

In the name of
GOD

Dr Aidin Taghiloo
Radiologist, Arad general hospital



Plates vi & vii of the Edwin Smith

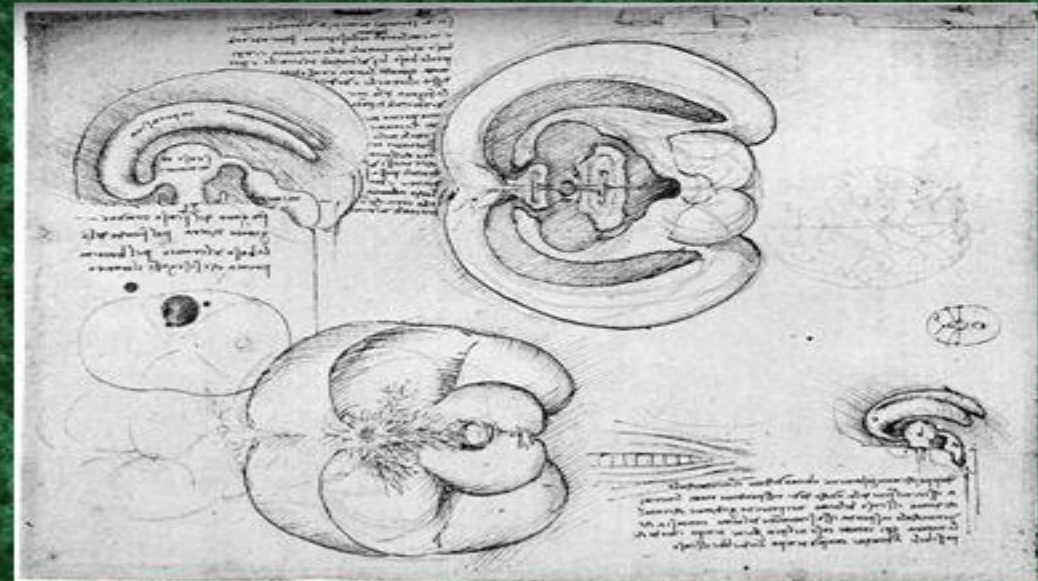


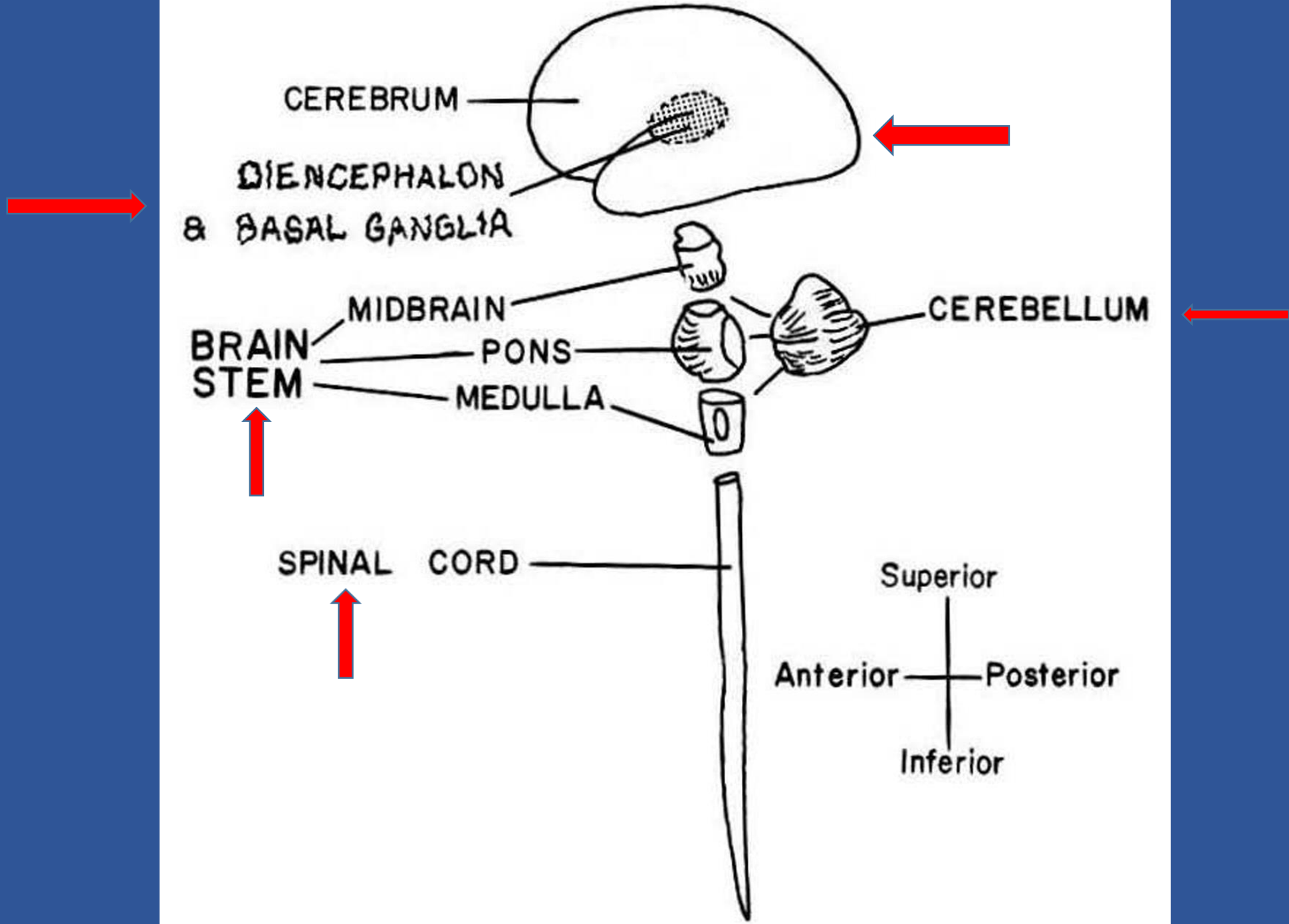
Pope Sixtus IV, born Francesco della Rovere, was Pope from 9 August 1471 to his death in 1484



Renaissance Neuroanatomy

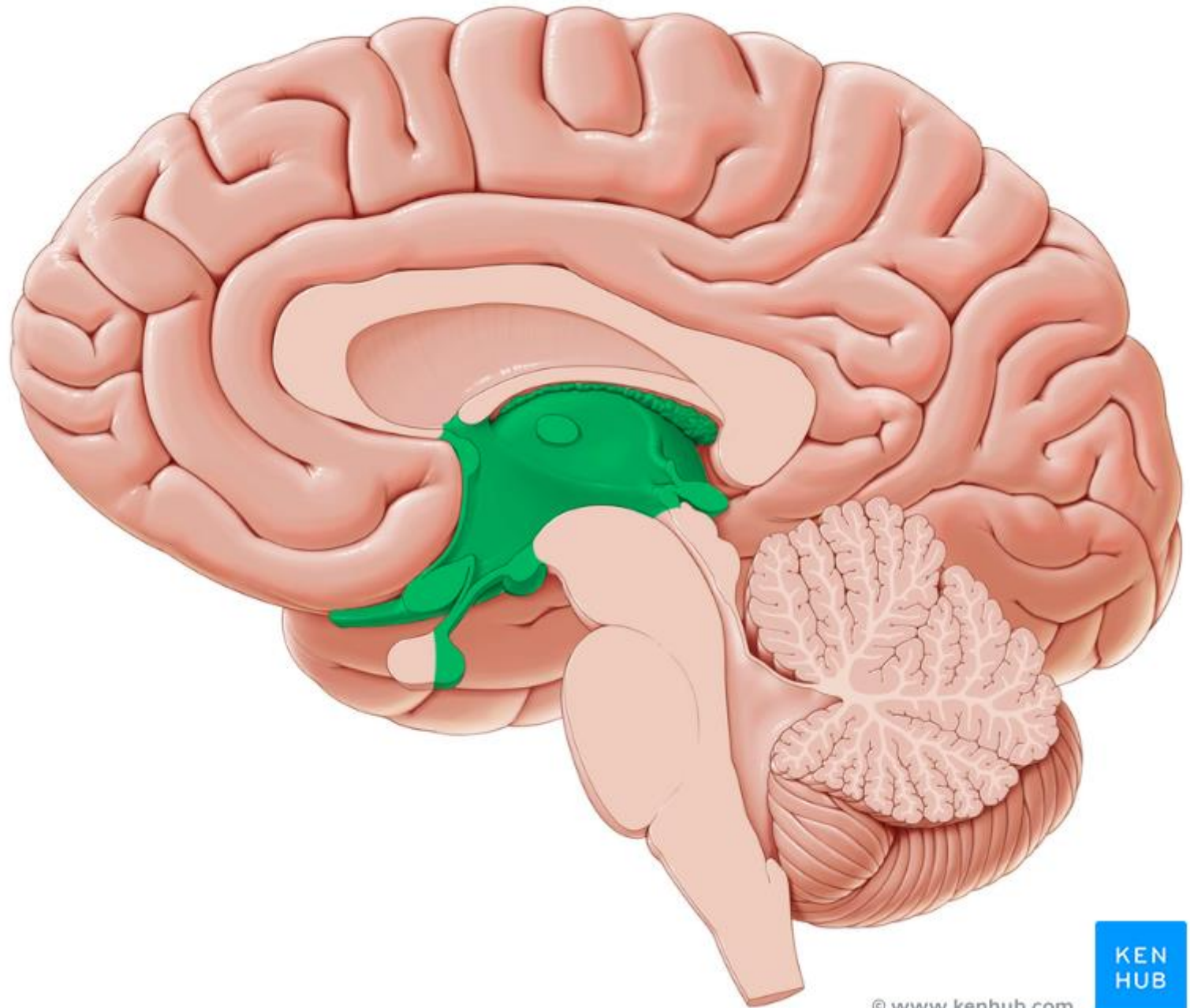
Leonardo da Vinci
(1452-1519)



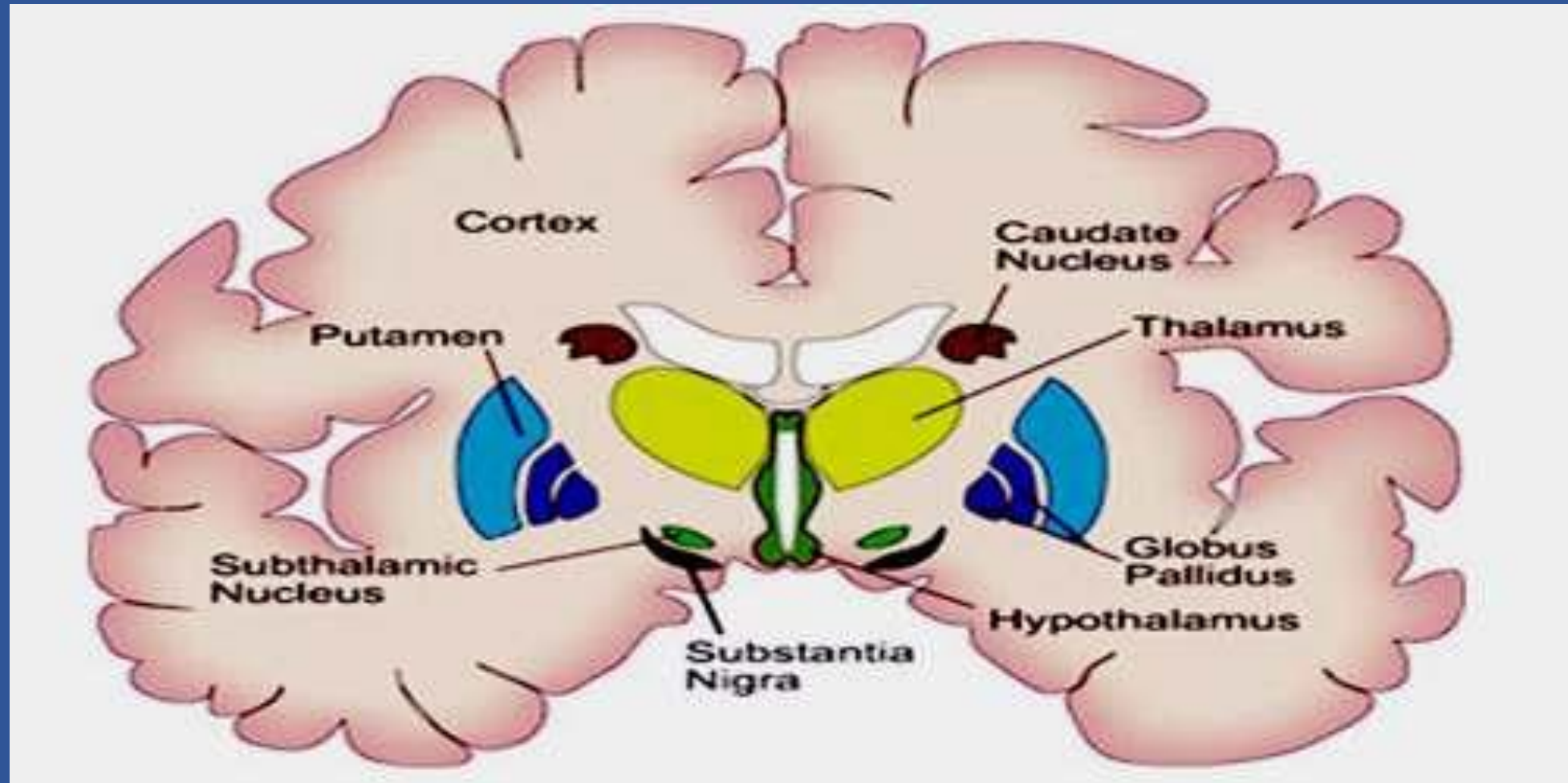


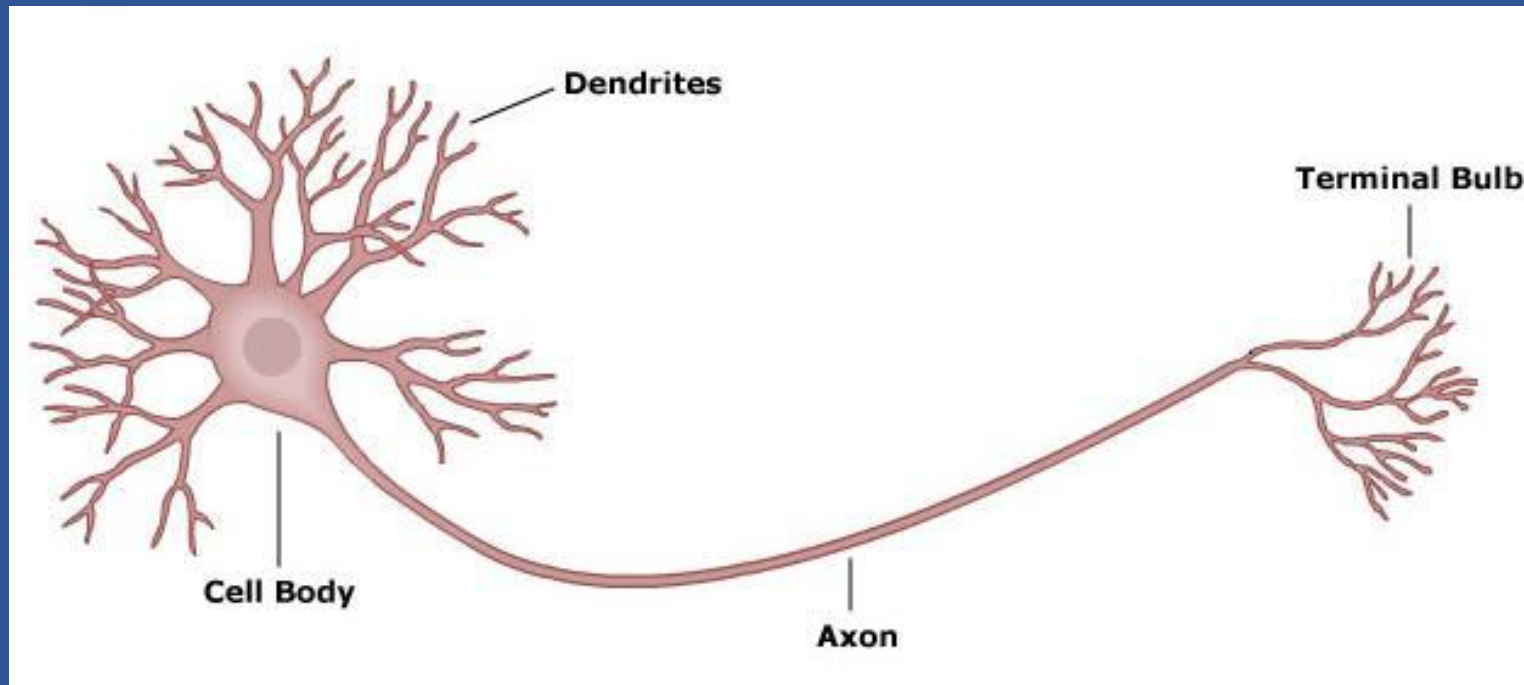
Diencephalon

Thalamus



Basal ganglia





In CNS:

tract

Fasciculus

Peduncle

lemniscus

In peripher:

nerves

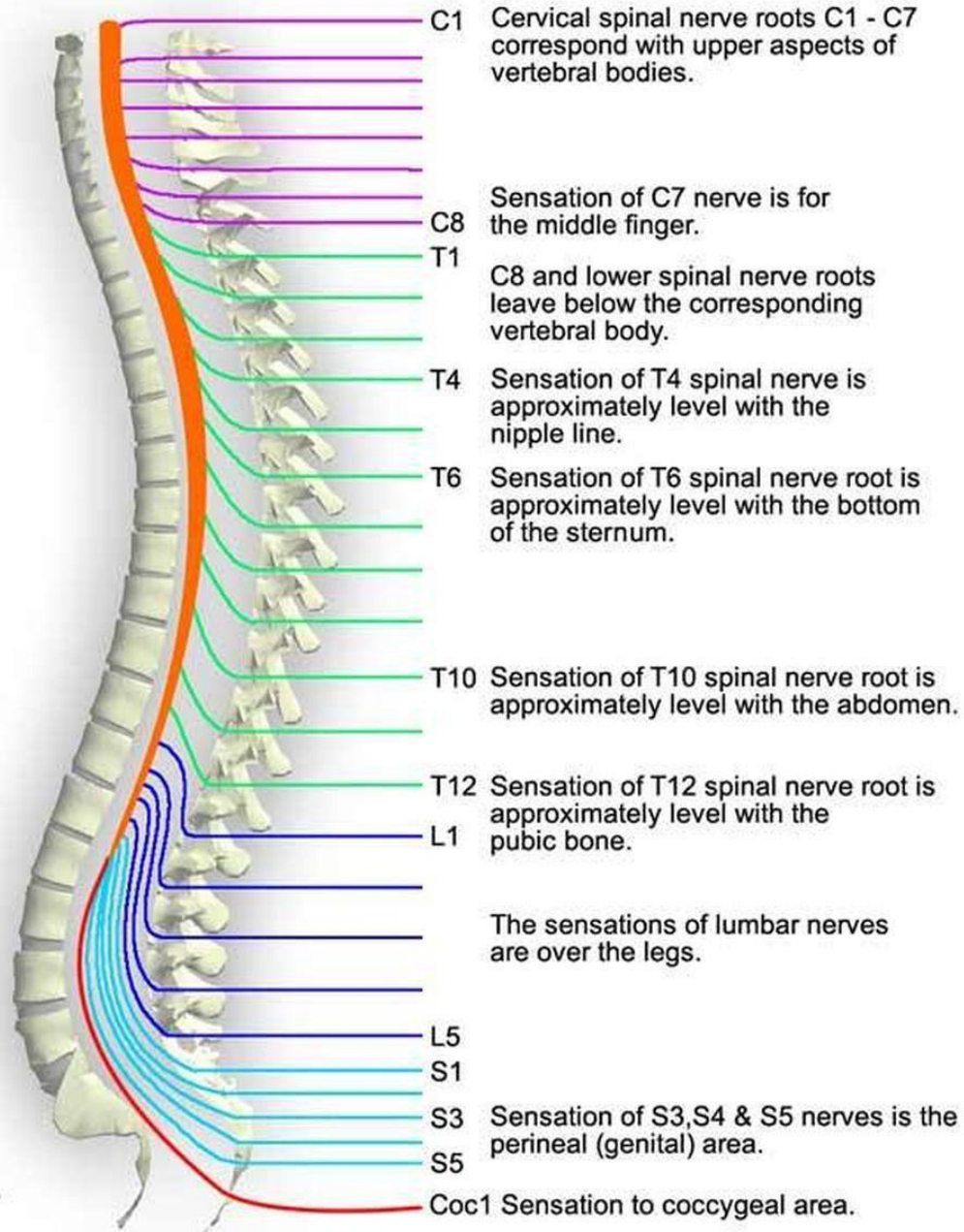
Bone notch at the base of the neck is C7.

The spinal cord ends approximately between L1 & L2.

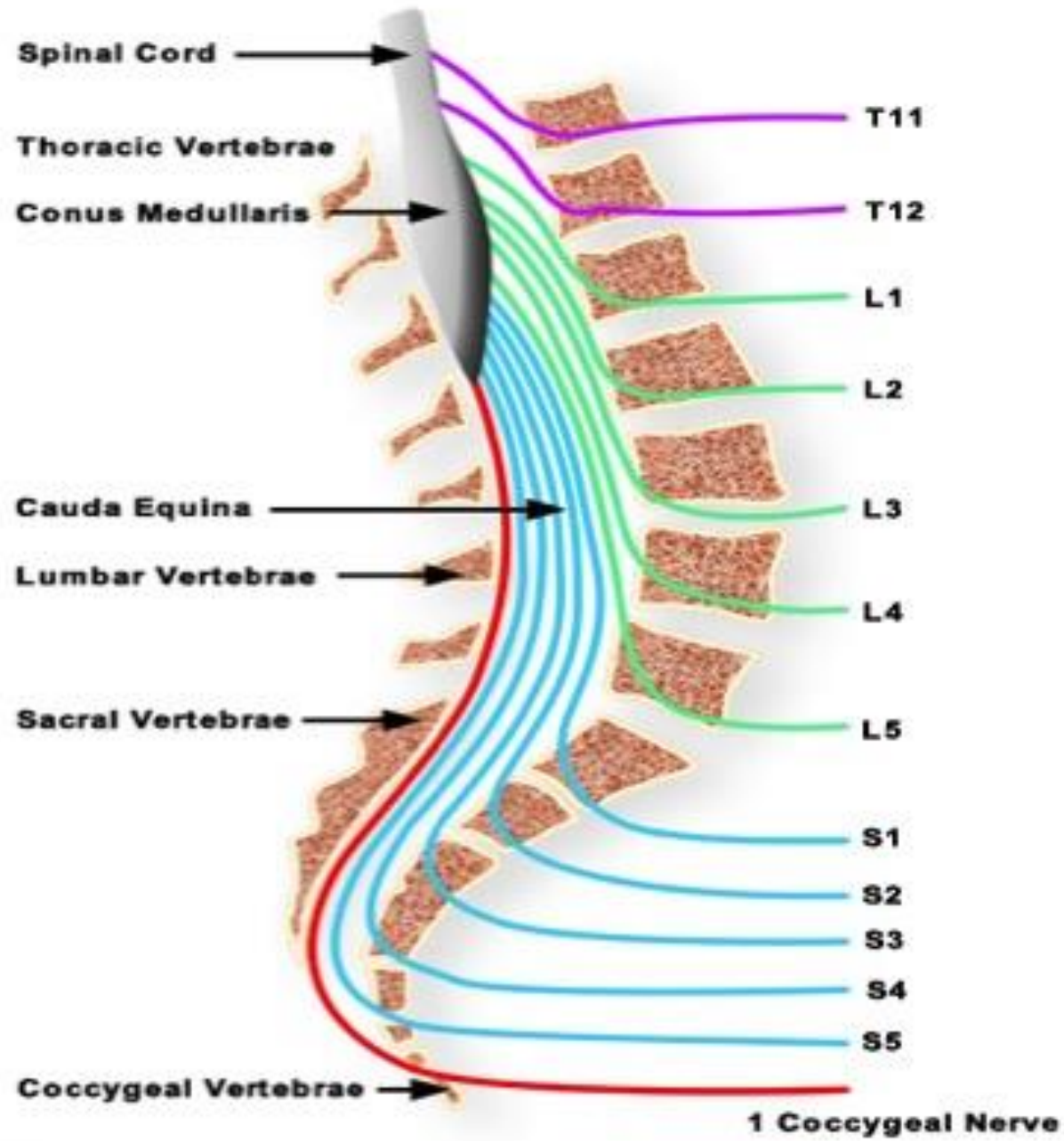
Sacral cord segments (S1-S5 "cauda equina") are level with T12-L1 vertebrae.

The sacral vertebrae are fused to make up the sacrum.

The coccygeal vertebrae are fused to make the coccyx or "tail bone".

