



Anatomy lab

DR AMAL ALBTOOSH

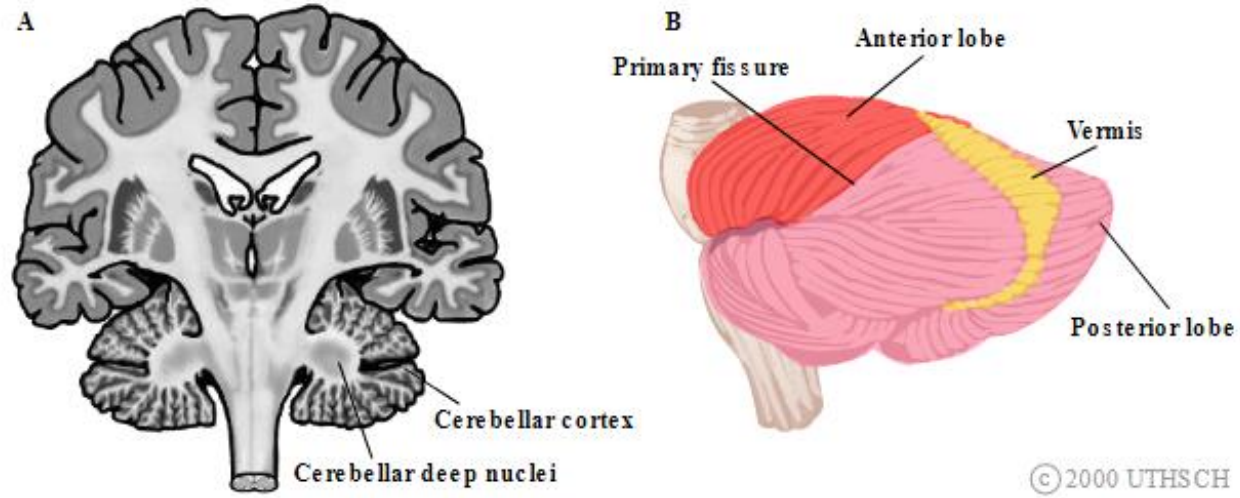


Figure 5.2
 (A) Cerebellar deep nuclei and cerebellar cortex in an idealized brain section. (B) External morphology of the cerebellum.

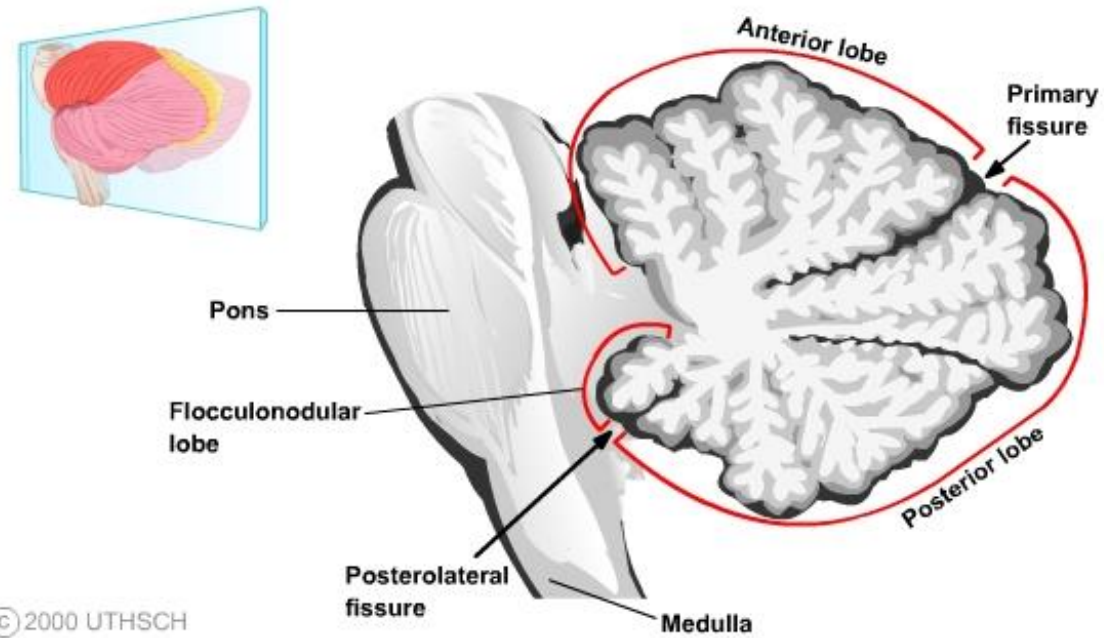


Figure 5.3
 Midsagittal cross-section of cerebellum showing the three primary lobes of the cerebellum.

