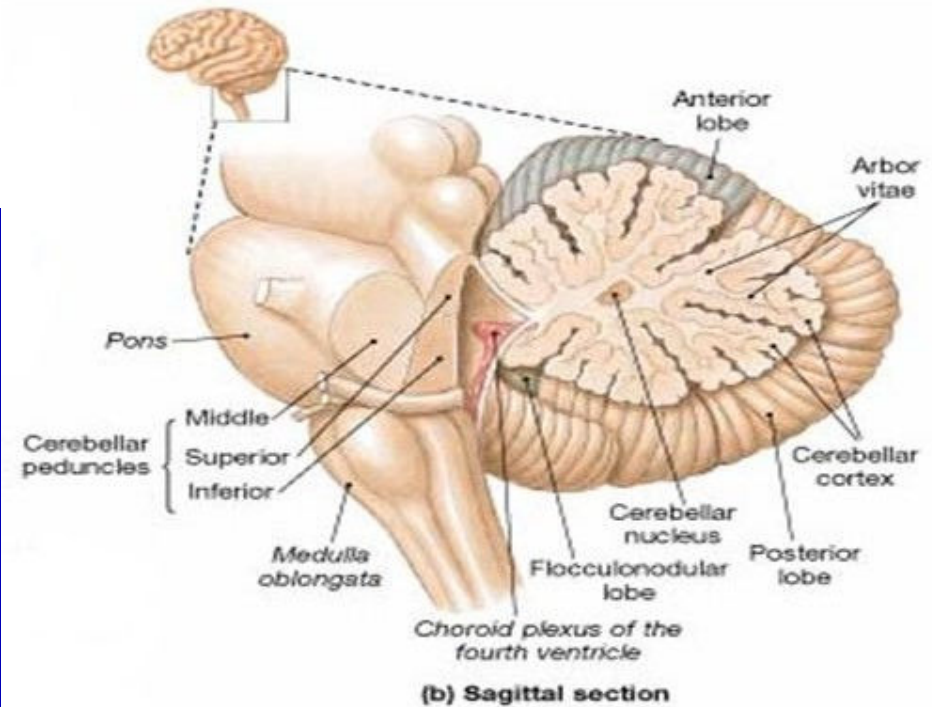
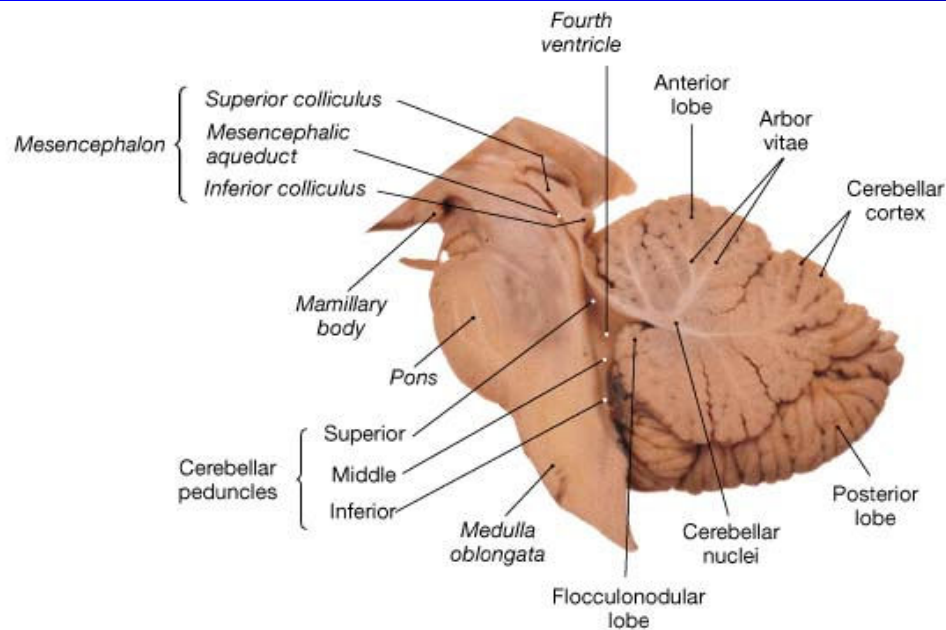
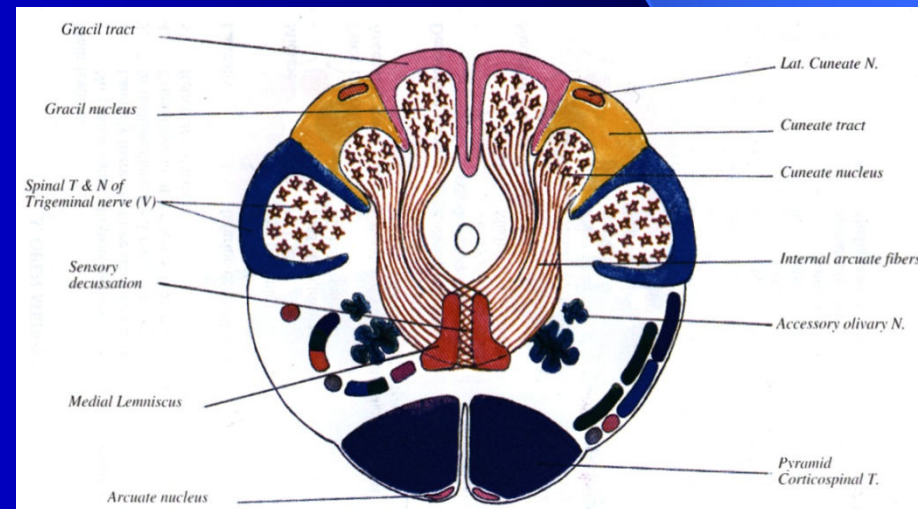
