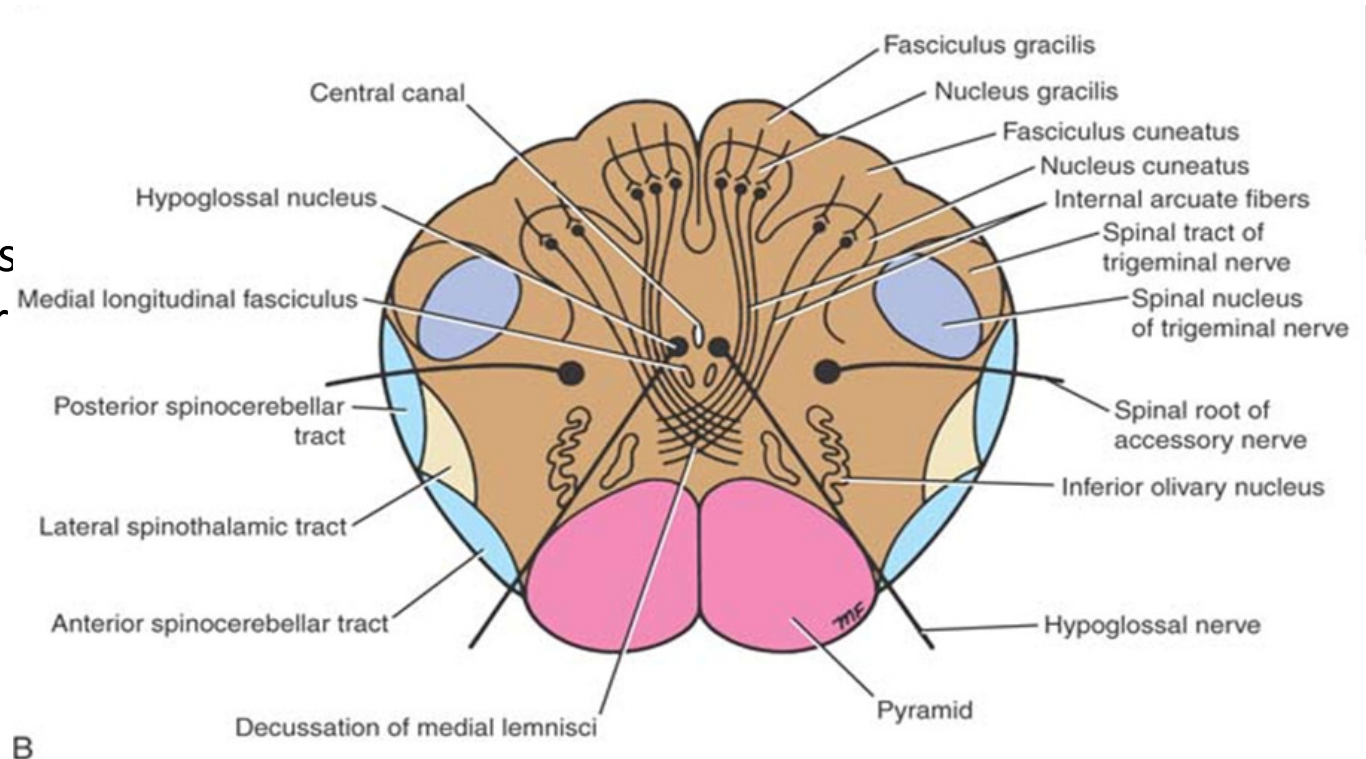


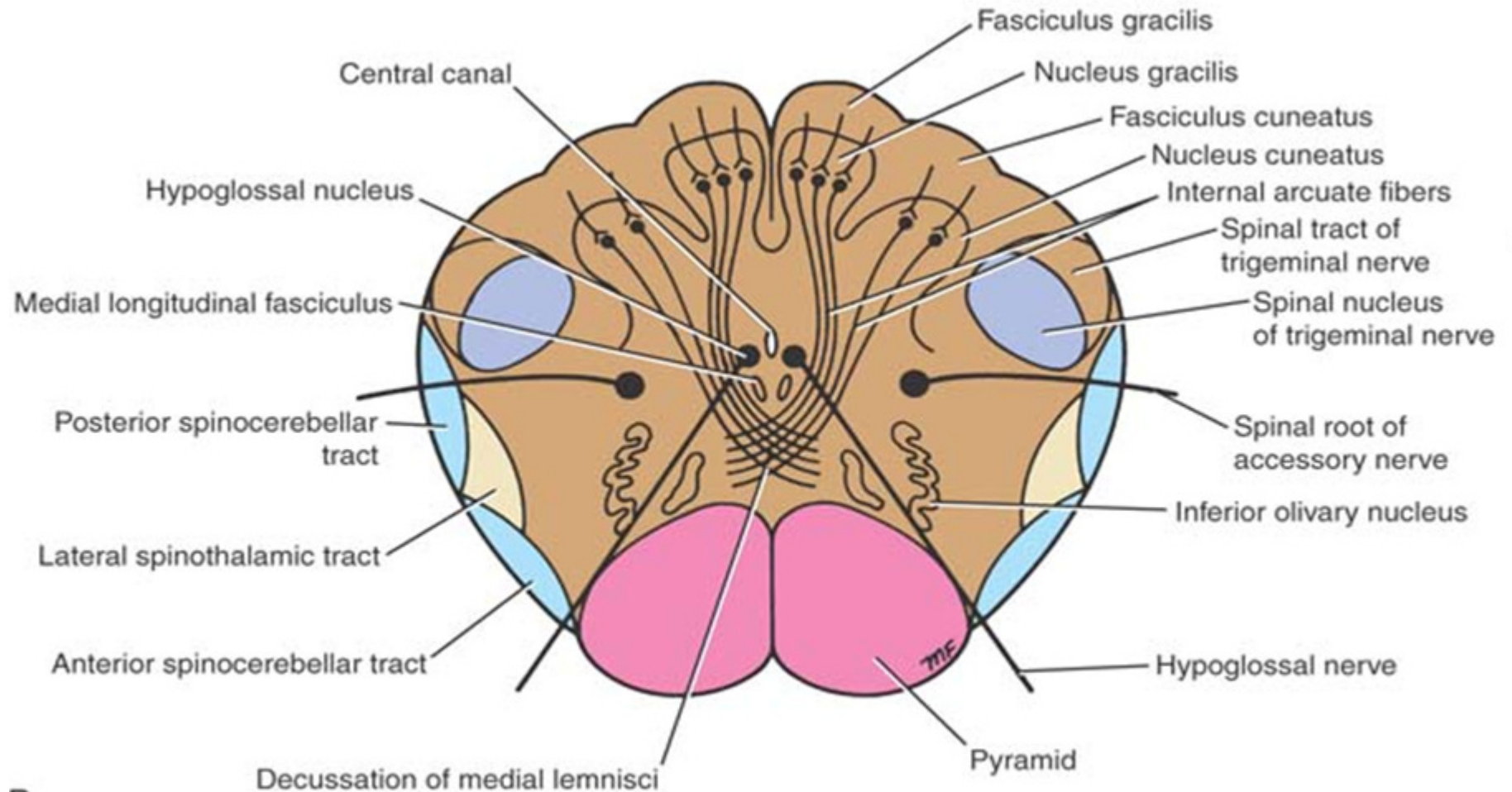
Level of decussation of lemnisci

- Sensory decussation
- Lemnisci are formed by internal arcuate fibers
- internal arcuate fibers emerge from anterior aspect of nucleus gracilis and nucleus cuneatus
- Decussation takes place posterior to pyramids
- Spinal nucleus of the trigeminal nerve (lateral to the internal arcuate fibers)
- spinal lemniscus lateral to the decussation of the lemnisci



- The spinocerebellar vestibulospinal, and the rubrospinal tracts (anterolateral)
- Central canal