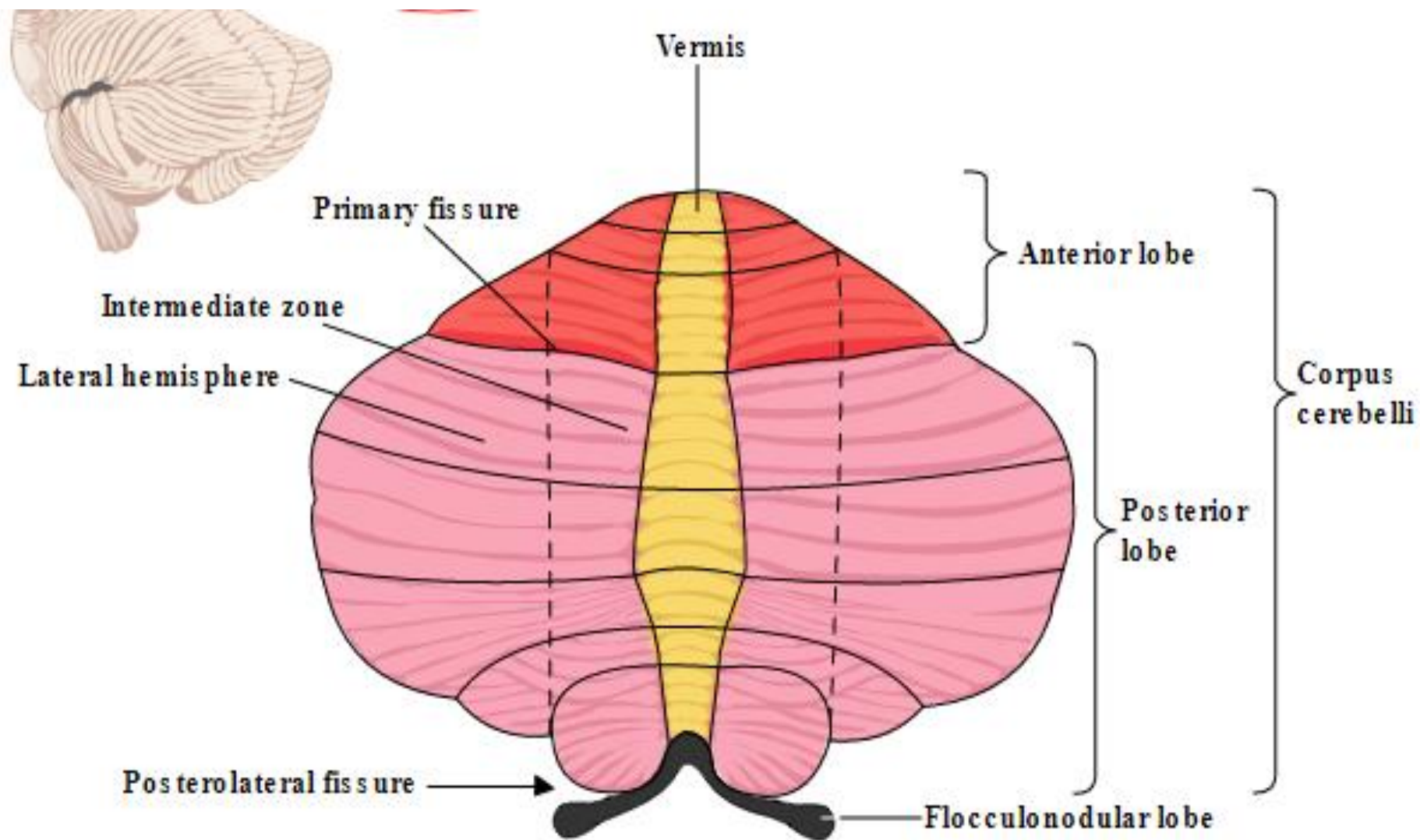
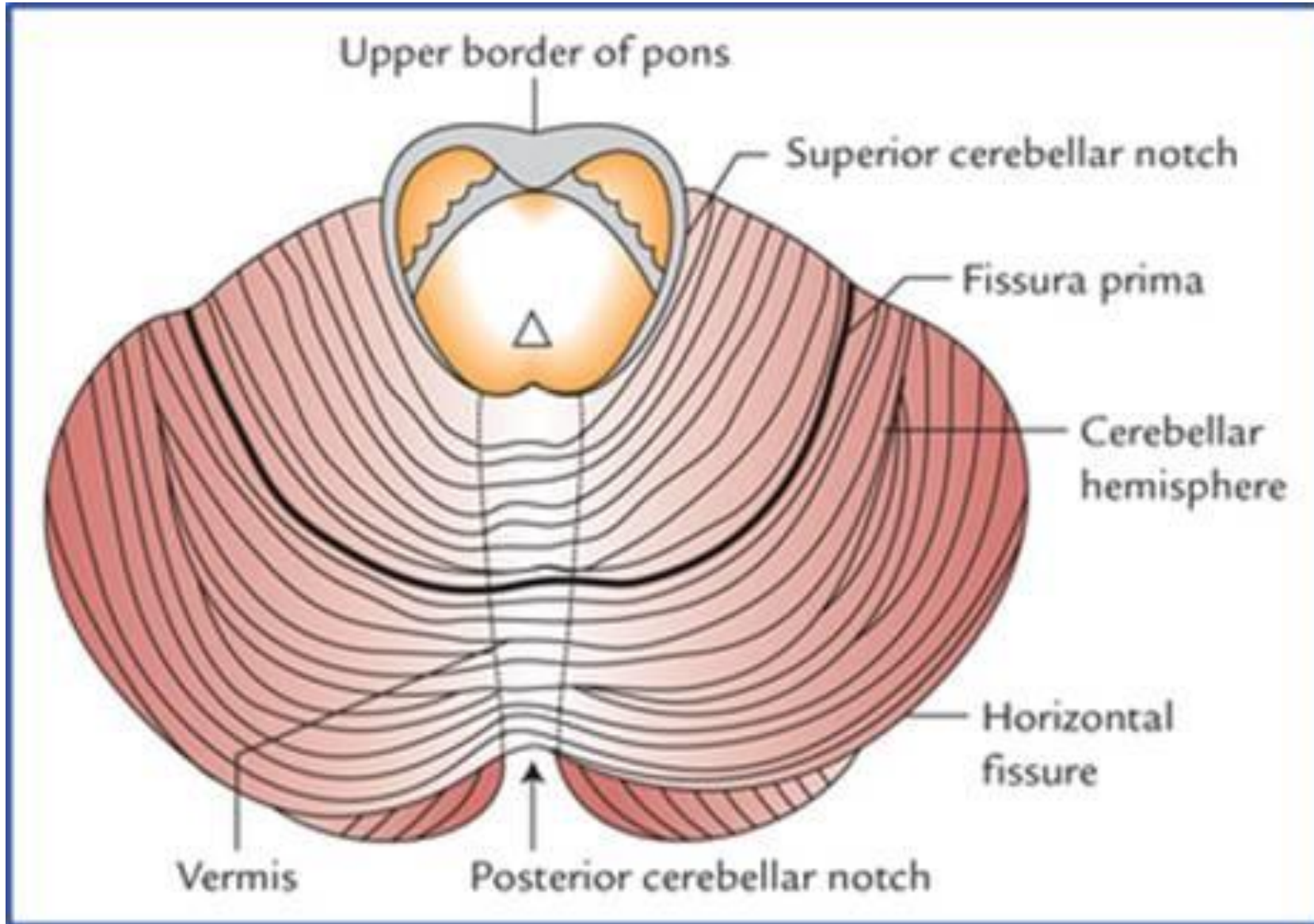


Figure 5.4
Divisions of cerebellum. Click PLAY to see schematic "unfolding" of cerebellum.



