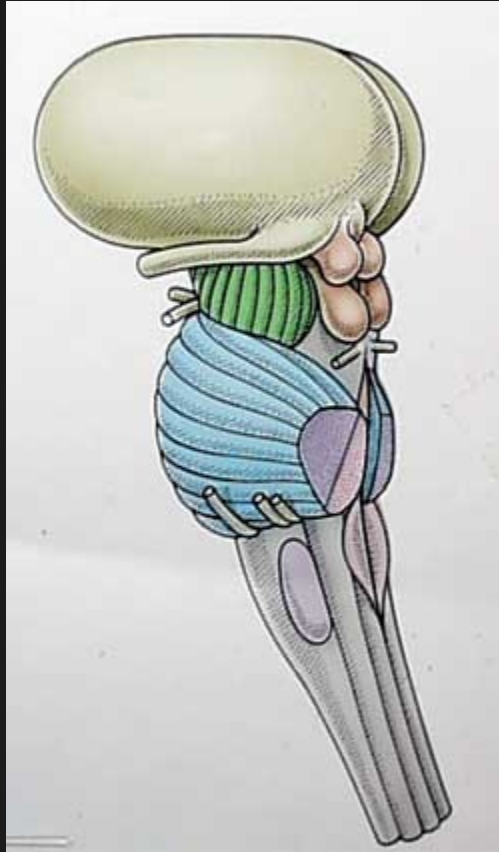


Brainstem



Mesencephalon

Pons

Medulla oblongata

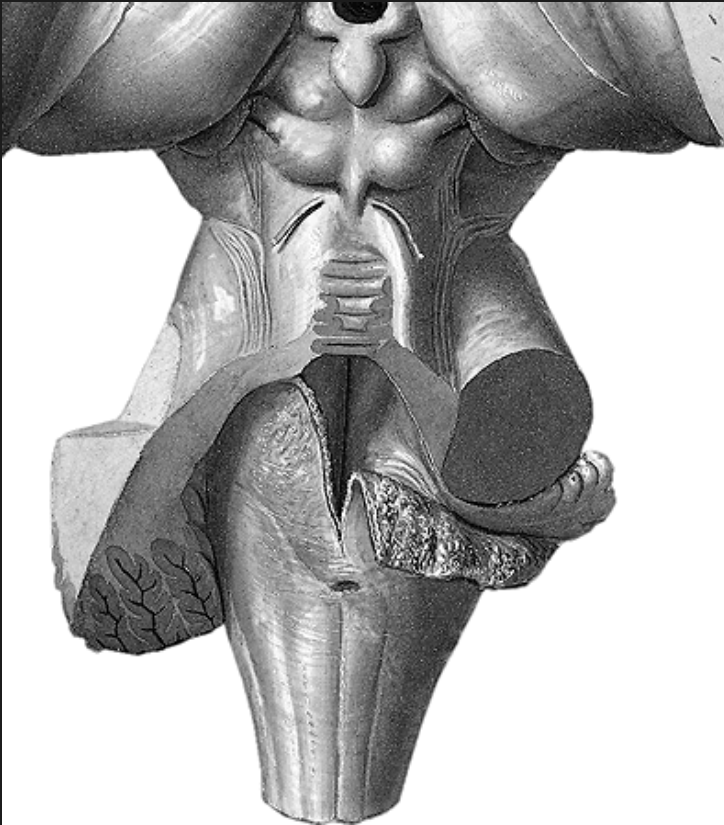
- nuclei of CN III - XII
- connection to the cerebellum
- large reticular formation



Ventral aspect

**CN III
CN IV, V**

**CN VI, VII, VIII
CN XII, IX, X
CN XI**

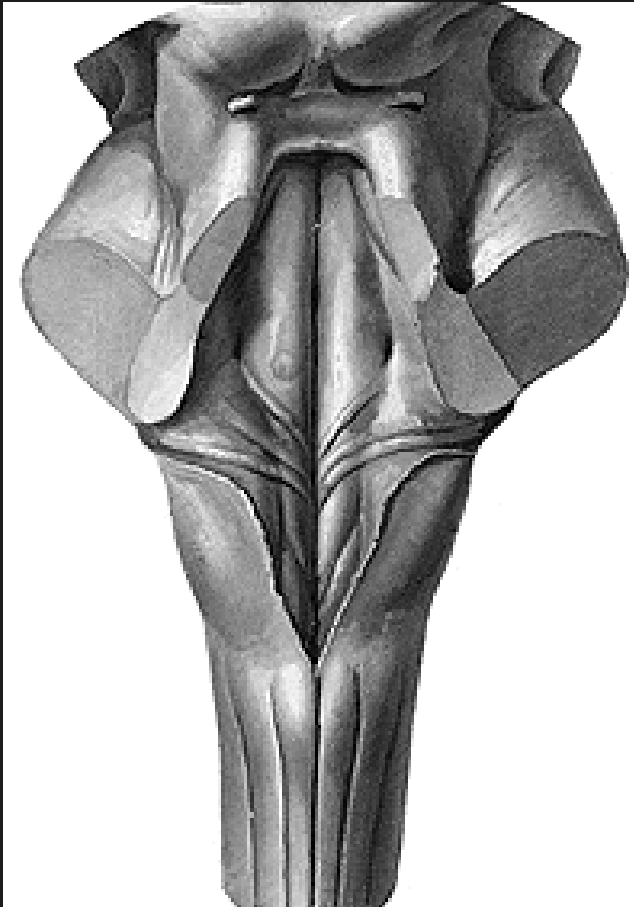


Dorsal aspect

■ IV. ventricle

- roof of the IV. ventricle:
velum medullare sup.
fastigium
velum medullare inf. =
tela choroidea ventriculi IV.
(ependyma + pia mater) +
vessels → **plexus choroideus**

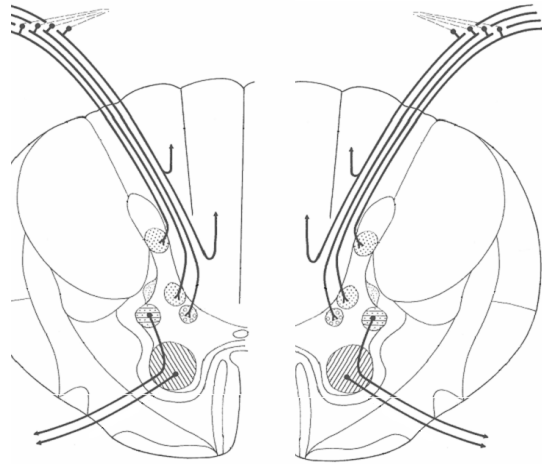
■ CN IV



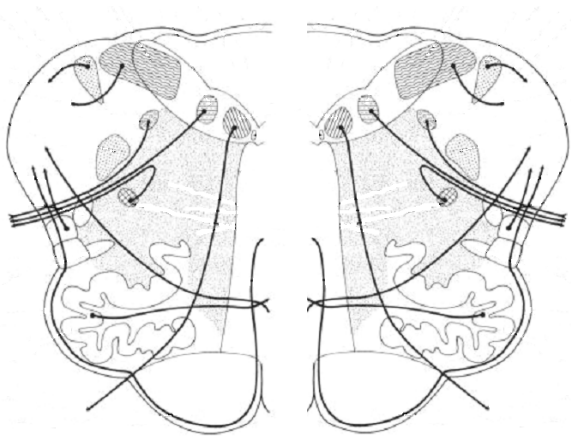
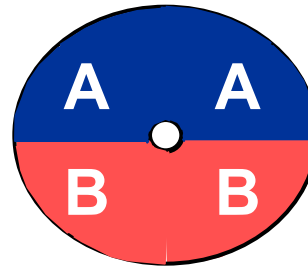
Dorsal aspect