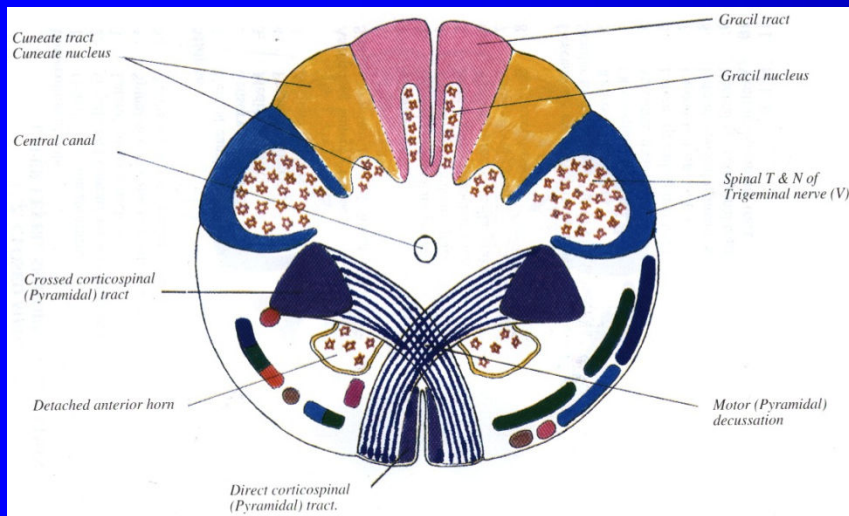
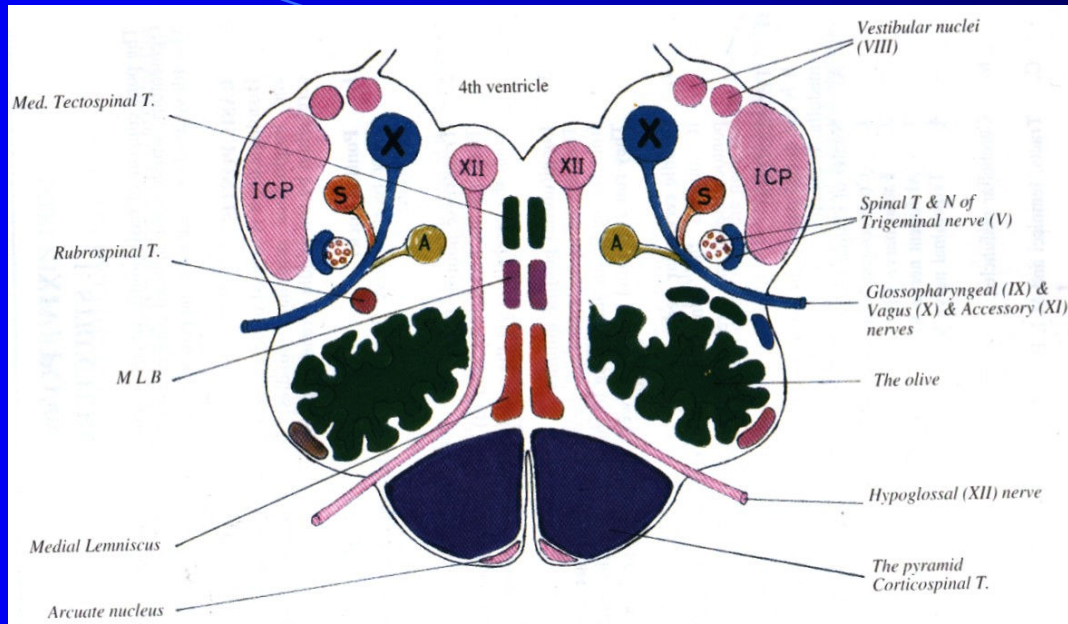


