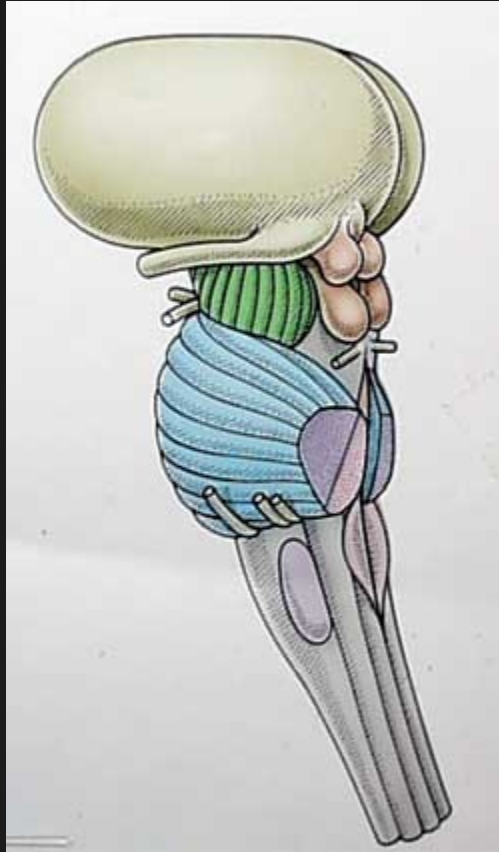


Brainstem



Mesencephalon

Pons

Medulla oblongata

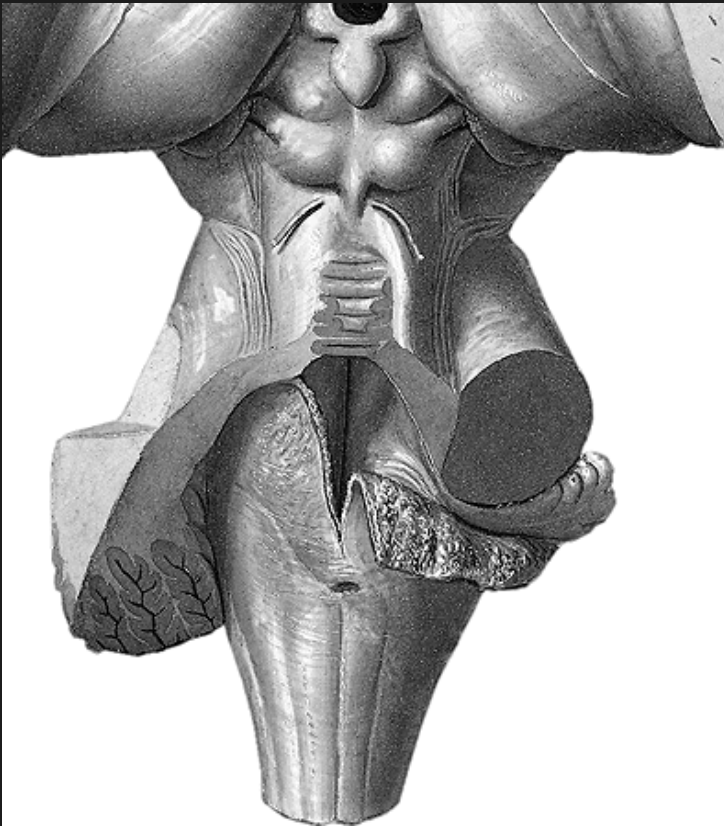
- nuclei of CN III - XII
- connection to the cerebellum
- large reticular formation



Ventral aspect

**CN III
CN IV, V**

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

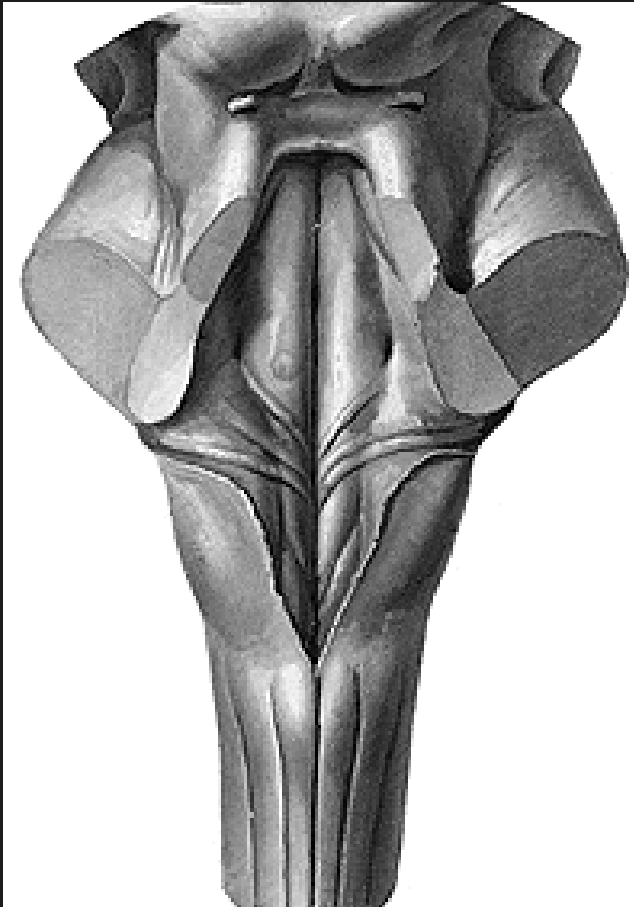


Dorsal aspect

■ IV. ventricle

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

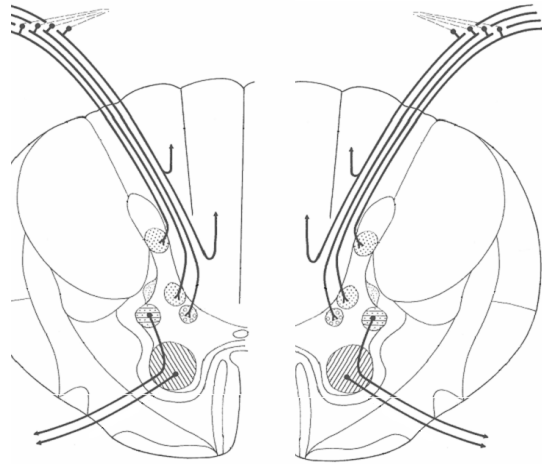
■ CN IV



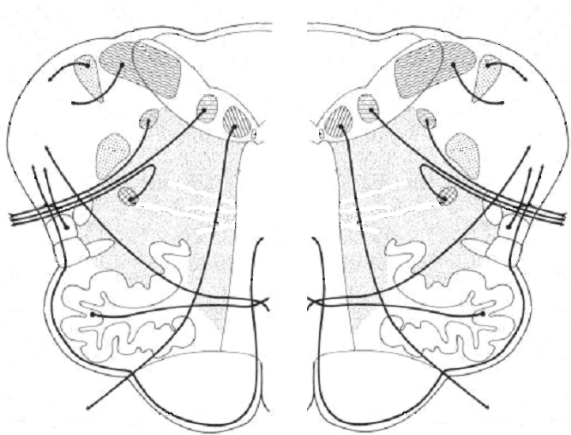
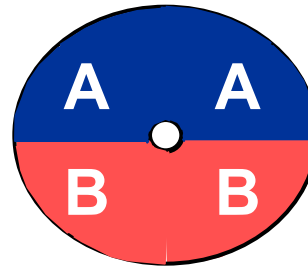
Dorsal aspect

- floor of the IV. ventricle
Fossa rhomboidea

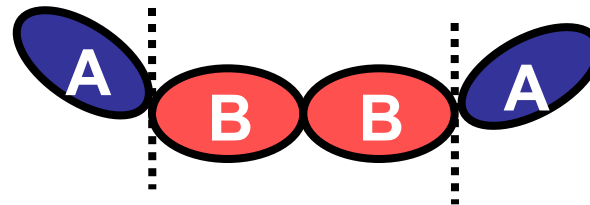
Structure of the brainstem



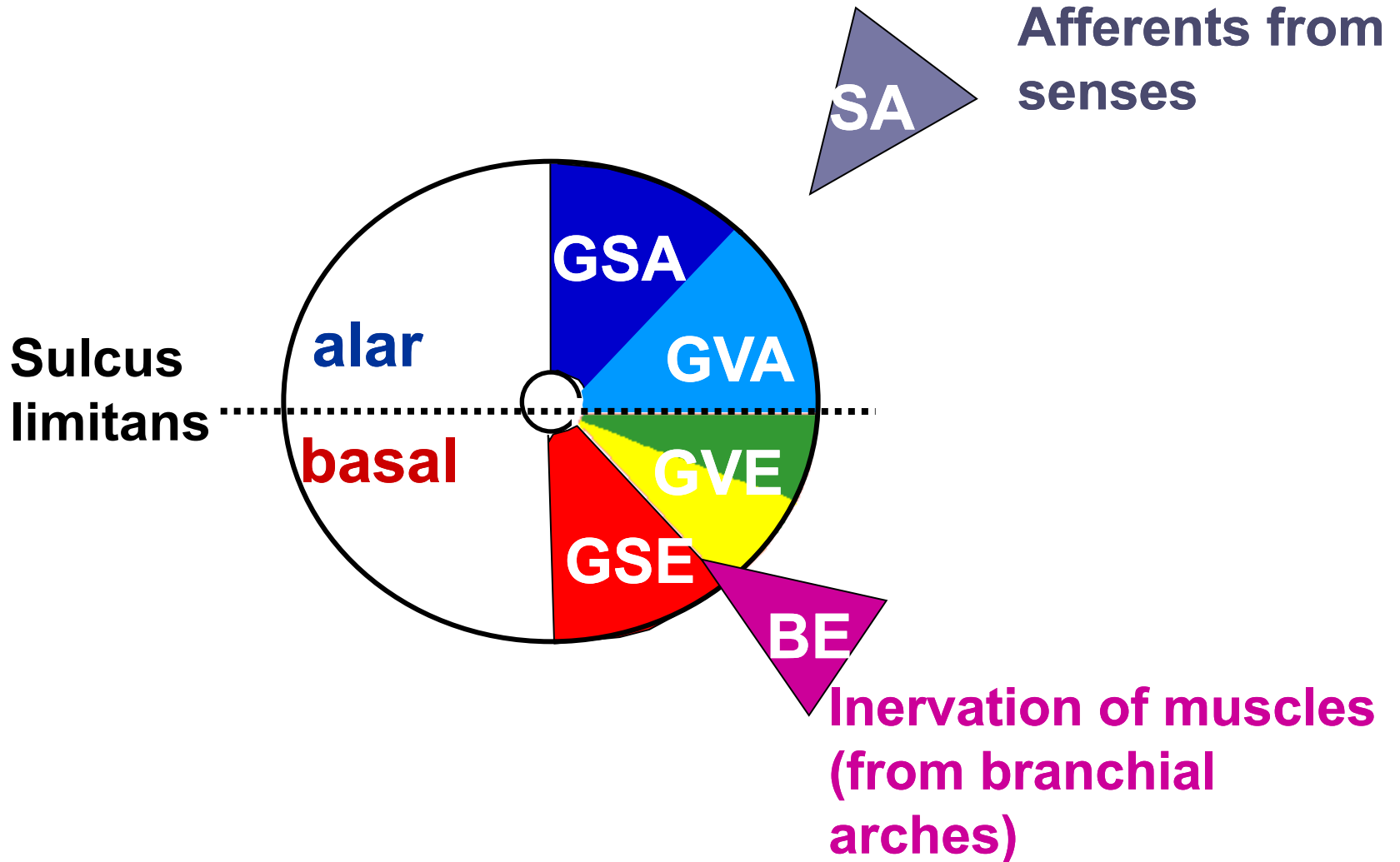
Spinal cord



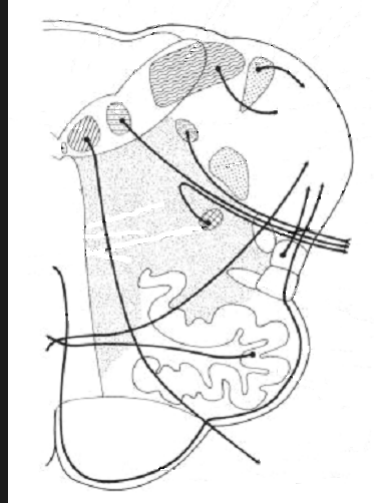
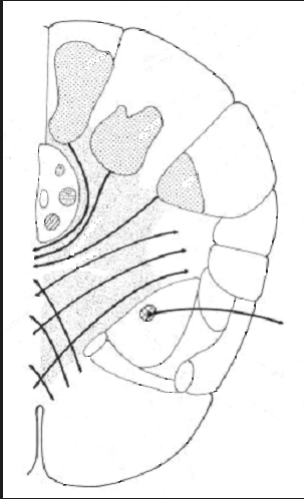
Pons