- floor of the IV. ventricle
- Fossa rhomboidea**

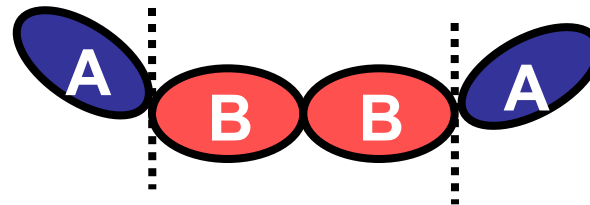
Structure of the brainstem



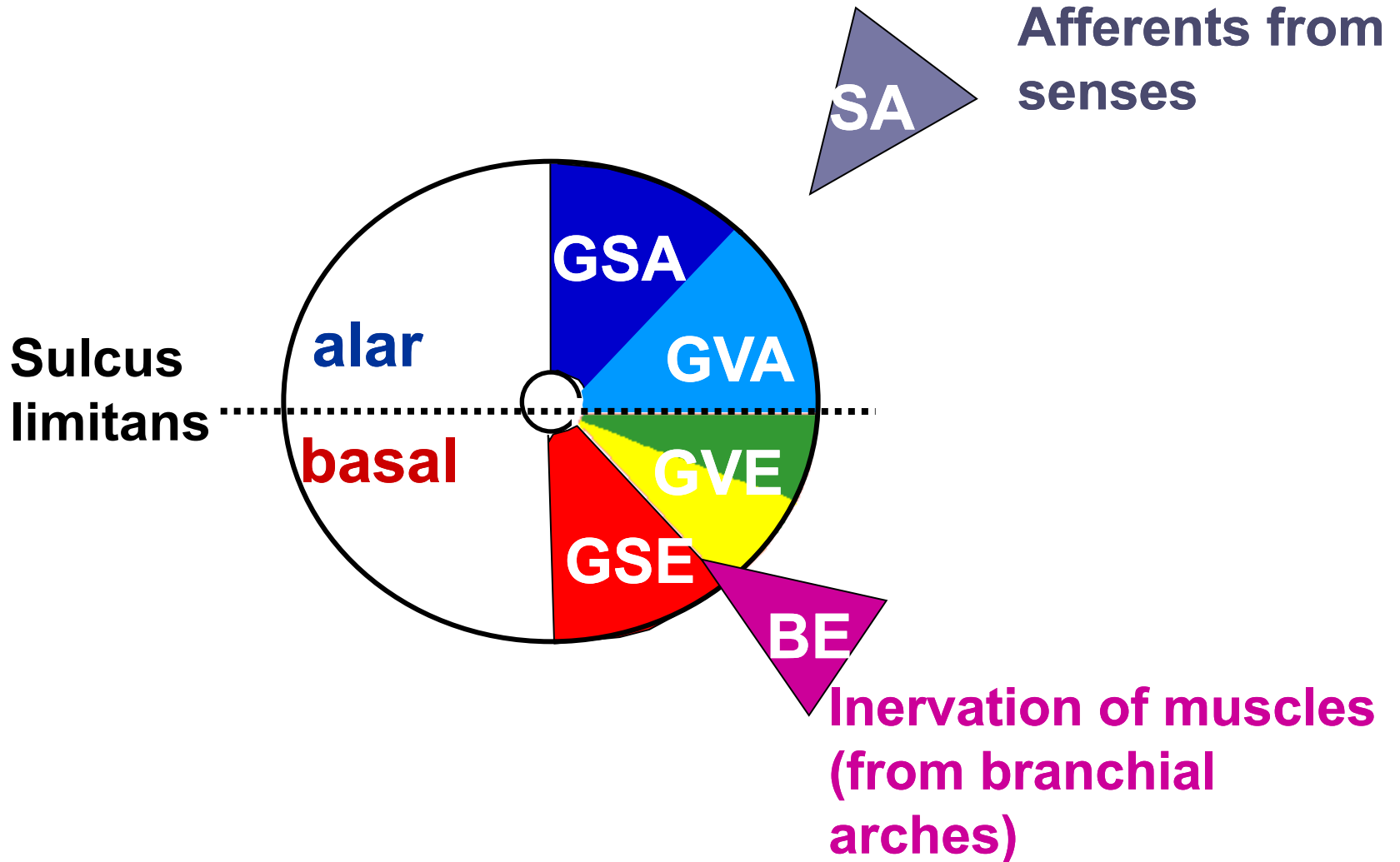
Spinal cord



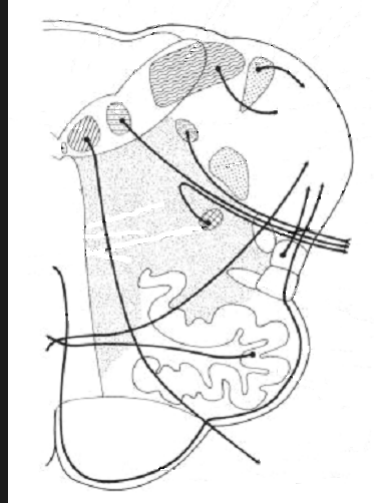
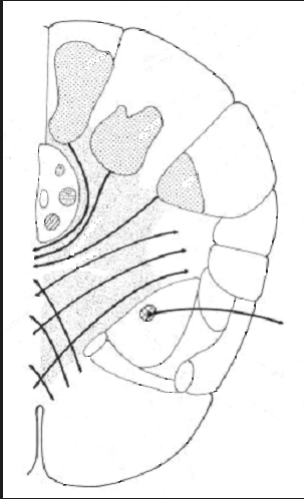
Pons



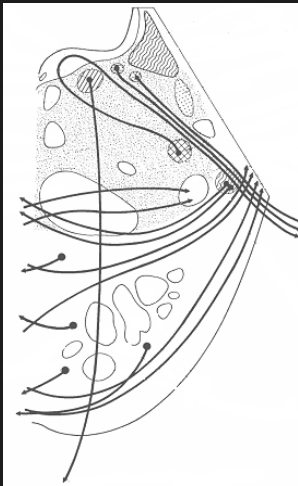
Functional zones of the brainstem



Gray matter of the brainstem



- nuclei of dorsal columns
- nuclei of cranial nerves
- nuclei of RF
- nuclei connected to the cerebellum
- motor nuclei of the brainstem

