Lymphatic Drainage Of Head and Neck

- Lymph nodes acts as a barrier against disease.
- They are soft non palpable structure
- Draining infected , inflamed or area involved in carcinomatous changes will cause the nodes to become swollen , hard , painful and palpable
- They prevent disease from reaching major lymphatic channels
- Position of nodes denotes general location of infection

Lymphatic Drainage Of Head and Neck

Lymph nodes in the head and neck are arranged in

A. Two horizontal rings and

B. Two vertical chains on either side of the neck.

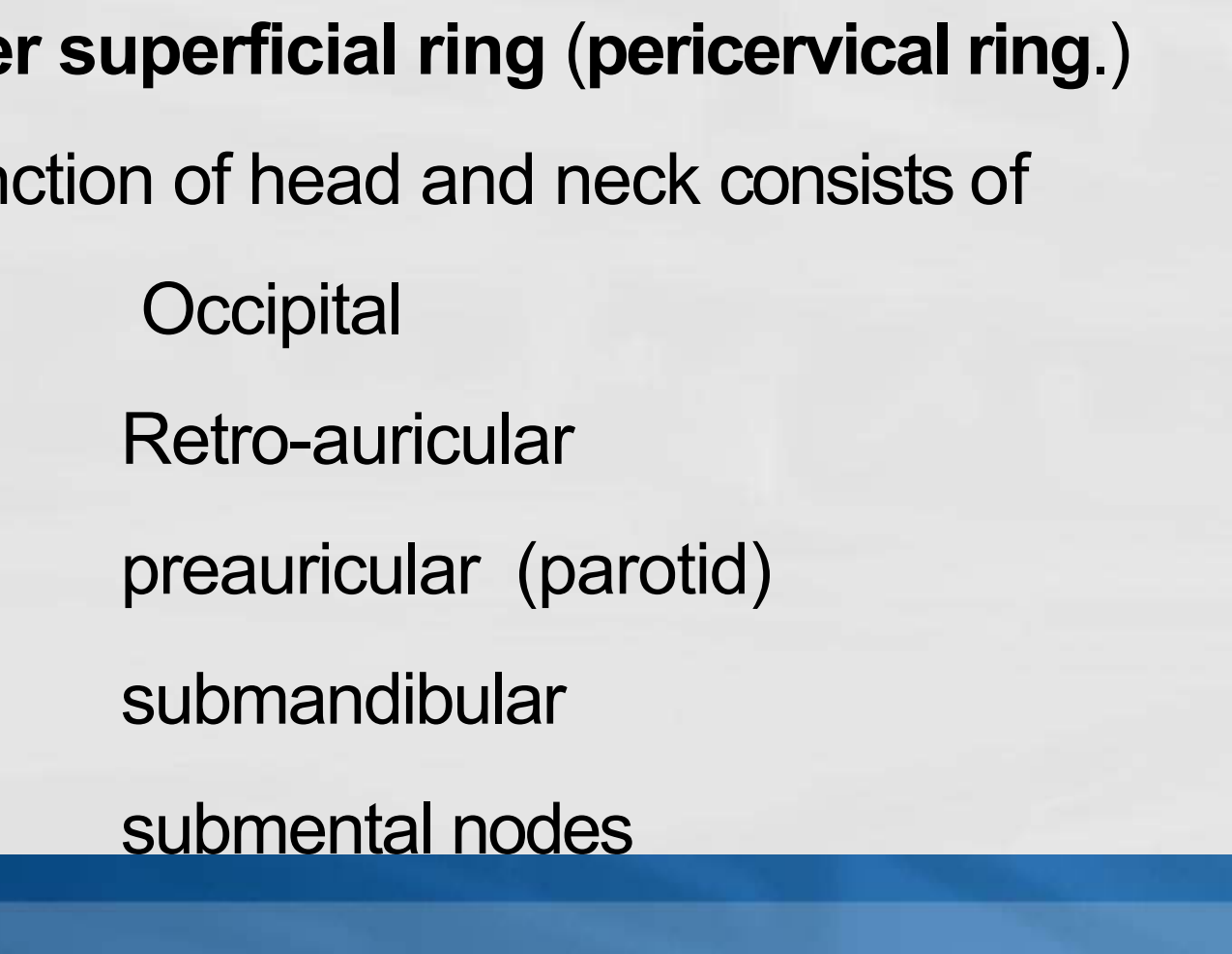
Lymphatic Drainage Of Head and Neck

A. Two horizontal rings

a) **Outer superficial ring** (**pericervical ring**.)

at junction of head and neck consists of

- Occipital
- Retro-auricular
- preauricular (parotid)
- submandibular
- submental nodes



