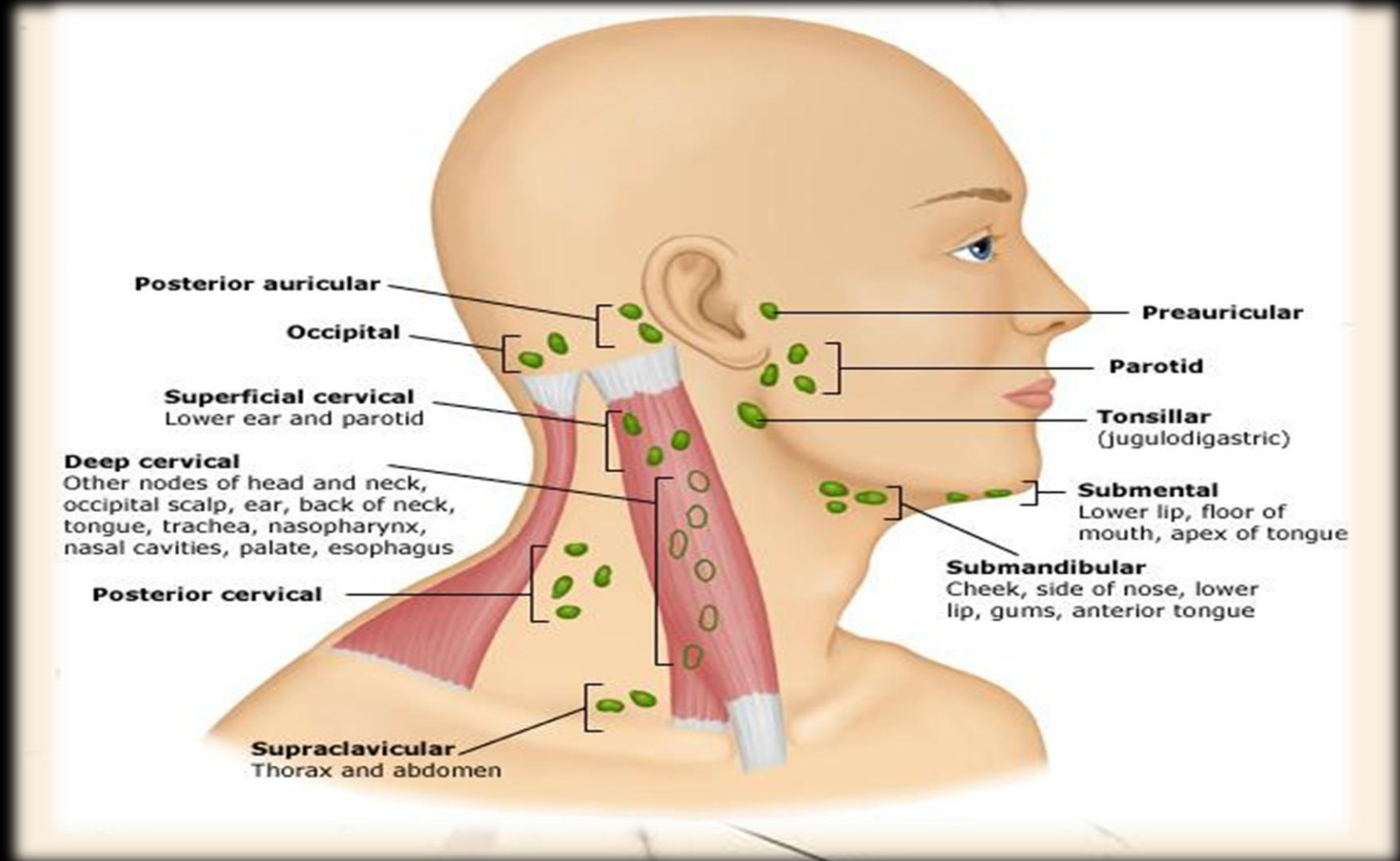


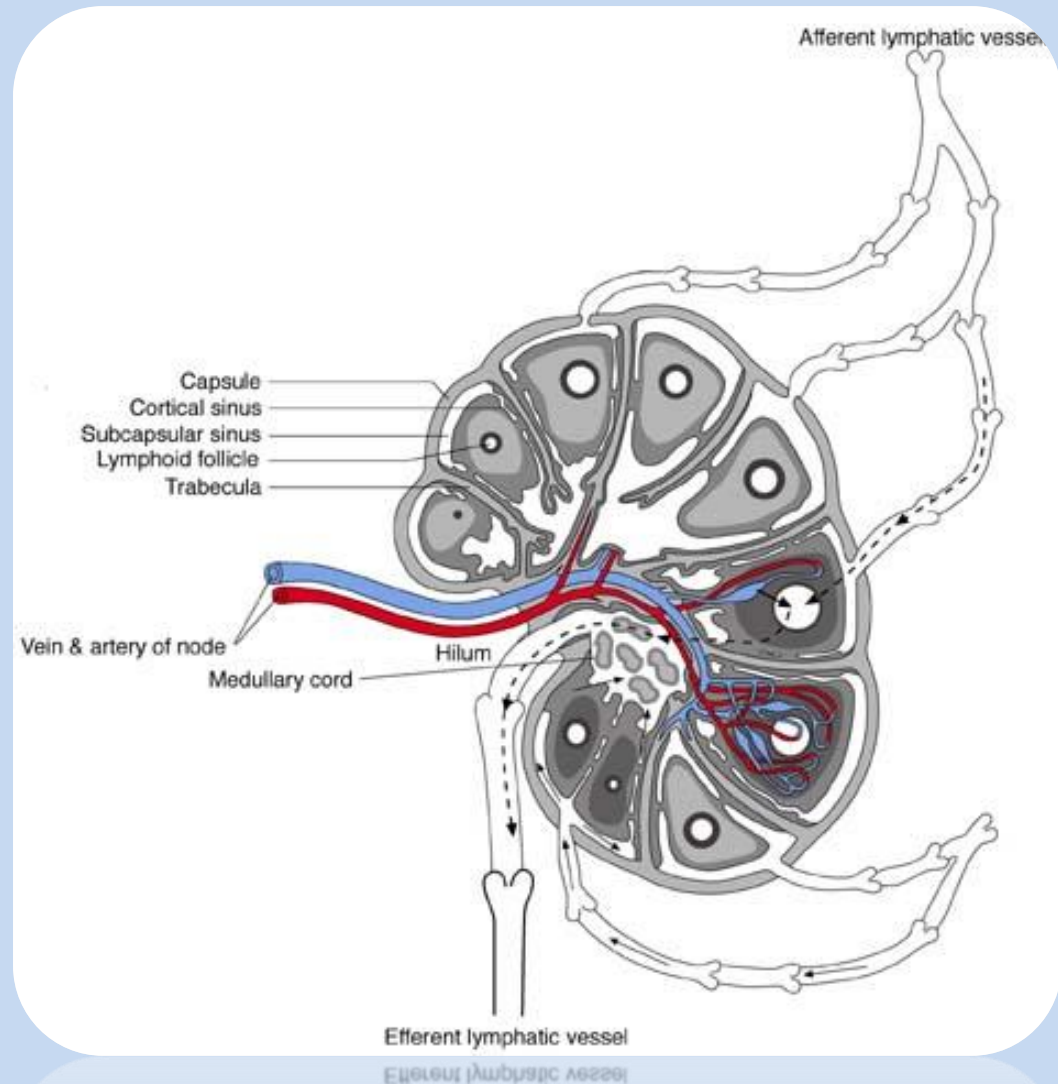
Cervical lymphadenopathy



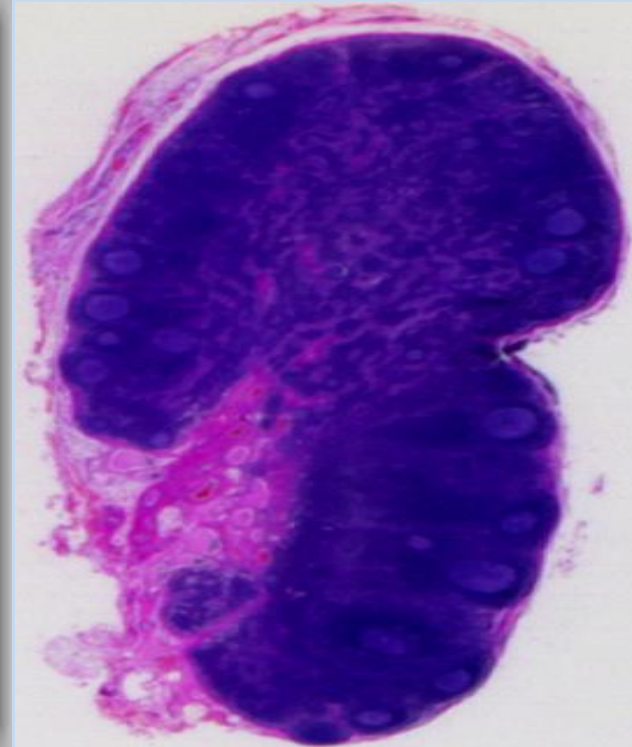
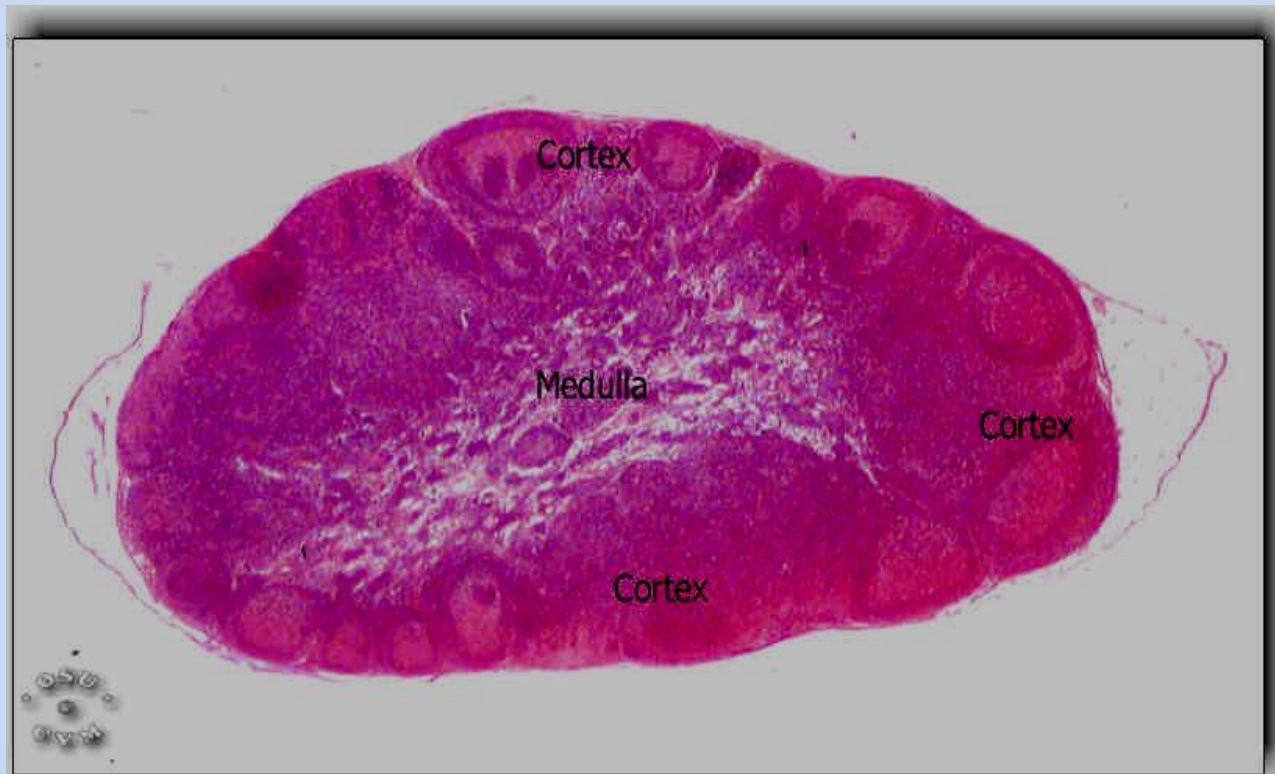
By Prof Dr / Alaa El- Suity

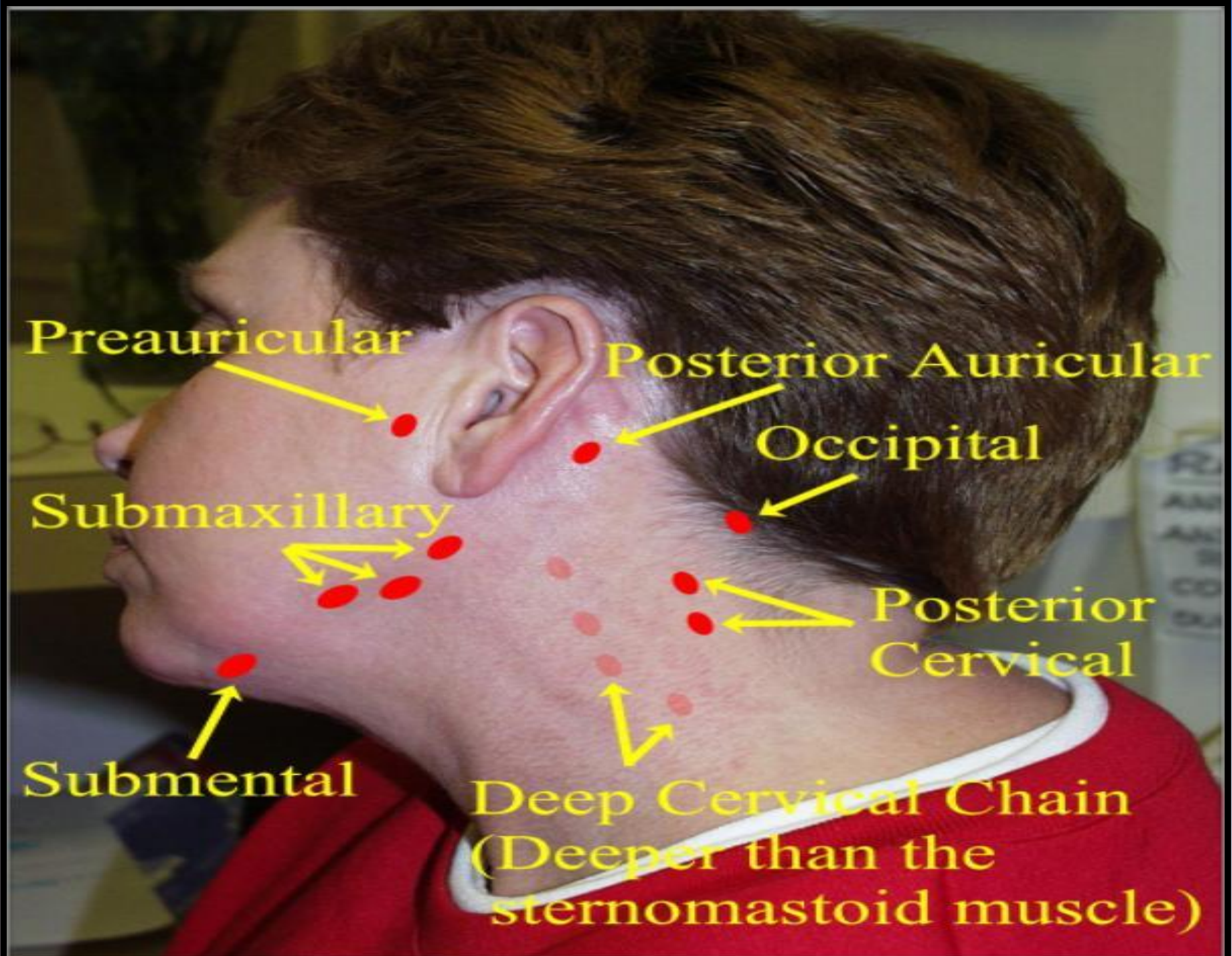
Anatomy of Lymph Nodes

- Collection of lymphoid cells attached to both vascular and lymphatic systems
- Over **600** lymph nodes in the body.
- **Are small bean-shaped organs**
- **Each node has fibrous capsule & and has a hilum at one side.**
- **It receives many afferent vessels & gives efferent vessel from its hilum.**