**White matter
of cerebellum
(Arbor vitae)**

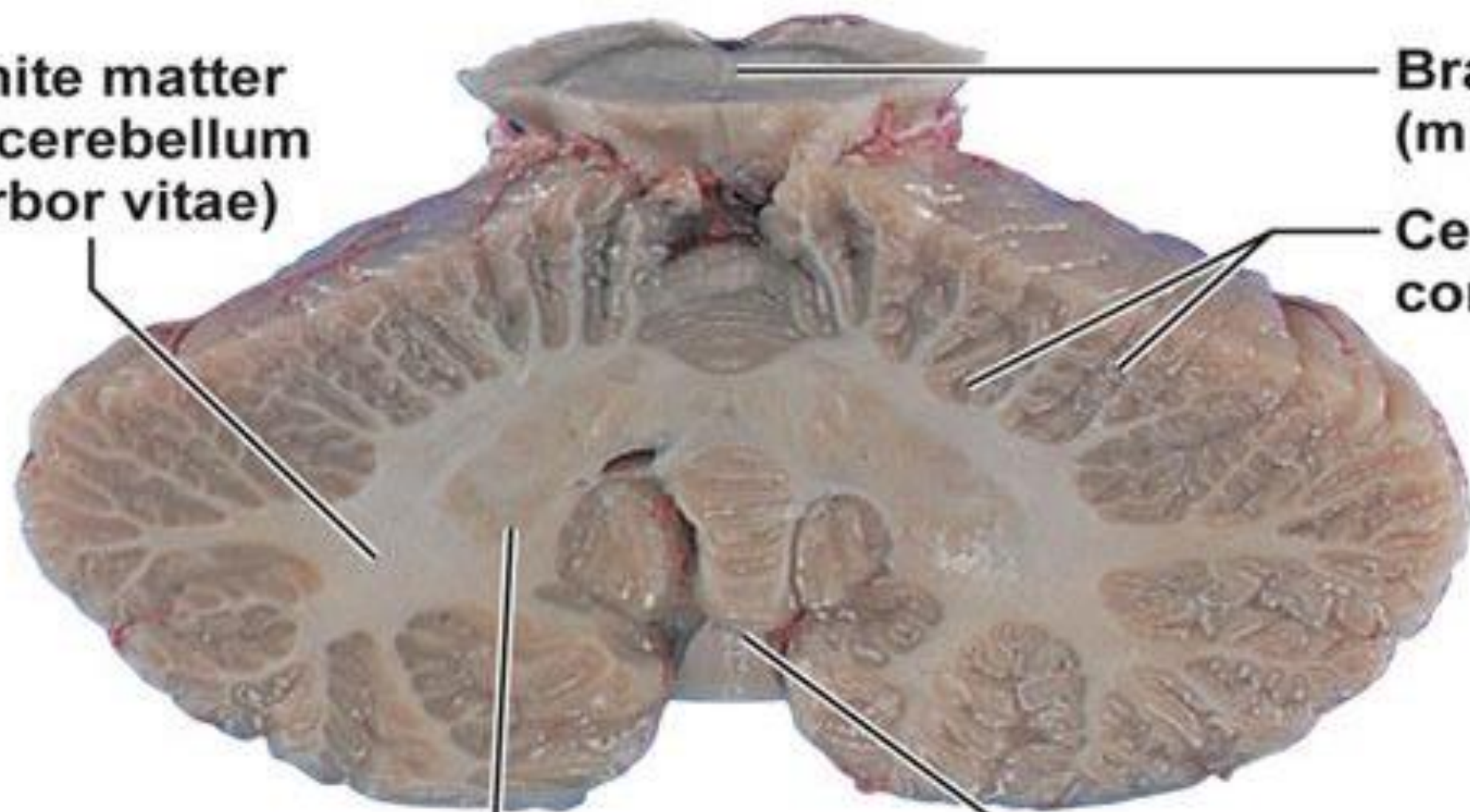
**Brain stem
(midbrain)**

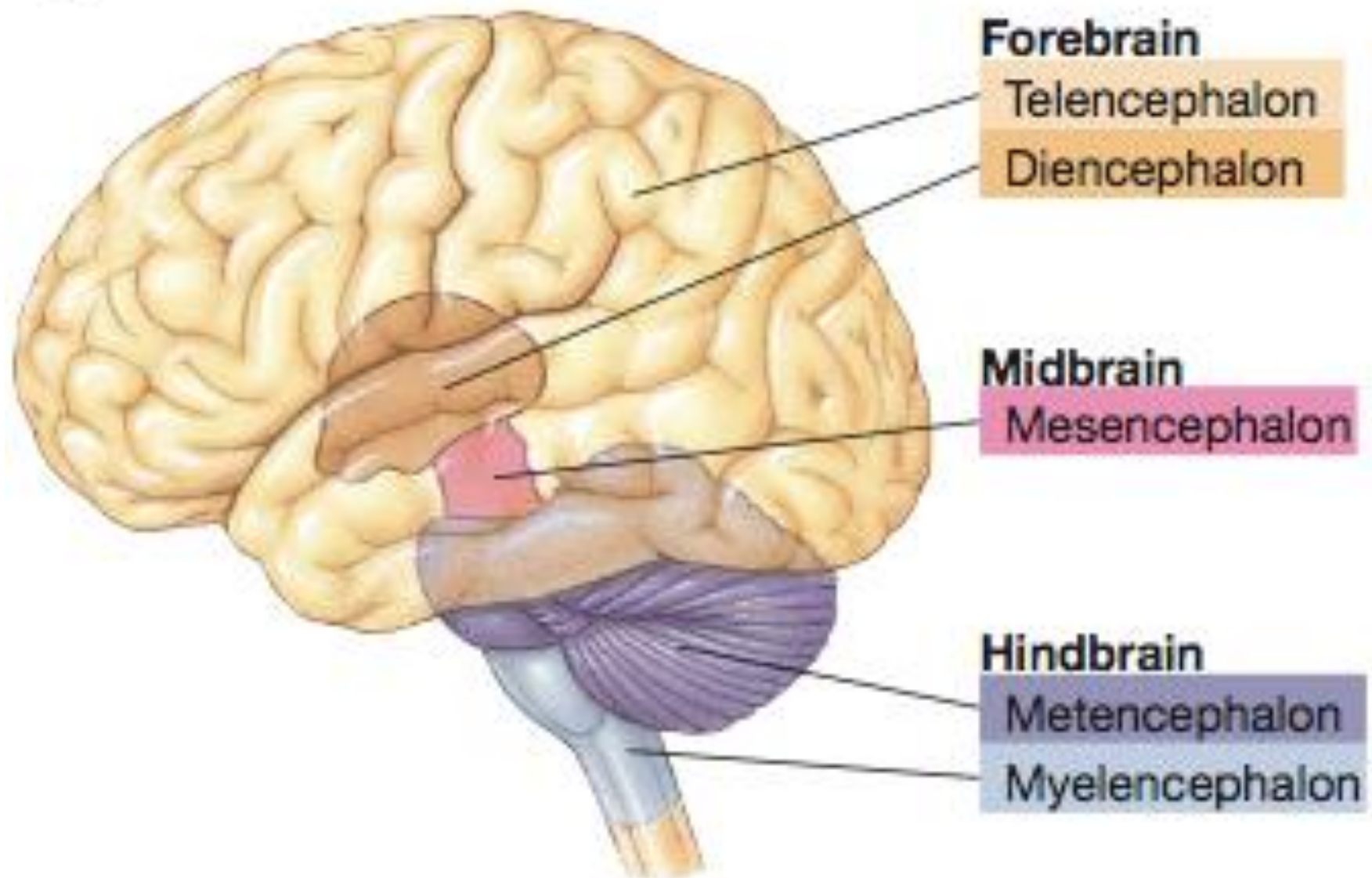
**Cerebellar
cortex**

**Deep cerebellar
nuclei**

