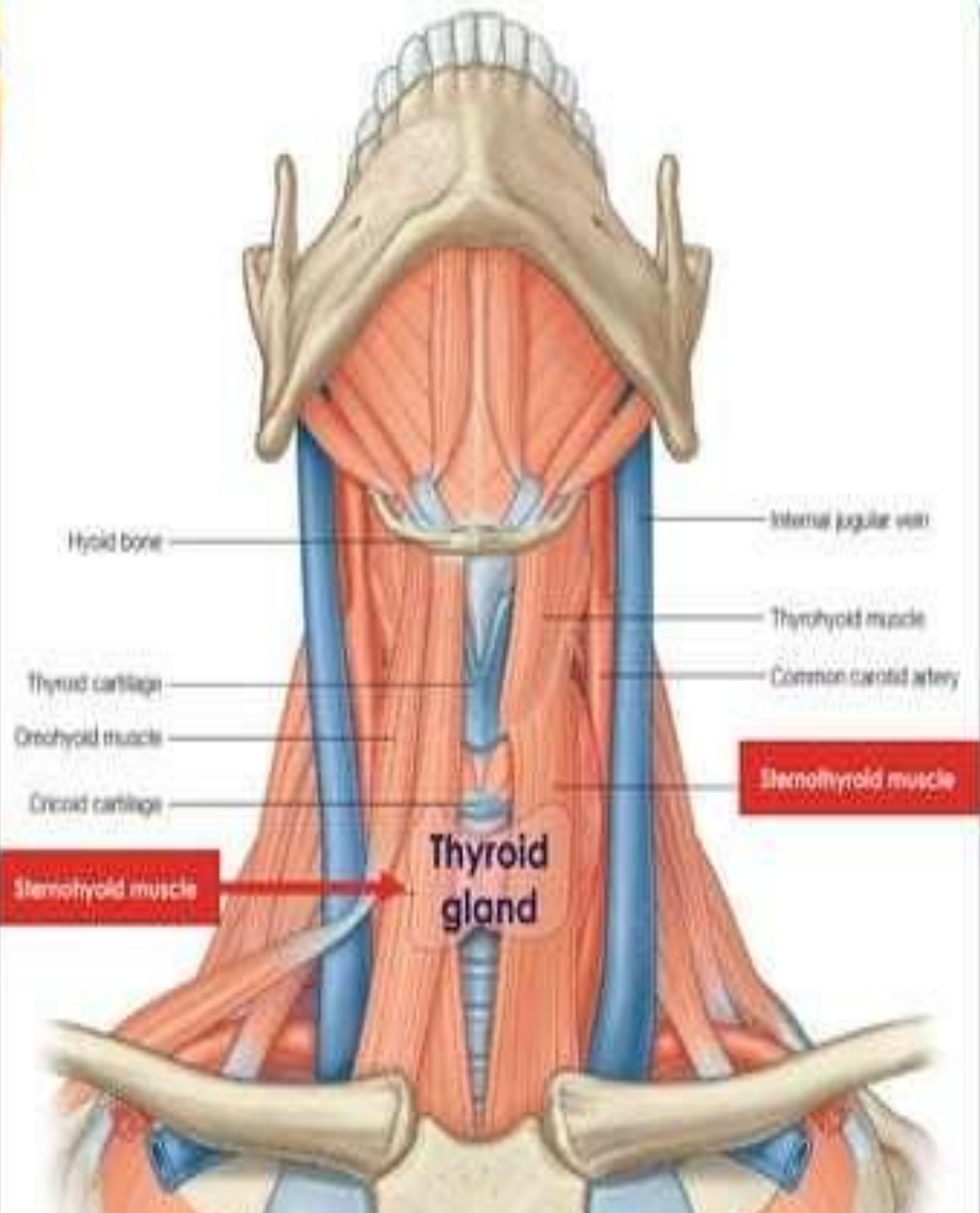
## CONTENT OF MUSCULAR TRIANGLE

- This triangle contains the infrahyoid muscles and viscera (e.g., the thyroid and parathyroid glands).