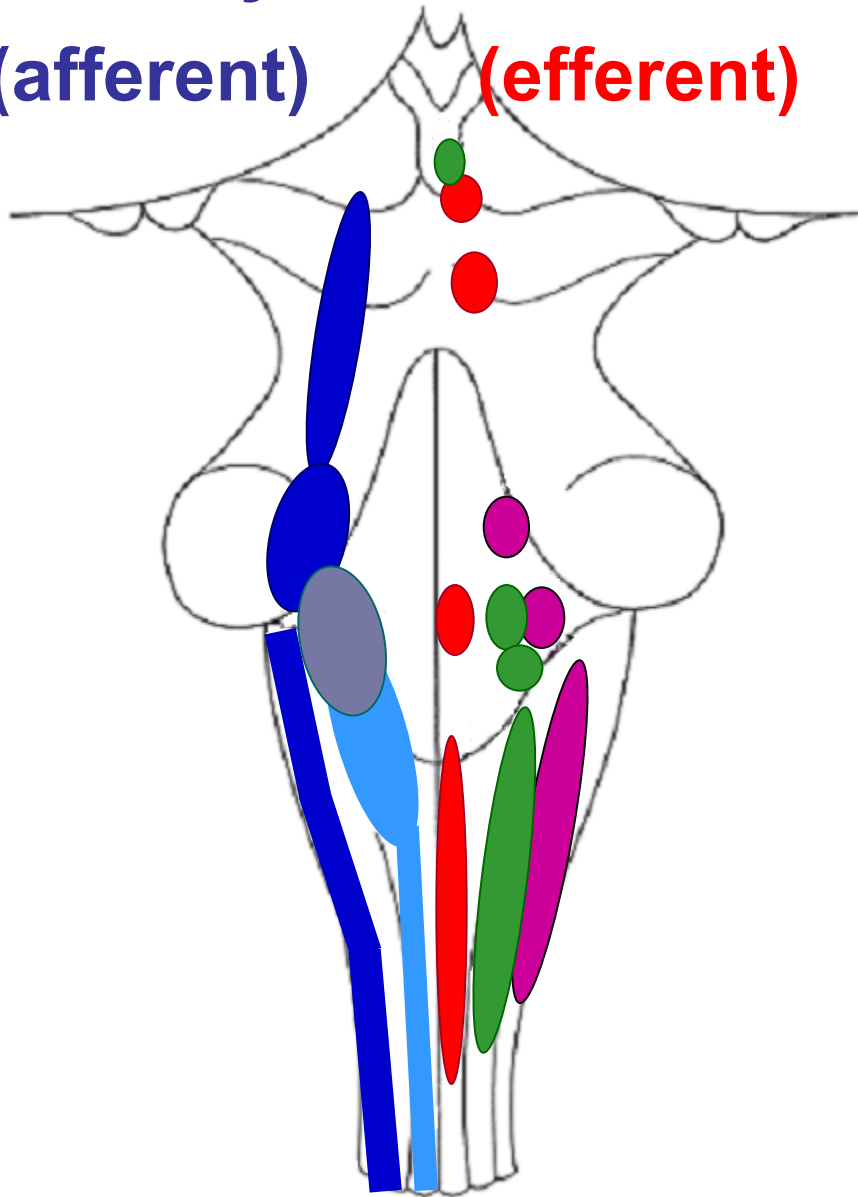


White matter of the brainstem

- ascending tracts
- descending tracts from the cortex and brainstem

**Sensory
(afferent)**

**Motor
(efferent)**



GSE CN III, IV, VI, XII

BE CN V, VII, IX, X, XI

Ncl. ambiguus

GVE CN III, VII, IX, X

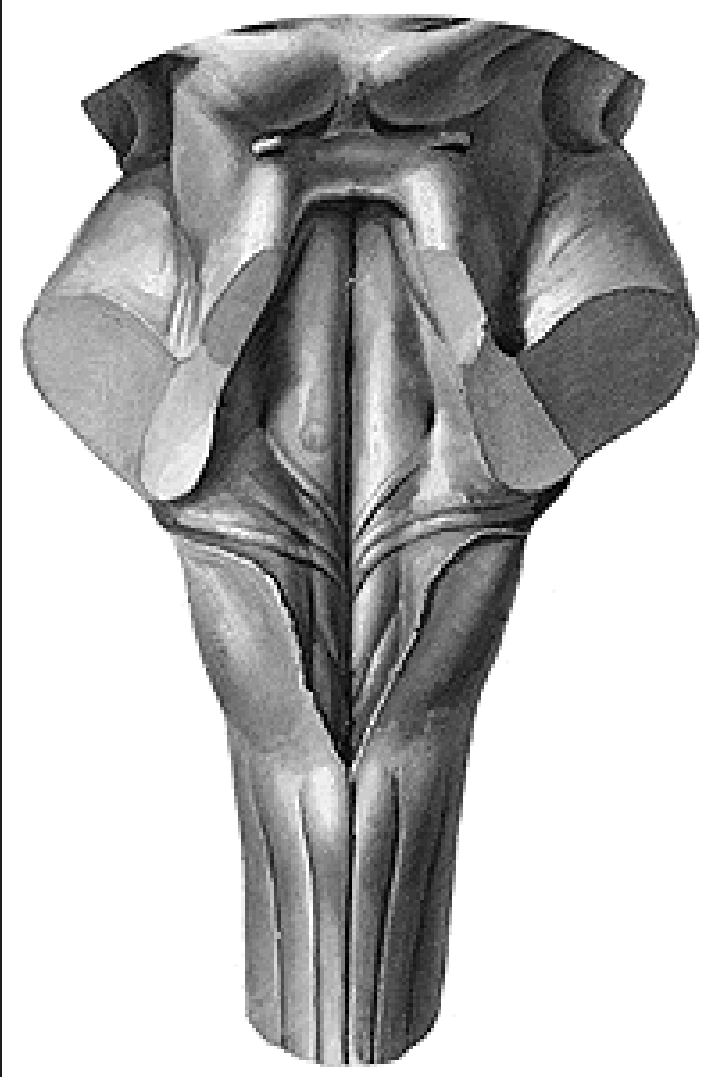
GVA CN VII, IX, X

Ncl. solitarius

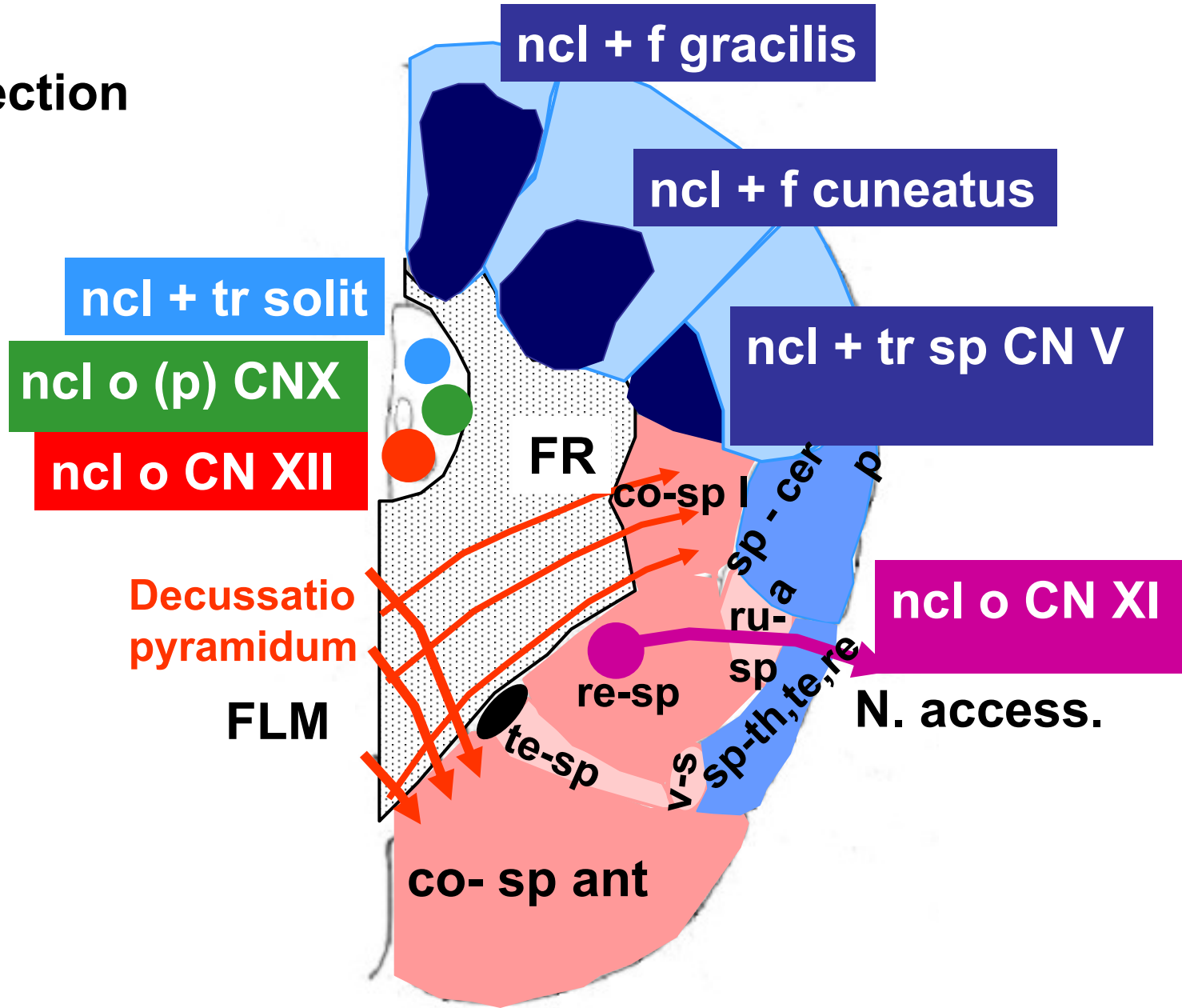
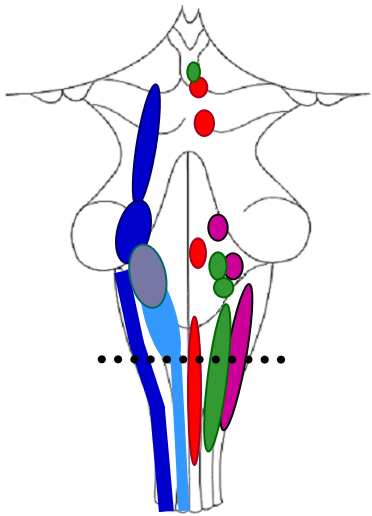
GSA CN V

