

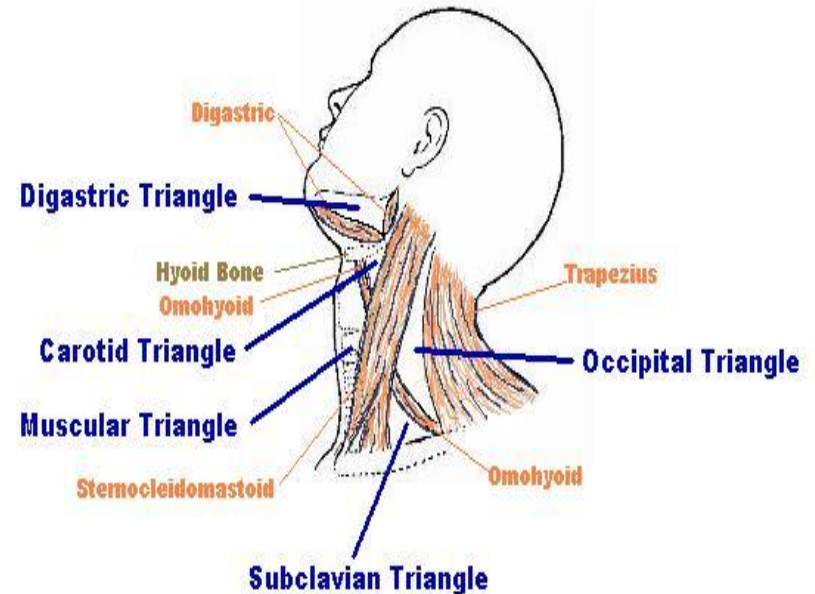
# The neck

anatomy

# The ant. triangle

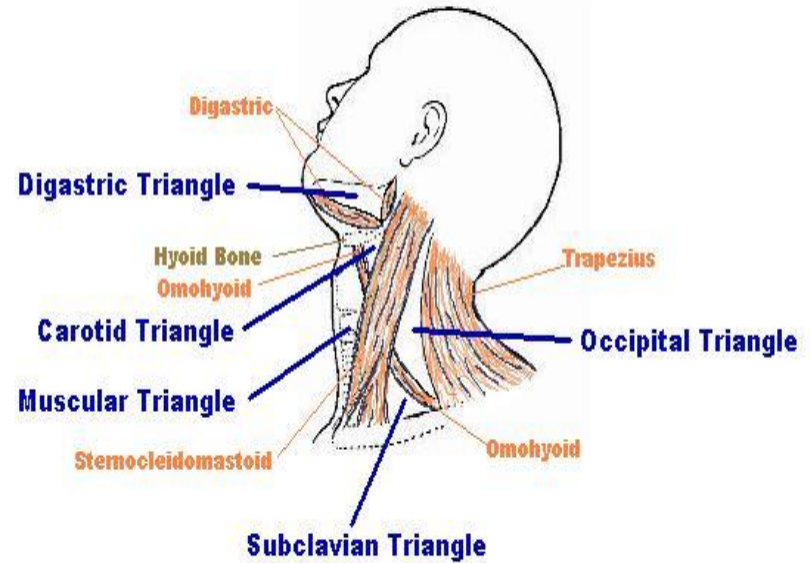
It's bounded anteriorly by the midline, posteriorly by the anterior border of the sternocleidomastoid muscle, and superiorly by the by the lower margin of the mandible. It's covered by skin, superficial fascia, platysma muscle, and the investing layer of the deep cervical fascia and is subdivided into smaller triangles by the anterior and posterior bellies of the digastric muscle and the superior belly of the omohyoid muscle into the following triangles

## CERVICAL TRIANGLES



- **Submental triangle:** bounded *anteriorly* by the midline of the neck *laterally* by the anterior belly of the digastric muscle *inferiorly* by the body of the hyoid bone and the *floor* is formed by mylohyoid muscle. *Contents* of this triangle are: Submental lymph nodes and the beginning of the anterior jugular vein

## CERVICAL TRIANGLES



# CERVICAL TRIANGLES

## Digastric triangle:

bounded *anteriorly* by the anterior belly of the digastric muscle, *posteriorly* by the posterior belly of the digastric muscle, *superiorly* by the mandible and the *floor* is formed by the mylohyoid, hyoglossus, and superior constrictor muscles.

Contents includes:

Submandibular salivary gland.