# THYROID GLAND

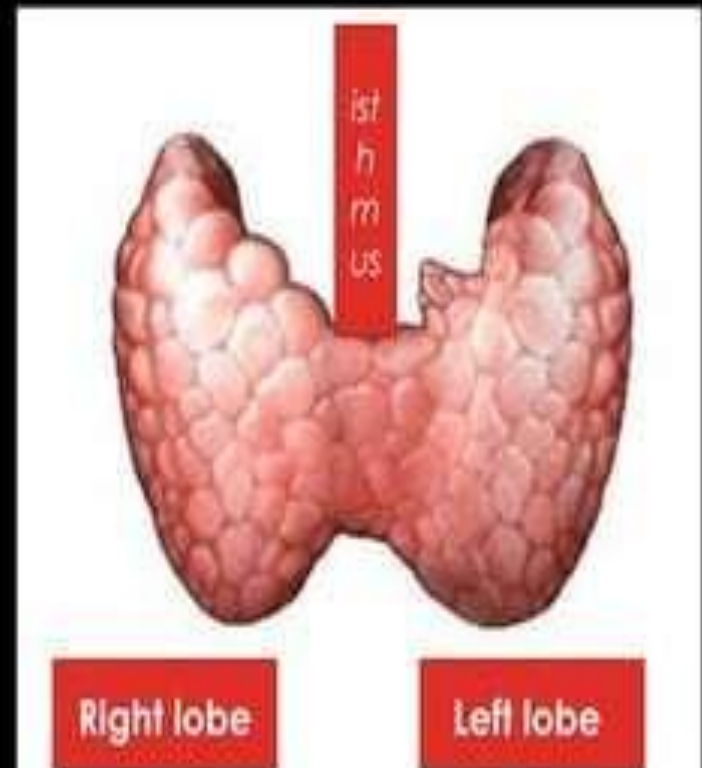
- It is an Endocrine gland
- lies deep to the sternothyroid and sternohyoid muscles, located anteriorly in the neck at the level of the C5 - T1 vertebrae
- Butterfly in shape





# THYROID GLAND

- It consists of right and left lobes.
- The **isthmus** unites the lobes over the trachea, usually anterior to the second and third tracheal rings.





- Approximately 50% of thyroid glands have a **pyramidal lobe**.
- This lobe, which varies in size, extends superiorly from the isthmus of the thyroid gland, usually to the left of the median plane



