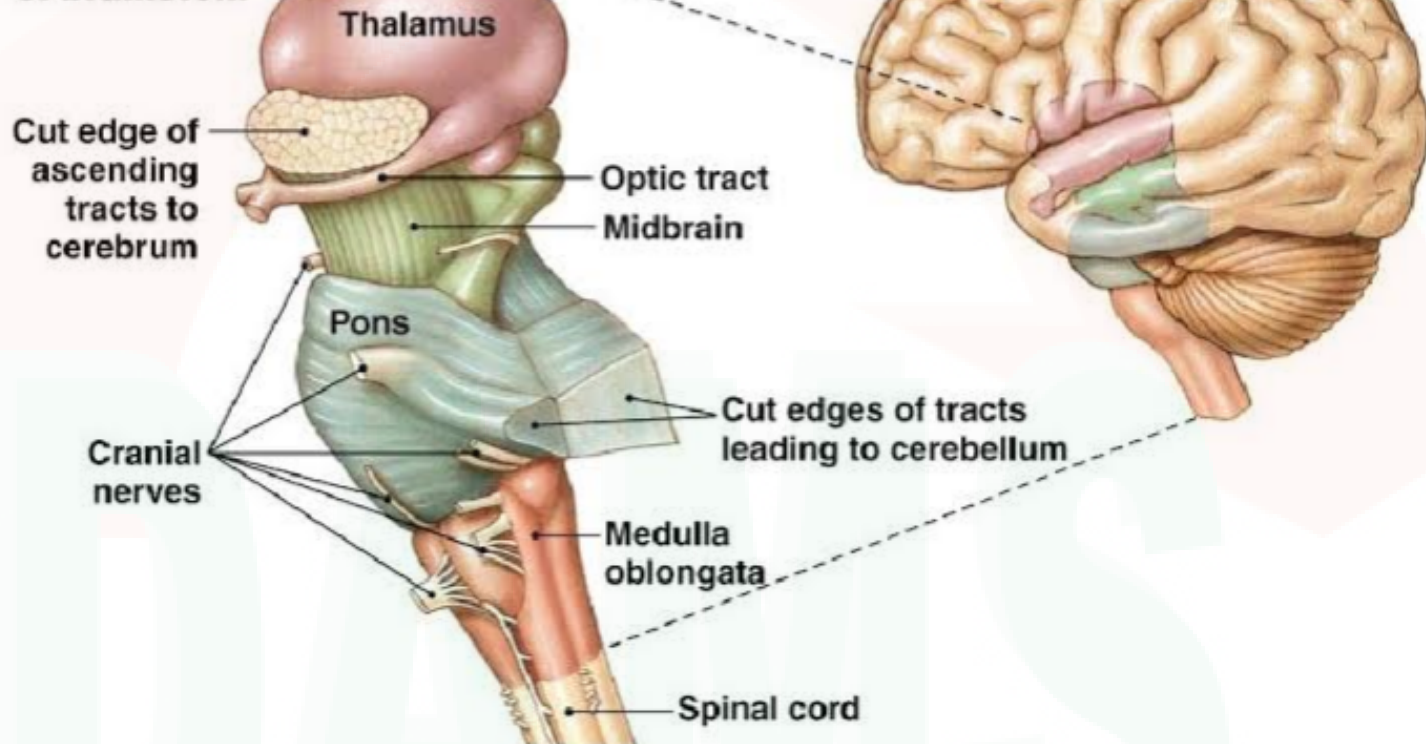
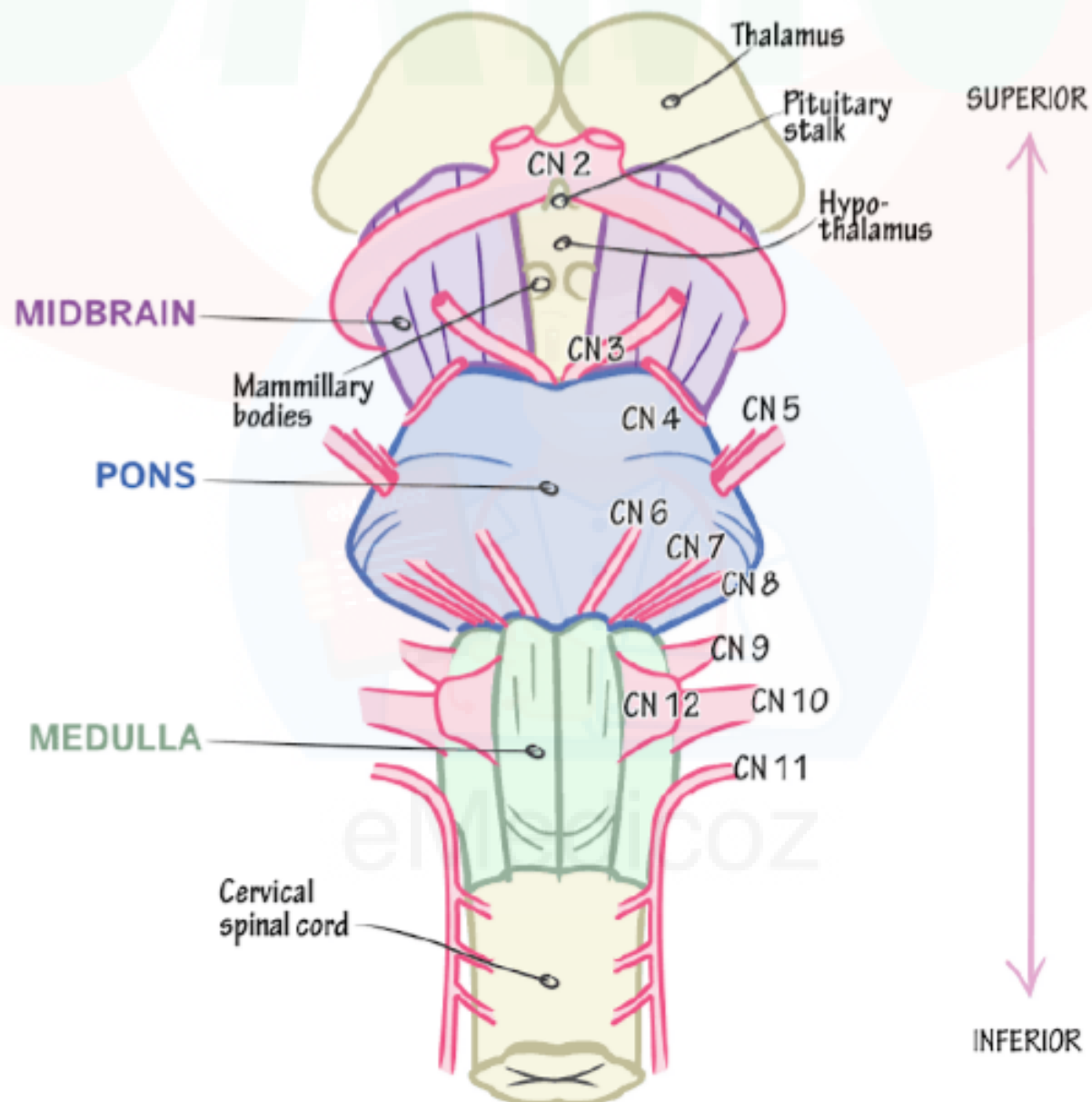