The Medulla Oblongata





Central canal & central grey matter

Gracil nucleus & tract

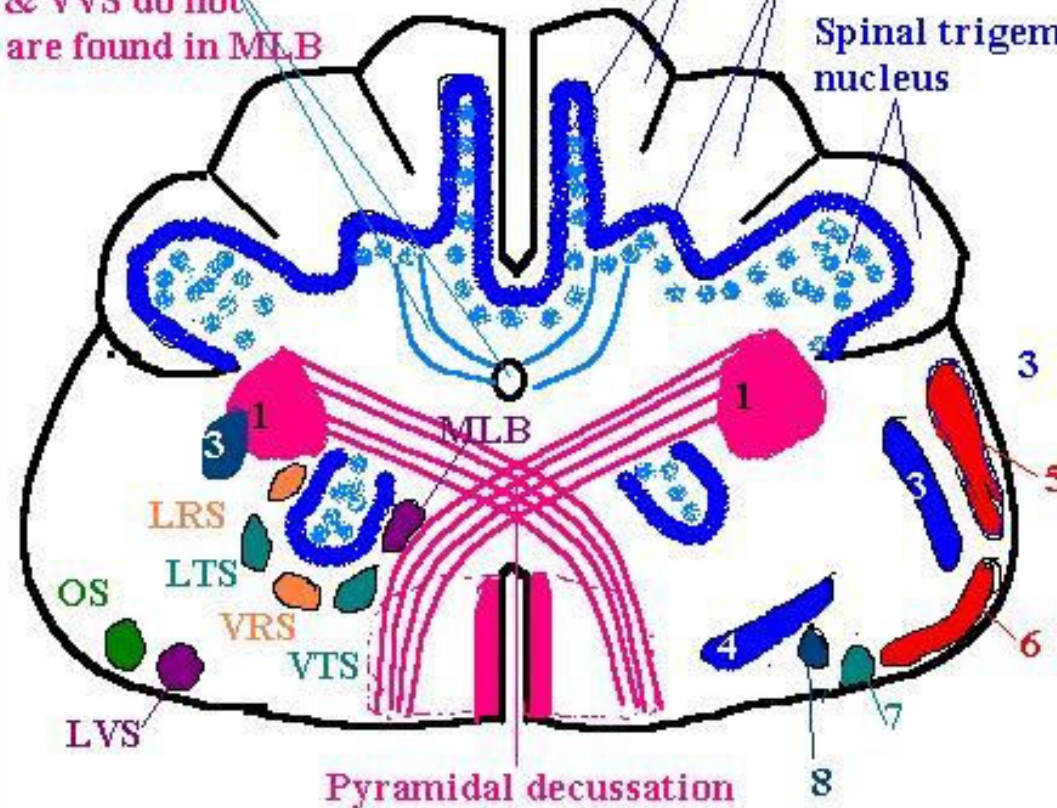
Cuneate nucleus & tract

Spinal trigeminal tract & nucleus