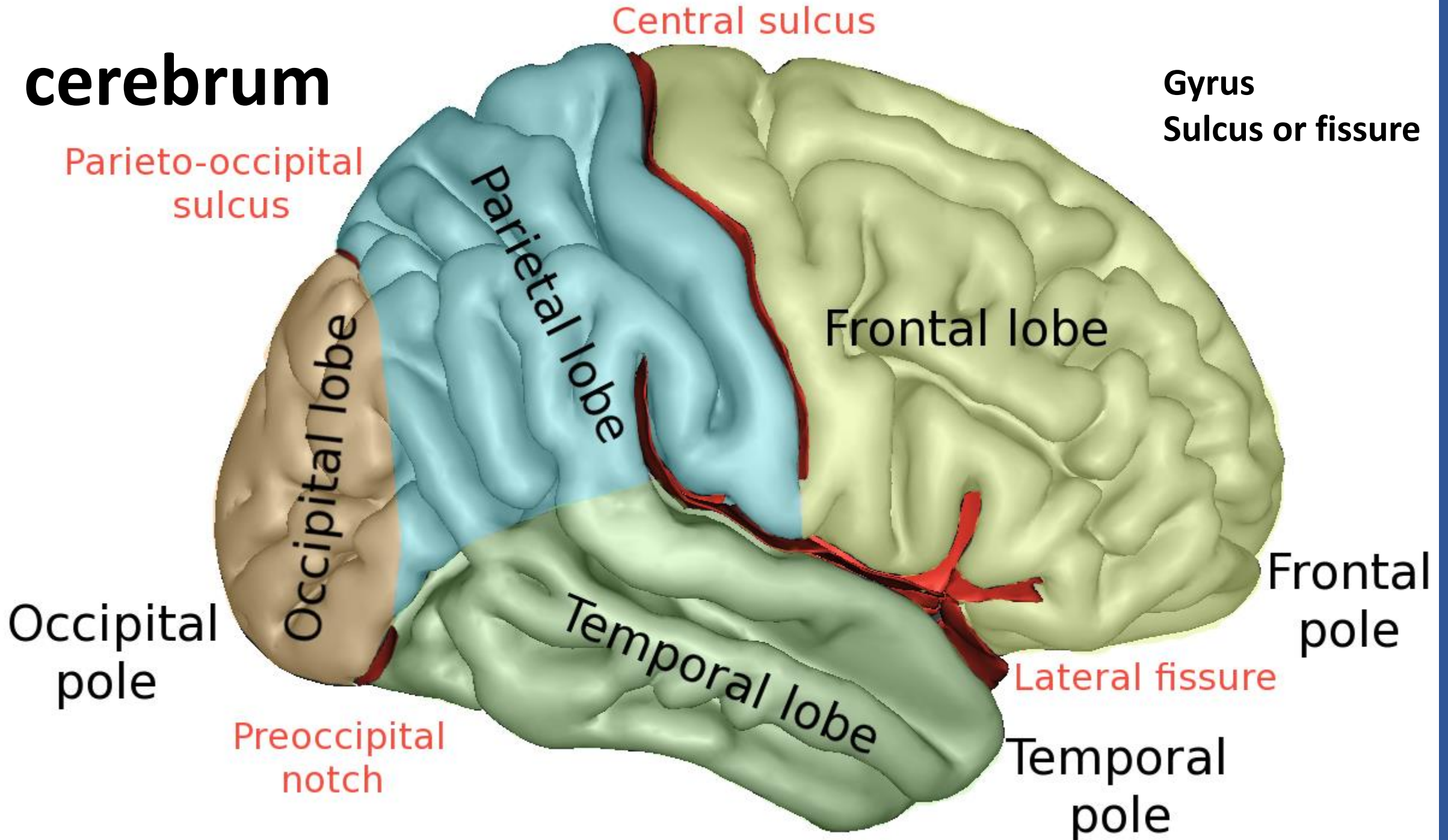


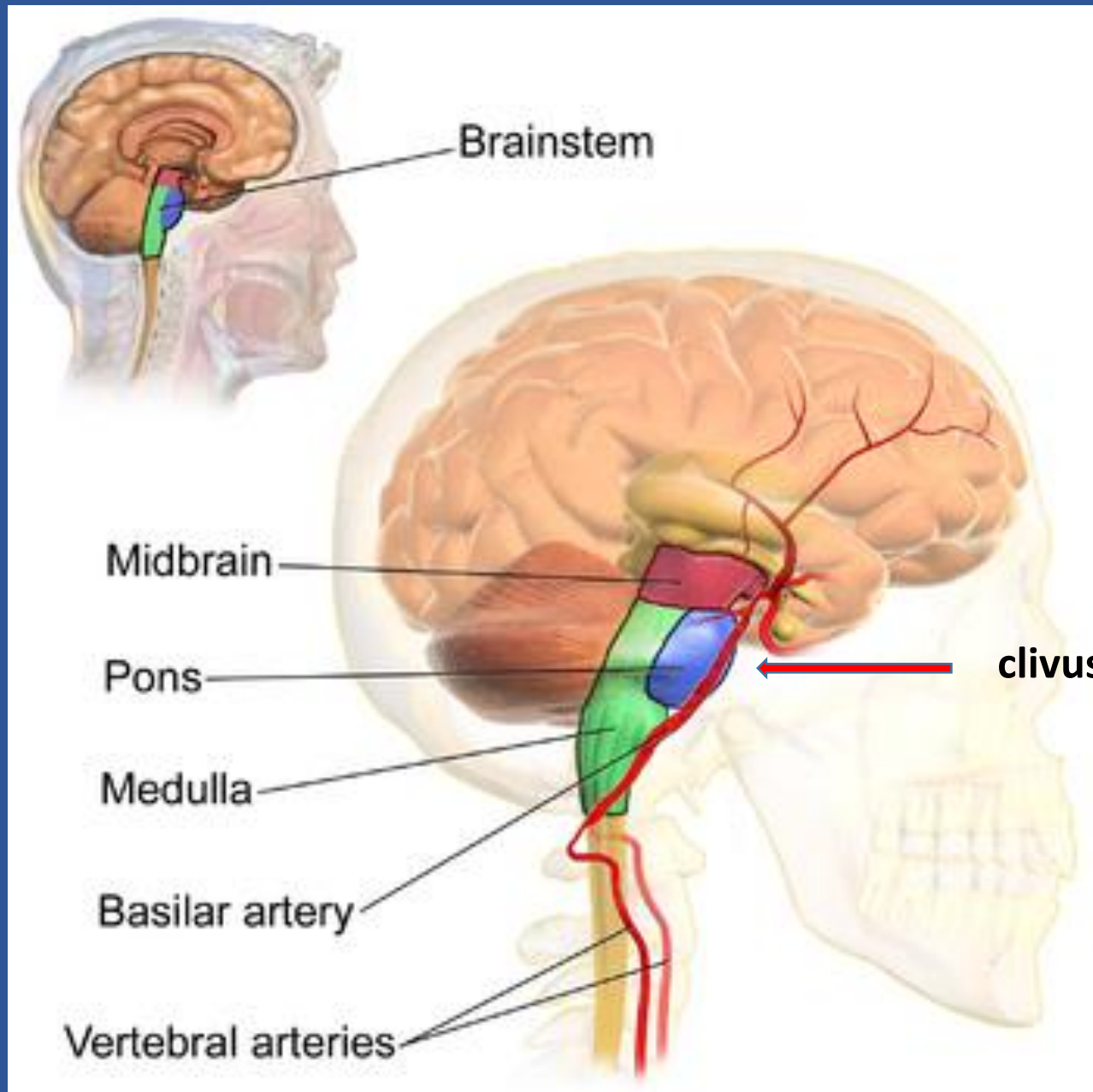
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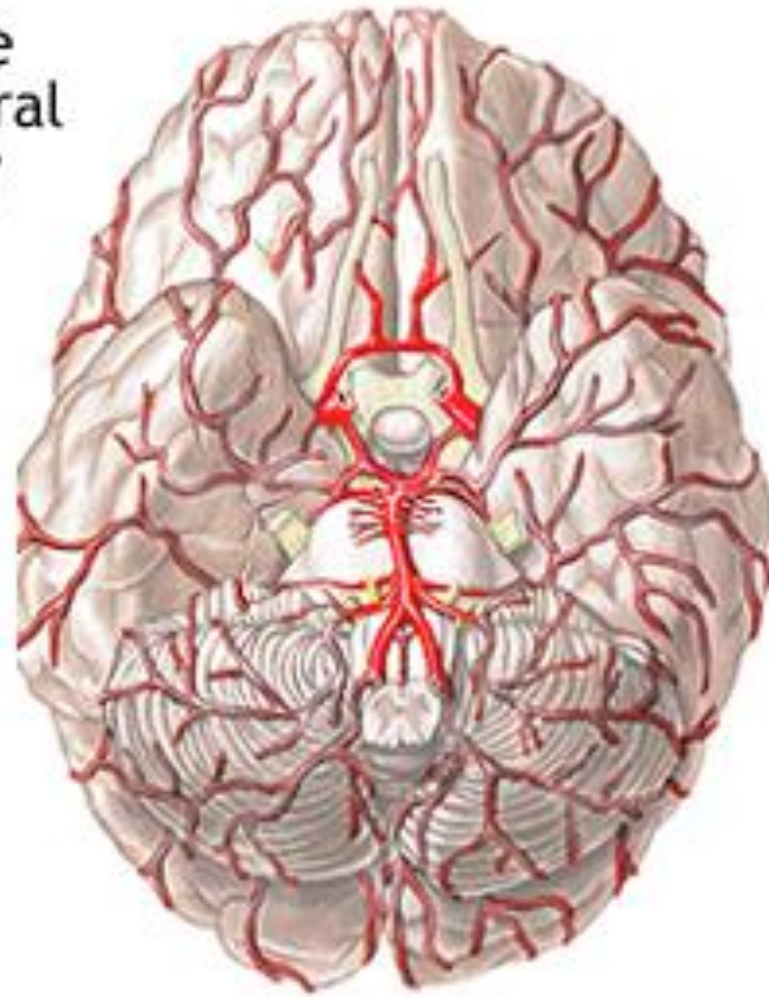
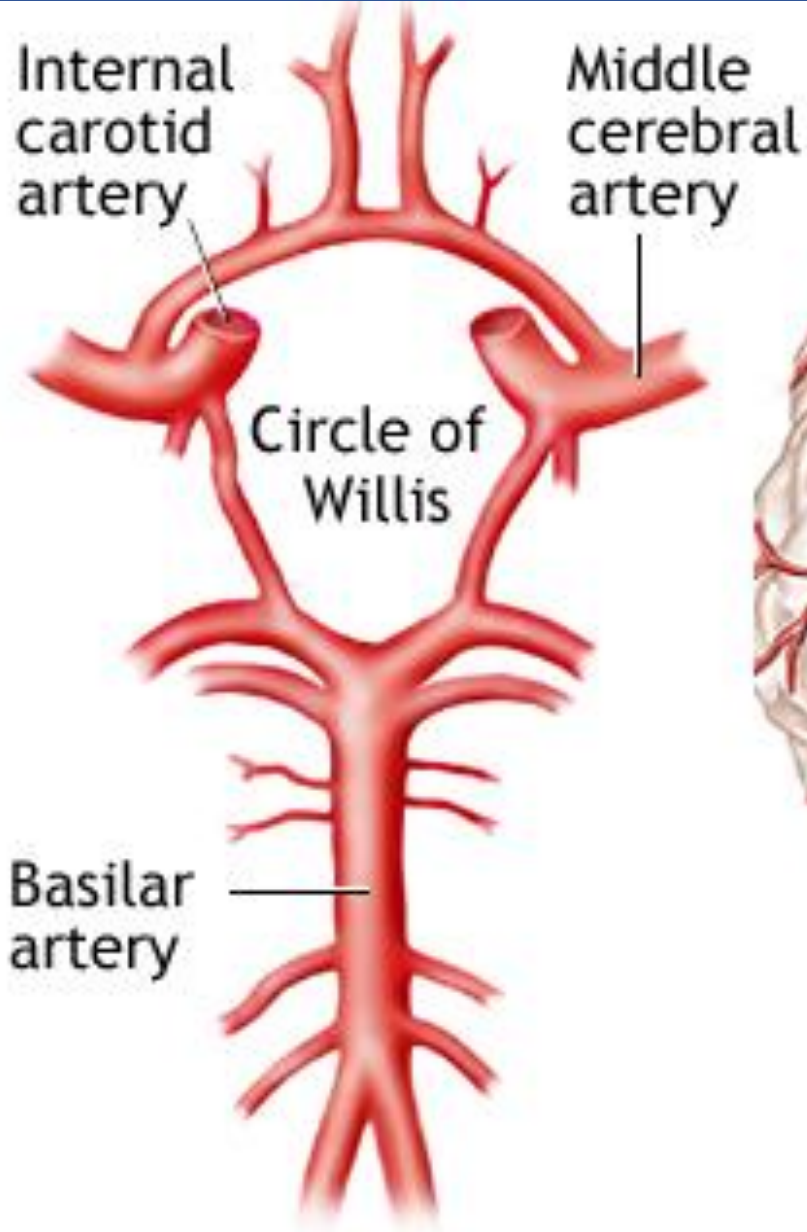


Cauda equina

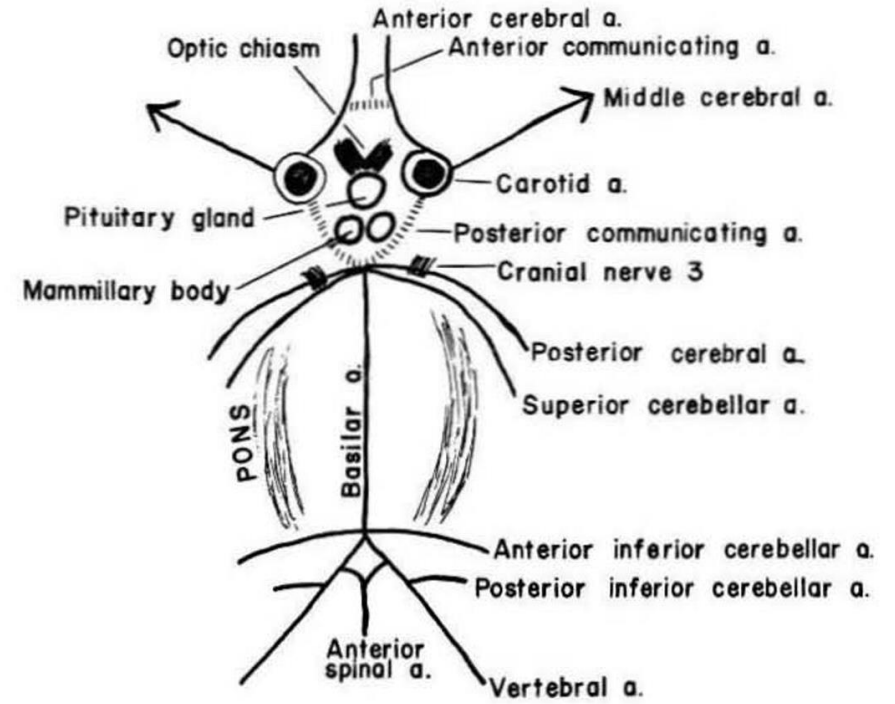
cerebrum

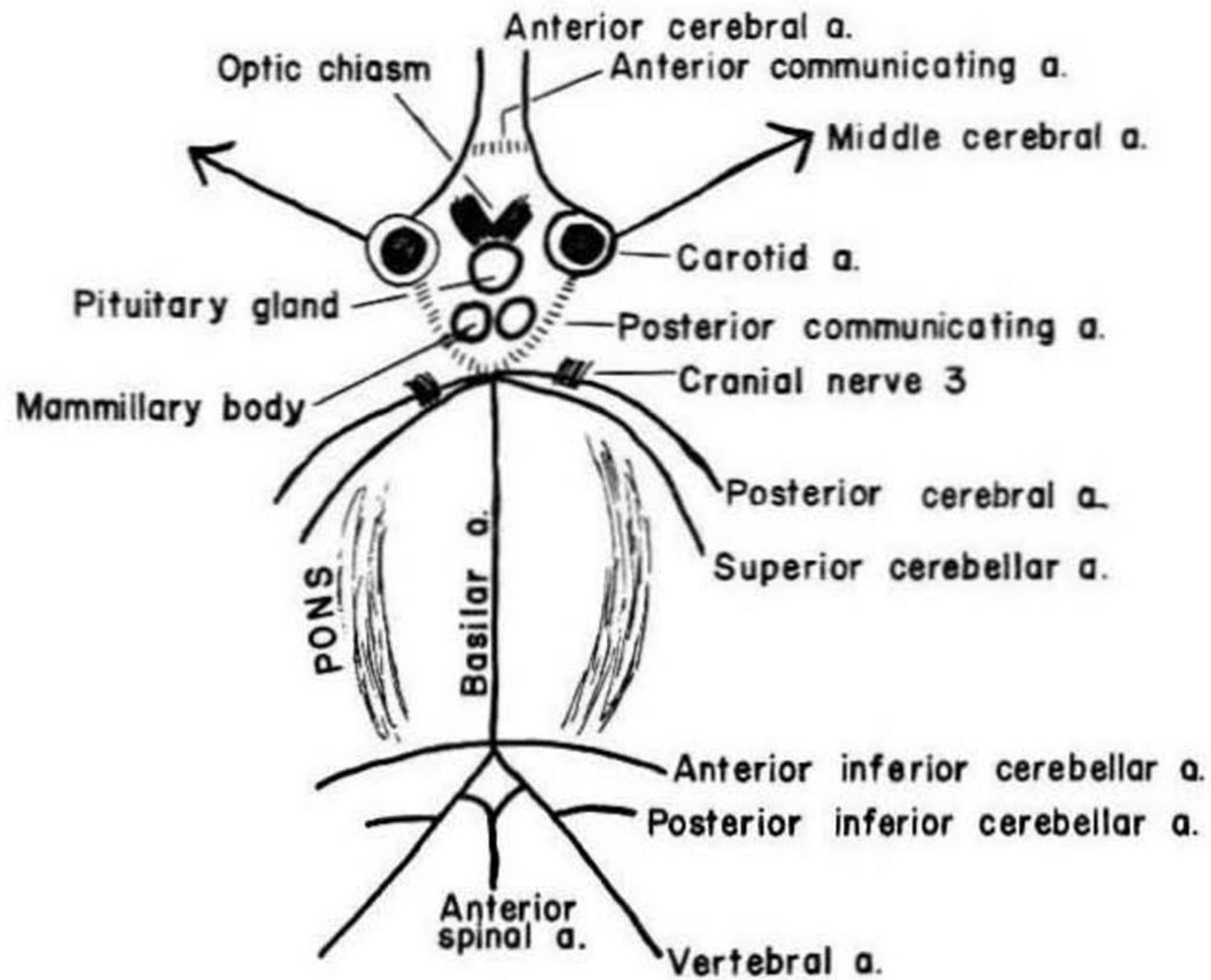




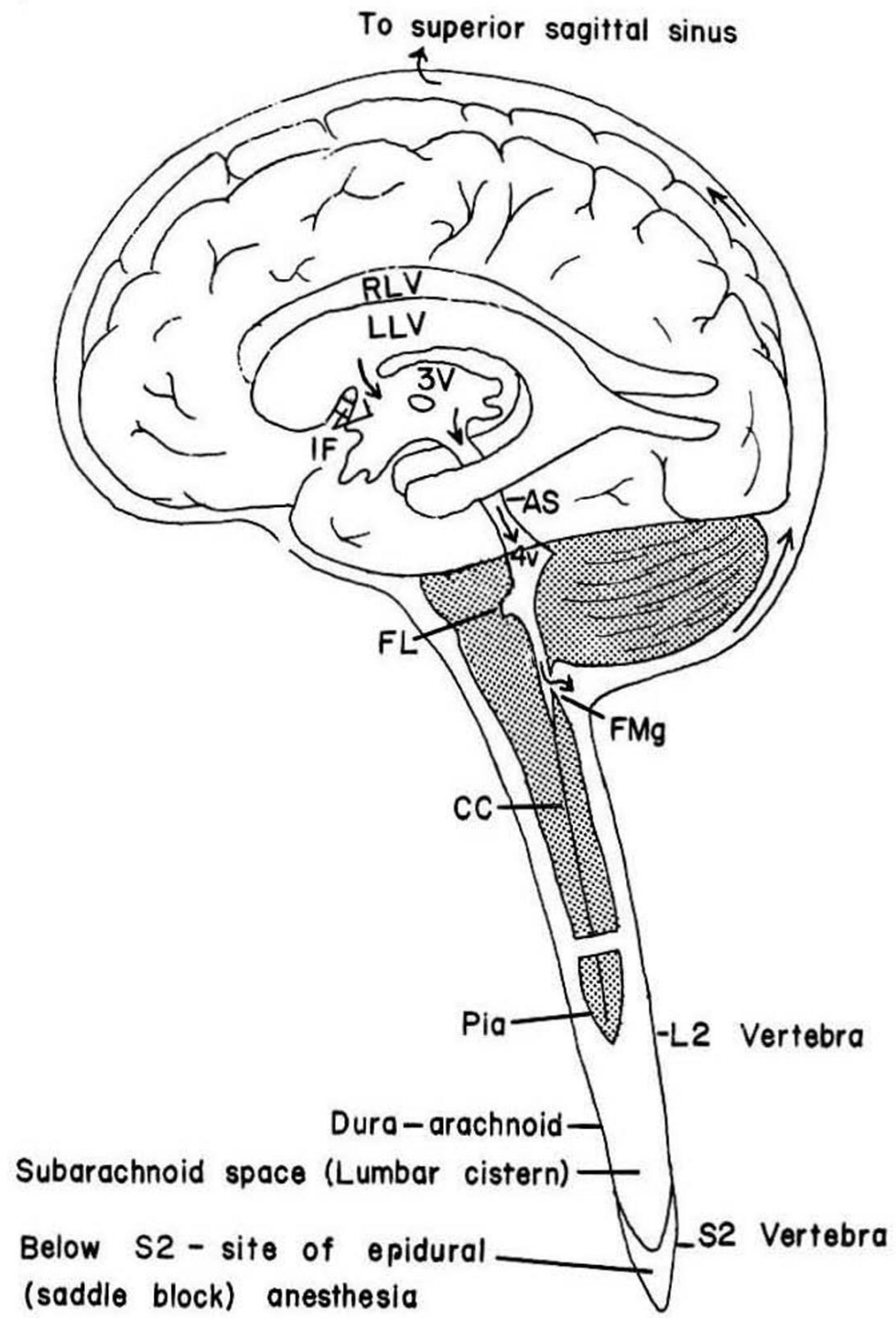


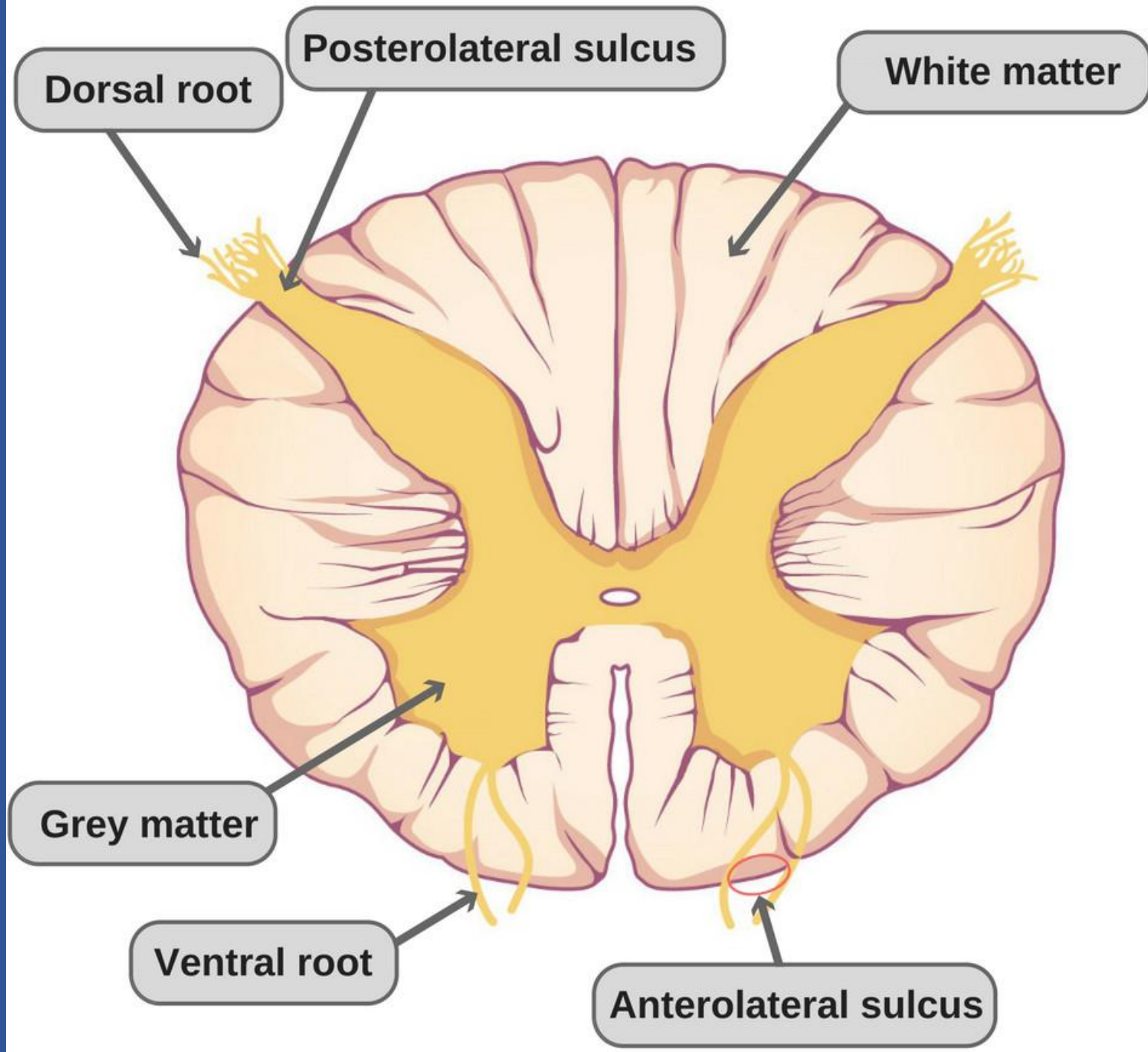
Bottom view of brain



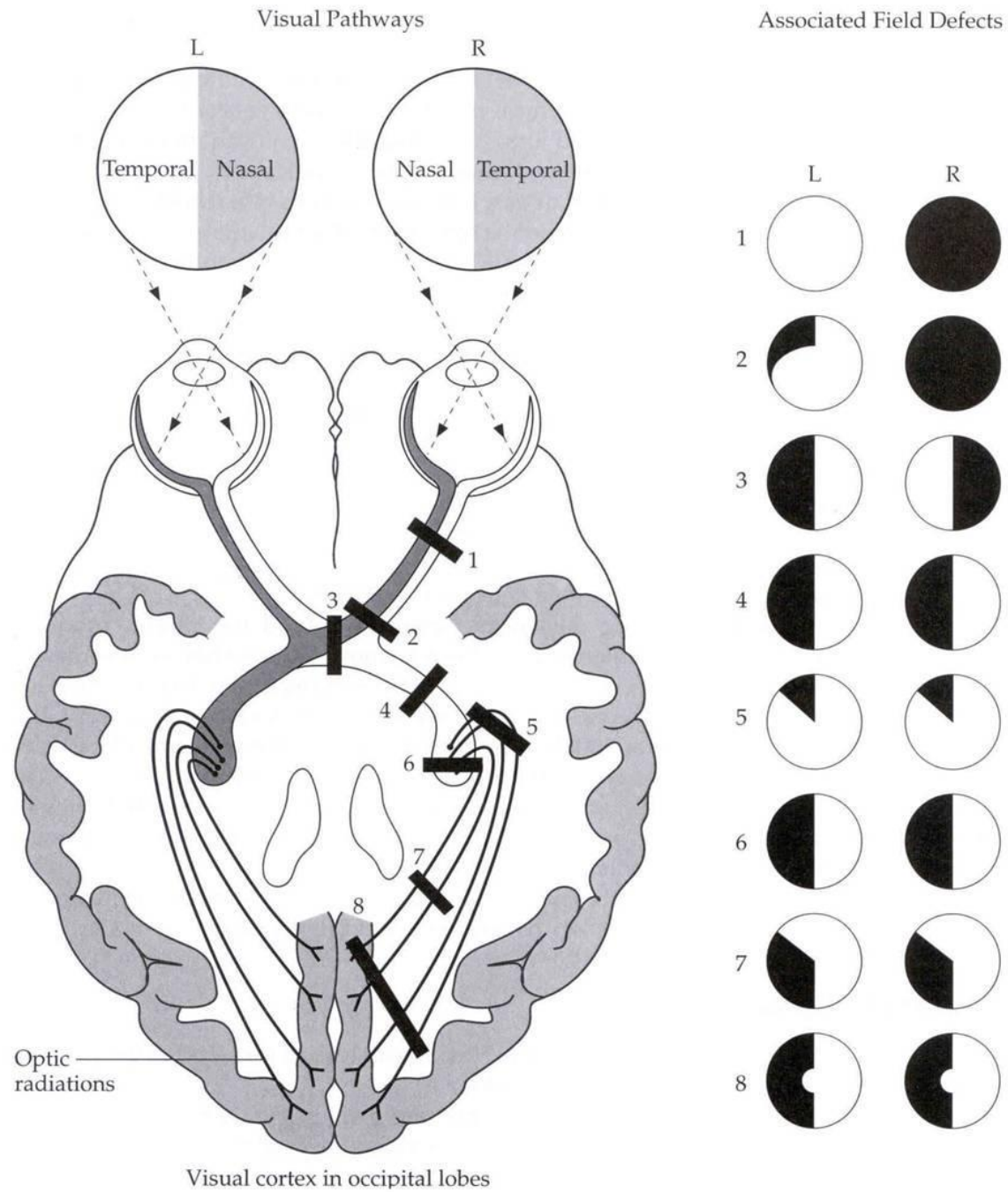


WILLIS!