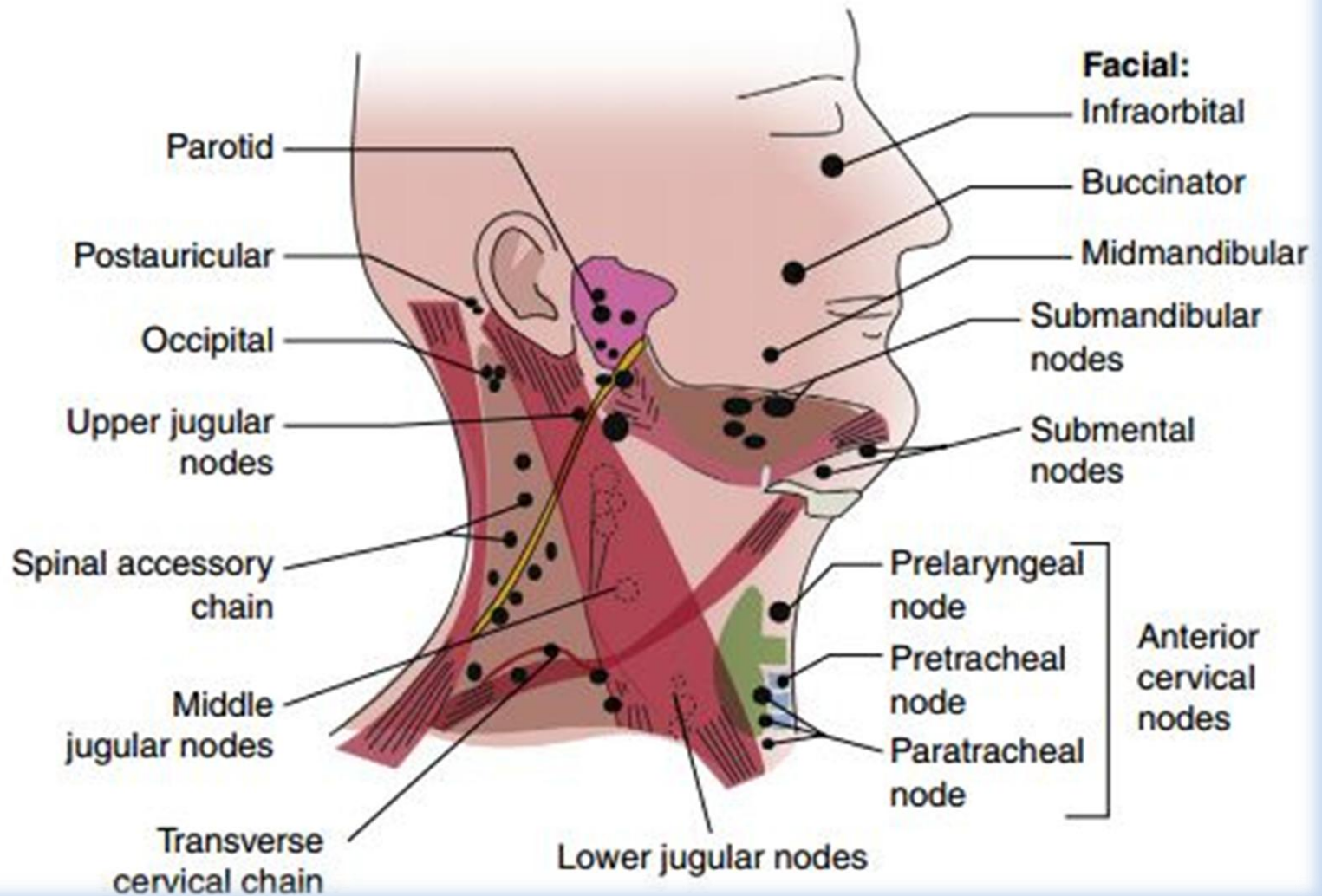


- The lymph node is divided into an outer **cortex** and an inner **medulla**.
- Fibrous trabeculae extend from the deep surface of the capsule into the cortex to divide it into compartments.
- Fibrous trabeculae in the medulla are irregular & called **medullary Cords**.
- Lymphoid follicles form continuous row in the **cortex** and are **absent** in the **medulla**.





LYMPH NODES OF THE HEAD AND NECK

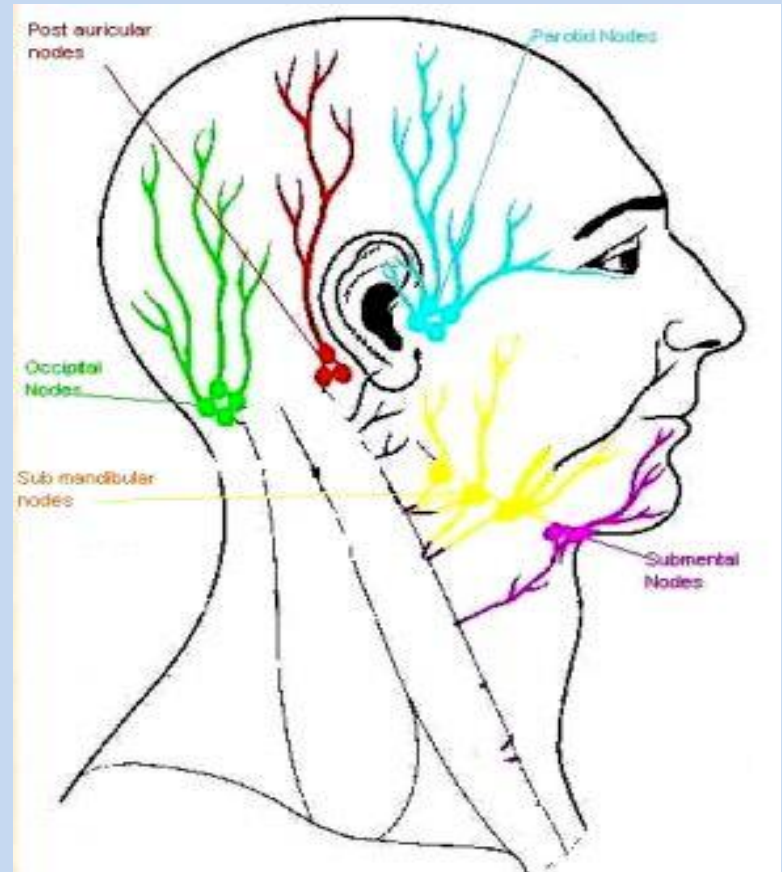


LYMPH NODES OF THE HEAD AND NECK

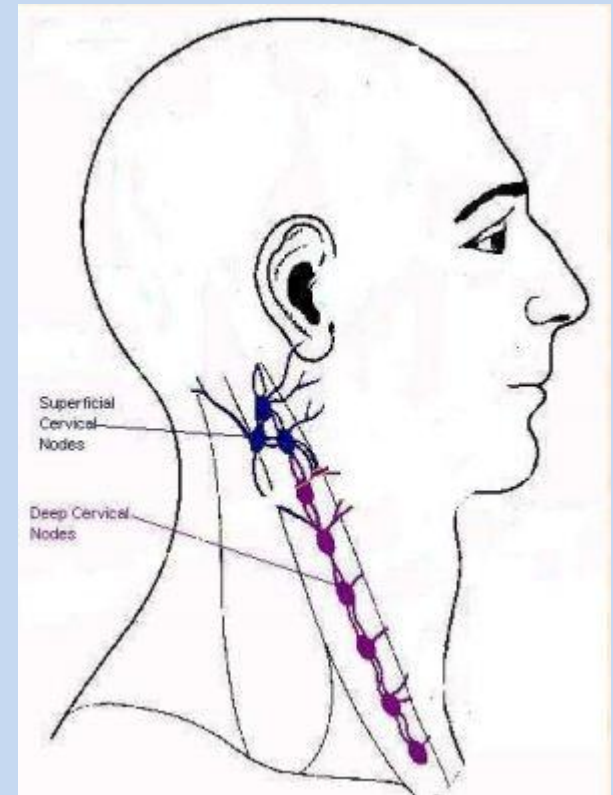
- CLASSIFICATION

1. Upper horizontal chain of nodes

- (a) Submental
- (b) Submandibular
- (c) Parotid
- (d) Postauricular
- (e) Occipital



- **2. Lateral cervical nodes.** They include nodes, superficial and deep to sternocleidomastoid muscle and in the posterior triangle.
 - (a) Superficial external jugular group
 - (b) Deep group
 - (i) Internal jugular chain (upper, middle and lower groups)
 - (ii) Spinal accessory chain
 - (iii) Transverse cervical chain

