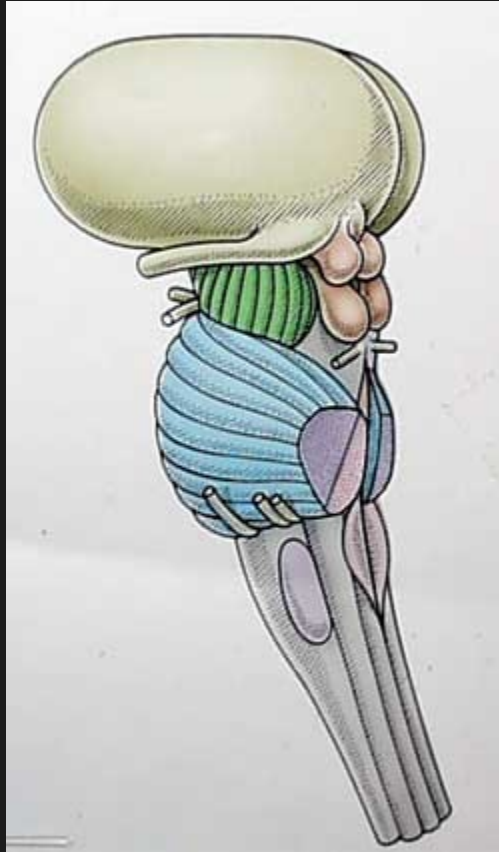


Brainstem



Mesencephalon

Pons

Medulla oblongata

nuclei of CN III - XII

connection to the cerebellum

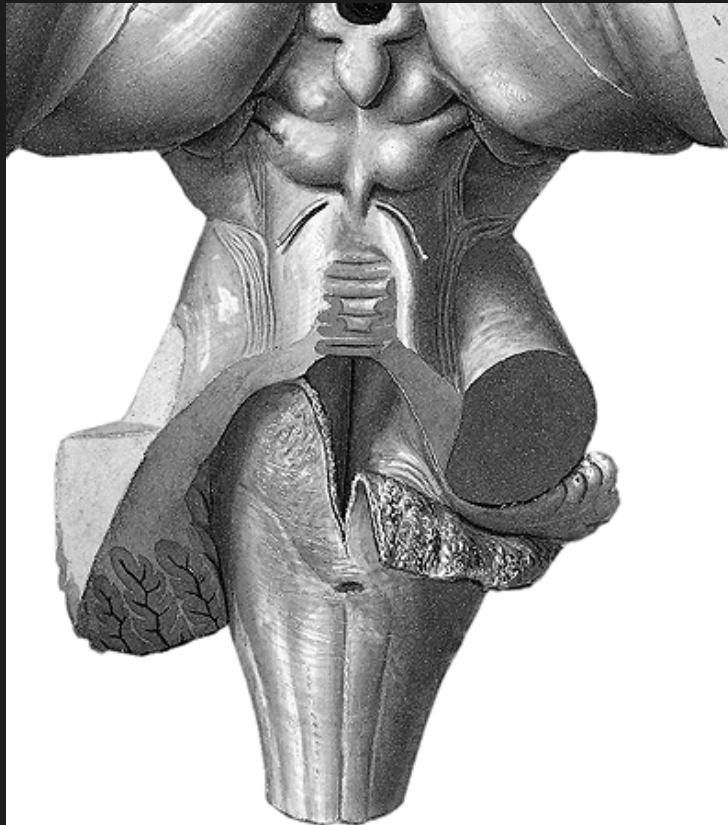
large reticular formation



Ventral aspect

**CN III
CN IV, V**

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

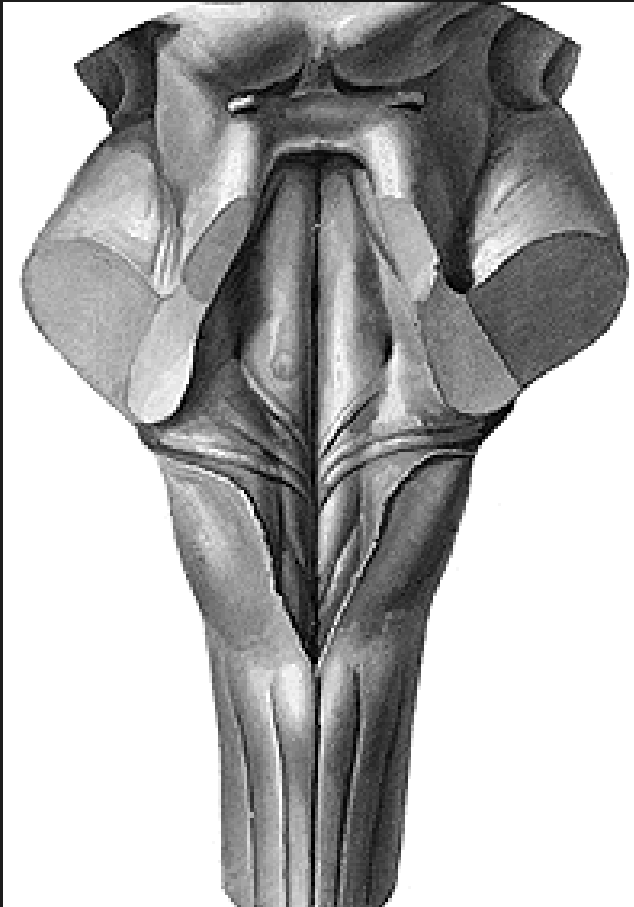


Dorsal aspect

IV. ventricle

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

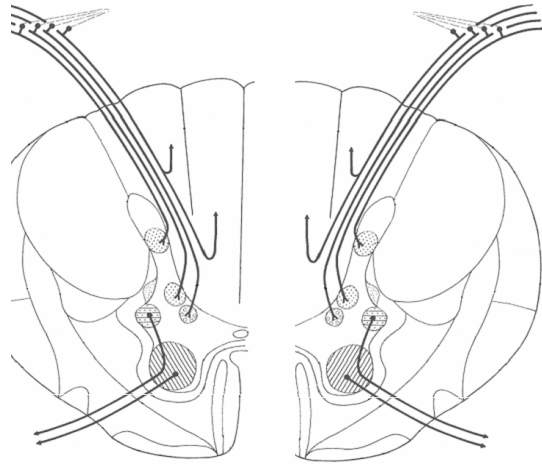
CN IV



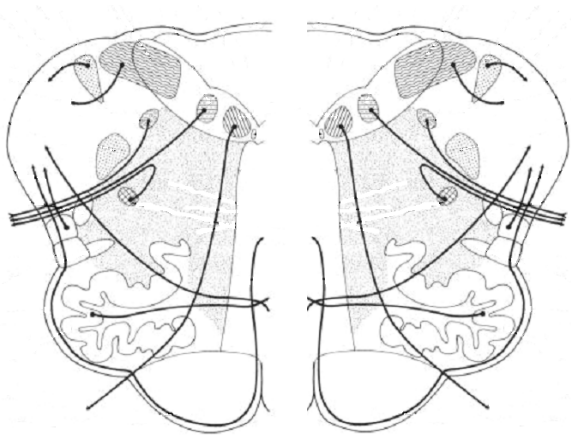
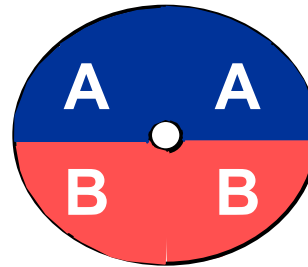
floor of the IV. ventricle
Fossa rhomboidea

