

Diencephalon



External Feature Of Diencephalon

Thalamus

Epithalamus

Hypothalamus

Subthalamus

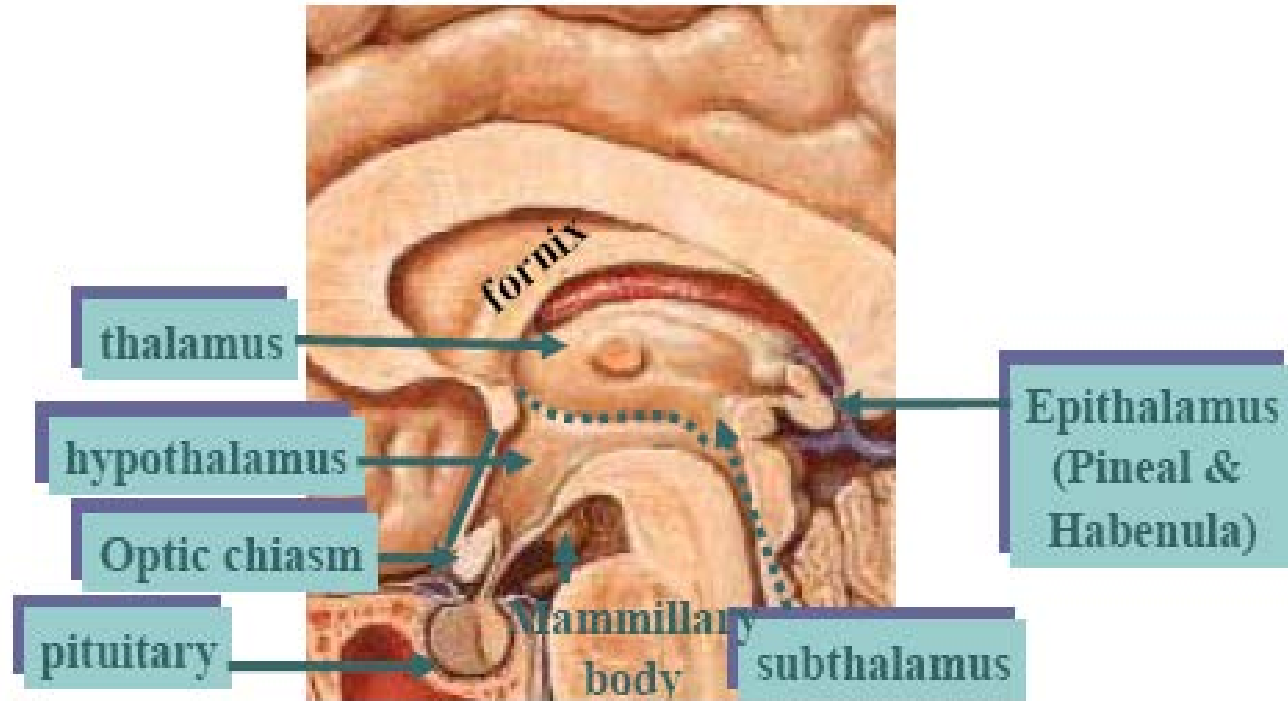
Diencephalon

Thalamus

Hypothalamus

Epithalamus

Subthalamus



Diencephalon Borders :