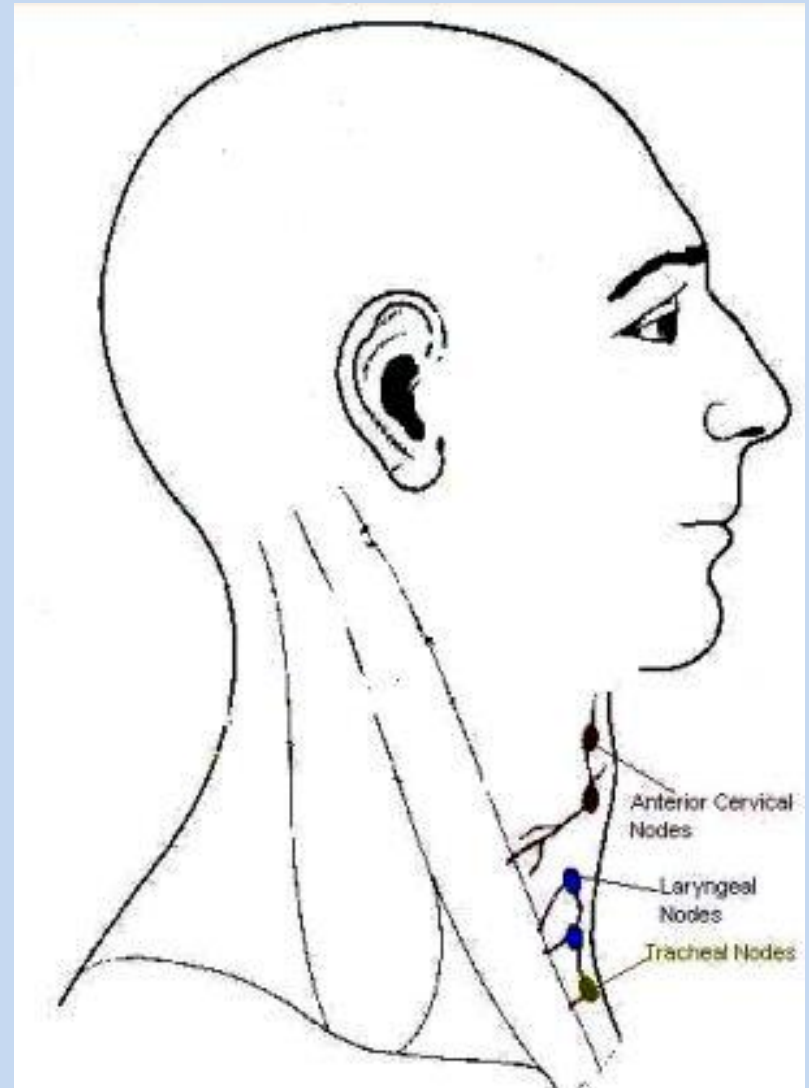


- **3. Anterior cervical nodes**

- (a) Anterior jugular chain

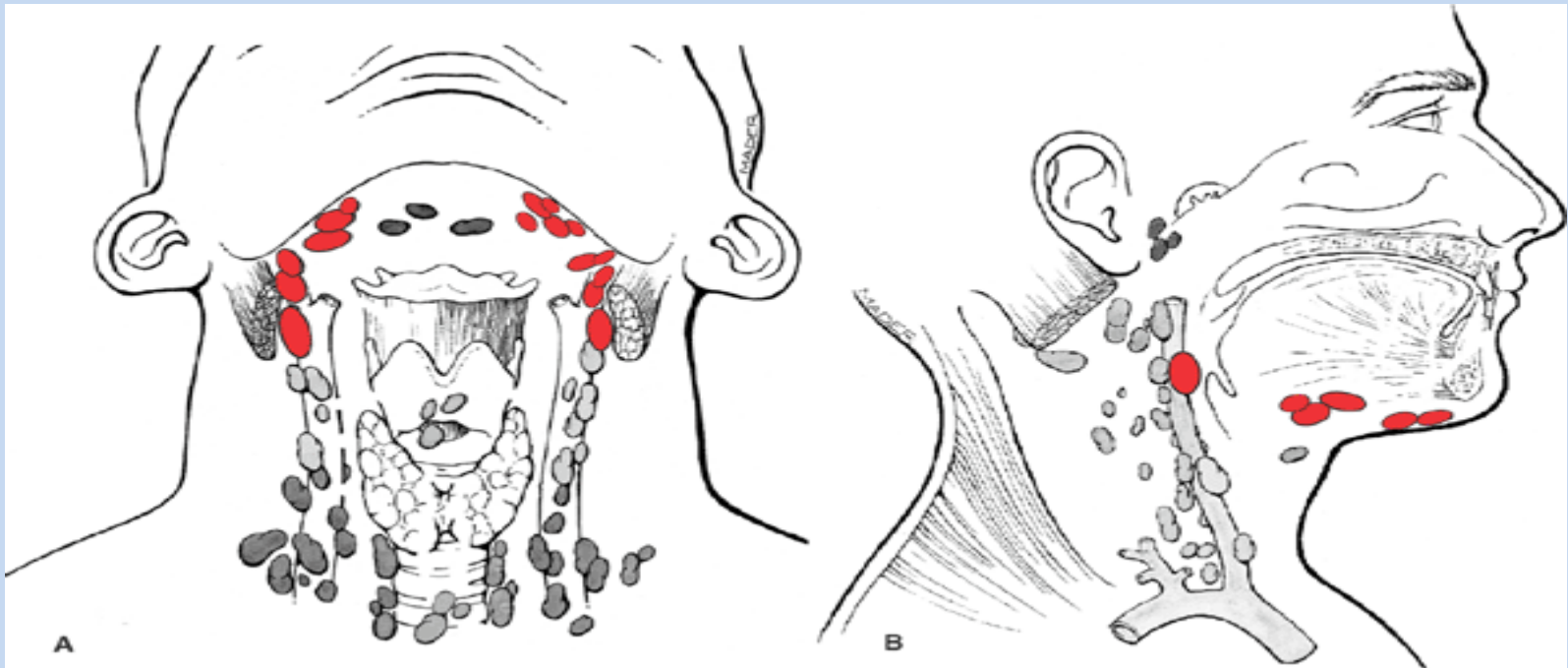
- (b) Juxtavisceral chain

- (i) Prelaryngeal
 - (ii) Pretracheal
 - (iii) Paratracheal



Submental nodes

- They lie on the mylohyoid muscle in the submental triangle, 2–8 in number.
Afferents come from the chin, middle part of lower lip, anterior gums, anterior floor of mouth and **tip of tongue**.
Efferents go to submandibular nodes and internal jugular chain.

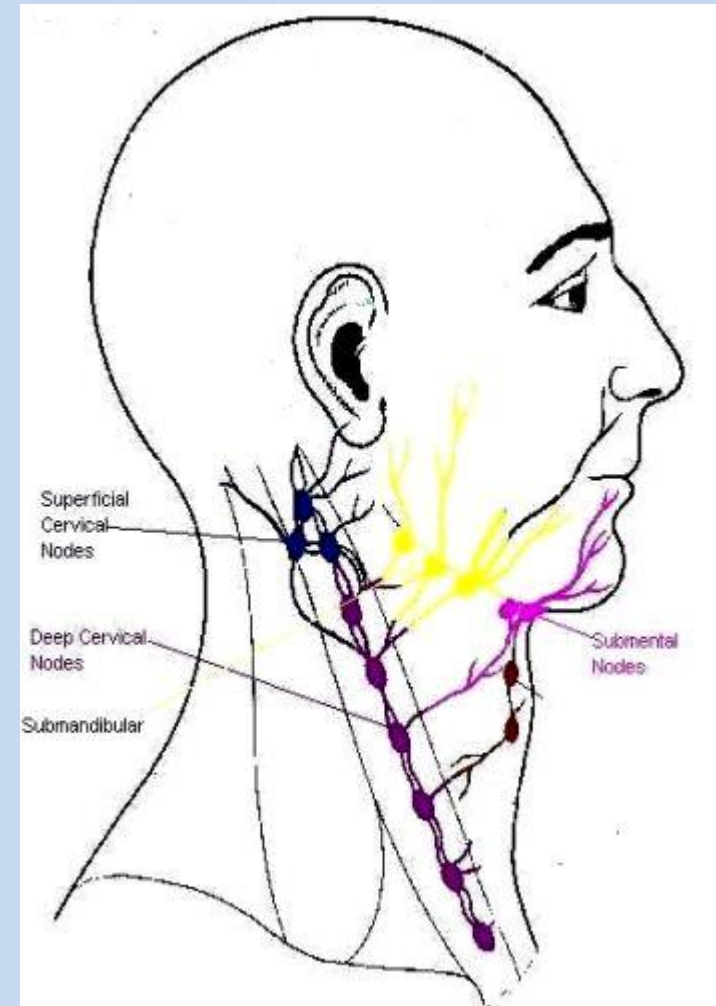


Submandibular nodes

- They lie in submandibular triangle in relation to submandibular gland and facial artery.