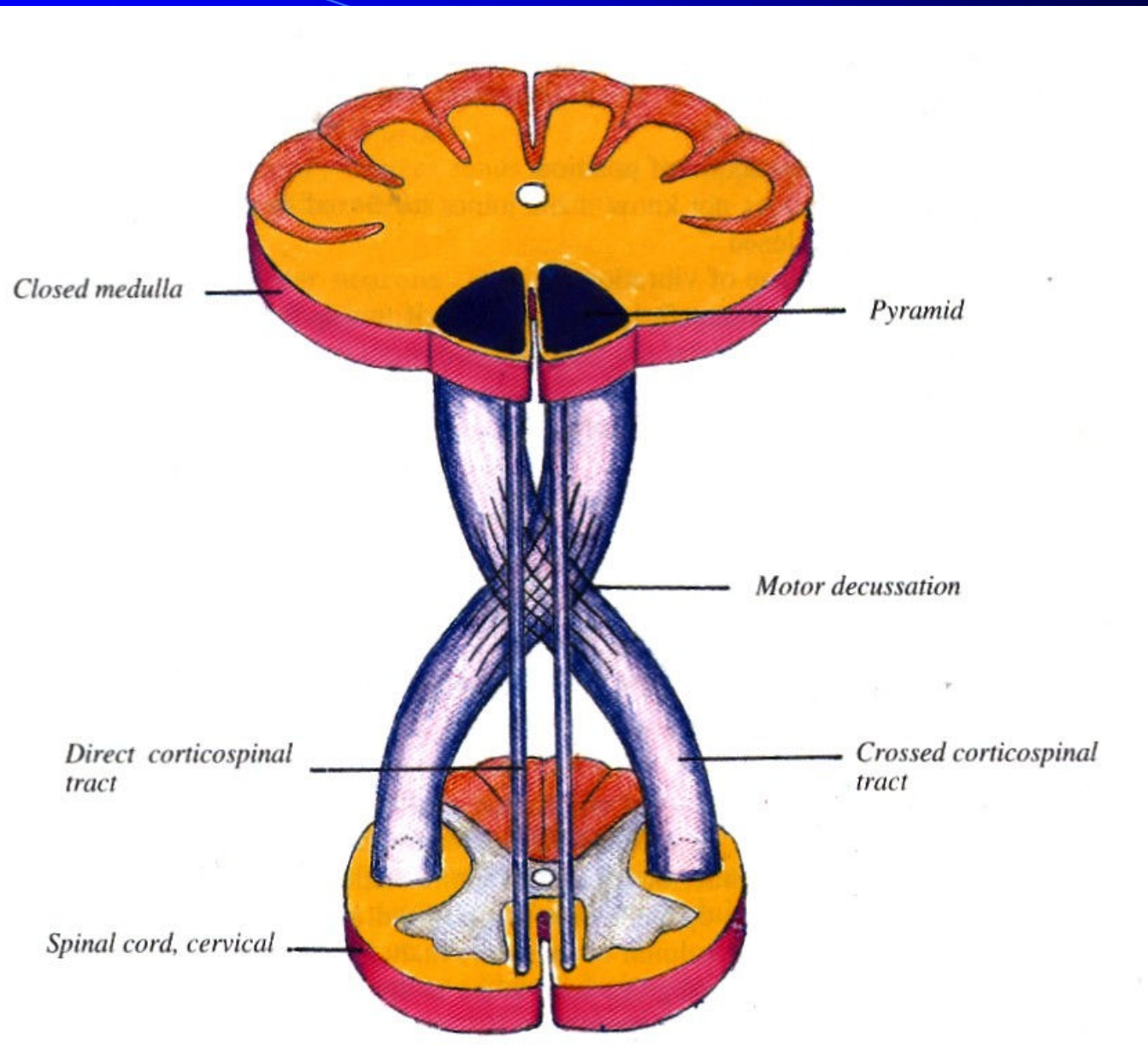
N.B. Sulcomarginal & VVS do not appear because they are found in MLB

Tracts around detached part of ant horns :
* LRS, VRS
* LTS, VTS
* MLB
(Sulcomarginal & VVS)