BRAIN STEM

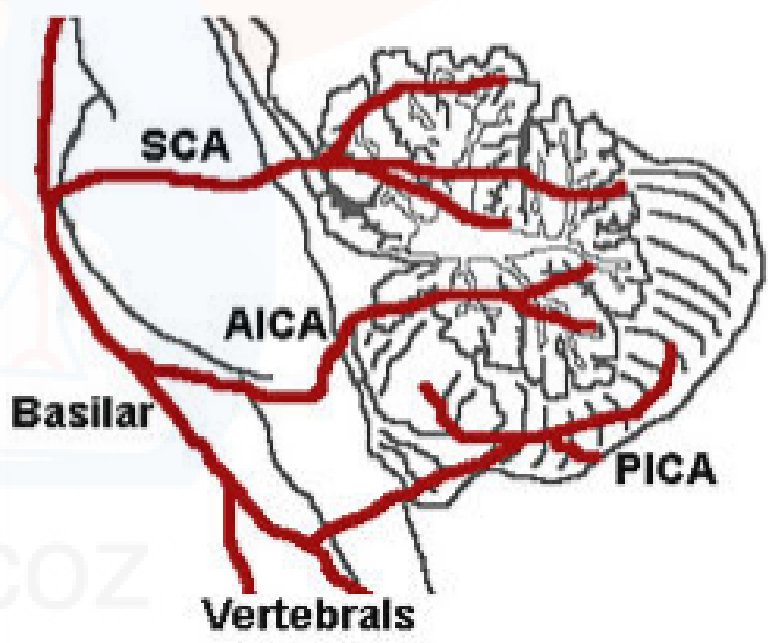
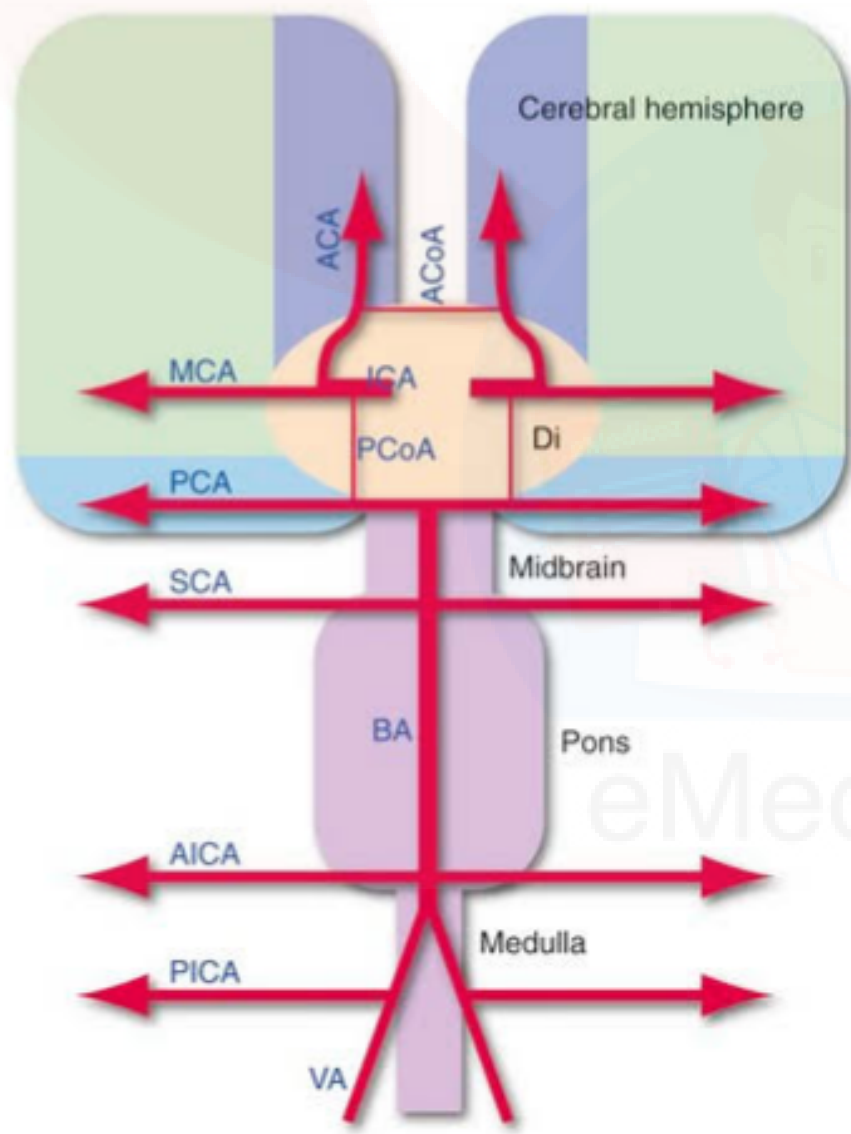
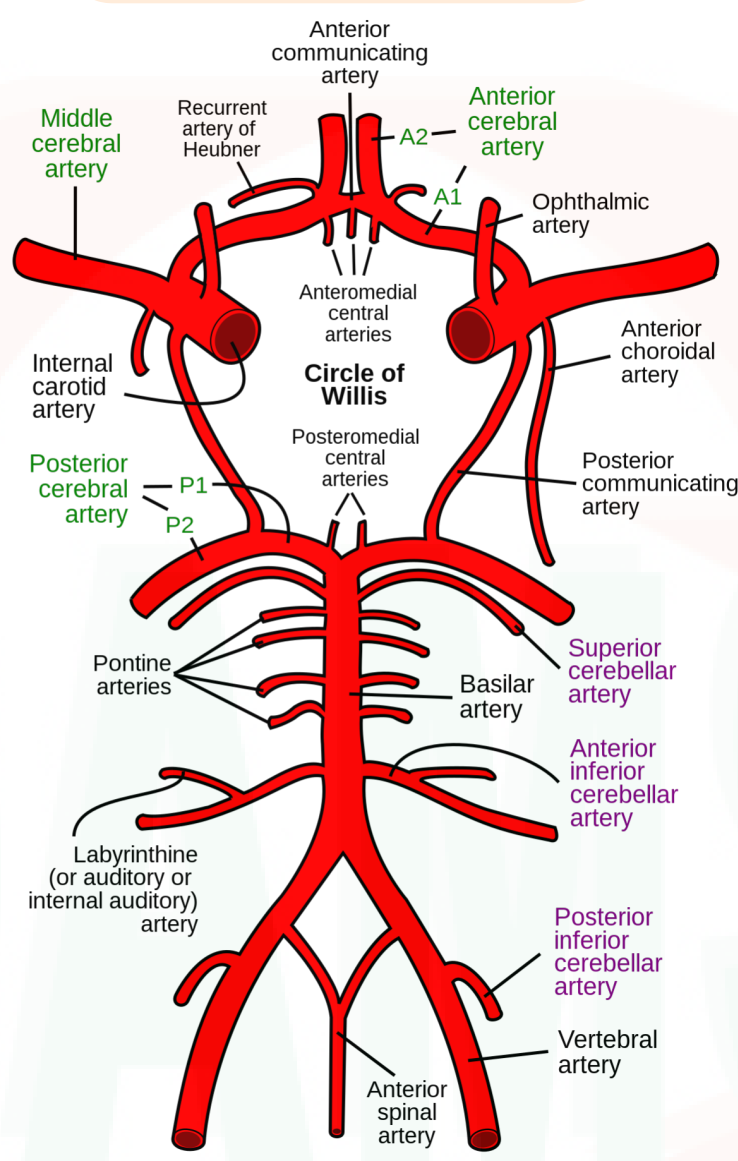
Lateral view of brainstem