Ant. : Interventricular Foramen

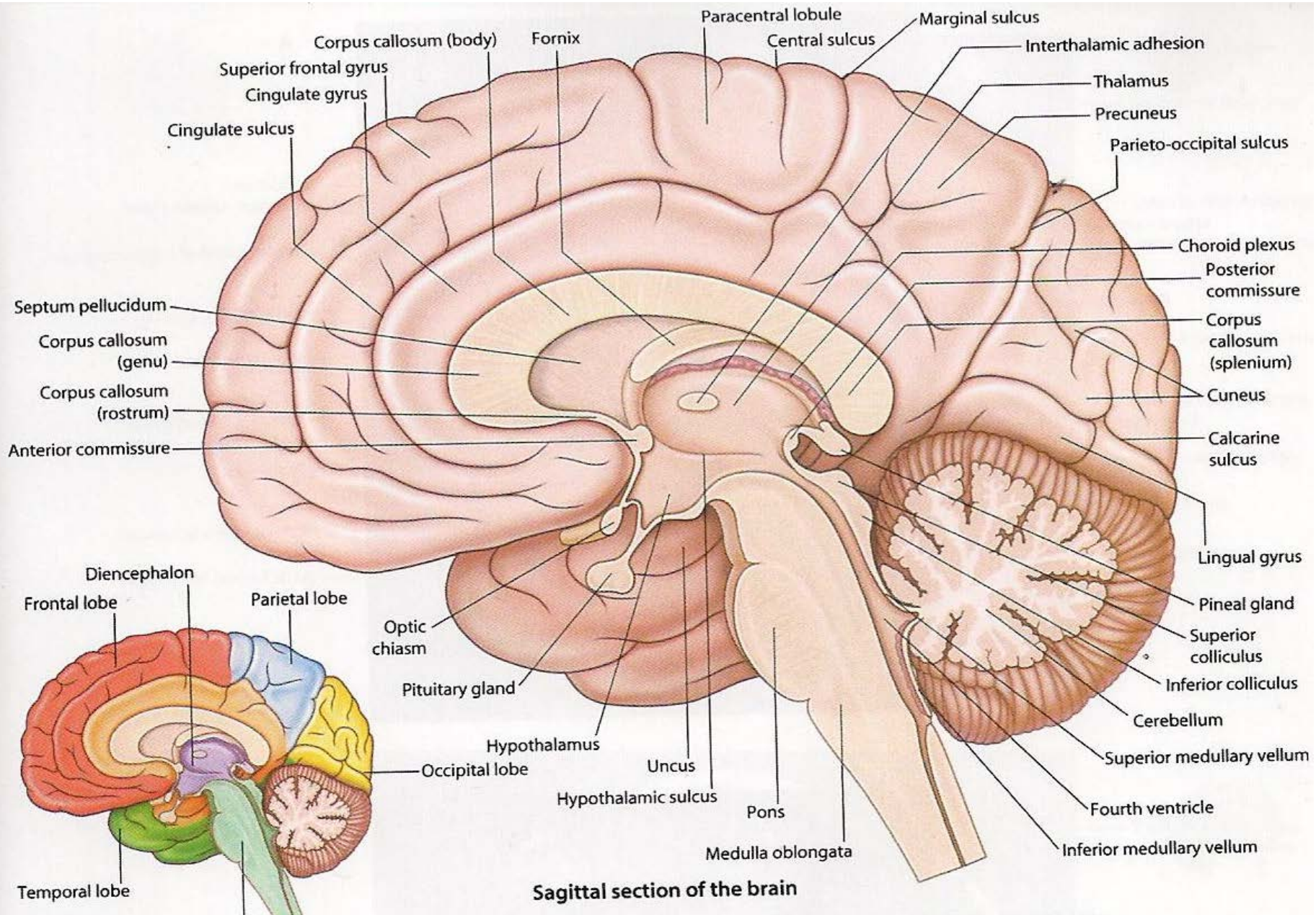
Pos. : Aqueduct

Sup. : Fornix (Choroid Plexus)