Dorsal aspect

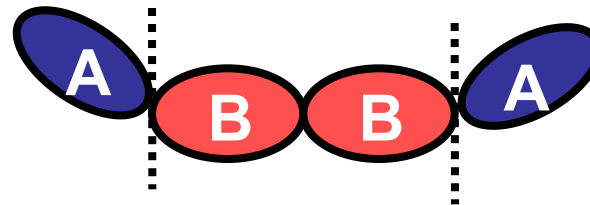
Structure of the brainstem



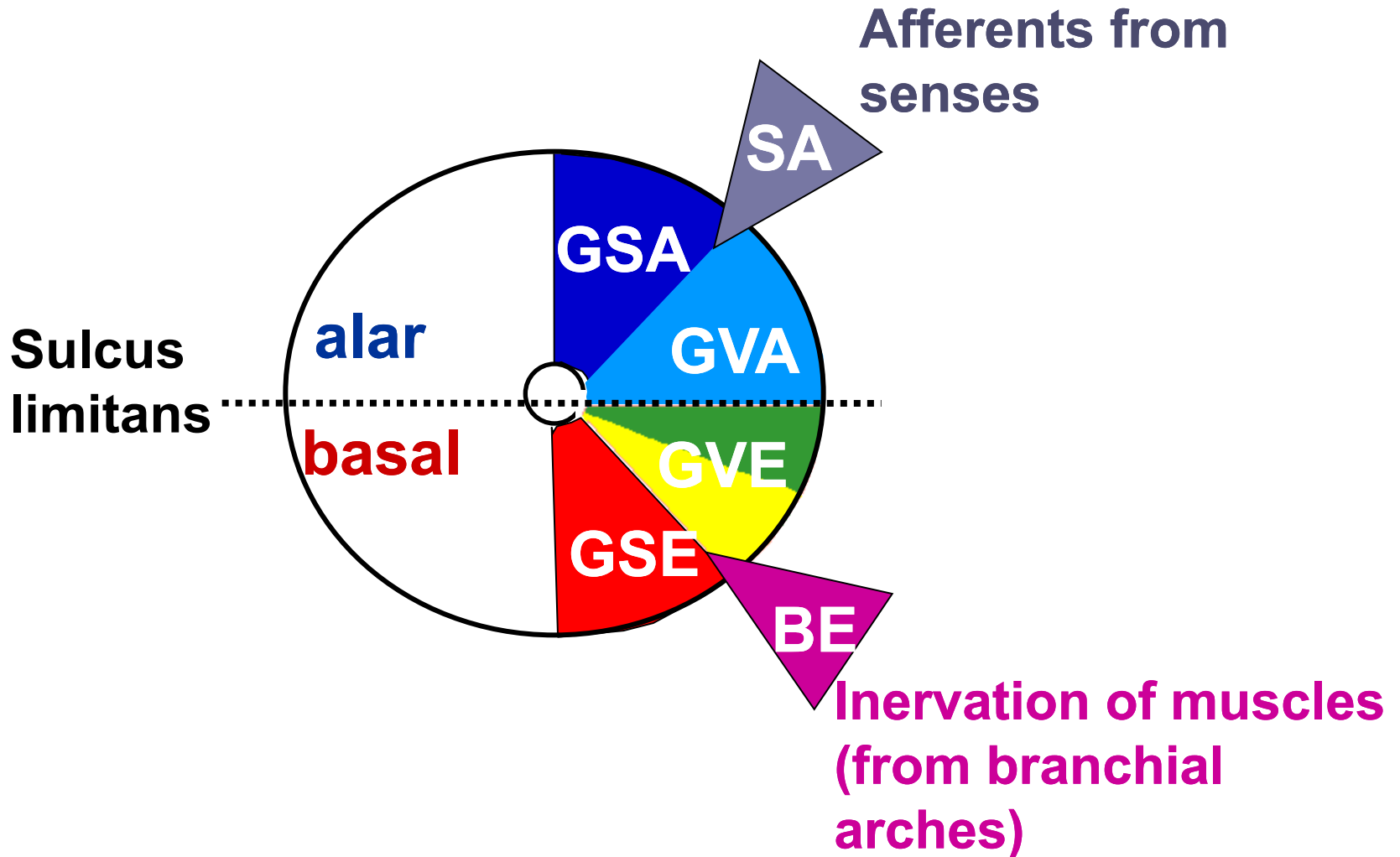
Spinal cord



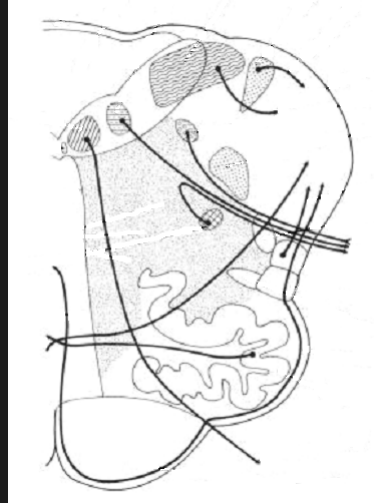
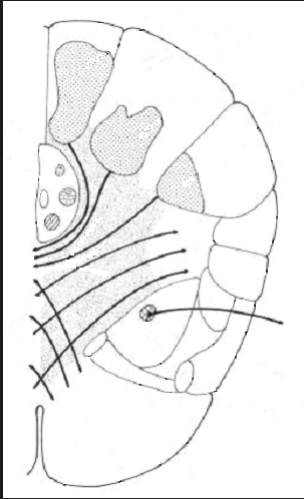
Pons