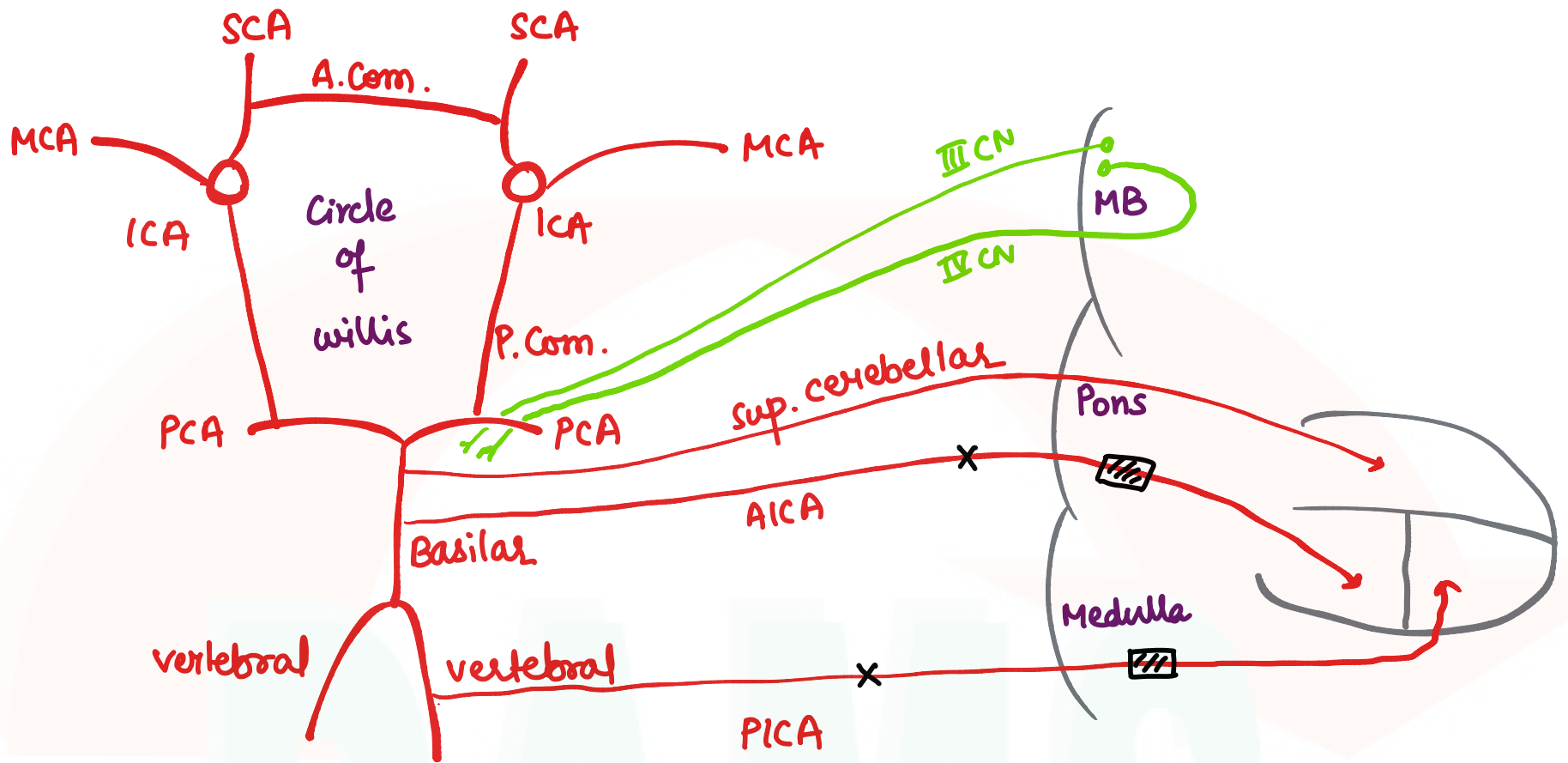


Anterior View



BLOOD SUPPLY





→ Branches :-

- * **ICA** :
 - **ACA**
 - **MCA**
 - **Ant. choroidal**
 - **Post. Communicating**
 - **Ophthalmic**

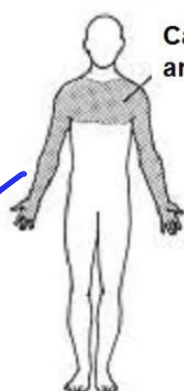
* vertebral Artery :

- PIC** → **PICA**
- Me** → **Medullary branches**
- P/S** → **Post. Spinal**
- A/S** → **Ant. Spinal**
- Me** → **Meningeal**

- * **Basilar Artery** :
 - **PCA**
 - **Sup. cerebellar**
 - **Pontine**
 - **AICA**
 - **labyrinthine Artery**

→ Syringomyelia :