Lat. : Internal Capsule

Med. : Lat Surface Third Ventricle

Inf. : Optic Chiasma & Tract – Infundibulum – Mamillary Body

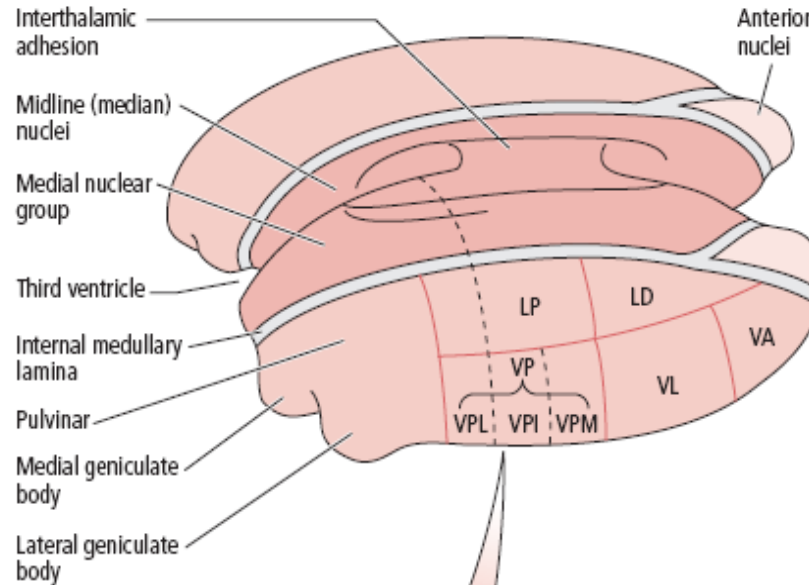


Sagittal section of the brain

Thalamus

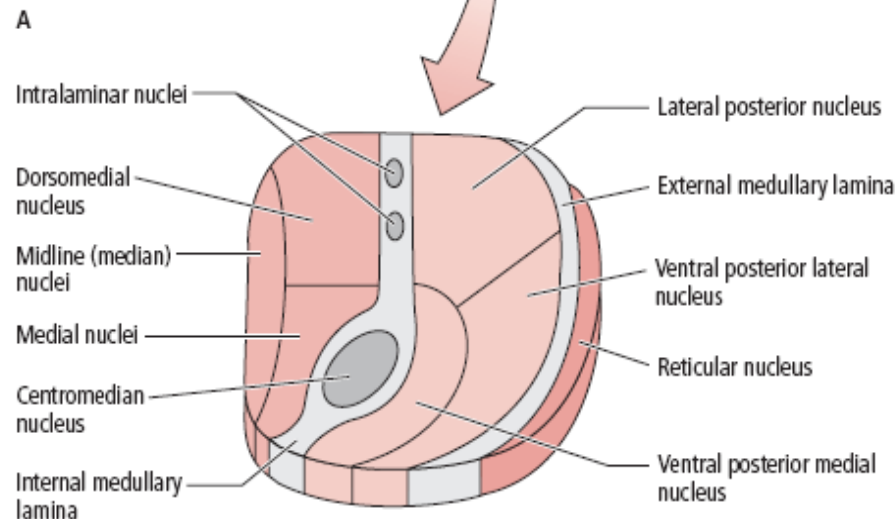
Internal Structure :

- Stratum Zonale
- Lat. Medullary Lamina
- Med. Medullary Lamina
- Nucleus

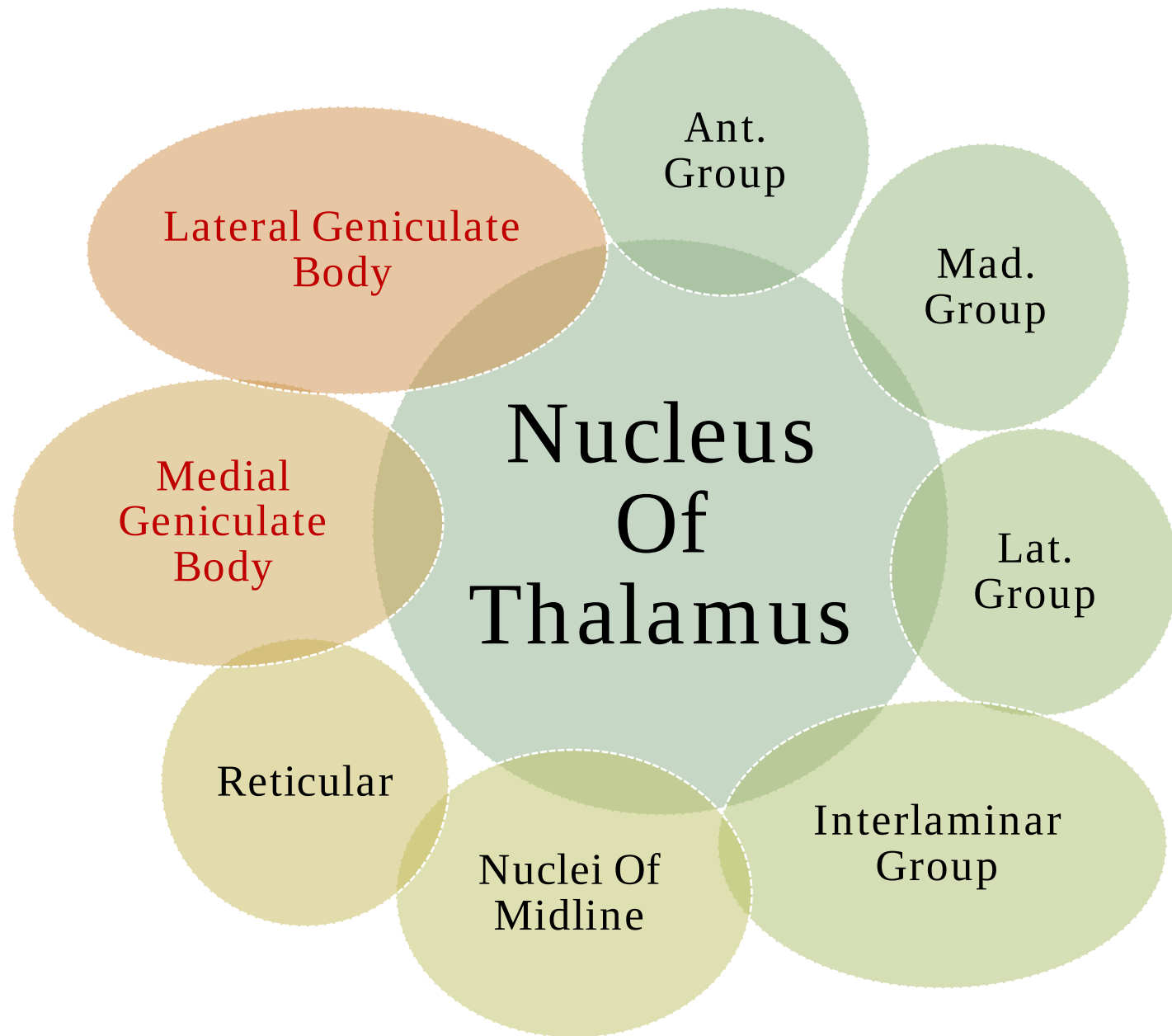


- Lateral nuclei
- Medial nuclei
- Anterior nuclei

LP, lateral posterior nuclei
 LD, lateral dorsal nuclei
 VPL, ventral posterior lateral nuclei
 VPI, ventral posterior inferior nuclei
 VPM, ventral posterior medial nuclei
 VL, ventral lateral nuclei
 VA, ventral anterior nuclei