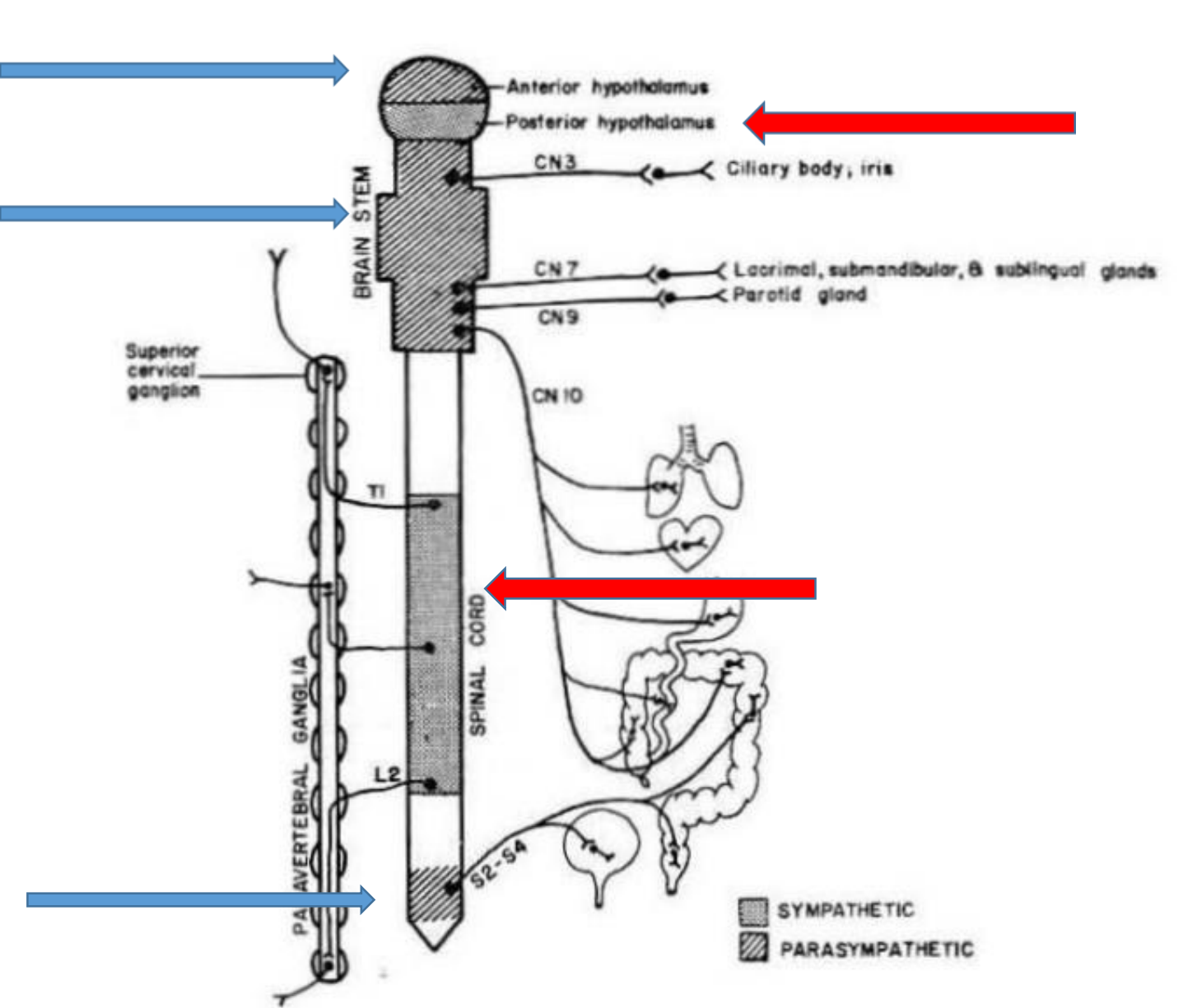


Visual system



Autonomic system and hypothalamus

Sympathetic
parasympathetic



Hypothalamus

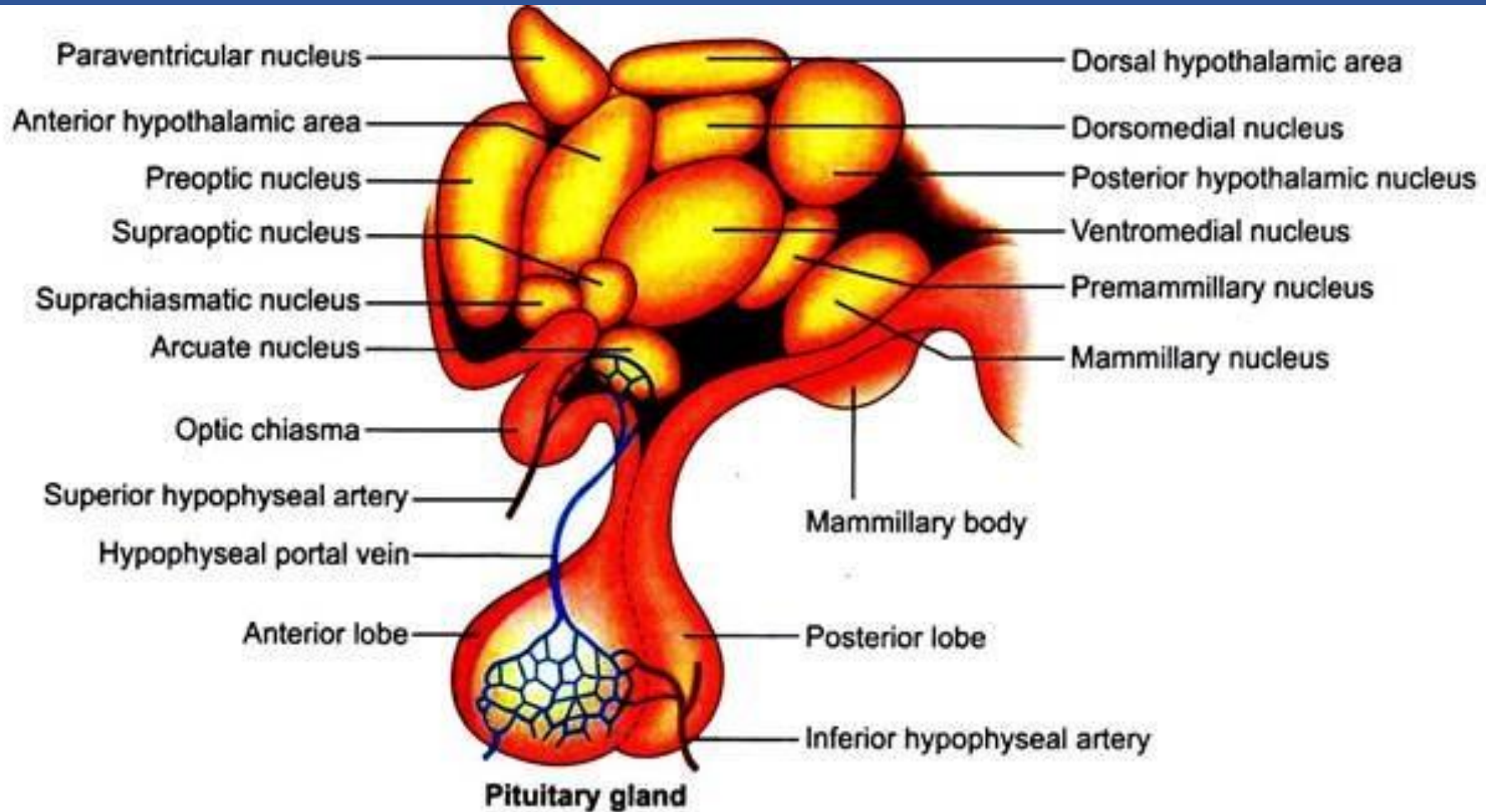
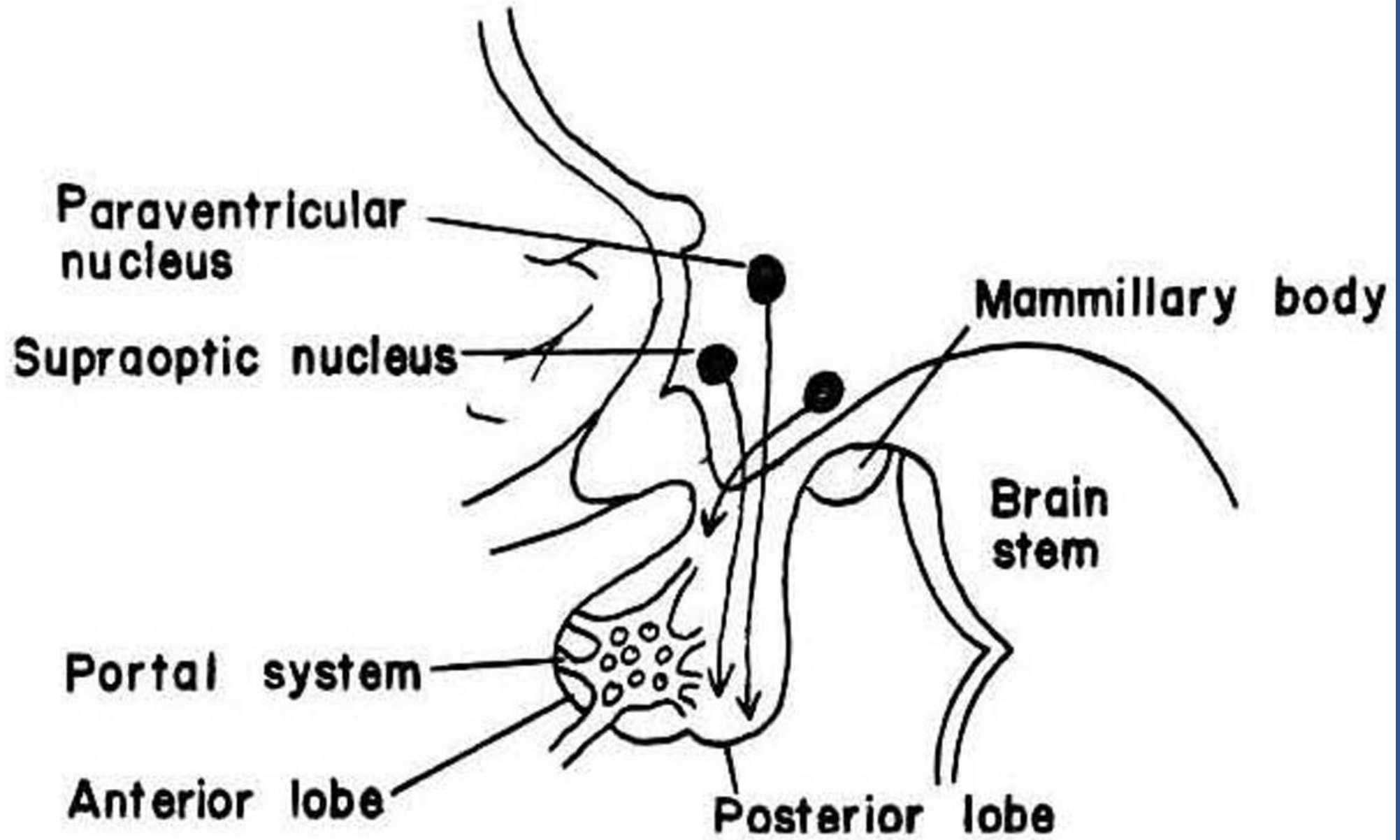


Fig. 9.51: Some important nuclei of hypothalamus



The connections between the hypothalamus and pituitary gland.

Hypothalamus



Hippocampus



cortex

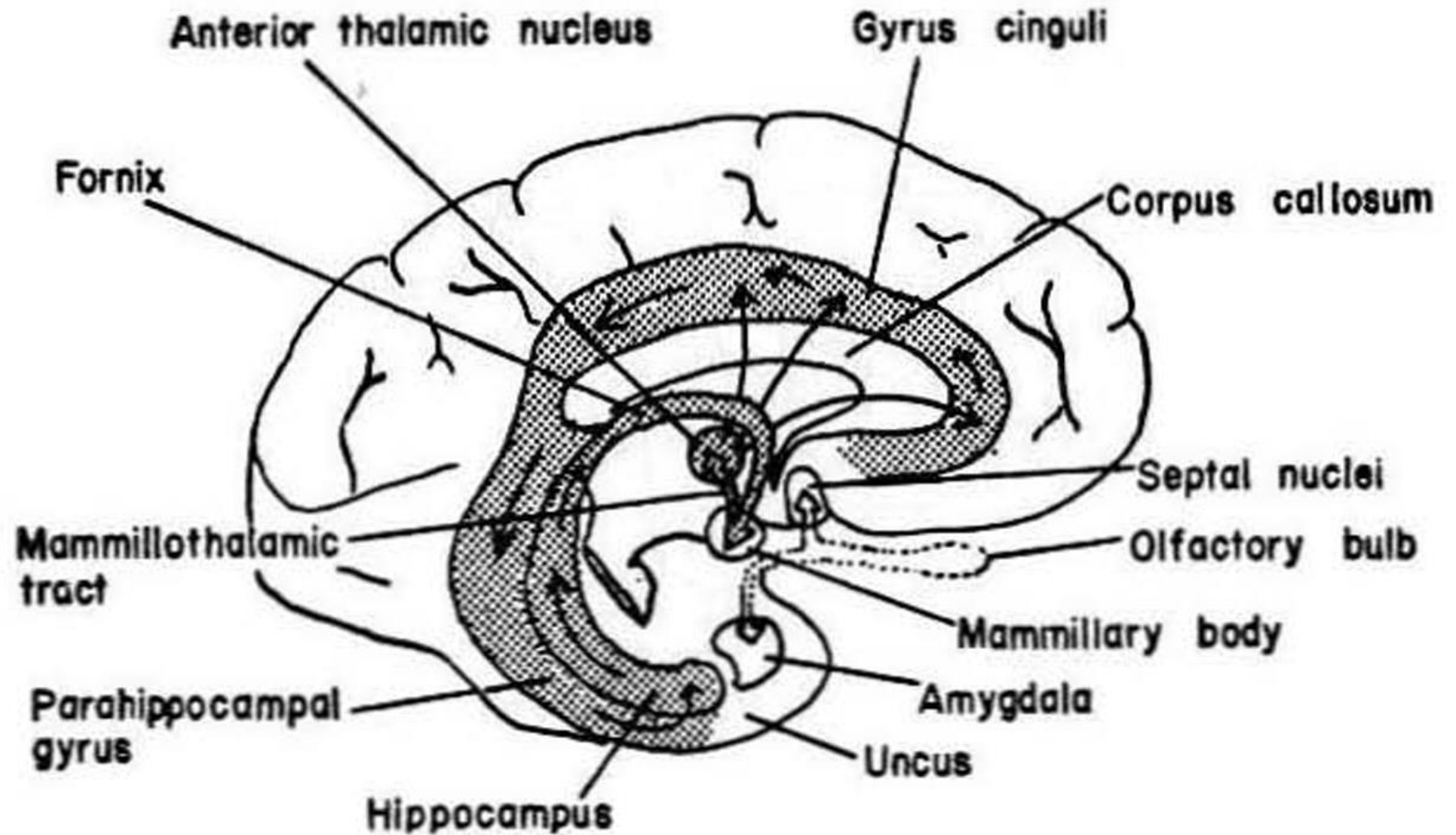
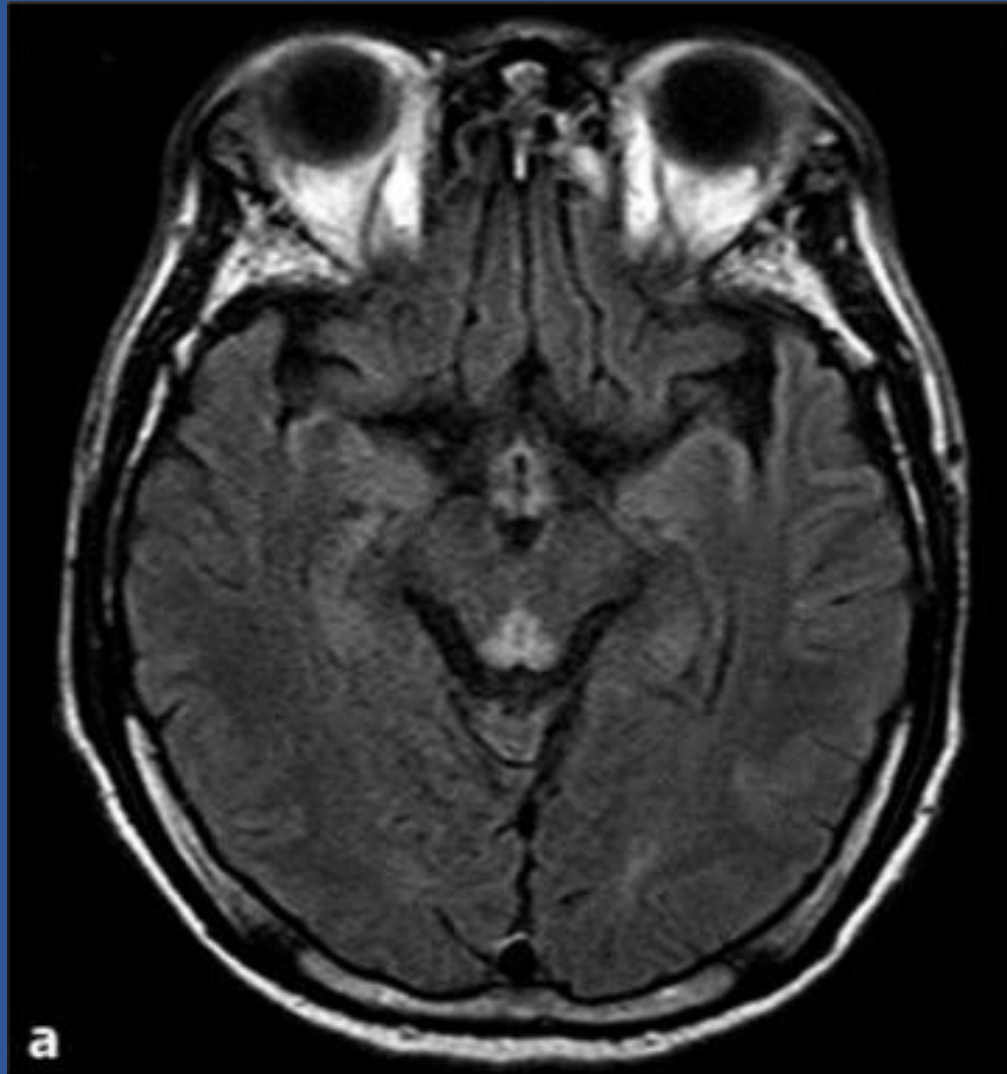


Fig. 47 The Papez circuit (shaded areas). The labeled structures as a whole are referred to as the *limbic system*. The hippocampus, among other things, is involved in the storage of short-term memory. The amygdala is important in the initiation of emotional responses. (Modified from Clark, R.G., *Manter and Gatz's Essentials of Clinical Neuroanatomy & Neurophysiology*, F.A. Davis Company, Philadelphia, 1975.)