Facial artery deep to it.

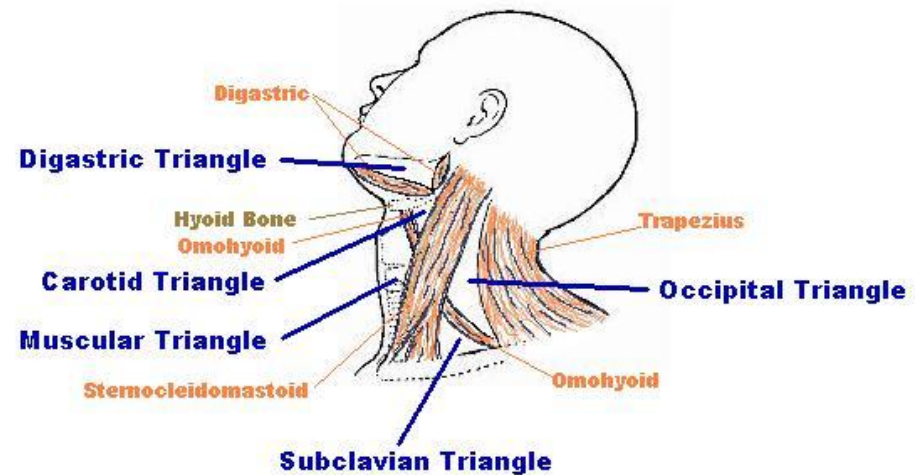
Facial vein and Submandibular L.N superficial to it.

Hypoglossal nerve on the hyoglossus muscle deep to the gland.

Stylopharyngeus muscle.

Glossopharyngeal nerve deeply placed.

The lower part of the parotid gland project into the triangle



# CERVICAL TRIANGLES

## Carotid triangle:

boundaries are:

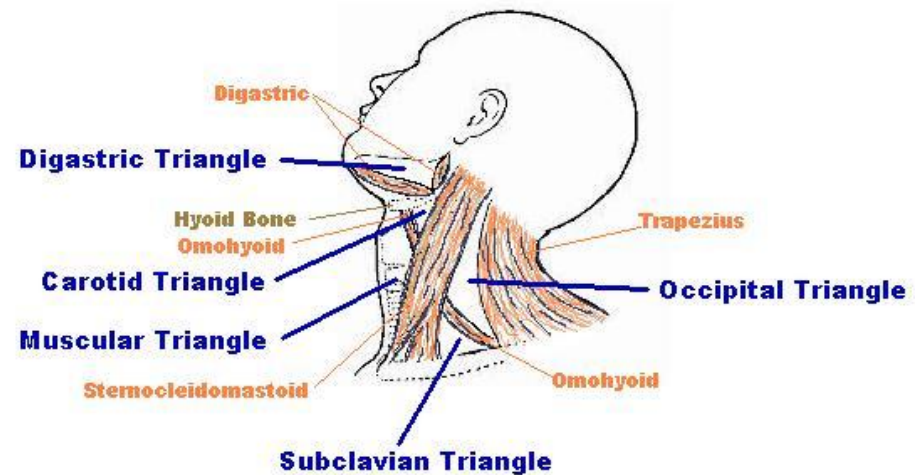
Superiorly: posterior belly of digastric muscle.

Inferiorly: superior belly of omohyoid muscle.

Posteriorly: anterior border of sternocleidomastoid muscle.

Floor: thyrohyoid, hyoglossus, middle and inferior constrictor muscles.

**Contents:** includes the carotid sheath (common carotid artery and its divisions and branches, internal jugular veins and its tributaries, hypoglossal nerve, internal and external laryngeal nerves, accessory and vagus nerves, and part of the deep cervical L.N).



# CERVICAL TRIANGLES

## Muscular triangles:

boundaries are:

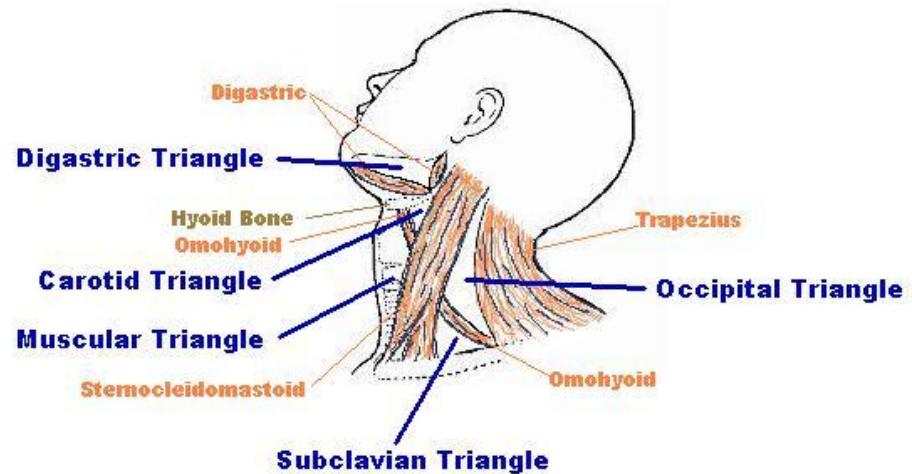
Anteriorly: midline of the neck.

Superiorly: superior belly of the omohyoid muscle.

Inferiorly: anterior border of the sternocleidomastoid muscle.

Floor: sternohyoid and sternothyroid muscles.

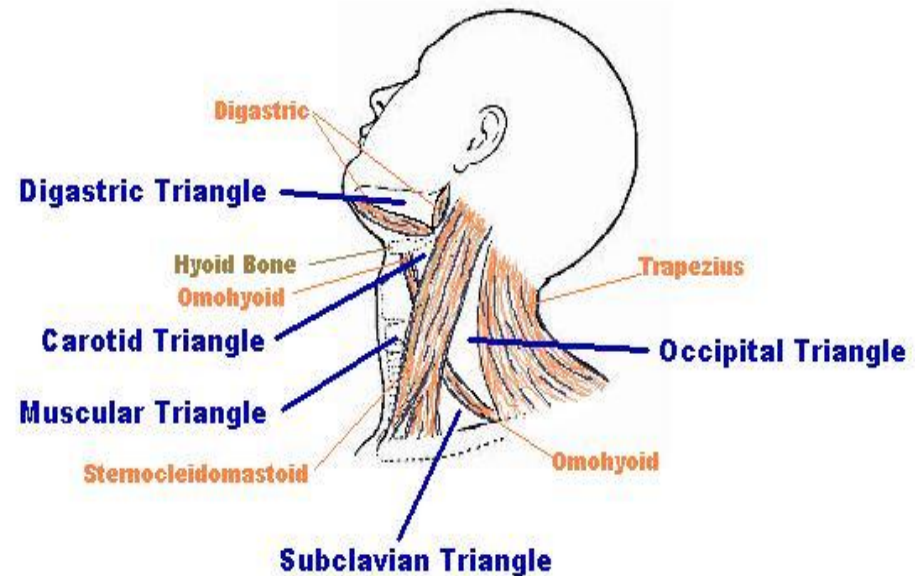
Contents: thyroid gland, larynx, trachea, and oesophagus



# CERVICAL TRIANGLES

## The post. triangle

Is bounded *anteriorly* by the posterior border of the sternocleidomastoid muscle, *posteriorly* by the anterior border of the trapezius muscle, and *inferiorly* by the middle third of the clavicle. Its *covered* by skin, superficial fascia, platysma, and the investing layer of the deep cervical fascia running through these covers the supraclavicular nerve. The *floor* is formed by the prevertebral muscles from above downwards (semispinalis, splenius capitis, levator scapulae, scalenius medius, and scalenius anterior) muscles. The inferior belly of the omohyoid muscle subdivides the triangle into: large (occipital) above and a small (supraclavicular) triangles bellow.



