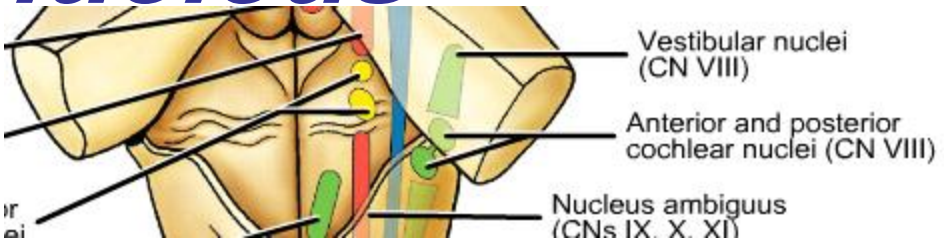
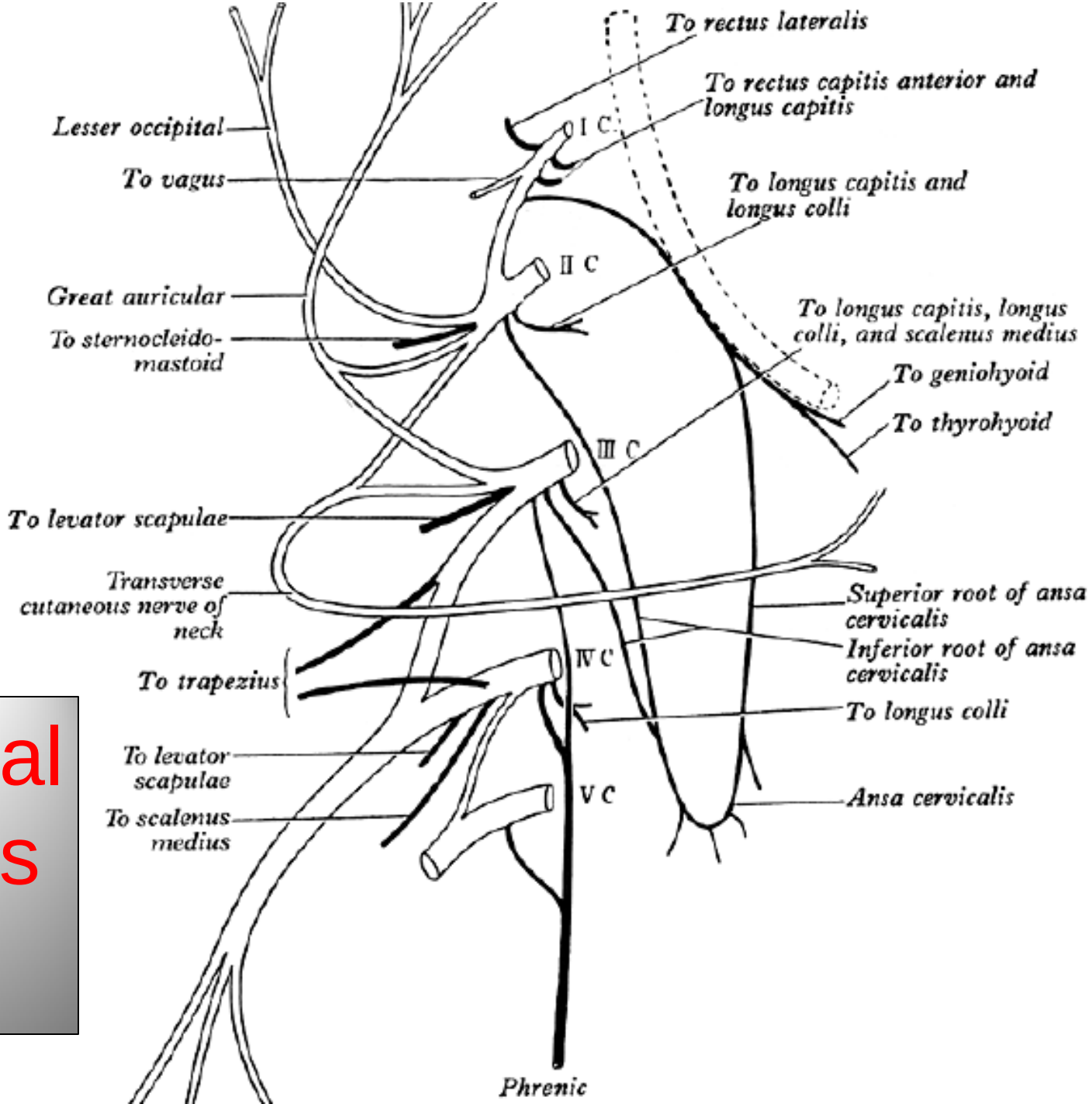
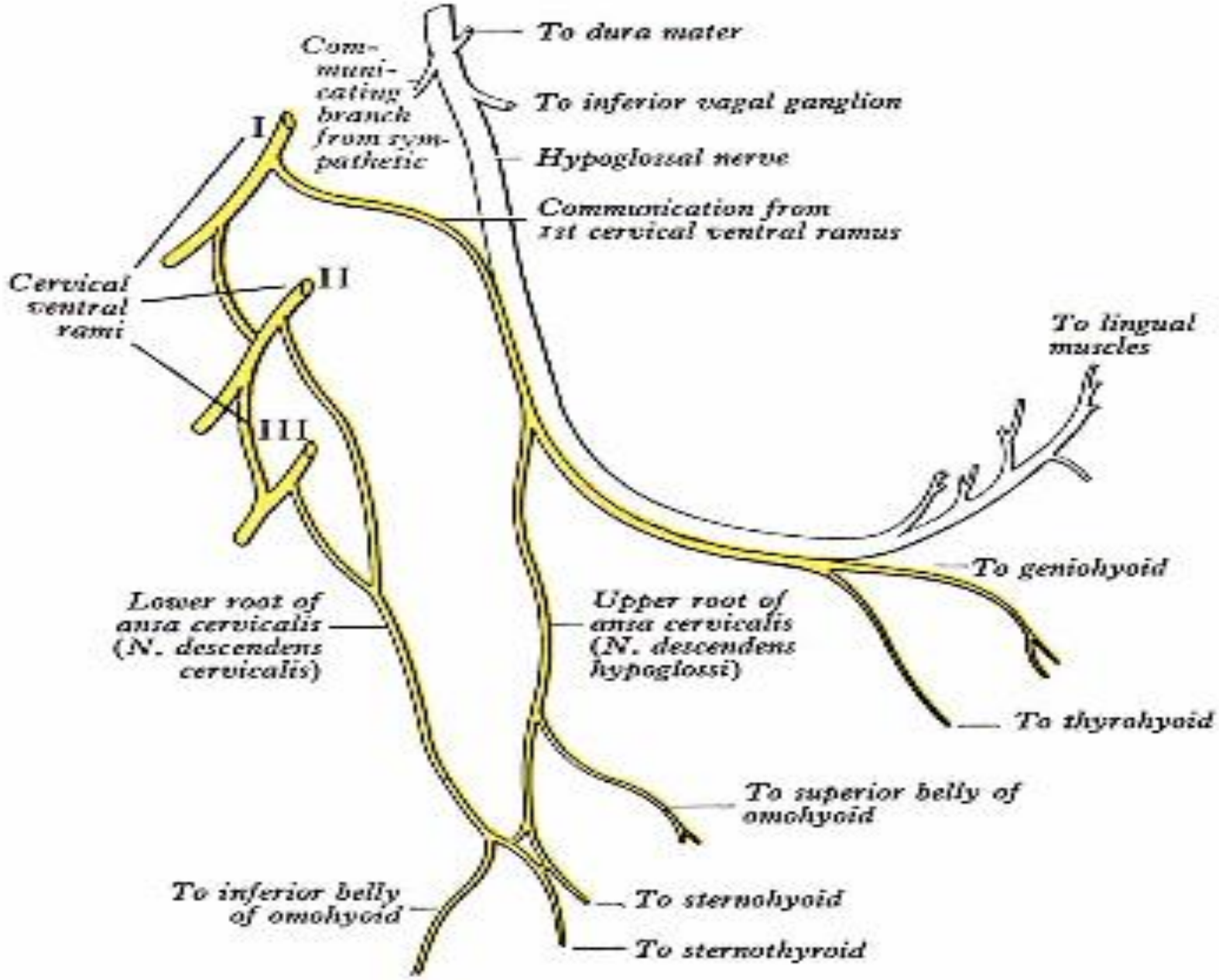
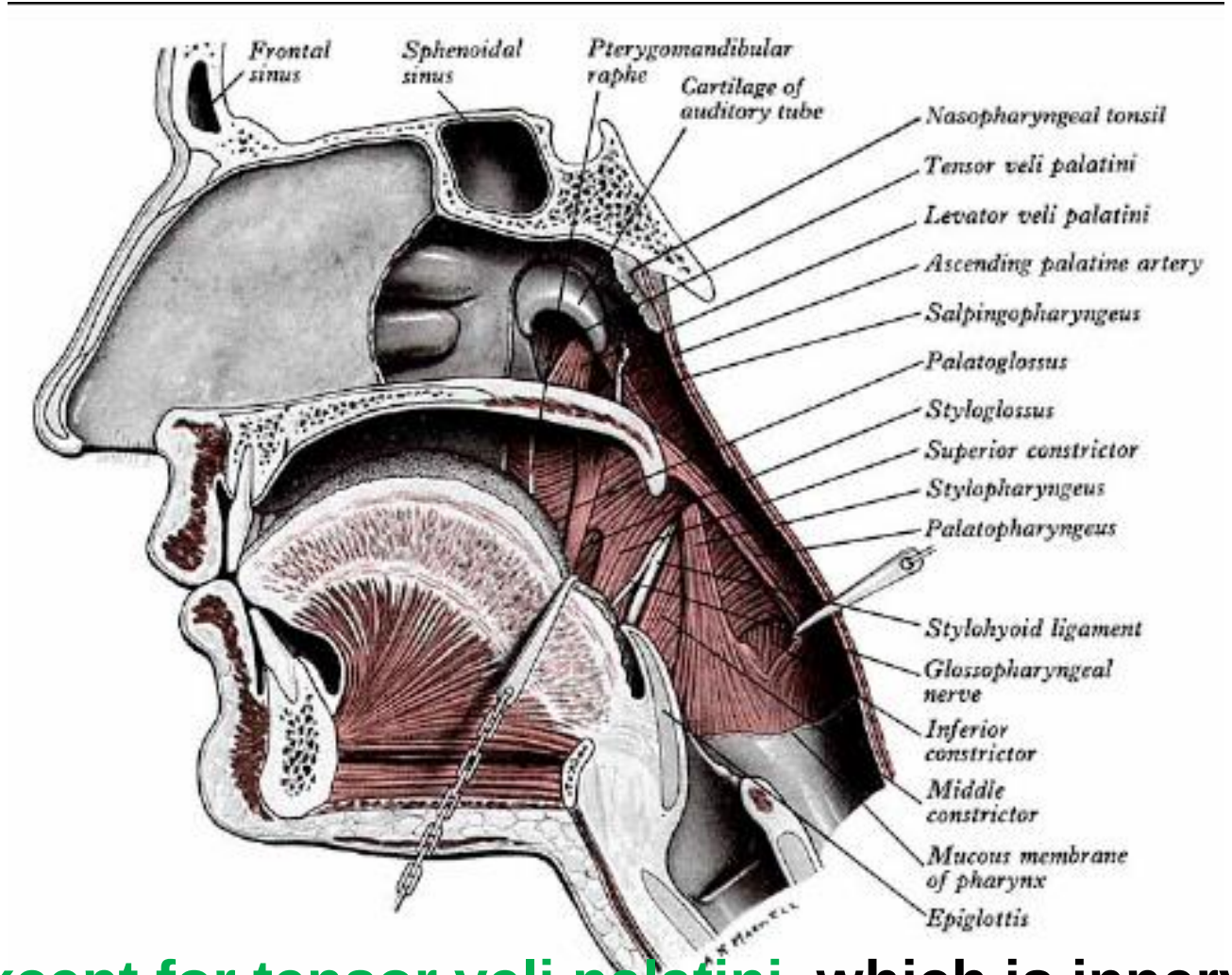
- ***Hypoglossal Nerve***
- motor to all the muscles of the tongue, except the palatoglossus
- nucleus : n. ***ambiguous*** and also from the ***lateral hypoglossal nucleus***