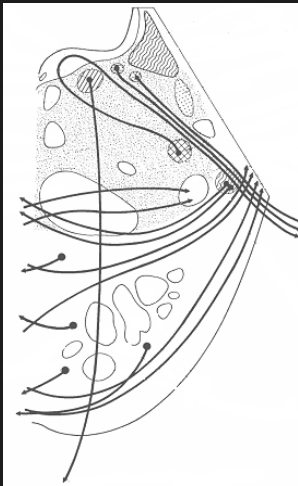
Functional zones of the brainstem



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

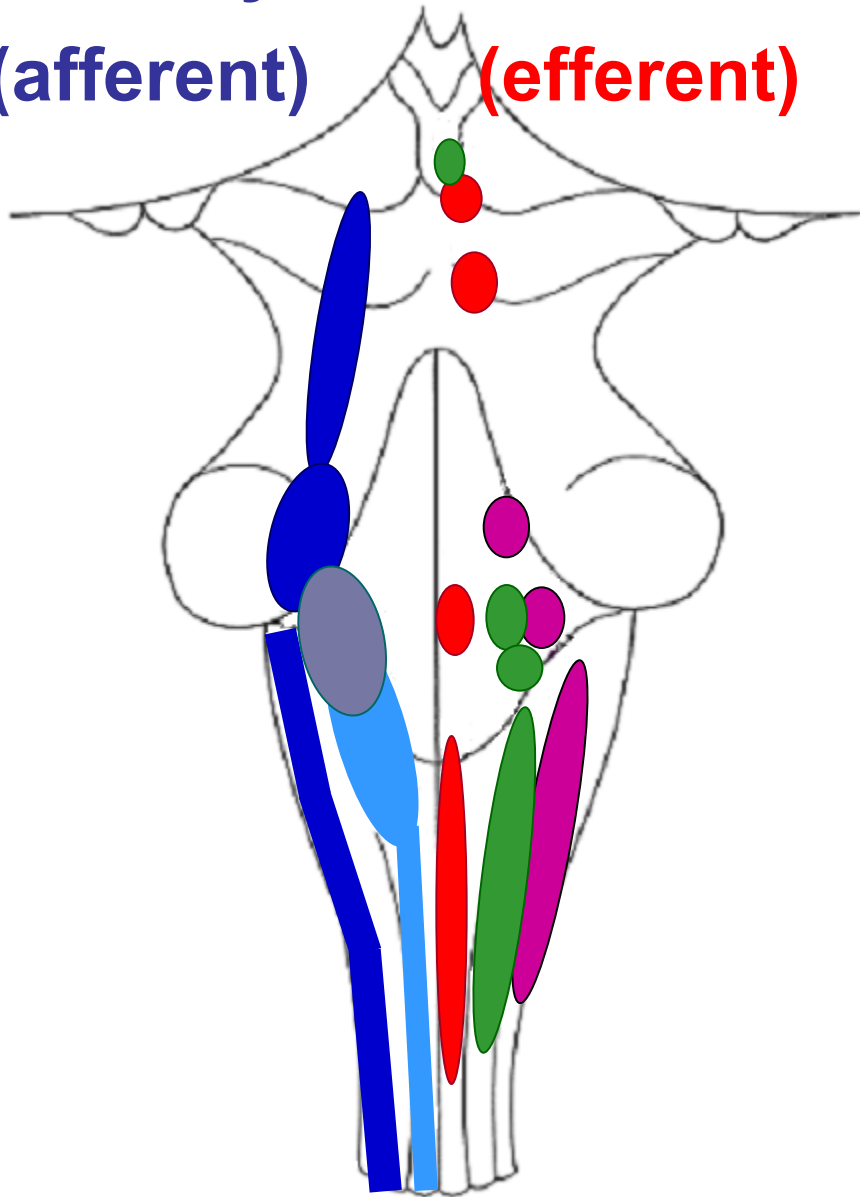


White matter of the brainstem

- 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

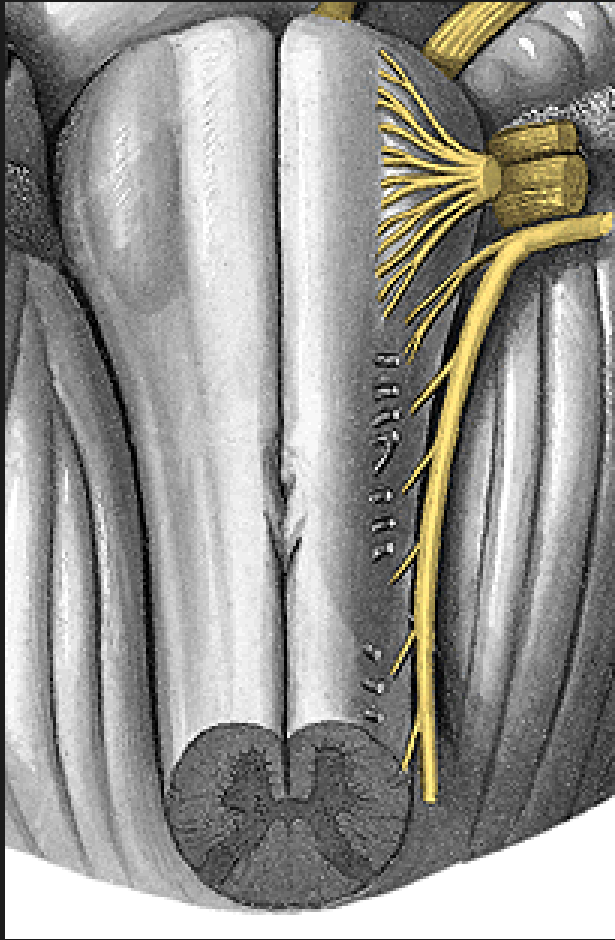
Ncl. solitarius

GSA CN V

SA CN VII, IX, X + VIII

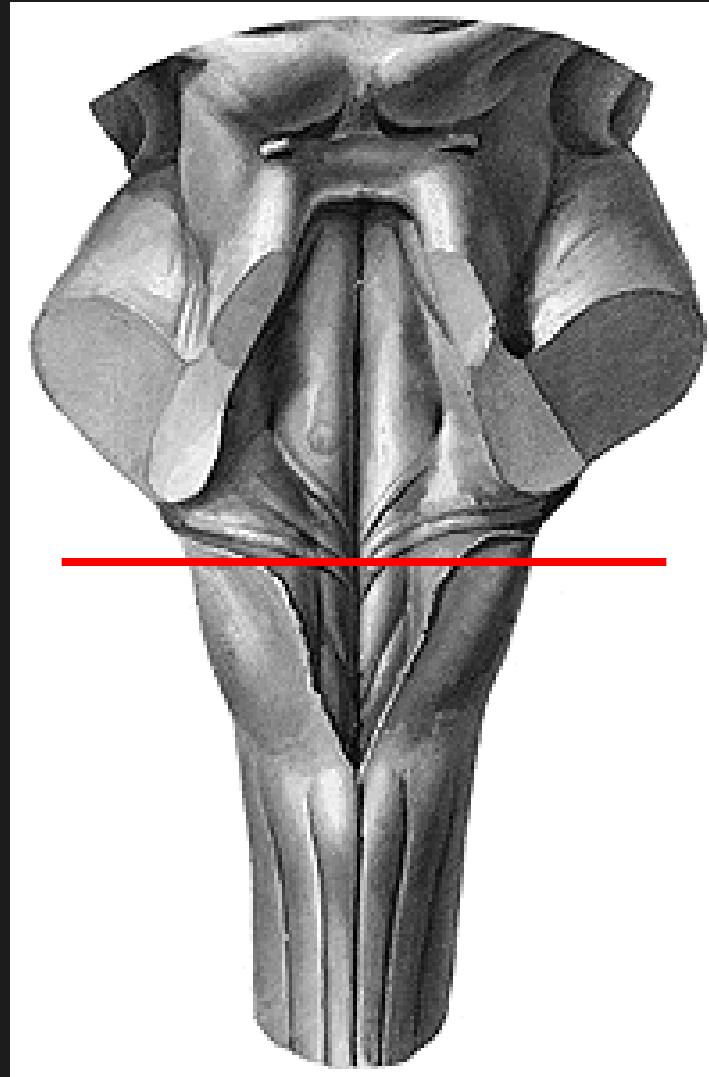