***Caudal
(inferior)***

**Vermis
(cut)**

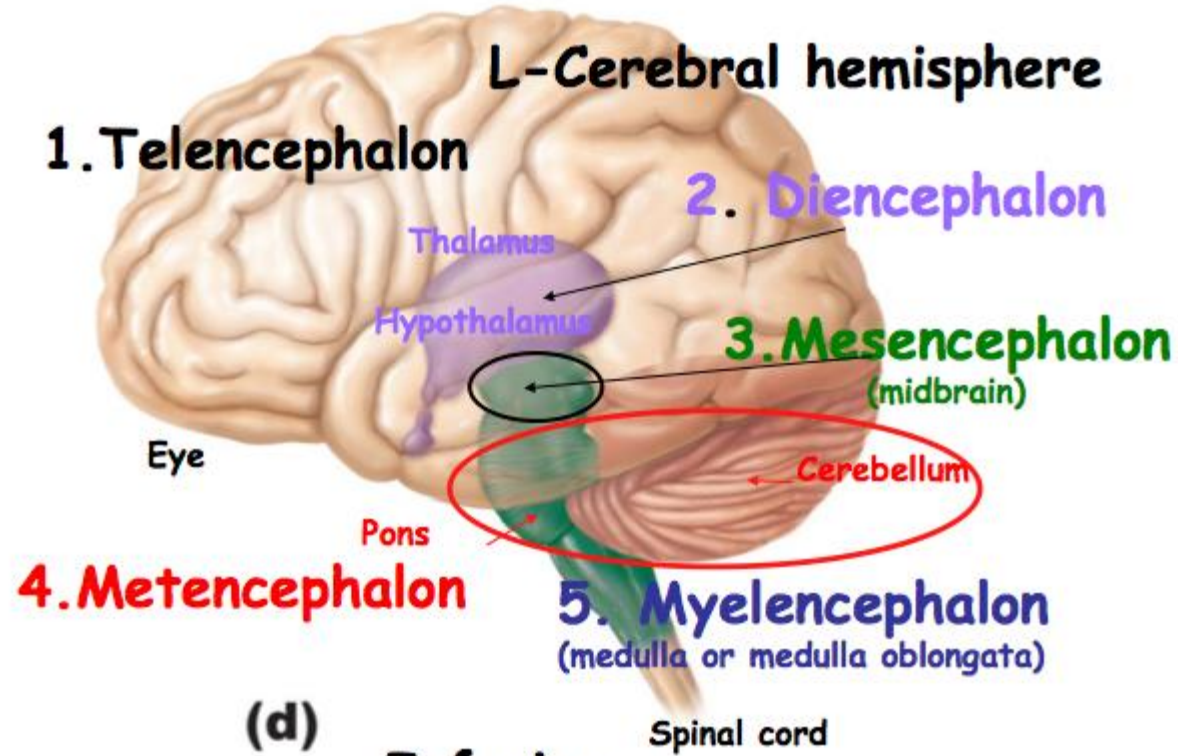




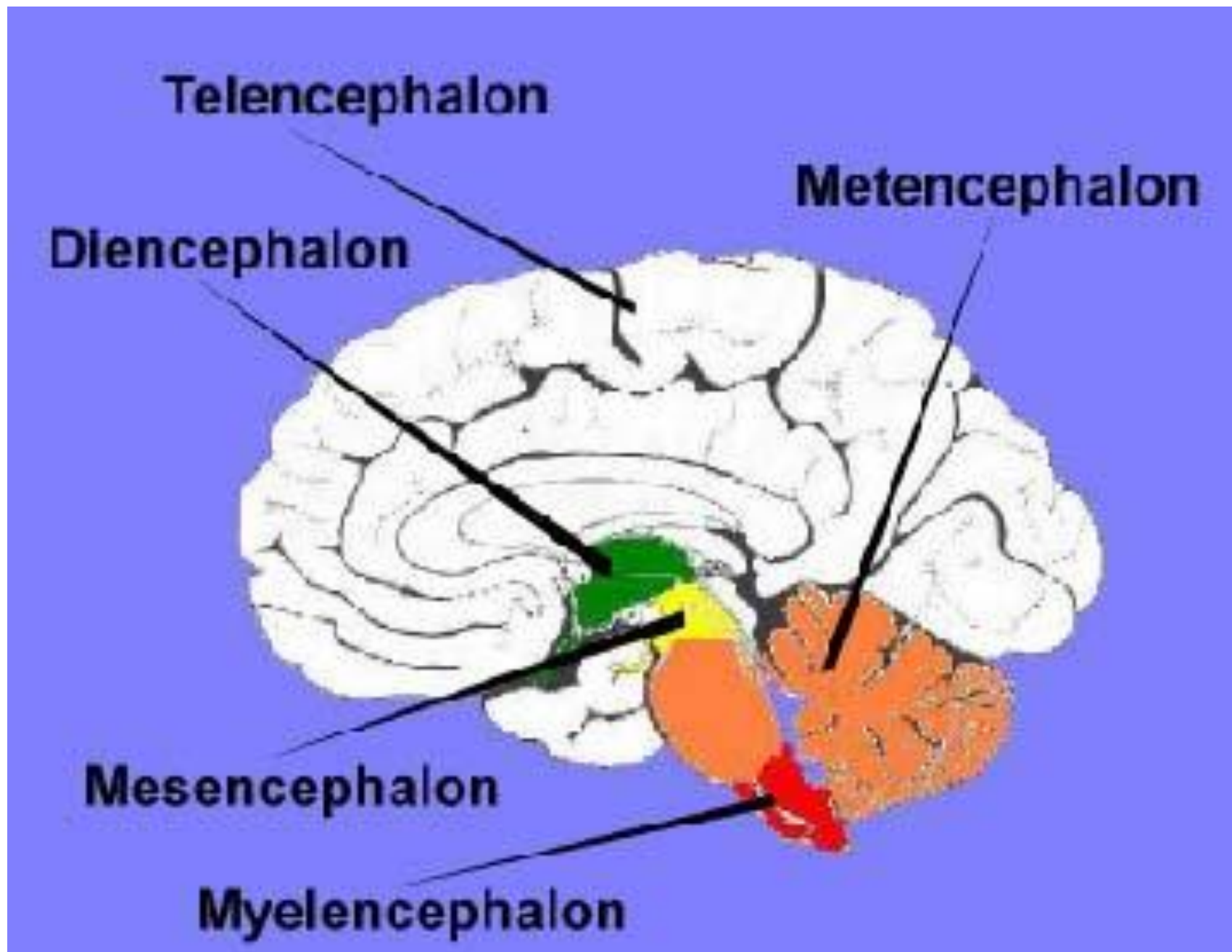
Rostral

Superior

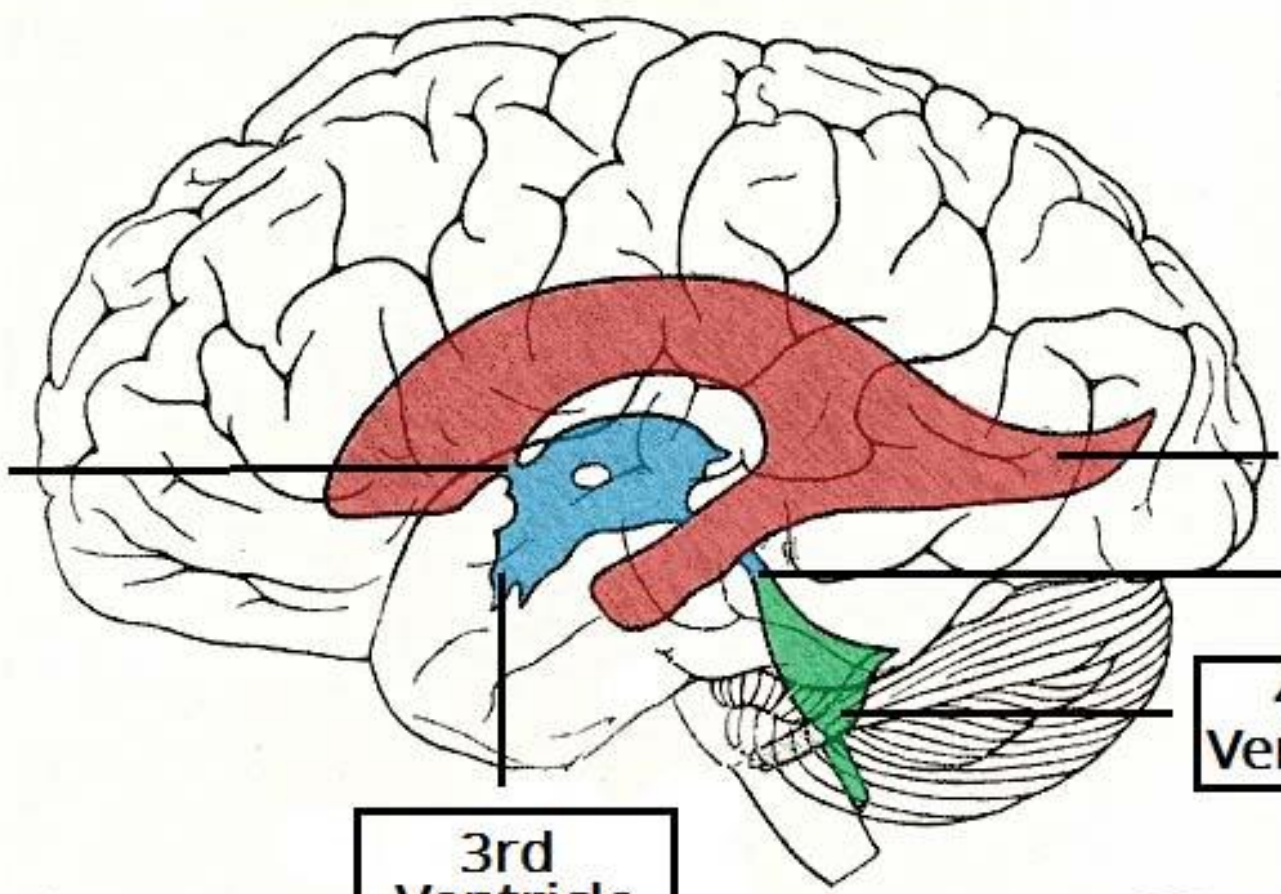
Caudal