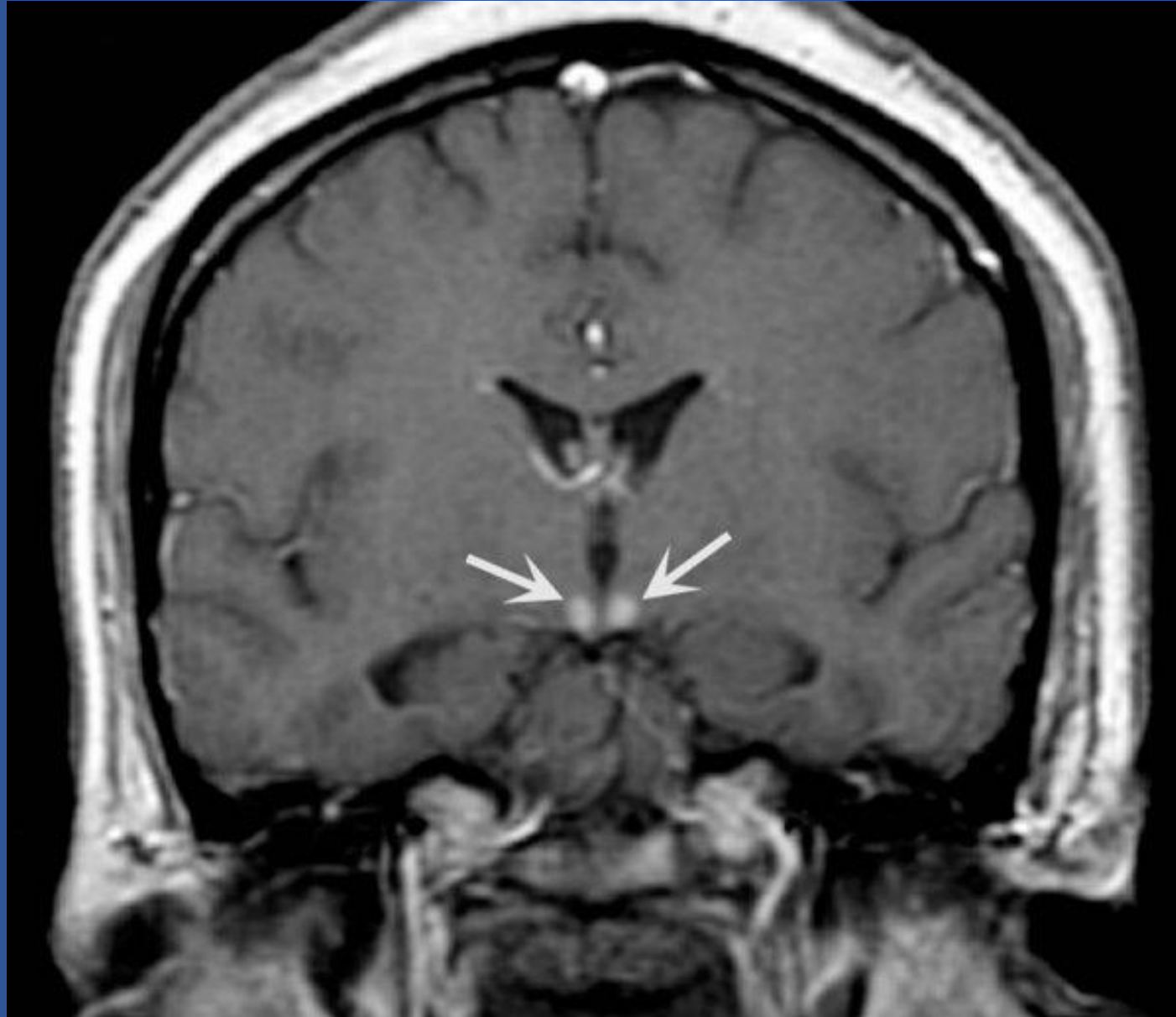
Wernicke syndrome



Ataxia
Eye
confusion

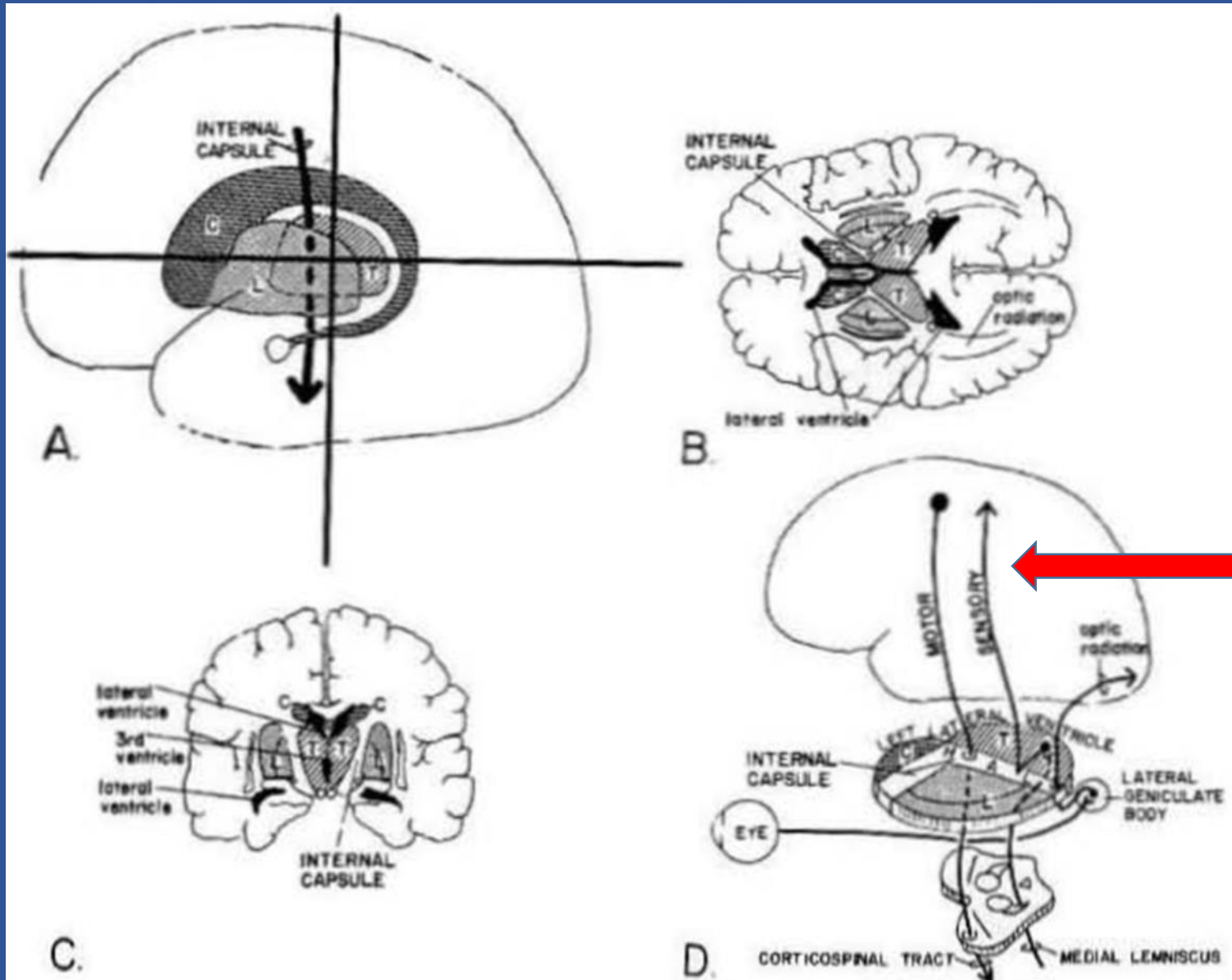
Korsakoff syndrome

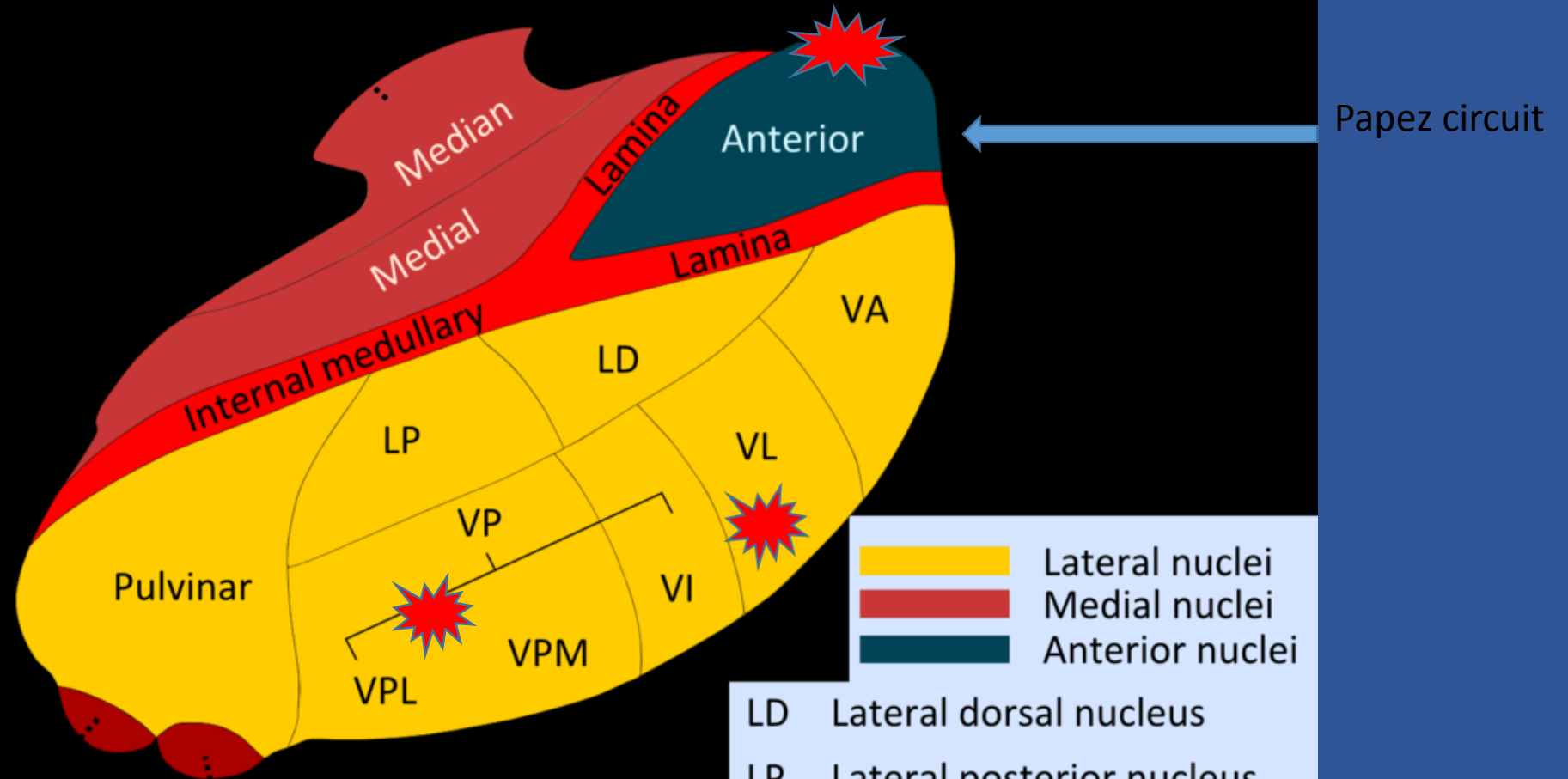
Memory loss
Confusion
confabulation



Thalamus



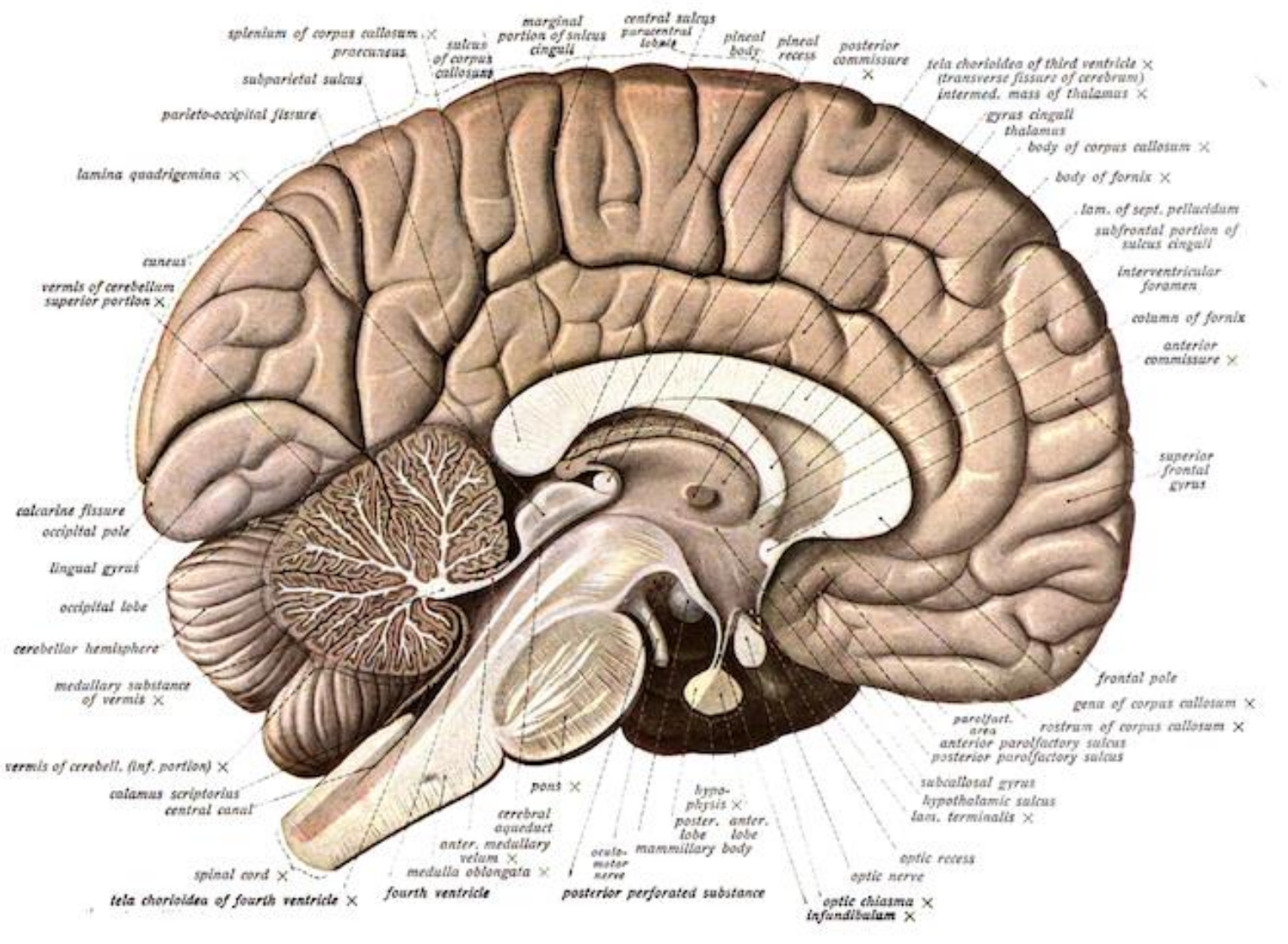




- Lateral nuclei
- Medial nuclei
- Anterior nuclei

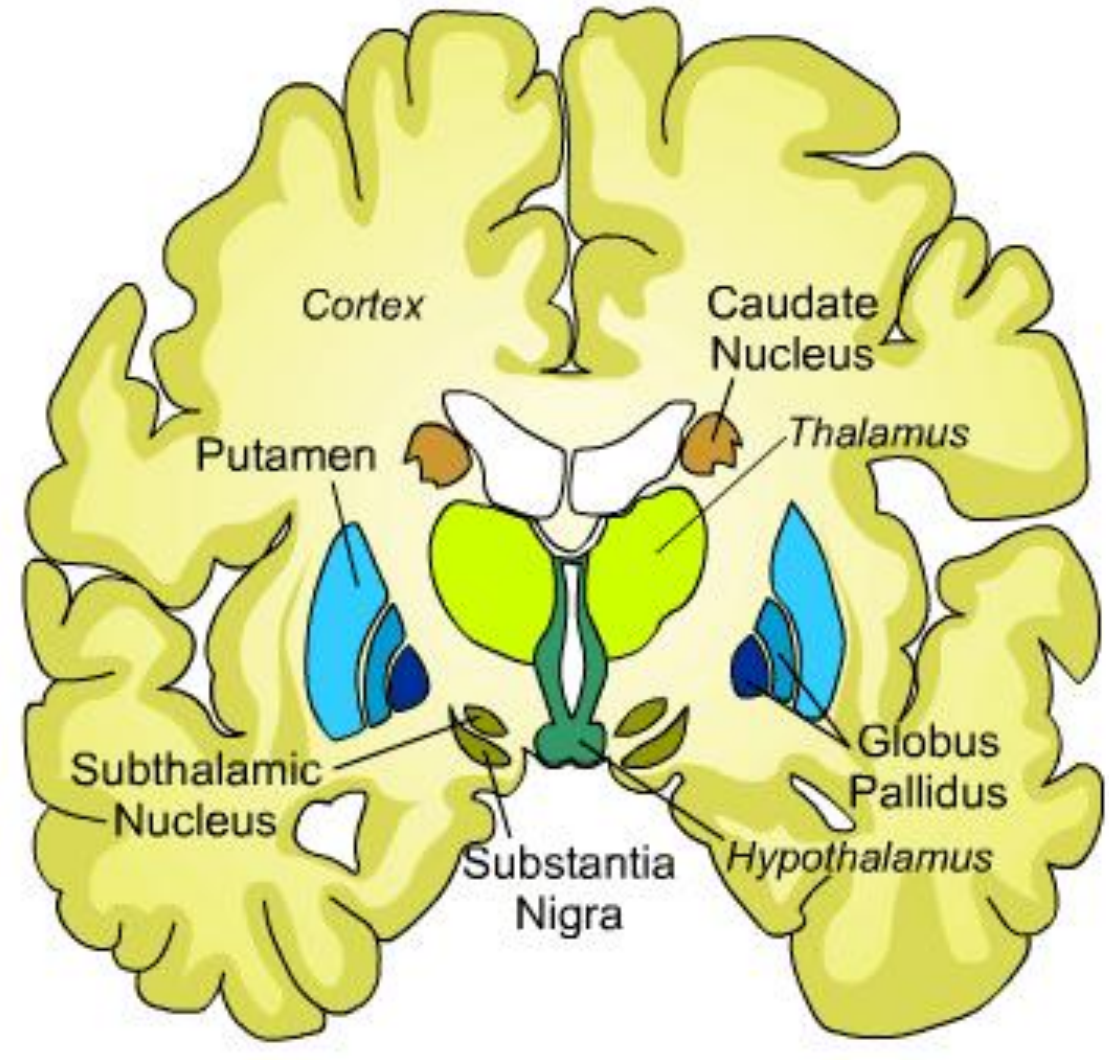
- LD Lateral dorsal nucleus
- LP Lateral posterior nucleus
- VA Ventral anterior nucleus
- VL Ventral lateral nucleus
- VP Ventral posterior nucleus
- VI Ventral intermediat nucleus
- VPM Ventral posteromedial
- VPL Ventral posterolateral