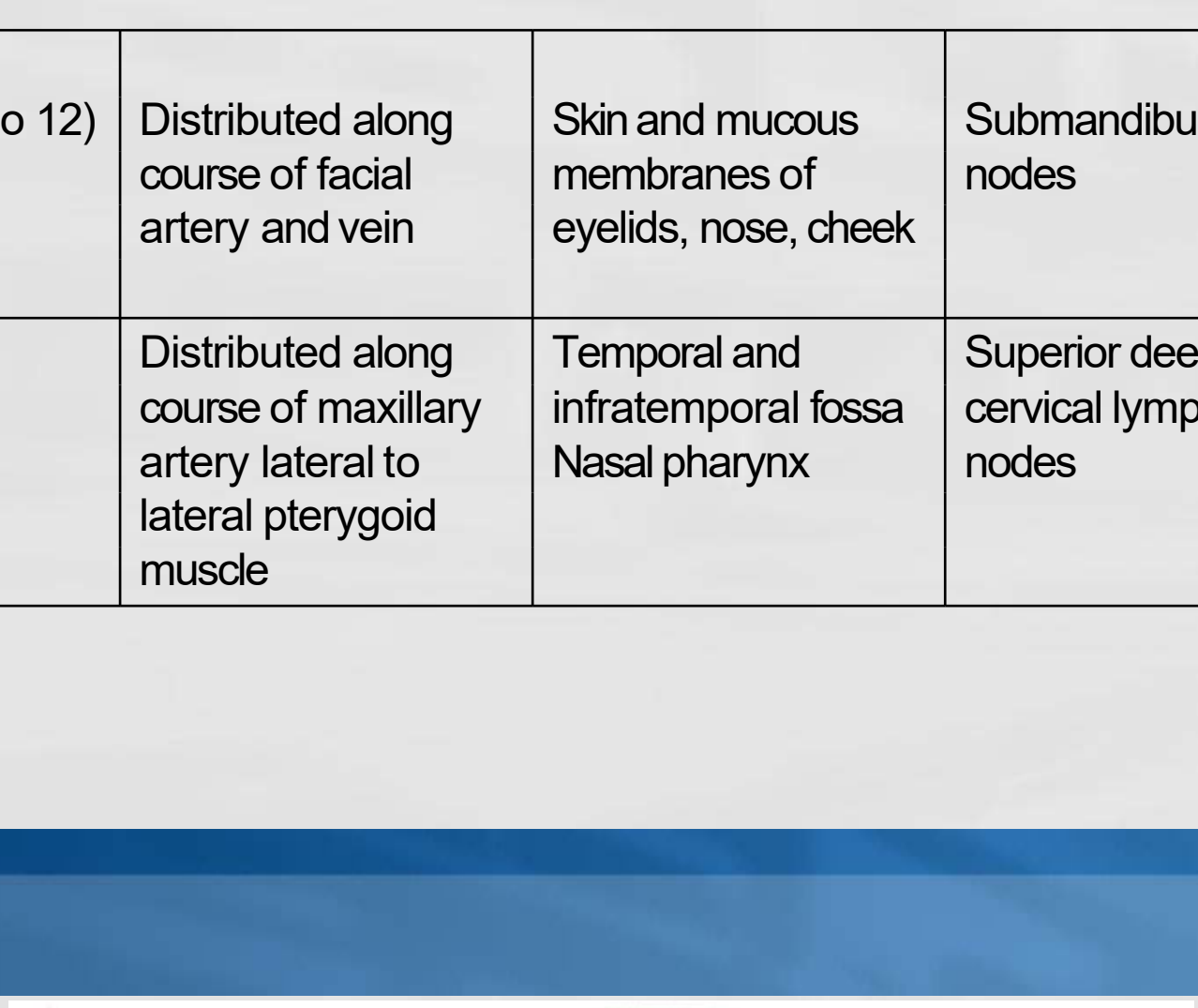
6.202 The superficial lymph nodes and lymph vessels of the head and neck.

S. No	Nodes	Location
1	**Occipital** (2-4)	Superior nuchal line between sternocleidomastoid and trapezius
2	**Mastoid** (1-3),or **Retroauricular**	Superficial to sternocleidomastoid insertion
3	**Preauricular** (2-3)parotid	Anterior to earover parotid fascia

S.NO	Nodes	Location
4	Parotid (up to 10 or more)	About parotid gland and under parotid fascia Deep to parotid gland
5	Submental (2-3)	Submental triangle
6	Submandibular (3-6)	Submandibular triangle adjacent to submandibular gland

Few Outlying Nodes

Facial *Superficial*(up to 12) Maxillary Buccal Mandibular	Distributed along course of facial artery and vein	Skin and mucous membranes of eyelids, nose, cheek	Submandibular nodes
Deep	Distributed along course of maxillary artery lateral to lateral pterygoid muscle	Temporal and infratemporal fossa Nasal pharynx	Superior deep cervical lymph nodes