Inferior



Foramen
of Monro



Lateral
Ventricle

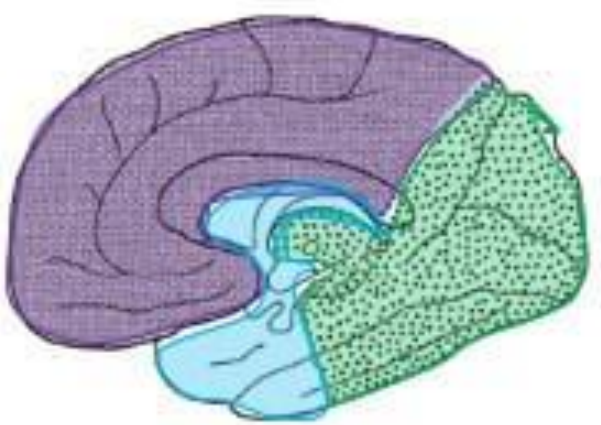
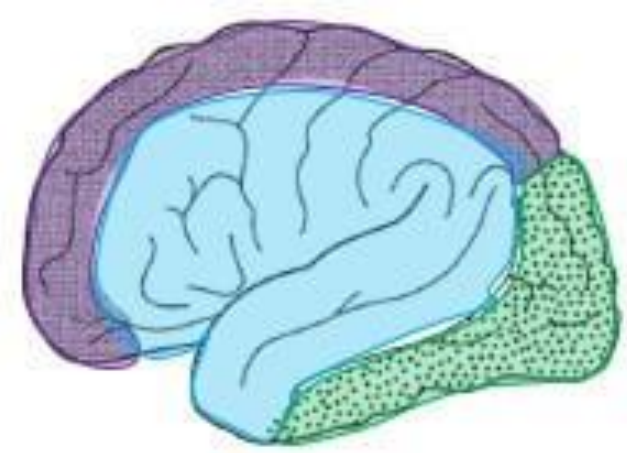
Cerebral
Aqueduct

4th
Ventricle

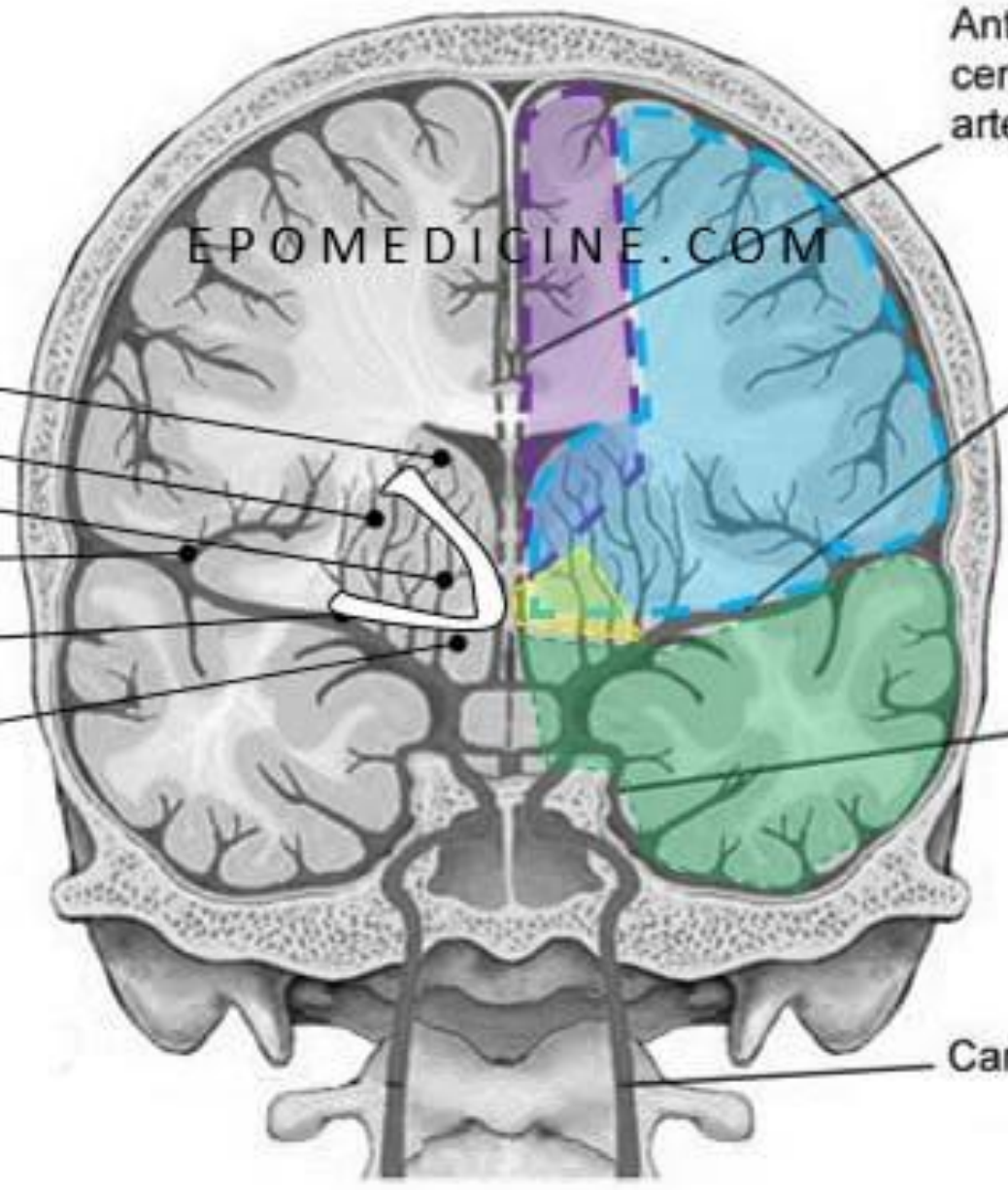
3rd
Ventricle

Blood Supply to the Brain

- ACA territory
- MCA territory
- Anterior choroid
- PCA territory



- Caudate nucleus
- Putamen
- Globus pallidus
- Sylvian fissure
- Internal capsule
- Thalamus