B/L Pain & Temperature loss



Cape-like distribution of pain and temperature loss

Cross-section of spinal cord at the level of the syrinx

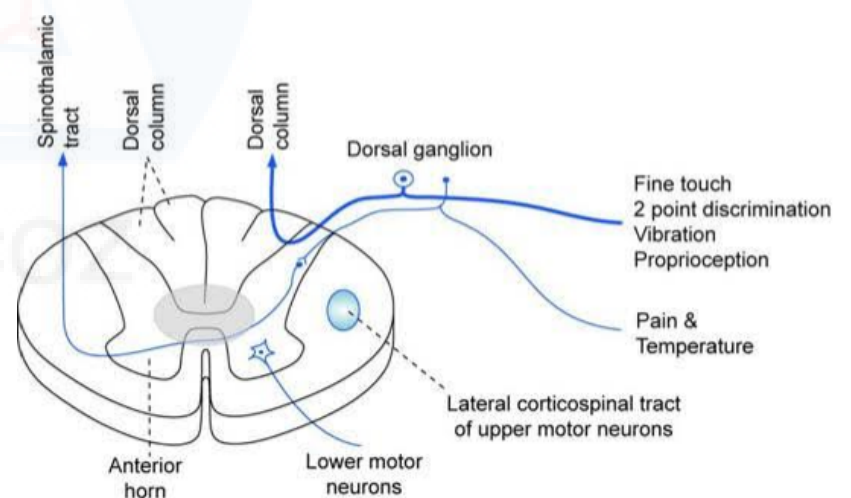
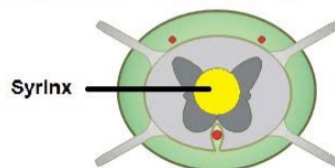
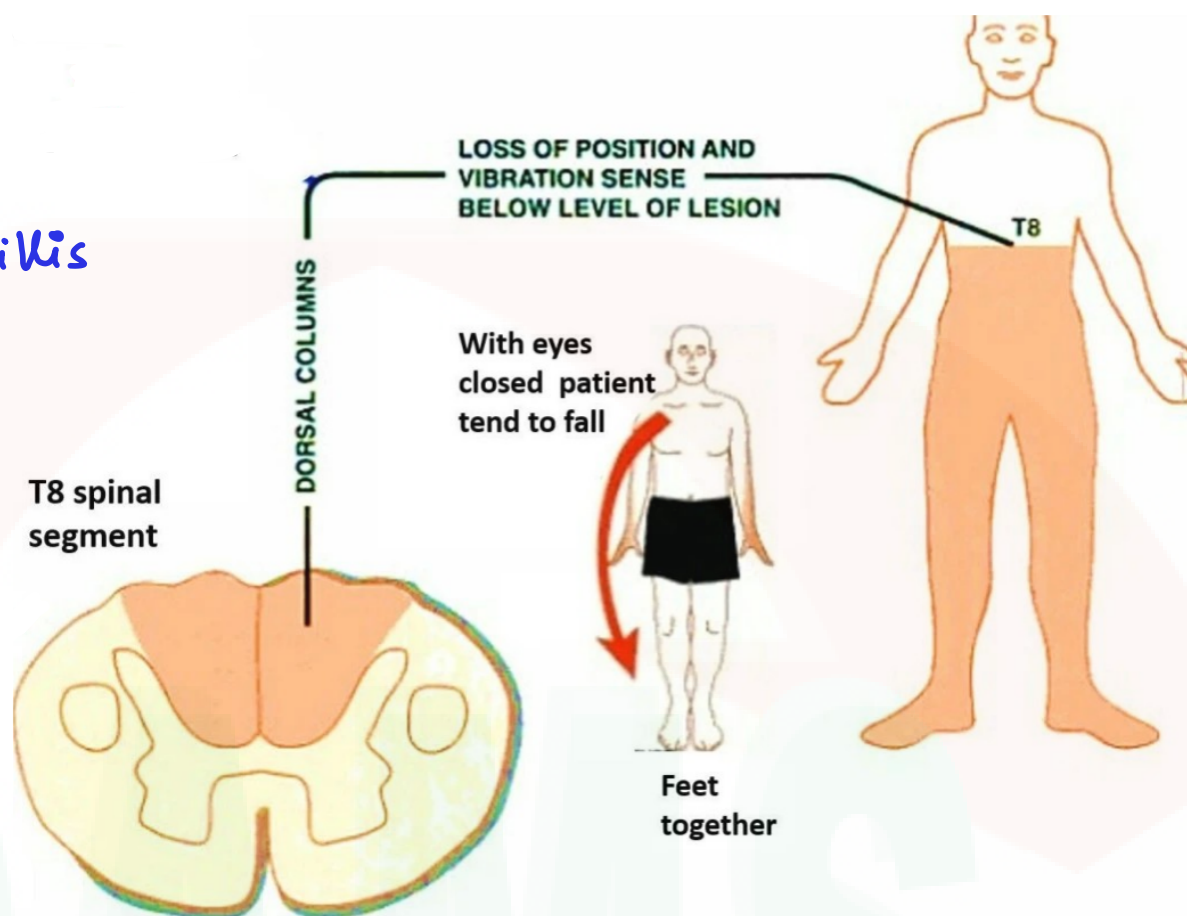


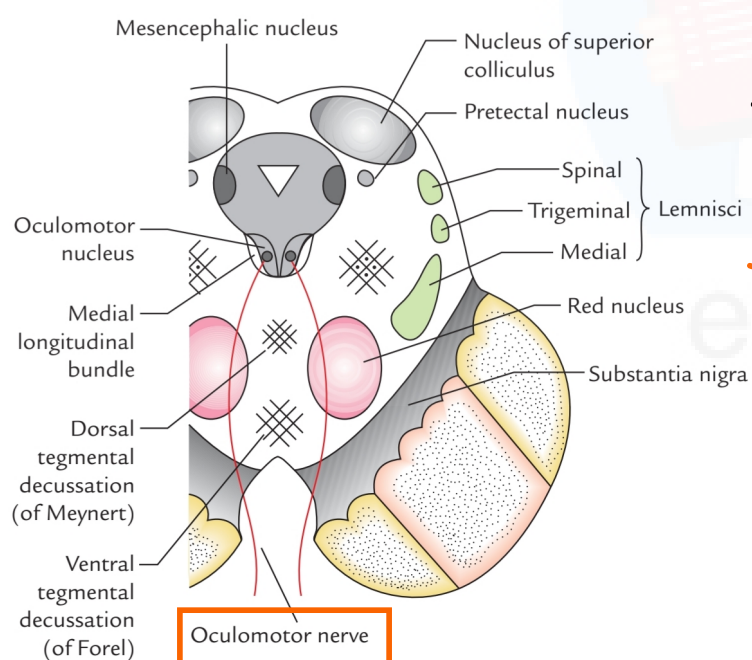
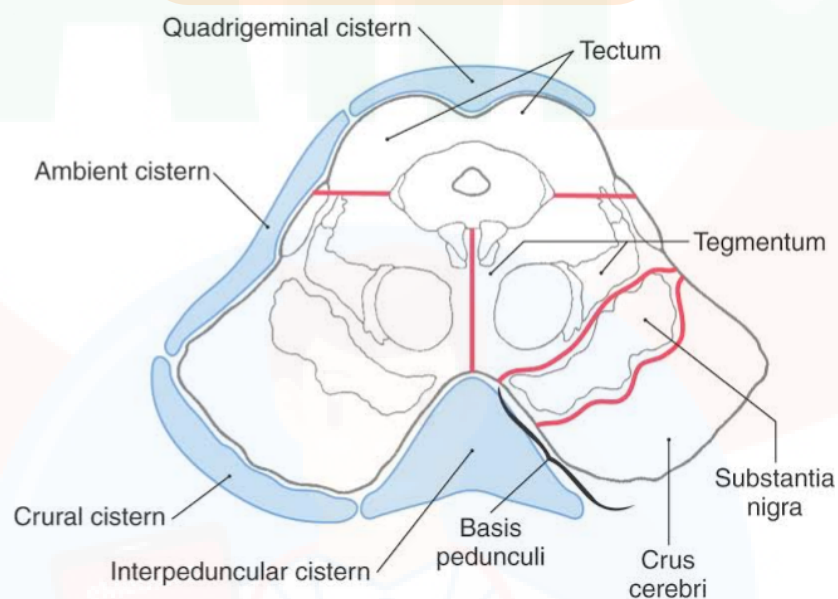
Diagram illustrating the effect of an enlarging syrinx (central grey area) on adjacent neurons.