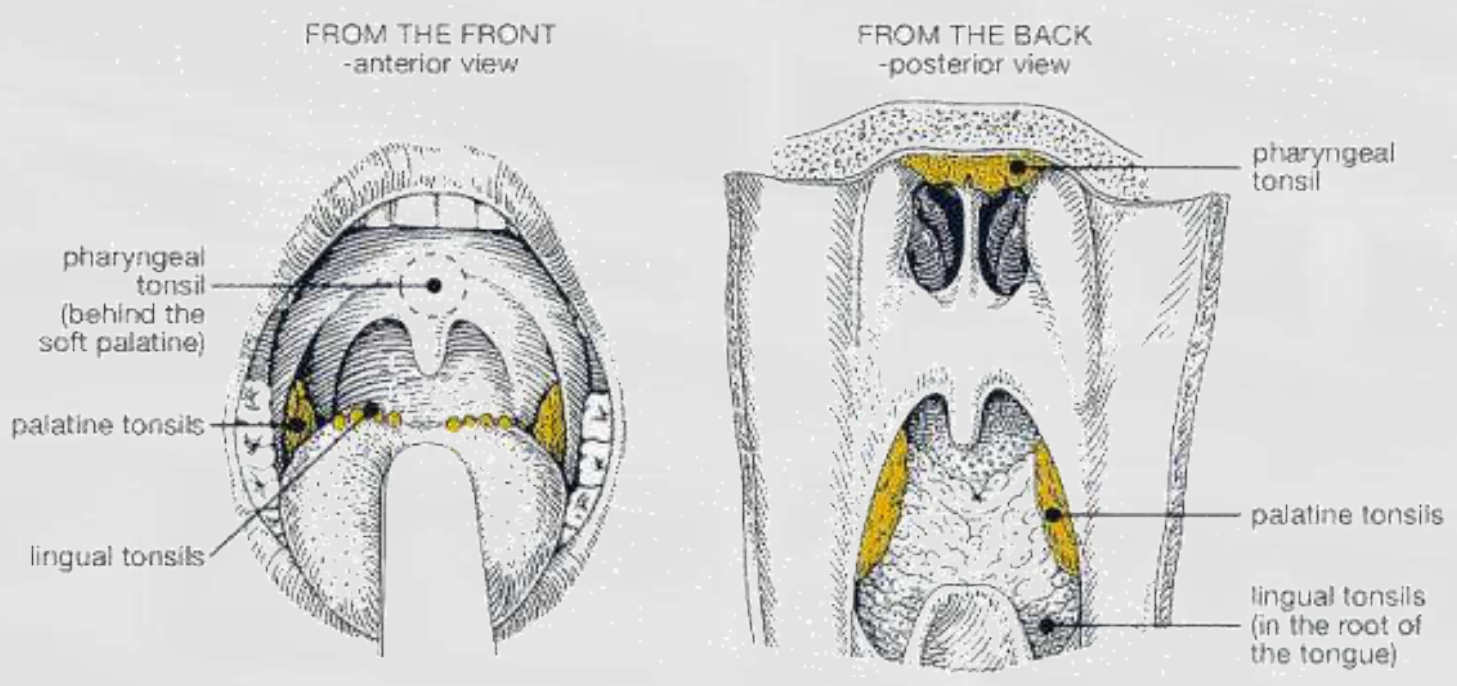
6.202 The superficial lymph nodes and lymph vessels of the head and neck.

Lymphatic Drainage Of Head and Neck

A. Two horizontal rings

b) Inner deep ring is formed by clumps of mucosa associated lymphoid tissue (MALT) located primarily in the naso- and oro-pharynx (**Waldeyer's ring**).

Waldeyer's ring -



- **Waldeyer's tonsillar ring**, consist of
  a) Unpaired pharyngeal tonsil in the roof of the pharynx,
  b) Paired palatine tonsils and
  c) Lingual tonsils scattered in the root of the tongue.