SA CN VII, IX, X + VIII

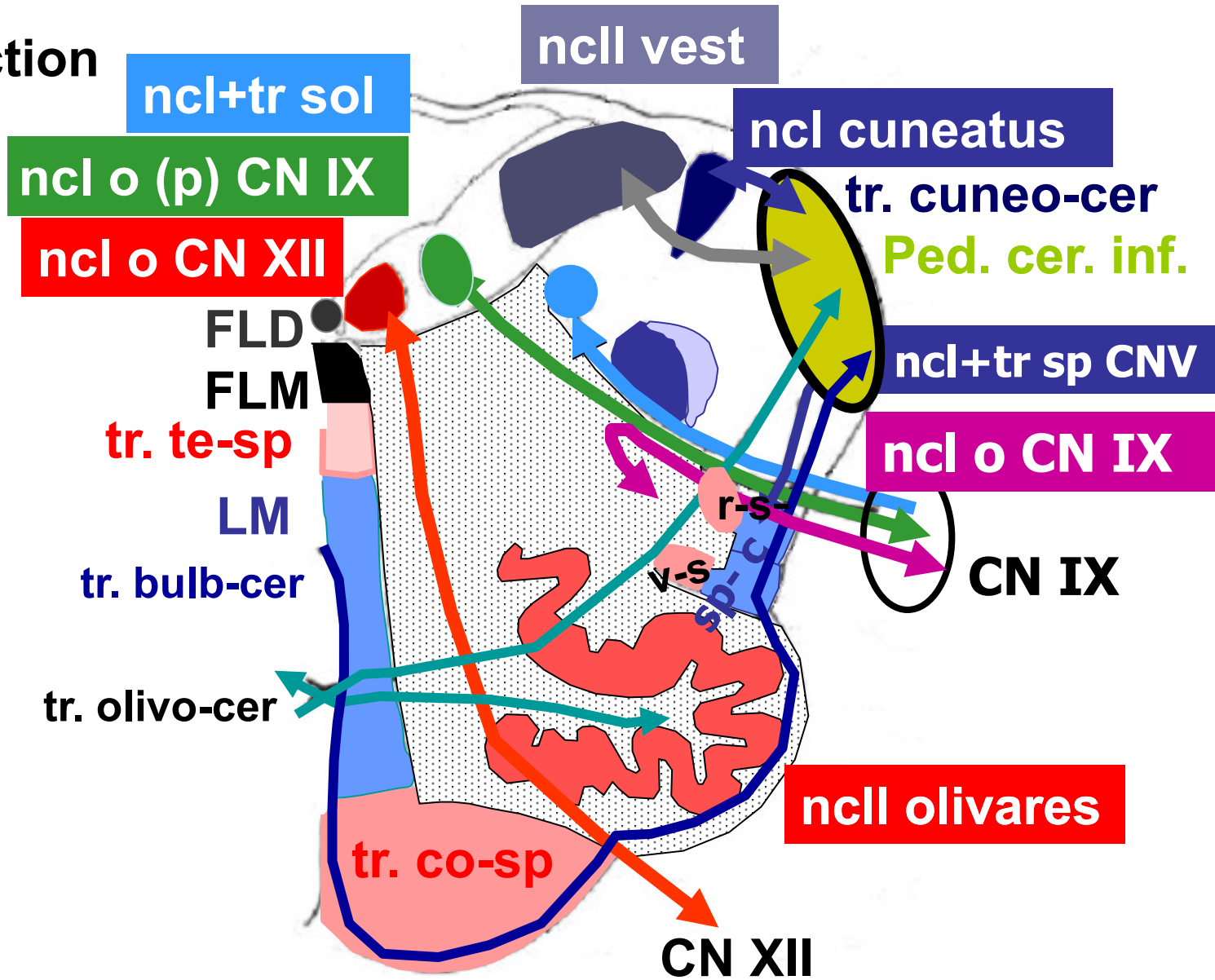
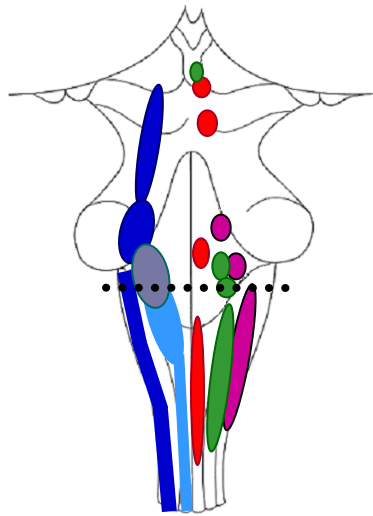
Ncl. gustatorius