Afferents come from lateral part of the lower lip, upper lip, cheek, nasal vestibule and anterior part of nasal cavity, gums, teeth, medial canthus, soft palate, anterior pillar, anterior part of tongue, submandibular and sublingual salivary glands and floor of mouth.

Efferents go to internal jugular chain.

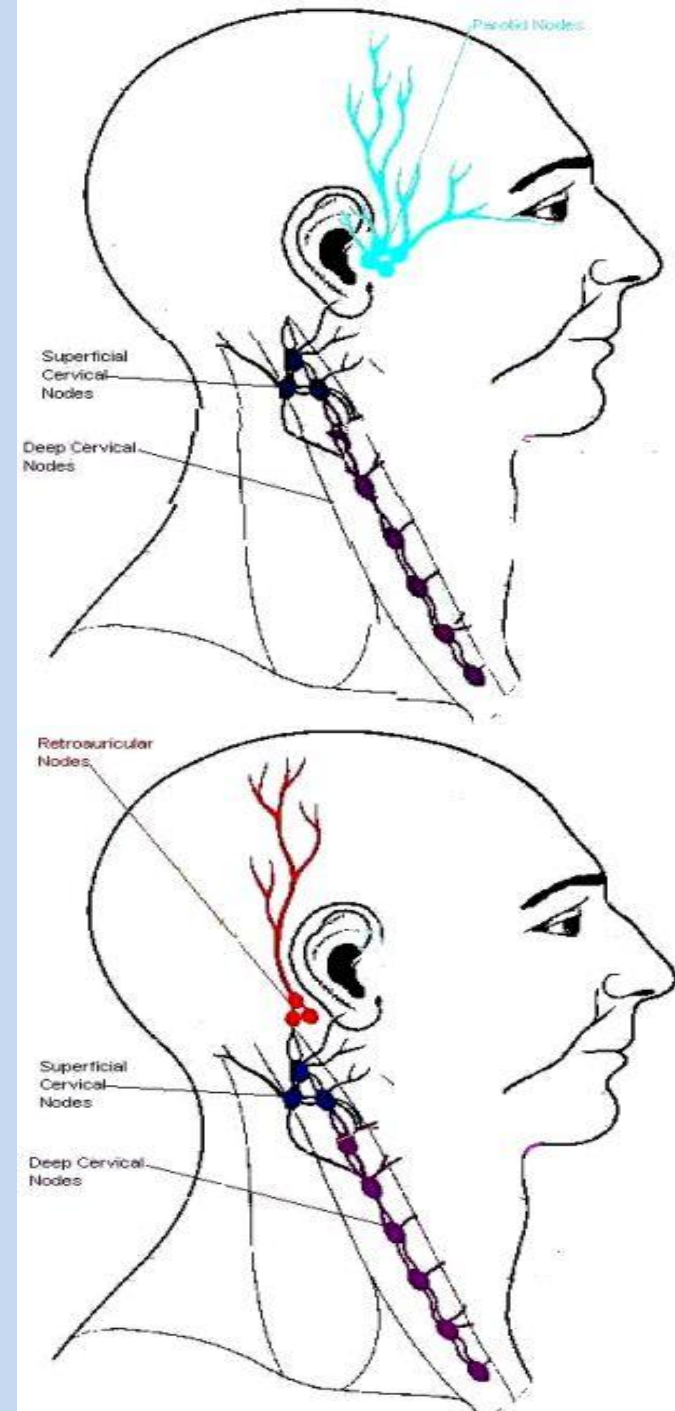


• Parotid nodes

- They lie in relation to the parotid salivary gland and are extraglandular and intraglandular. Preauricular and infraauricular nodes are part of the extraglandular group.
- Afferents come from the scalp, pinna, external auditory canal, face, buccal mucosa.
- Efferents go to internal jugular or external jugular chain.

• Postauricular nodes (mastoid nodes)

- They lie behind the pinna over the mastoid.
- Afferents come from the scalp, posterior surface of pinna and skin of mastoid.
- Efferents drain into infra-auricular nodes and into internal jugular chain.

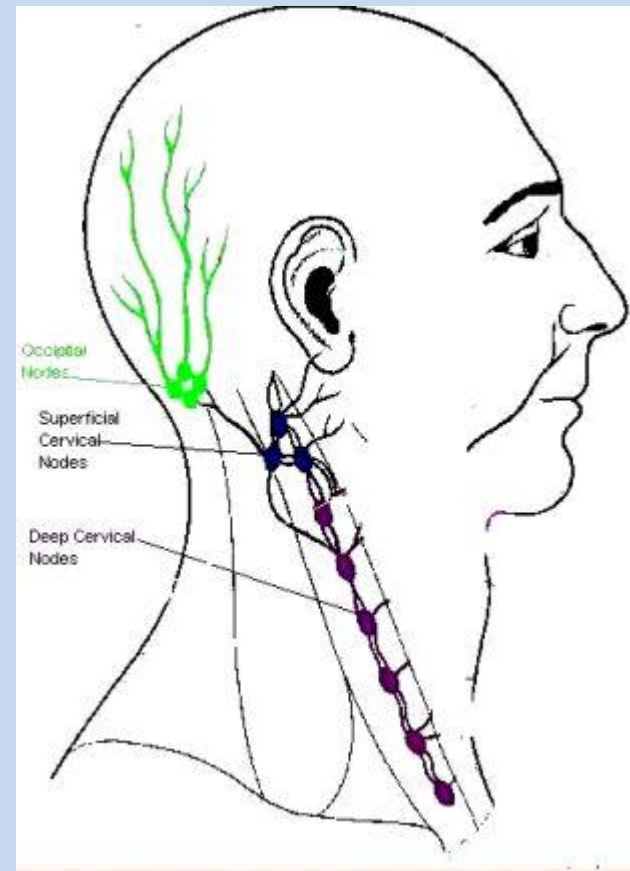


• Occipital nodes.

- They lie both superficial and deep to splenius capitus at the apex of the posterior triangle.
- Afferents come from scalp, skin of upper neck.
- Efferents drain into upper accessory chain of nodes.

• Facial nodes.

- They lie along facial vessels and are grouped according to their location. They are midmandibular, buccinator, infraorbital and malar (near outer canthus) nodes.
- Afferents come from upper and lower lids, nose, lips and cheek.
- Efferents drain into submandibular nodes.



LATERAL CERVICAL NODES

- **Lateral Cervical Nodes**

a) Superficial group – it lies along external jugular vein and drains into internal jugular and transverse cervical nodes.

b) Deep Group

- It consists of three chains,
 1. the internal jugular chain
 2. spinal accessory and
 3. Transverse cervical