Superficial and deep vertical Chains of cervical nodes

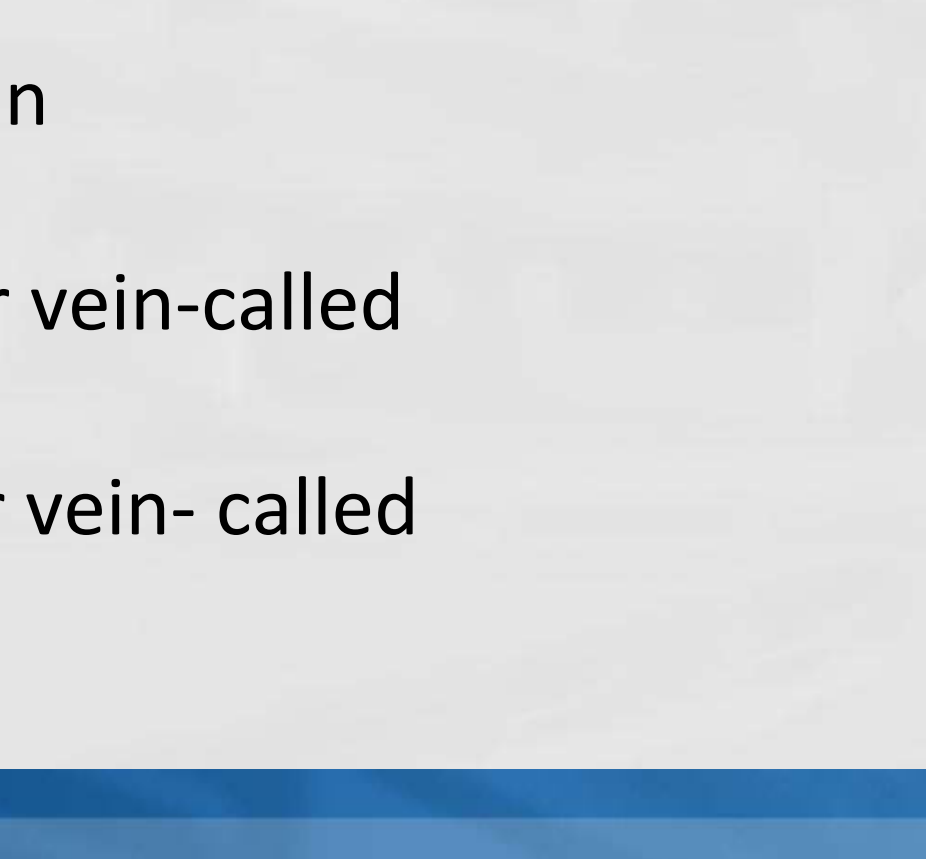
a) Superficial Vertical Chain

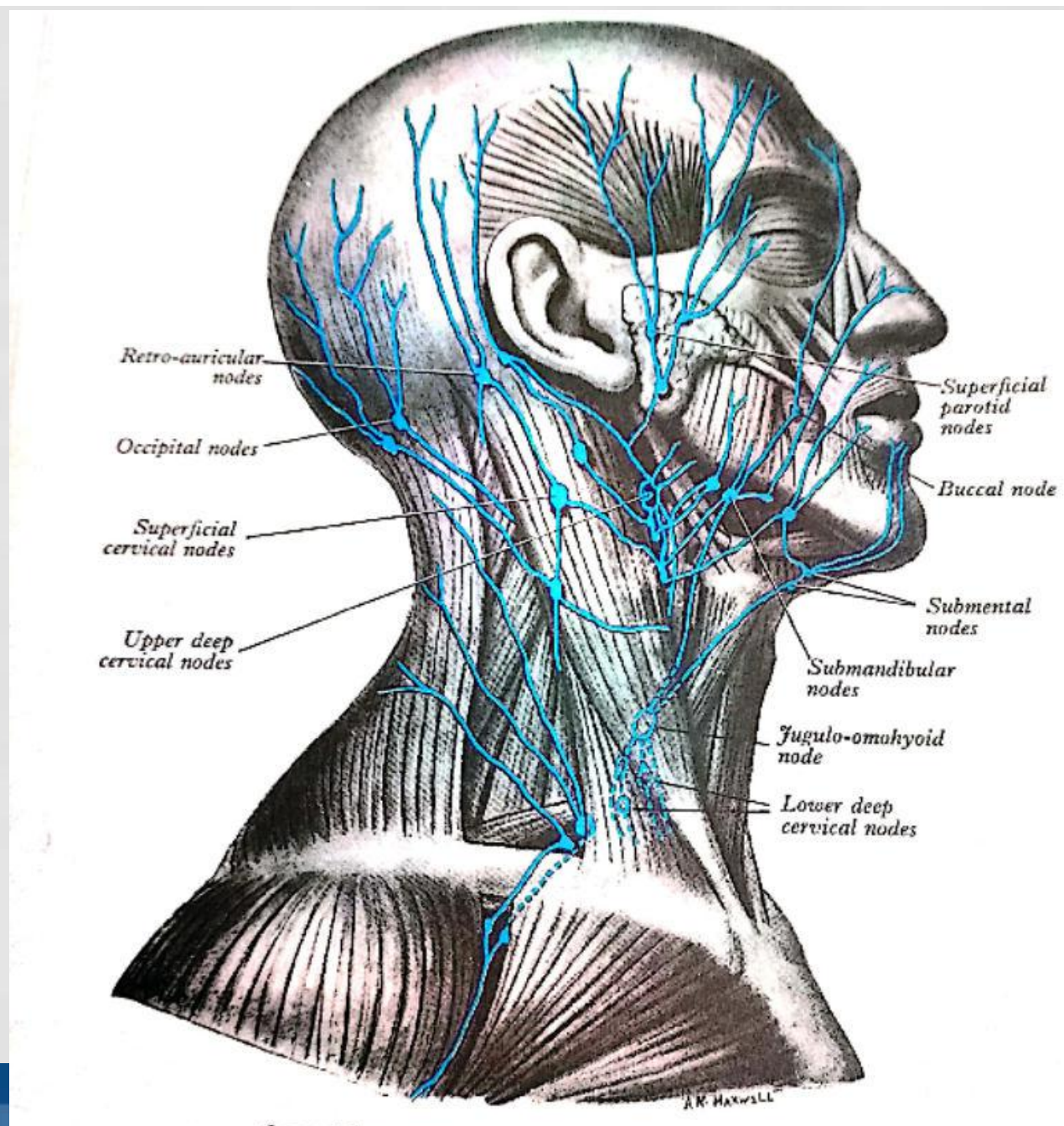
I. Along external Jugular vein-called **superficial cervical LN**
II. Along anterior Jugular vein- called **anterior cervical LN**