Other descending tracts :
* Crossed & direct pyramidal
* RS
* OS
* LVS



Closed Medulla (Motor Decussation)



Central canal & central grey matter

NB: Crossed & direct Δ are absent

Internal arcuate fibers

8 descending tracts

* 3 medial :

- 1- MLB
- 2- MTS
- 3- MRS

* 5 lateral (in RF) :

- 1- RS
- 2- LRS
- 3- LTS
- 4- LVS
- 5- OS

Medial lemniscus

Sensory decussation

Gracil nucleus & tract

Cuneate nucleus & tract

Spinal trigeminal nucleus & tract

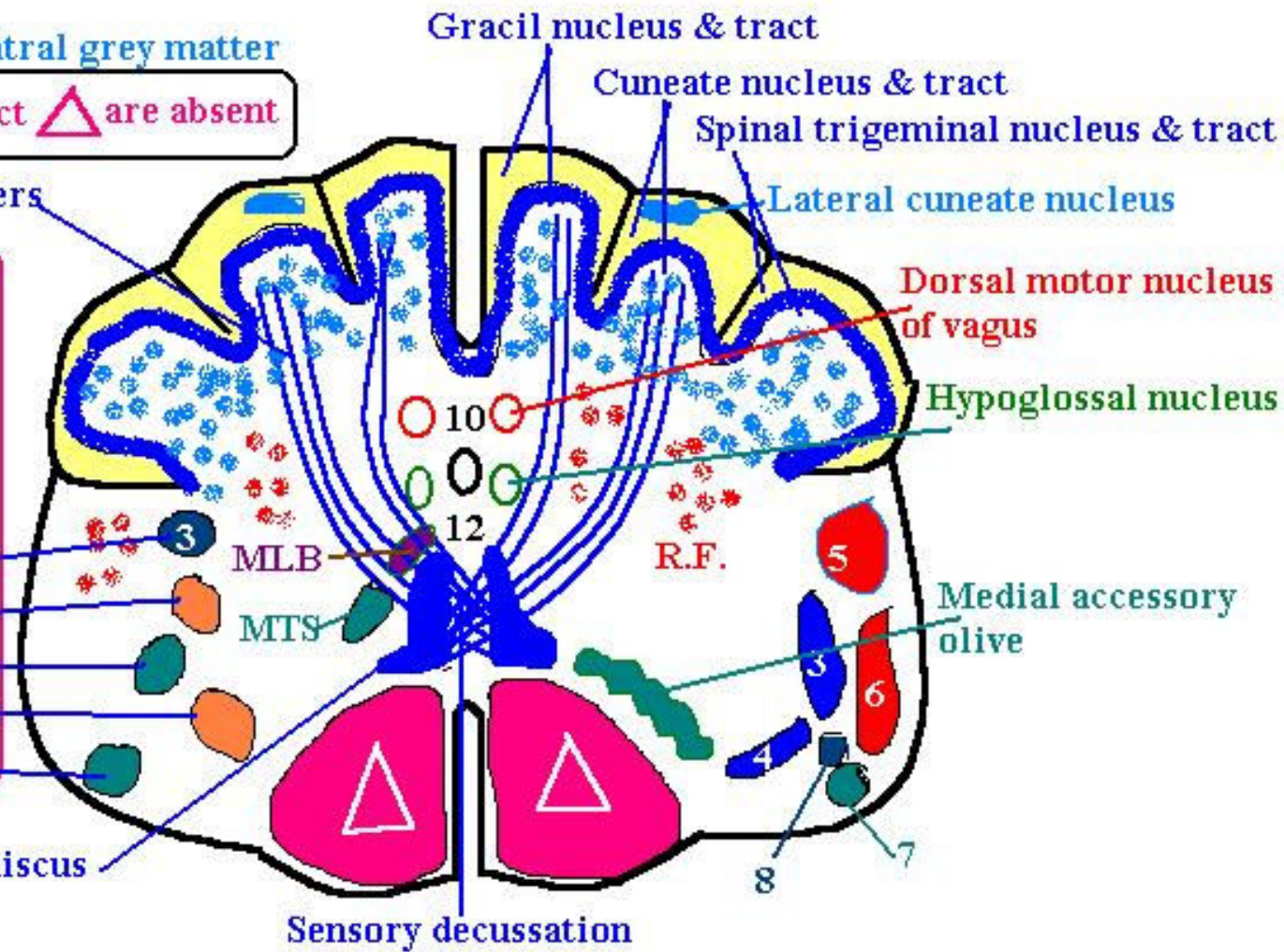
Lateral cuneate nucleus

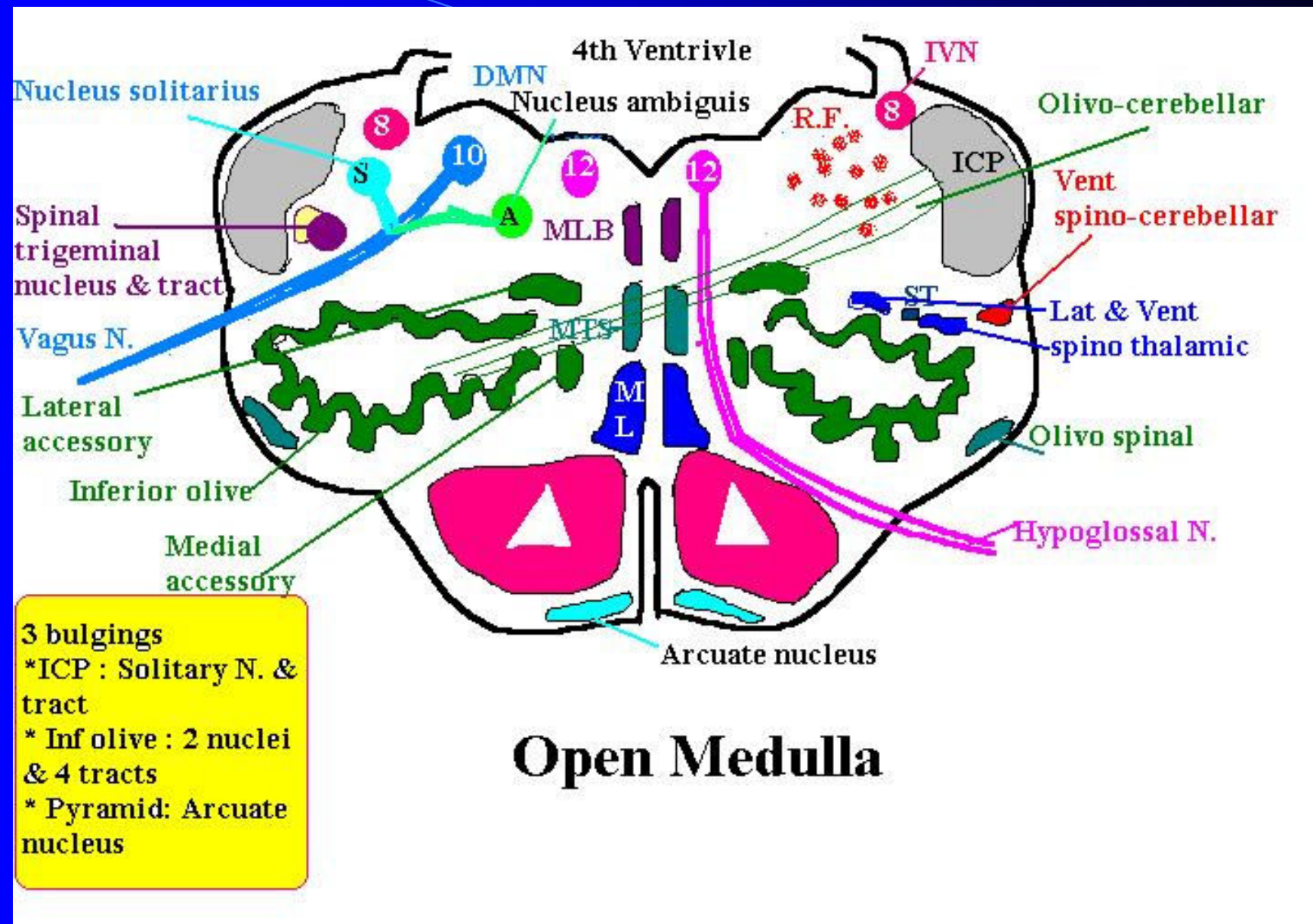
Dorsal motor nucleus of vagus

Hypoglossal nucleus

Medial accessory olive

Closed Medulla (Sensory decussation)