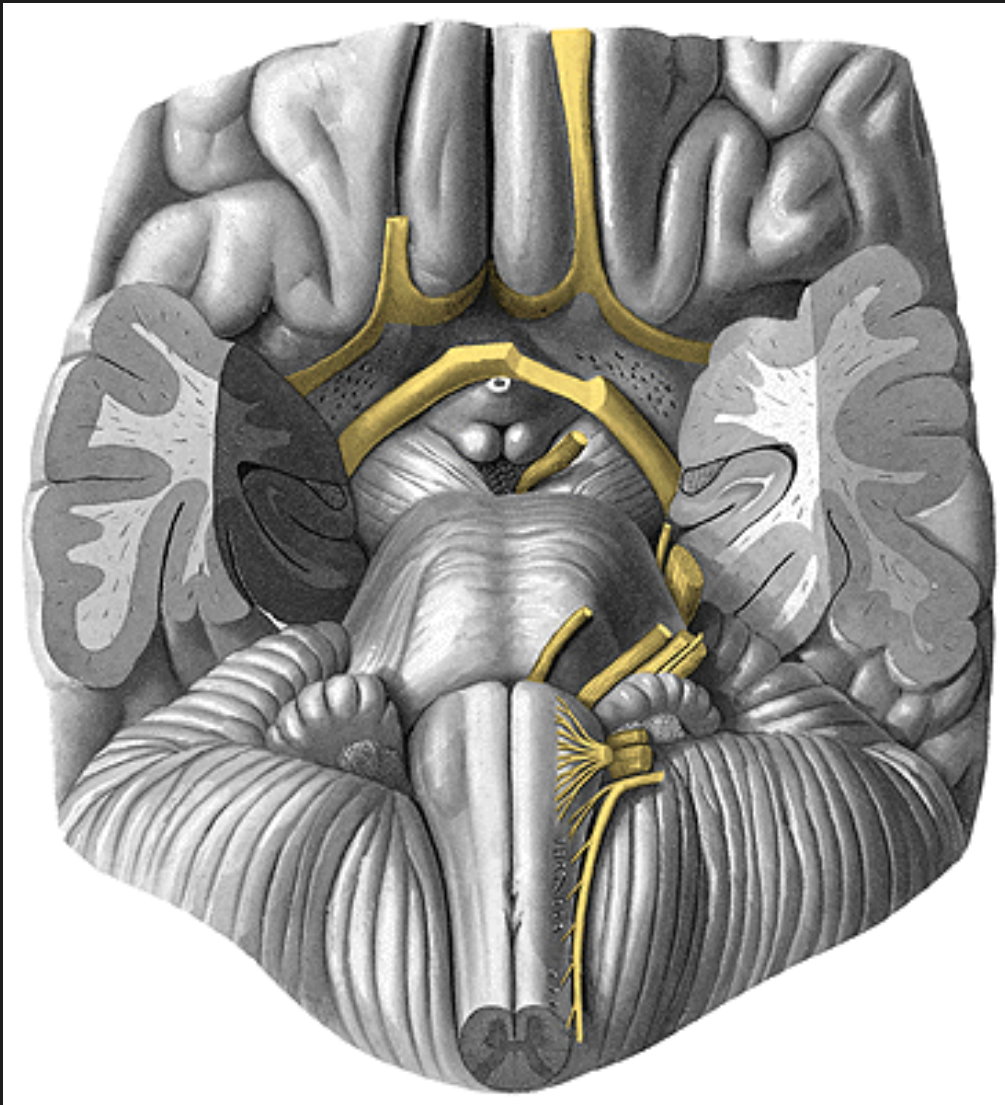


Caudal section



Rostral section

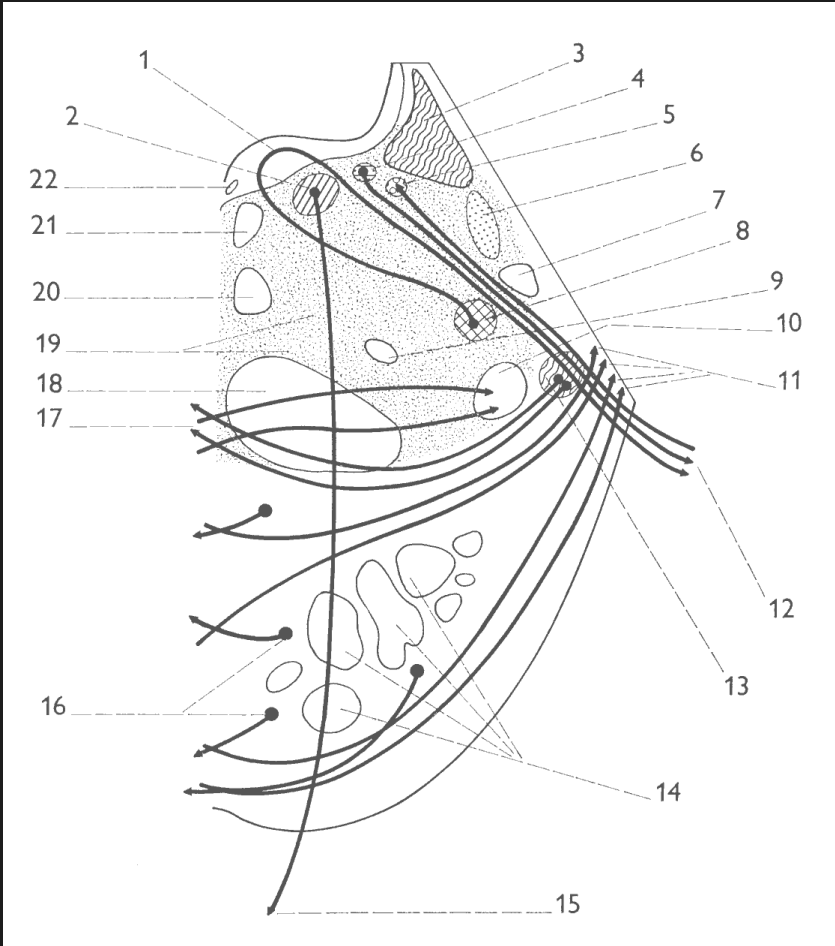




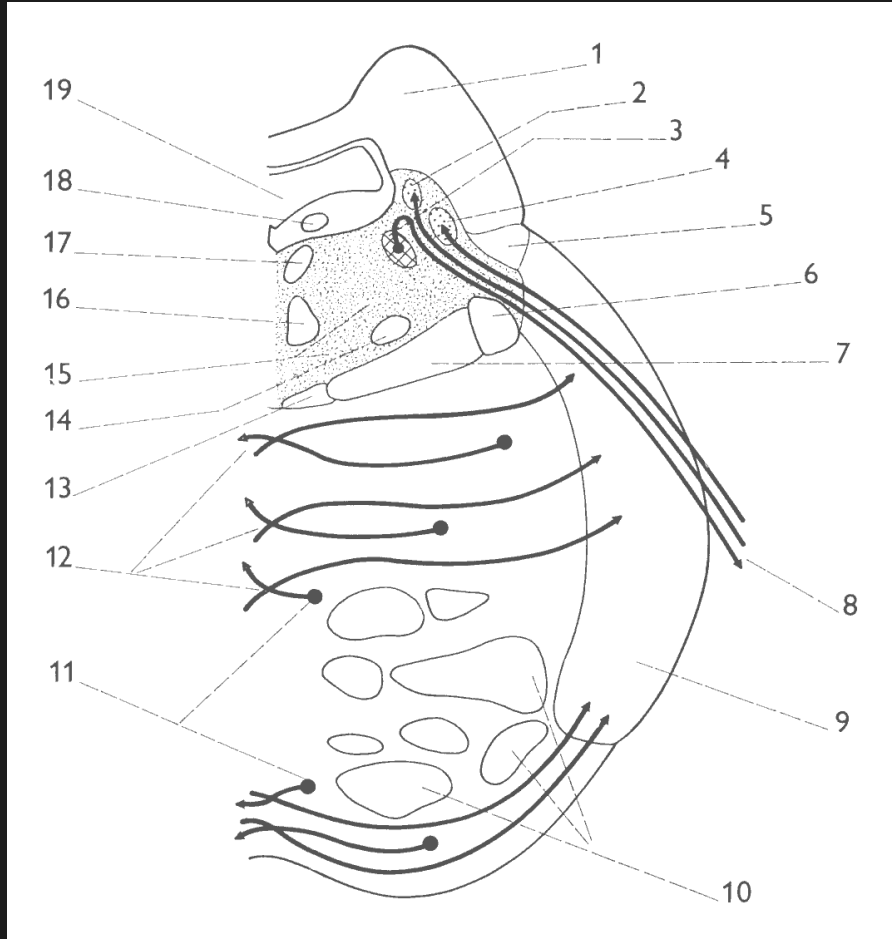
Pons Varoli