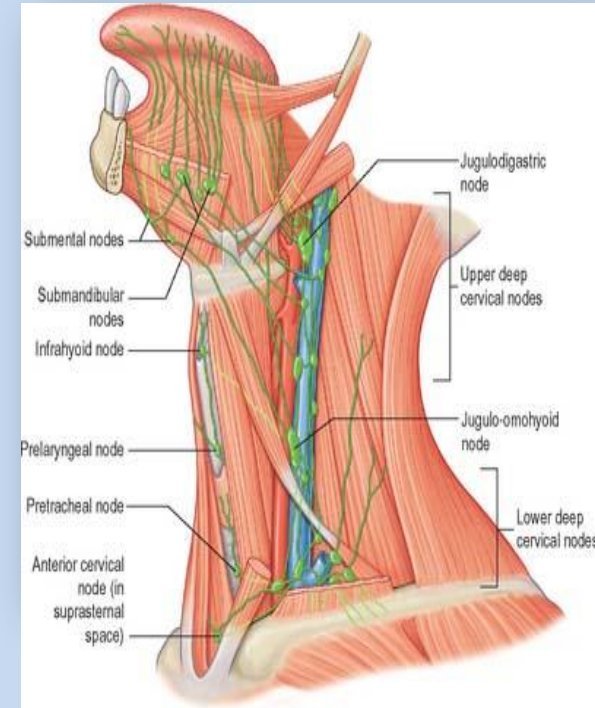
- **Internal jugular chain**

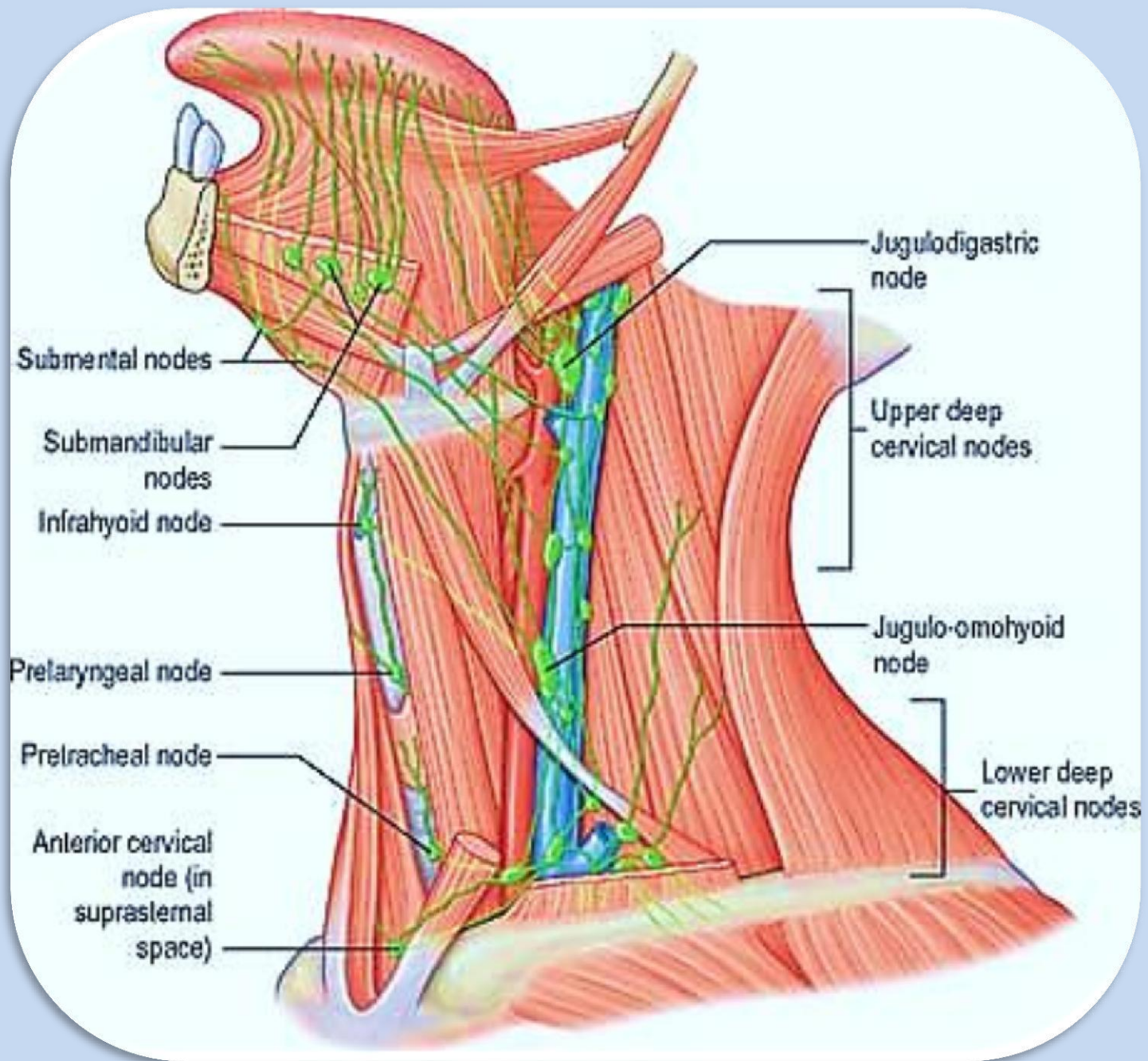
Lymph nodes of internal jugular chain **lie anterior, lateral and posterior to internal jugular vein.**

Upper group (jugulodigastric node) – drains oral cavity, oropharynx, nasopharynx, hypopharynx, larynx and parotid.

Middle group drains hypopharynx, larynx, thyroid, oral cavity, oropharynx.

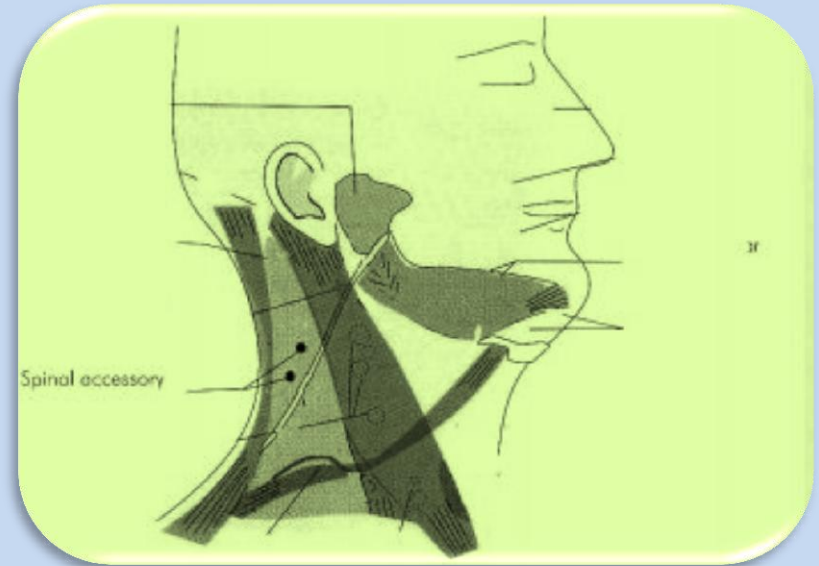
Lower jugular group drains larynx, thyroid and cervical oesophagus.





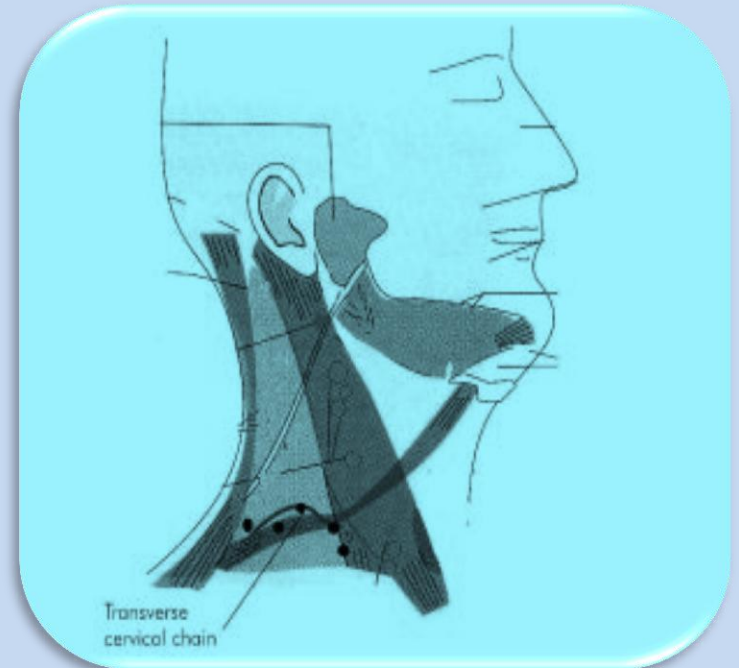
- **Spinal accessory chain**

Lies along the spinal accessory nerve. Spinal accessory chain drains the scalp, skin of the neck, the nasopharynx, occipital and postauricular nodes. Efferents from this chain drain into transverse cervical chain



- **Transverse cervical chain (supraclavicular nodes)**

It lies horizontally, along the transverse cervical vessels, in the lower part of the posterior triangle. The medial nodes of the group called *scalene nodes*. Afferents to those nodes come from the accessory chain and also infraclavicular structures, e.d. breast, lung, stomach, colon, ovary and testis.



Anterior Cervical Nodes

They lie between the two carotids and below the level of hyoid bone and

consist of two chains:

(a) Anterior jugular chain - It lies along anterior jugular vein and drains the skin of anterior neck.