Important structures

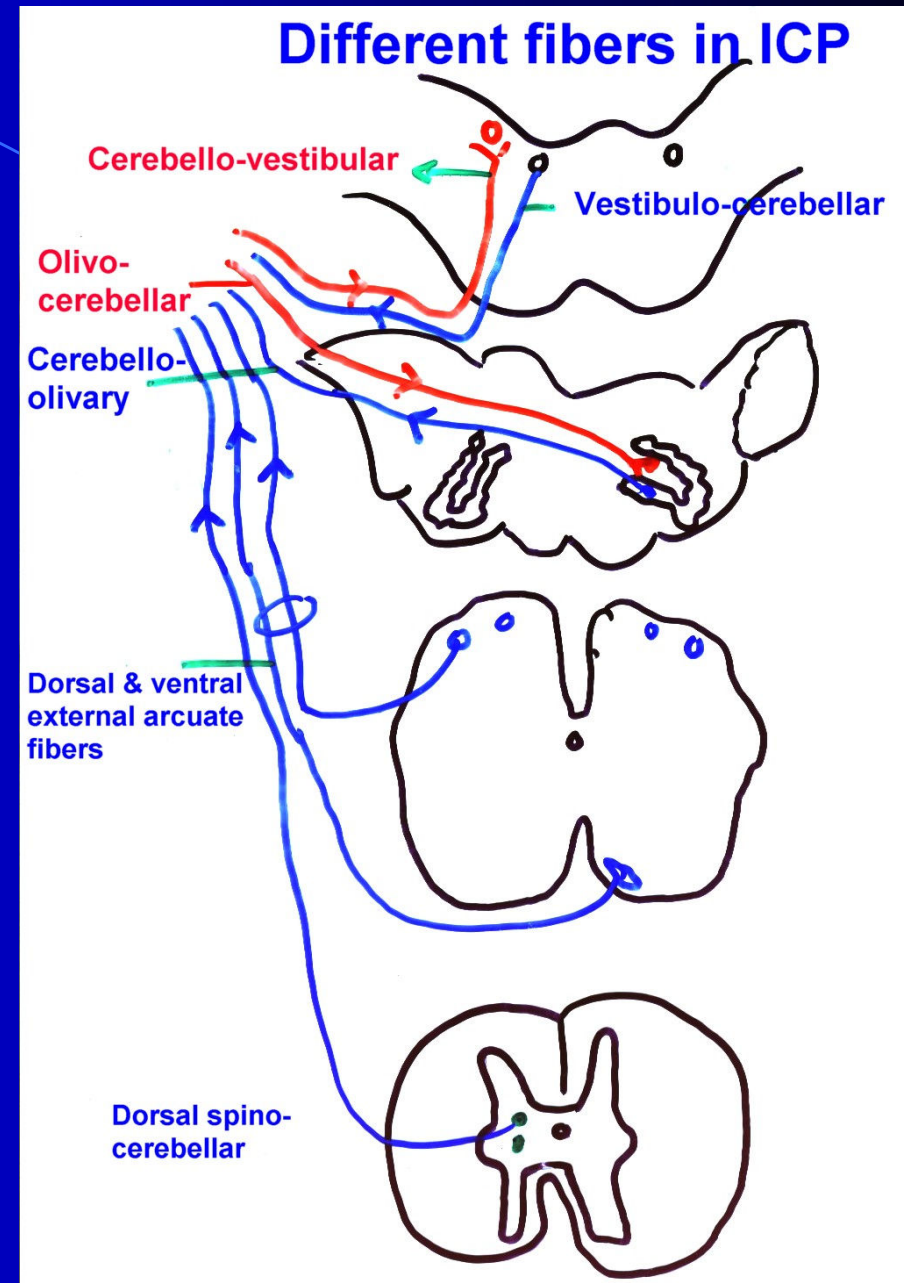
- [1] Pyramidal motor decussation
- [2] Sensory decussation
- [3] Medial lemniscus
- [4] Inferior cerebellar peduncle
(Restiform body)
- [5] The olive
- [6] Arcuate nucleus
- [7] Reticular formation