Cervical plexus

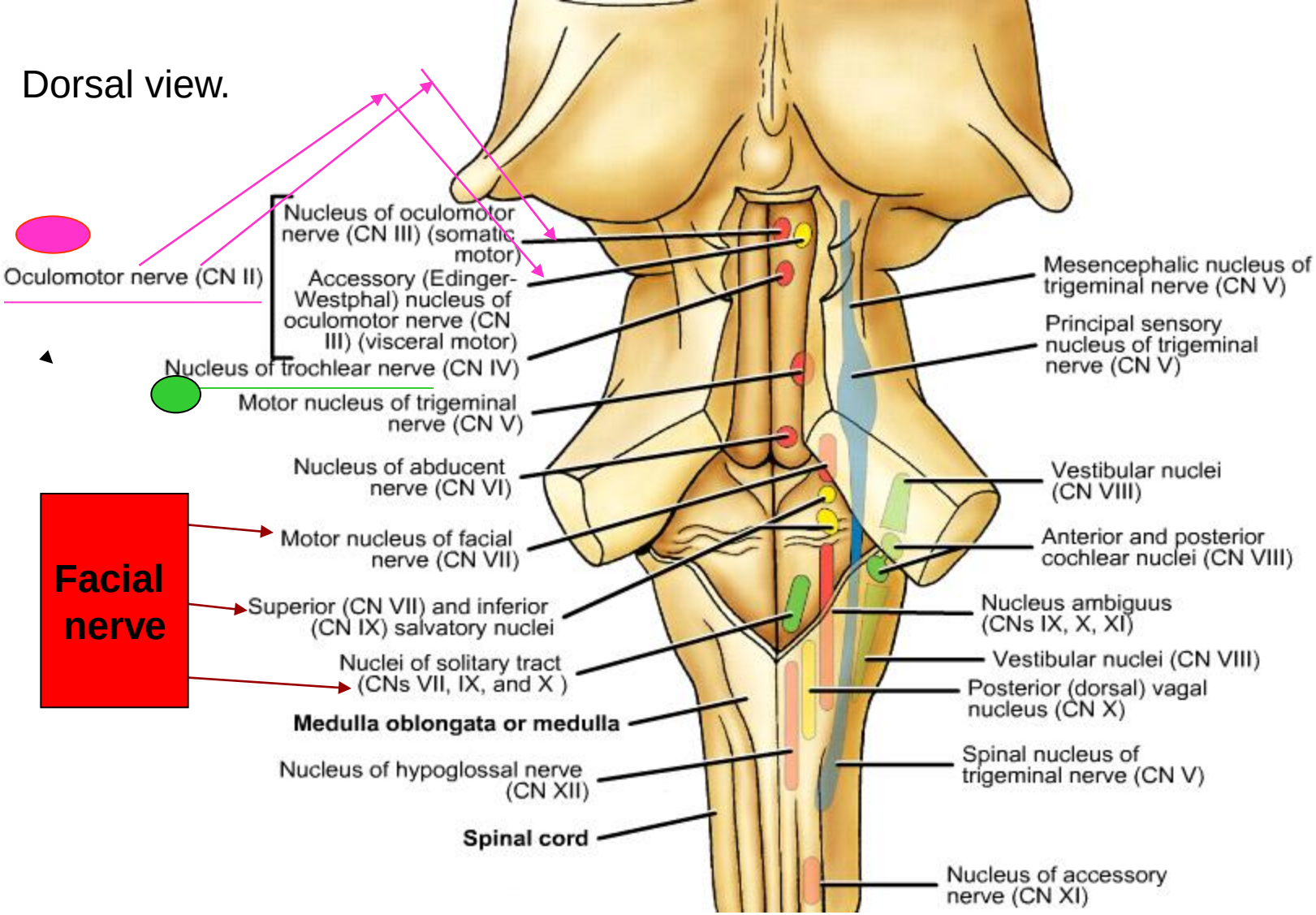



To dura mater
Com-
muni-
cating
branch
from sym-
pathetic
To inferior vagal ganglion
I
Hypoglossal nerve
Communication from
1st cervical ventral ramus
Cervical
ventral
rami
II
To lingual
muscles
III
To geniohyoid
Lower root of
ansa cervicalis
(N. descendens
cervicalis)
Upper root of
ansa cervicalis
(N. descendens
hypoglossi)
To thyrohyoid
To superior belly of
omohyoid
To inferior belly
of omohyoid
To sternohyoid
To sternothyroid

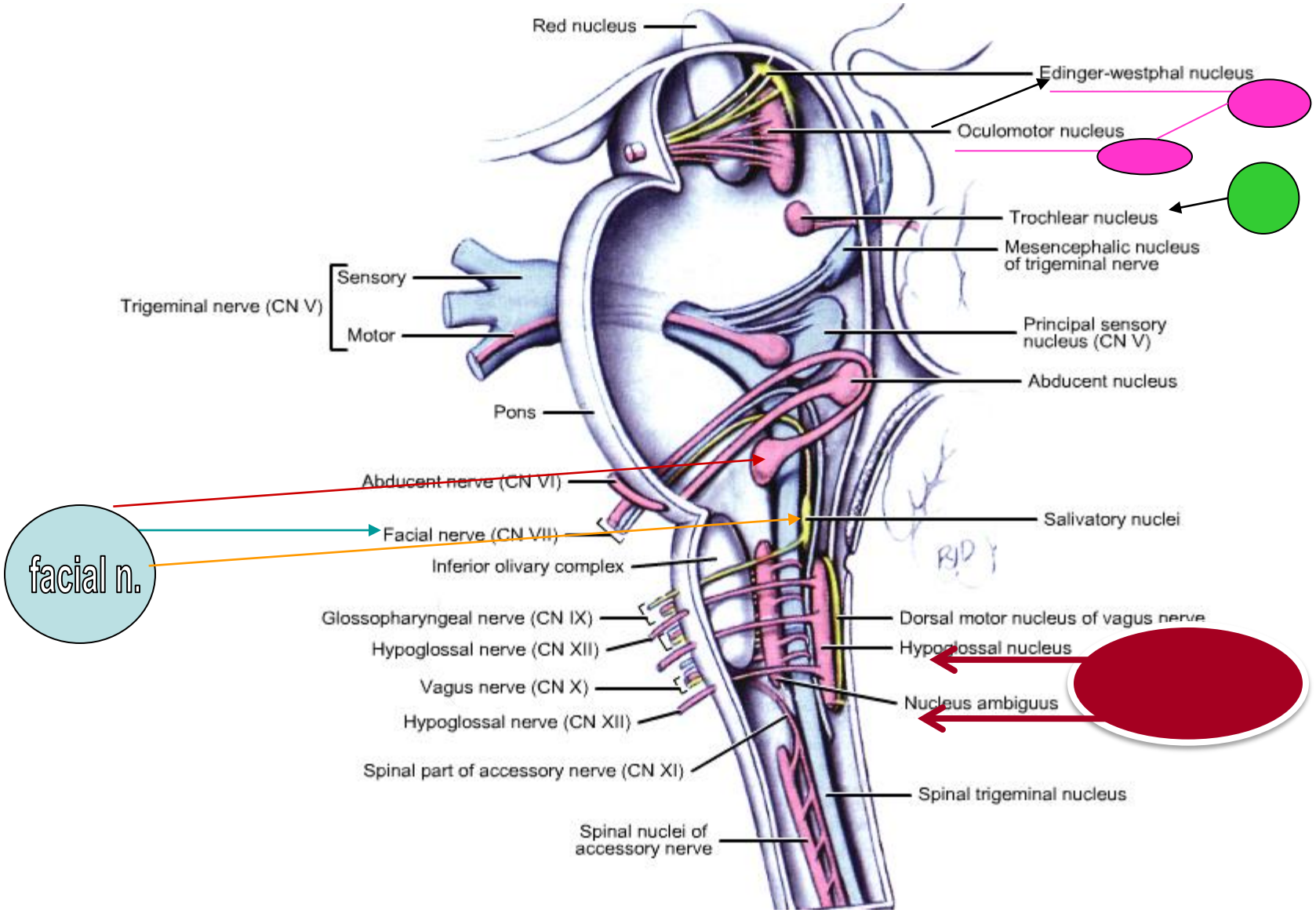


Except for tensor veli palatini, which is innervated by the mandibular nerve (grays p. 1237), all the palatine muscles are supplied by nerve fibres which leave the medulla in the *cranial part of the accessory* nerve and reach the pharyngeal plexus via the vagus nerve and glossopharyngeal.