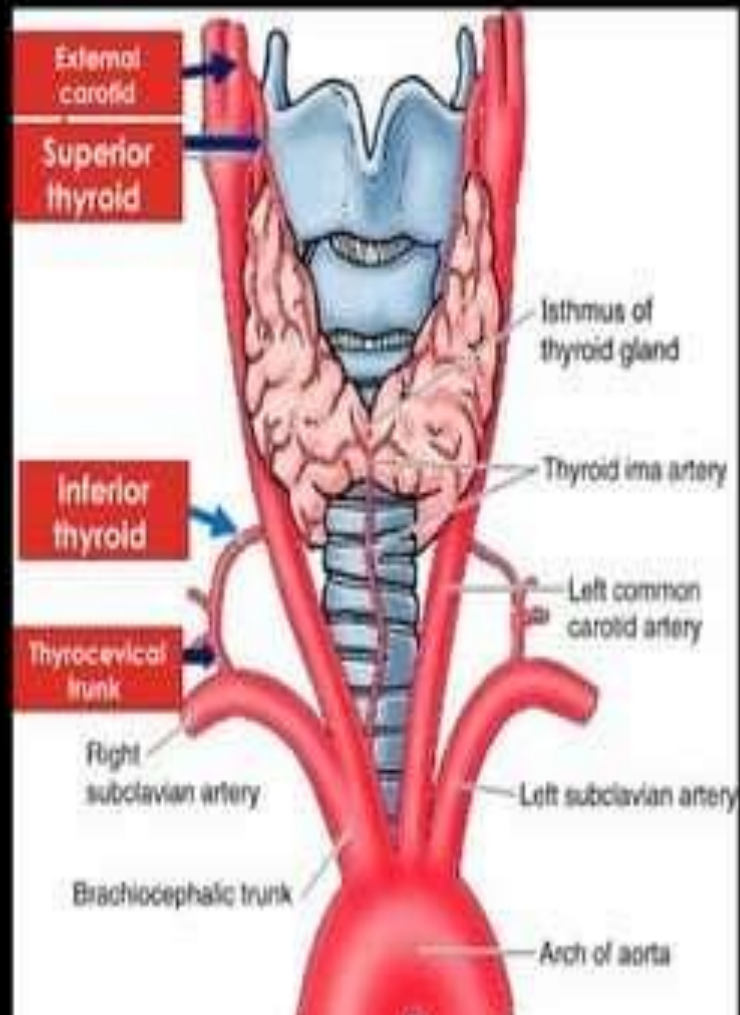
pyramidal lobe



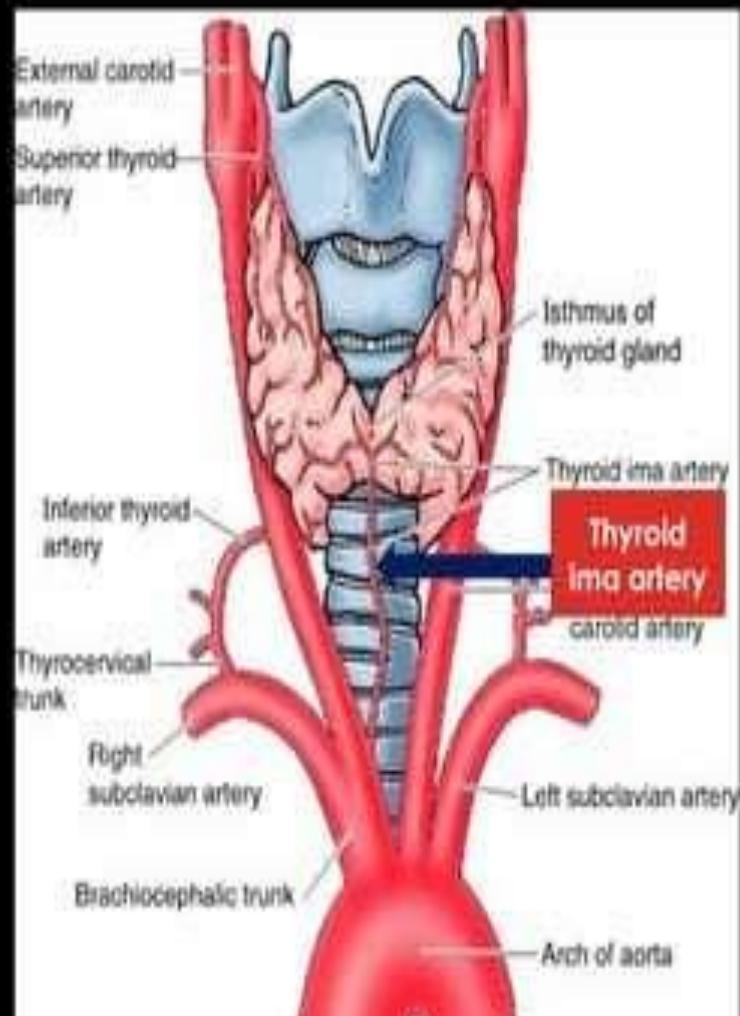
# Blood supply of thyroid

# Arteries

- Superior and inferior thyroid arteries
- The superior thyroid arteries descend from the external carotid arteries, it is accompanied by the external laryngeal nerve .
- The inferior thyroid arteries, the largest branches of the thyrocervical trunks arising from the subclavian arteries.