→ **Tabes Dorsalis** :

↓
seen in neurosyphilis



MID BRAIN

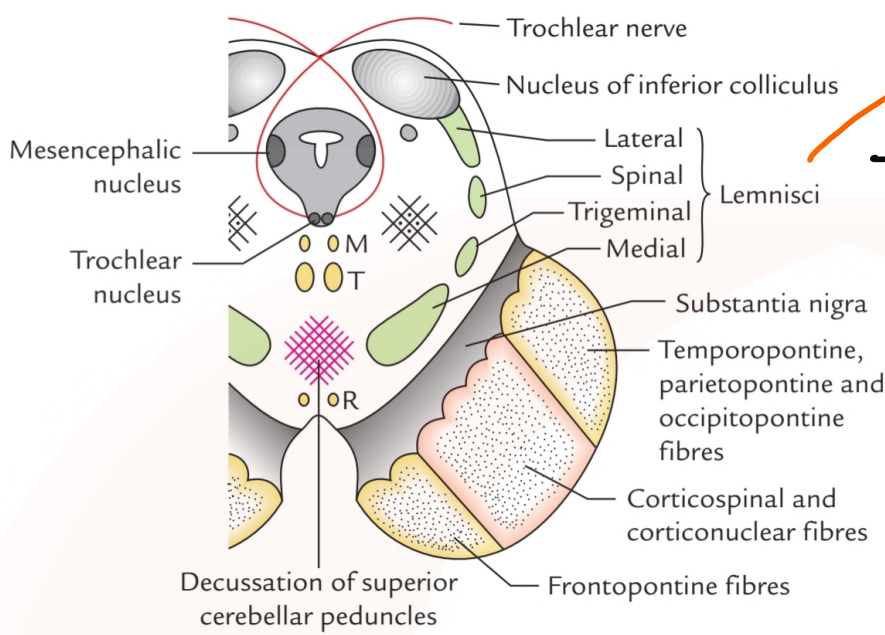


→ @ level of superior colliculus

→ ③ 3 lemnisci → 3rd CN.

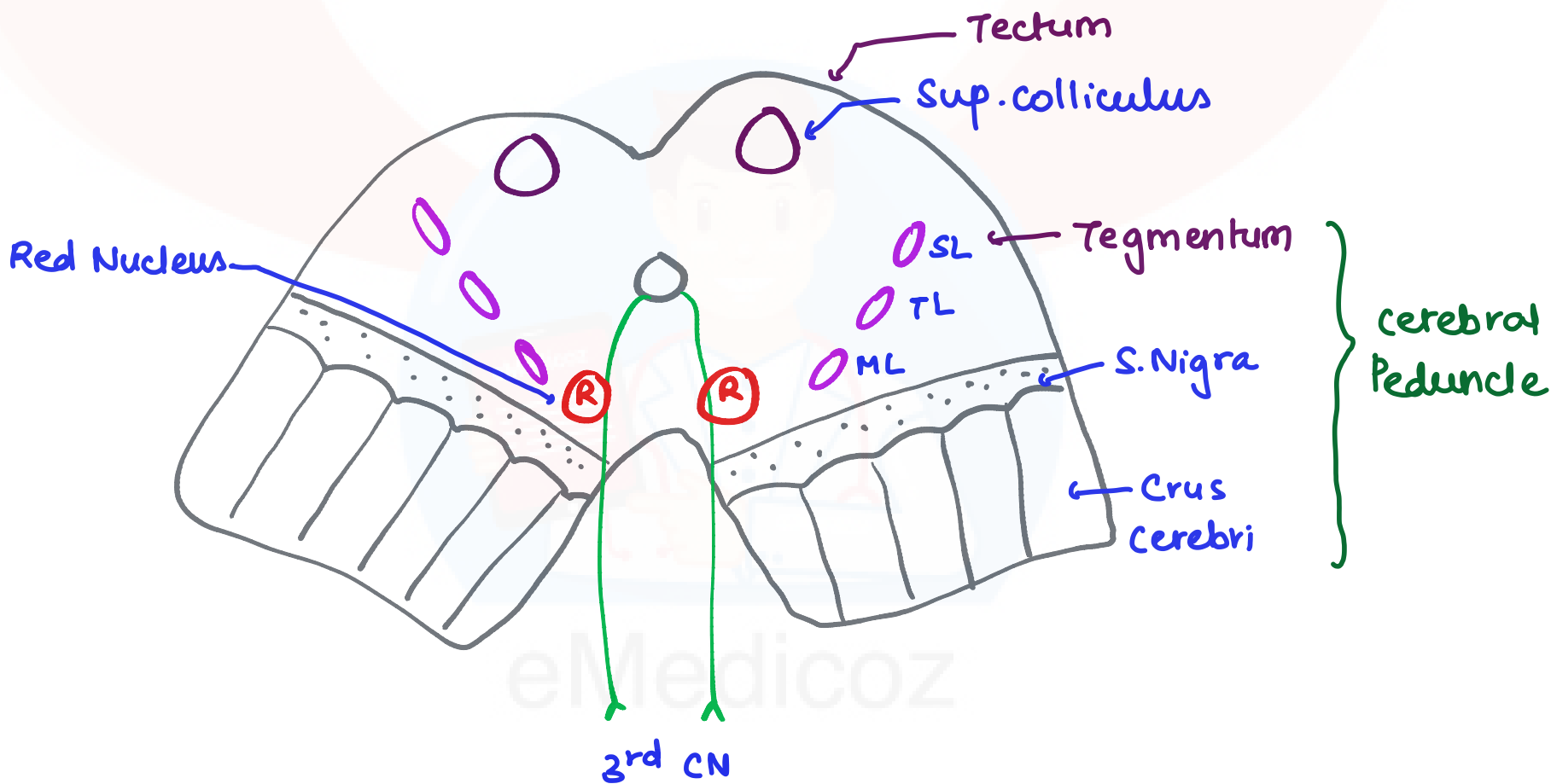
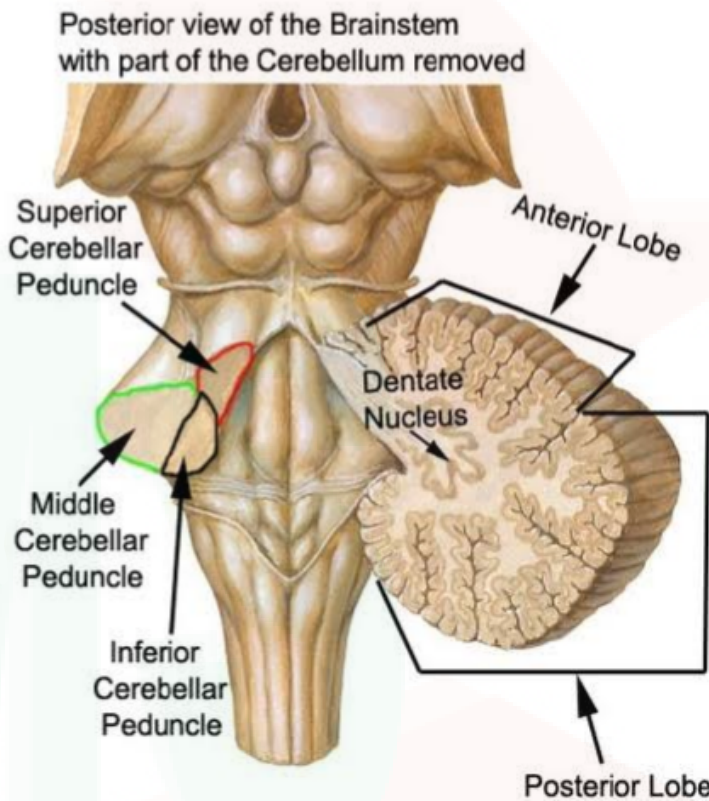
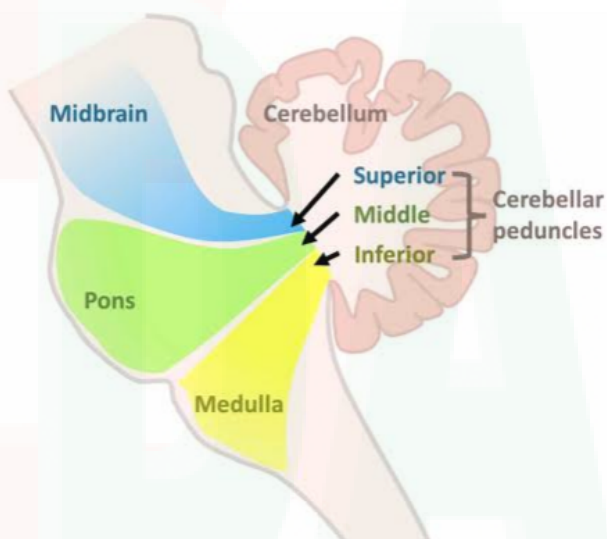
→ 3rd CN injury :-

- 1) Ptosis
- 2) Down & out eye
- 3) Pupil : Fix , Dilated.