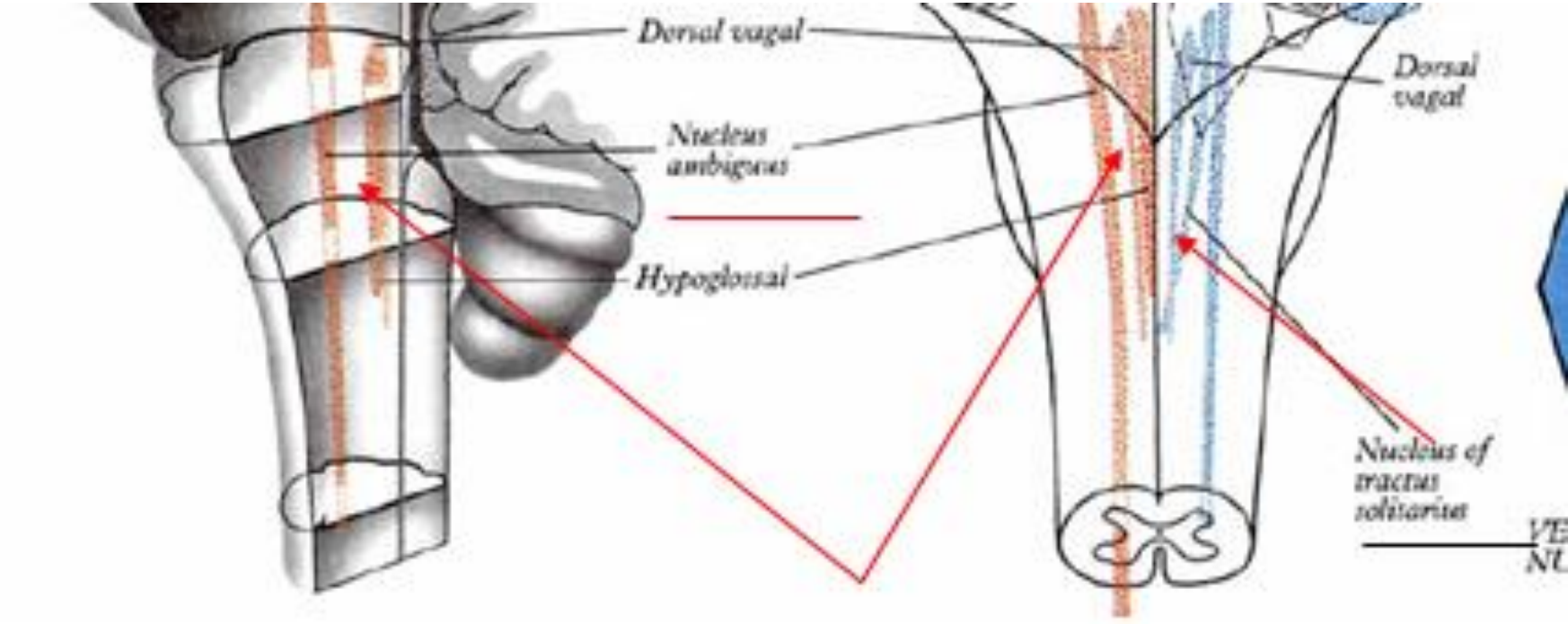
Dorsal view.



---Red, motor nuclei; blue, sensory nuclei; yellow, parasympathetic nuclei; green, special sensory nuclei.


Red nucleus
Edinger-westphal nucleus
Oculomotor nucleus
Trochlear nucleus
Mesencephalic nucleus of trigeminal nerve
Trigeminal nerve (CN V)
Sensory
Motor
Principal sensory nucleus (CN V)
Abducent nucleus
Pons
Abducent nerve (CN VI)
facial n.
Facial nerve (CN VII)
Salivatory nuclei
Inferior olivary complex
Glossopharyngeal nerve (CN IX)
Dorsal motor nucleus of vagus nerve
Hypoglossal nerve (CN XII)
Hypoglossal nucleus
Vagus nerve (CN X)
Nucleus ambiguus
Hypoglossal nerve (CN XII)
Spinal part of accessory nerve (CN XI)
Spinal trigeminal nucleus
Spinal nuclei of accessory nerve

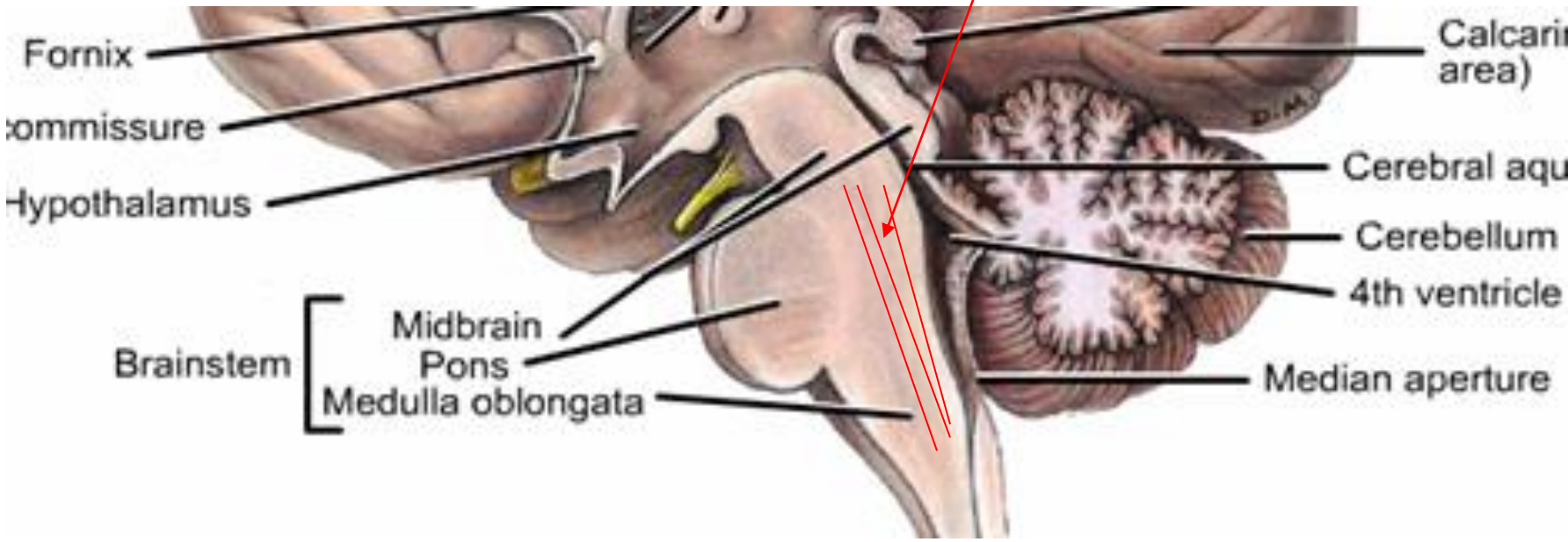
- ***N. ambiguous*** and ***lateral hypoglossal nucleus***