cerebellum



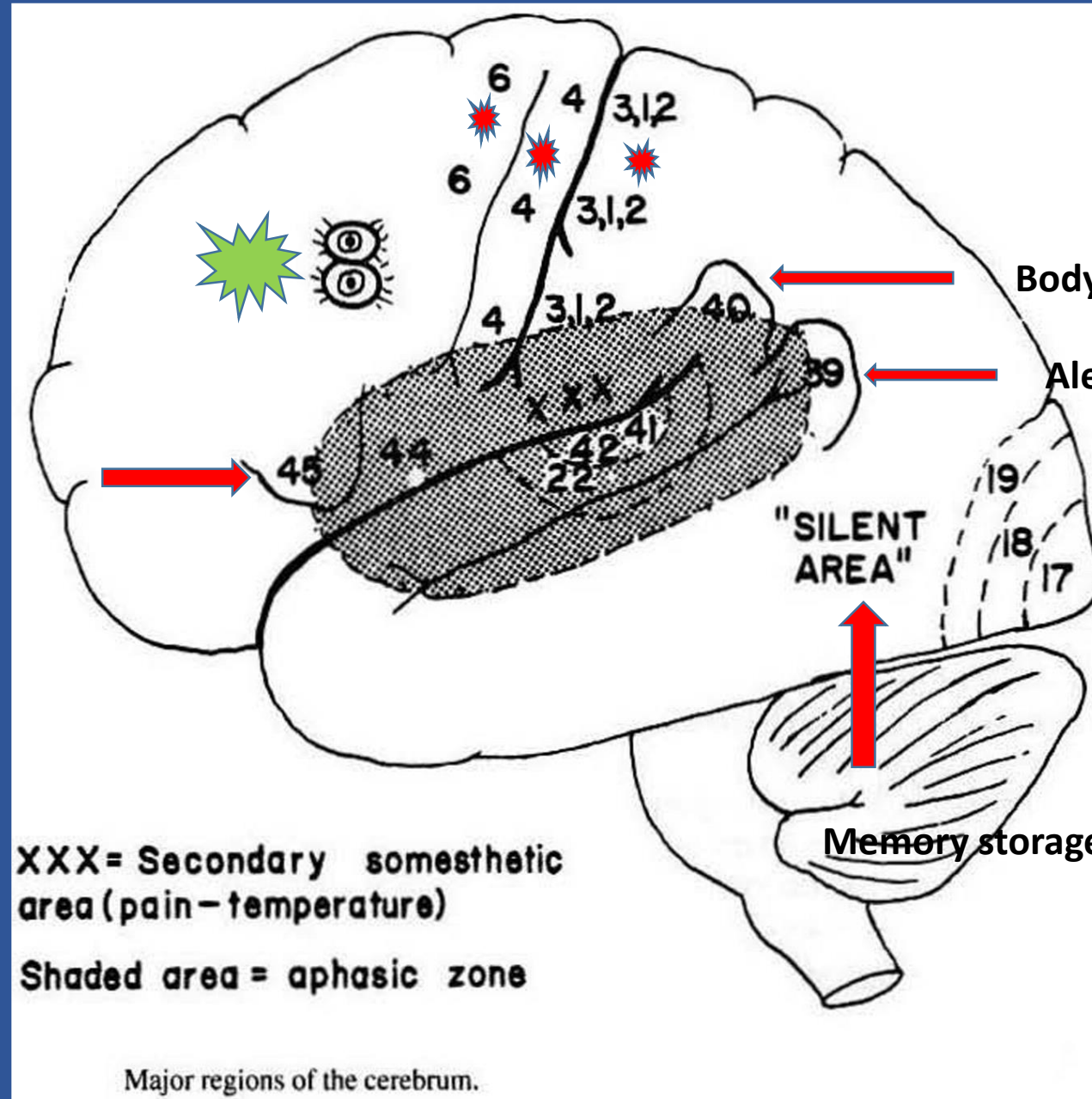
Basal ganglia

Figure AB-18: Basal Ganglia

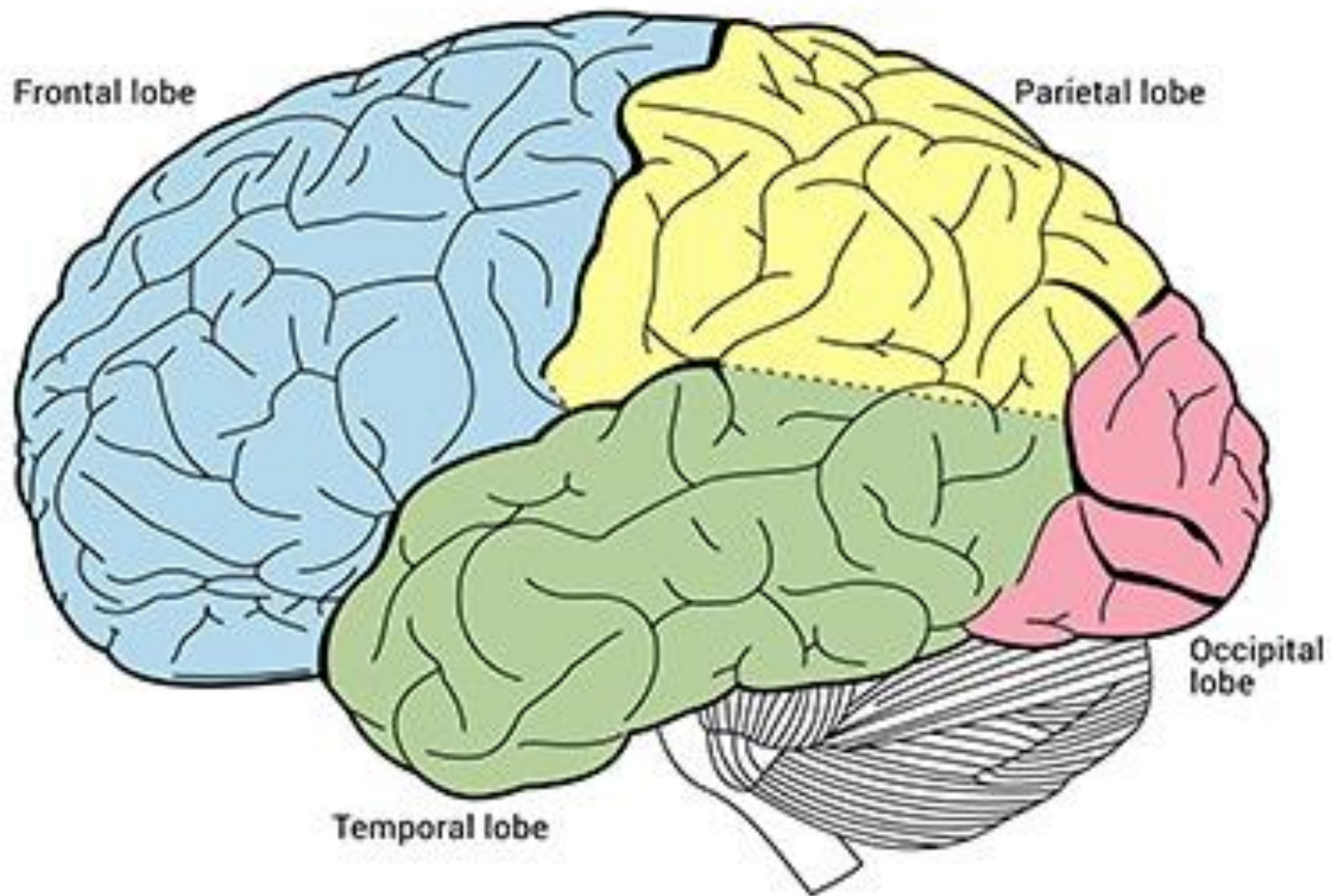


Parkinsonism
Chorea
Athetosis
hemiballismus

Cerebral cortex



Identify the cerebral lobes

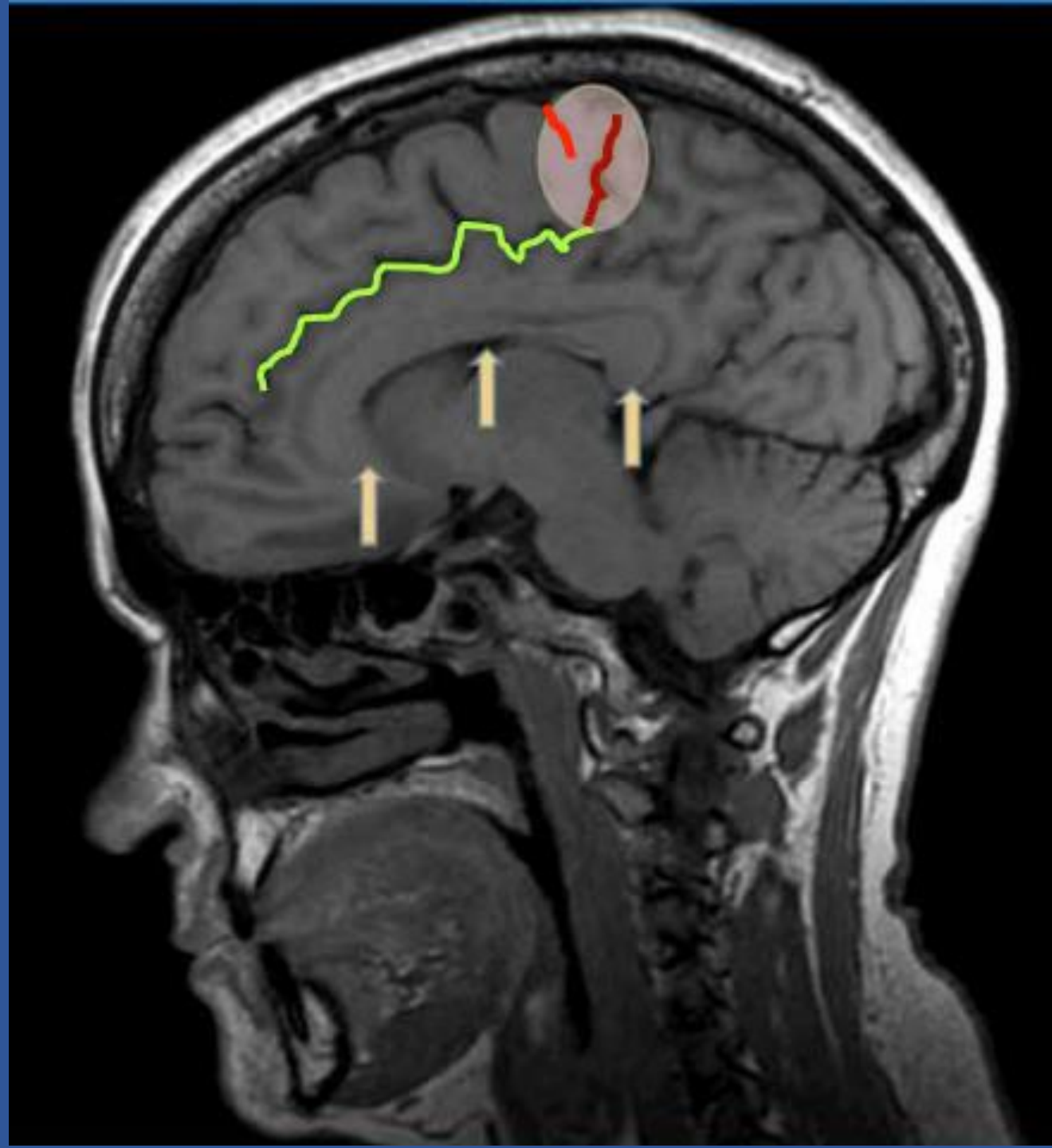


Frontal lobe

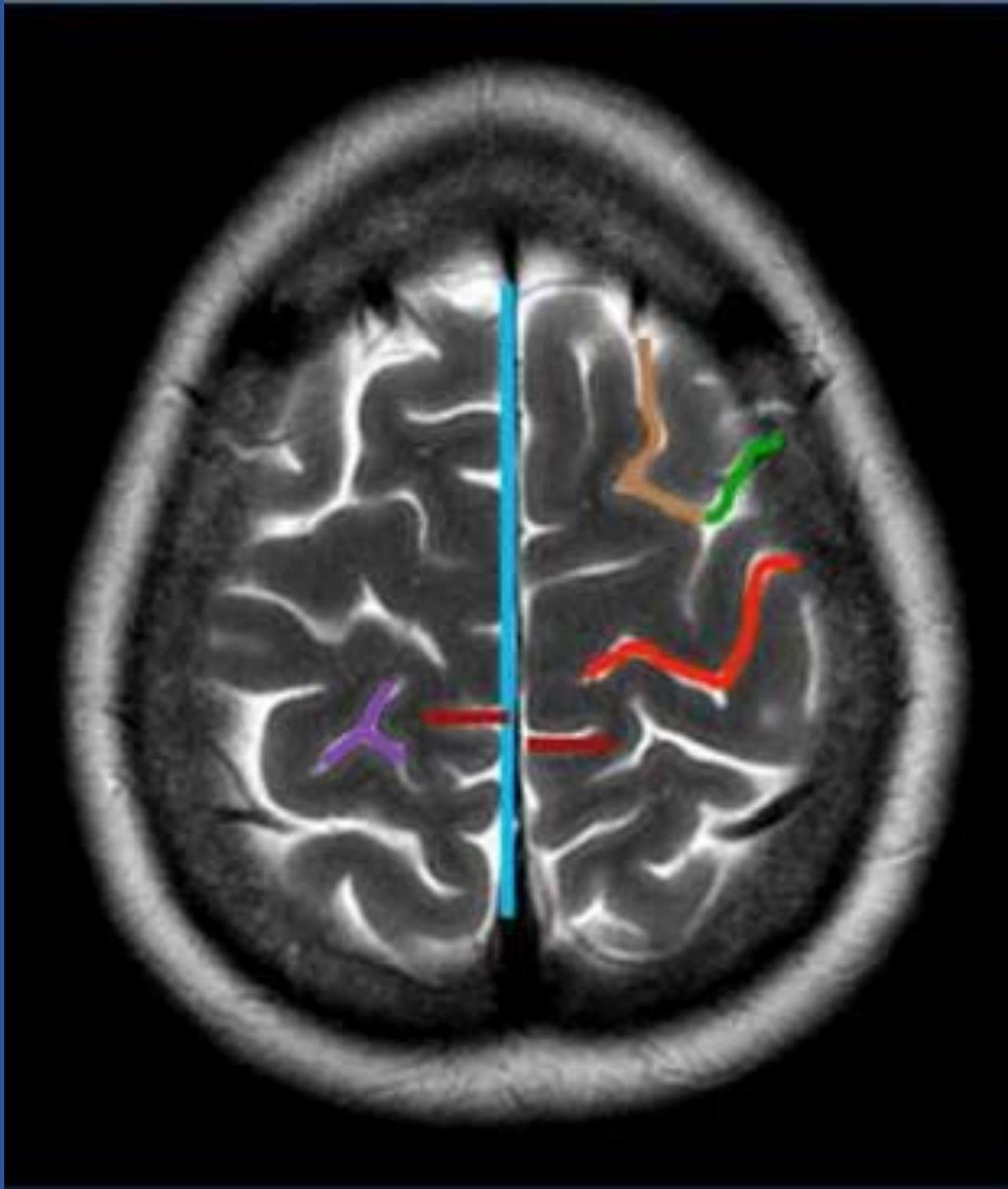
Parietal lobe

Temporal lobe

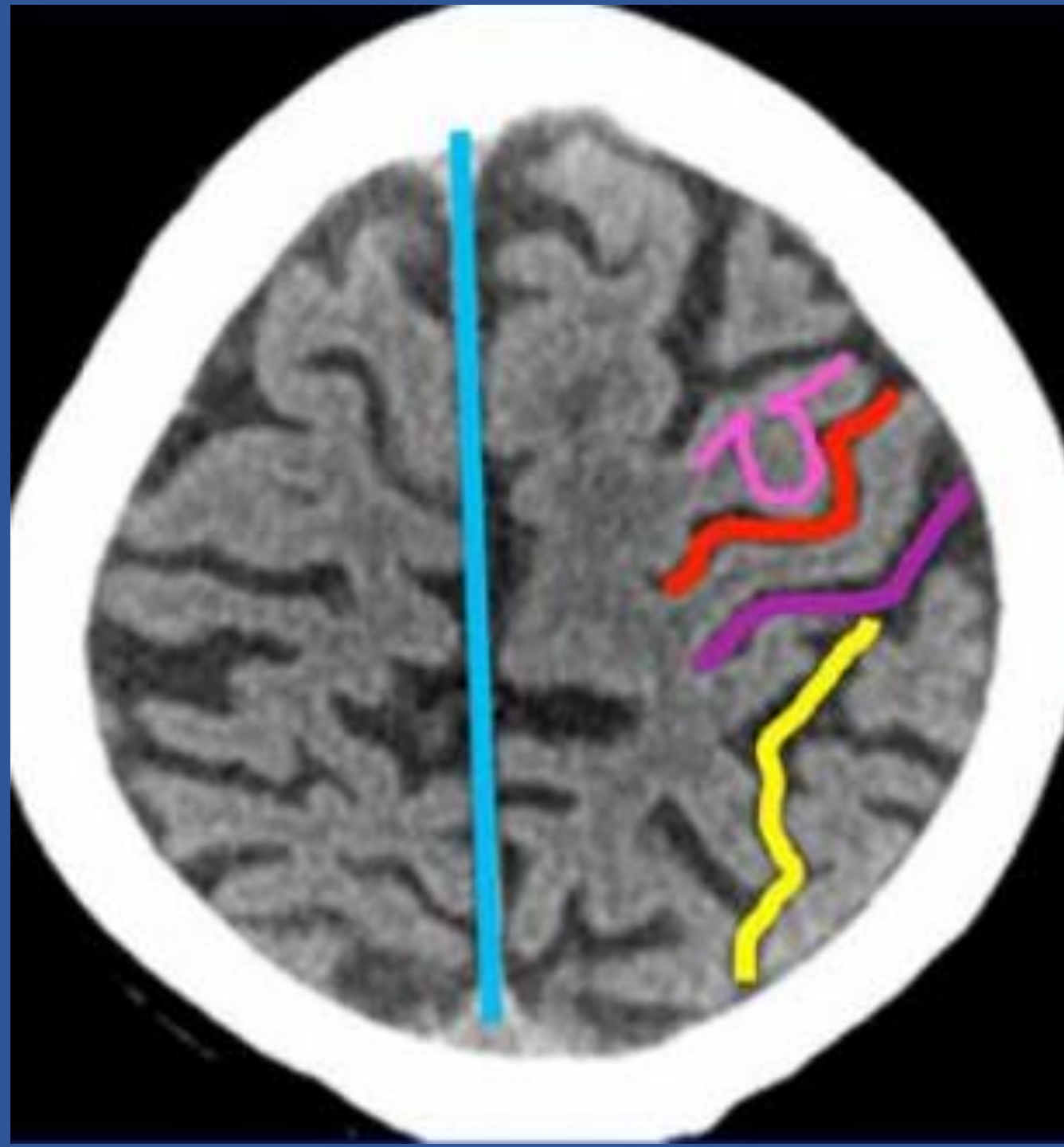
Occipital lobe



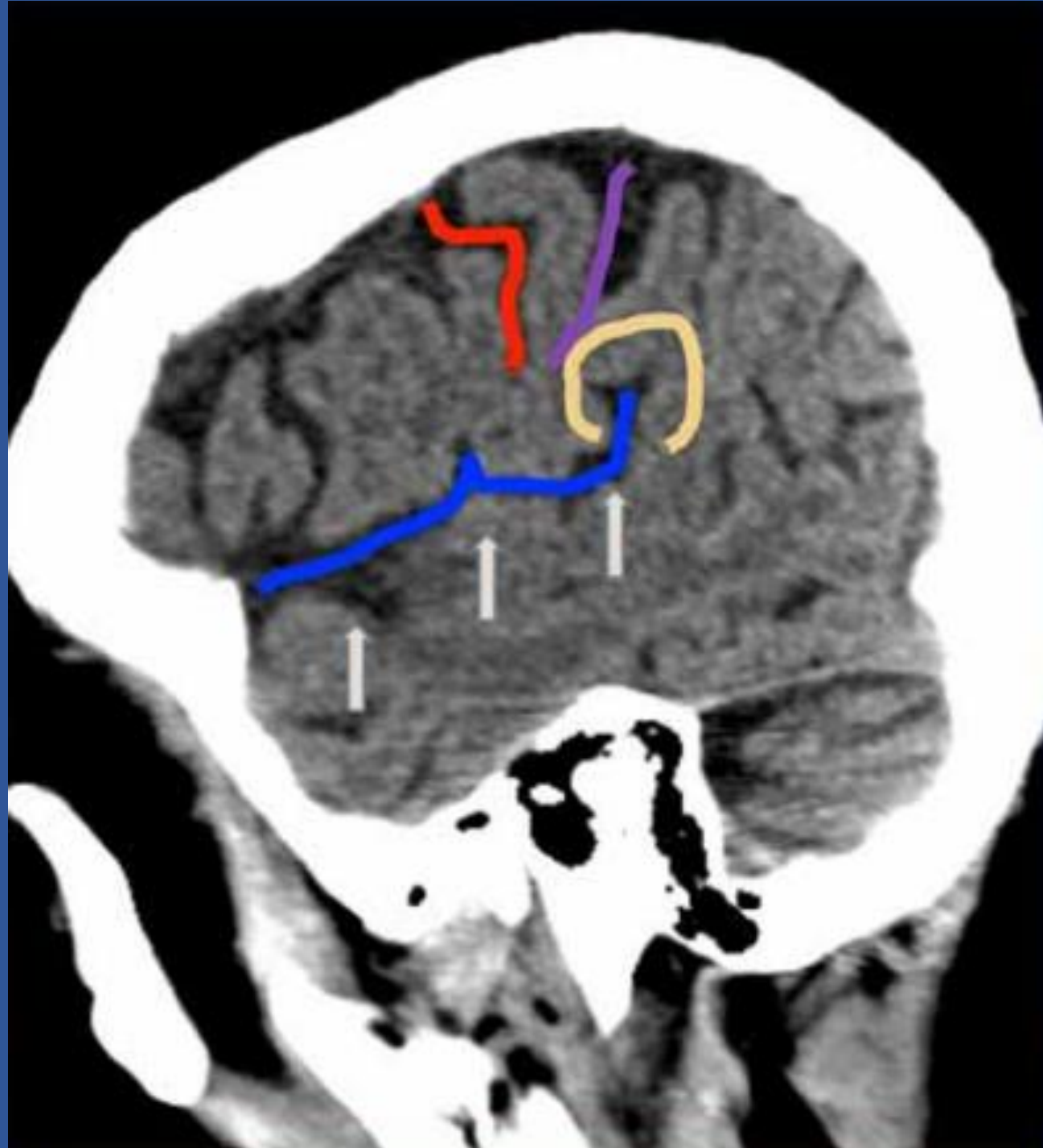
Sup frontal
Precentral
Central
Marginal
postcentral



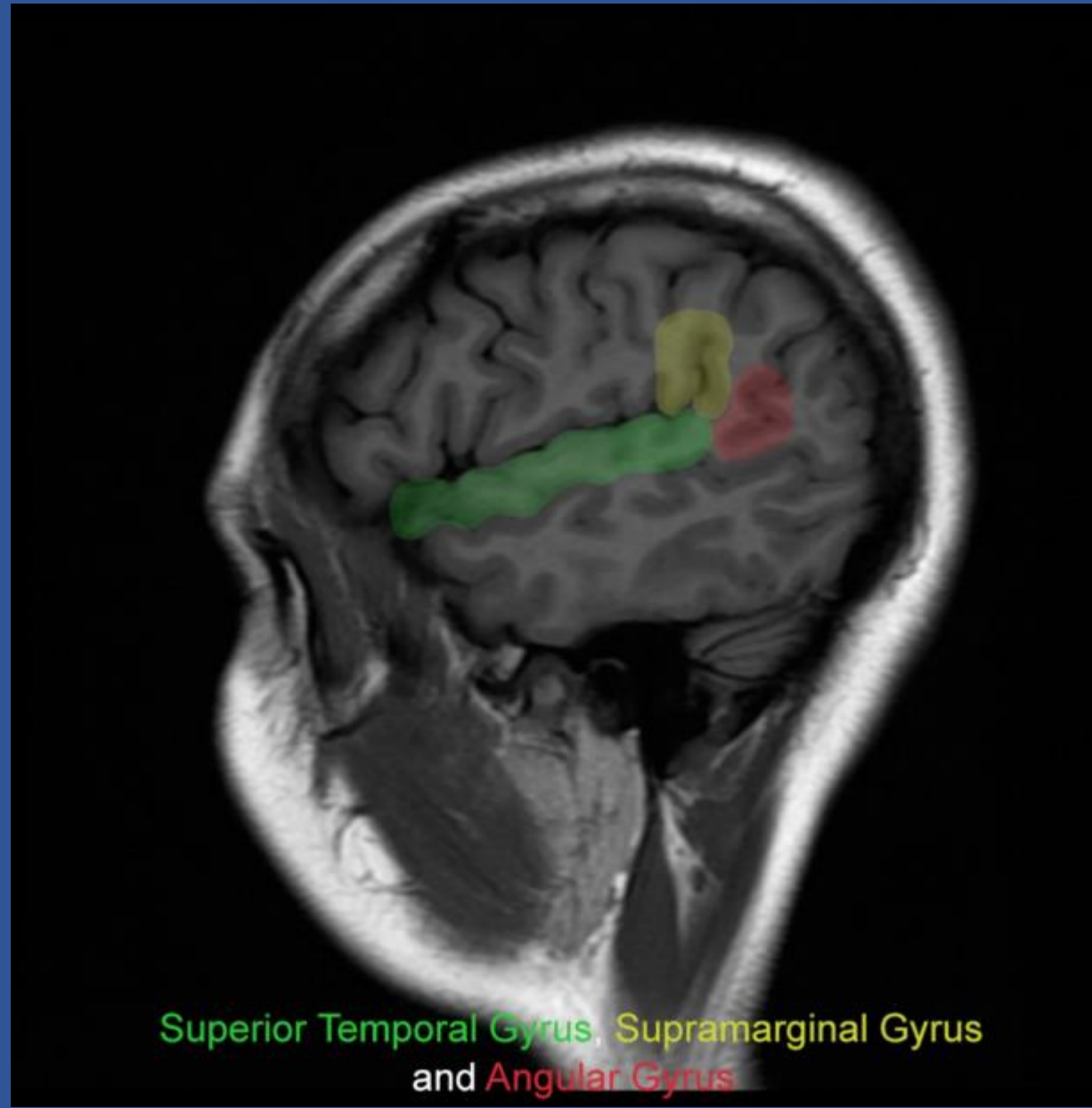
Interparietal
Postcentral
Central
omega



Sylvian
Supramarginal
Postcentral
central

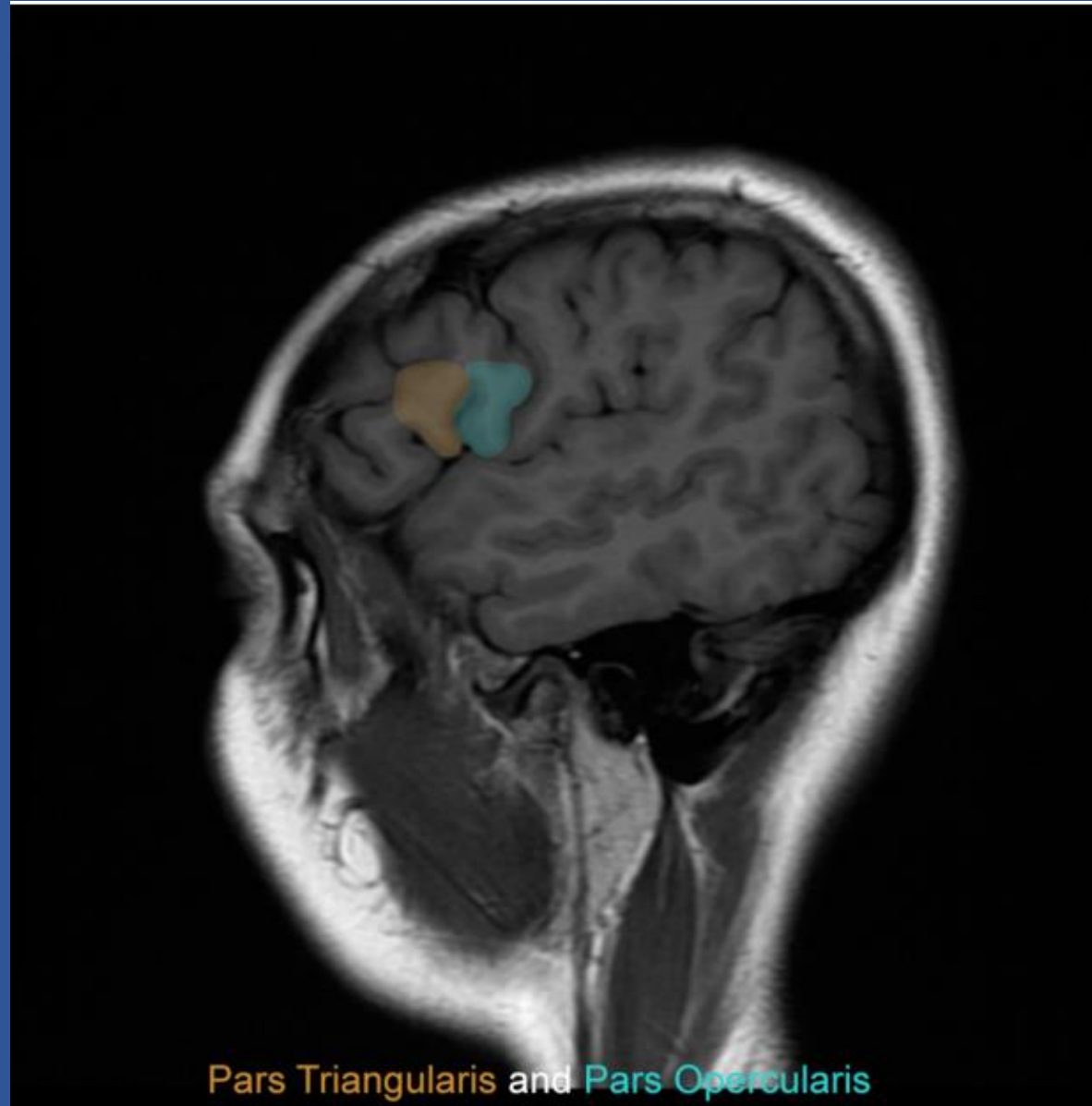


Superior temporal gyrus, supramarginal gyrus, and angular gyrus as landmarks for Wernicke's area.

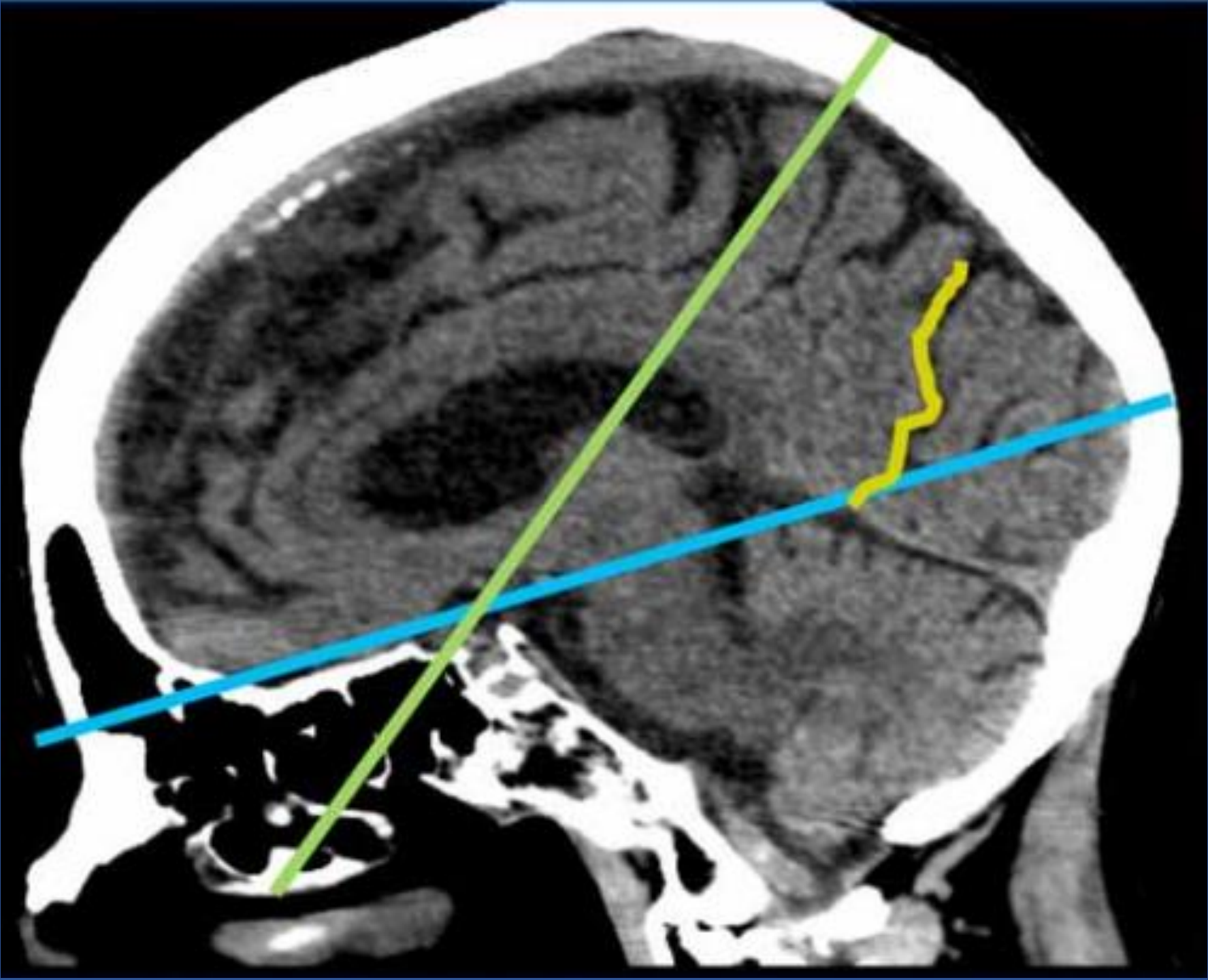




the pars opercularis is located between the ascending ramus of the lateral fissure anteriorly and the precentral sulcus posteriorly