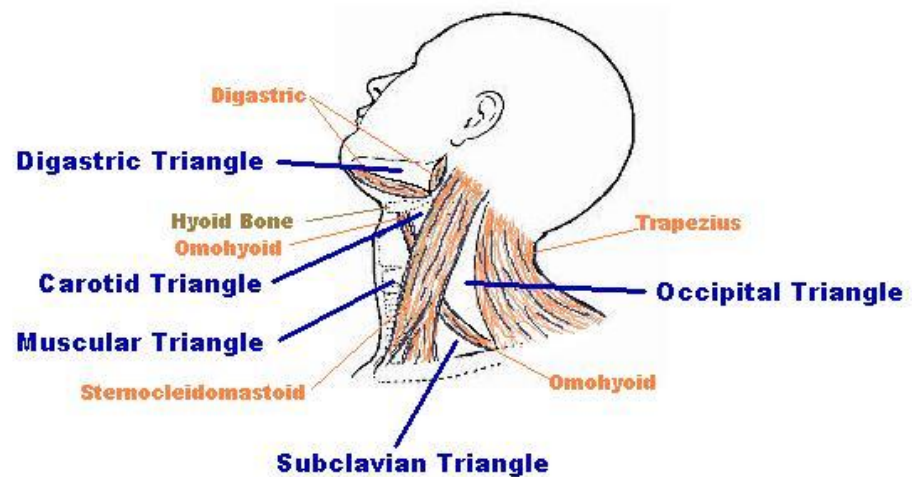
## CERVICAL TRIANGLES

**Occipital triangle:**  
**bounded by:**

**Anteriorly:** by the posterior border of the sternocleidomastoid muscle.

**Posteriorly:** by the anterior border of the trapezius muscle.

**Inferiorly:** by the inferior belly of the omohyoid muscle.





# Supraclavicular (subclavian) triangle

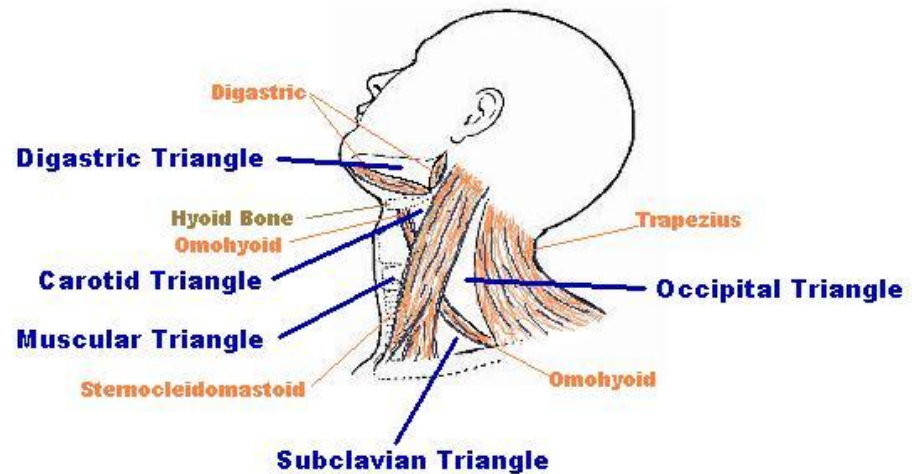
## CERVICAL TRIANGLES

: bounded by:

Anteriorly: by the posterior border of the sternocleidomastoid muscle.

Posteriorly: by the anterior border of the trapezius muscle.

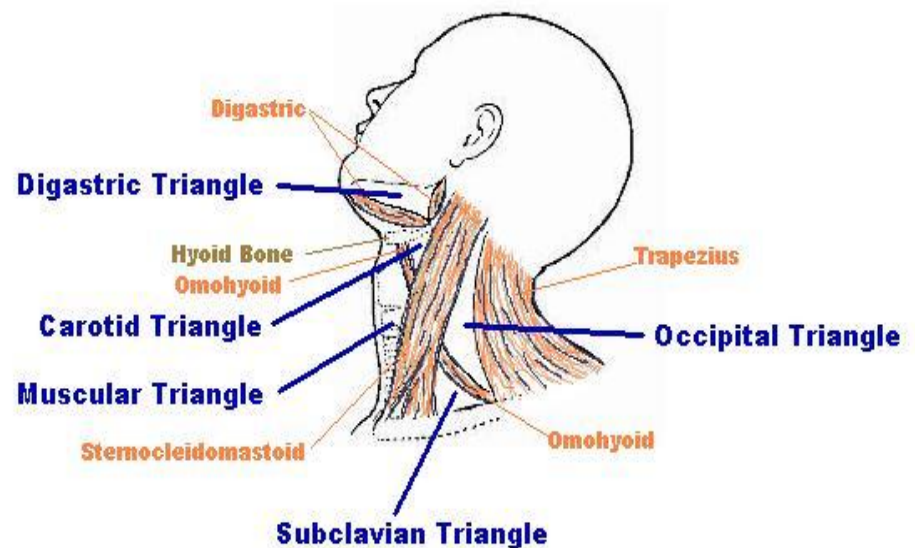
Inferiorly: by the middle third of the clavicle.