B



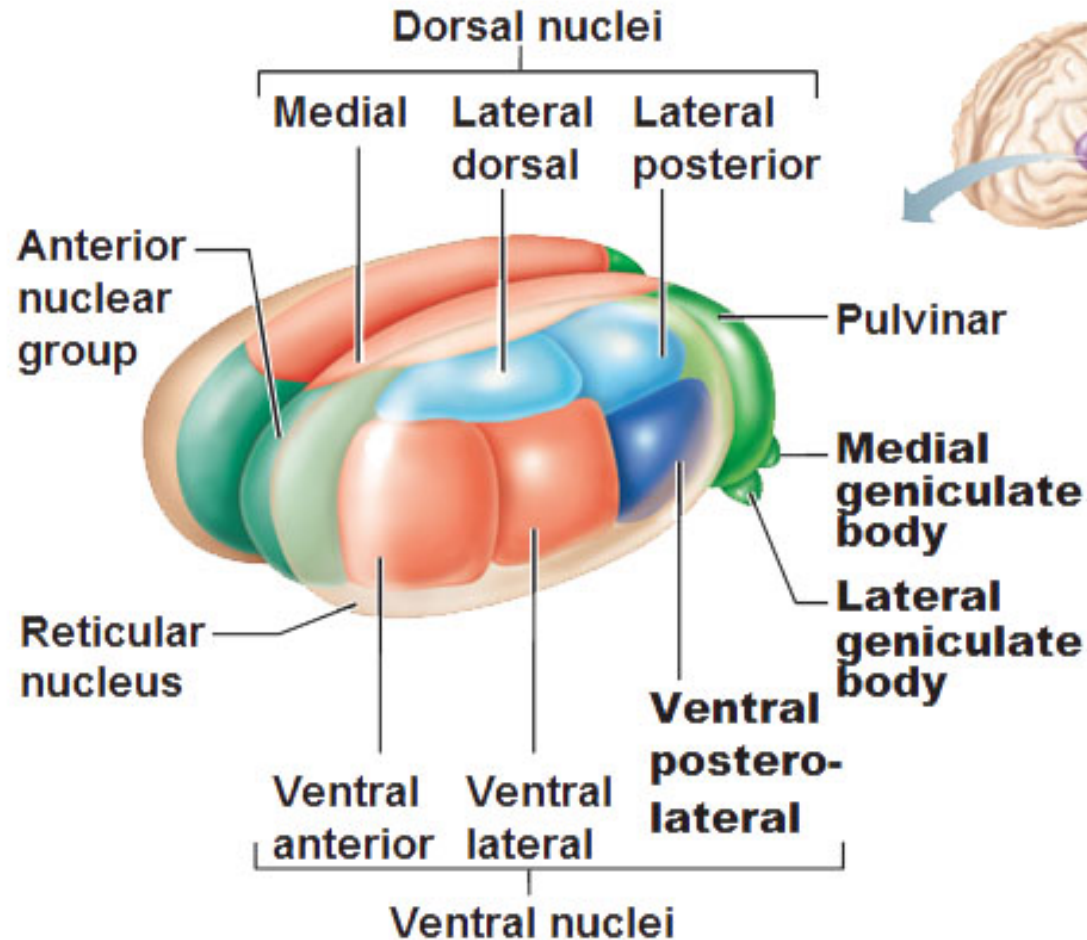
Point :

Metathalamus

Medial Geniculate Body : Auditory Pathway

Lateral Geniculate Body : Visual Pathway

Thalamus



(a) The main thalamic nuclei. (The reticular nuclei that “cap” the thalamus laterally are depicted as curving translucent structures.)

Epithalamus



Structures That Build Pos. Part Of Diencephalon
Components:

Habenulae Trigonum

Habenulae Nucleus (Interpeduncular Nucleus - Smell)

Habenulae (Stria Medullaris Thalami)