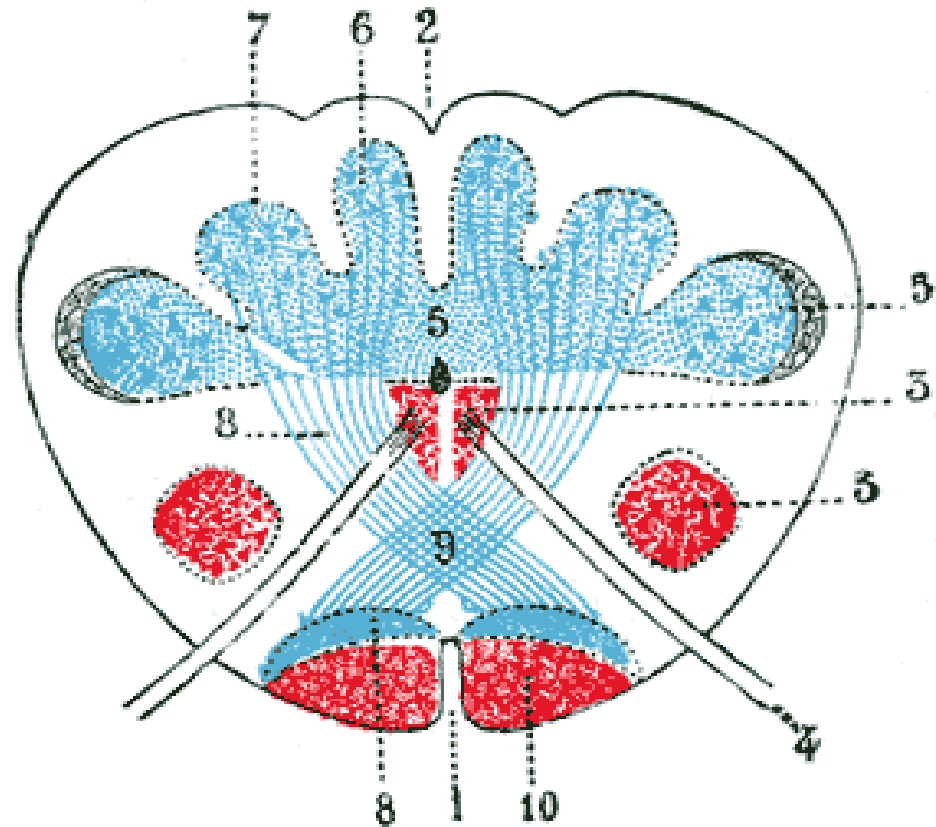
Level of sensory decussation

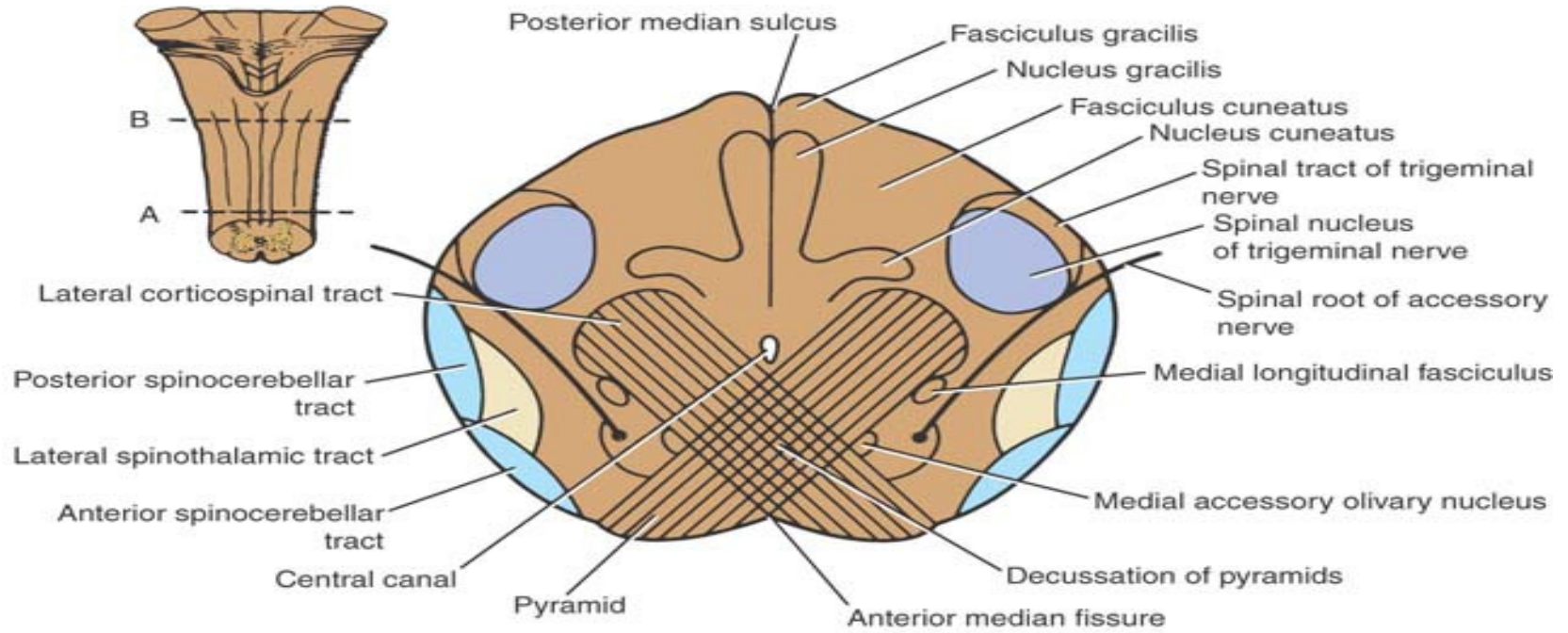


B

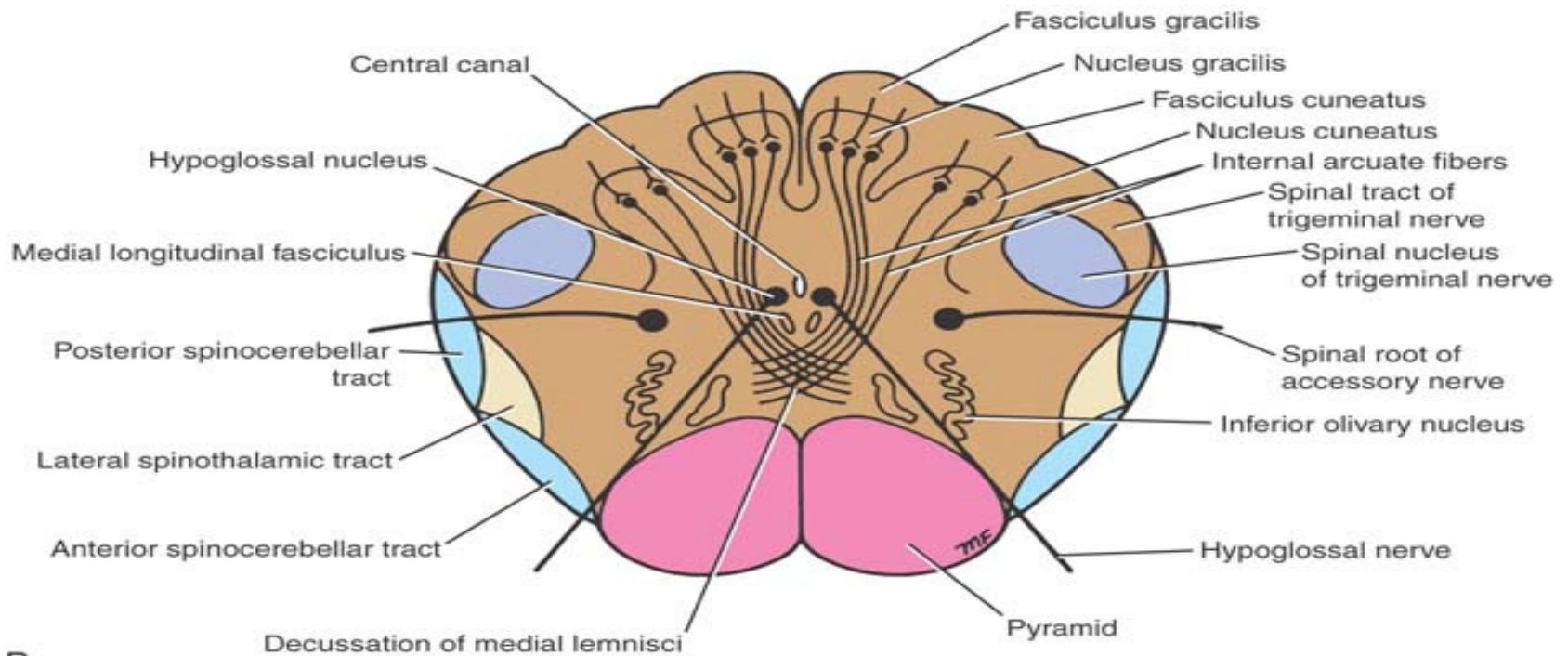
Level of sensory decussation

- 1----ant. Median fissure
- 2----post. Median sulcus
- 6----nucleus gracile
- 7----nucleus cuneatus
- 8----int. arcuate fibers
- 9---- decussation of medial lemniscus
- 10----pyramids