Baseline
Occipitoparietal



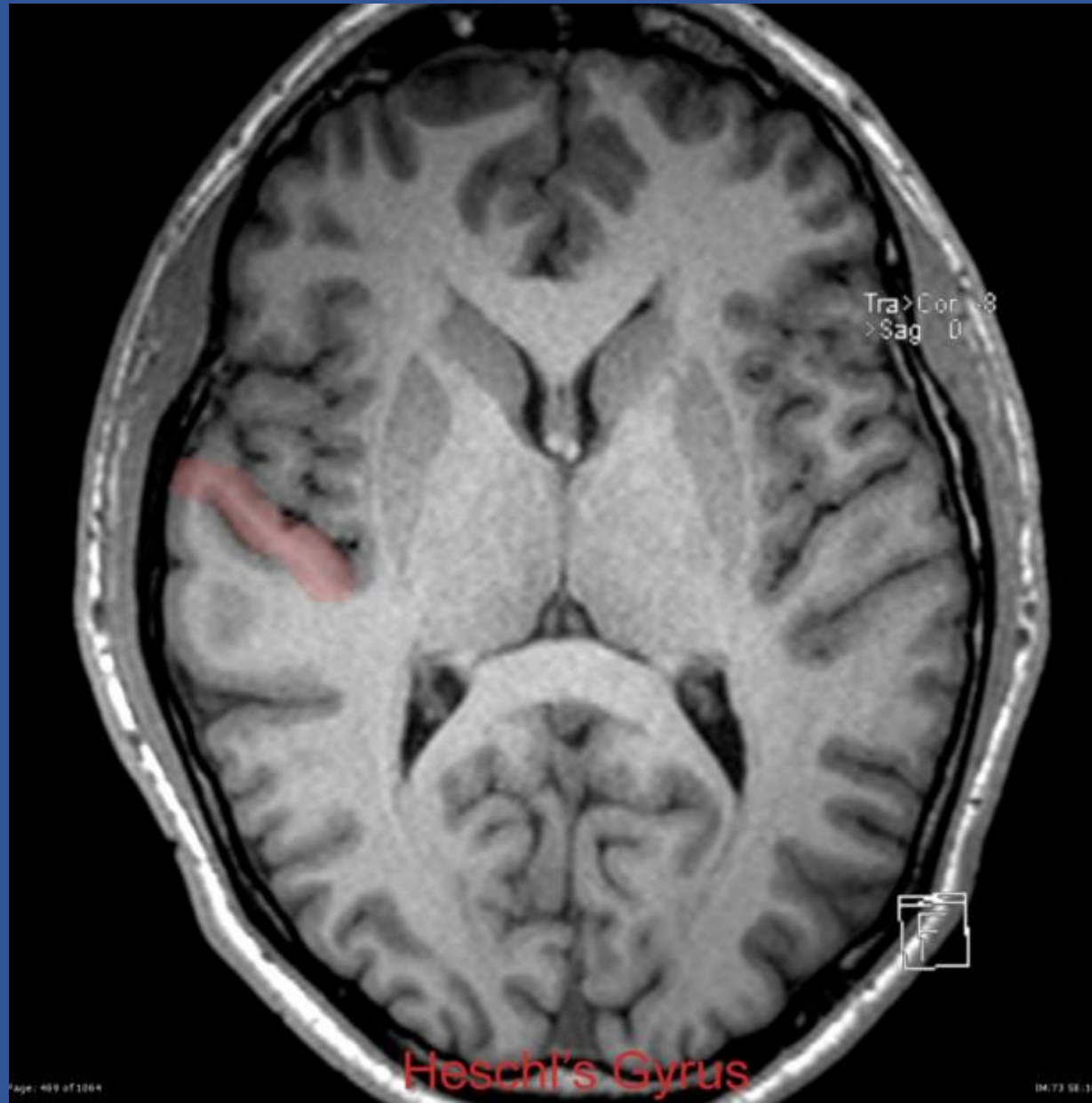
Top of ventricle
occipitoparietal

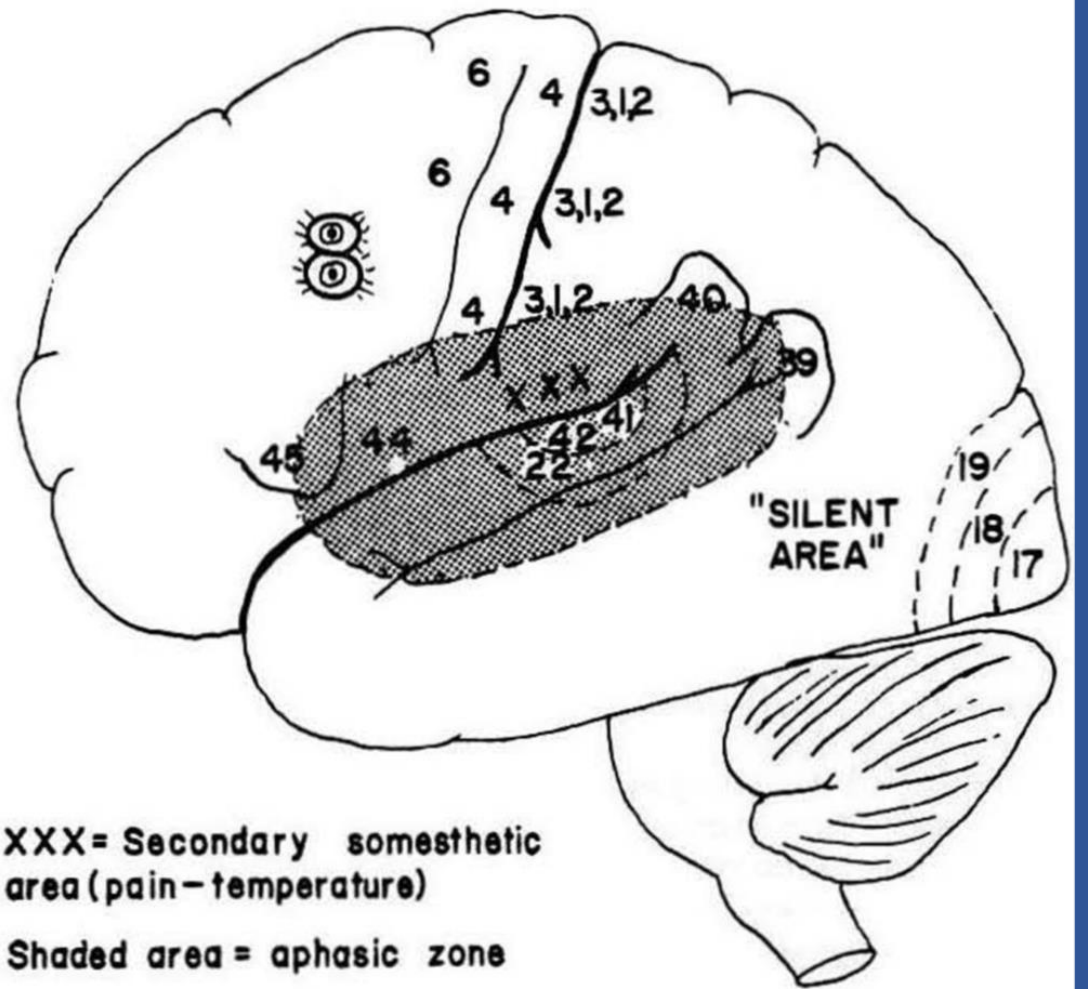
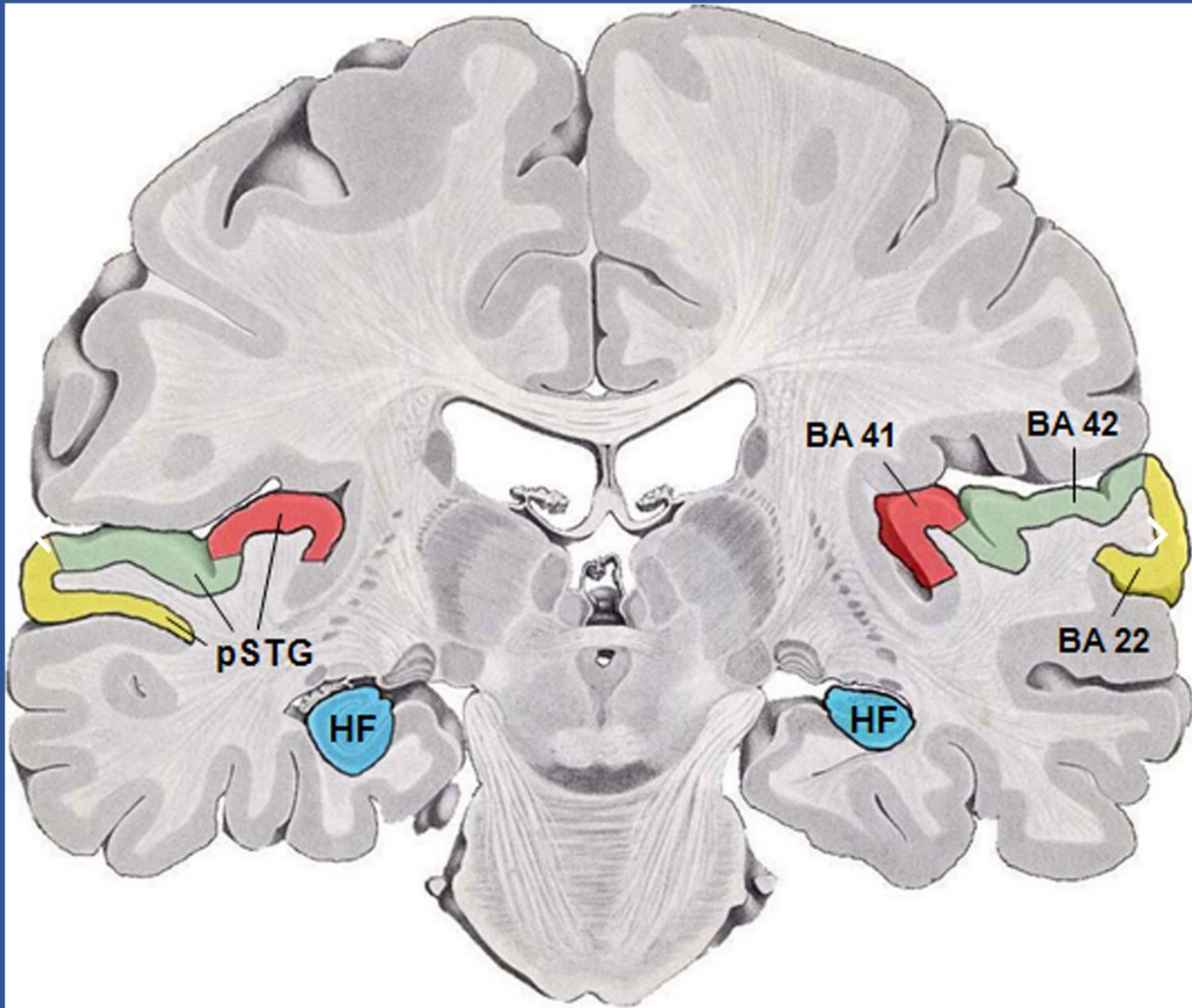


Calcarine sulcus as a landmark for the visual cortex (separates the superior lip from the inferior lip of the visual cortex).



Heschl's gyrus as a landmark for the primary auditory cortex



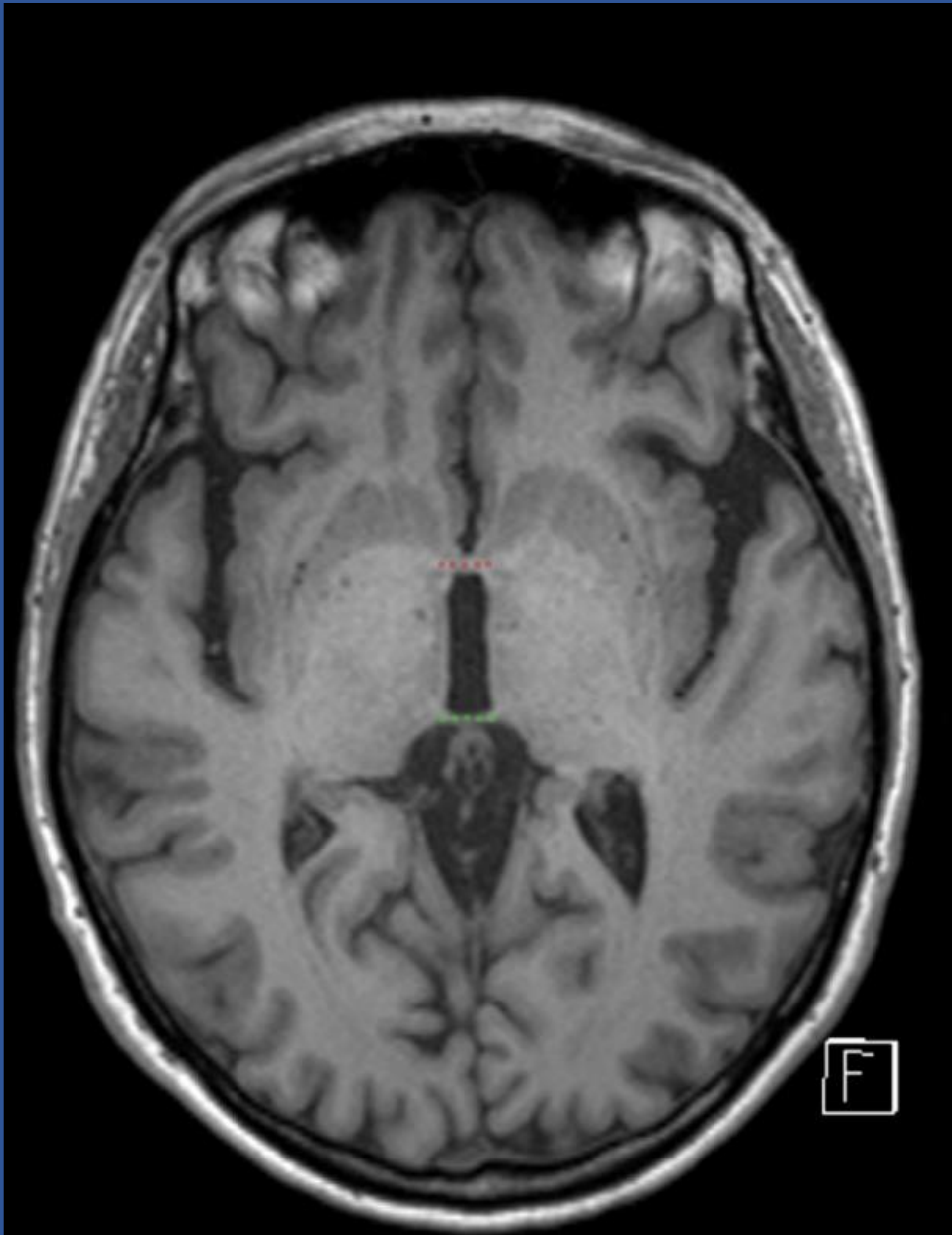


XXX= Secondary somesthetic area (pain-temperature)

Shaded area = aphasic zone

Major regions of the cerebrum.

Anterior and posterior commissures as landmarks to define the anterior commissure-posterior commissure (ACPC) line.



Anterior Commissure and Posterior Commissure

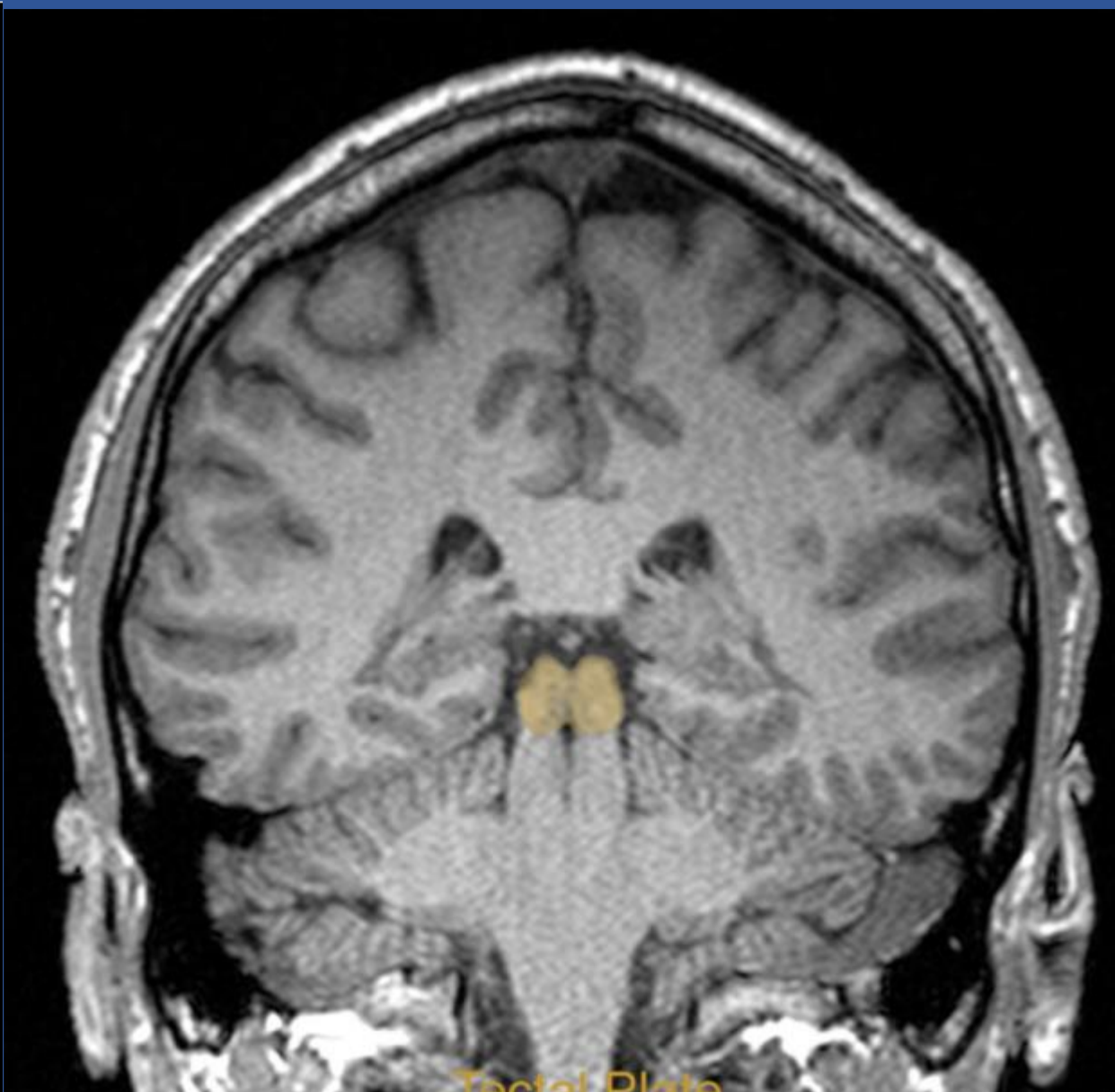


Anterior Commissure and Posterior Commissure

Tectal plate , also known as quadrigeminal plate, as a landmark for the junction of hippocampal body and tail.

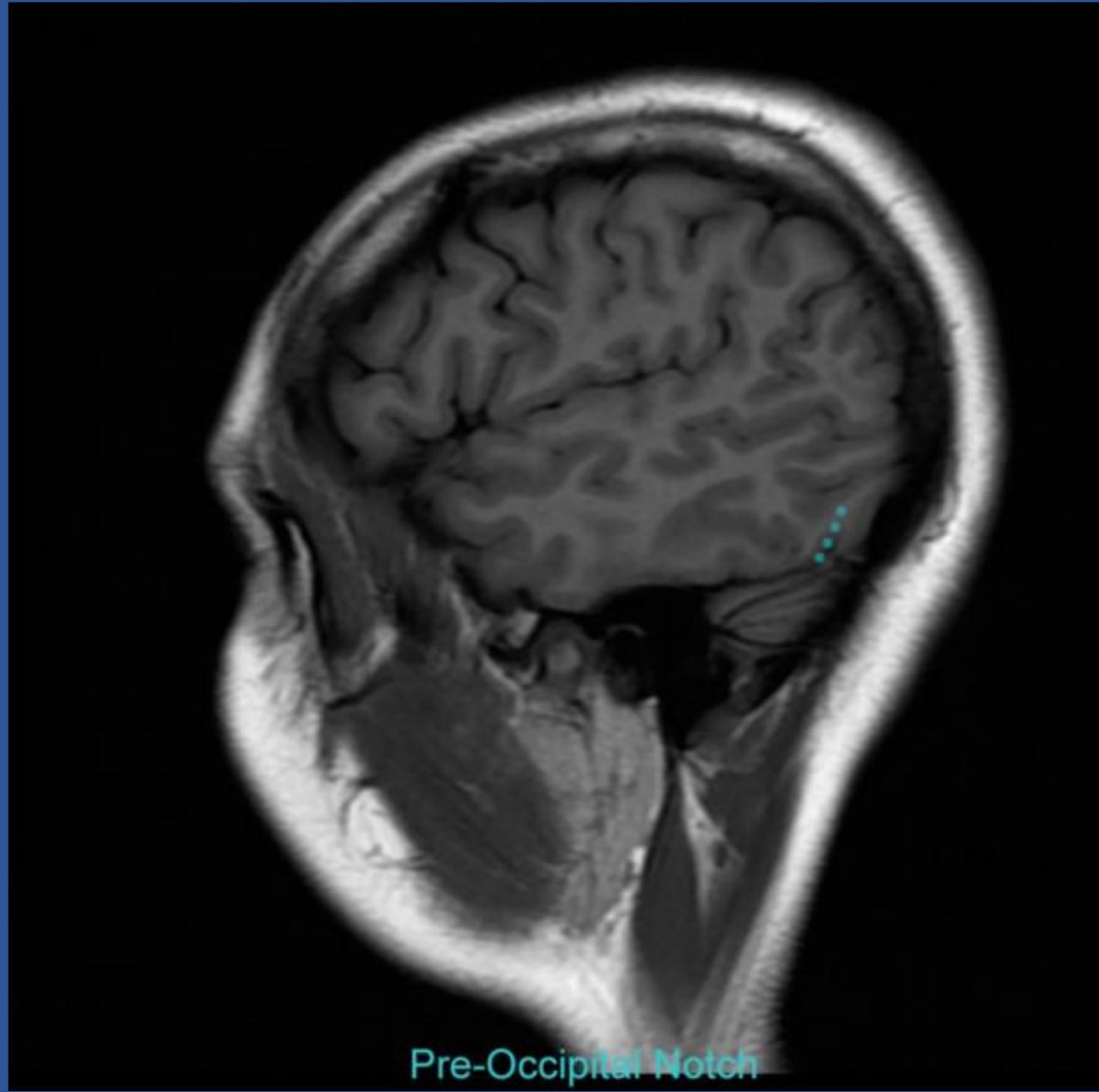


Tectal Plate

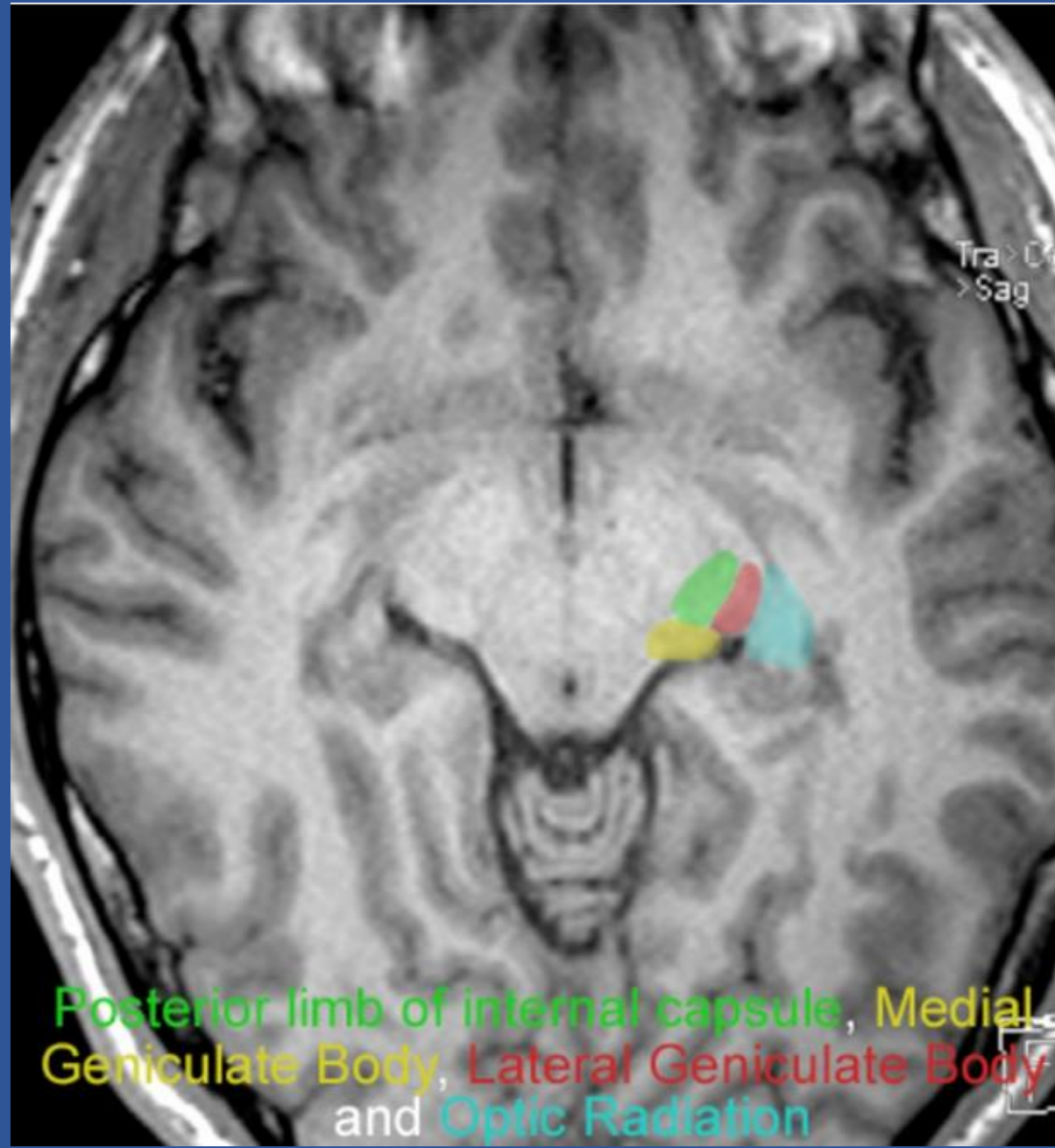


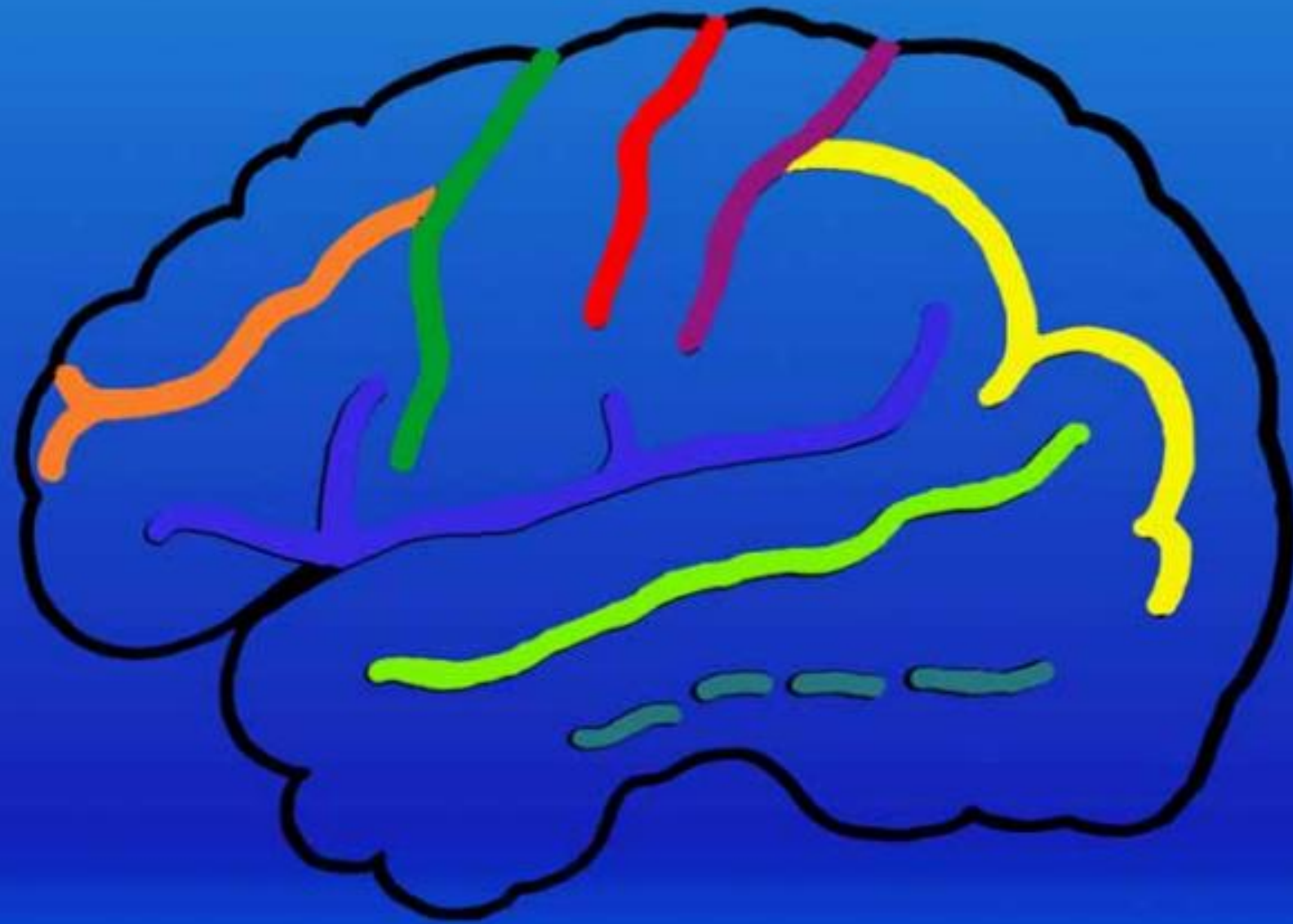
Tectal Plate

Pre-occipital notch as a landmark for the lateral junction between temporal and occipital lobe. • it is a small indentation observed in the ventrolateral edge of the brain in both sides when scrolling through the sagittal plane.