Superficial Vertical Chain

i. Along external Jugular vein-called **superficial cervical LN**

ii. Along anterior Jugular vein- called **anterior cervical LN**





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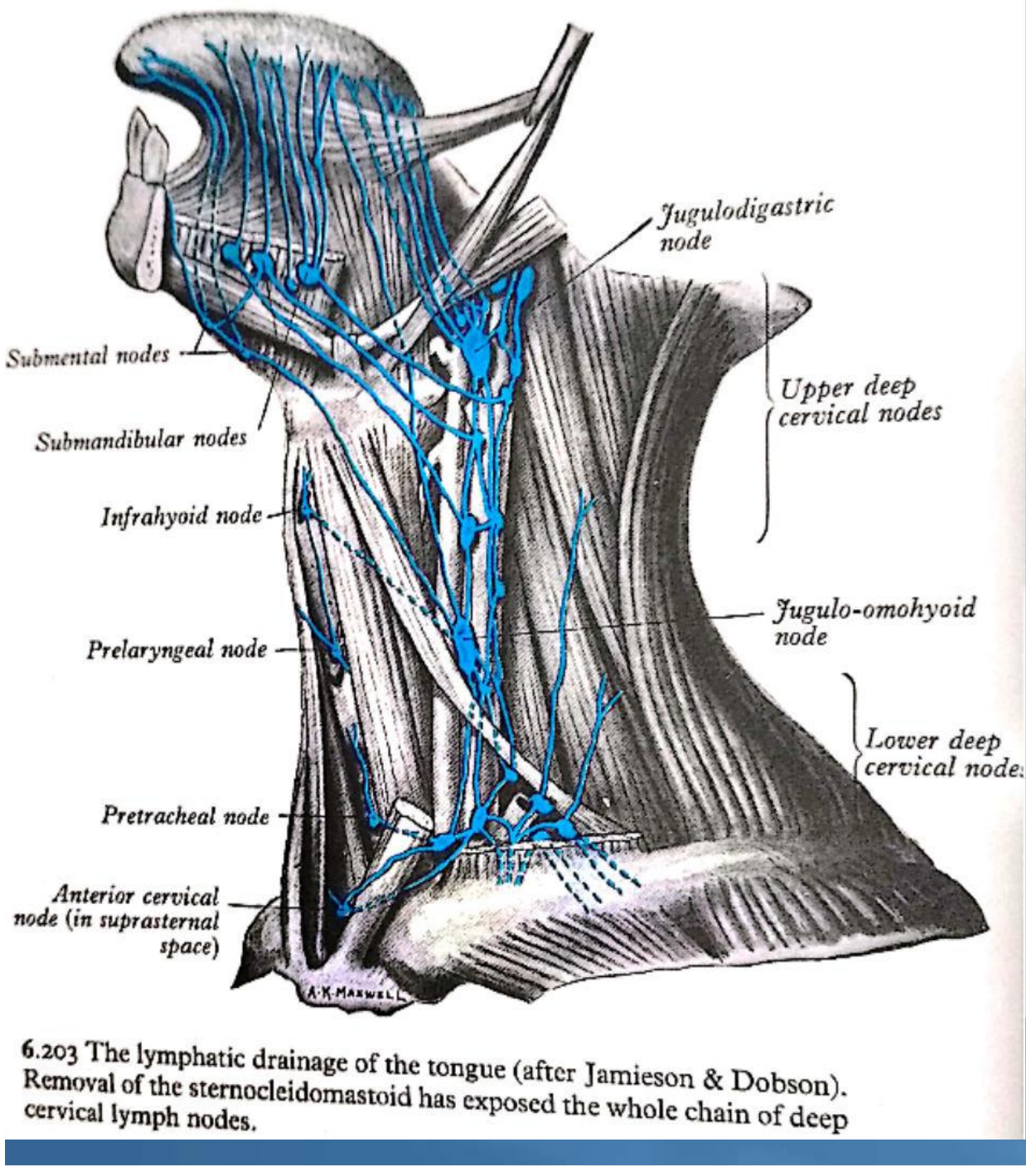


6.203 The lymphatic drainage of the tongue (after Jamieson & Dobson). Removal of the sternocleidomastoid has exposed the whole chain of deep cervical lymph nodes.