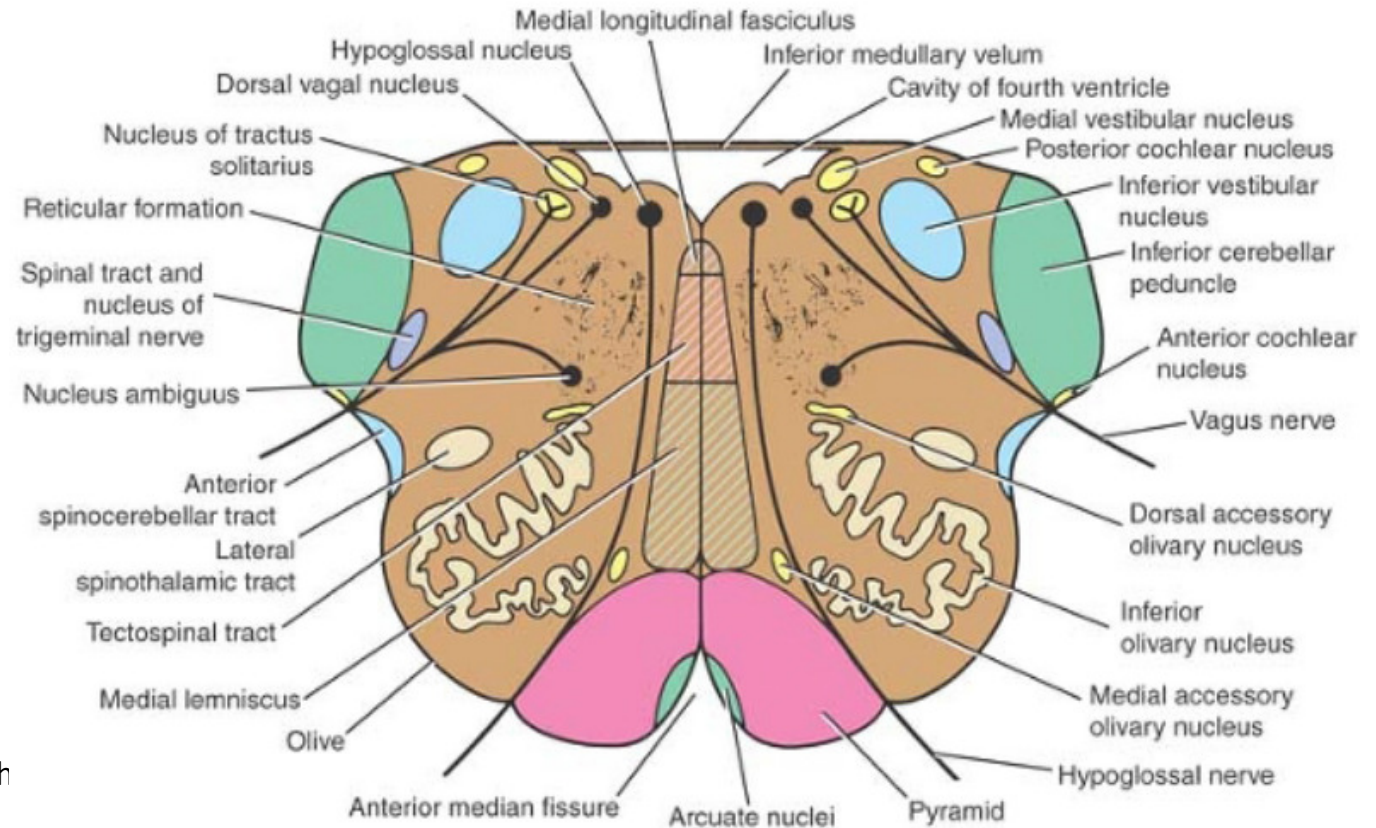
A



B

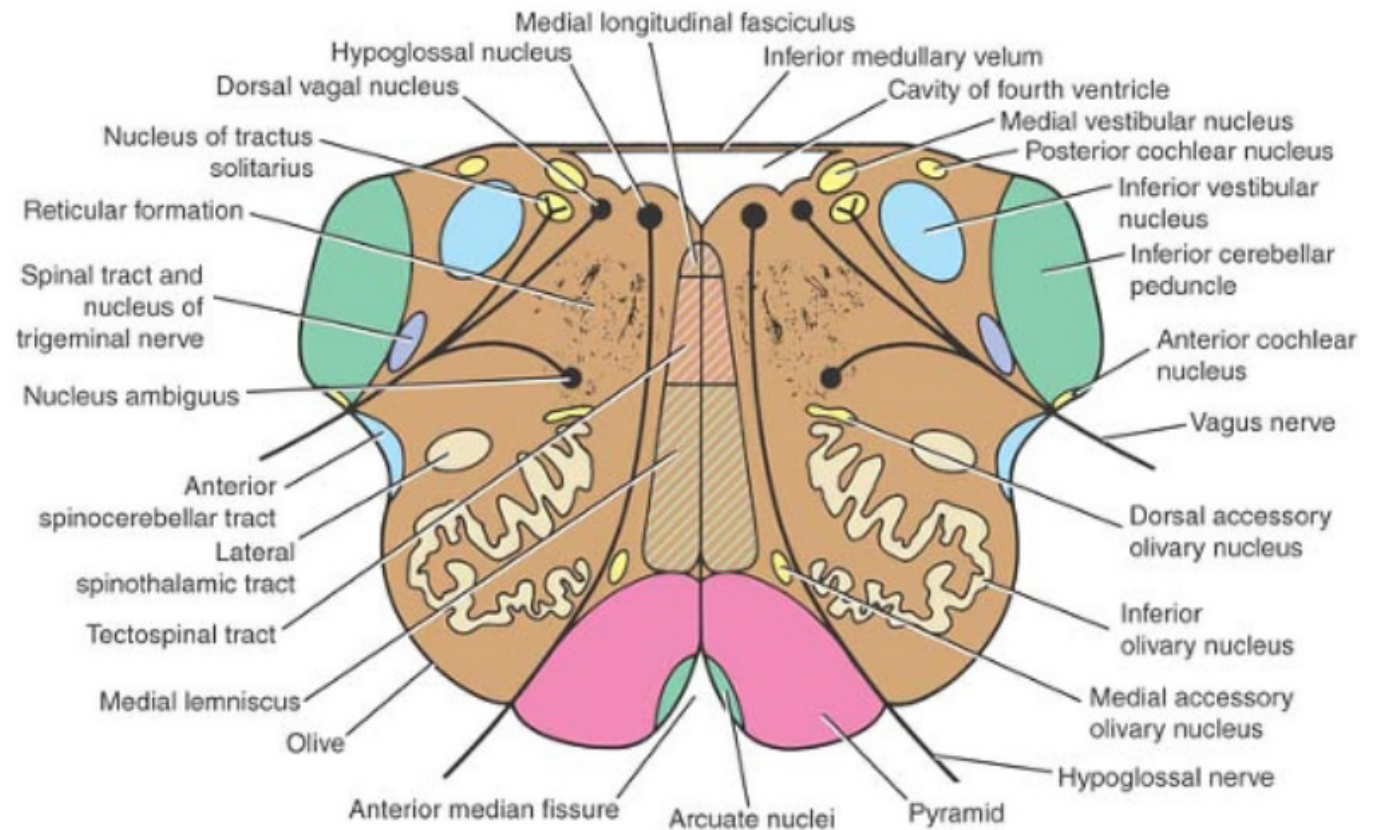
Level of olives (open medulla)

- inferior part of 4th ventricle
- Pyramids
- ICP (posterolateral corner)
- Medial lemniscus
- RF
- Spinal nucleus of trigeminal and its tract (anteriomedial to ICP)
- Nuclei of 12th 11th 10th & 9th
- Inf Olivary nucleus
- Medial longitudinal fasciculus



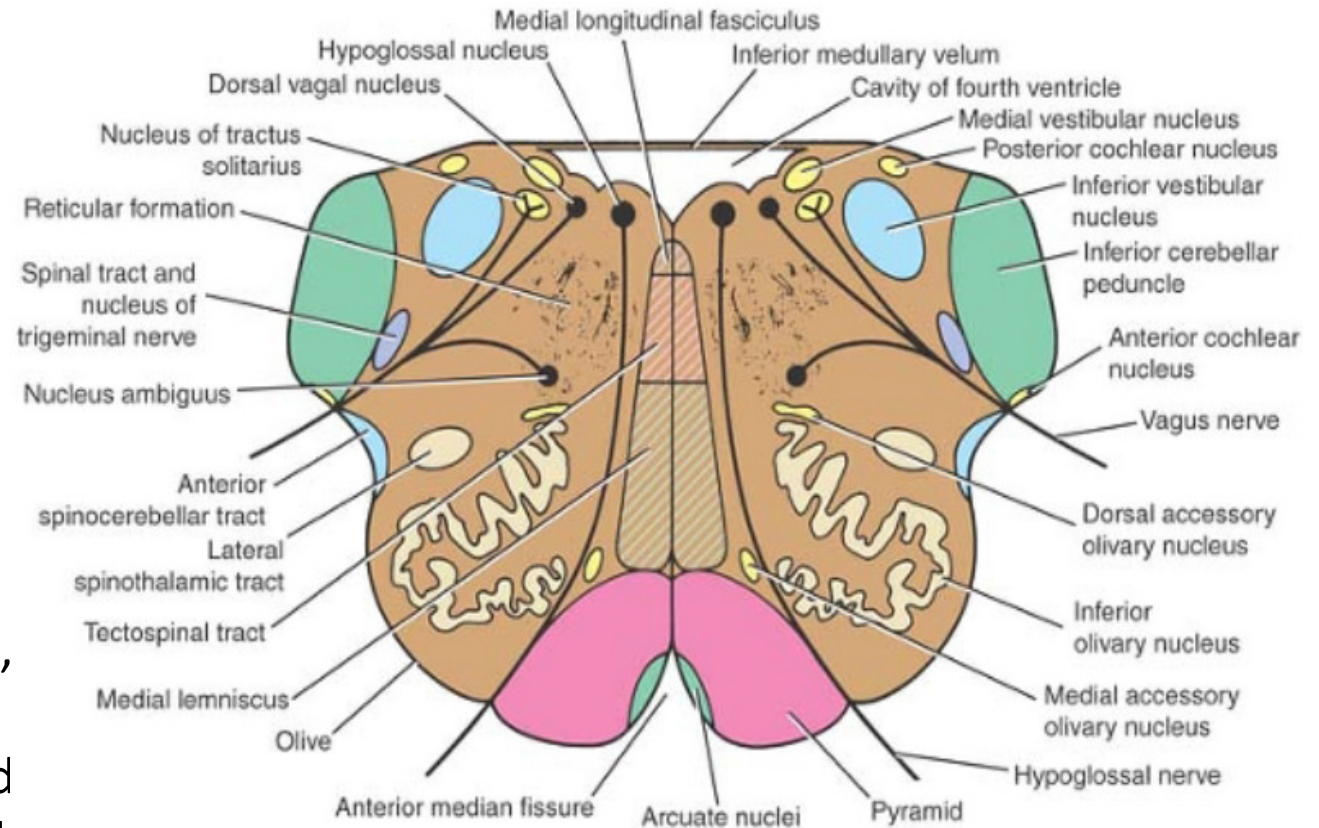
Olivary nuclear complex

- Mainly Inf. Olivary nucleus
- Gray matter is shaped like a crumpled bag with its mouth directed medially
- Responsible of the elevation olive
- Has communications with spinal cord, cerebellum & cortex
- Function is associated with voluntary muscle movement