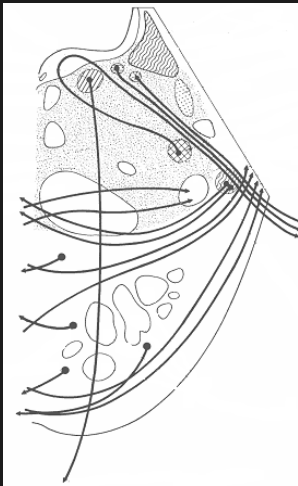
Functional zones of the brainstem



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

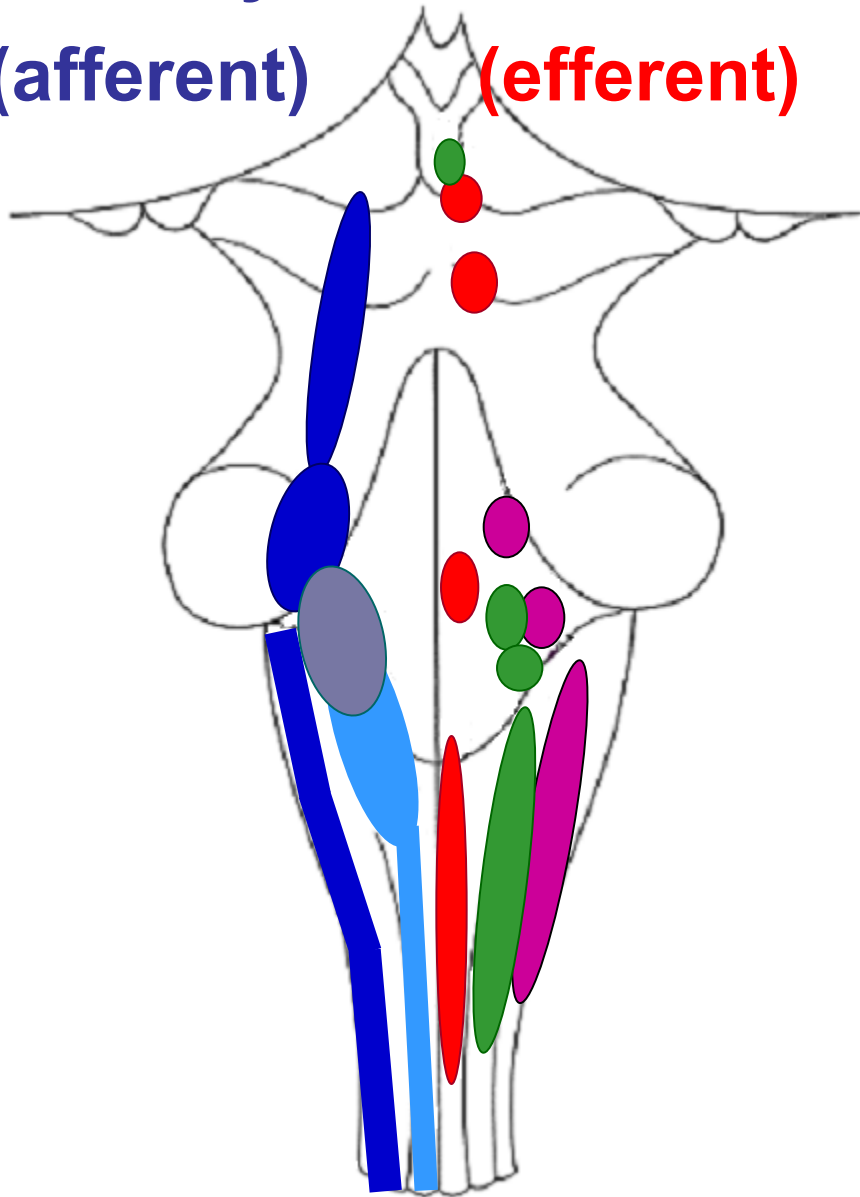


White matter of the brainstem

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

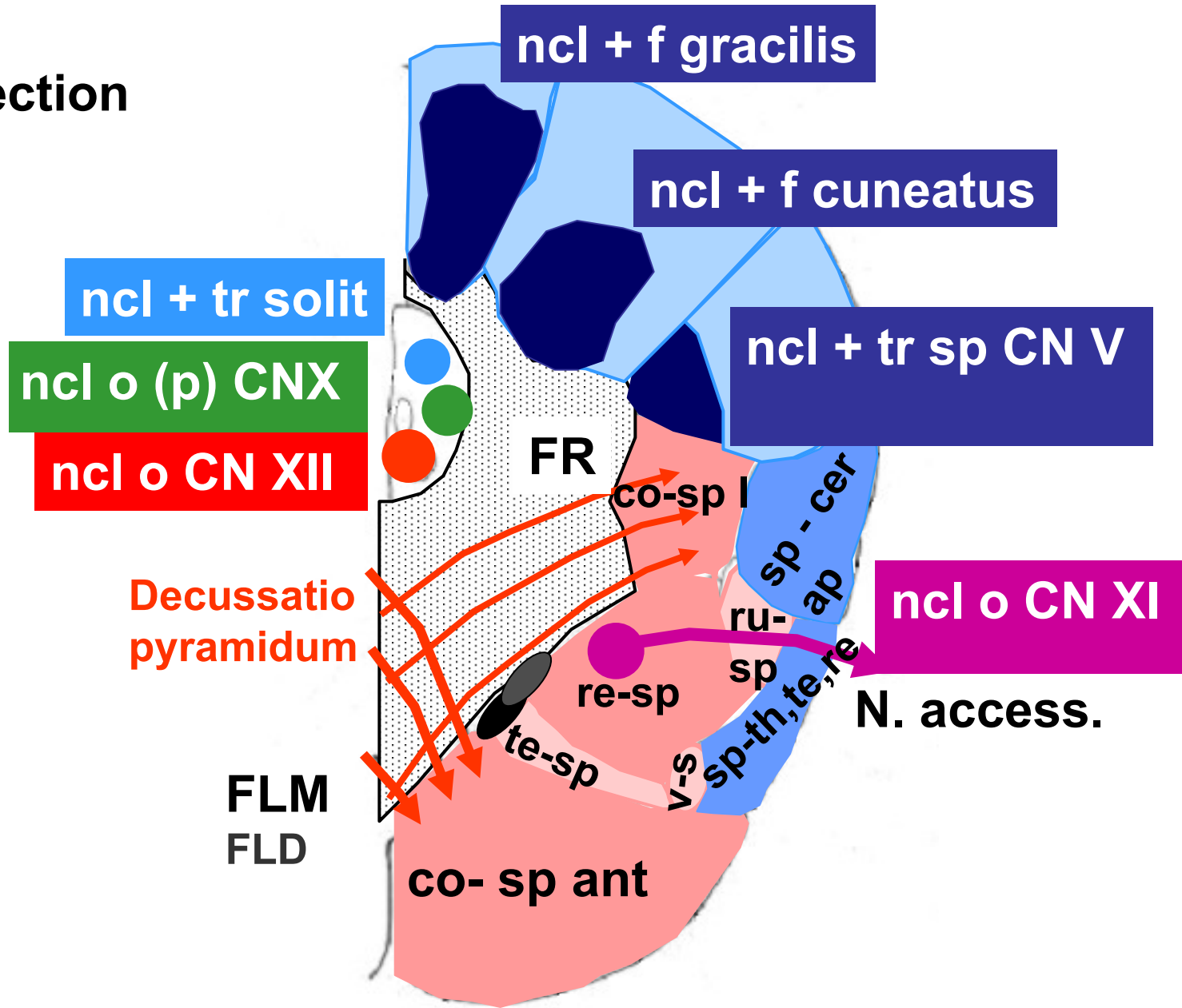
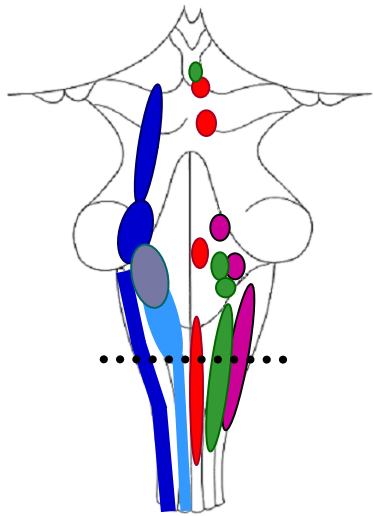
Ncl. solitarius