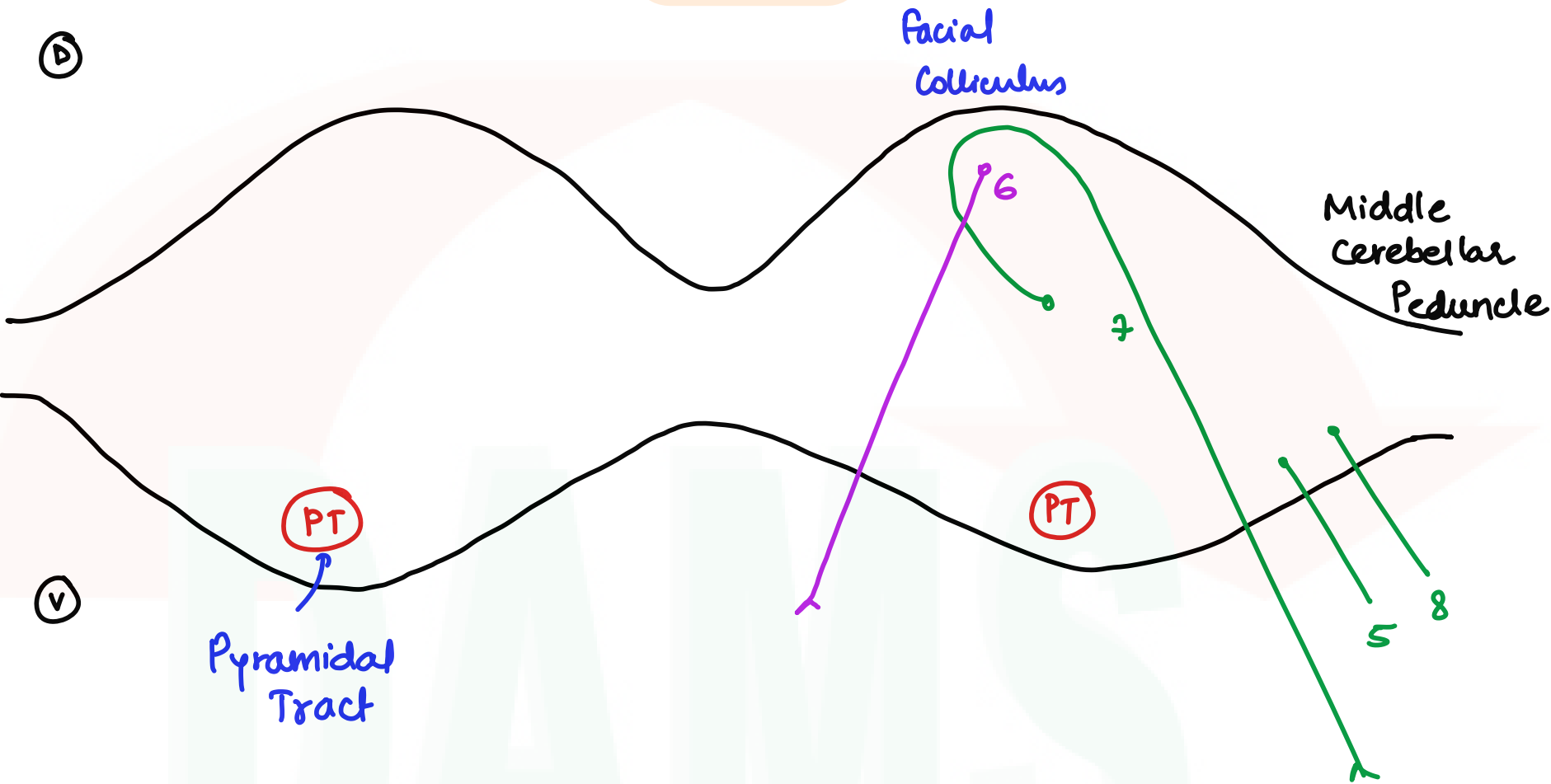


@ u nucleus = @ level of 4th CN

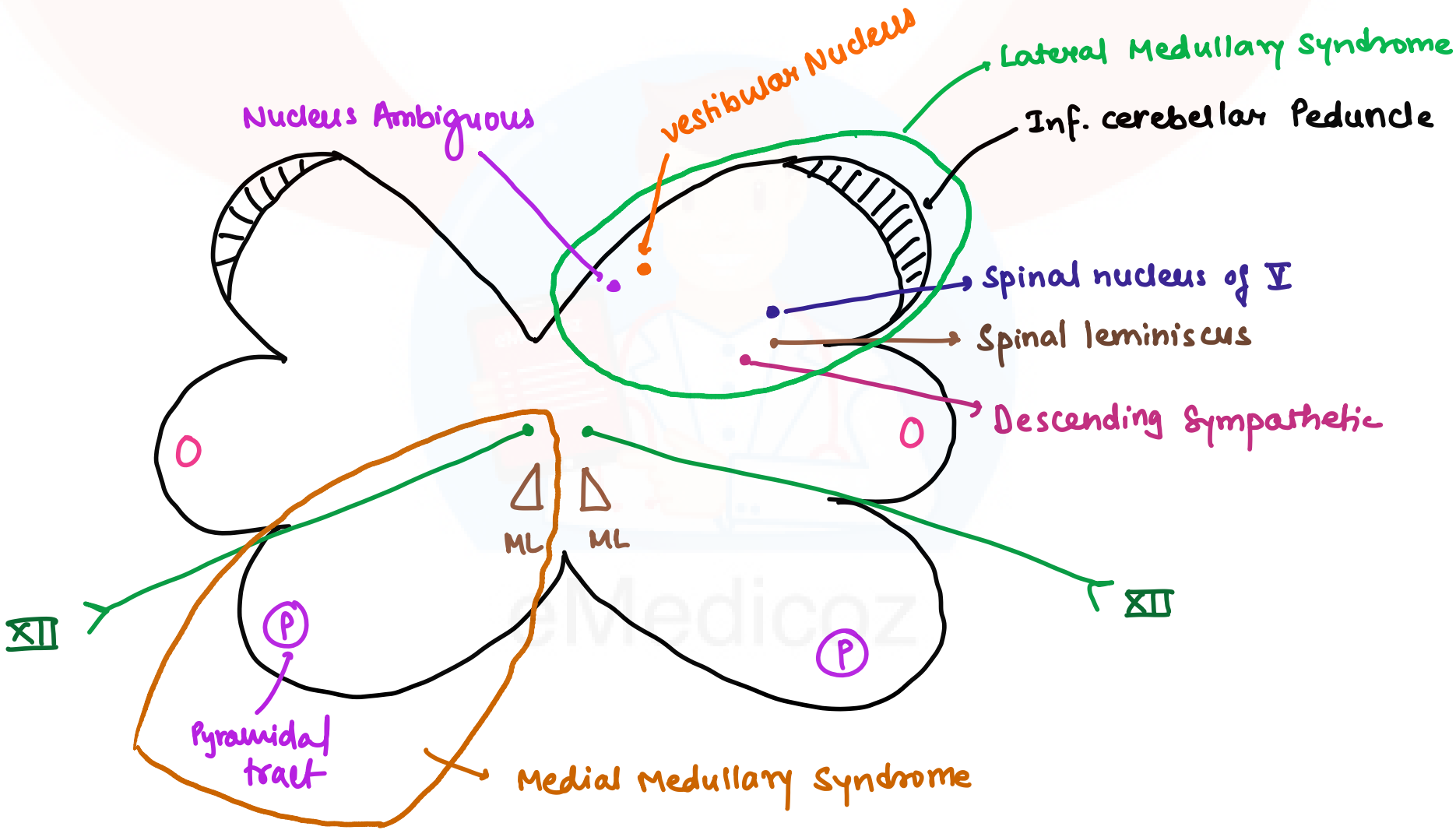