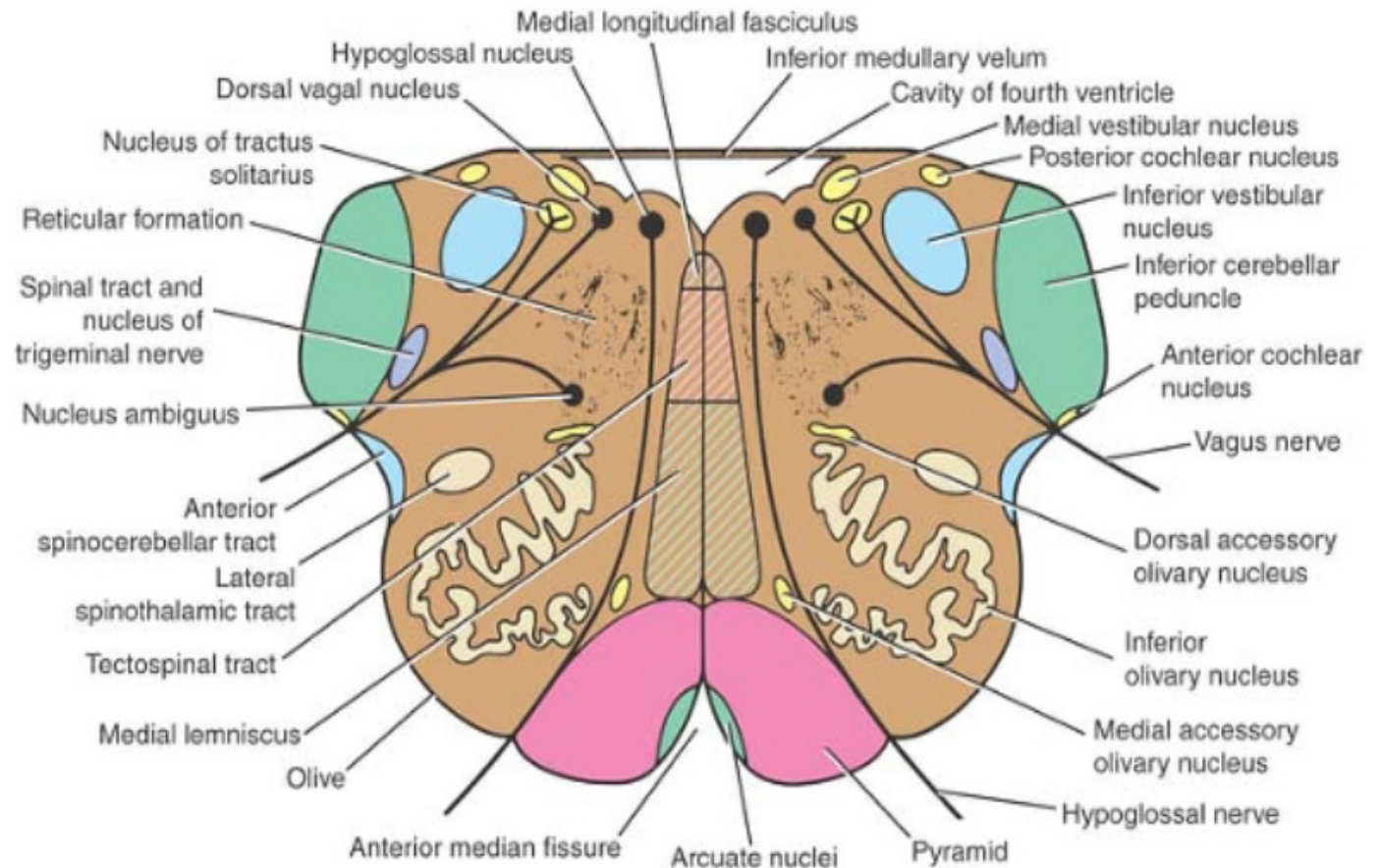
Nucleus ambiguus

- Large motor neurons
- Situated deep in RF
- Emerging fibers join 9th, 10th and 11th (cranial root of accessory)
- An elongated nucleus in the medulla oblongata that gives rise to the motor fibers of the glossopharyngeal, vagus, and accessory (cranial) nerves supplying striated muscle of the larynx and pharynx and soft palat



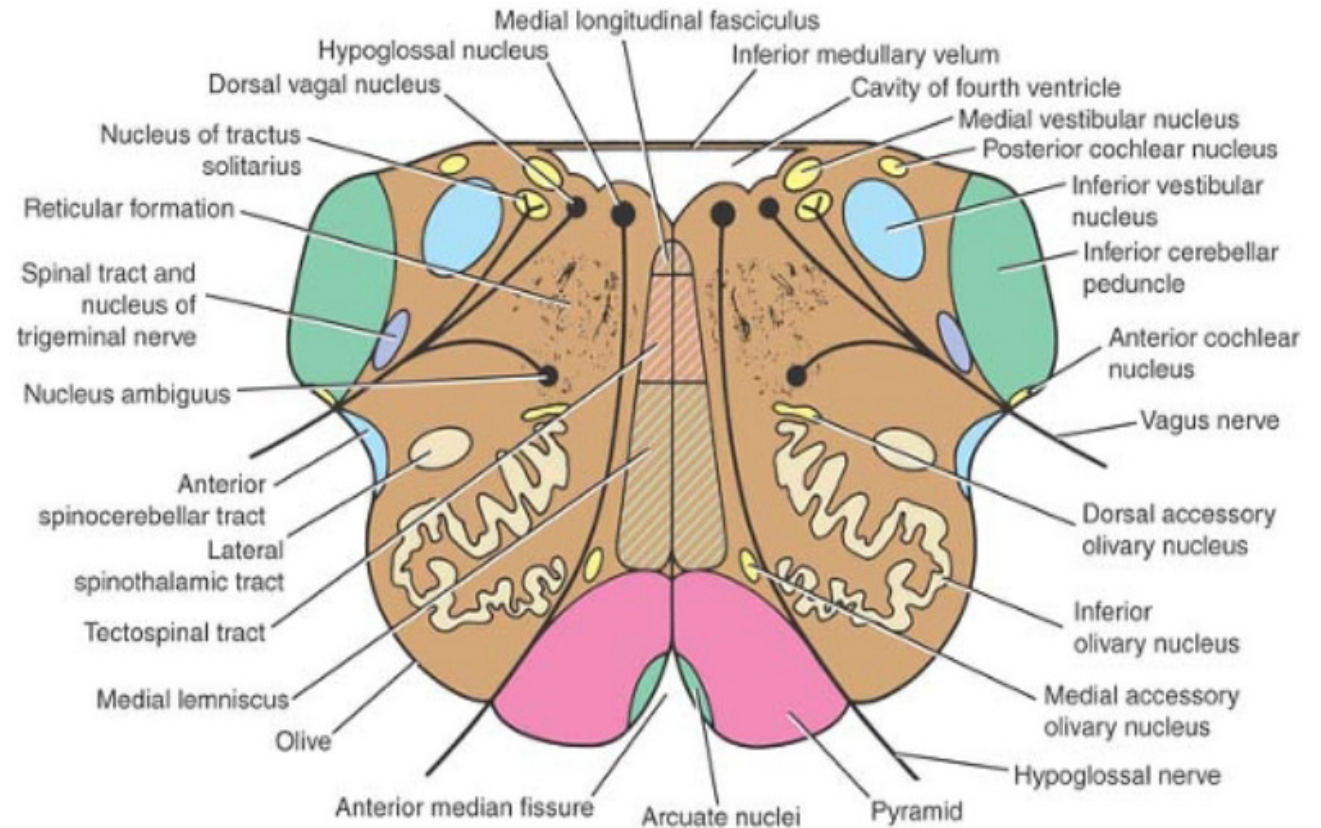
Medial longitudinal fasciculus

- Small tract of nerve fibers
- situated on each side of the midline
- Posterior to med. Lemniscus
- Anterior to 12th nucleus
- It is composed largely of ascending fibers from the vestibular nuclei and cochlear nuclei ascending to the motor nuclei (third, fourth and sixth)