Ncl. gustatorius

Medulla oblongata

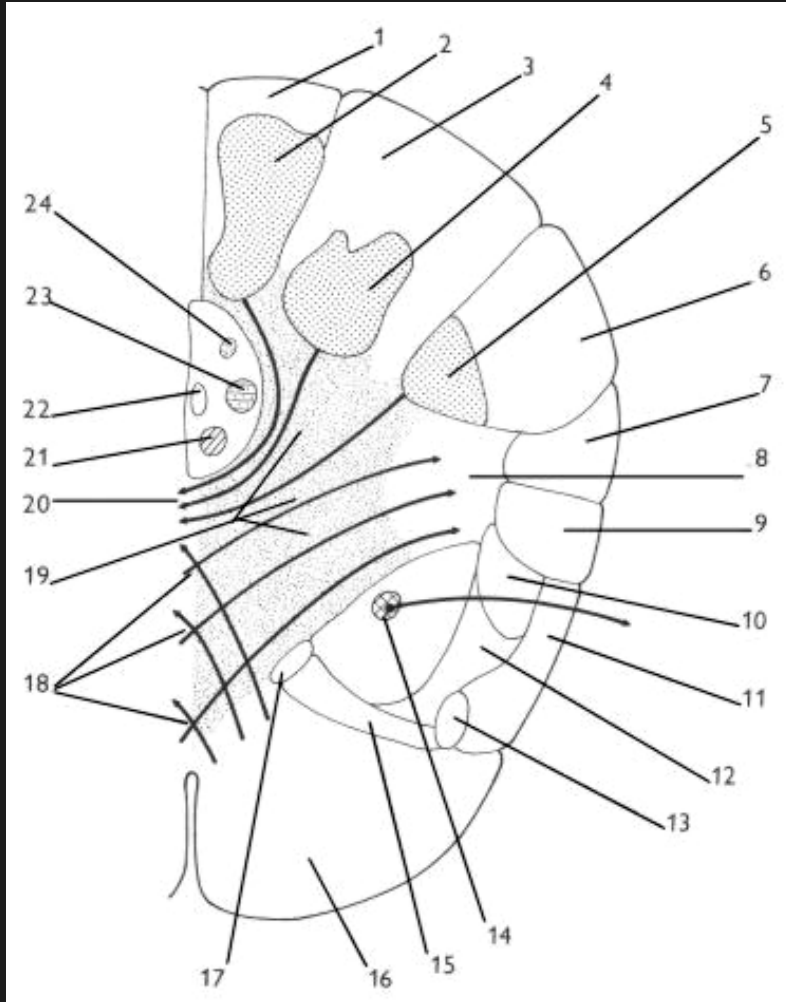


CN IX, X, XI, XII

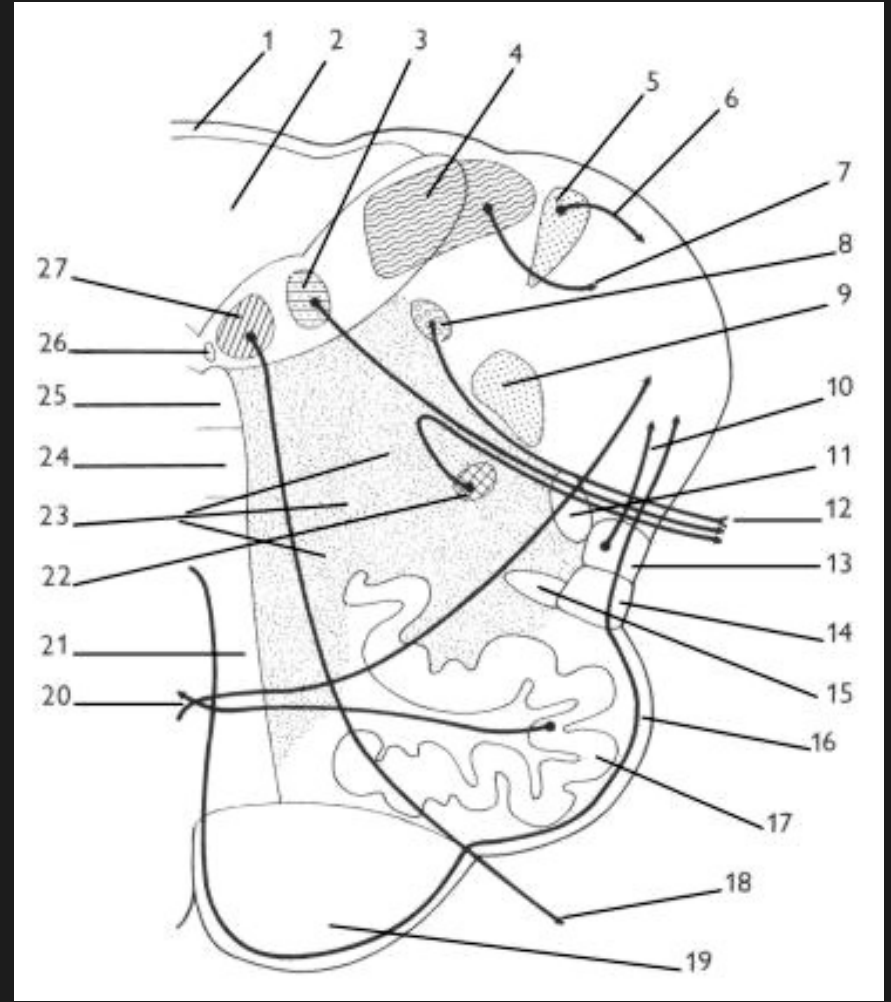
Pars inferior fossae rhomboideae



Medulla oblongata

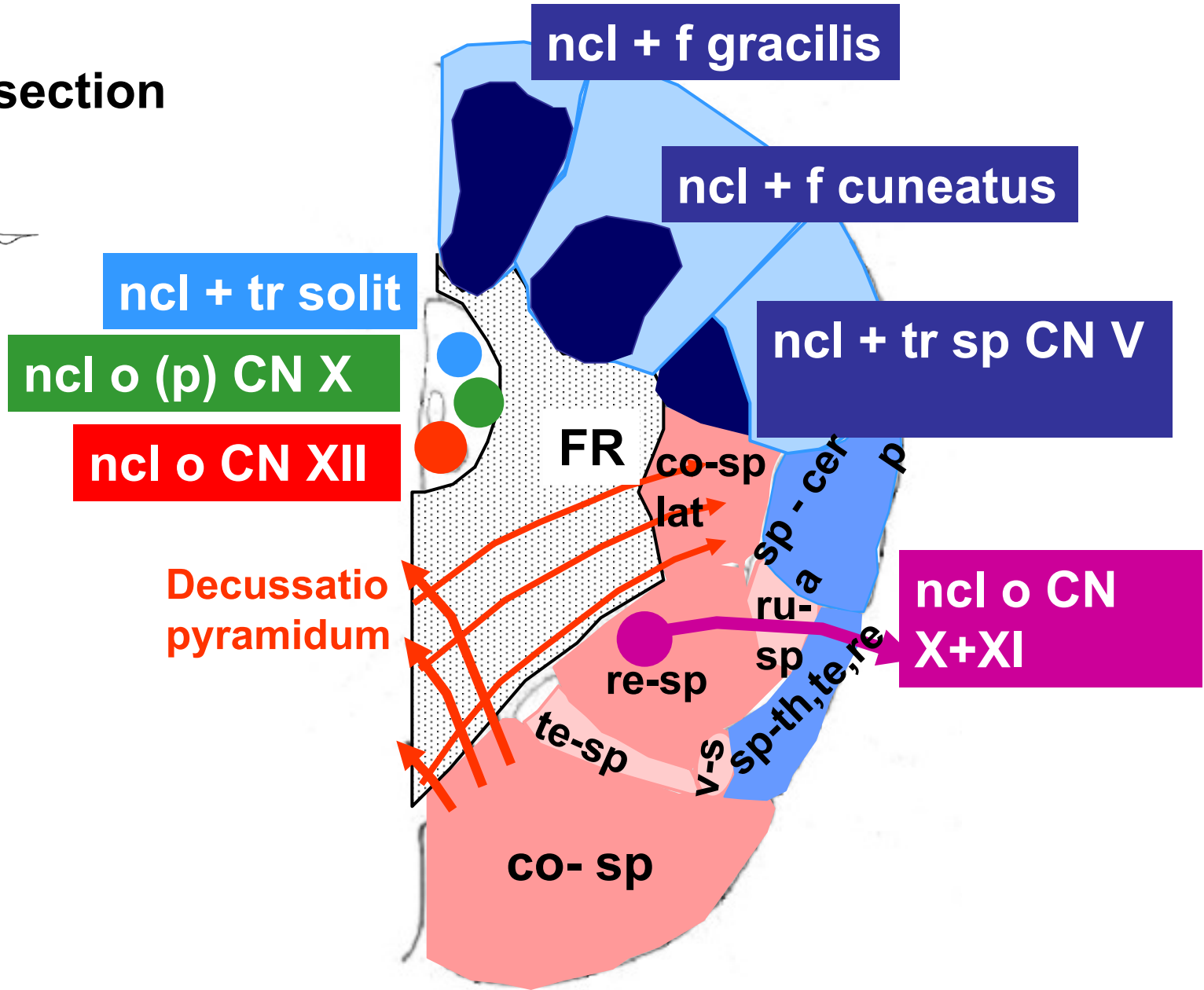
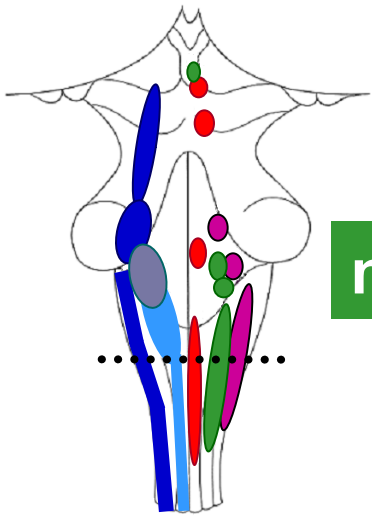


Caudal section

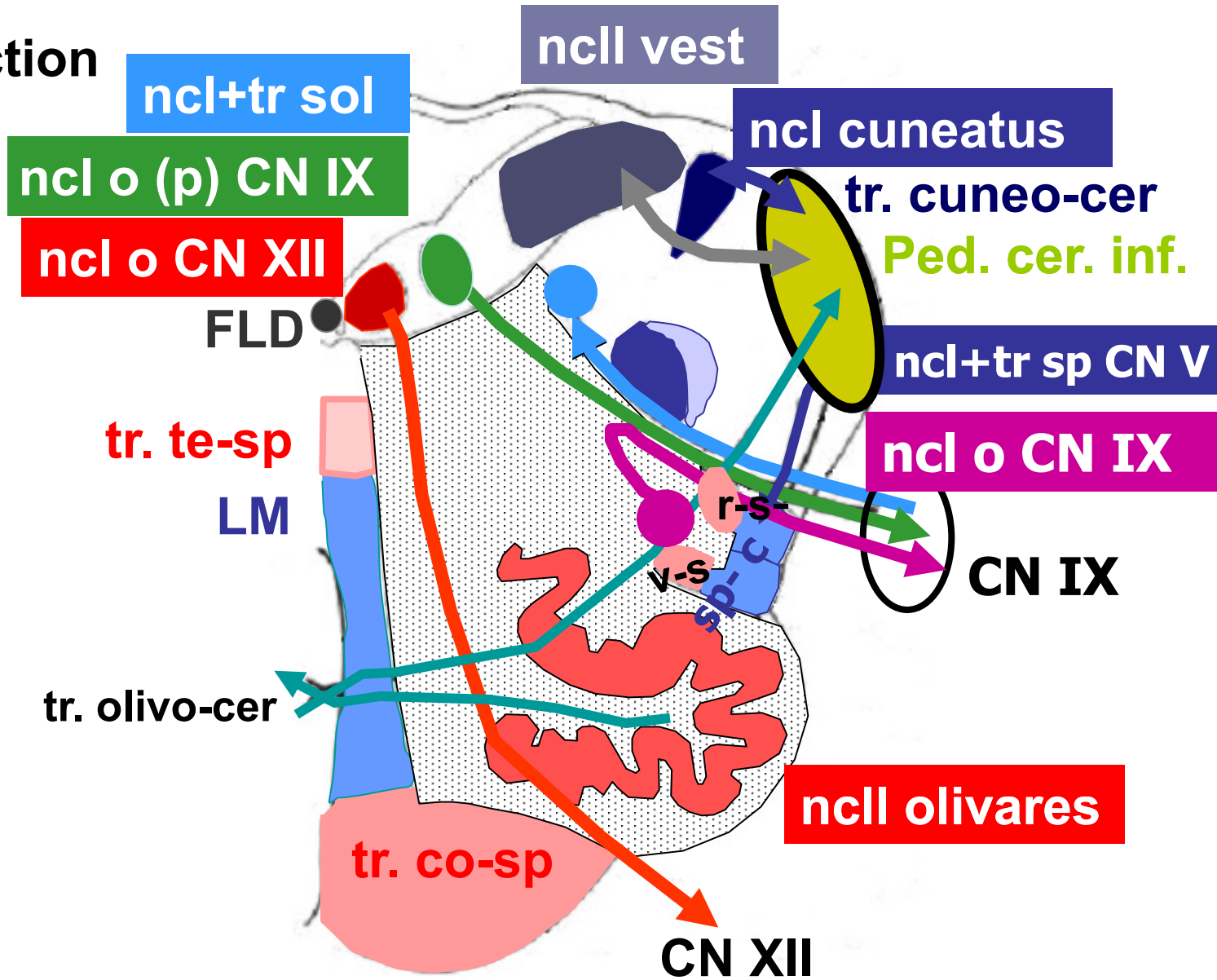
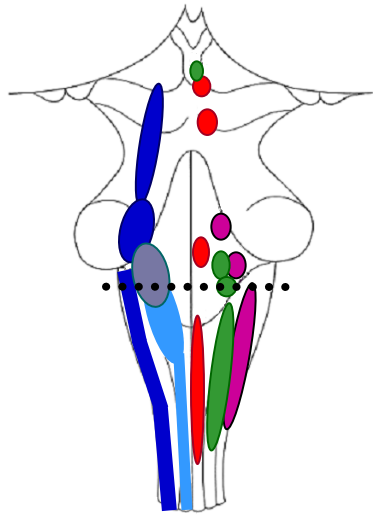