Deep vertical chain consists of superior and inferior groups of deep cervical nodes related to the carotid sheath

Deep cervical glands

Numerous and of large size:

Form a chain along the carotid sheath, lying by the side of the pharynx, esophagus, and trachea, and extending from the base of the skull to the root of the neck.

Deep cervical glands

They are usually described in two groups:

(1) **Superior deep cervical glands** lying under the

Sternocleidomastoid in close relation with the internal jugular vein, some of the glands lying in front of and others behind the vessel;

Jugulodigastric LN- Part of superior deep cervical group of LN at Junction of internal jugular vein and posterior digastric muscle

Deep cervical glands

They are usually described in two groups:

(2) **Inferior deep cervical glands may** extend beyond the posterior margin of the Sternocleidomastoideus into the supraclavicular triangle, where they are closely related to the brachial plexus and subclavian vein.

Jugulo-omohyoid - Above junction of internal jugular vein and omohyoid muscle

Few outlying LN

Accessory (2-6)	Along accessory nerve in posterior triangle	Occipital nodes Mastoid nodes Lateral neck and shoulder	Transverse cervical nodes
Transverse cervical (1-10)	Along transverse cervical blood vessels at level of clavicle	Accessory nodes Apical axillary nodes Lateral neck Anterior thoracic wall	Jugular trunk or directly into thoracic duct or right lymphatic duct or independently into junction of internal jugular vein and subclavian vein