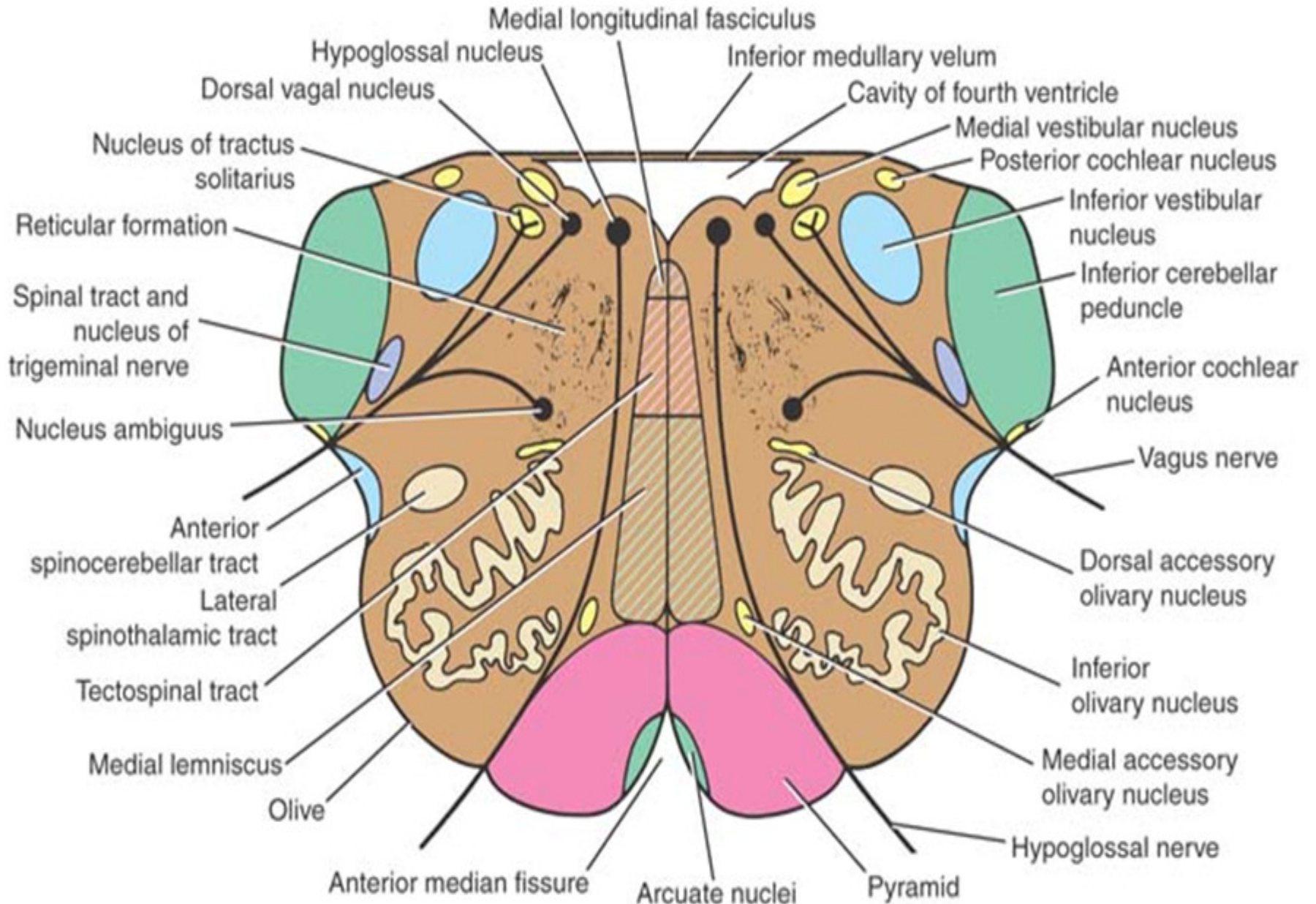


Central gray matter

- Lies beneath the floor of 4th ventricle
- Passing from M to L:
 1. Hypoglossal nucleus
 2. Dorsal nucleus of vagus
 3. Solitary nucleus
 4. Vestibular nuclei (medial and inferior)

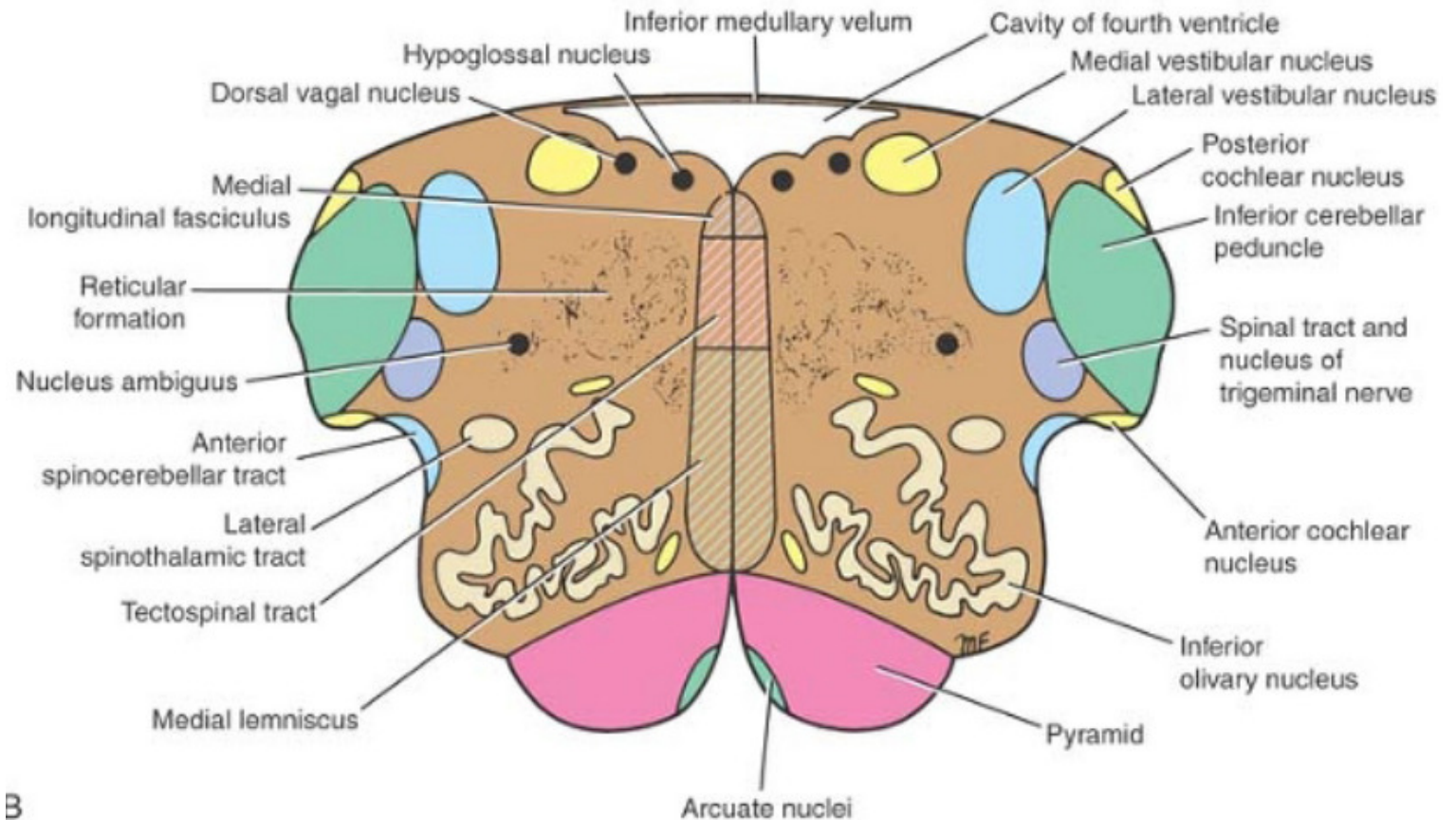


Medulla oblongata at the level of olives



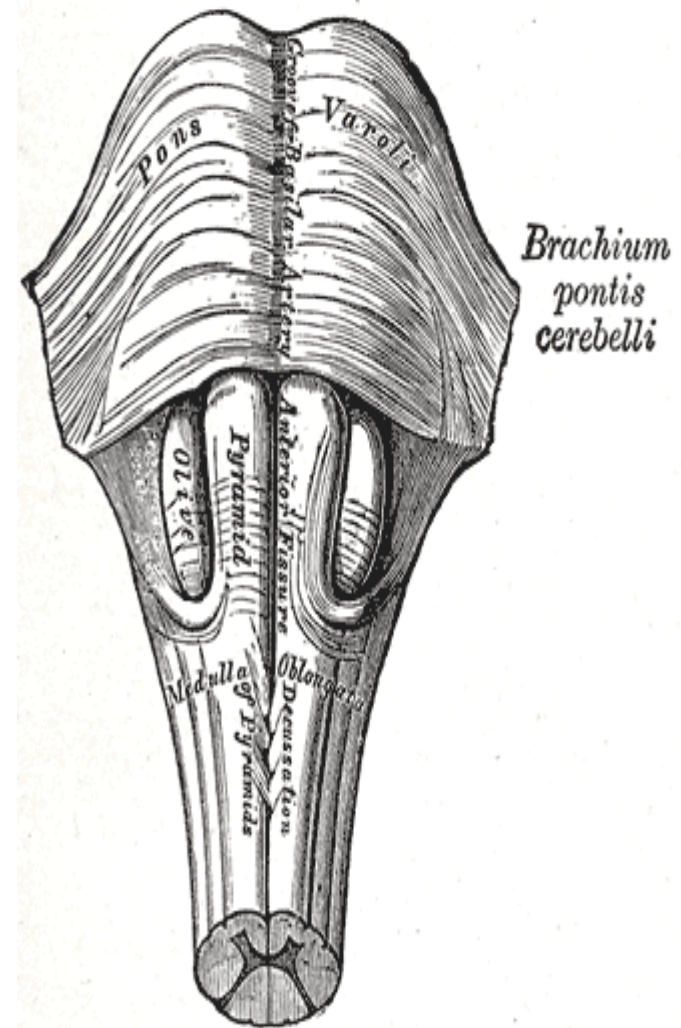
Level Just Inferior to the Pons

- No major changes
- **Lateral vestibular nucleus** replaced the inferior vestibular nucleus
- **Cochlear nuclei** visible on the anterior and posterior surfaces of the inferior cerebellar peduncle.