Habenulae Commissure

Pineal Gland

Posterior Commissure

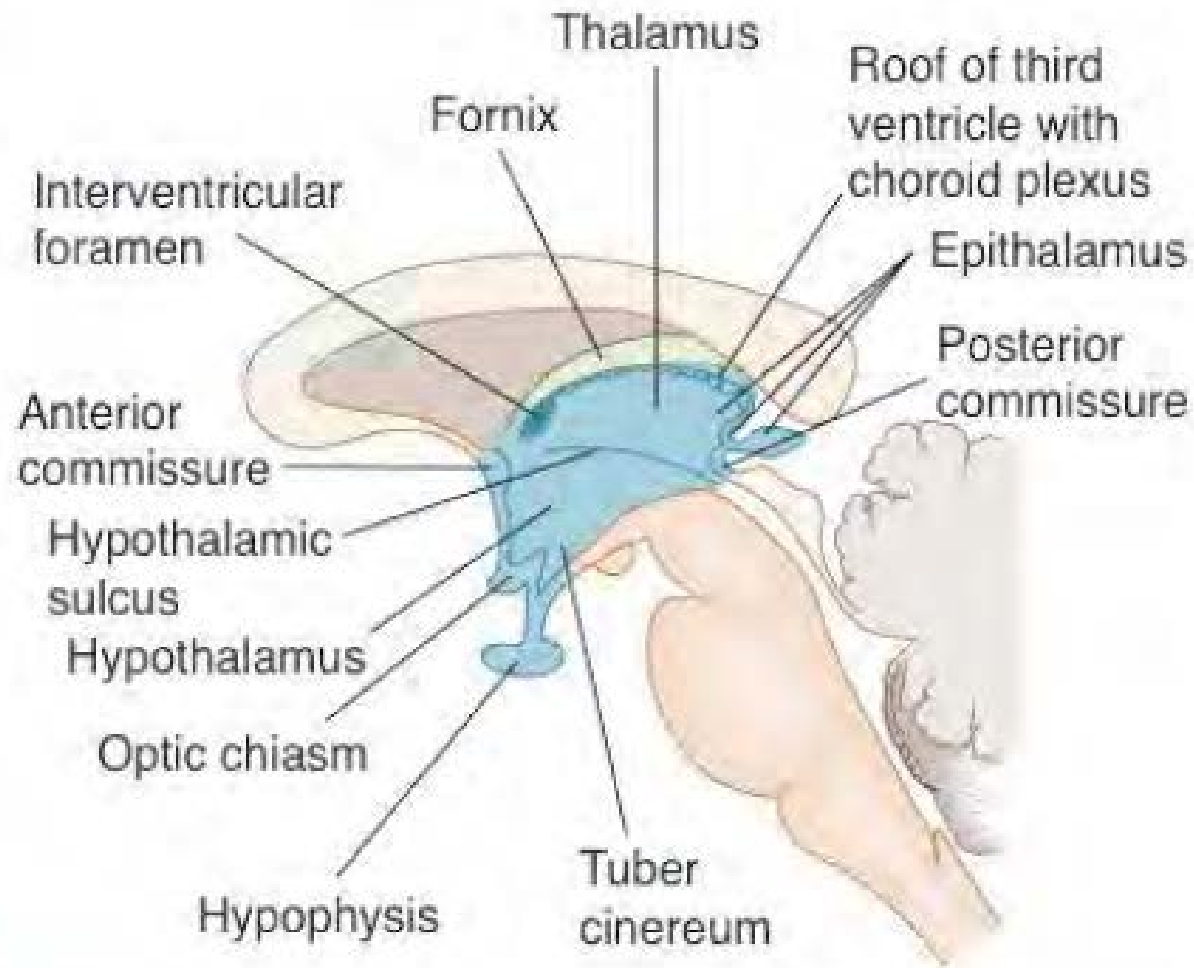


FIGURE 9-1 Midsagittal section through the diencephalon.