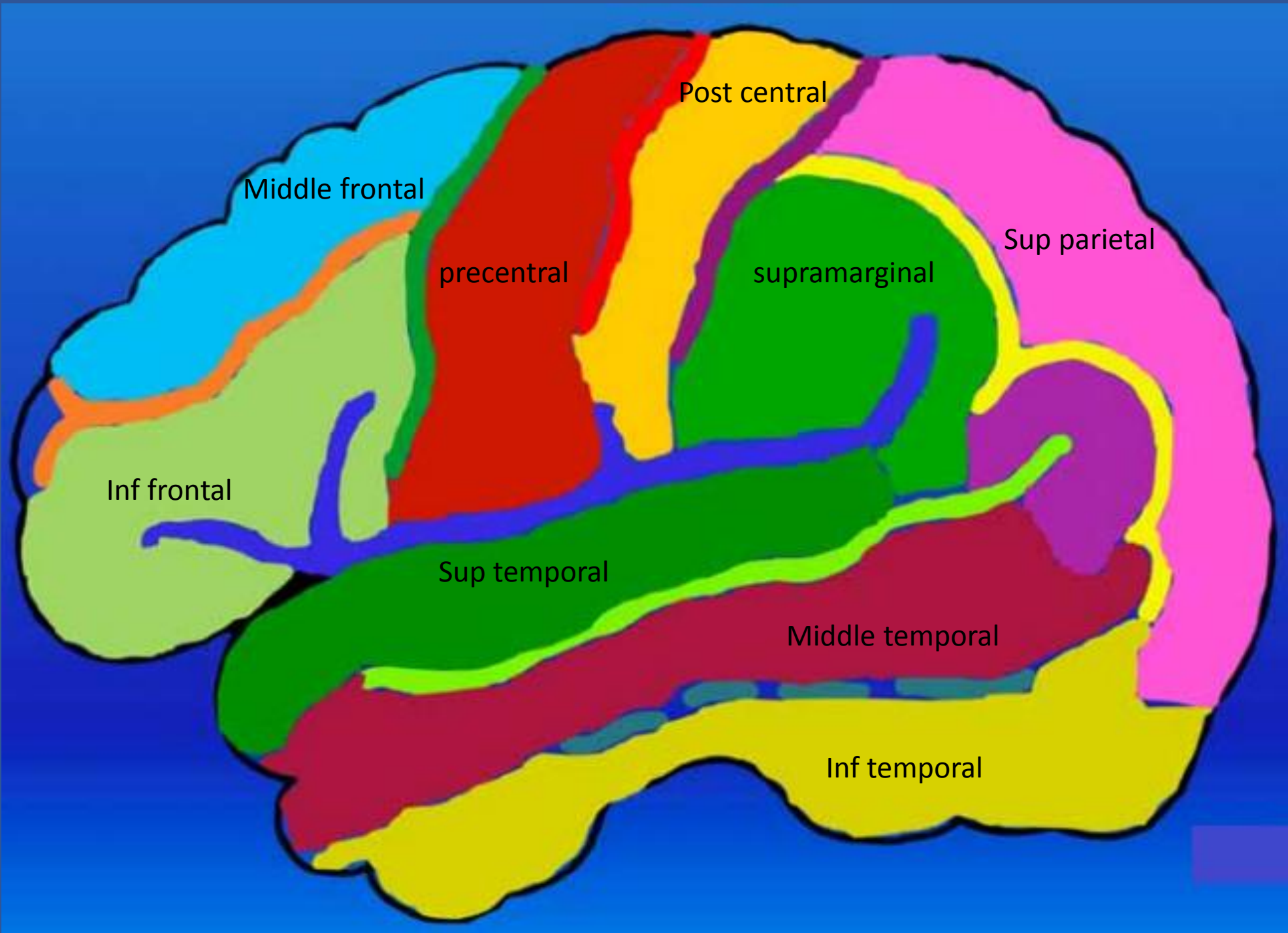


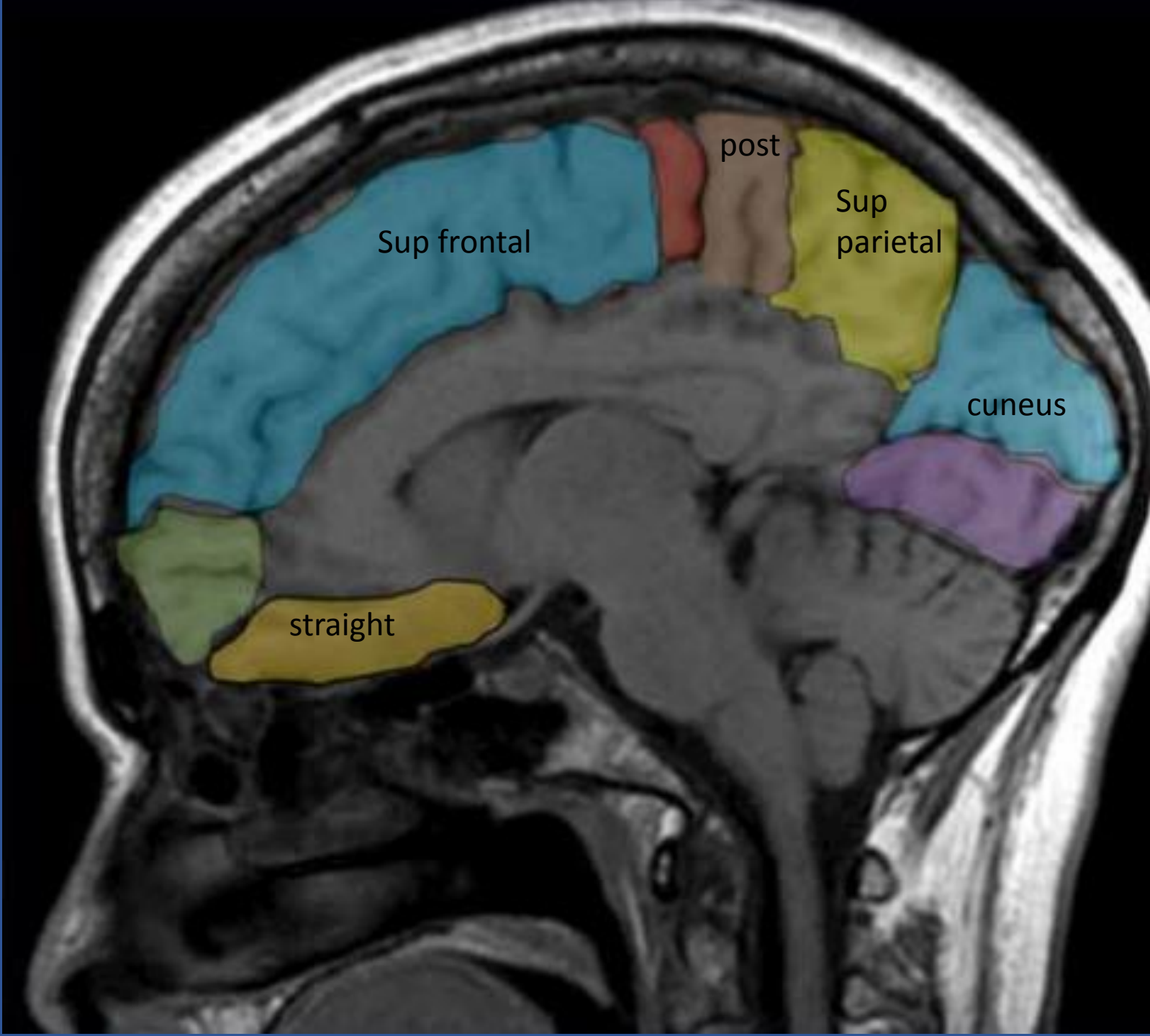
Medial and lateral geniculate bodies as landmarks for the auditory and visual thalamic pathways.





1. Inferior frontal sulcus
2. Precentral sulcus
3. Central Sulcus
4. Postcentral sulcus
5. Interparietal sulcus
6. Sylvian fissure
7. Superior temporal sulcus
8. Inferior temporal sulcus





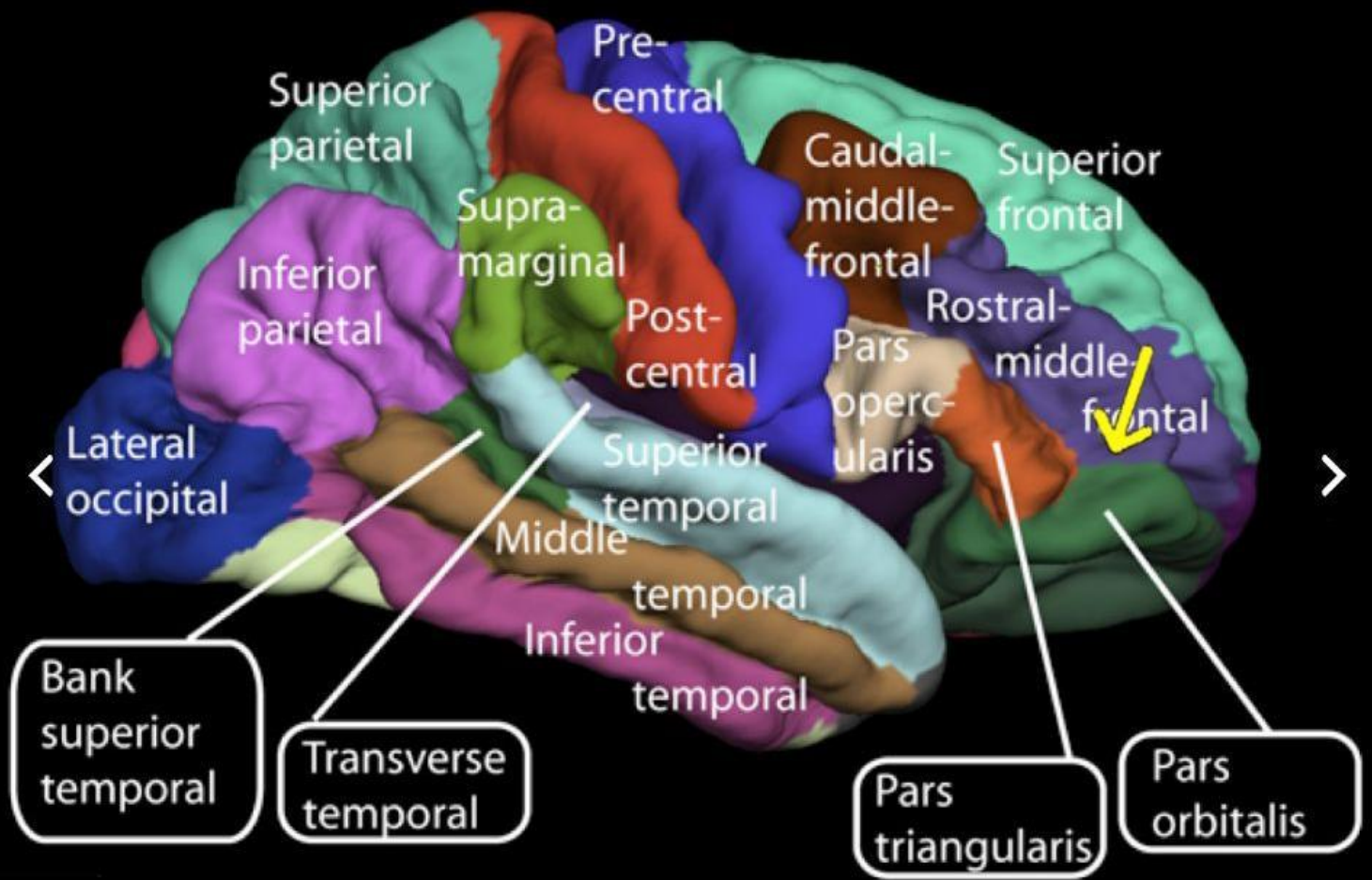
Sup frontal

post

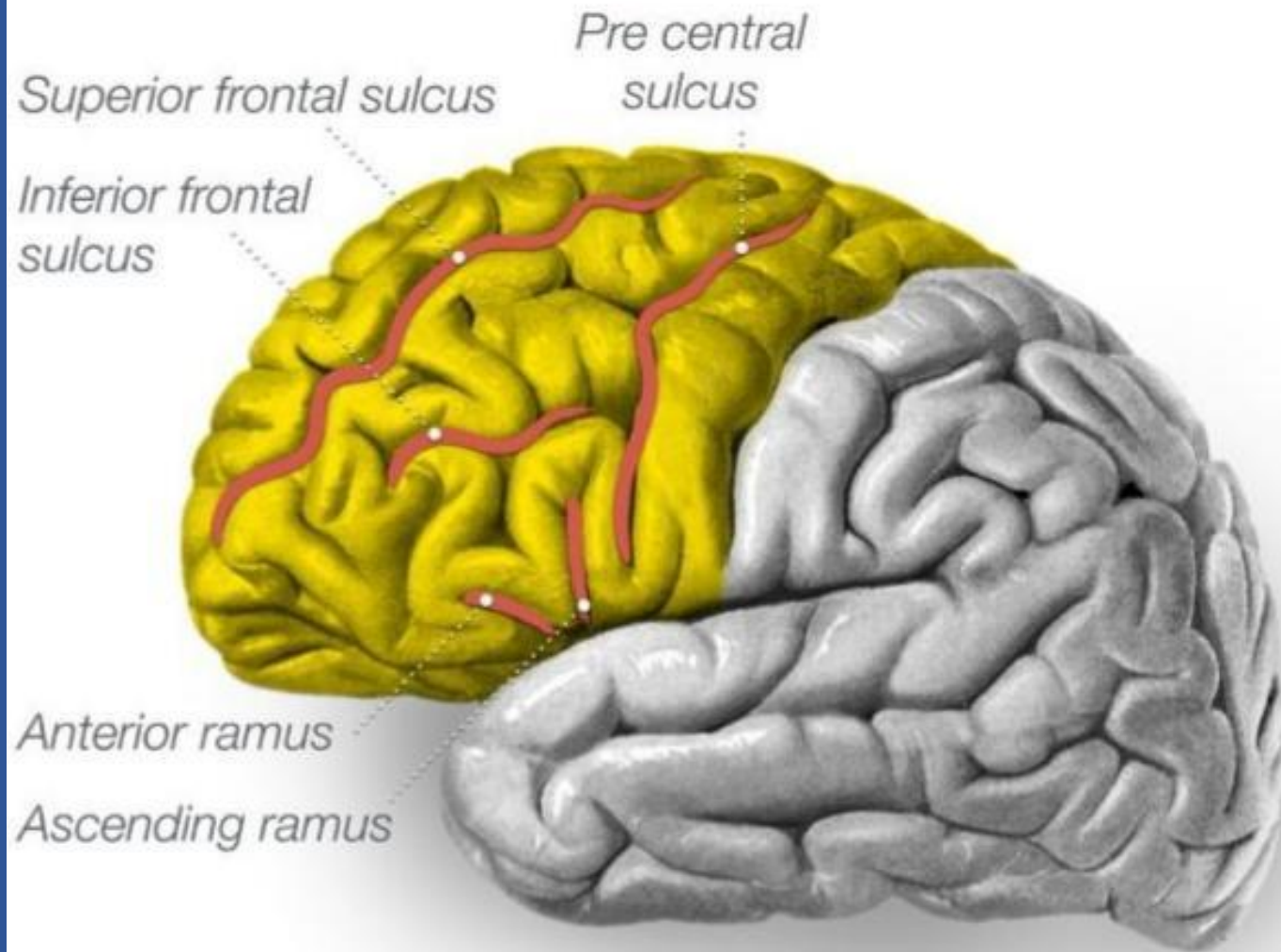
Sup
parietal

cuneus

straight



Frontal lobe sulci



Broca's area



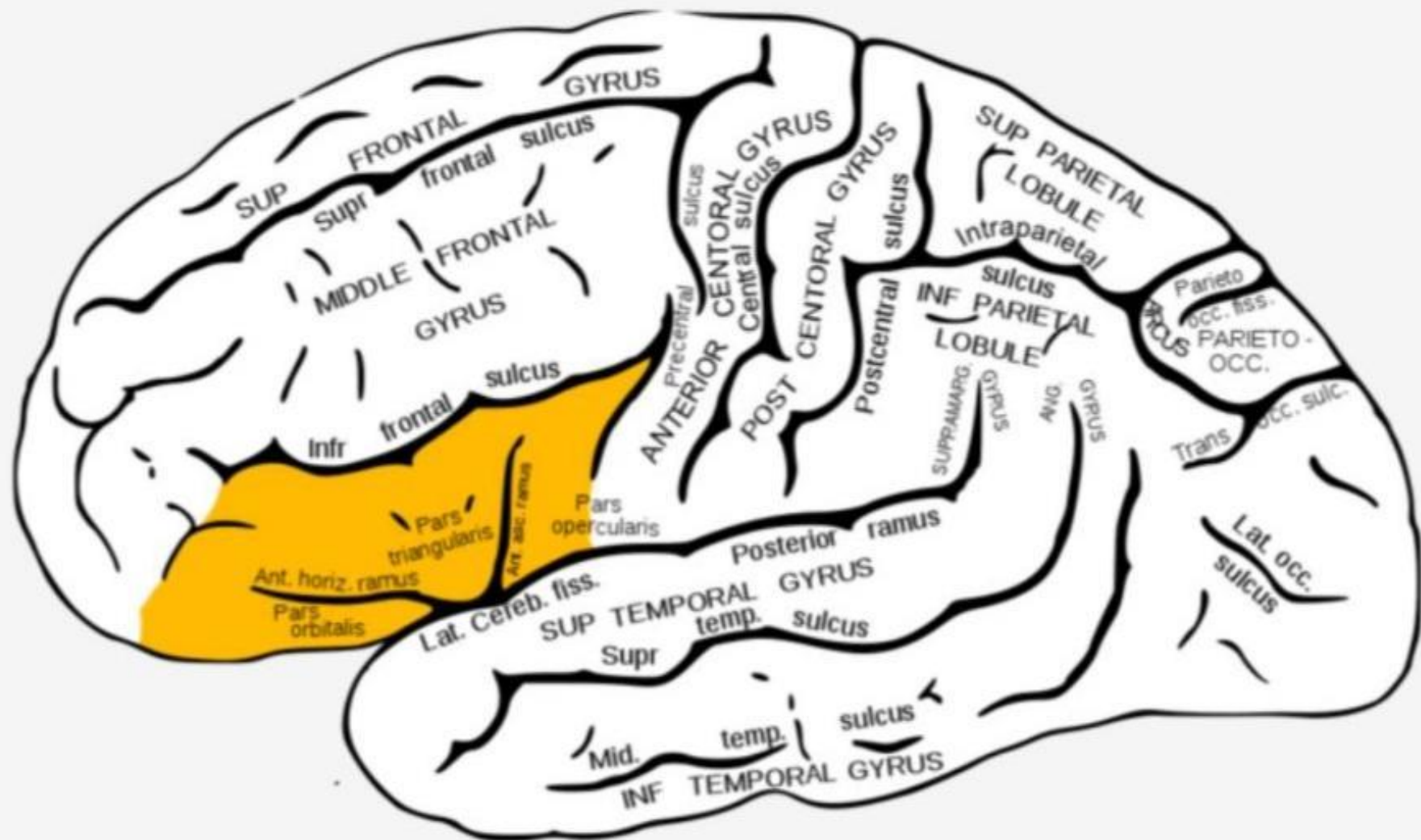
Broca's area is made up of Brodmann areas 44 (pars opercularis) and 45 (pars triangularis)



Broca's area (shown in red)