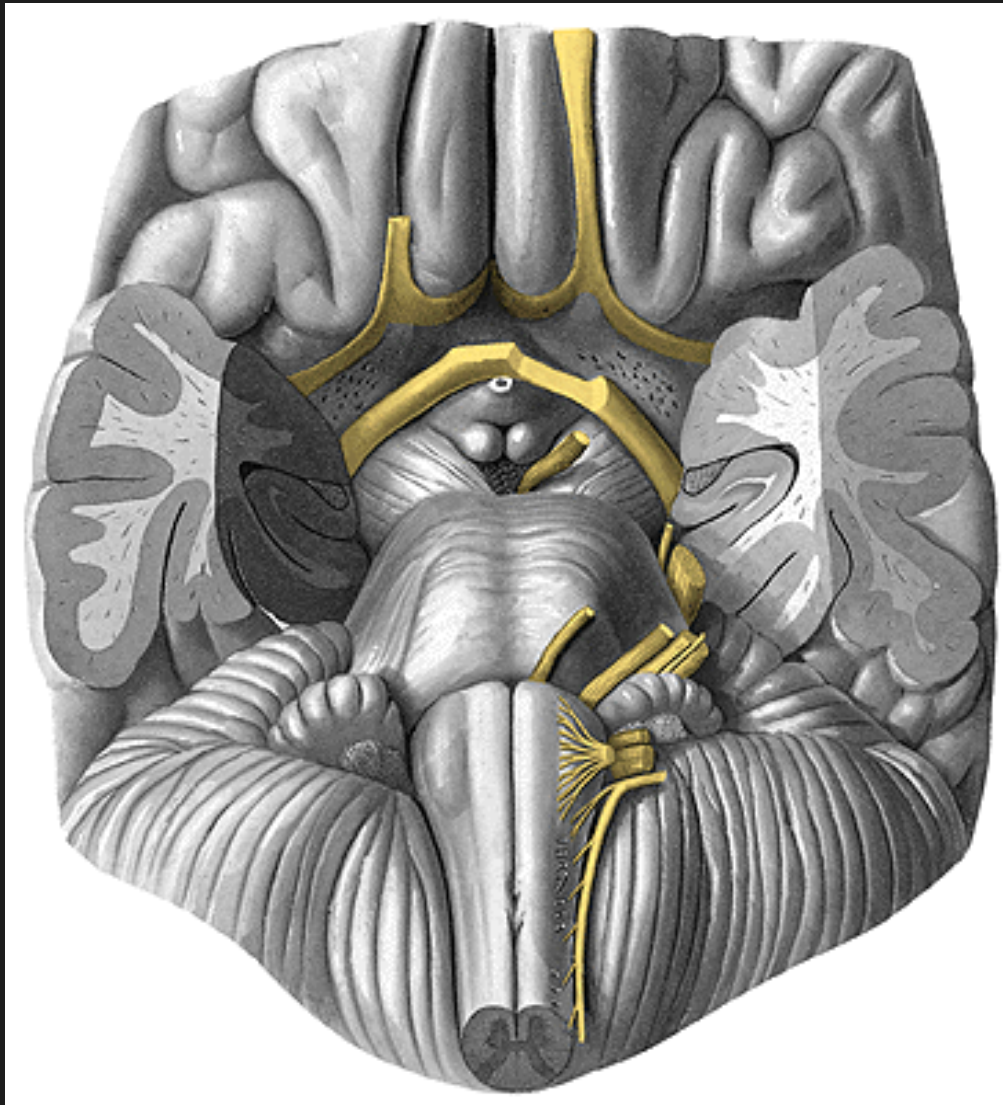
Rostral section

Caudal section



Rostral section

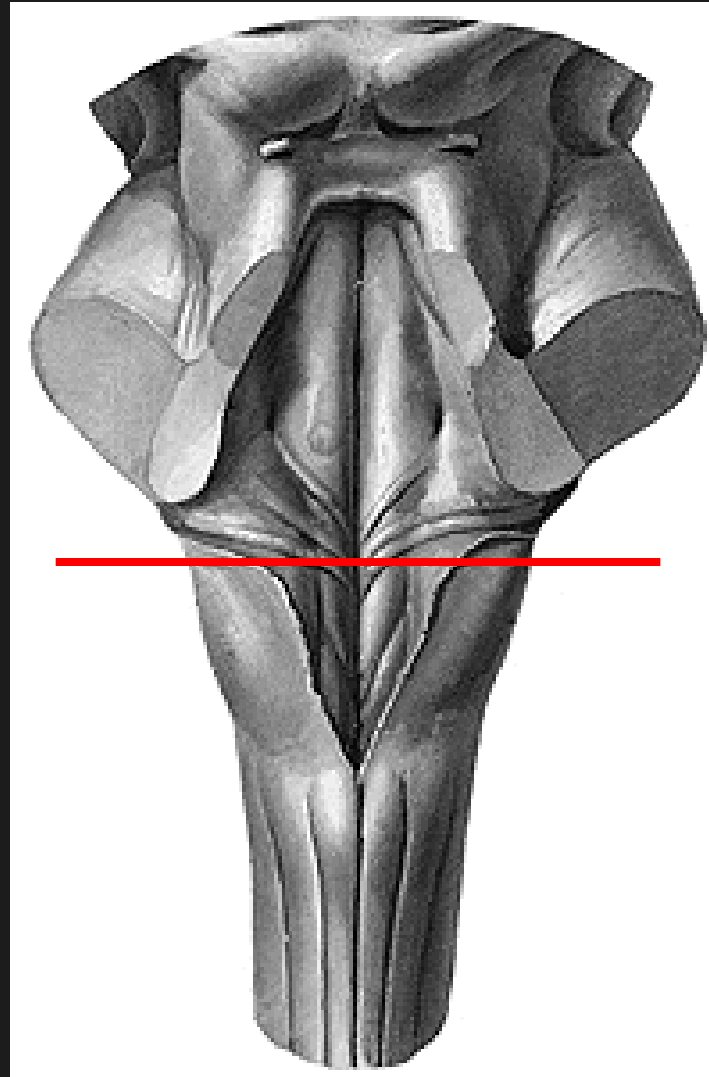




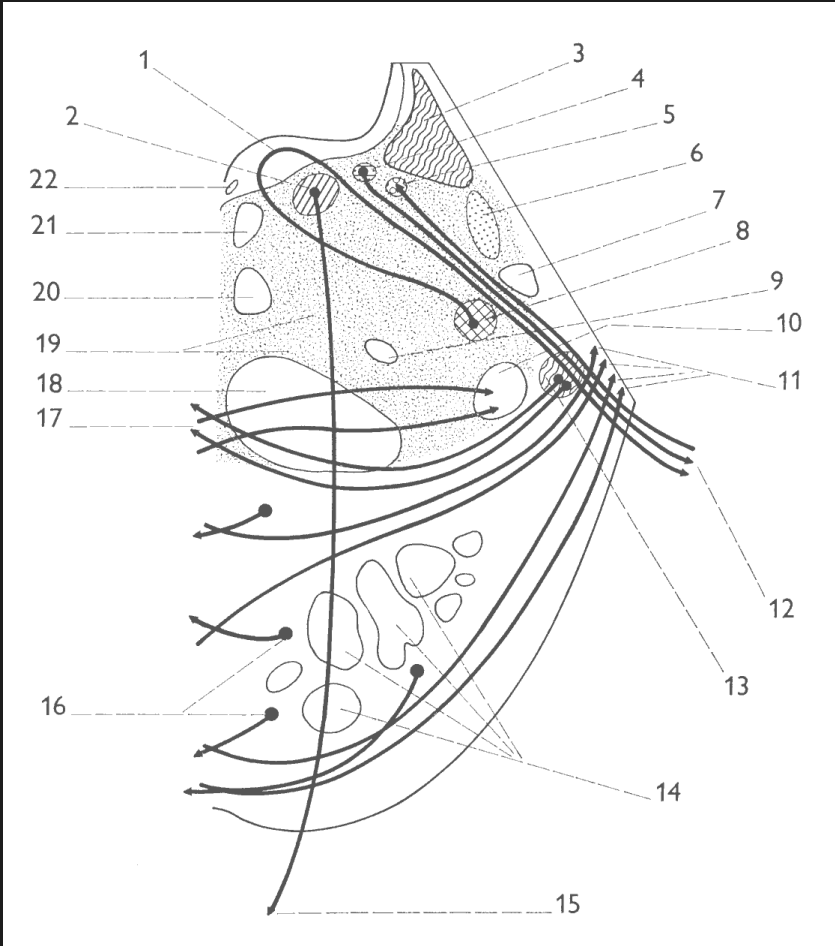
Pons Varoli

CN V, VI, VII, VIII

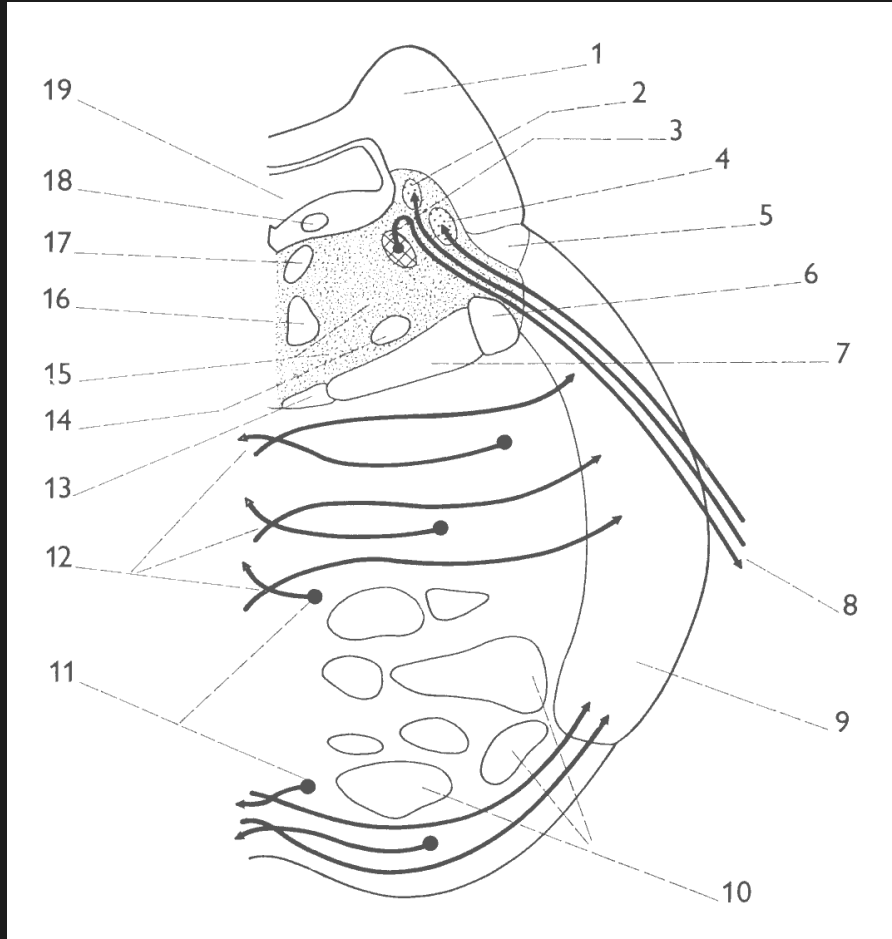
Pars media et superior fossae rhomboideae