→ @ level of inf. colliculus

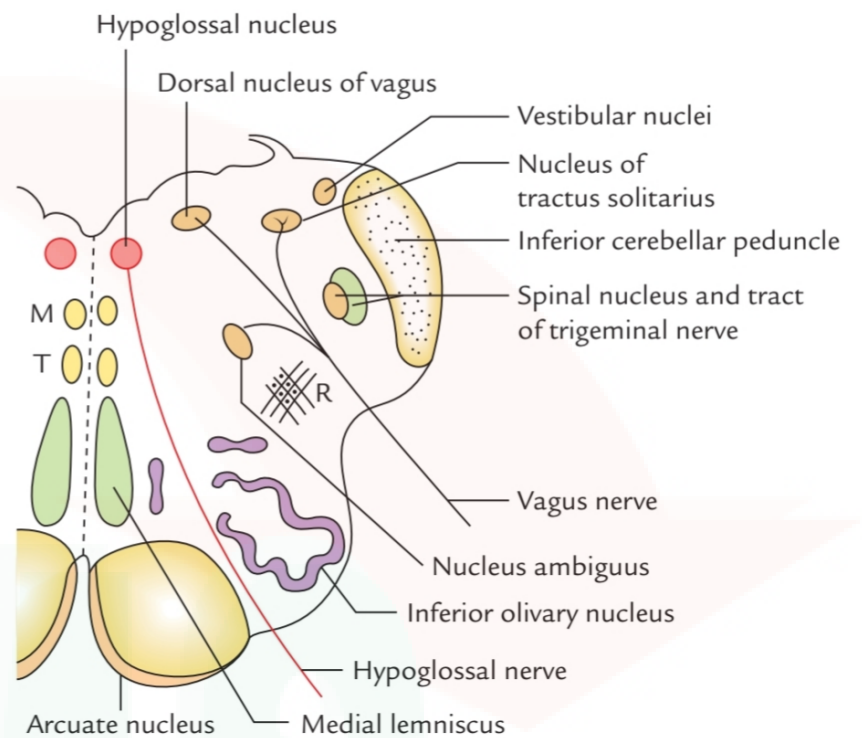
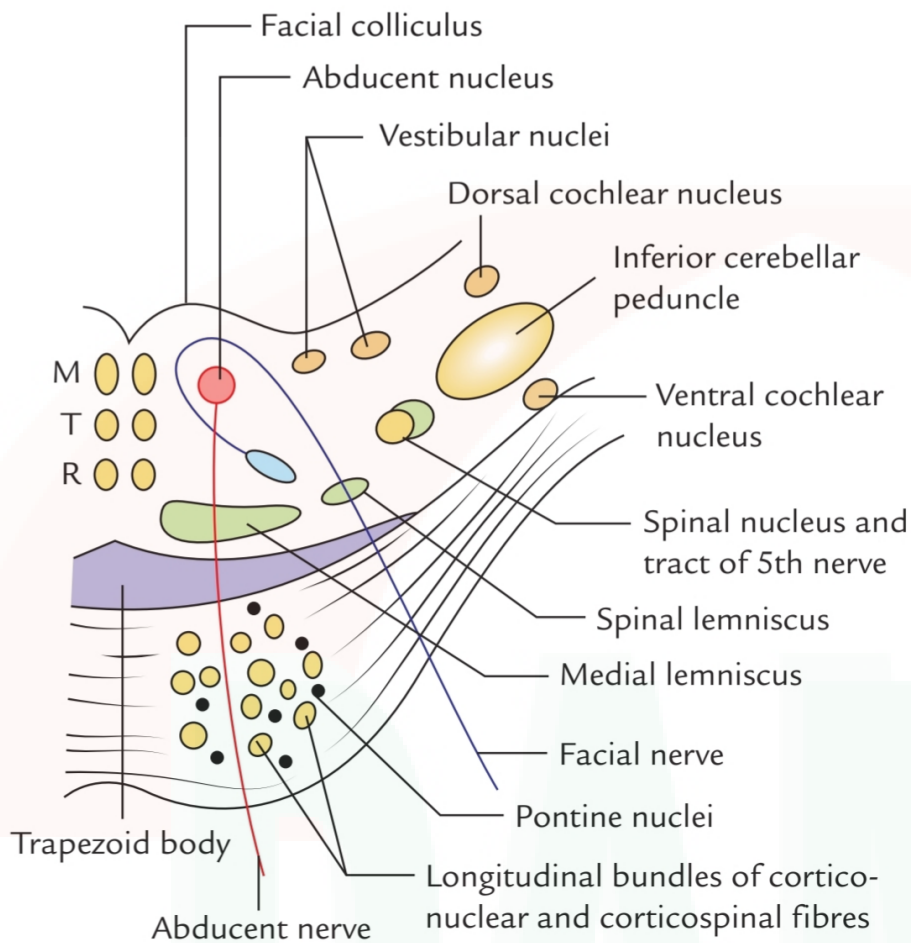