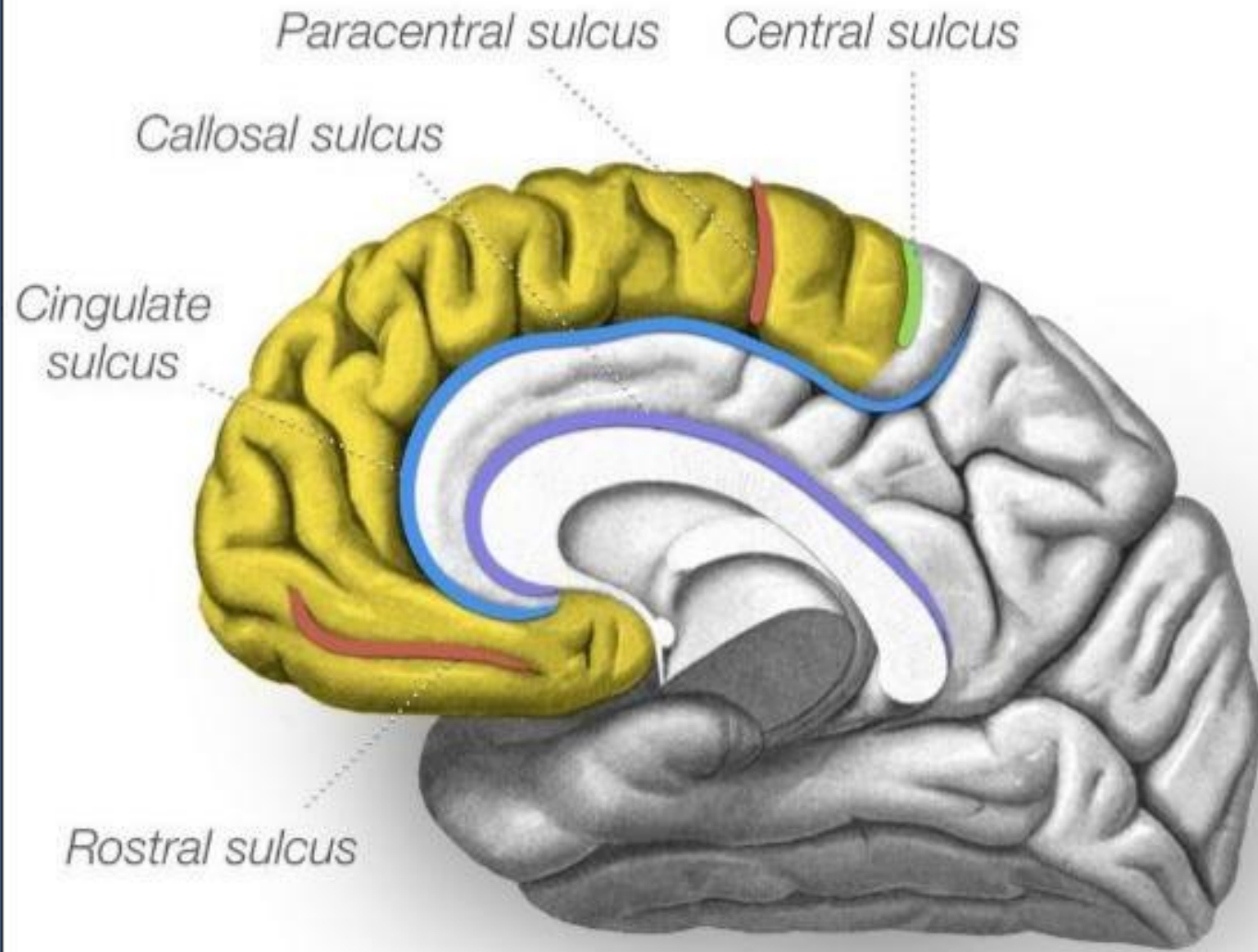
INFERIOR FRONTAL GYRUS

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Diagram

Frontal lobe sulci



Diagram

Paracentral lobule

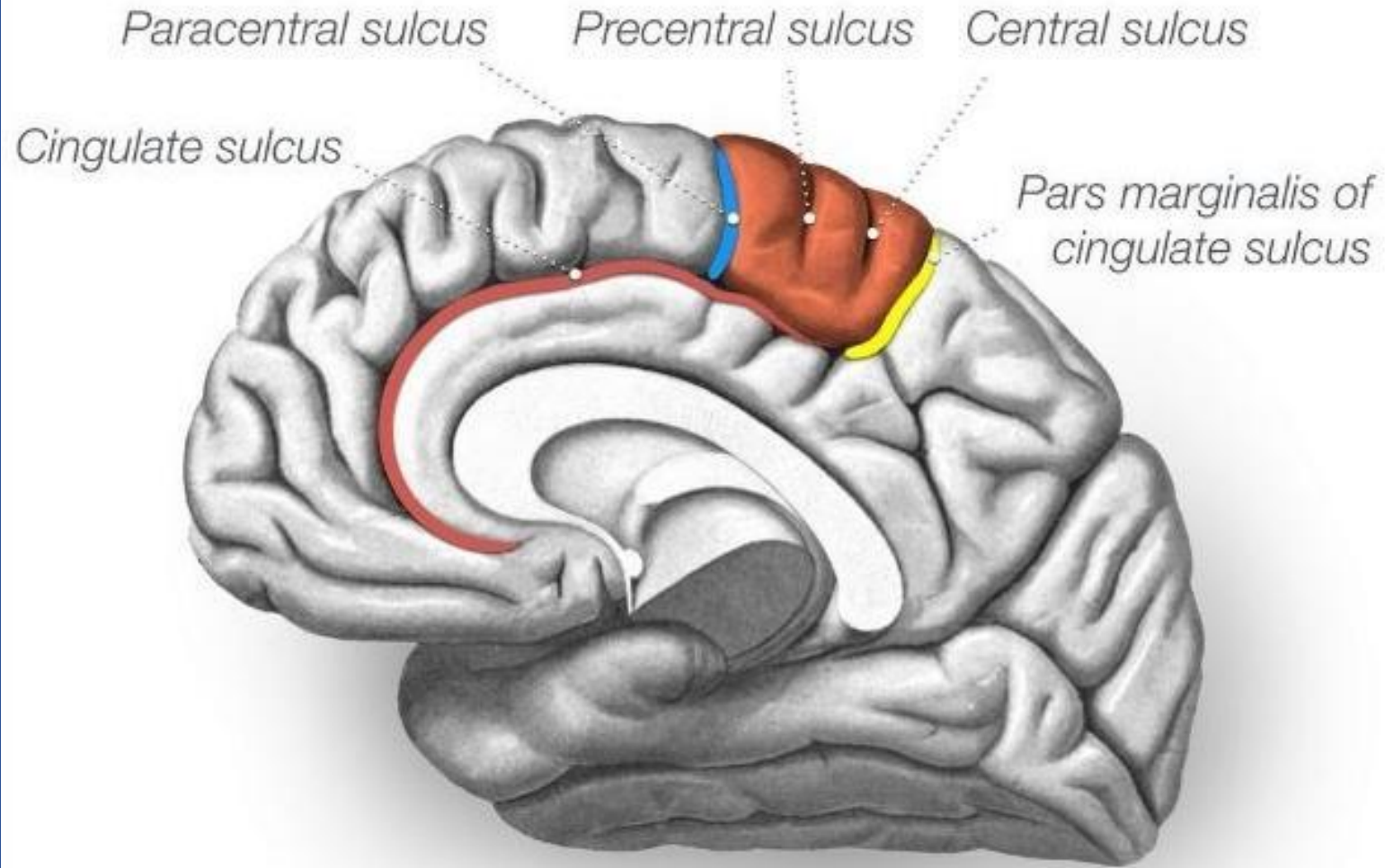
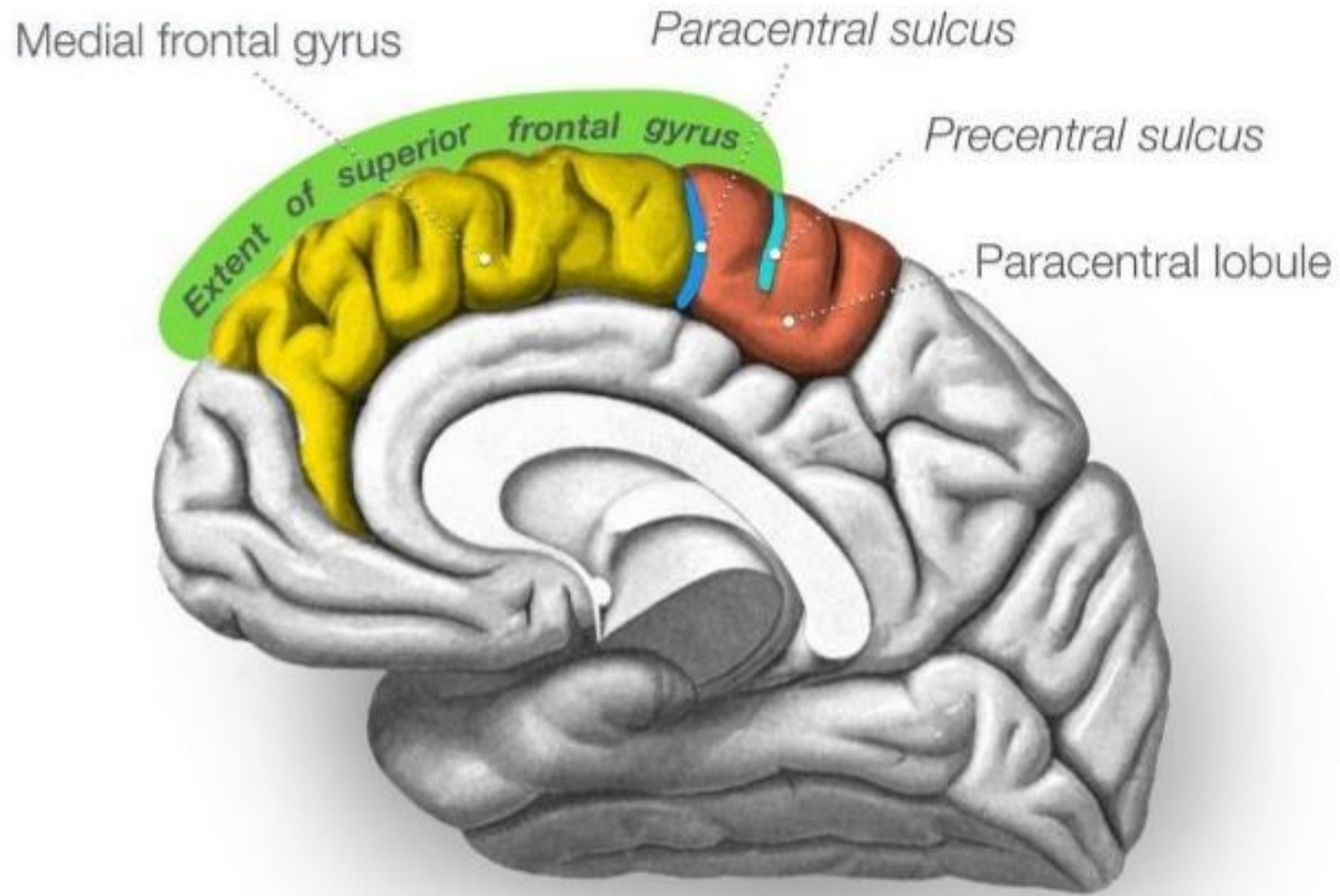
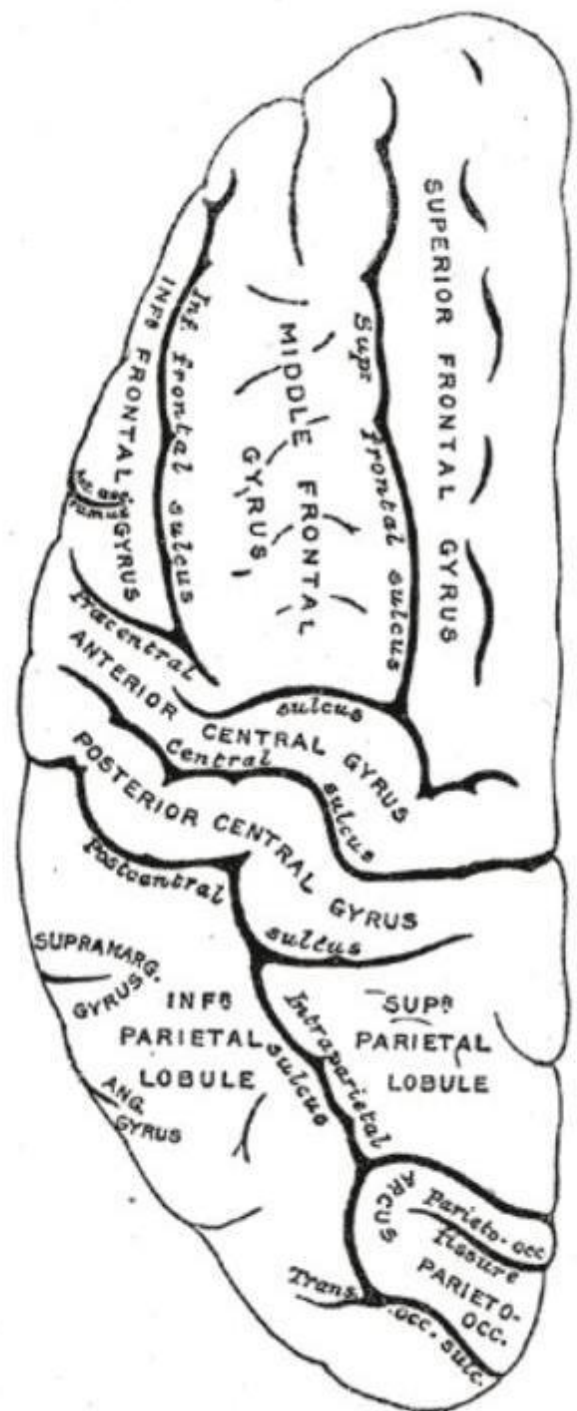


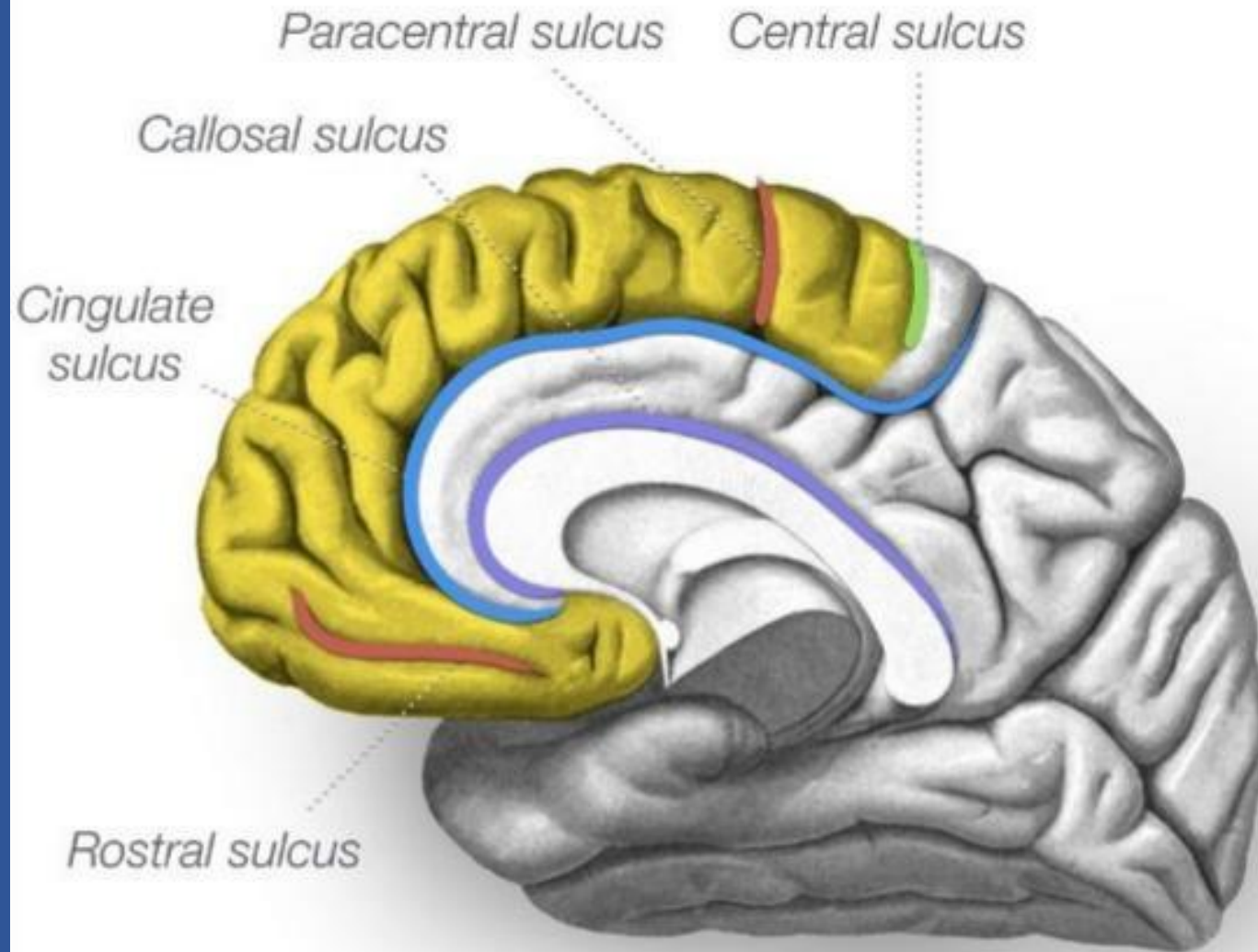
Diagram
Medial frontal gyrus and paracentral lobule





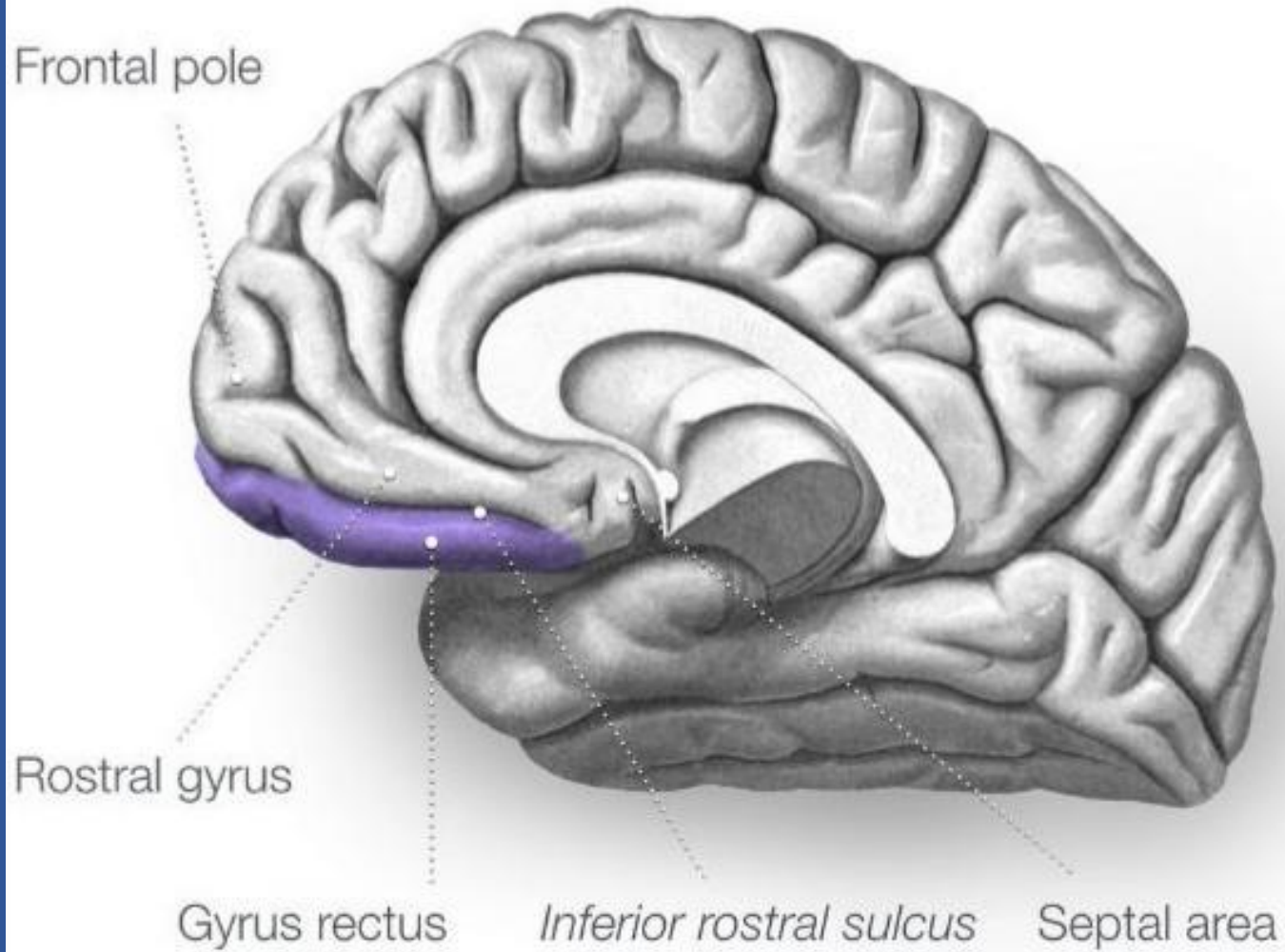
Diagram

Frontal lobe sulci



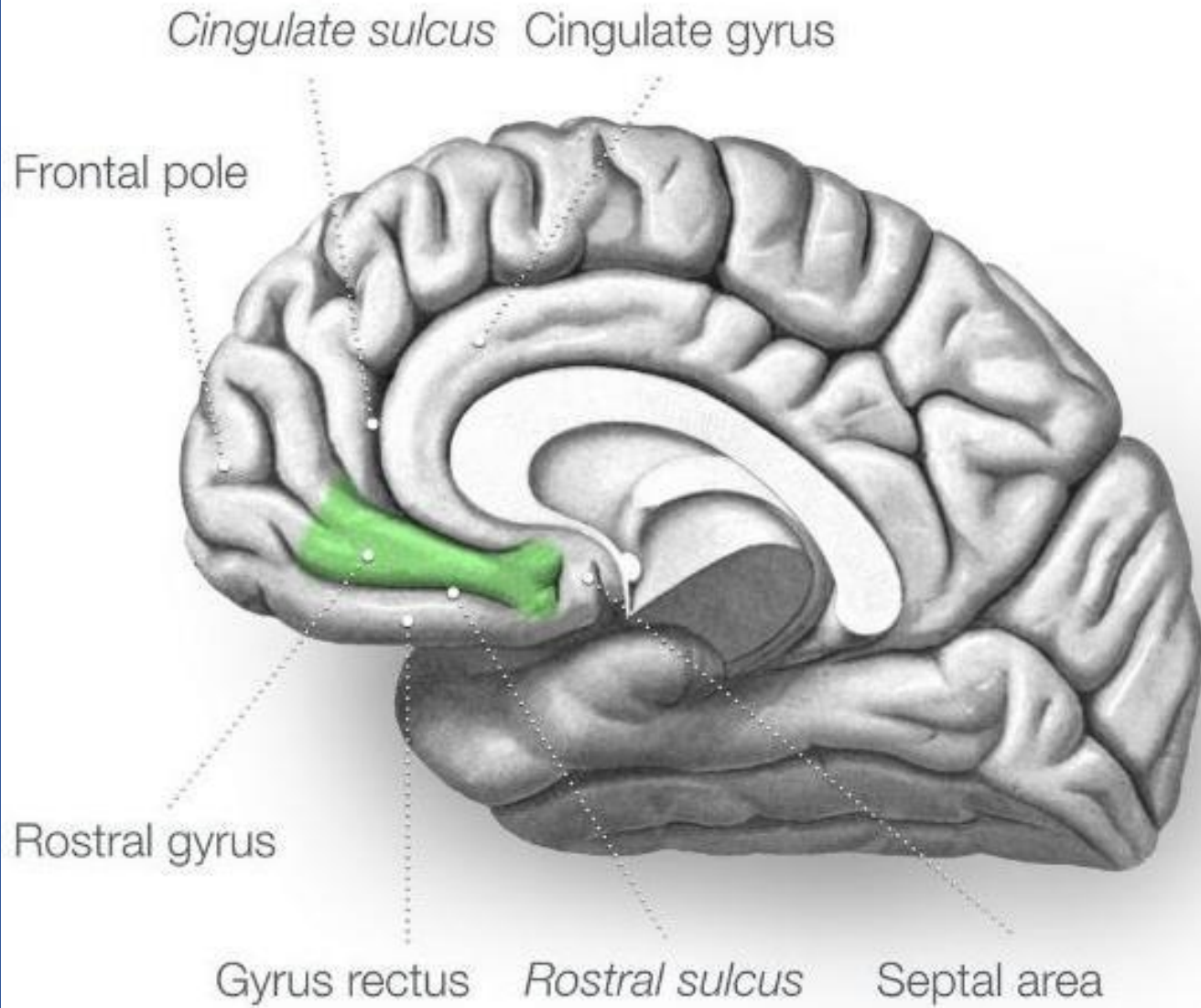
Diagram

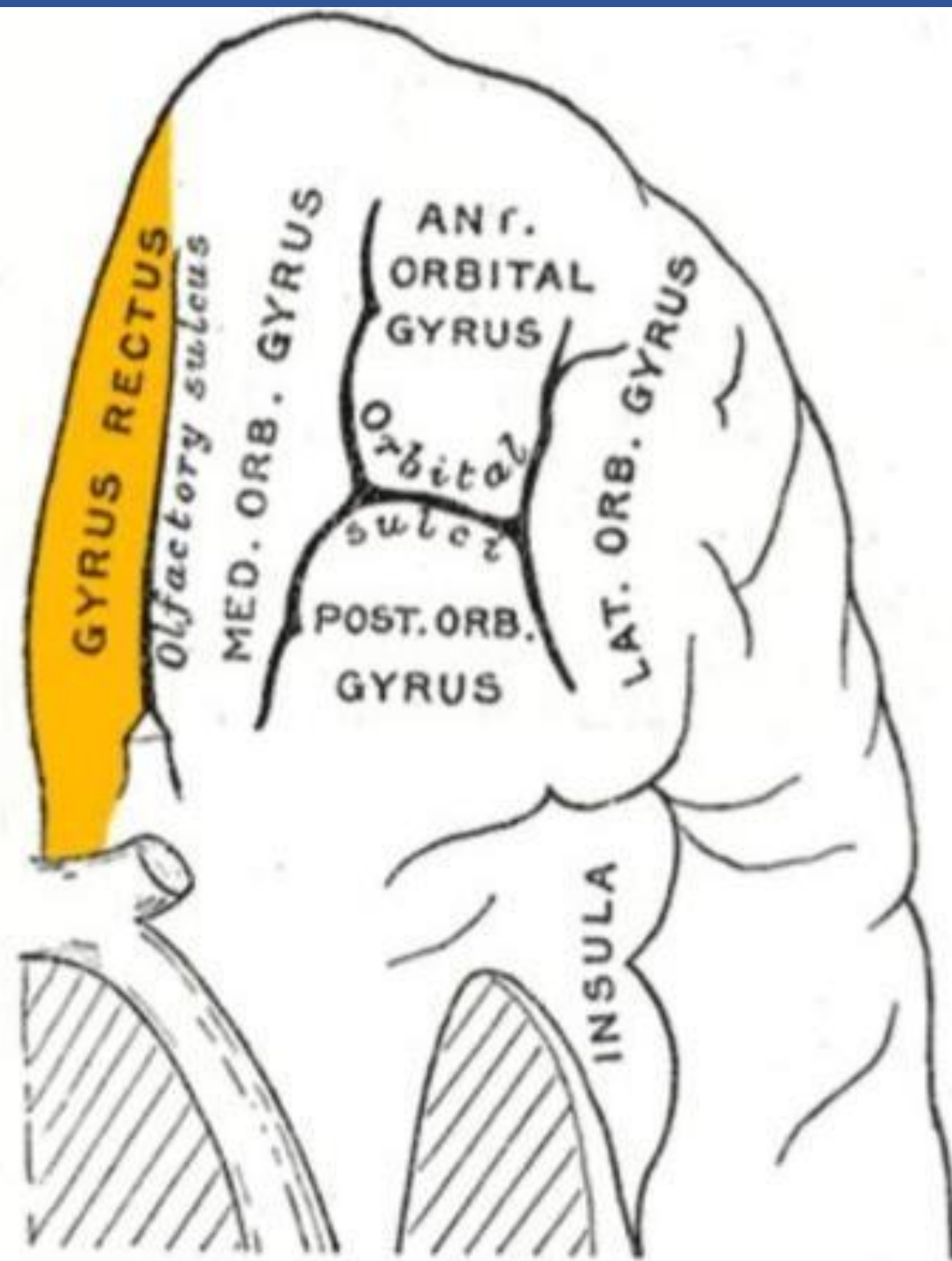
Gyrus rectus

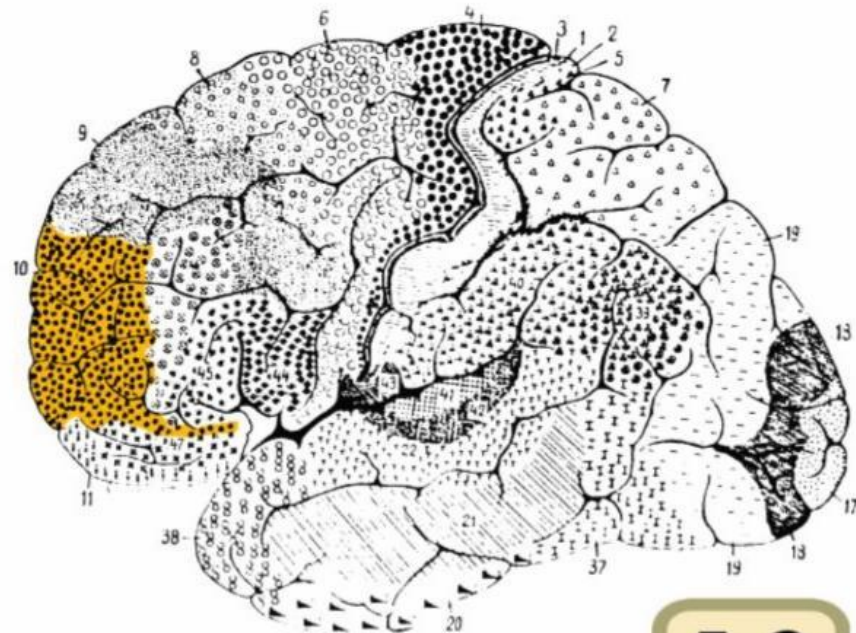


Diagram

Rostral gyrus







10