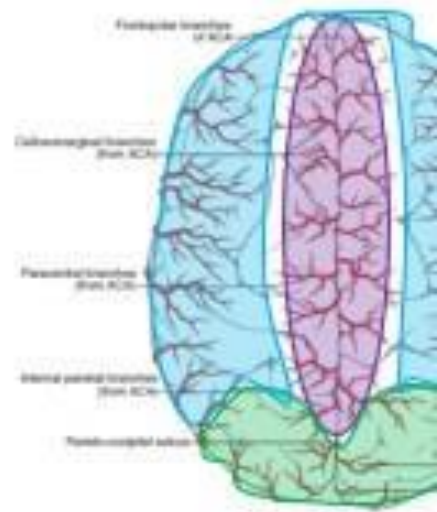
Anterior cerebral artery

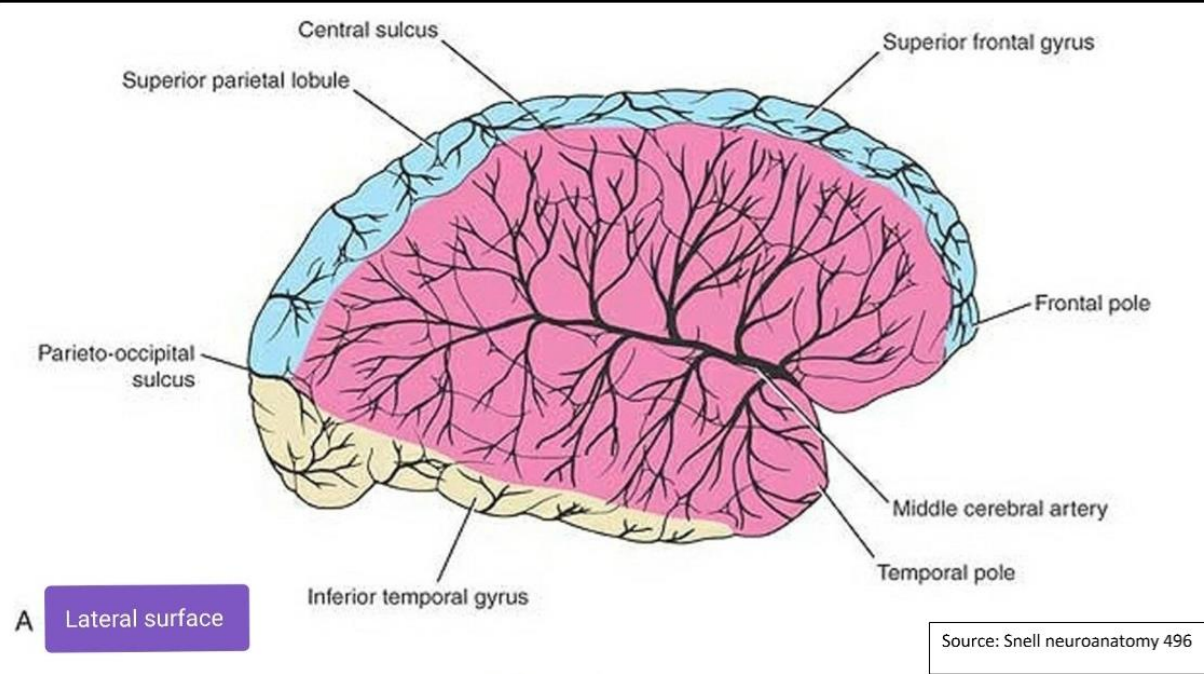
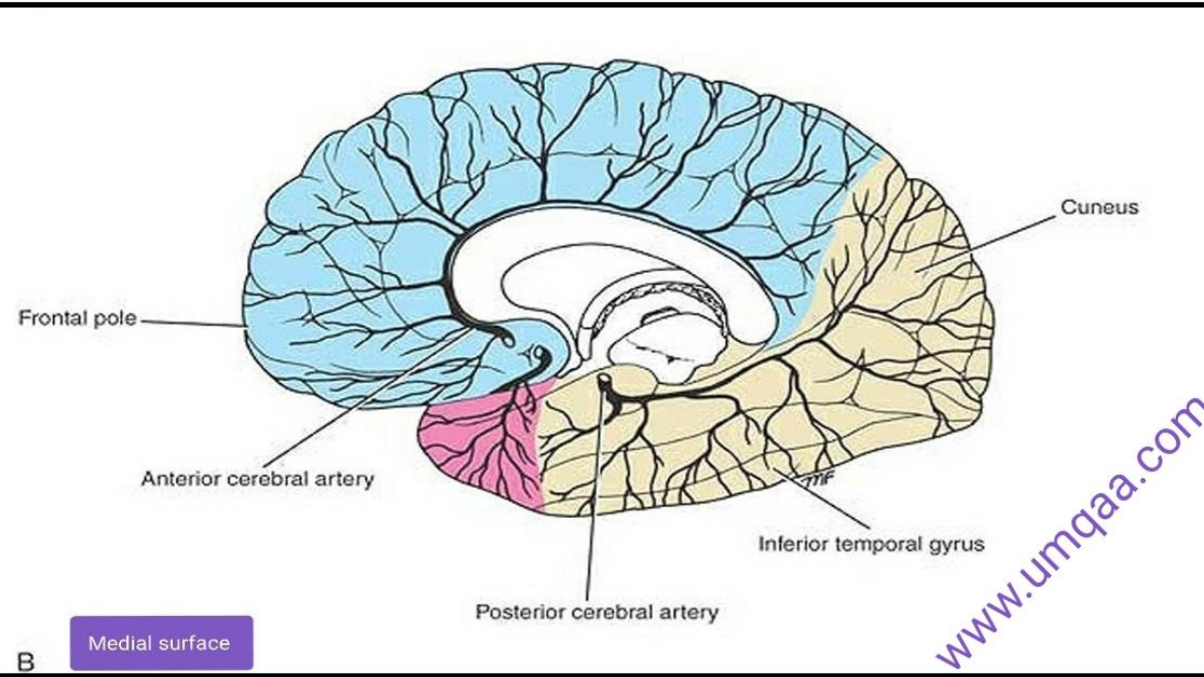
Middle cerebral artery