(b) Juxtavisceral chain – It consists of

- prelaryngeal
- pretracheal
- and paratracheal nodes

(i) Prelaryngeal node (*Delphian node*)

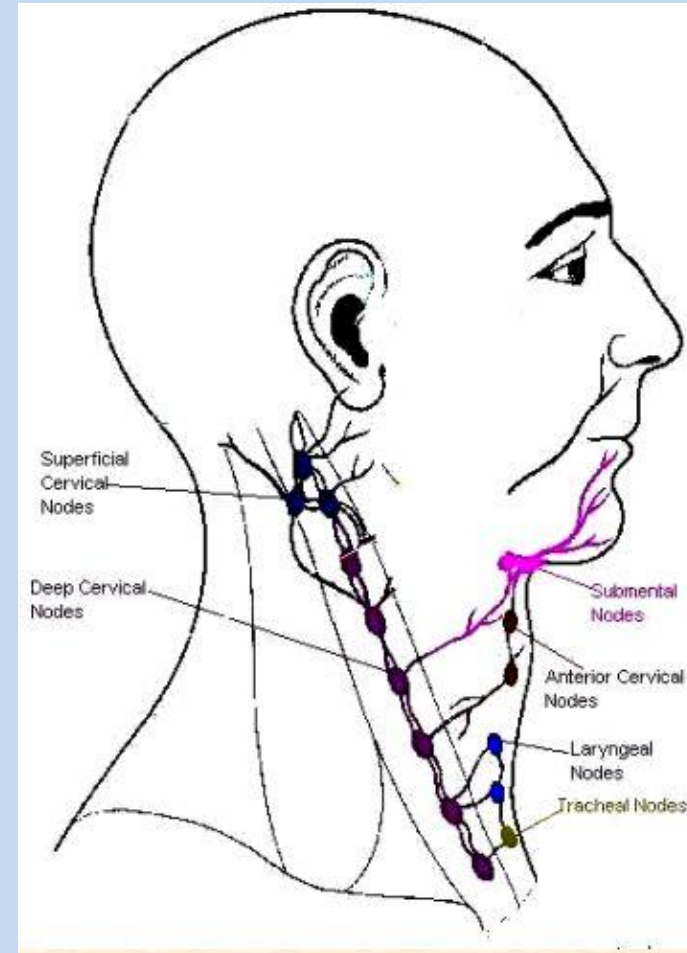
lies on cricothyroid membrane and drains subgottic region of larynx and pyriform sinuses.

(ii) Pretracheal nodes

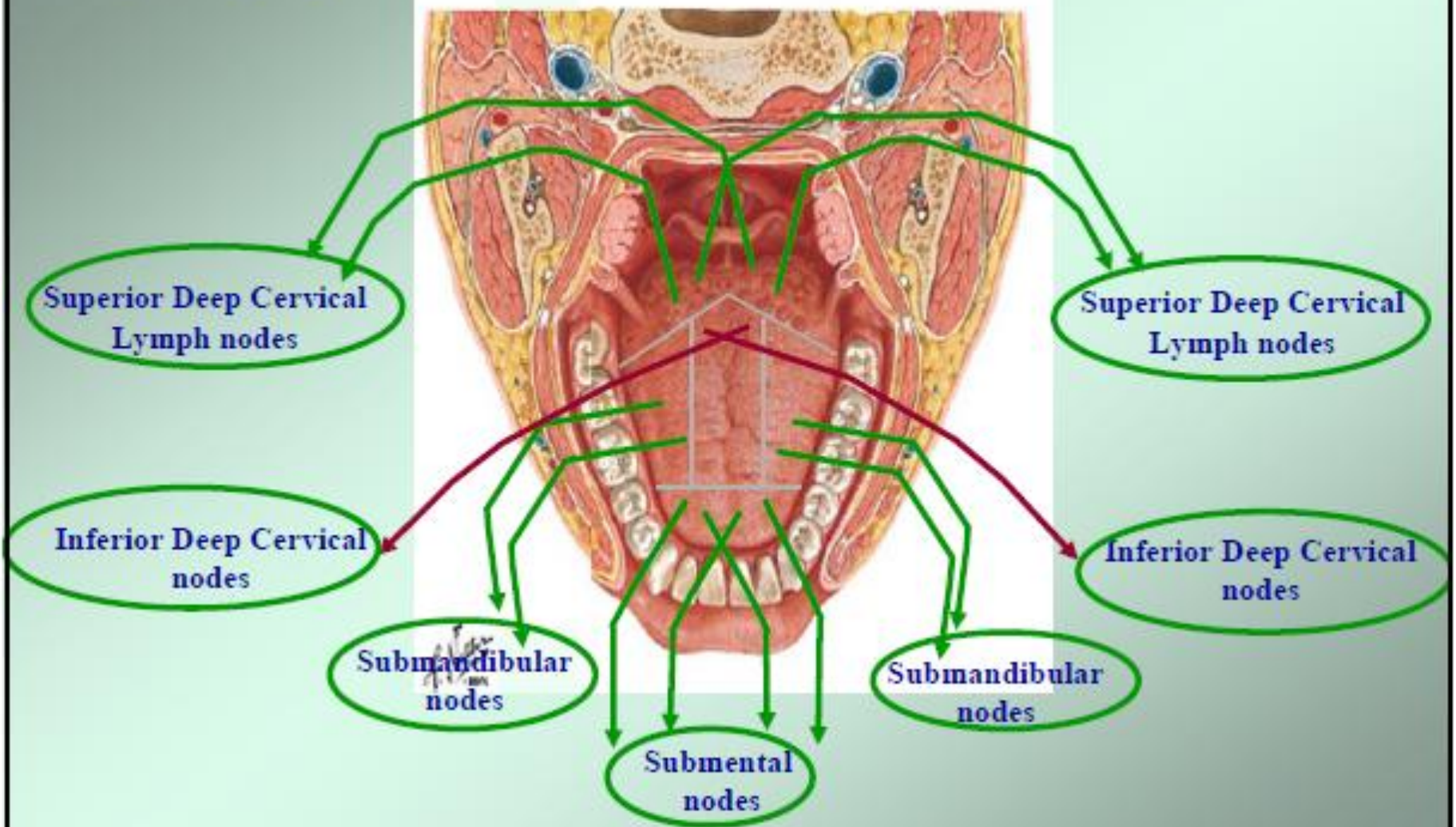
lie in front of the trachea, and drain thyroid gland and the trachea. Efferents from these nodes go to paratracheal, lower internal jugular and anterior mediastinal nodes.