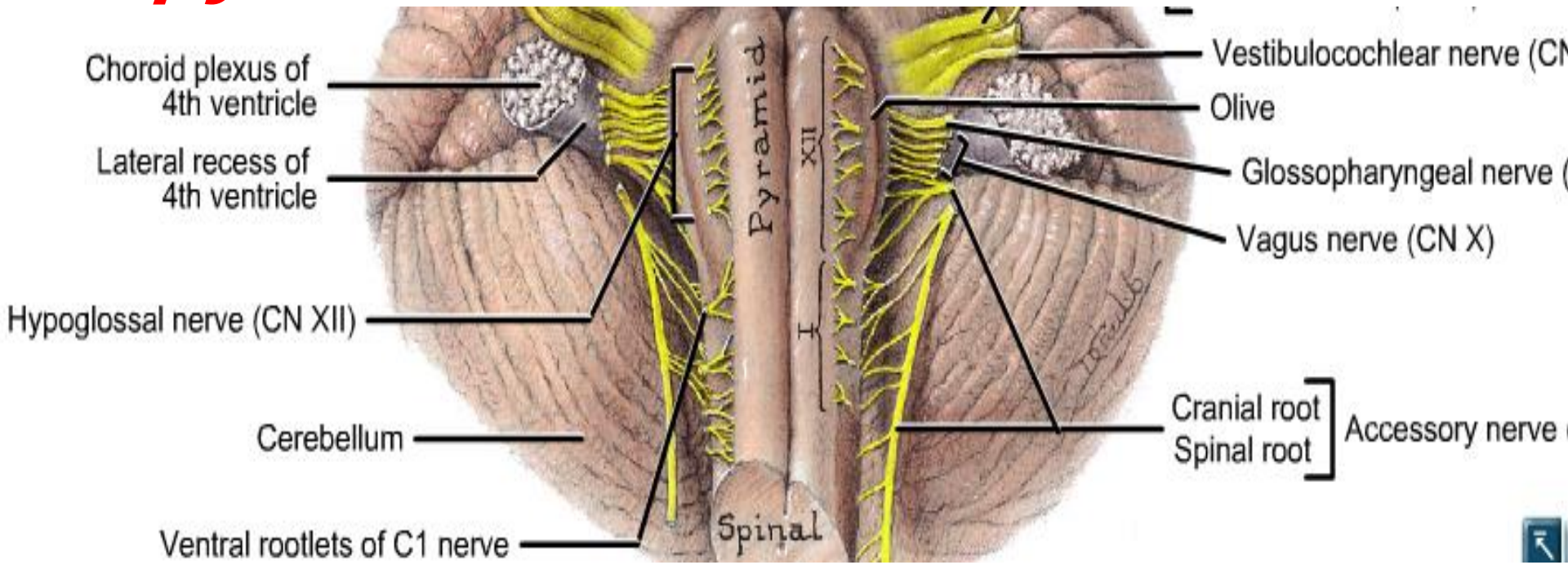
laryngeal muscles :more caudal zones , pharynx :intermediate group and those to the esophagus and soft palate being : rostral

The Hypoglossal Nucleus

- **It is about *2 cm* long, its rostral part corresponding with the hypoglossal triangle in the floor of the *fourth ventricle***
- **its caudal part extending into the closed part of the medulla oblongata, where it is ventral and paramedial in the central grey matter**

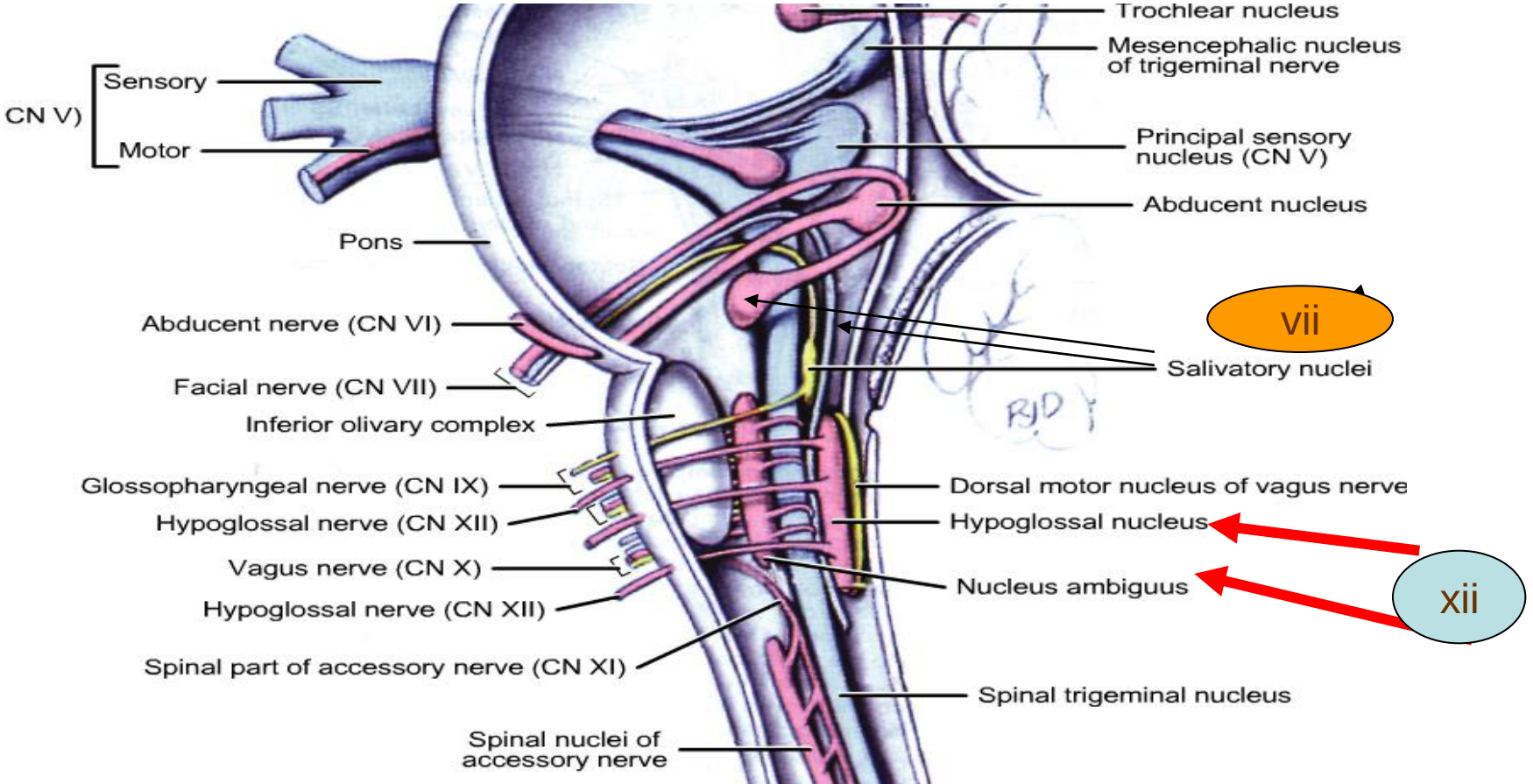


- Its fibres pass ventrally through the medulla to emerge as a linear series of 10–15 rootlets in the anteriolateral sulcus ***between the pyramid and olive***