# **Contents of the posterior triangle**

- **Arteries:** subclavian, superficial cervical, suprascapular, and occipital.
- **Veins:** external jugular.
- **Nerves:** brachial plexus, spinal accessory nerve, and branches of the cervical plexus.
- **Lymph nodes:** these are located around the external jugular vein and accessory nerve.

## **CERVICAL TRIANGLES**



# **Levels of lymph nodes of the neck**

## **Level (I): submental & submandibular groups:**

Includes lymph nodes in the submental and submandibular triangles.

## **Level (II): upper jugular group:**

- Includes lymph nodes located around the upper third of the internal jugular vein and the adjacent spinal accessory nodes extending from the skull base down to the level of the carotid bifurcation where the digastric muscle crosses the internal jugular vein. This point relates to the level of the hyoid bone on a computed tomographic (CT) scan.

## **Level (III): middle jugular group:**

- This consists of lymph nodes located around the middle third of the internal jugular vein extending from the carotid bifurcation superiorly (bottom of level II) down to the upper part of the cricoid cartilage (seen on CT scan) and represents the level where the omohyoid muscle crosses the internal jugular vein. It usually contains the jugulo-omohyoid nodes and may contain the jugulo-digastric node

**Level (IV): lower jugular group:**

- This consists of lymph nodes located around the lower third of the internal jugular vein extending from the cricoid cartilage down to the clavicle inferiorly. It may contain some jugulo-omohyoid nodes.

**Level (V): posterior triangle group:**

- These nodes are located along the lower half of the spinal accessory nerve and the transverse cervical artery. Supraclavicular nodes are also included in this group. The posterior border is the anterior border of trapezius and the anterior boundary is the posterior border of sternomastoid muscle

**Level (VI): anterior compartment (visceral) group:**

- This consists of lymph nodes surrounding the midline visceral structures of the neck extending from the hyoid bone superiorly to the suprasternal notch inferiorly. The lateral border on each side is the medial border of the sternomastoid muscle. It contains the parathyroid, the paratracheal and pretracheal, the perilaryngeal and precricoid lymph nodes.

**Level (VII):**

- These are the lymph nodes in the upper anterior mediastinum.

# D.D. of mass in the neck

Anterior triangle

**midline mass:**

1. Congenital: a. thyroglossal. b. dermoid cyst.
2. Acquired: a. ranula.  
b. Ludwig's angina.  
c. perichondritis of the thyroid cartilage.  
d. chondroma and chondrosarcoma of the thyroid cartilage. e. advanced laryngeal tumours(widening of the laryngeal framework). f. thyroid isthmus swelling. g. lymph node(prelaryngeal). h. skin and associated structures (lipoma, sebaceous cyst). i. trauma.



**B. lateral mass:**

1. Congenital:   brancheal cyst.
2. Acquired: a. skin and associated structures (lipoma, sebaceous cyst).  
b. pharyngeal pouch. c. neck space infections( parapharyngeal, retropharyngeal abscess).  
d. lymph node:-
  1. non-neoplastic(inflammatory):
    - \*acute.
    - \*chronic: -nonspecific.  
              -specific: TB, syphilis, sarcoidosis....etc.
  2. neoplastic:
    - \*primary: lymphoma, sarcoma, & leukemia.
  
    - \*secondaries (occult primary).





## **e. neurogenic tumours:**

- 1. schwannoma: neurofibroma & neurolimmoma.**
- 2. paraganglioma: carotid body tumour, glomus vagalae, glomus jugularae.**
- 3. post operative neuroma.**

## **f. salivary gland mass:**

- 1. Non-neoplastic: parotitis, sialectasis, Sjograns syndrome, pseudoparotomegaly, metabolic & drug induced parotomegaly.**
- 2. Neoplastic:**
  - benign: pleomorphic adenoma, Warthins tumour, oxyphil adenoma, benign lymphoepithelial tumours.**
  - malignant: mucoidepidermoid CA, adenoid cystic CA, adeno CA, CA in pleomorphic adenoma, lymphoma, SCC, & undifferentiated CA**

Neck mass

Posterior triangle

**Congenital: cystic hygroma.**

**Acquired:**

**.Skin and associated structures  
(lipoma, sebaceous cyst).**

**.cervical rib.**

**.lymph node.**

**.neurogenic tumour:**

**.schwannoma or neuroplastoma.**

**.large osteophyte.**