Hypothalamus



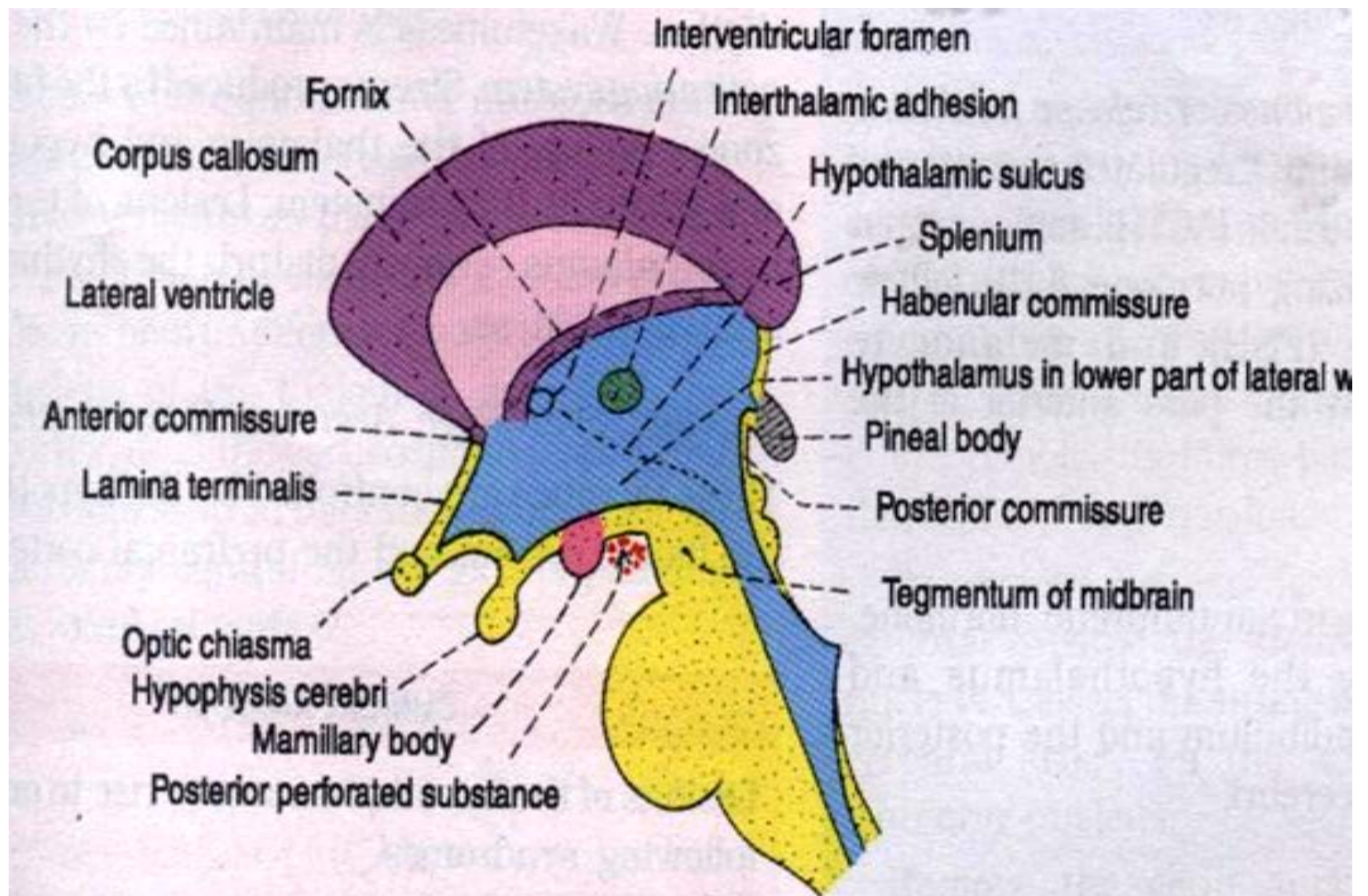
Hypothalamus Borders :

Ant. : Ant Commissior – Lamina Terminalis

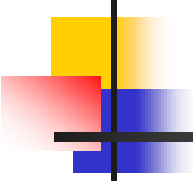
Pos. : Tegmentum

Sup. : Thalamus

Inf. : Optic Chiasma – Infundibulum – Mamillary Body



Sagittal section through the region of the third ventricle showing the hypothalamus c