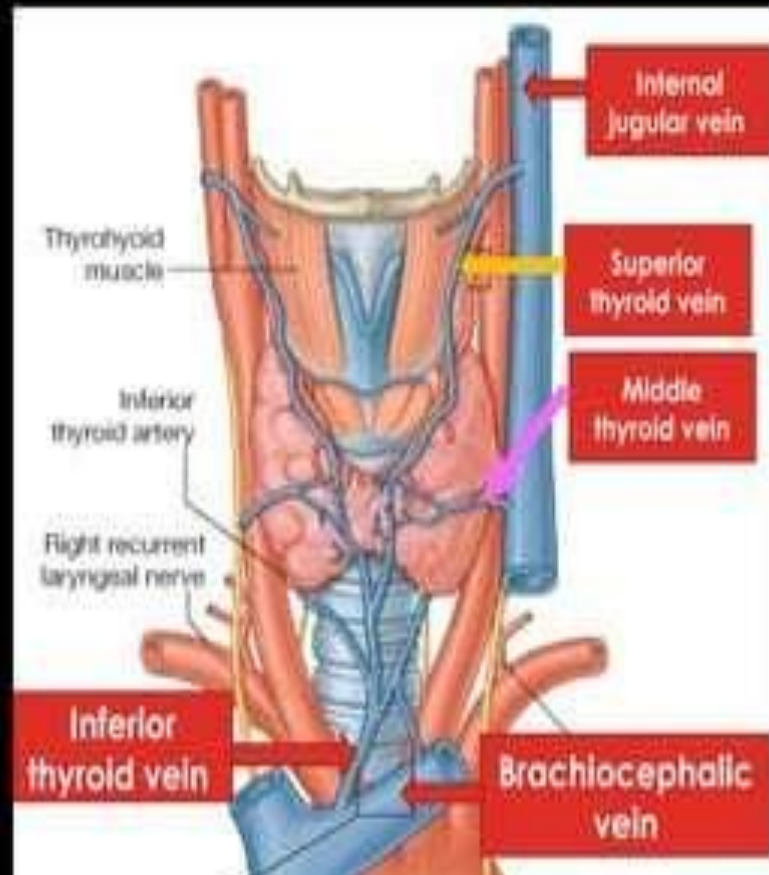
- In approximately 10% of people, a small, unpaired **thyroid ima artery** arises from the brachiocephalic trunk supply the isthmus





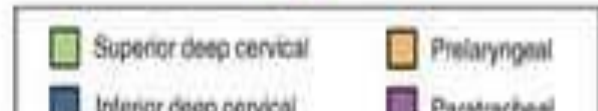
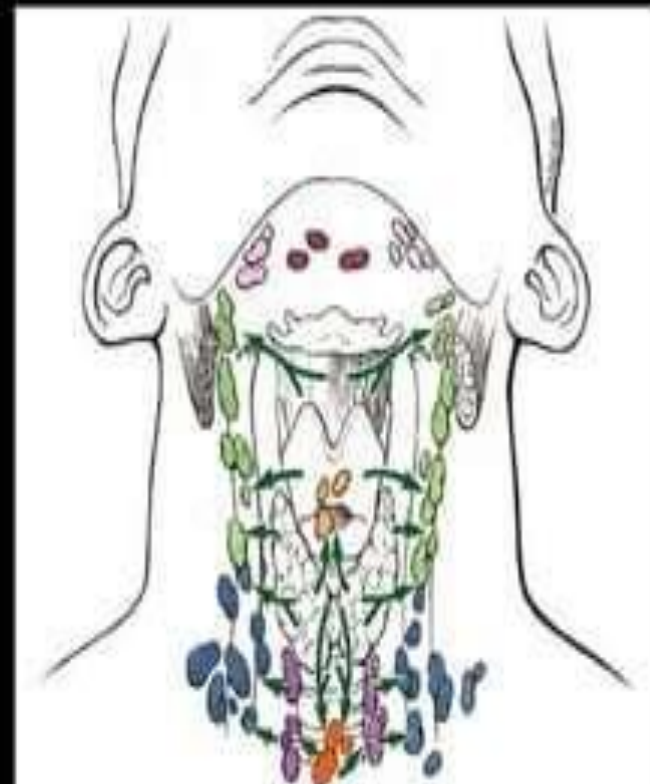
# VEINS

- The superior and middle thyroid veins drain into the IJVs
- The inferior thyroid veins drain into the brachiocephalic veins



## LYMPHATIC DRAINAGE

- The lymphatic vessels of the thyroid gland run in the interlobular connective tissue.
- They communicate with a capsular network of lymphatic vessels.
- They drain eventually to the superior and inferior deep cervical



## NERVE TO THYROID GLAND

- The nerves of the thyroid gland are derived from the superior, middle, and inferior cervical sympathetic ganglia.
- These fibers are vasomotor, not secretomotor. They cause constriction of blood vessels.
- Endocrine secretion from the thyroid gland is hormonally regulated by the pituitary gland.

## REFERENCES

- **Moore**, Keith L.; Dalley, Arthur F, *Clinically Oriented Anatomy*, 5<sup>th</sup> Ed. Lippincott Williams & Wilkins; 2006.
- Richard L.Drake, Wayne Vogl,Adam W.M.Mitchell, **GRAYS** anatomy for students, Elsevier Inc. 2007



# Kalanj-Darfour