Pons Varoli

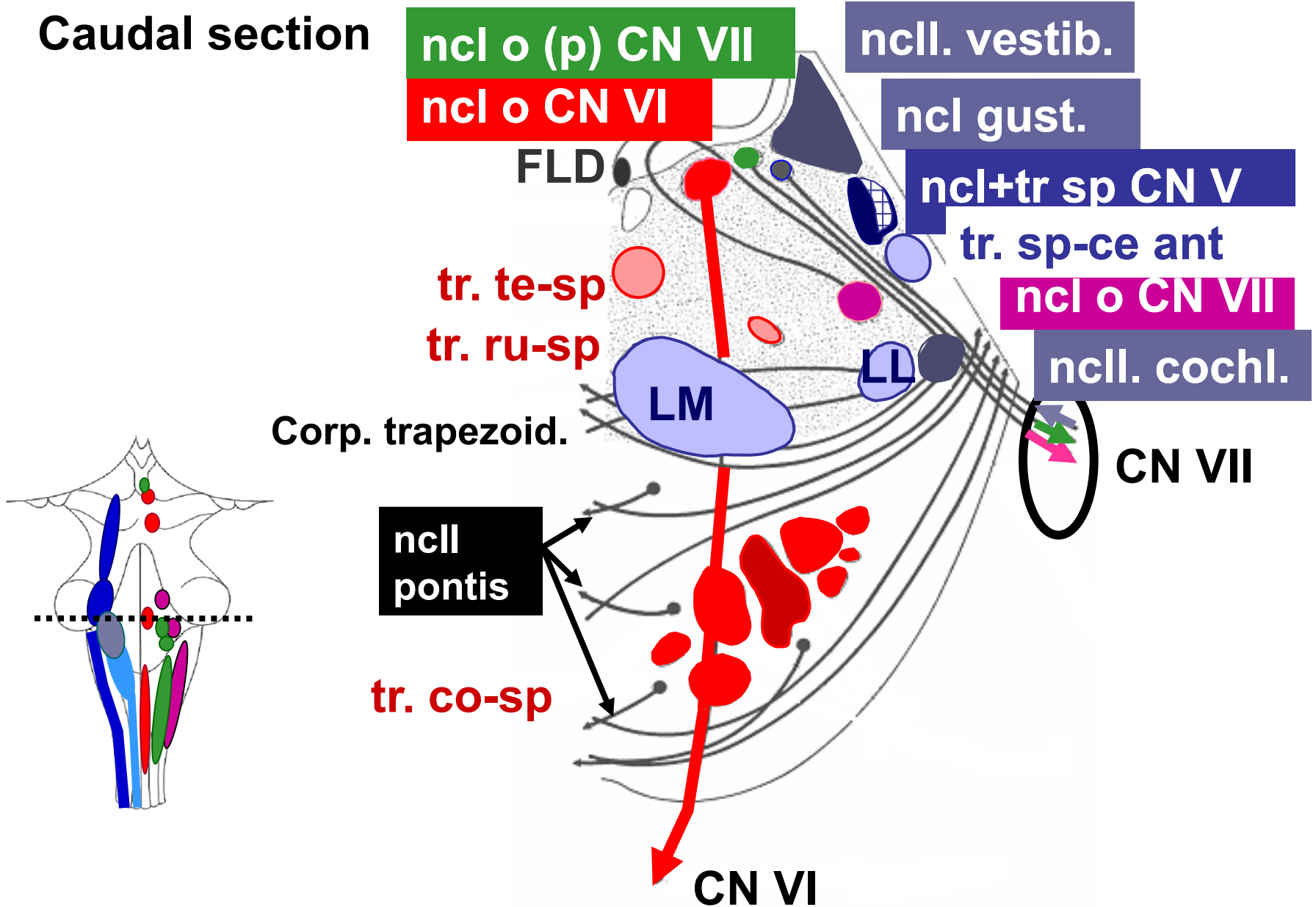


Caudal section

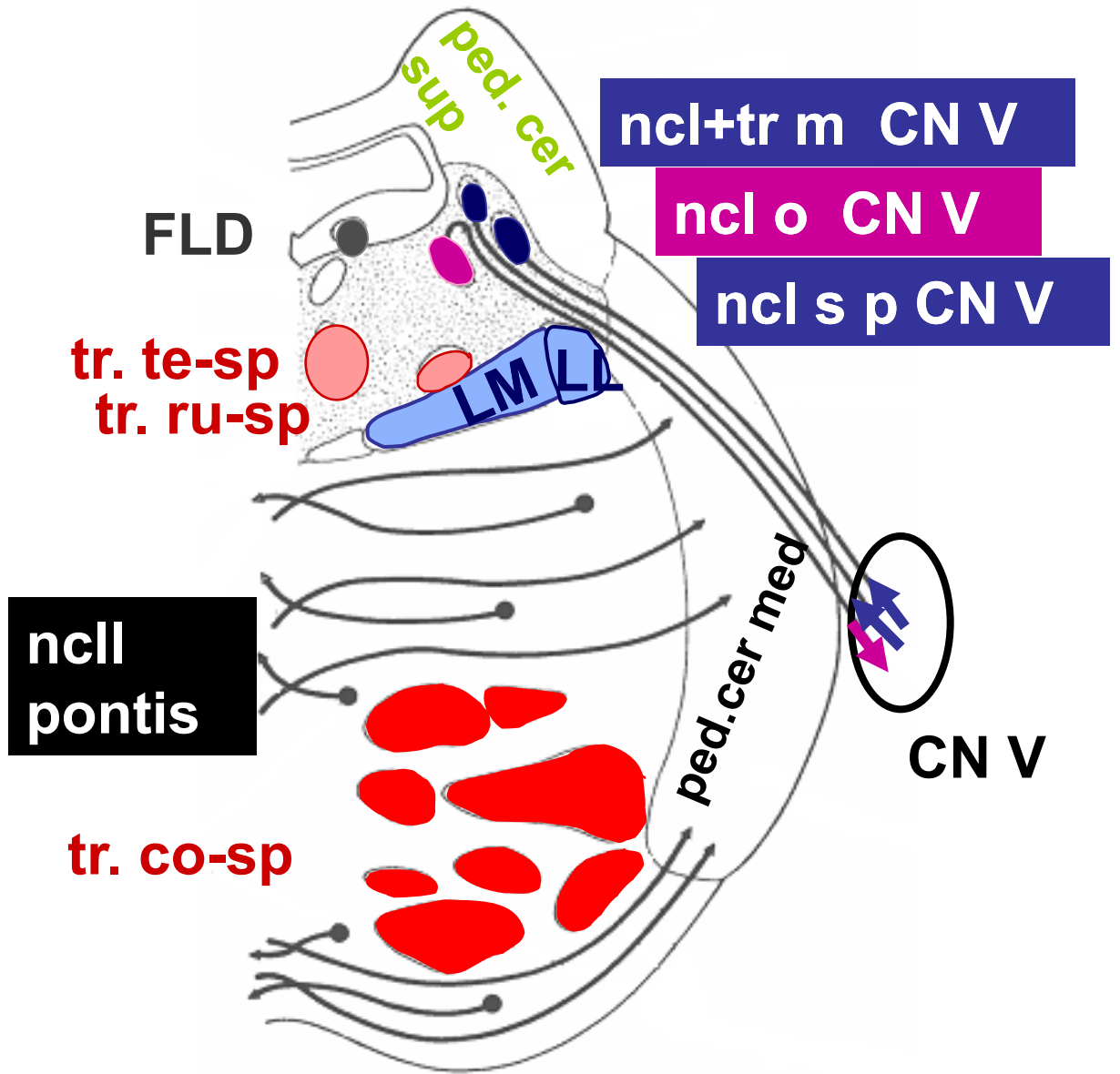
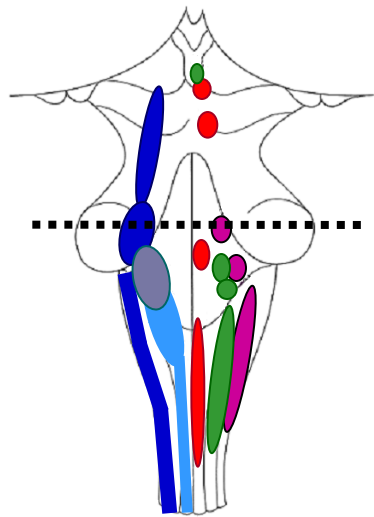