GSA CN V

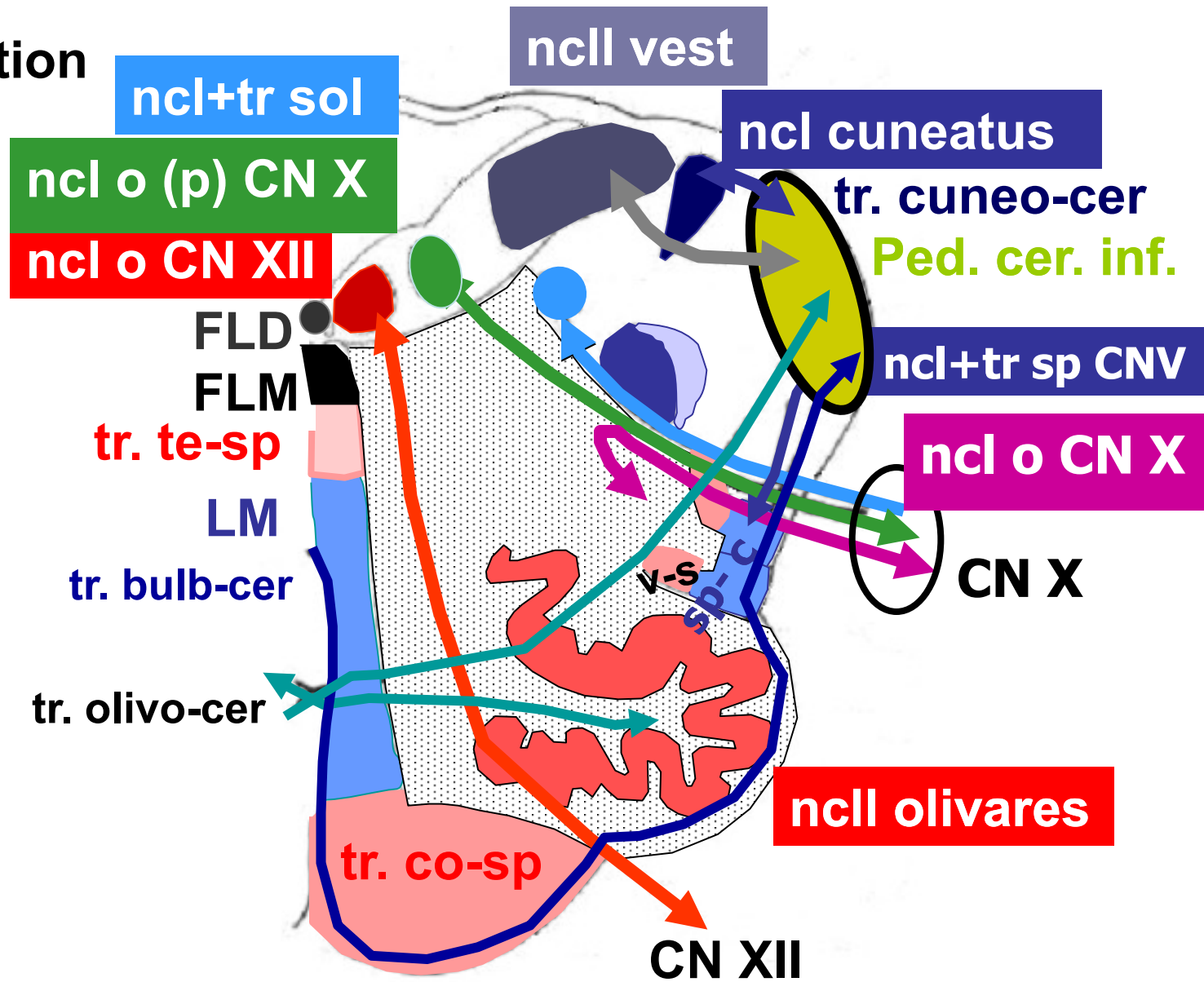
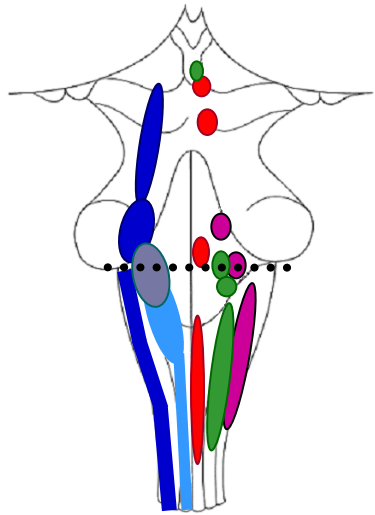
SA CN VII, IX, X + VIII