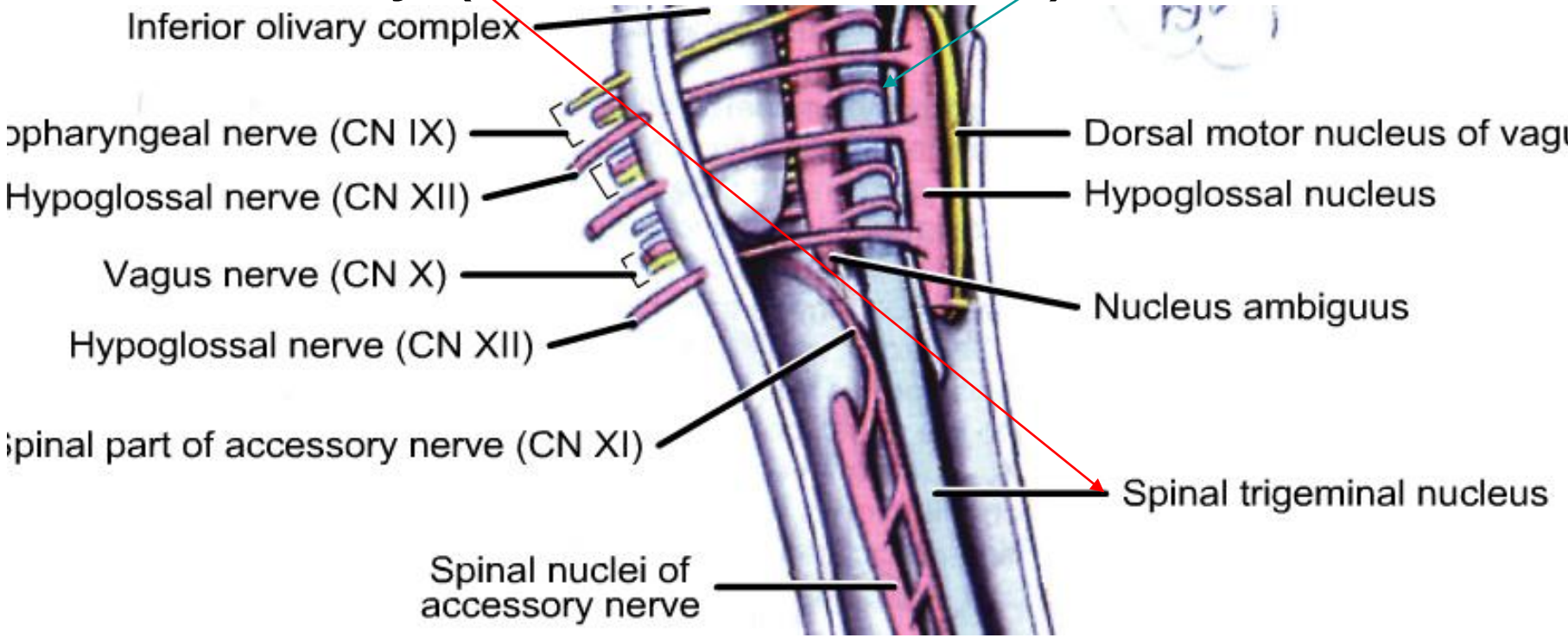


The hypoglossal nucleus

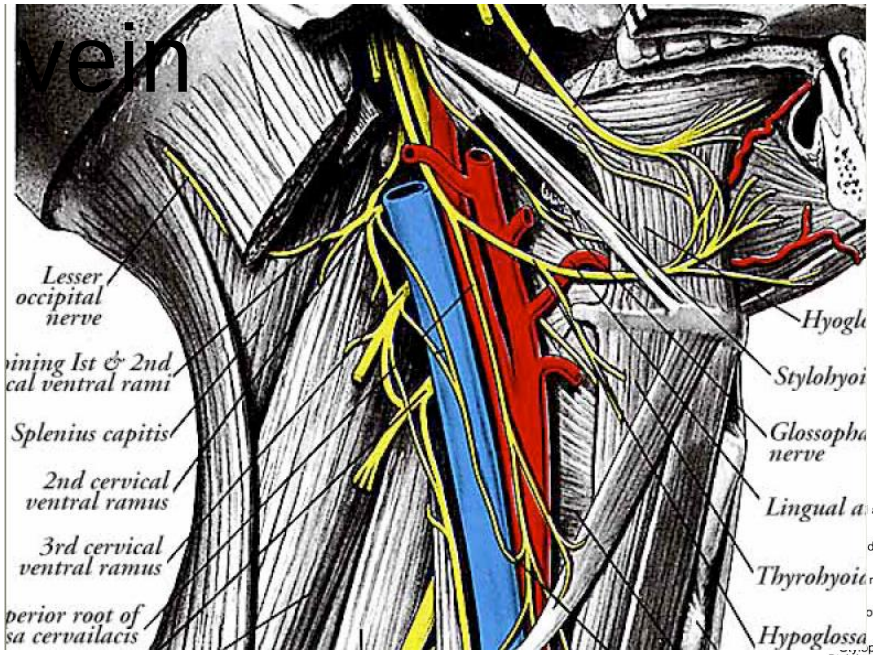
- ***ventromedial and dorsolateral***
- There is a musculotopic to tongue musculature.