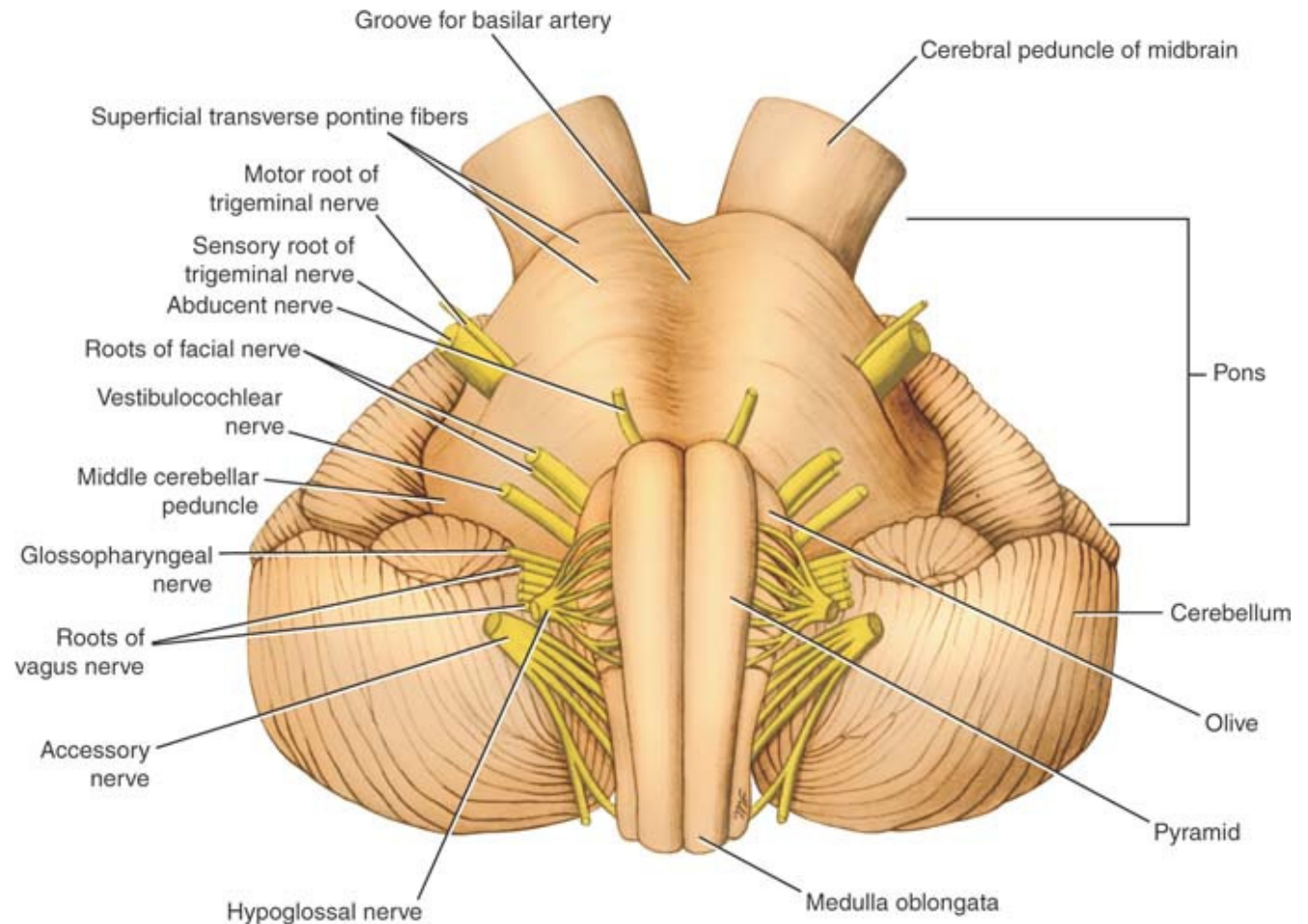
Pons

- Located anterior to cerebellum
- 1 inch long
- Anterior surface is convex & shows transverse fibers that converge on each side to form middle cerebellar peduncle
- Located between the midbrain and medulla oblongata
- Contains the nuclei of cranial nerves V, VI, VII and VIII

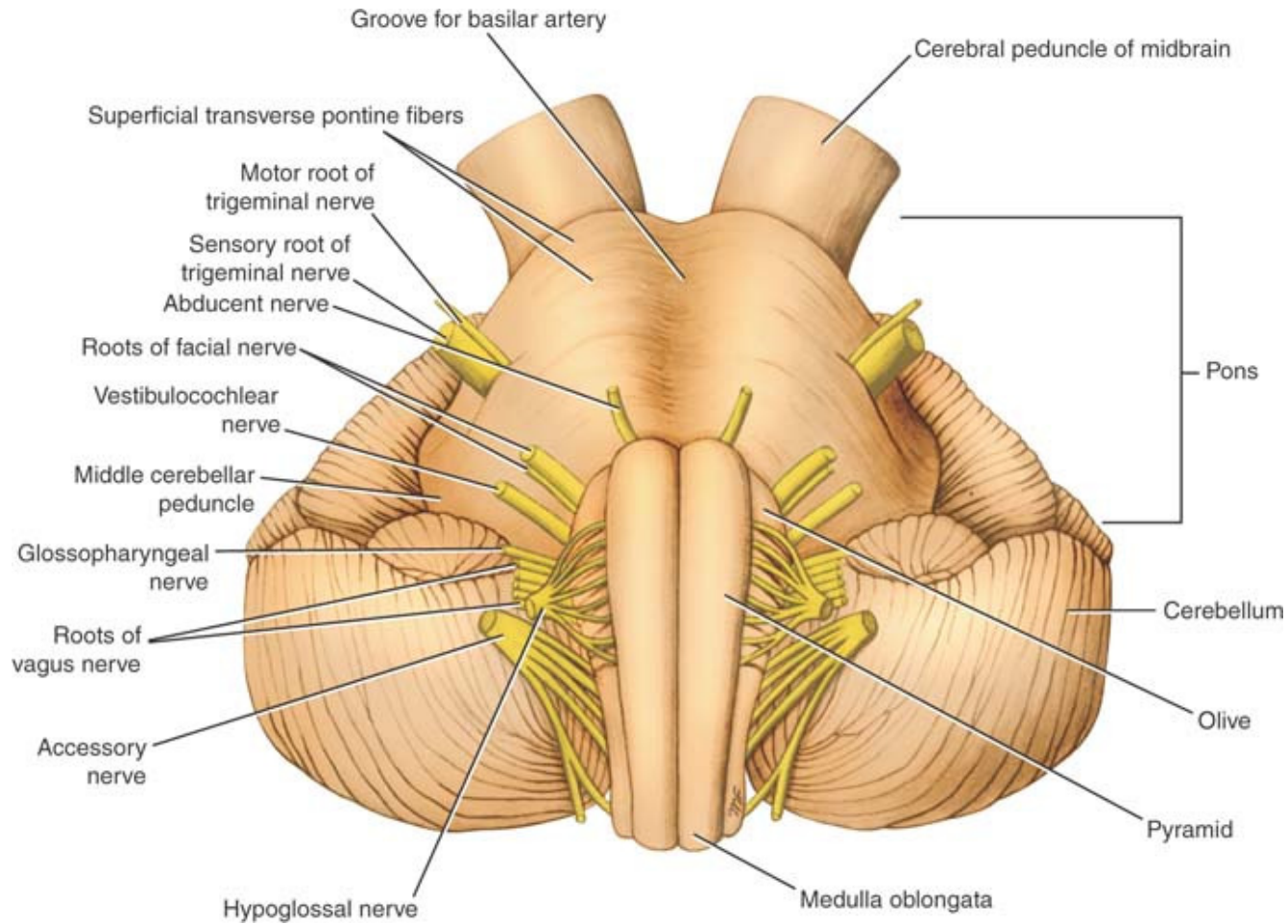


Gross appearance (anterior surface)

- Basilar groove (midline)..lodges basilar artery
- 5th nerve emerges from anterolateral surface (small motor (medial) and large sensory (lateral))
- 6th 7th & 8th emerges at pontomedullary junction M→L