CN V, VI, VII, VIII

Pons Varoli

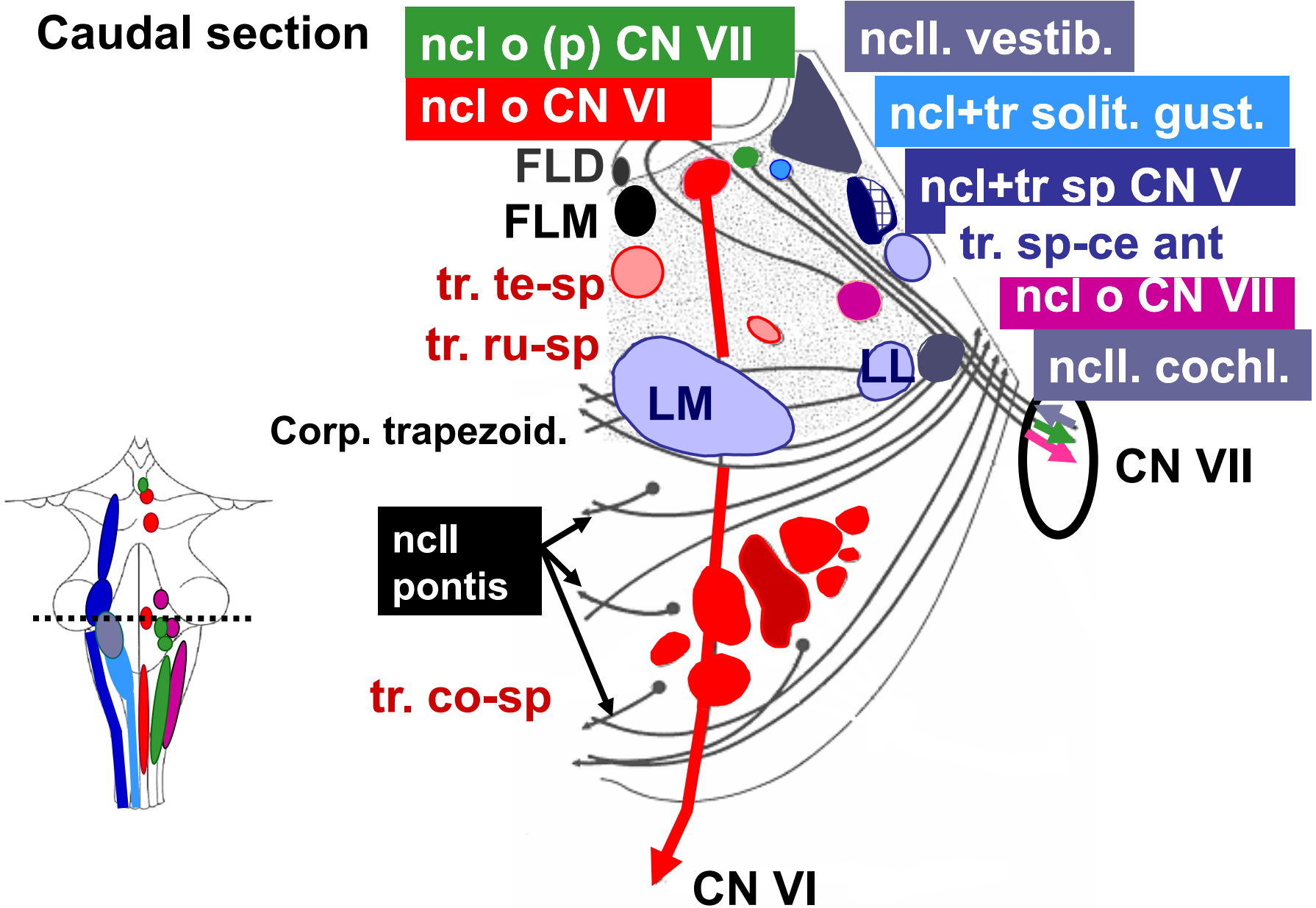


Caudal section

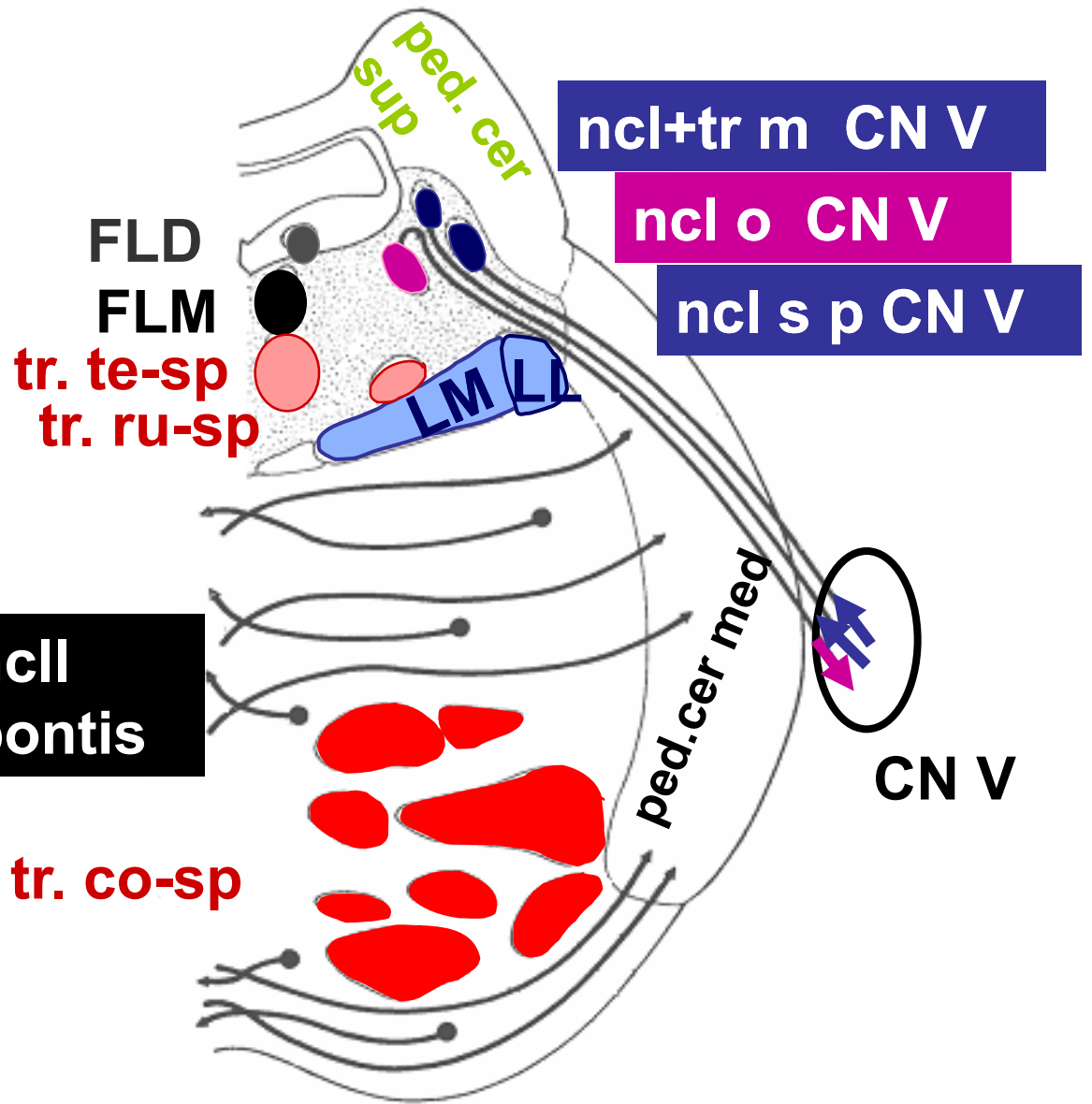
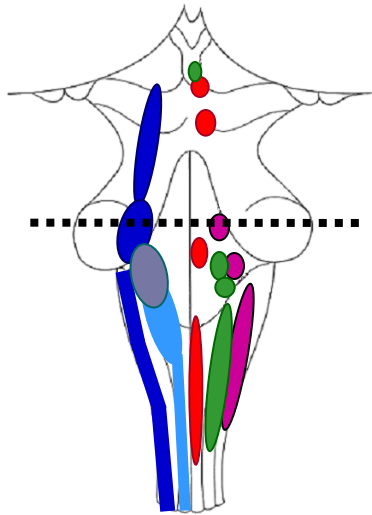