Rostral section

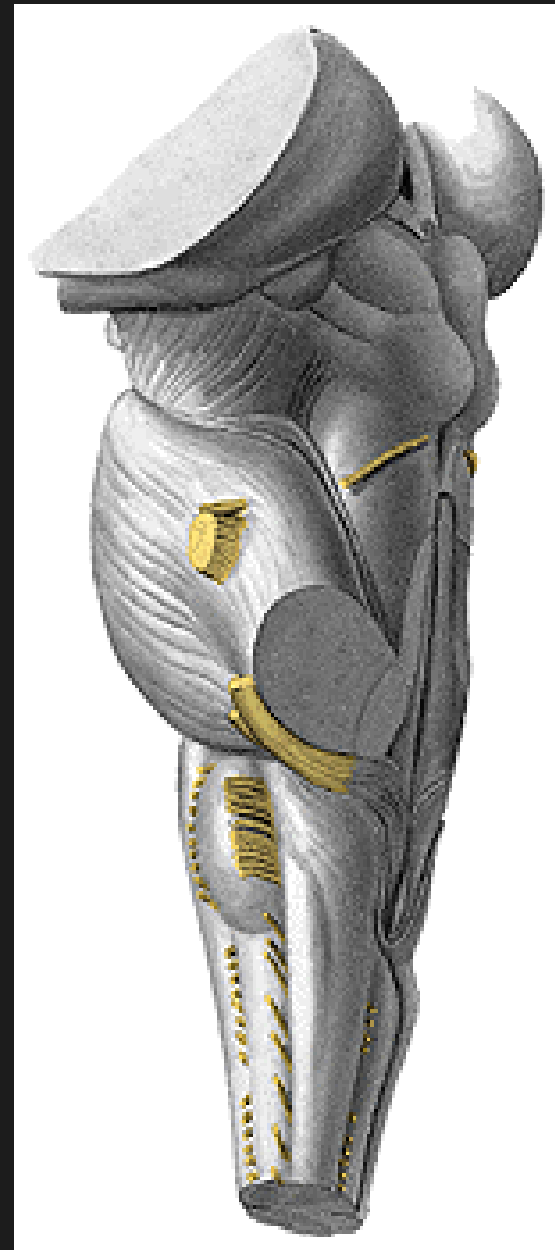
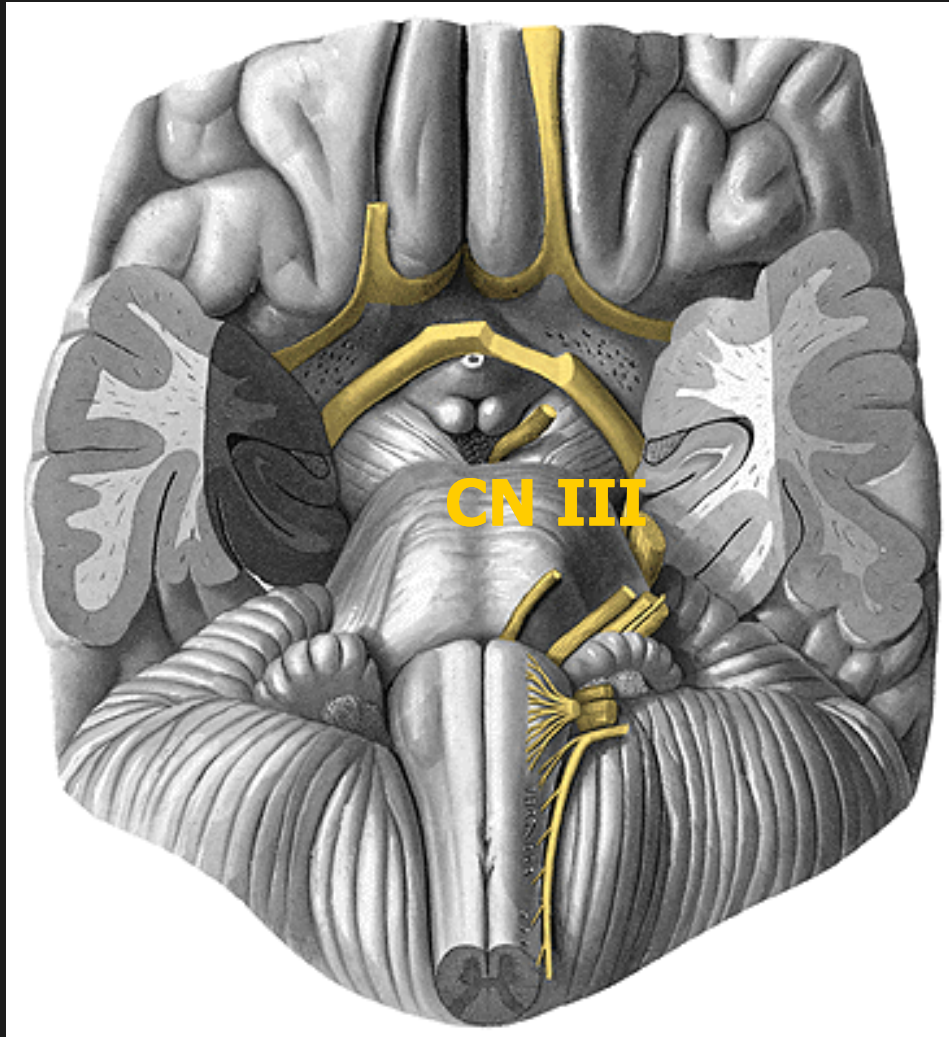
Caudal section