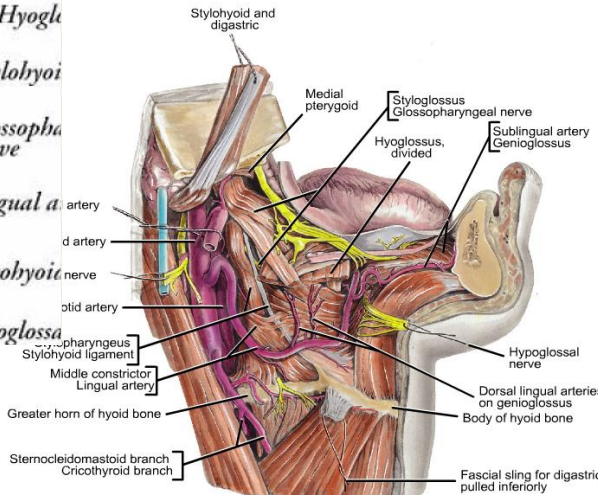


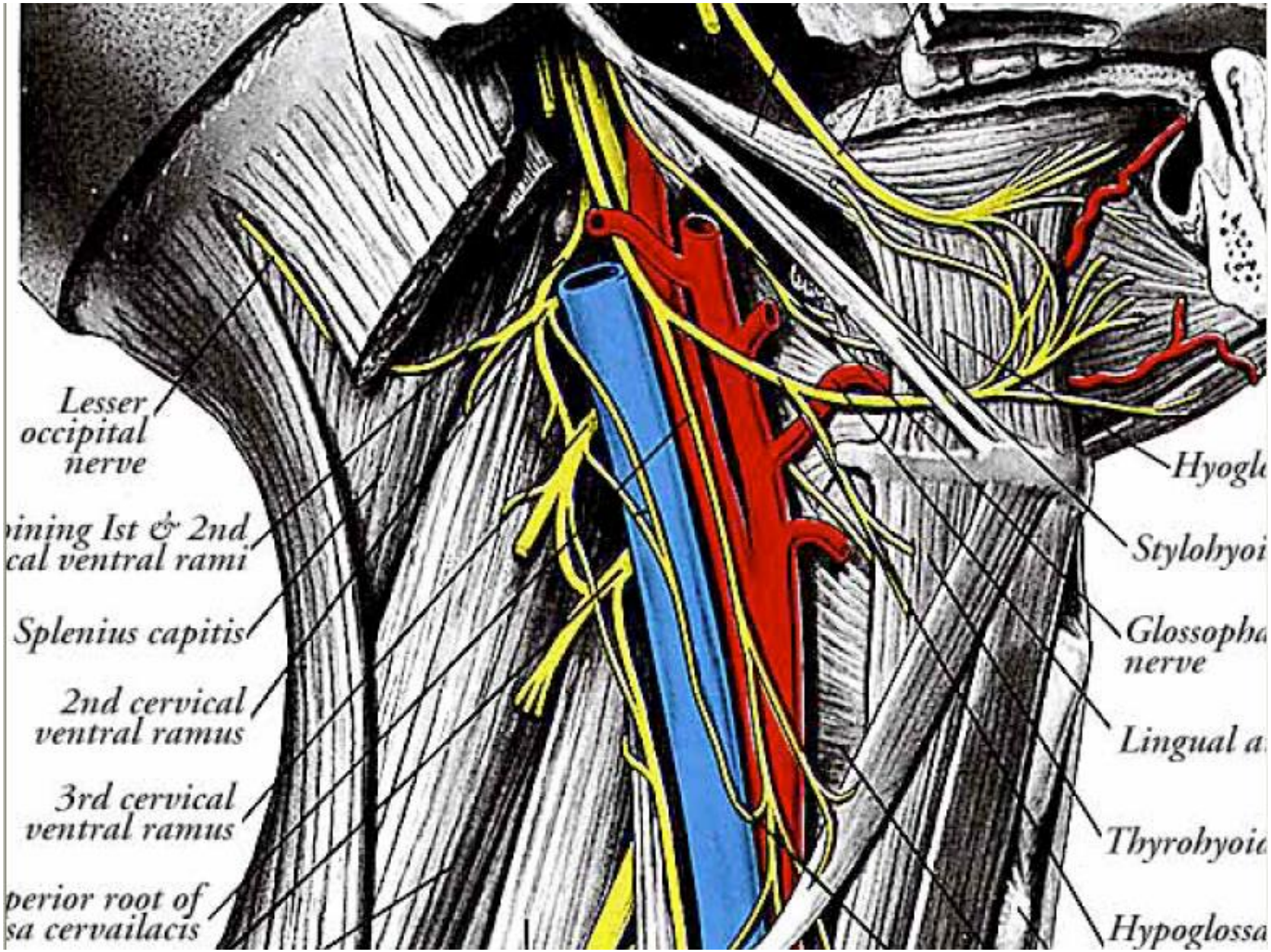
- The nucleus may connect with the cerebellum via adjacent perihypoglossal nuclei and perhaps also with the ***medullary*** trigeminal ***sensory nuclei*** and the solitary (facial. Chorda t.n.) nucleus

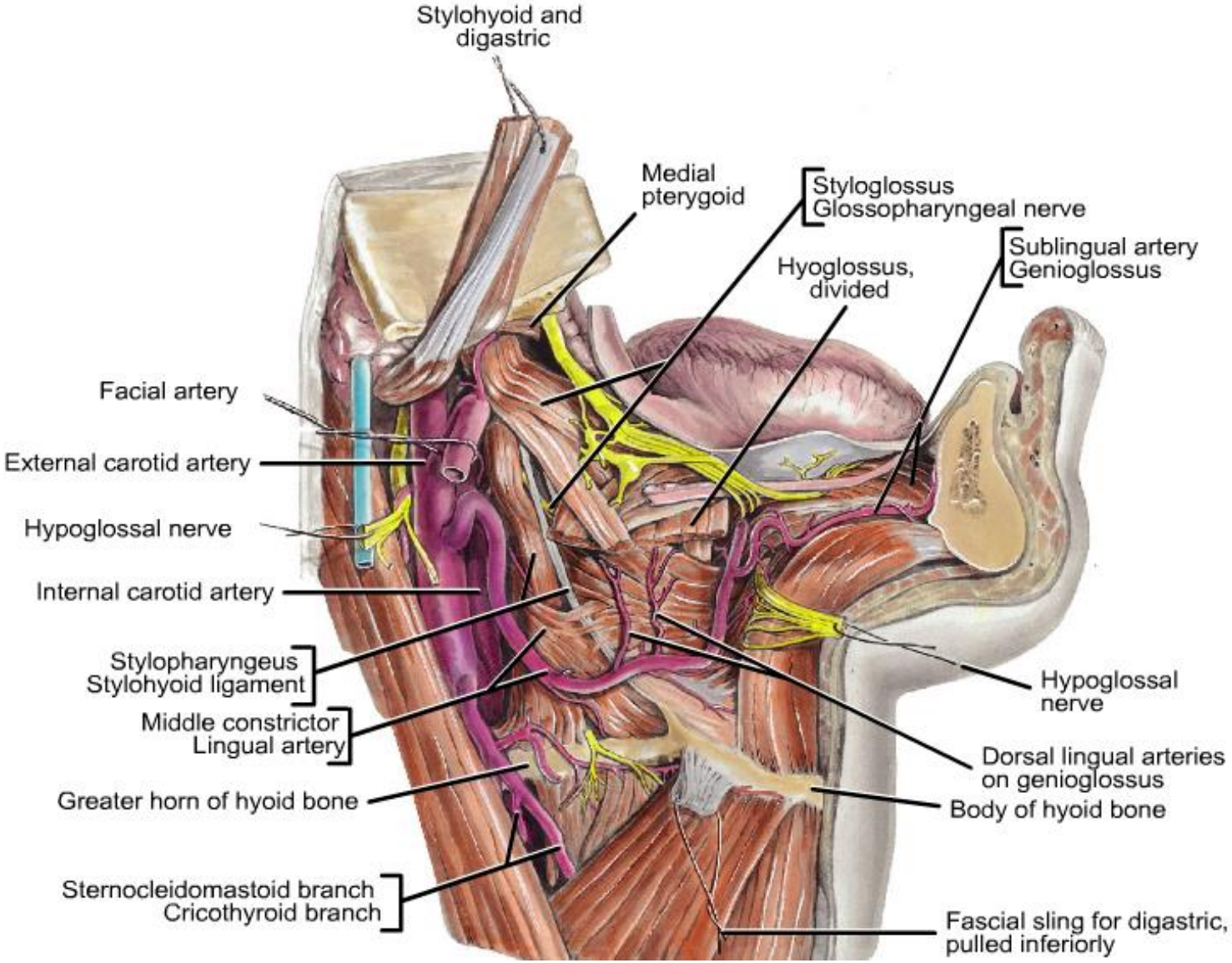


internal carotid artery, ninth, tenth and eleventh cranial nerves and passes inferolaterally behind the internal carotid artery and glossopharyngeal and vagus nerves to the interval between the artery and the internal jugular vein