Ncl. gustatorius

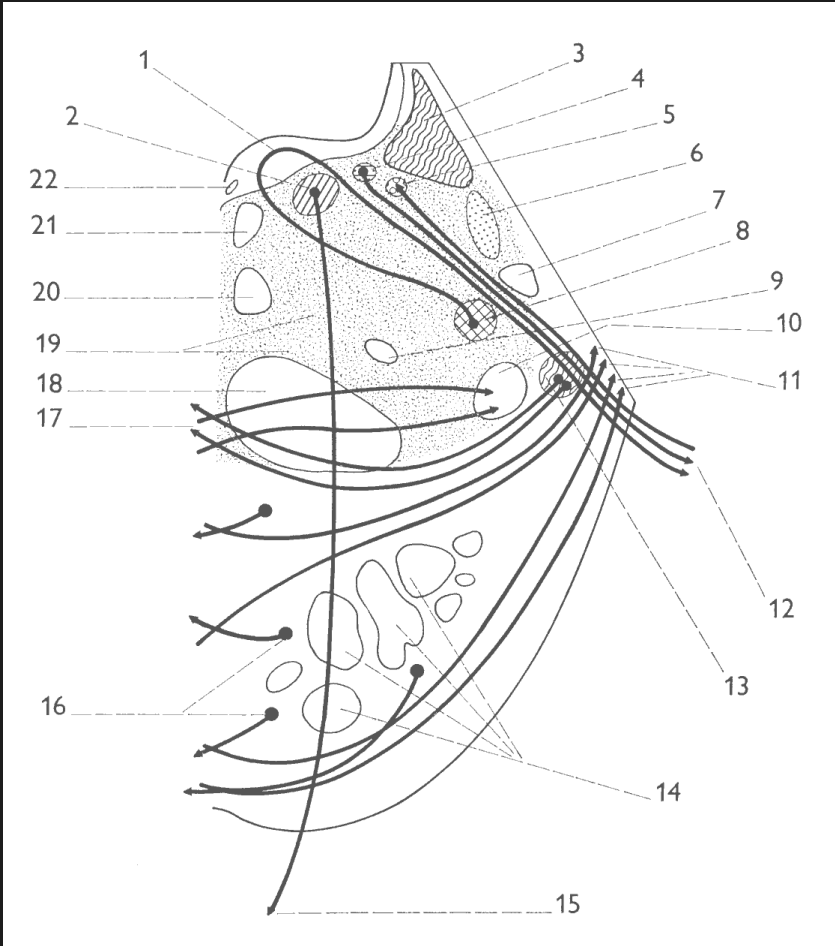
Caudal section



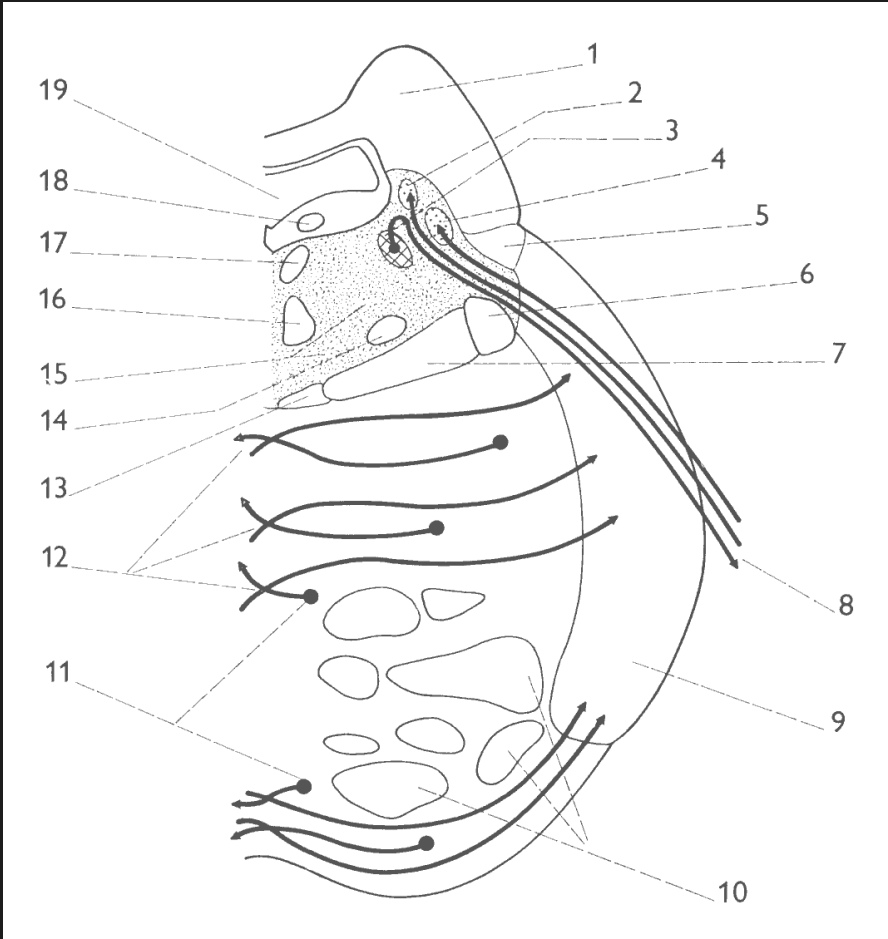
Rostral section



Pons Varoli