Rostral section

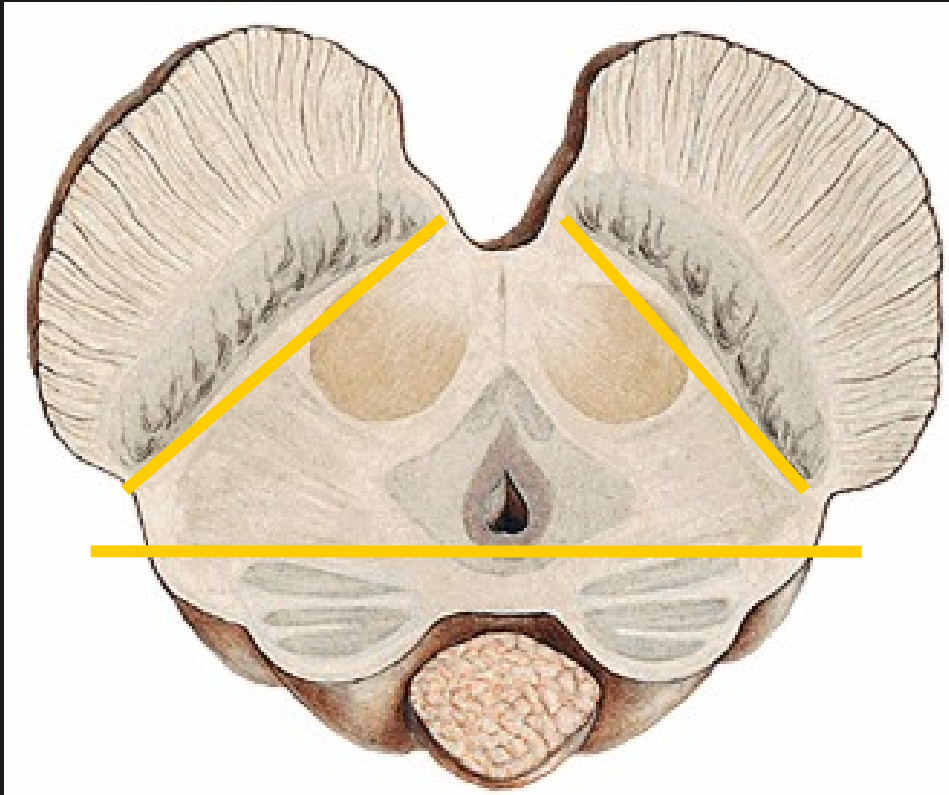
Caudal section



Rostral section



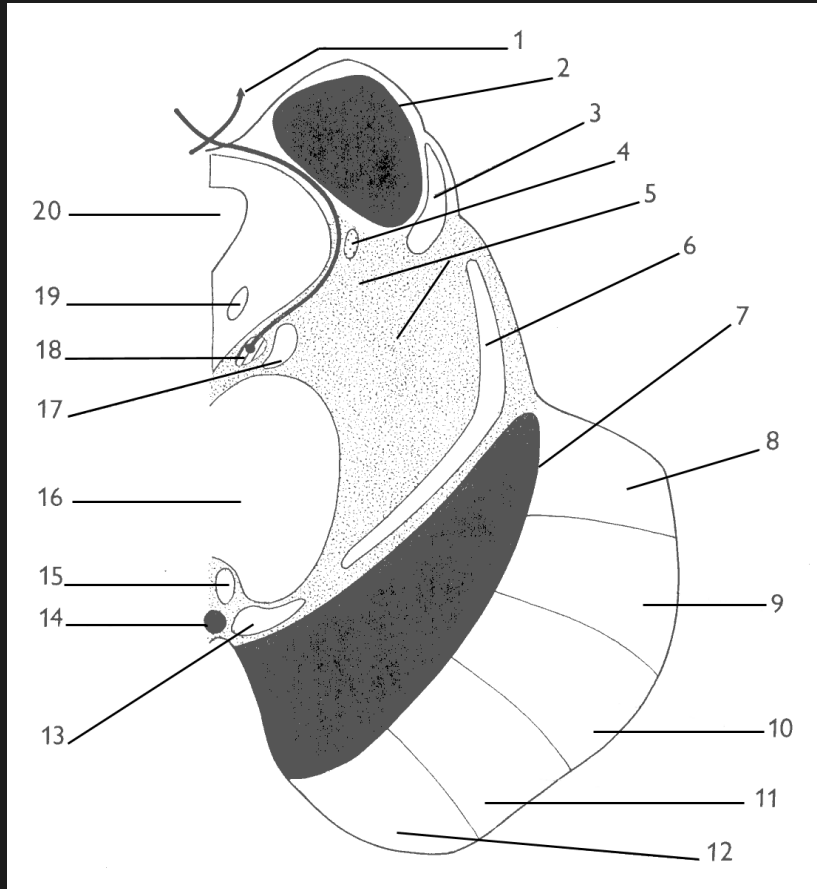
Mesencephalon



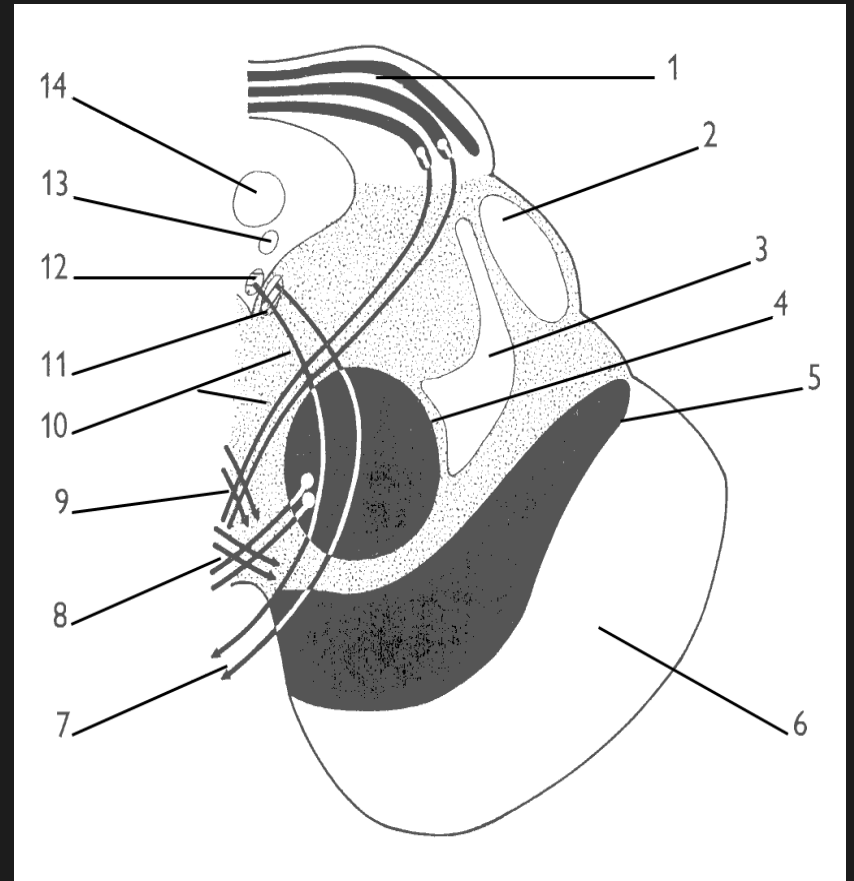
■ crura cerebri

■ tegmentum

■ tectum

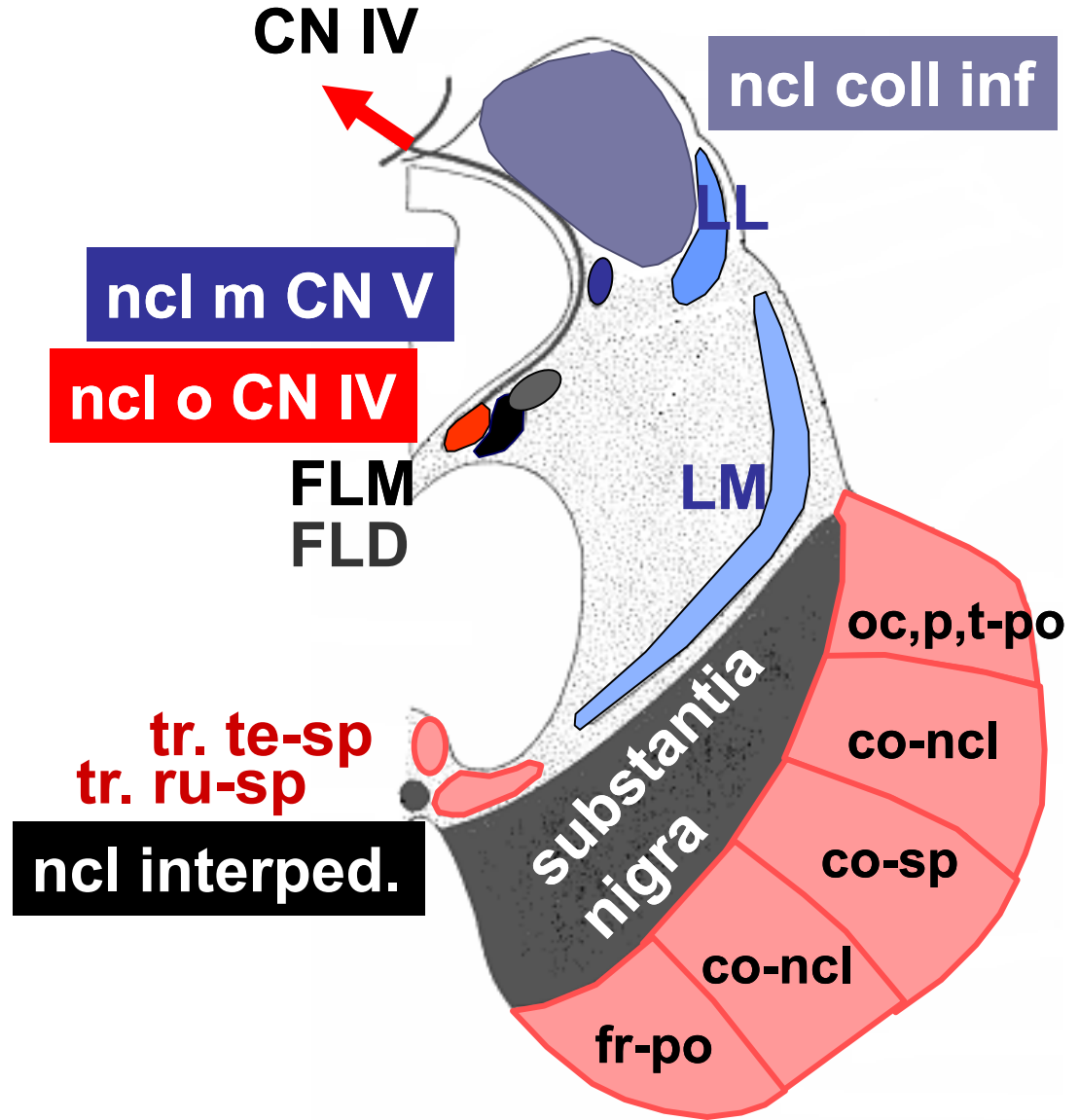
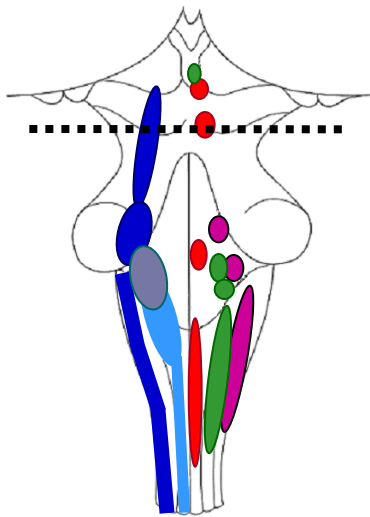