Afferents:

- Dorsal spinocerebellar (SC)
- Olivo-cerebellar (olivary nuclei)
- Vestibulo cerebellar (vestibular nuclei)
- Dorsal & ventral external arcuate fibers (arcuate nuclei)

Efferents :

- Cerebello-vestibular
- Cerebello-olivary



The Olivary Nuclei

In medulla → Lateral accessory
Medial accessory
Inferior olivary

In pons → Superior olivary

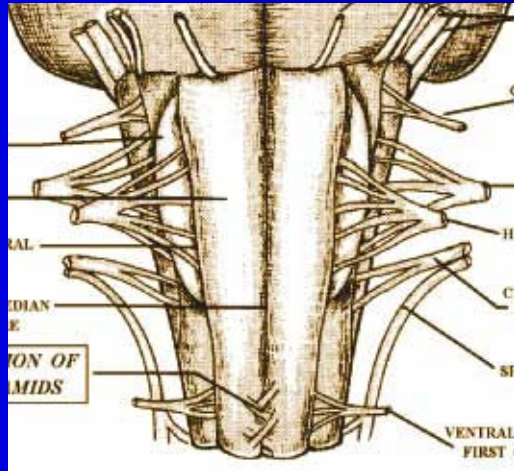
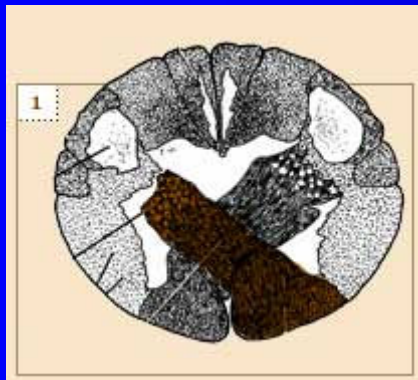
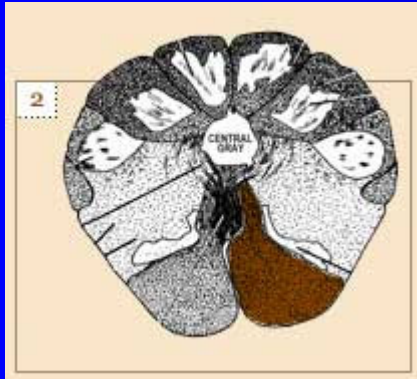
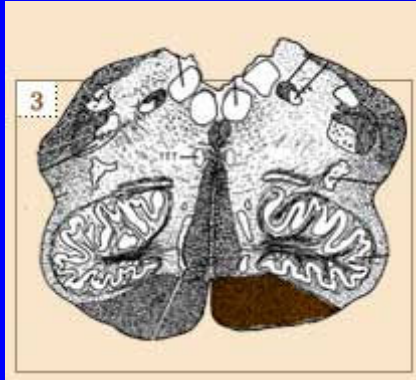
Inferior olivary nucleus

Efferents :

- Olivospinal
- Olivo-cerebellar

Afferents:

- Spino-olivary
- Cerebello-olivary (cerebellum → olivo-spinal) → Inferior olivary nucleus
- Rubro-olivary
- Cortico-olivary



Pathways from Face & Head

The Trigeminal ganglion

- 1- **Motor nucleus** in middle pons : motor fibers to muscles of mastication & tensor tympani
- 2- **MSN** : in middle pons for touch from face
- 3- **Spinal nucleus** : pain & temp from face (in medulla & lower pons)
- 4- **Mesencephalic N** (in midbrain & upper pons) for proprioception from face

1st order neuron: **trigeminal ganglia**

2nd order neuron: **Trigeminal ganglia**

.....cross.....**Tigeminal lemniscus**

3rd order neuron: **VPMN** thalamus.....sensory area in cerebral cortex