Lesser occipital nerve
ining Ist & 2nd cal ventral rami
Splenius capitis
2nd cervical ventral ramus
3rd cervical ventral ramus
perior root of sa cervailacis
Hyogl
Stylohyoi
Glossopha nerve
Lingual a
Thyrohyoi
Hypoglossa

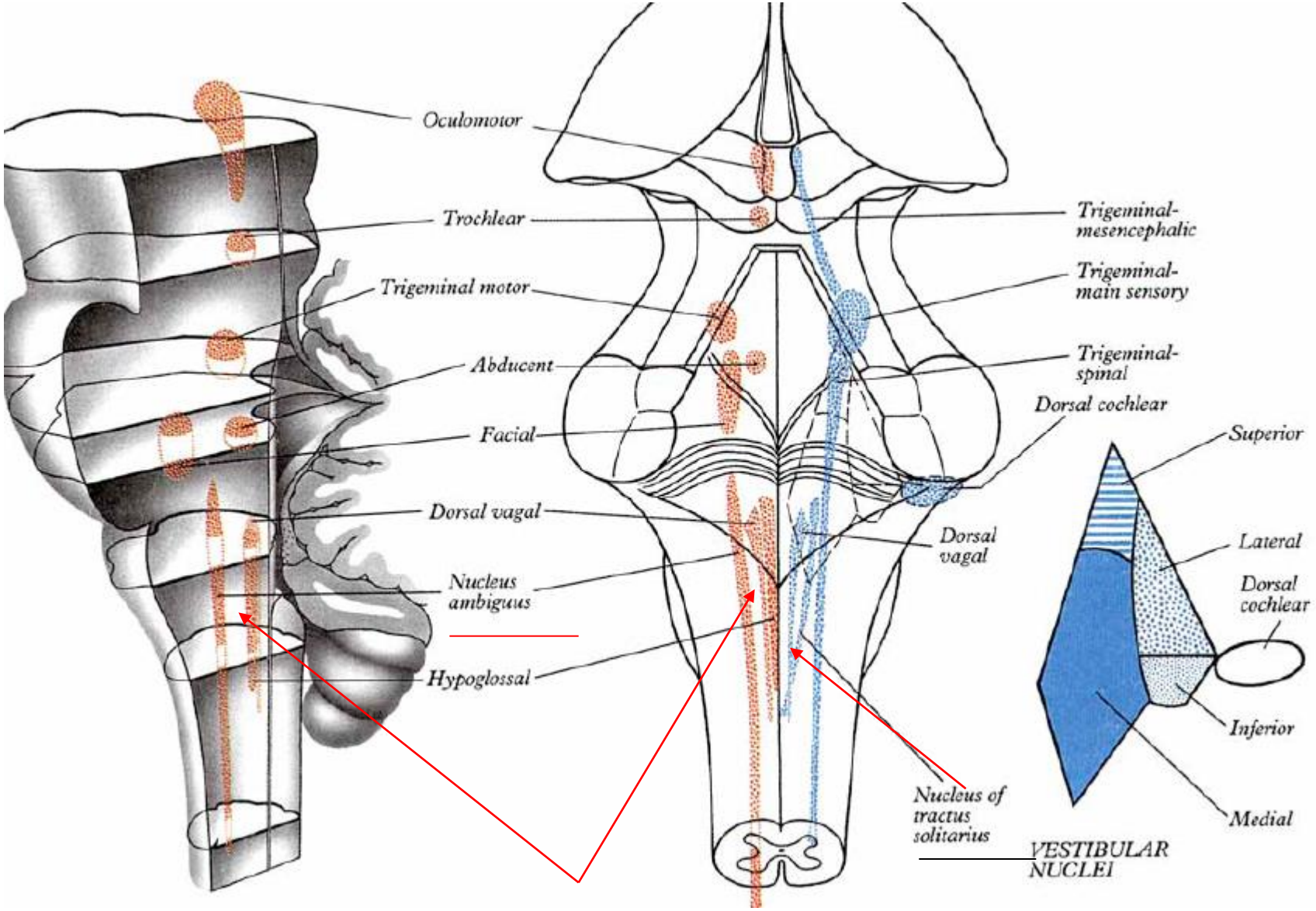

Stylohyoid and digastric
Medial pterygoid
Styloglossus
Glossopharyngeal nerve
Sublingual artery
Genioglossus
Hyoglossus, divided
Facial artery
External carotid artery
Hypoglossal nerve
Internal carotid artery
Stylopharyngeus
Stylohyoid ligament
Middle constrictor
Lingual artery
Greater horn of hyoid bone
Sternocleidomastoid branch
Cricothyroid branch
Hypoglossal nerve
Dorsal lingual arteries on genioglossus
Body of hyoid bone
Fascial sling for digastric, pulled inferiorly

- below the posterior belly of the ***digastric*** and emerging between the internal jugular vein and internal carotid artery
- It loops round the inferior sternocleidomastoid branch of the ***occipital artery*** , crosses lateral to both internal and external carotid arteries and the loop of the ***lingual artery*** a little above the tip of the greater cornu of the hyoid

- It inclines up and forwards ***on the hyoglossus*** by passing deep to the digastric tendon, stylohyoid and the
- posterior border of the mylohyoid.
- Between the hyoglossus and mylohyoid the nerve is inferior to the deep part of the submandibular gland, submandibular duct and lingual nerve.

- It then passes on to the lateral aspect of the genioglossus, continuing forwards in its substance as far as the tip of the tongue and distributing fibres in the muscle.
- ***The hypoglossal nerve communicates with the sympathetic trunk, vagus, first and second cervical nerves and lingual nerve***

- The branches of distribution of the hypoglossal nerve are:
- ***meningeal,***
- ***descending,***
- ***thyrohyoid***
- ***supra hyoid m***.


Oculomotor
Trochlear
Trigeminal motor
Abducent
Facial
Dorsal vagal
Nucleus ambiguus
Hypoglossal
Trigeminal-mesencephalic
Trigeminal-main sensory
Trigeminal-spinal
Dorsal cochlear
Dorsal vagal
Nucleus of tractus solitarius
VESTIBULAR NUCLEI
Superior
Lateral
Dorsal cochlear
Inferior
Medial

Communication

- sympathetic trunk, vagus and facial nerves.
- vagus, one to its auricular branch and the other to superior ganglion of the vagus.
- to the facial n.arises from the inferior ganglion, perforating the posterior belly of the digastric to join the facial nerve near the Stylomastoid foramen.

PREPERED BY :

Prof. Dr. Talib Jawad

DEAN OF COLLEGE OF MEDICINE

DYIALA UNIVERSITY