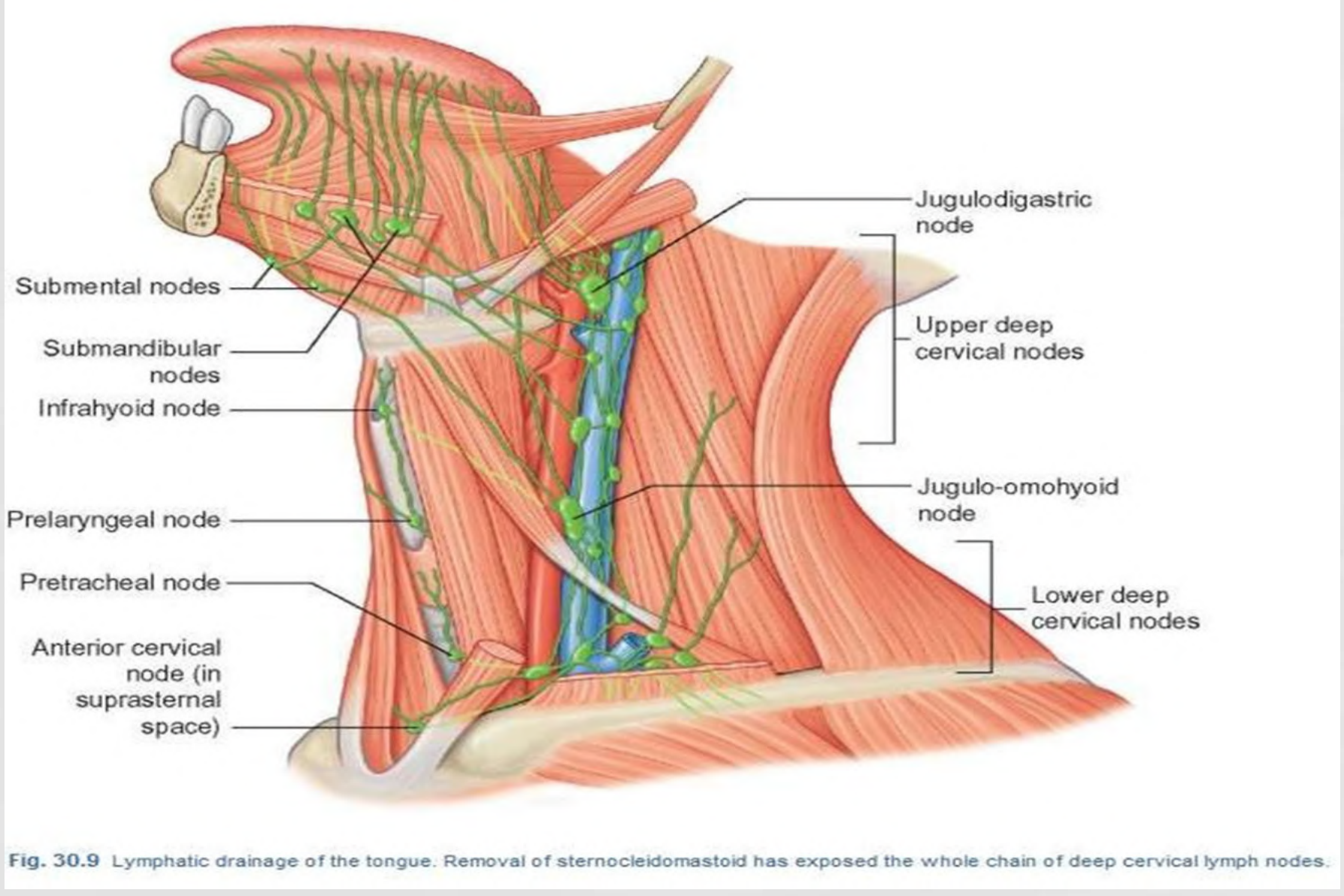


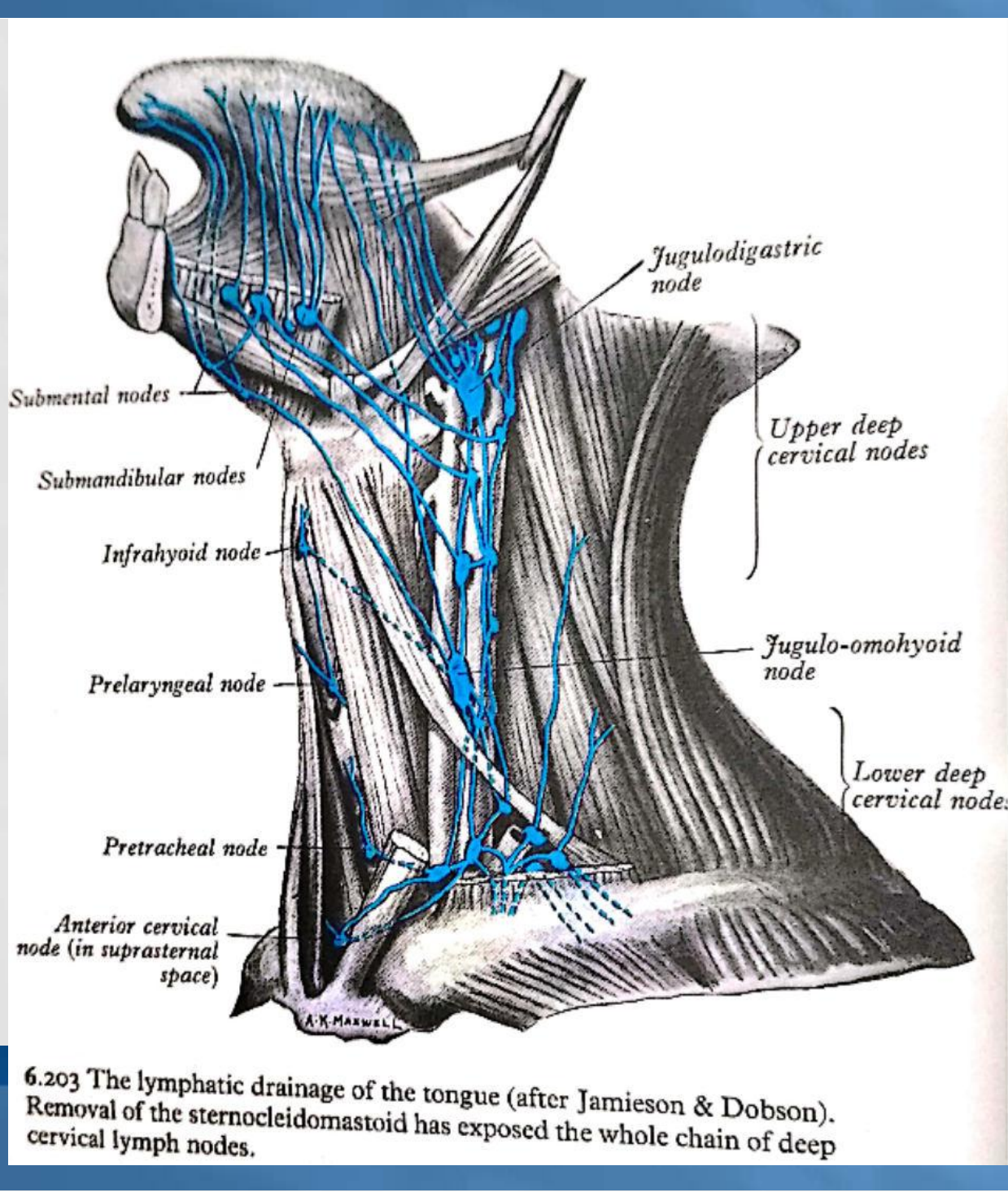
Fig. 30.9 Lymphatic drainage of the tongue. Removal of sternocleidomastoid has exposed the whole chain of deep cervical lymph nodes.