(iii) Paratracheal Nodes

drain the thyroid lobes, subglottic larynx, trachea and cervical oesophagus

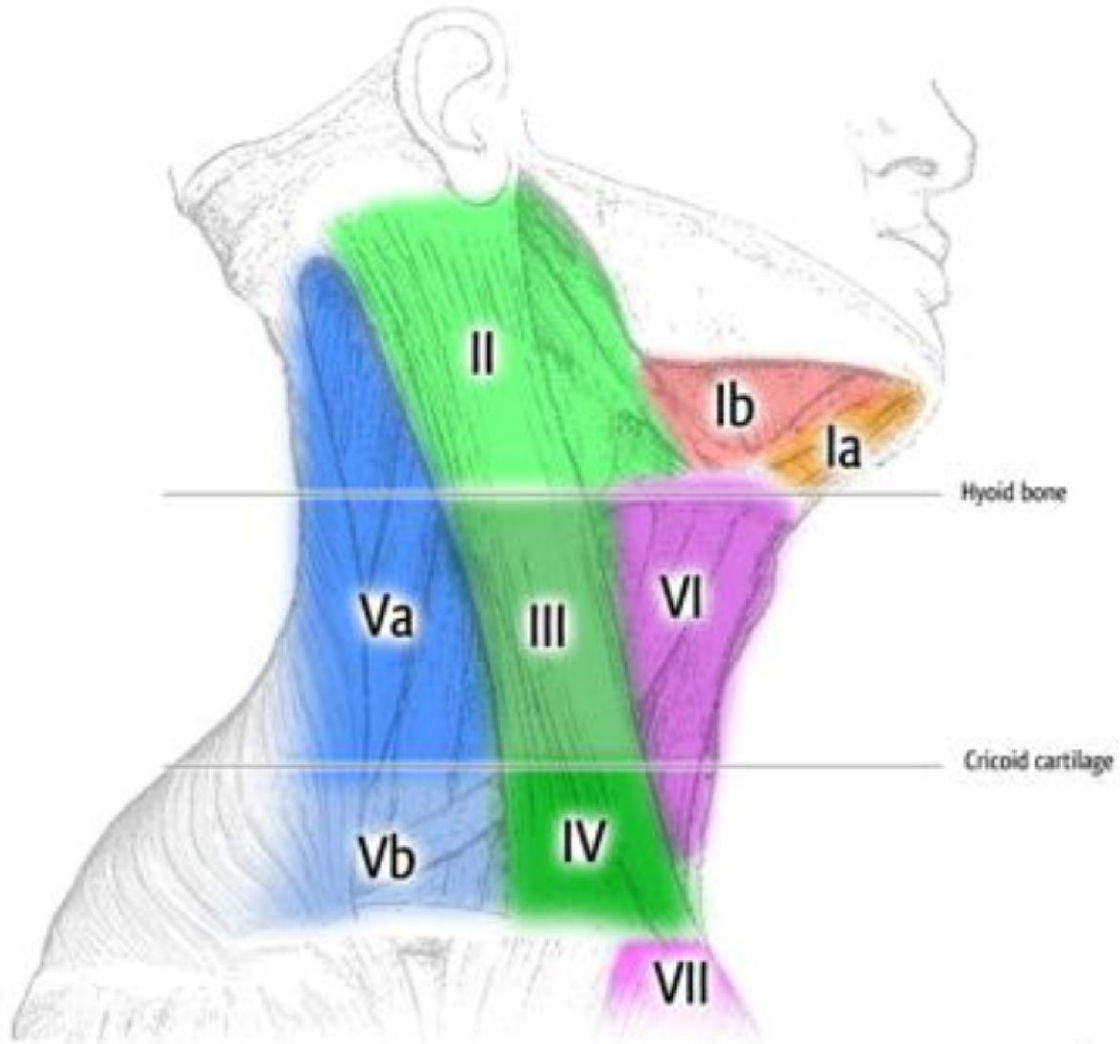


Tongue Lymphatics



AJCC (AMERICAN JOINT COMMITTEE ON CANCER) CLASSIFICATION

- *Level 1 –submental+ submandibular*
- *Level 2 –upper deep cervical nodes*
- *Level 3 –middle deep cervical nodes*
- *Level 4 –lower deep cervical nodes*
- *Level 5 –spinal accessory + transverse cervical*
- *Level 6 –pretracheal, prelaryngeal, paratracheal*
- *Level 7 –upper mediastinal nodes*



Lymph node levels

*F Gaillard
2009*

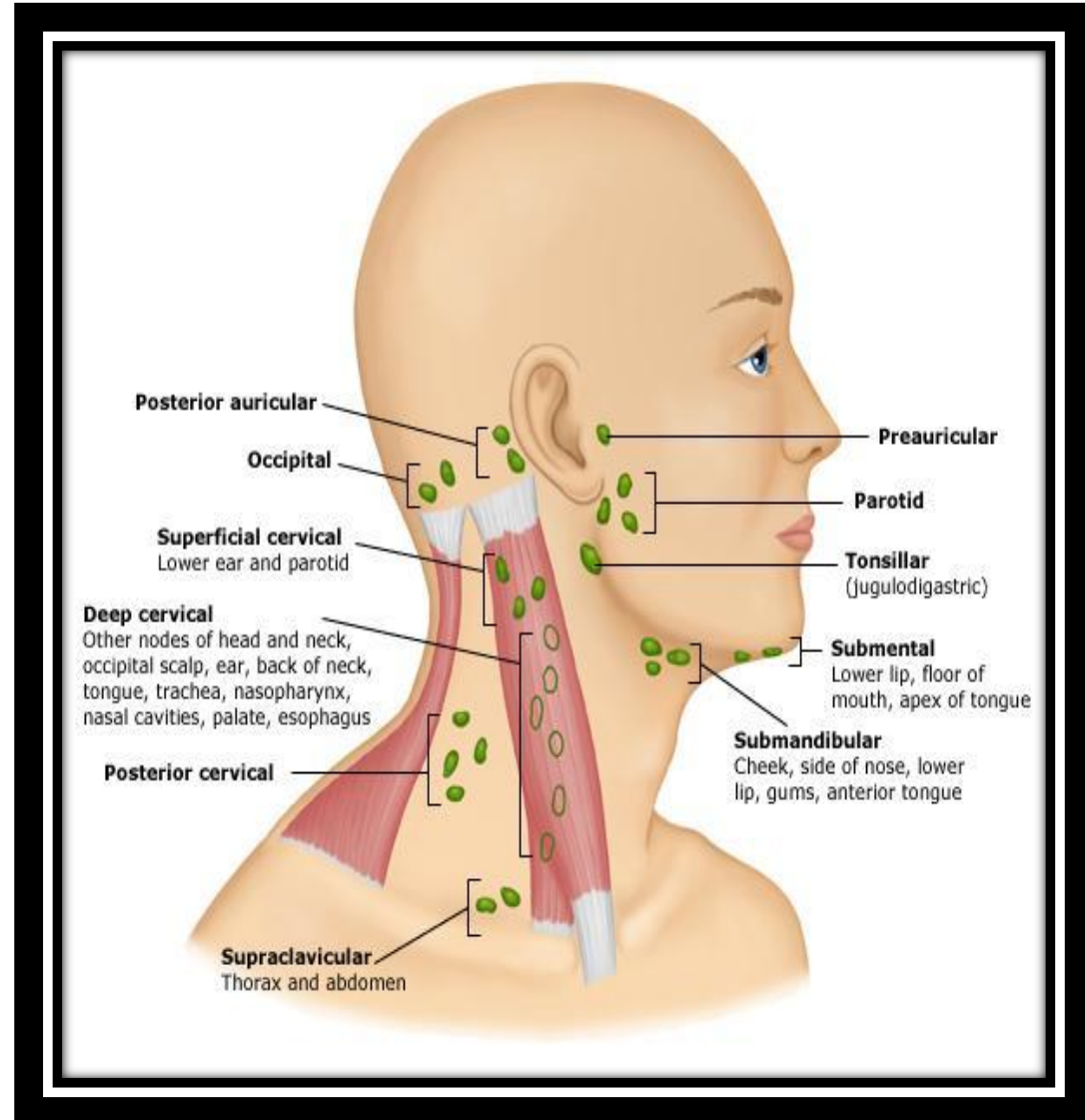
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What is lymphadenopathy

- Lymph nodes that are **abnormal** in size > 1cm, consistency or number.

Can be :-

- **Localized** – one area involved
- **Generalized** – two or more non-contiguous areas



Why do lymph nodes enlarge? ((Patho-Physiology))

- Increase in the number of benign lymphocytes and macrophages in response to antigens
- Infiltration of inflammatory cells in infection (lymphadenitis)
- In situ proliferation of malignant lymphocytes or macrophages
- Infiltration by metastatic malignant cells
- Infiltration of lymph nodes by metabolite laden macrophages (lipid storage diseases)

Causes

*Infective

- Tonsillitis
 - Glandular fever
 - Septicemia
 - TB
 - AIDS
 - Syphilis
 - Toxoplasmosis
- } Acute
- } Chronic

*Neoplastic

- Primary reticuloses
 - Hodg. & non-Hodg. Lymphomas
 - Lymphosarcoma
 - Reticulosarcoma
- Metastatic:
 - From head, neck, chest & Abdomen

*Sarcoidosis



Infective:

- Age < 10years
- Painful lump just below the angle of jaw
- Child may snore at night, Difficulty in breathing, Nasal speech, Recurrent chest infections
- Systemic Effects: Feels ill sore throat pyrexia and doesn't want to eat
- Malnourished child, Cold, damp houses

Tuberculous lymphadenitis



- Children, young and elderly
- Lump with gradual appearance, With or without pain
- Neck movement and swallowing painful
- Anorexia and weight loss
- If breaks down into abscess it increases in size, become painful, discoloration of overlying skin
- BCG vaccination
- Any Family member has TB
- Poor socioeconomic status

Collar-Stud Abscess



Primary focus



Solid lymph nodes
(clinically discrete)



Caseous lymph
nodes (clinically
a matted mass)



Collar-stud abscess



Tuberculous sinus

FIG. 186.—A summary of the natural history of tuberculous lymphadenitis.