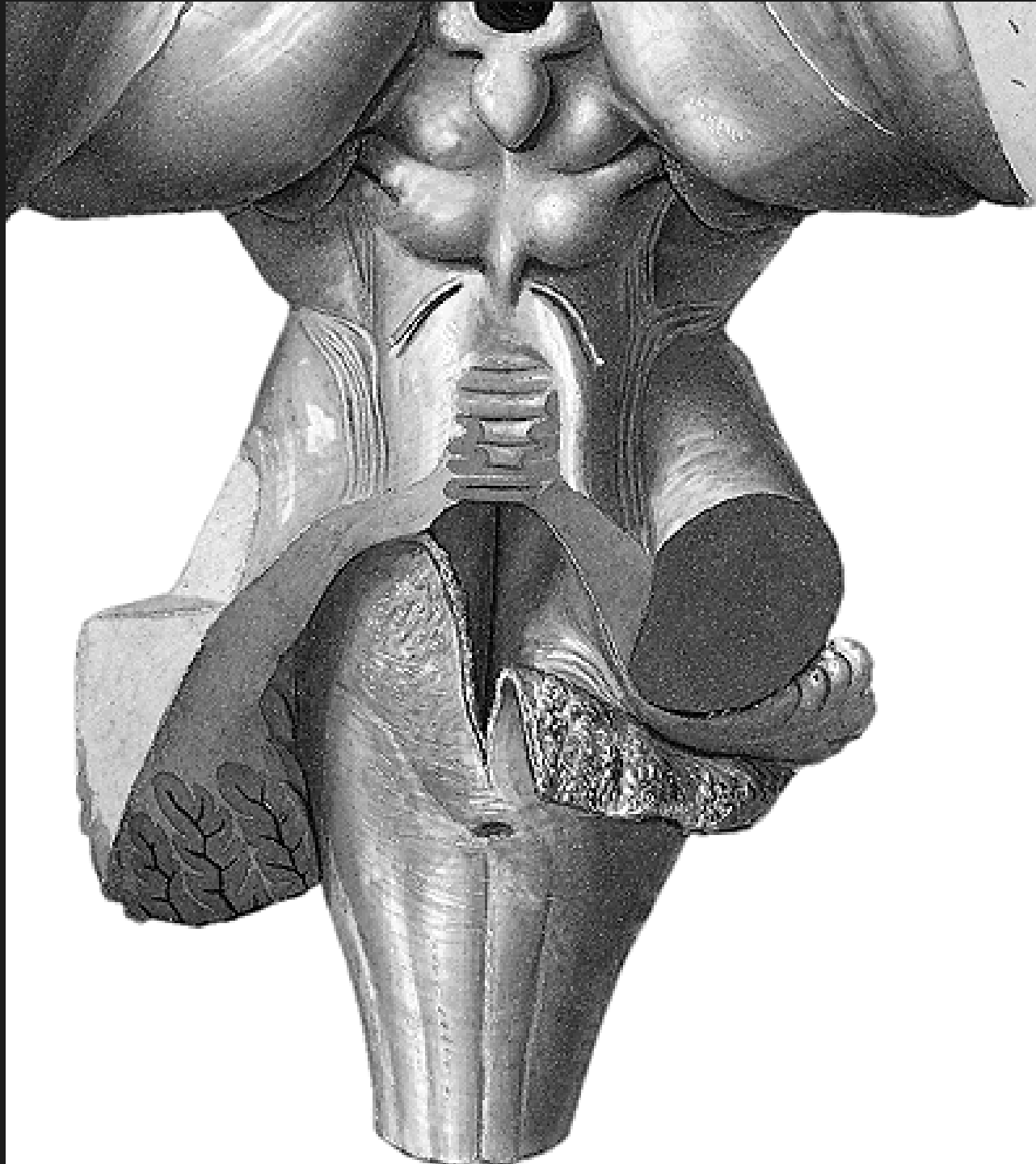
Rostral section



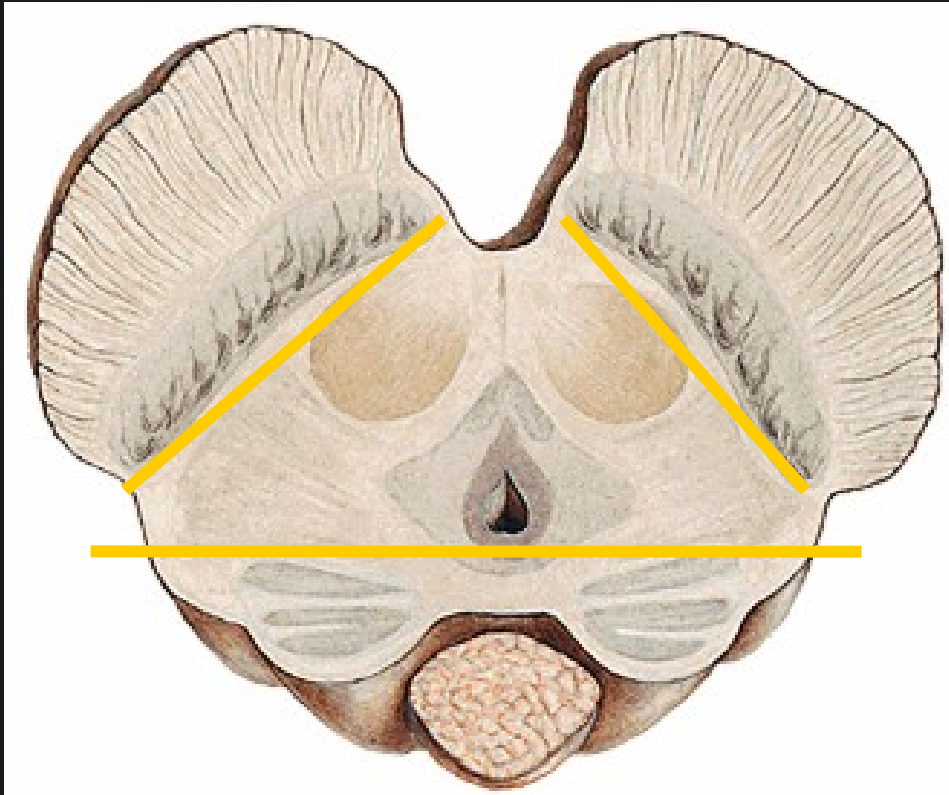
Mesencephalon



CN IV



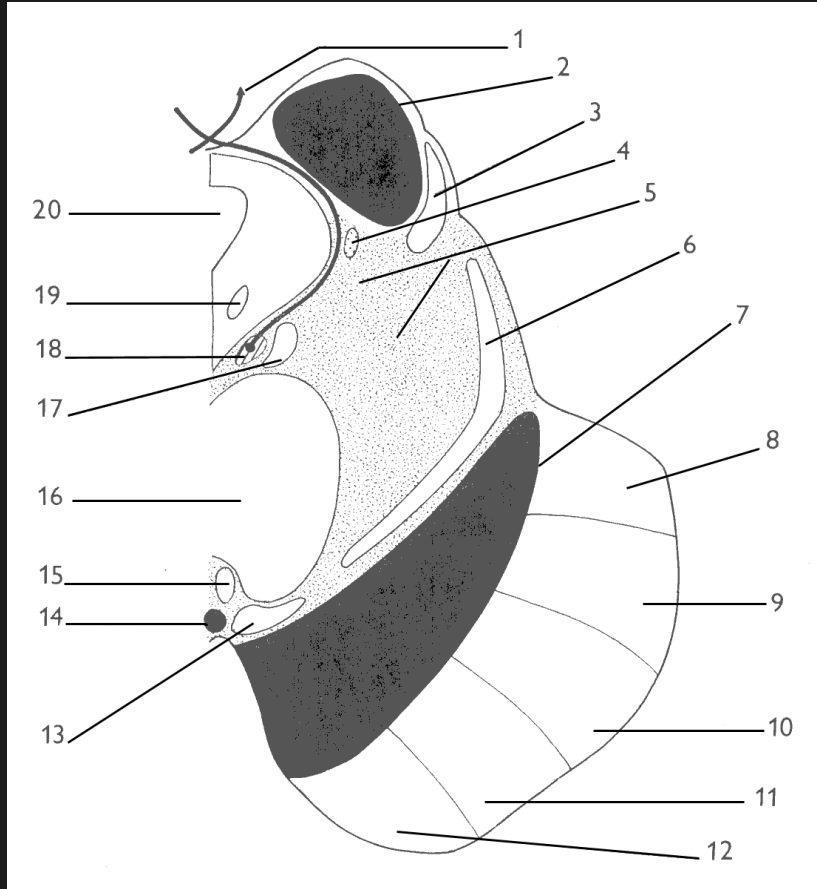
Mesencephalon



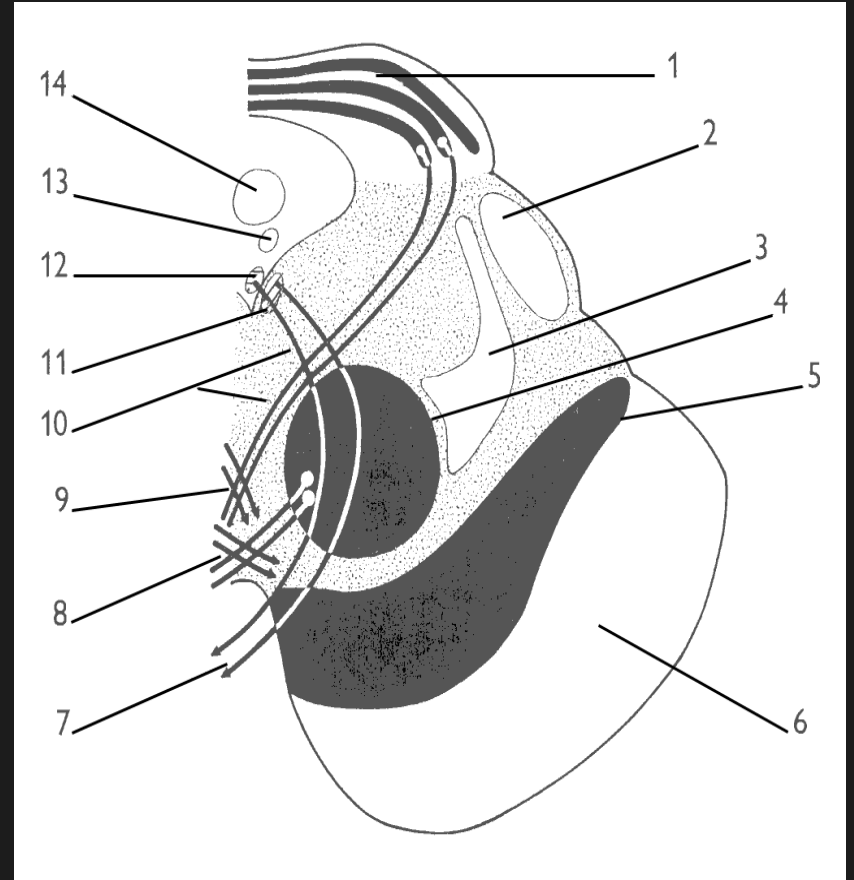
■ crura cerebri

■ tegmentum

■ tectum

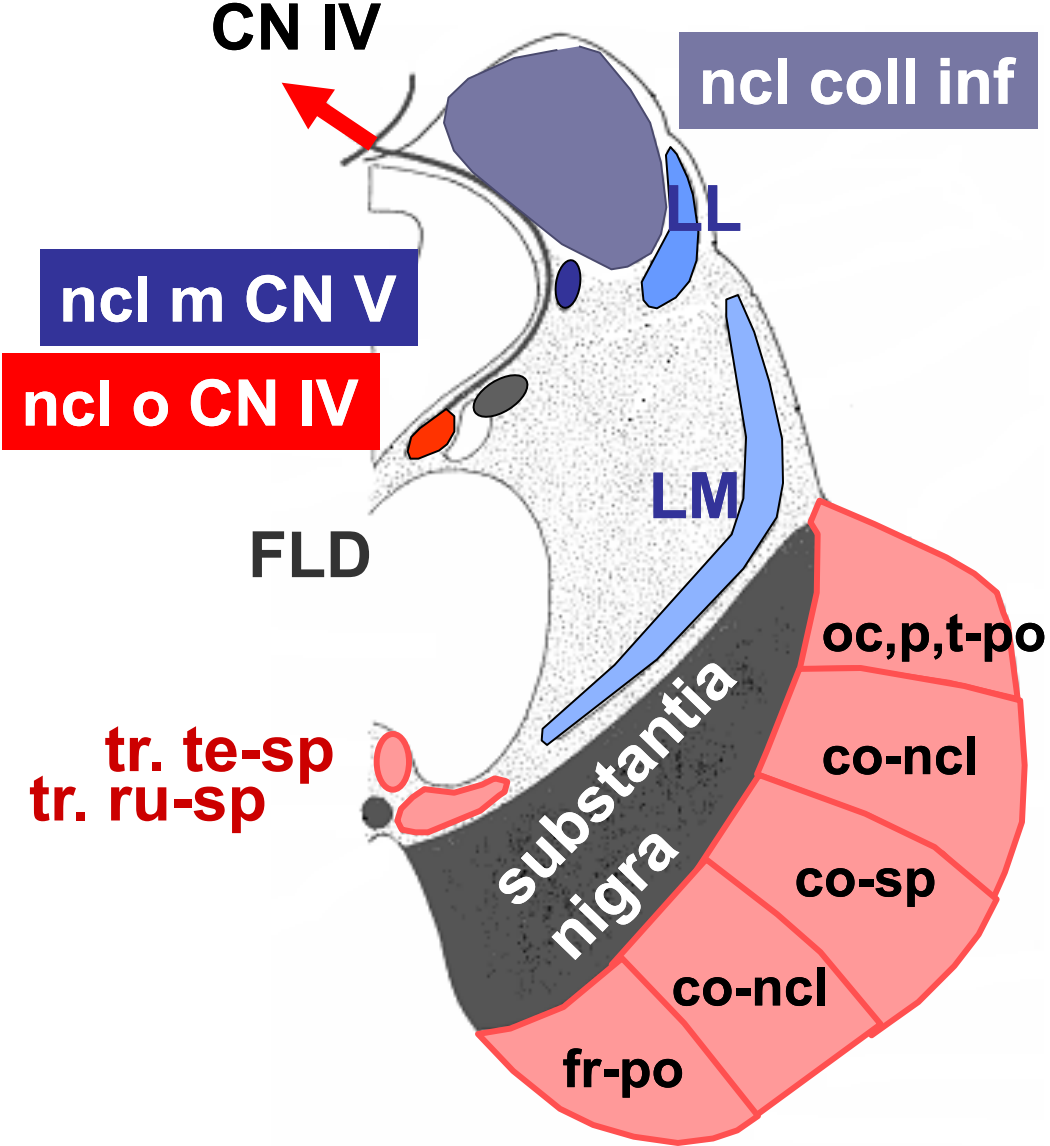
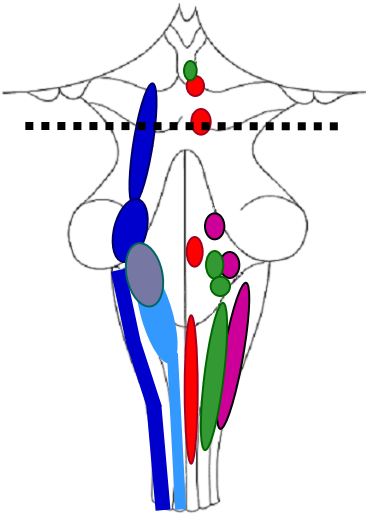