LYMPHATIC DRAINAGE OF HEAD & NECK:-

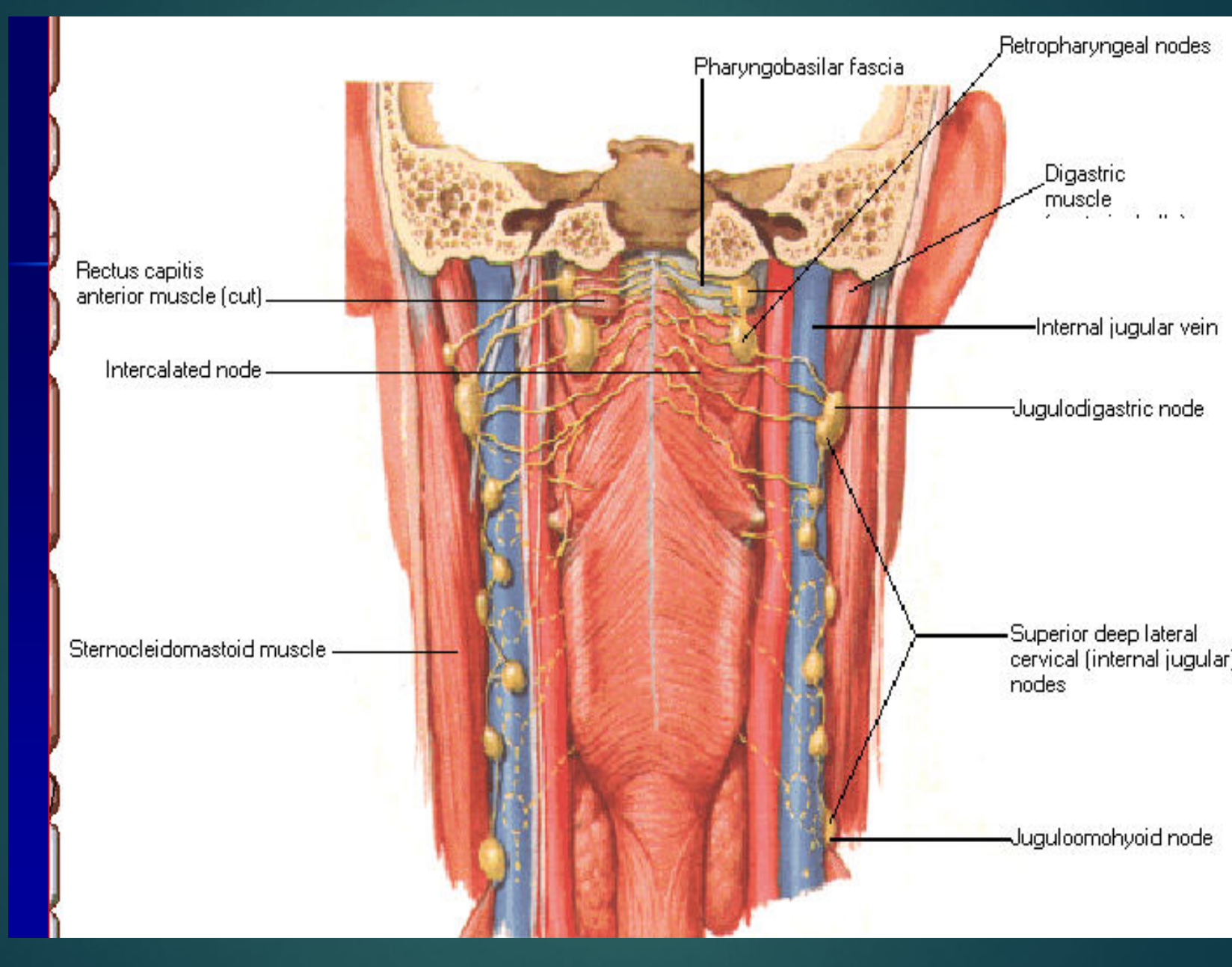
- All lymph vessels of the head and neck drain into the inferior deep cervical nodes, either directly from the tissues or indirectly via nodes in outlying groups.

Paravisceral deep nodes-

- Retropharyngeal(lie in the buccopharyngeal fascia, behind the upper part of the pharynx)
- Infrahyoid (Ant. to thyrohyoid membrane)
- Prelaryngeal(On conus elasticus and cricovocal membrane)
- Pretracheal(Ant to trachea)
- Paratracheal(Along RLN)
- Subclavian(Subclavian triangle)



6.203 The lymphatic drainage of the tongue (after Jamieson & Dobson). Removal of the sternocleidomastoid has exposed the whole chain of deep cervical lymph nodes.



Deep vertical chain receive in addition to direct area of drainage

- All efferent from pericervical ring
- Efferents from superficial cervical nodes
- Efferents from other paravisceral deep nodes-retropharyngeal, infrahyoid,prelaryngeal,pretracheal,paratracheal,subclavian

Final drainage of lymph

All lymph from head and neck finally drain to ipsilateral lower deep cervical LN- Terminal group

Efferent- **Jugular lymph trunk**- terminate at or near jugulosubclavian venous junction

On left side usually joins the thoracic duct
on the right side either joins the right lymphatic duct or empties independently at the junction of the IJV and subclavian vein