Caudal section

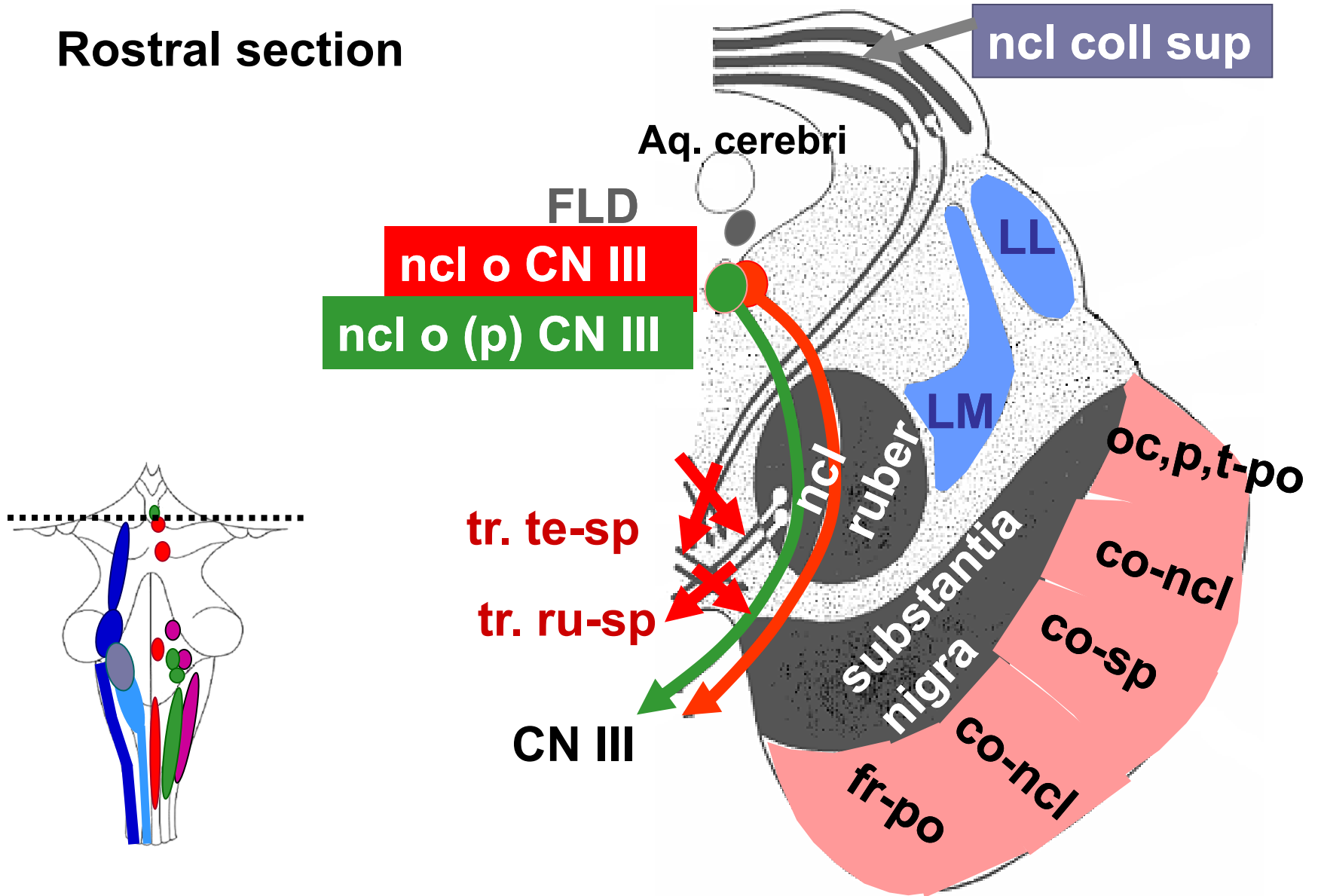


Rostral section

Caudal section

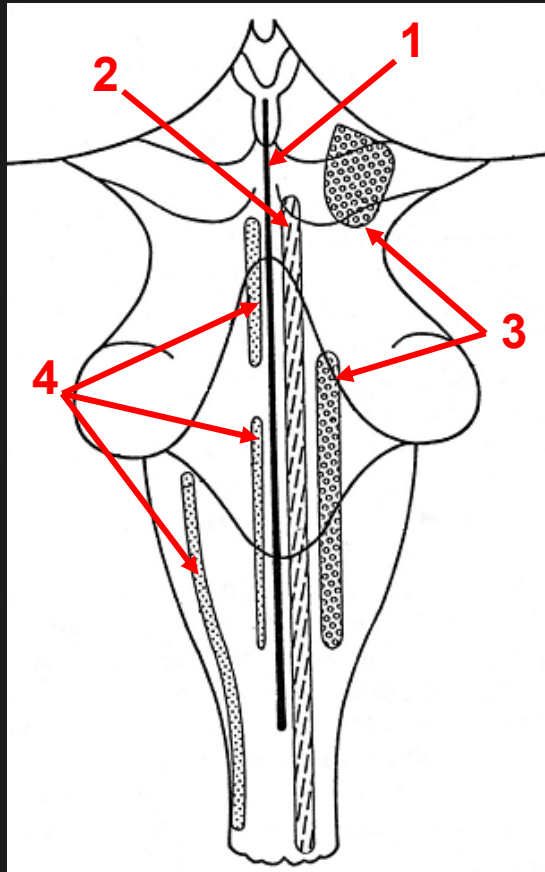


Rostral section



Reticular formation

- between afferent and motor systems
- spinal cord – diencephalon



Nuclei of RF

- 1** median, single (raphe system)
- 2** medial, paired
- 3** lateral, paired
- 4** precerebellar, paired

Function

- Somatic motor control
- Pattern generation
- Vital centers (circulation, respiration)
- Blood pressure control
- Respiratory rhythm
- Bladder control
- Conveys somatic and visceral information to the cerebellum
- Sleeping and waking (Ascending Reticular Activating System)
- Pain modulation