Hypothalamic Hormones

1. Releasing and inhibiting hormones

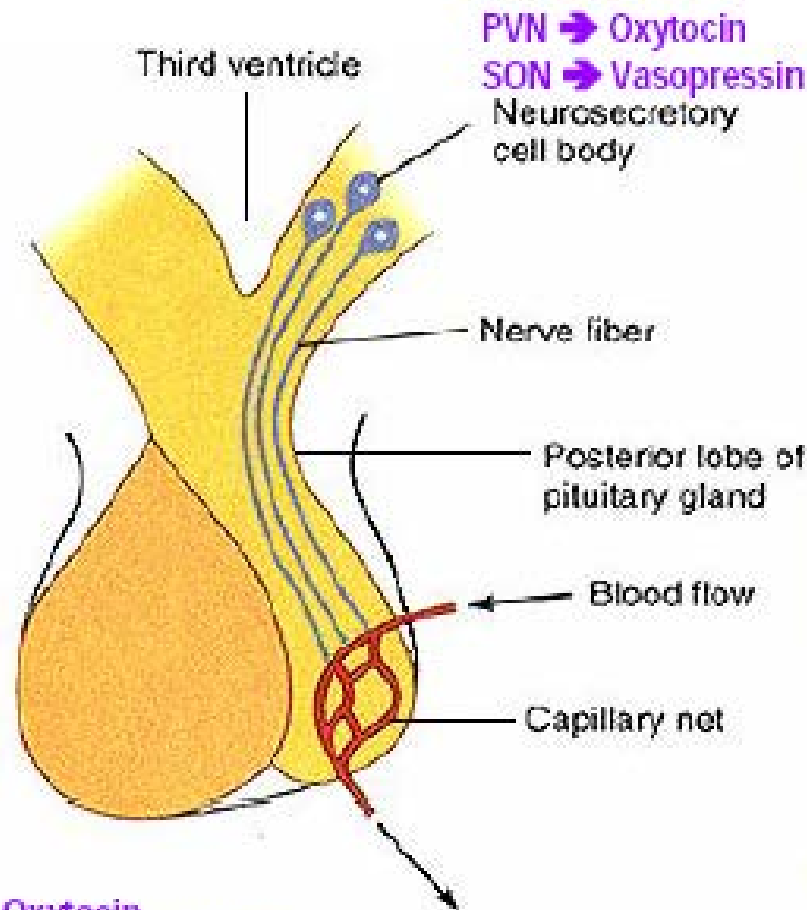
→ Regulate anterior pituitary hormones

2. Posterior pituitary hormones

→ Vasopressin / Antidiuretic Hormone

→ Oxytocin

Hypothalamus-Posterior Pituitary Relationship



> Oxytocin
> Vasopressin (ADH)
Peptides 9 amino acids
MW ~1000

Blood flow carrying away posterior lobe hormones

Neuroendocrine Reflex

1 Oxytocin and vasopressin are synthesized in the paraventricular and supraoptic nuclei of the hypothalamus.

2 Oxytocin and vasopressin are carried by axonal transport down the pituitary stalk.

3 Oxytocin and vasopressin are released into general circulation from terminal buttons in the posterior pituitary.

Subthalamus

Between Mid Brain & Diencephalon

Sup : Thalamus

Ant : Hypothalamus

Lat : Internal Capsul

Components :

MI

Red Nucleus

Sub Thalamic Nucleus

Zona Incerta (Reticular
Formation)

Fibers :