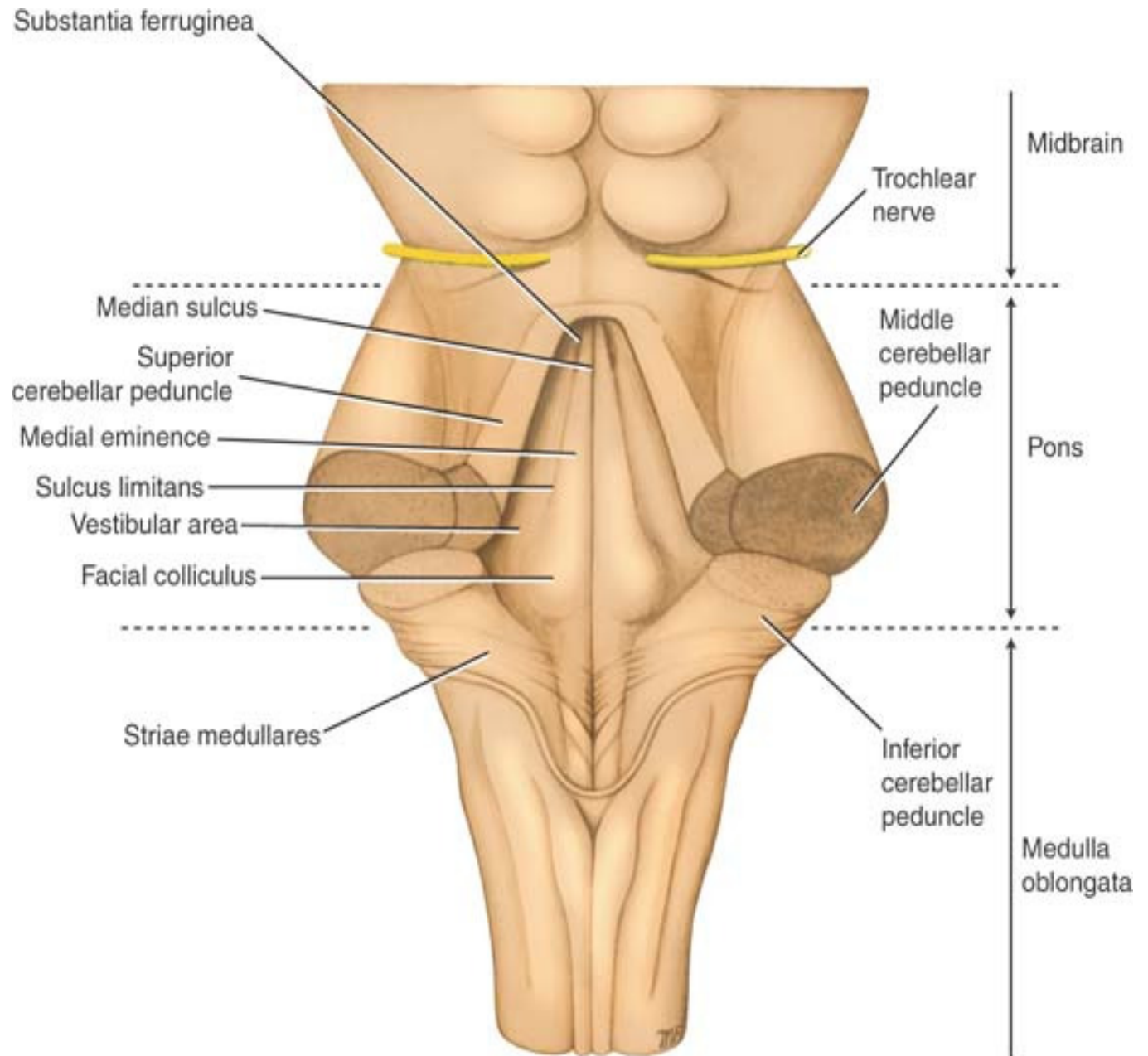


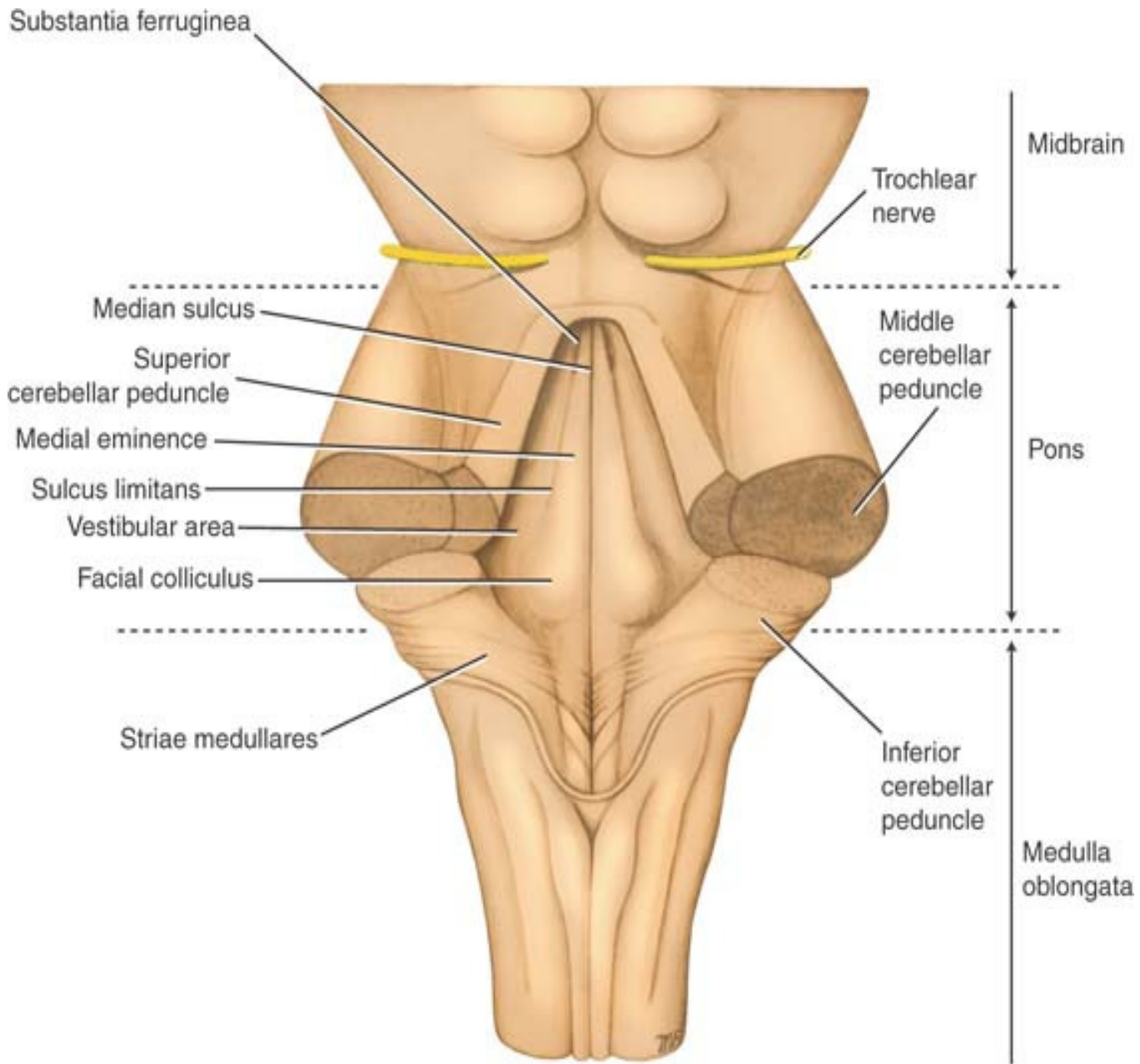
Pons – anterior view



Pons (posterior view)

- Its hidden by from view by cerebellum
- Forms the upper half of floor of 4th ventricle
- Triangular in shape
- Median sulcus
- Medial eminence
- Sulcus limitans
- Facial colliculus (inf end of medial eminence)
- Area vestibuli (Lateral to sulcus limitans)





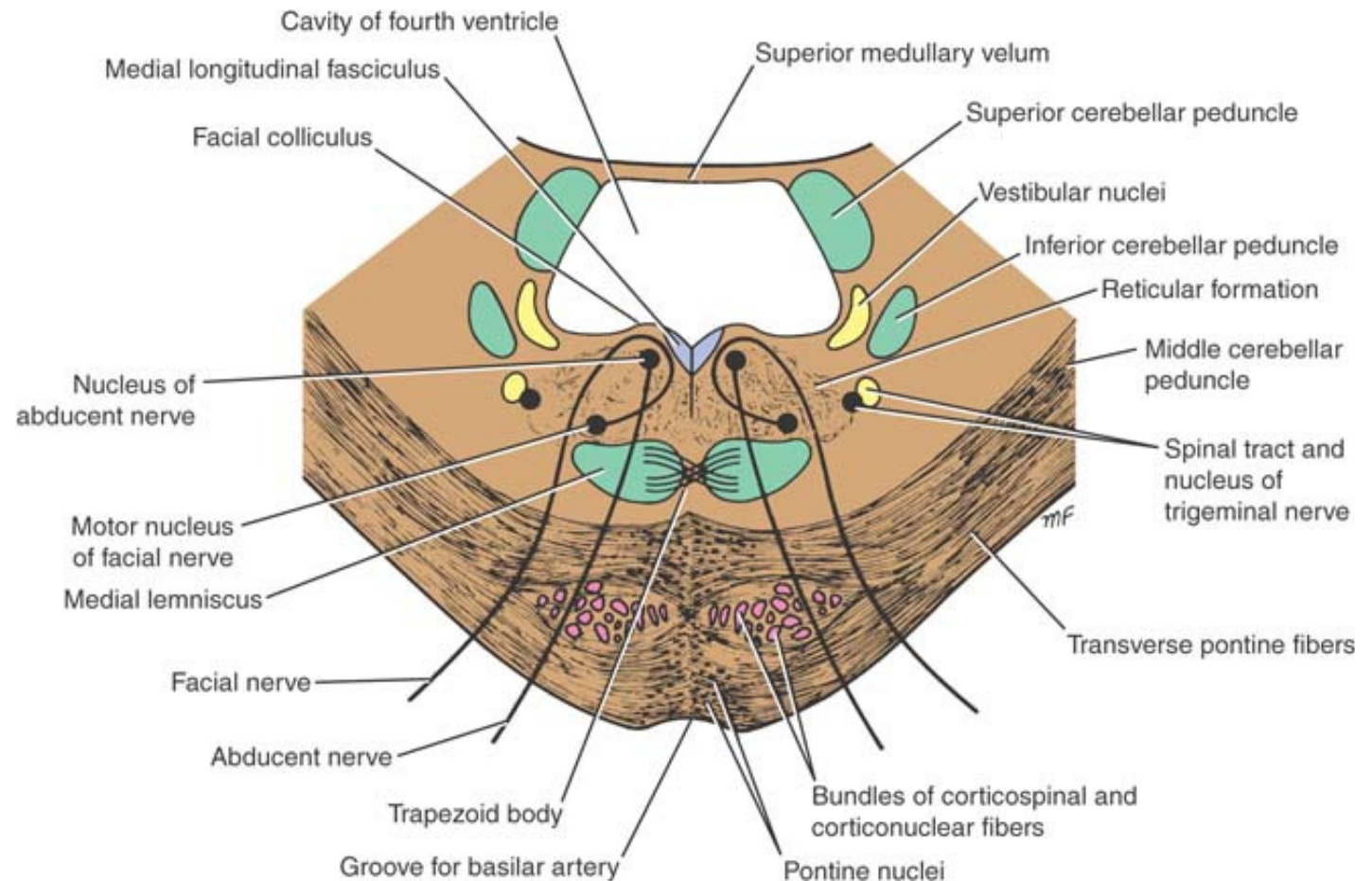
Internal structure of pons

- Its divided by transversely running fibers of trapezoid body into:

1. Tegmentum (post part)
2. Basal part (ant part)

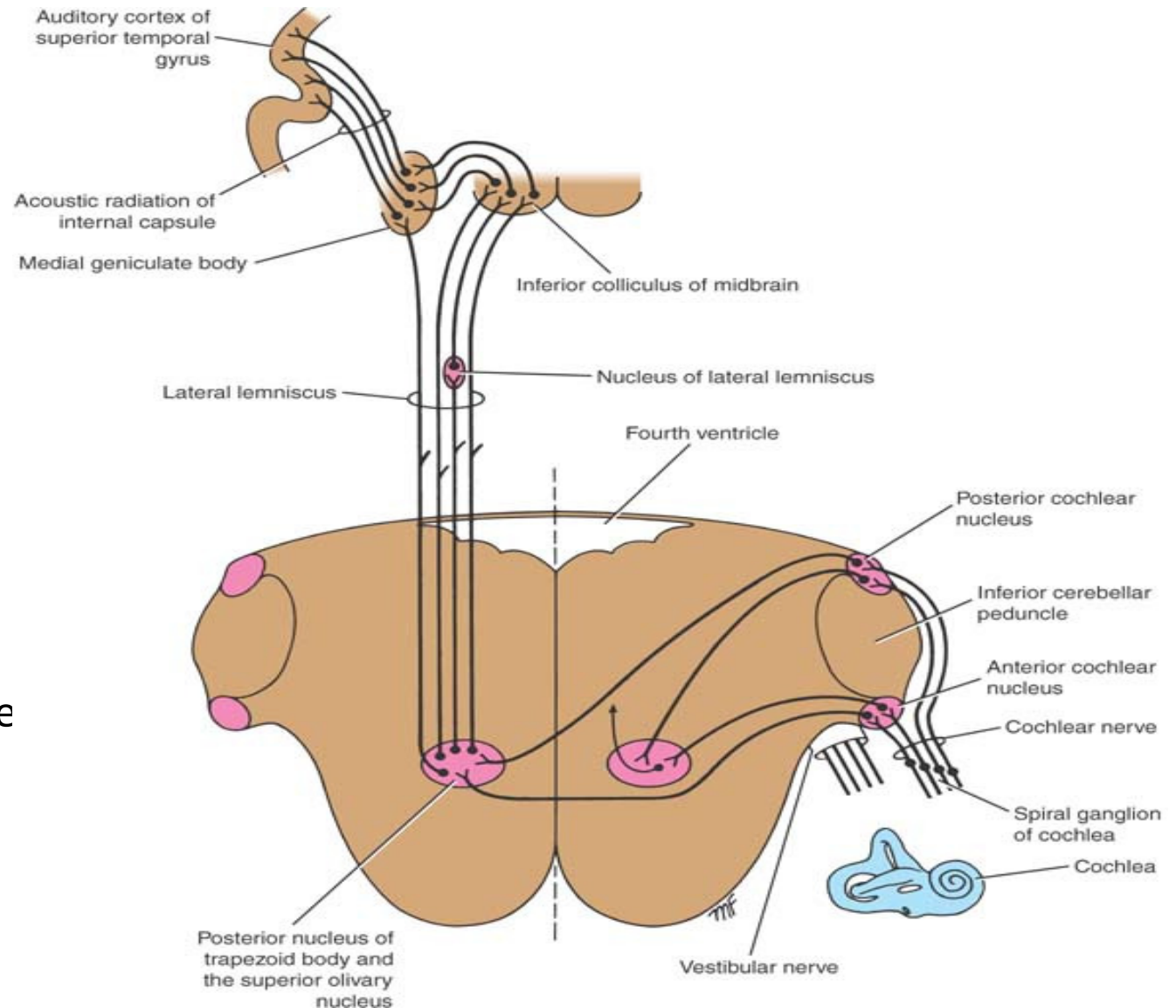
levels

- Level through caudal part (facial colliculus)
- Level through cranial part (trigeminal nuclei)



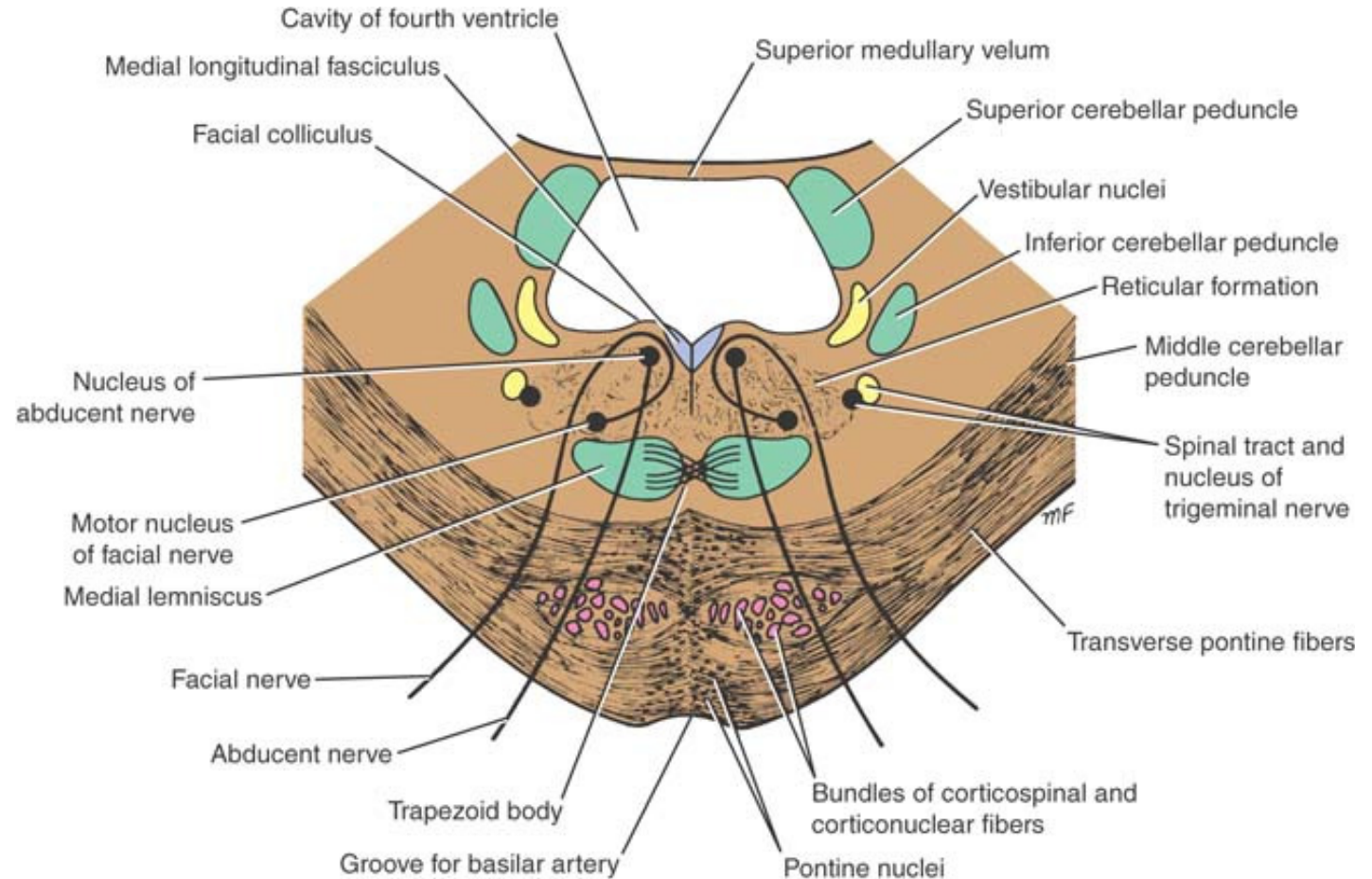
The trapezoid body

- is part of the acoustic pathway
- Made up of fibers derived from cochlear nuclei
- **lateral lemniscus:** tract of axons in the brainstem that carries information about sound from the cochlear nucleus to the contralateral inferior colliculus of the midbrain
- Cochlear nuclei----trapezoid body----lateral lemniscus----inf colliculus-----medial geniculate body-----auditory cortex



Level through caudal part (facial colliculus)

- **Medial lemniscus**
most anterior part of the tegmentum, long axis running transversely
- **Facial nucleus**
posterior to the lateral part of the medial lemniscus
- **MLF**: beneath the floor of the fourth ventricle on either side of the midline



- **Abducent nucleus**: beneath the floor of the upper part of the fourth
- **Spinal nucleus** of trigeminal and its tract: anteromedial aspect of ICP
- **Medial vestibular nucleus**: lateral to the abducent nucleus