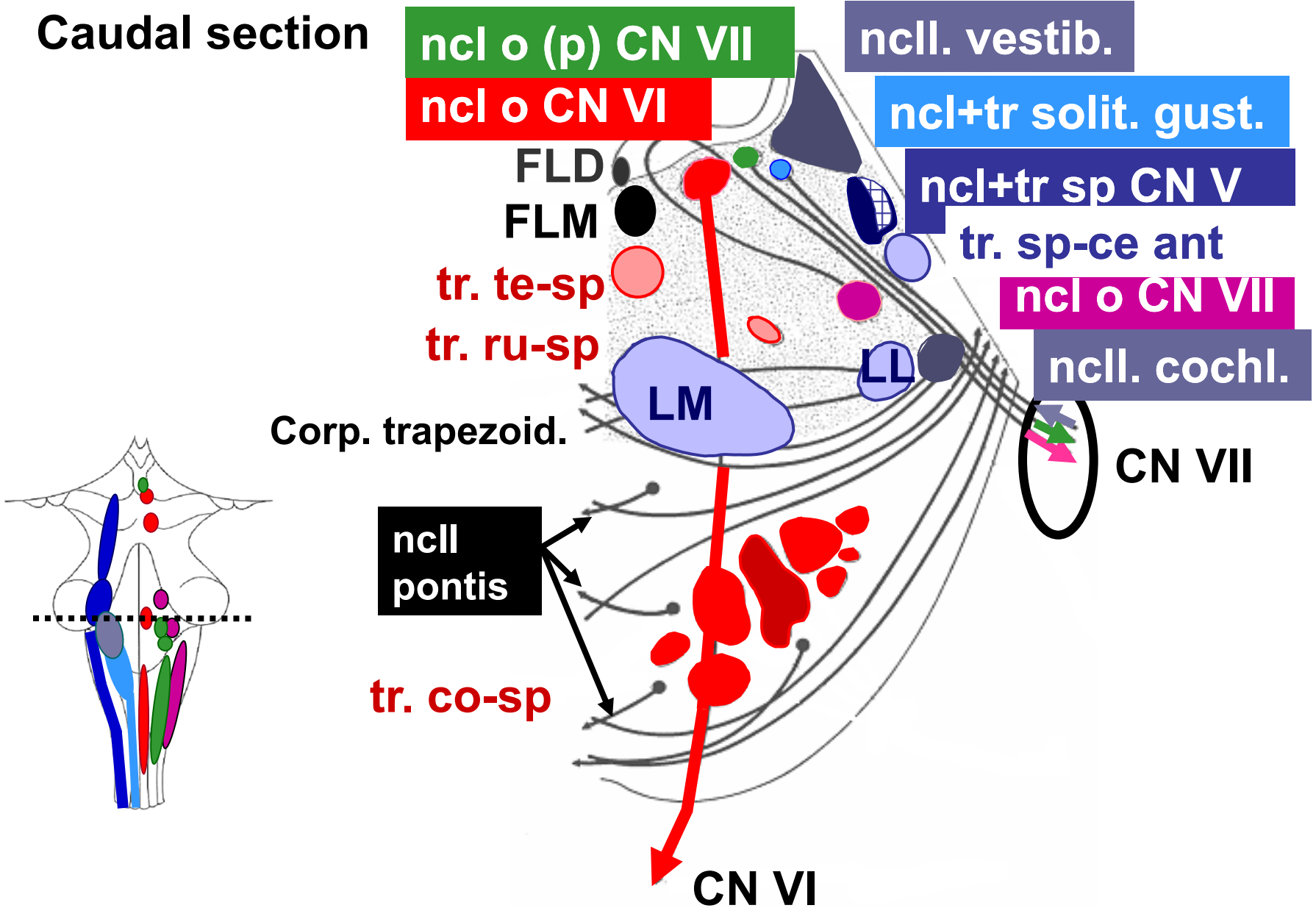


Caudal section

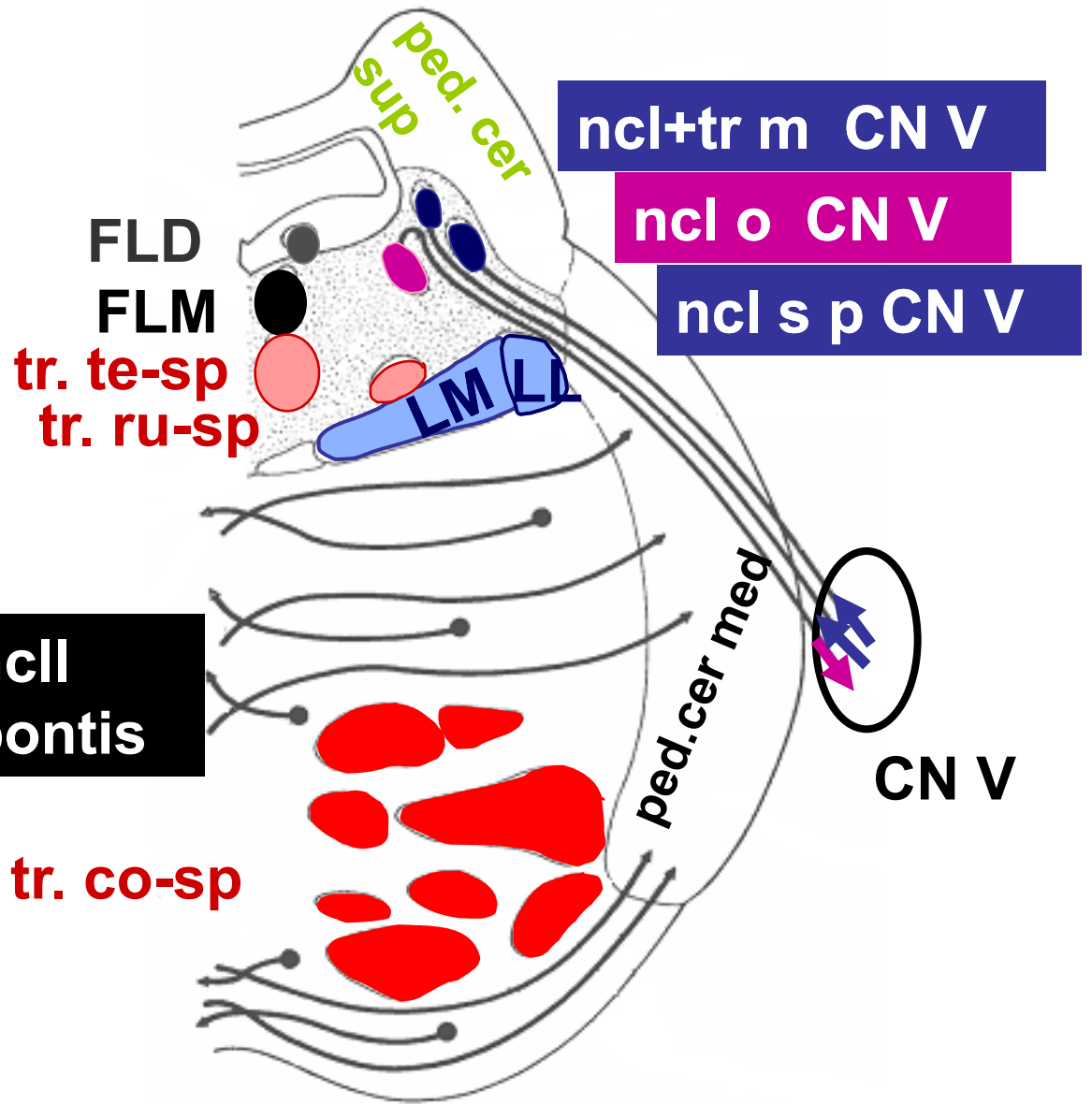
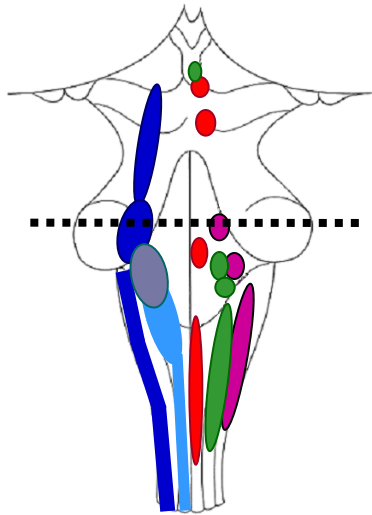