Fasciculus Lenticularis

Subthalamic Fasciculus

Ansa Lenticularis

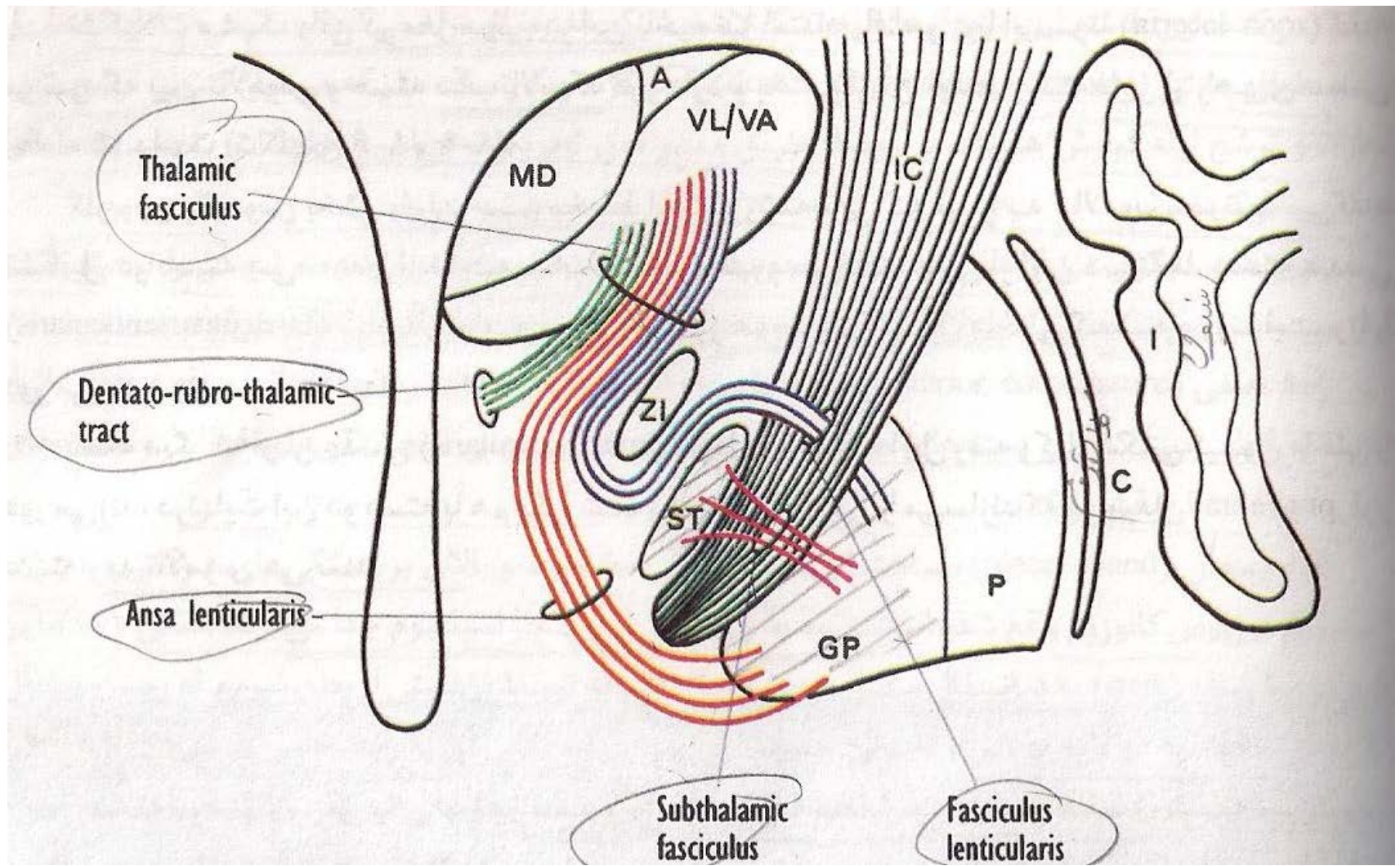
Thalamic Fasciculus

Dento-rubro-thalamic
Tract

Medial lemniscus

Spinal lemniscus

Trigeminal lemniscus



Third Ventricle



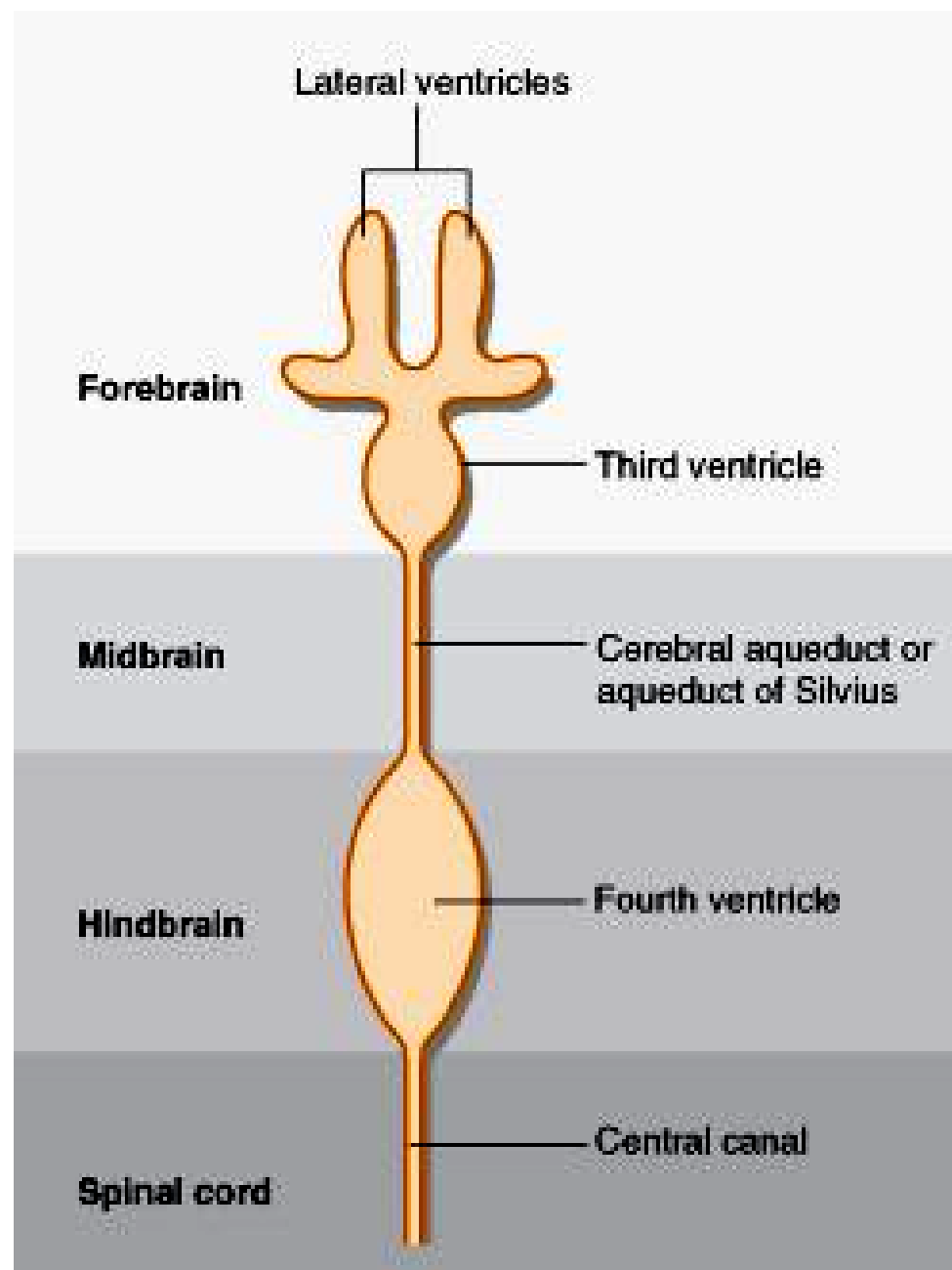
Ant : Ant Commissior – Lamina Terminalis

Pos : Aqueduct – Pos.Commissior – Pineal Gland – Habenulae
Commissior

Sup : Fornix – Corpus Callosum – Choroid Plexus

Inf : Optic Chiasma – Infundibulum – Mamillary Body

Lateral : Thalamus – Hypothalamus



system

Lateral ventricle
Lateral to septum
pellucidum

Interventricular
foramen

3rd ventricle

Cerebral
aqueduct

4th ventricle

Central canal