PONS



MEDULLA



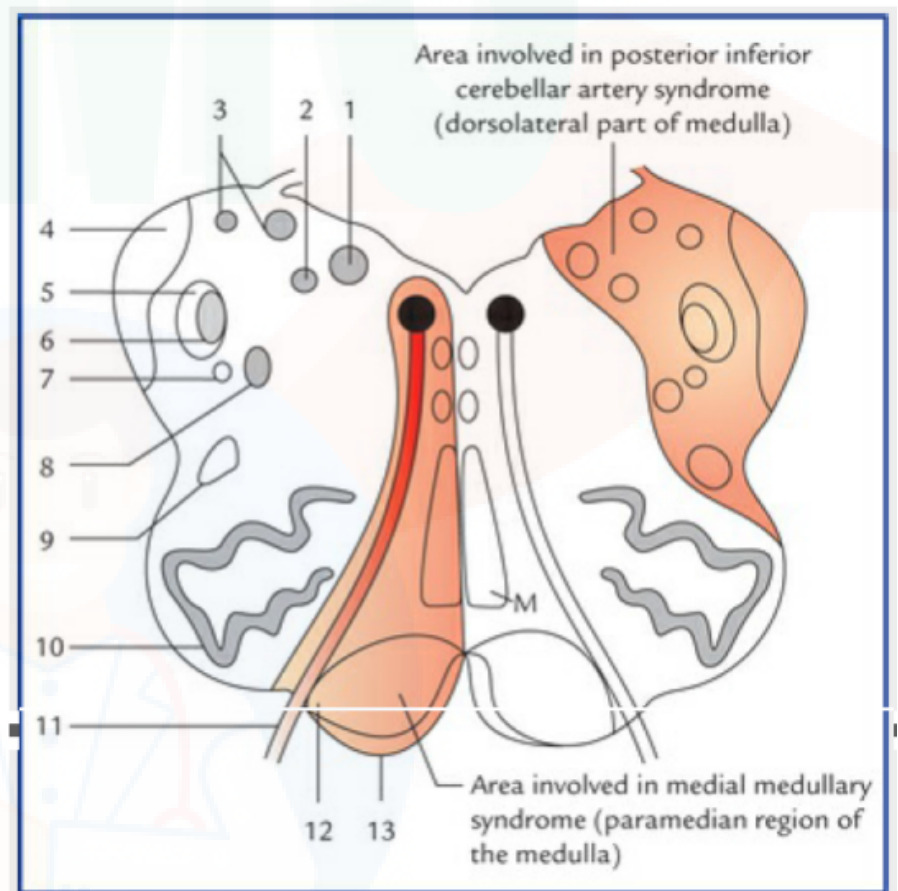
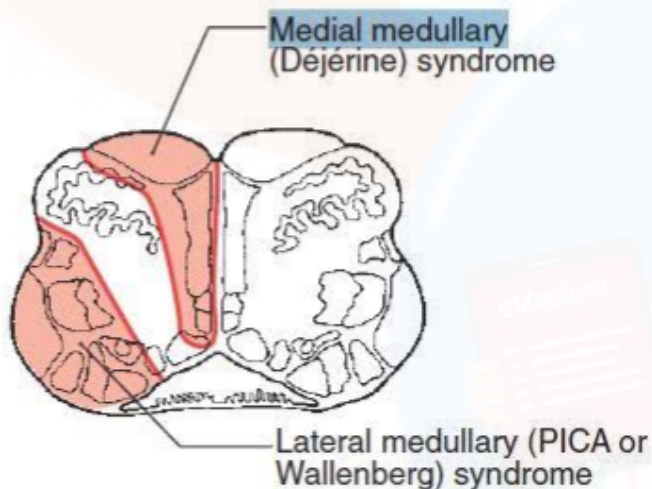


Medulla

Pons

M = Medial longitudinal bundle
T = Tectospinal
R = Rubrospinal

Medulla



A 68-year-old woman presents in the emergency room with dizziness and nystagmus. Examination reveals a loss of pain and temperature sensation over the right side of the face and the left side of the body. The patient exhibits ataxia and intention tremor on the right in both the upper and lower extremities and is unable to perform either the finger-to-nose or heel to-shin tasks on the right. In addition, she is hoarse and demonstrates pupillary constriction and drooping of the eyelid on the right. Finally, the right side of her face is drier than the left. Which of the following artery block would explain the patient's condition:

- ☒ a) Right posterior inferior cerebellar artery (Rt. Lateral Medullary Syndrome)
- b) Left posterior inferior cerebellar artery
- c) Right anterior inferior cerebellar artery
- d) Basilar artery

Hoarseness
Nucleus Ambiguus

- lateral medullary Syndrome (Wallenberg Syndrome)

* MCC :- vertebral (A) > PICA (Post. inf. cerebellar (A))

* Inf. cerebellar peduncle $\rightarrow$ Ataxia

vestibular (N) $\rightarrow$ Nystagmus
vomiting
vertigo

Nucleus Ambiguus $\rightarrow$ Palate, Pharynx, cervical

spinal nucleus of V $\rightarrow$ ipsilateral loss of pain & temp. (face)

Spinal lemniscus $\rightarrow$ Contralateral loss of Pain & temp (body)

Descending Sympathetic $\rightarrow$ Horner Syndrome

* Medial Medullary Syndrome :- (Dejerine)

H XII $\rightarrow$ ipsilateral tongue palsy

M Med. lemniscus $\rightarrow$ CL loss of fine sensations.

P Pyramidal tract $\rightarrow$ CL Hemiplegia

FUNCTIONAL COLUMNS OF CRANIAL NERVE NUCLEI

	Basal $\rightarrow$ Efferent			Alar $\rightarrow$ Afferent		
	GSE	SVE	GVE	GVA/SVA	GSA	SSA
MB	• 3 • 4		• EWN • lacrimal n.		mesen cephalic	
Pons	• 6	• VI • VII	• Sup. salivary • inf. salivary		chief	
Medulla	• 12	• N. Ambiguus	• Dorsal N. of vagus	• NTS • 9 • 10 • 7	• Spinal	8

→ GSE = General Somatic Efferent

N. Supply of Extraocular & Tongue muscles
3, 4, 6 12

→ SVE = Special visceral Efferent

Pharyngeal Arch

nerve Supply

1

My

V3

2

Friend

VII

3

Cave

IX

4

Some

SLN

6

Rs.

RLN

} Nucleus Ambiguus

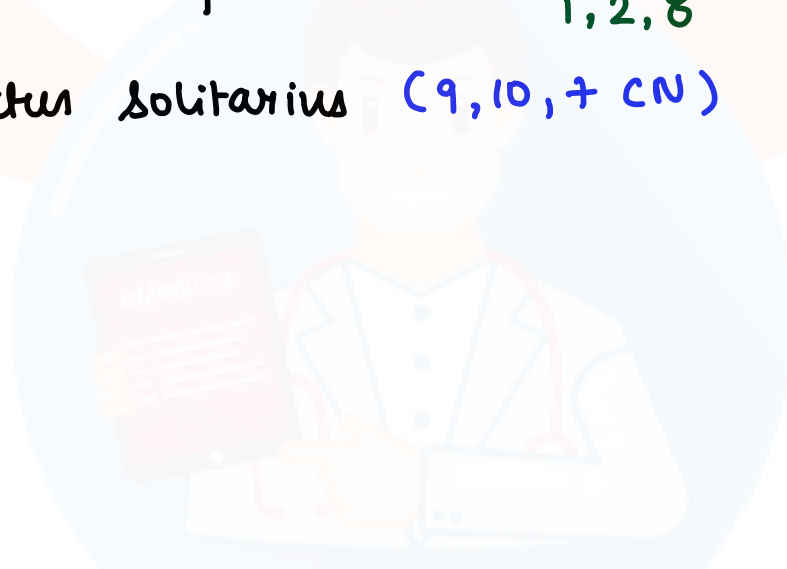
→ GVE = General visceral Efferent (Parasympathetic)

→ GSA = Facial Sensation → Trigeminal.

- mesencephalic = for proprioception

→ SSA = Special Somatic afferent → Special Senses
1, 2, 8

→ NTS = nucleus tractus solitarius (9, 10, + CN)



eMedicoz