Rostral section

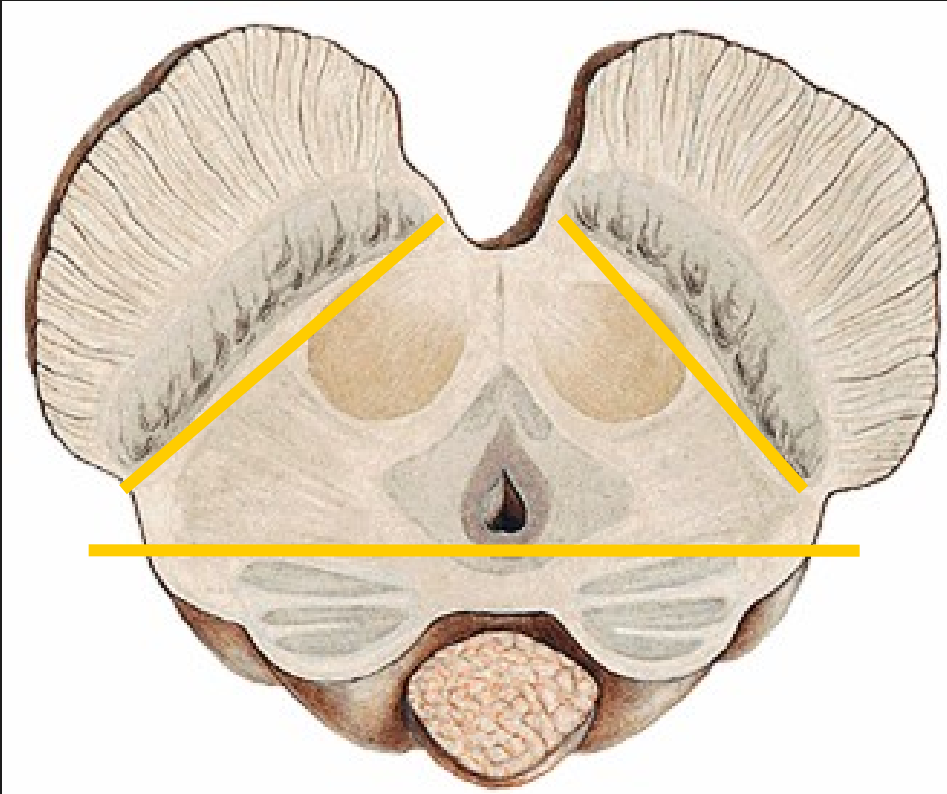
Caudal section



Rostral section



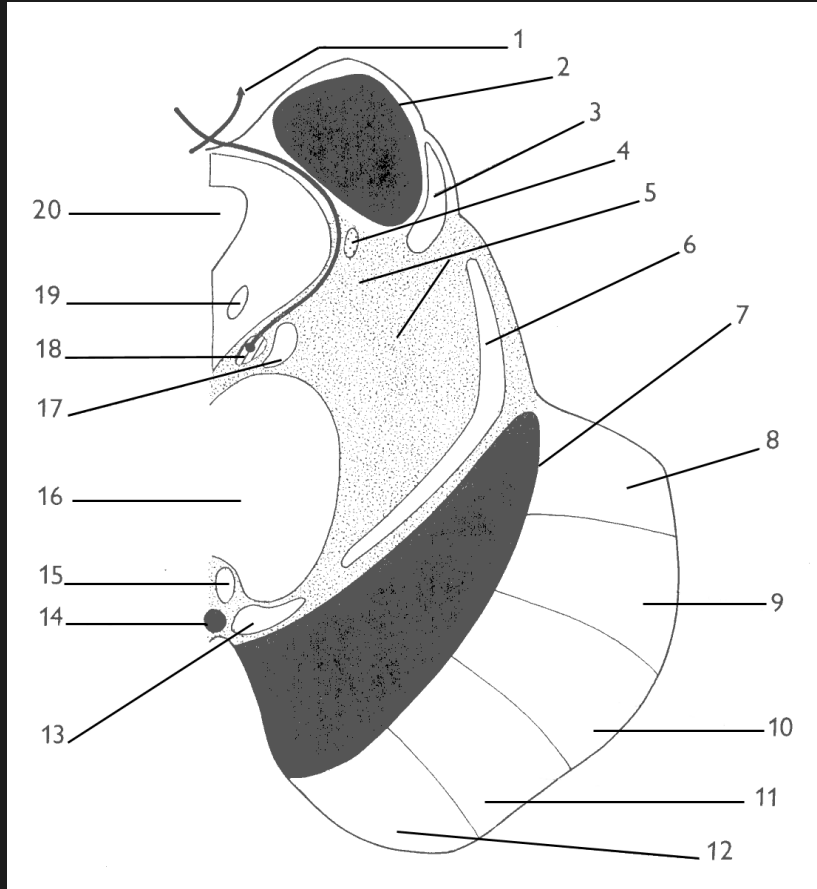
Mesencephalon



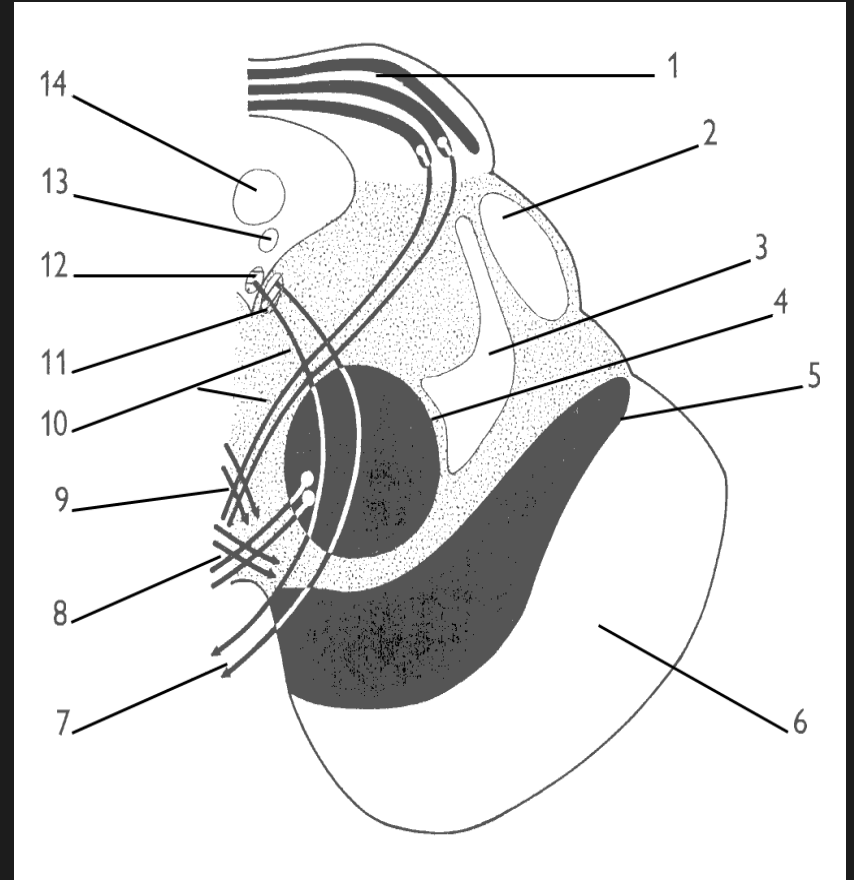
crura cerebri

tegmentum

tectum

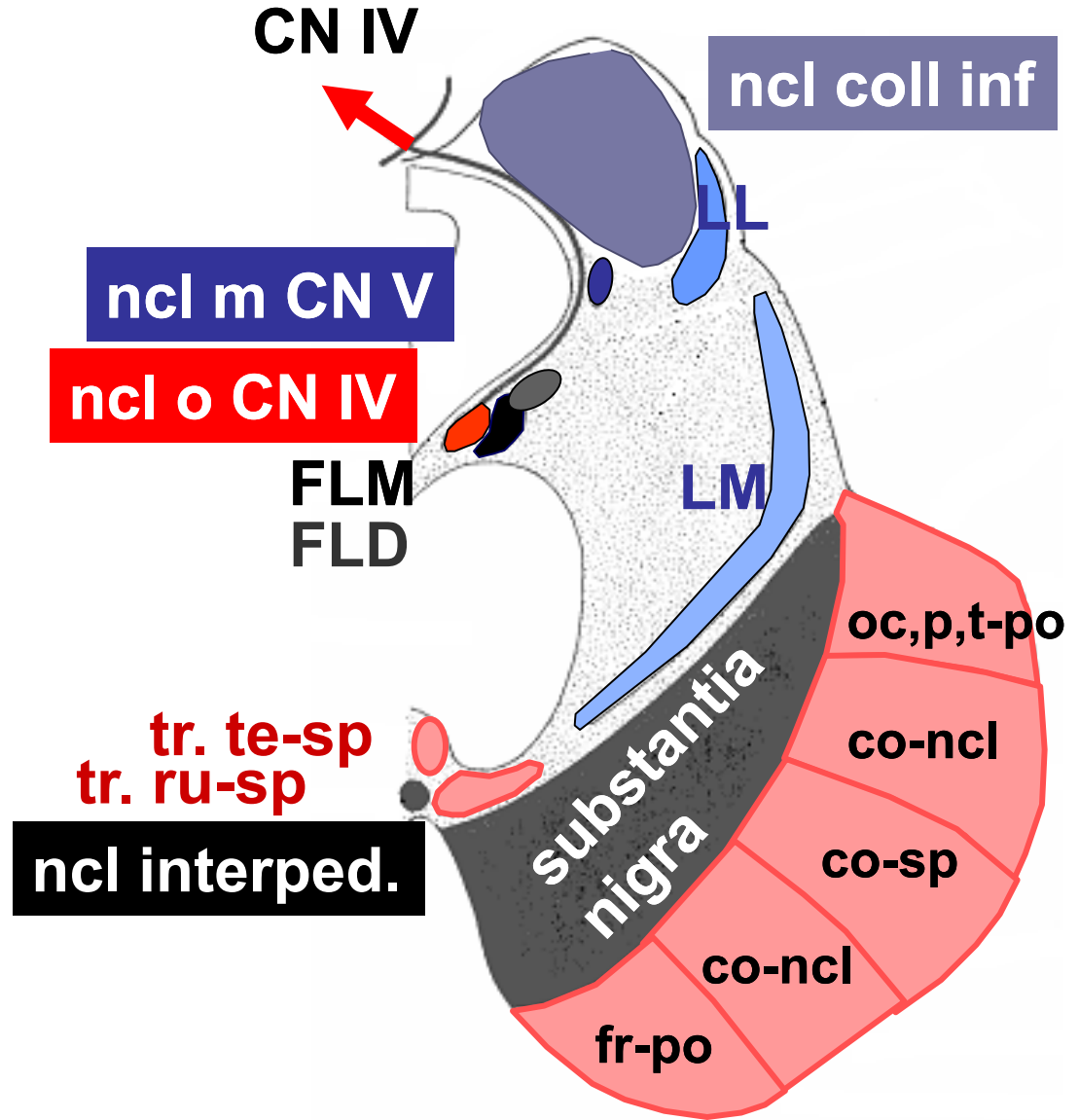
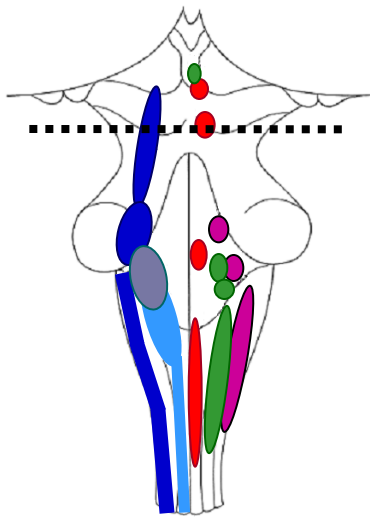