Posterior cerebral artery

Carotid artery

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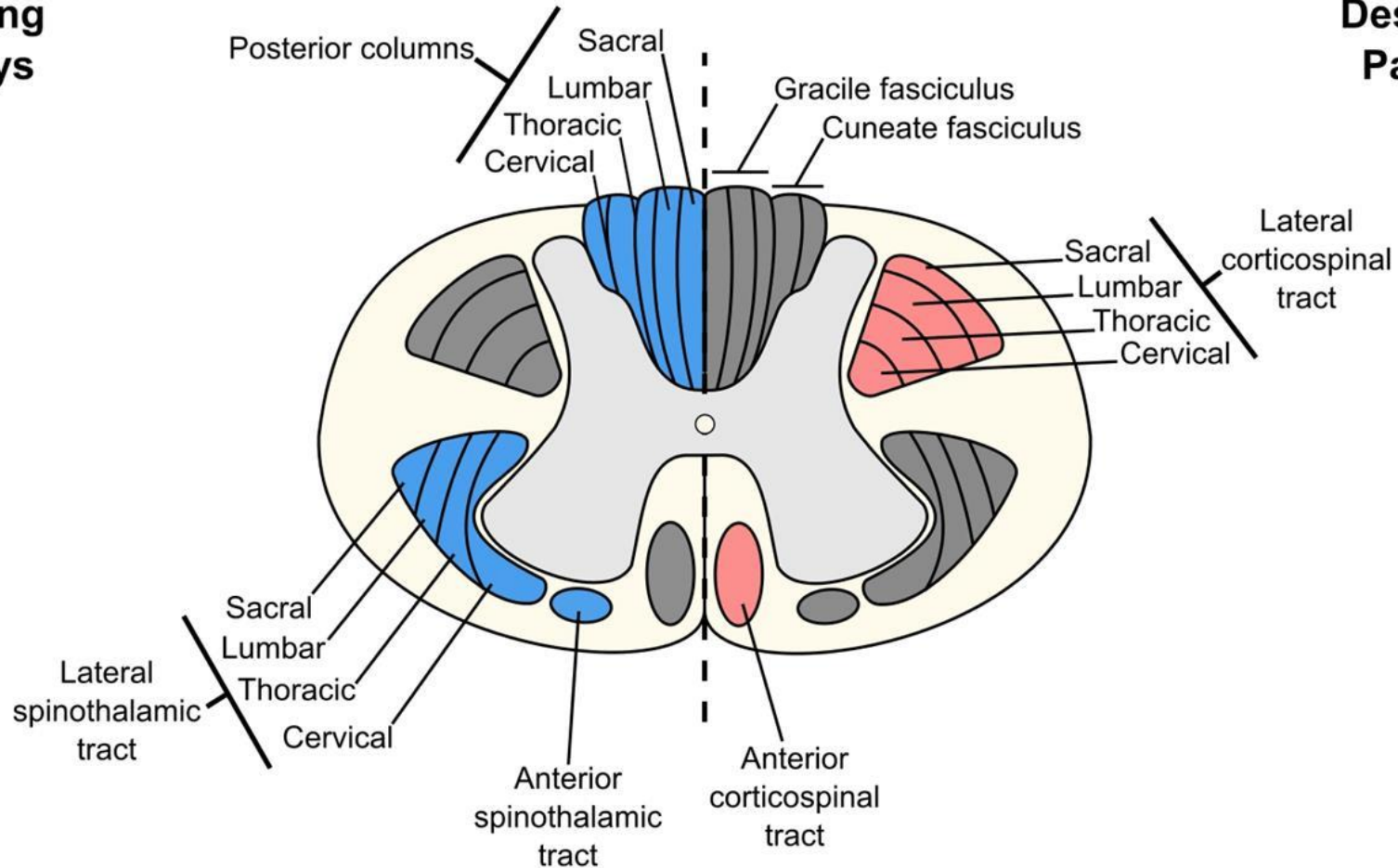


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Spinal Cord Pathways

Ascending Pathways

Descending Pathways



TRACT	RECEPTORS	TRANSMITS?	CROSSED?	1 ST ORDER	2 ND ORDER	3 RD ORDER	TERMINATES
DC-ML	Pacini, Meissner corpuscles, joint receptors, muscle spindles. (GTOs).	tactile discrimination, vibration, form recognition, joint and muscle sensation, conscious proprioception.	YES	DRG ALL LEVEL	gracile and cuneate nuclei	CONTRA. VPL	POSTCENTRAL GYRUS
Ventral spinothalamic tract	free nerve endings, Merkel tactile disks.	light touch	YES	DRG ALL LEVEL	in the dorsal horn	CONTRA. VPL	POSTCENTRAL GYRUS
Lateral spinothalamic tract	free nerve endings , thermal receptors	itch, pain, and temperature sensation.	YES	DRG ALL LEVEL	in the dorsal horn	CONTRA. VPL neurons Intralaminar neurons	postcentral gyrus Caudatoputamen+ frontal+ parietal cortex
Dorsal Spino-cerebellar Tract	muscle spindles, GTOs, pressure receptors	unconscious proprioceptive/posture OF LOWER LIMB	NO	DRG C8-S3	nucleus dorsalis of Clarke.C8-L3	NO [CEREBELLUM→INF. PEDUNCLE	Ipsilateral as mossy fibers / cortex / rostral and caudal cerebellar vermis.
Ventral Spino-cerebellar Tract	muscle spindles, GTOs, pressure receptors	unconscious proprioceptive/posture OF LOWER LIMB	YES	DRG L1 -S2	spinal border cells L1-S2	NO [CEREBELLUM→SUPER. PEDUNCLE	Contra. as mossy fibers/ cortex /rostral cerebellar vermis
Cuneo-cerebellar Tract	muscle spindles, GTOs, pressure receptors	unconscious proprioceptive/posture UPPER LIMB	NO	DRG C2-T7	Accessory Cuneate Nucleus /Medulla.	NO CEREBELLUM→INF. PEDUNCLE	Ipsilateral arm region/ANT. LOBE/ cerebellum.