Caudal section

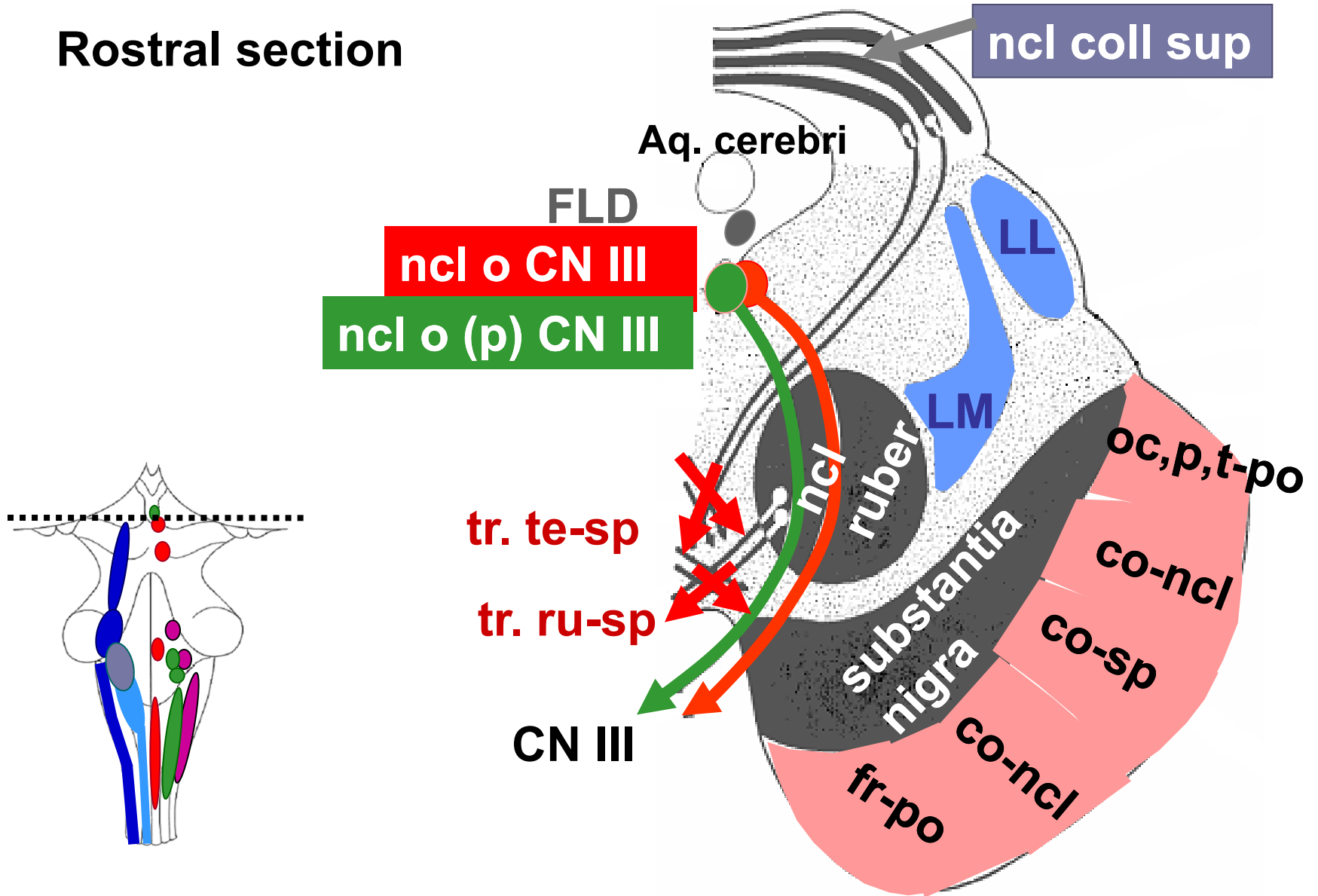


Rostral section

Caudal section

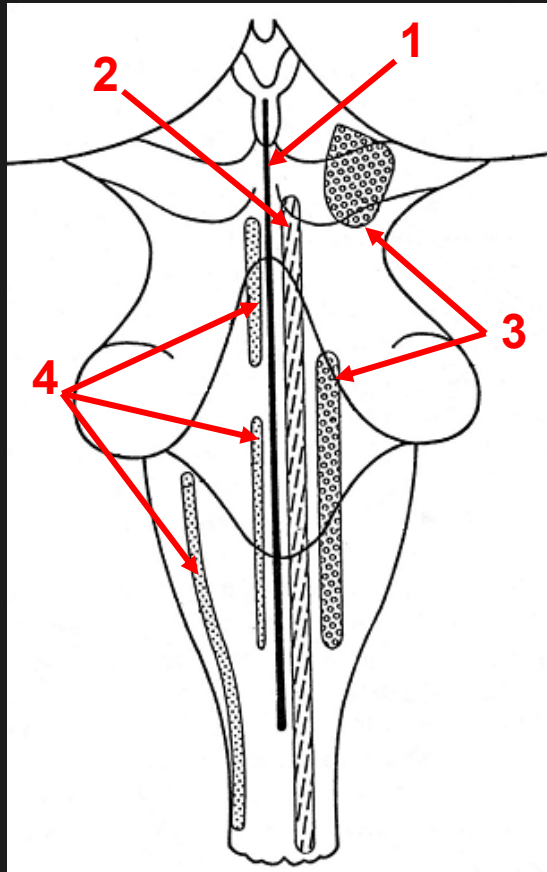


Rostral section



Reticular formation

- between afferent and motor systems
- spinal cord – diencephalon

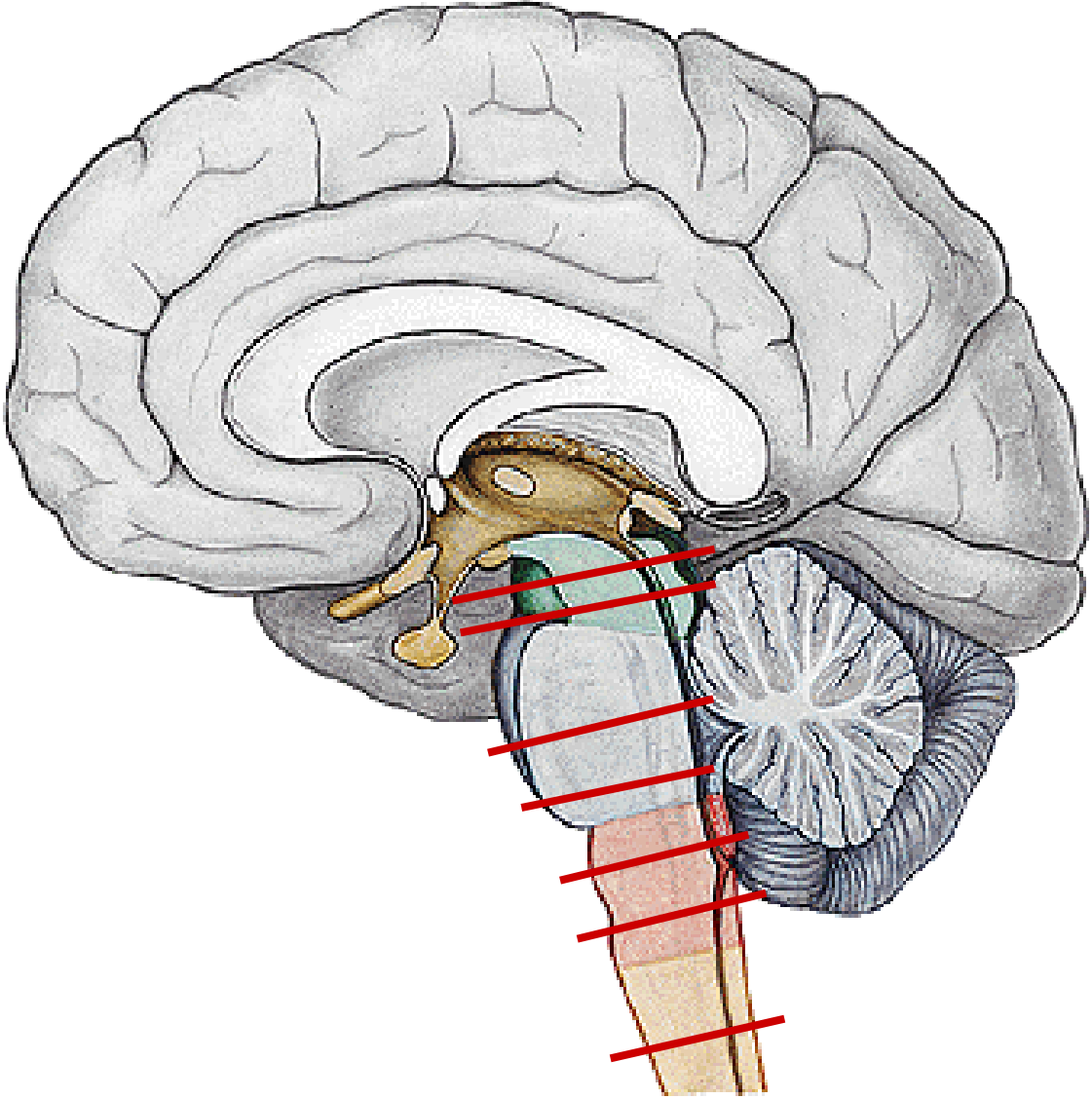


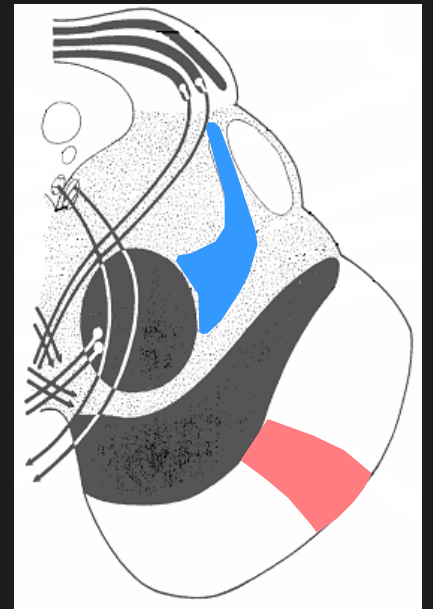
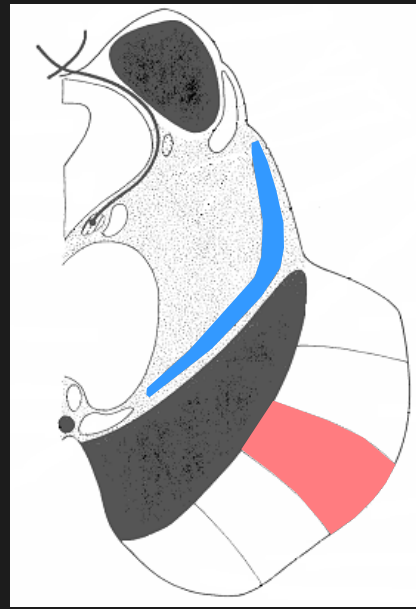
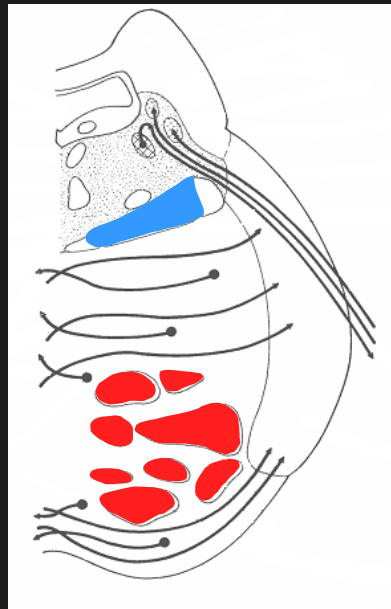
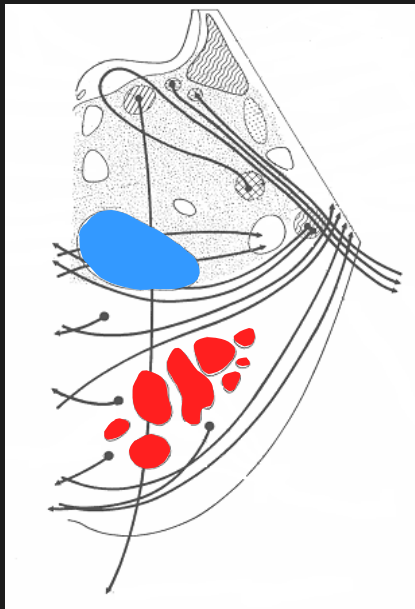
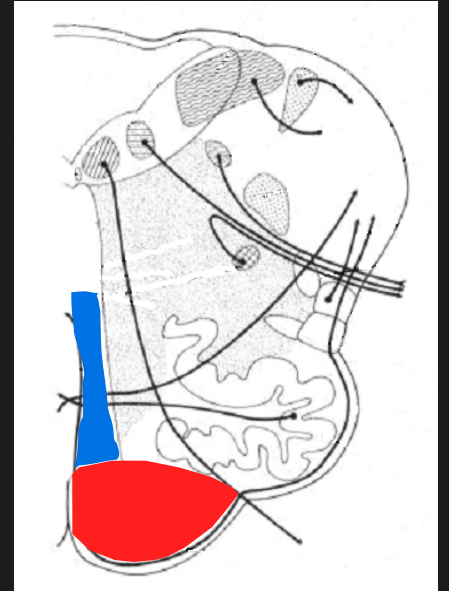
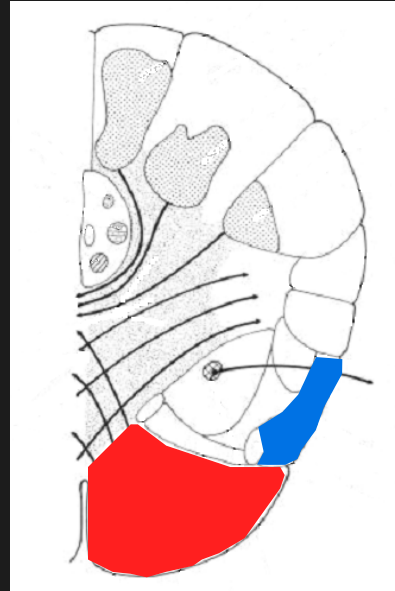
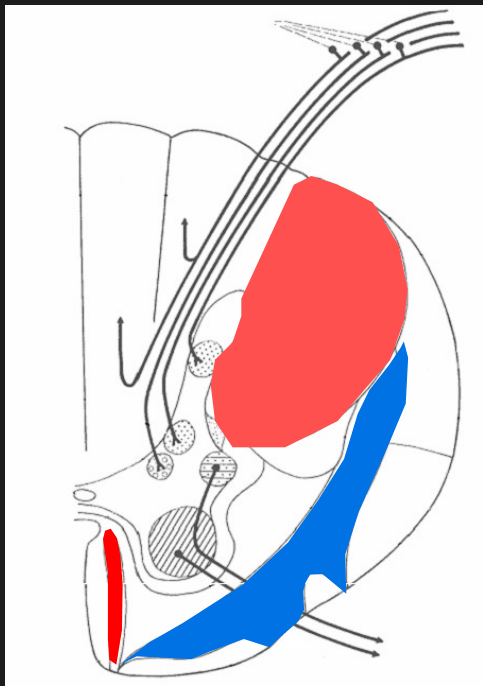
Nuclei of RF

- 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





Illustrations were copied from:

**Atlas der Anatomie des Menschen/
Sobotta. Putz,R., und Pabst,R. 20.
Auflage. München: Urban &
Schwarzenberg, 1993**

**Netter: Interactive Atlas of Human
Anatomy. Windows Version 2.0**