Caudal section

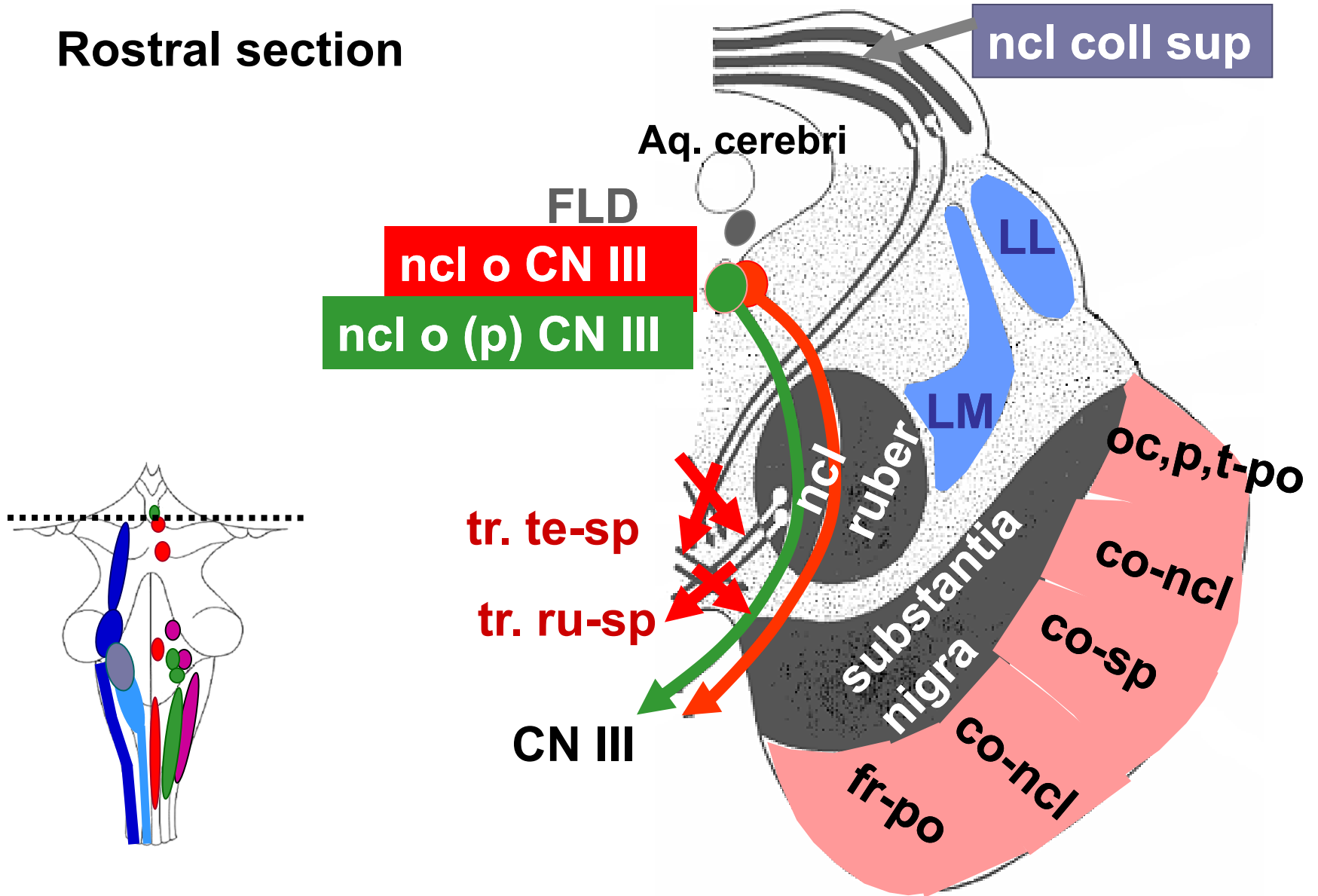


Rostral section

Caudal section

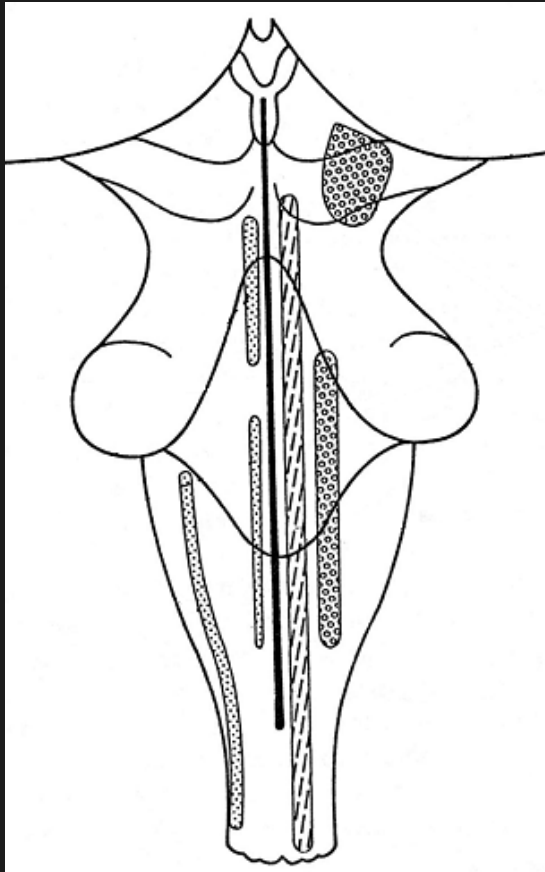


Rostral section



Reticular formation

between afferent and motor systems
spinal cord – diencephalon



Nuclei of RF

median, single
(raphe system)

medial, paired

lateral

Function

Patterned cranial nerve activities

Pattern generation

Posture, locomotion

Salivary secretion, lacrimation

Bladder control

Respiratory rhythm

Vital centers (circulation, respiration)

Conveys somatic and visceral information to the cerebellum

Arousal (Ascending reticular activating system)

Sleeping and waking, attention and mood, sensory modulation, blood pressure control

