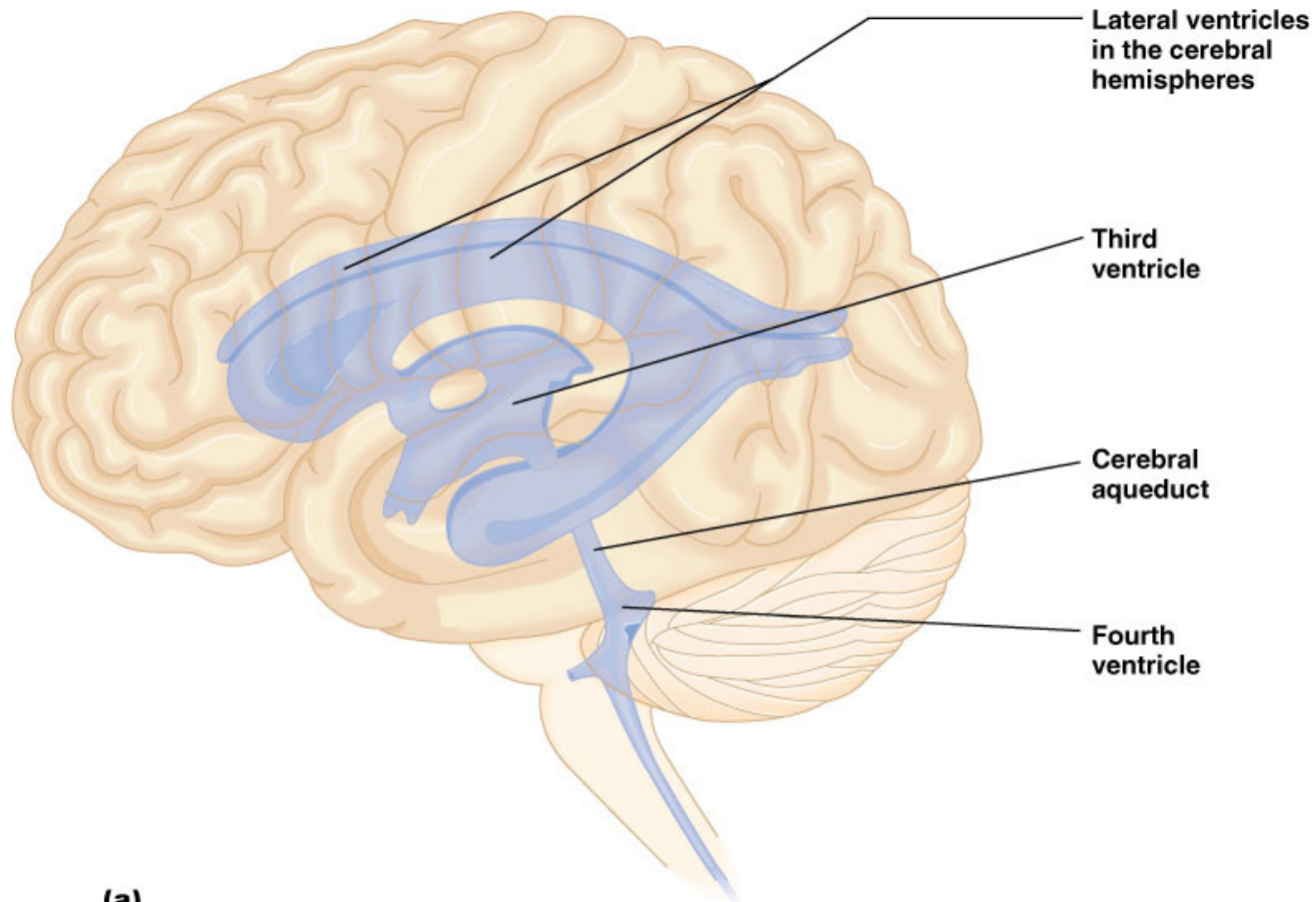


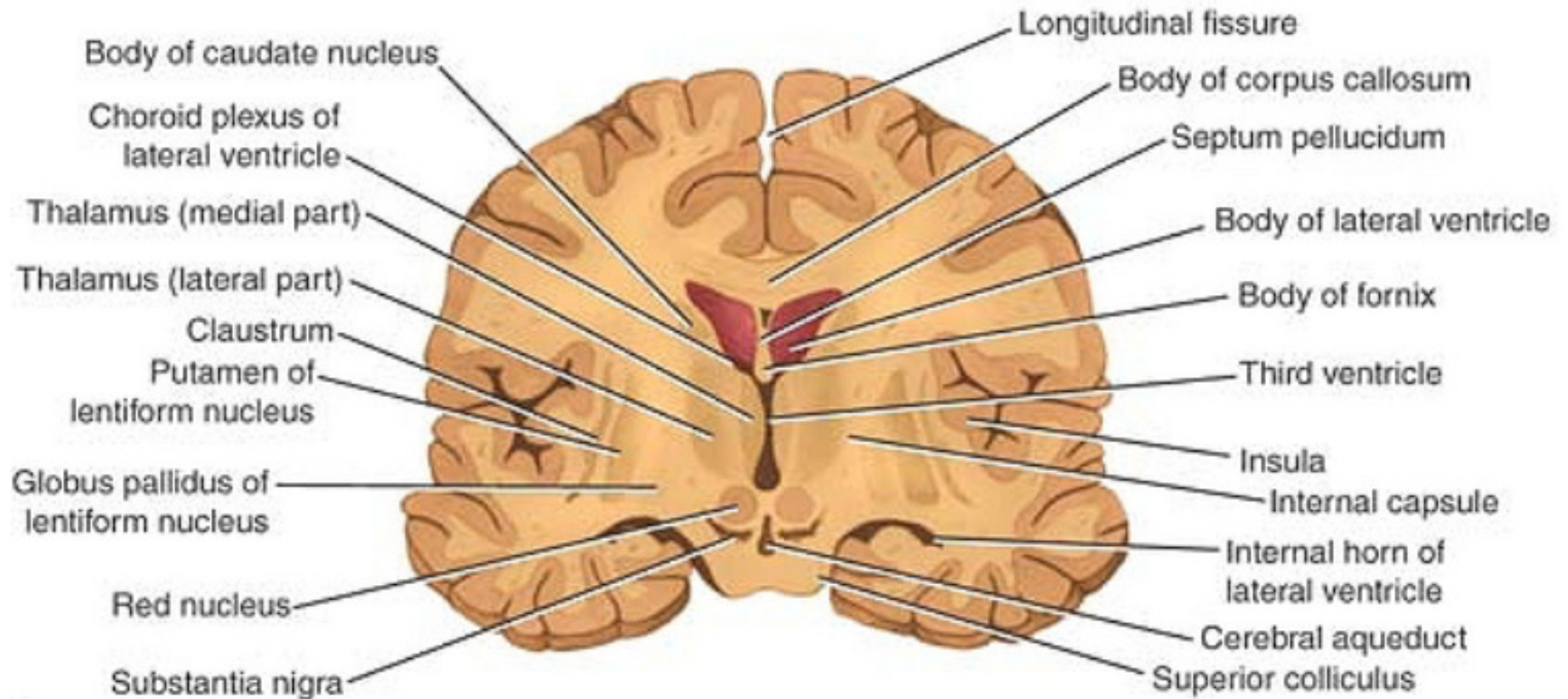
Ventricles and Location of the Cerebrospinal Fluid



(a)

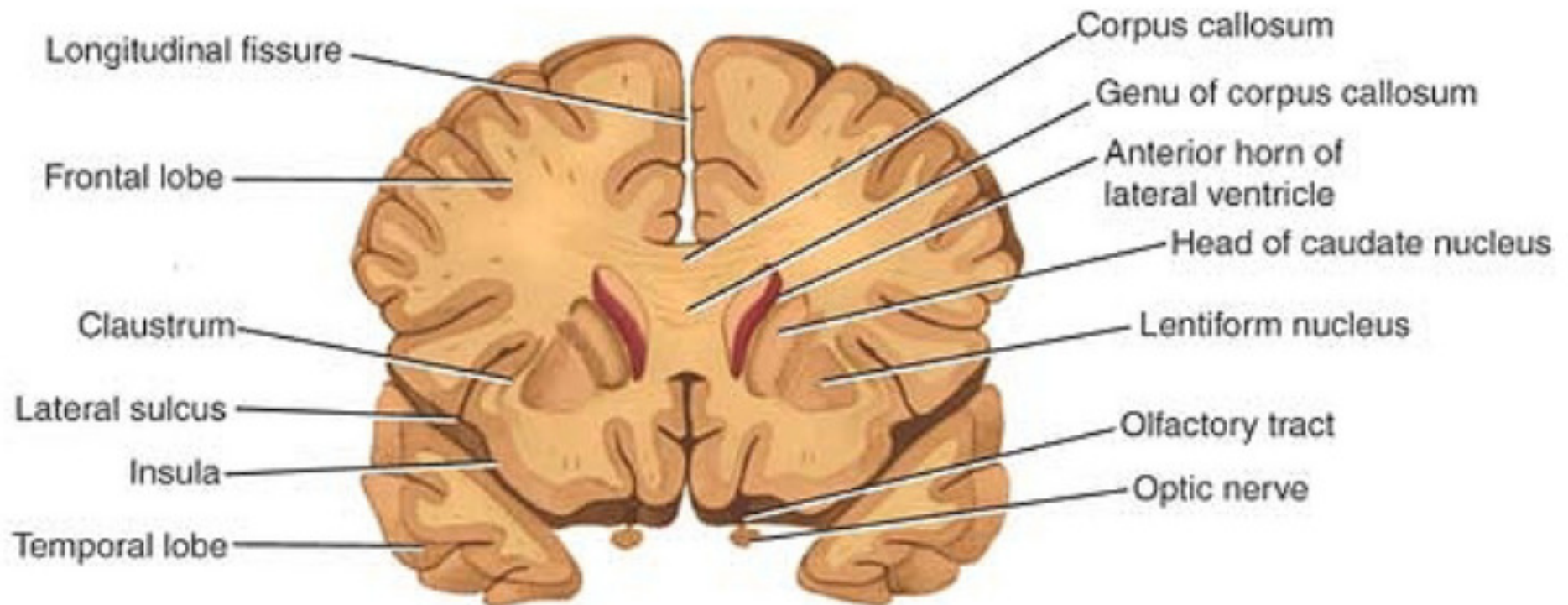
The body of the lateral ventricle

- Extends from the interventricular foramen to the posterior end of the thalamus
- **Roof:** undersurface of the corpus callosum
- **Floor:** body of the caudate nucleus and the lateral margin of the thalamus
- **Medial wall** septum pellucidum



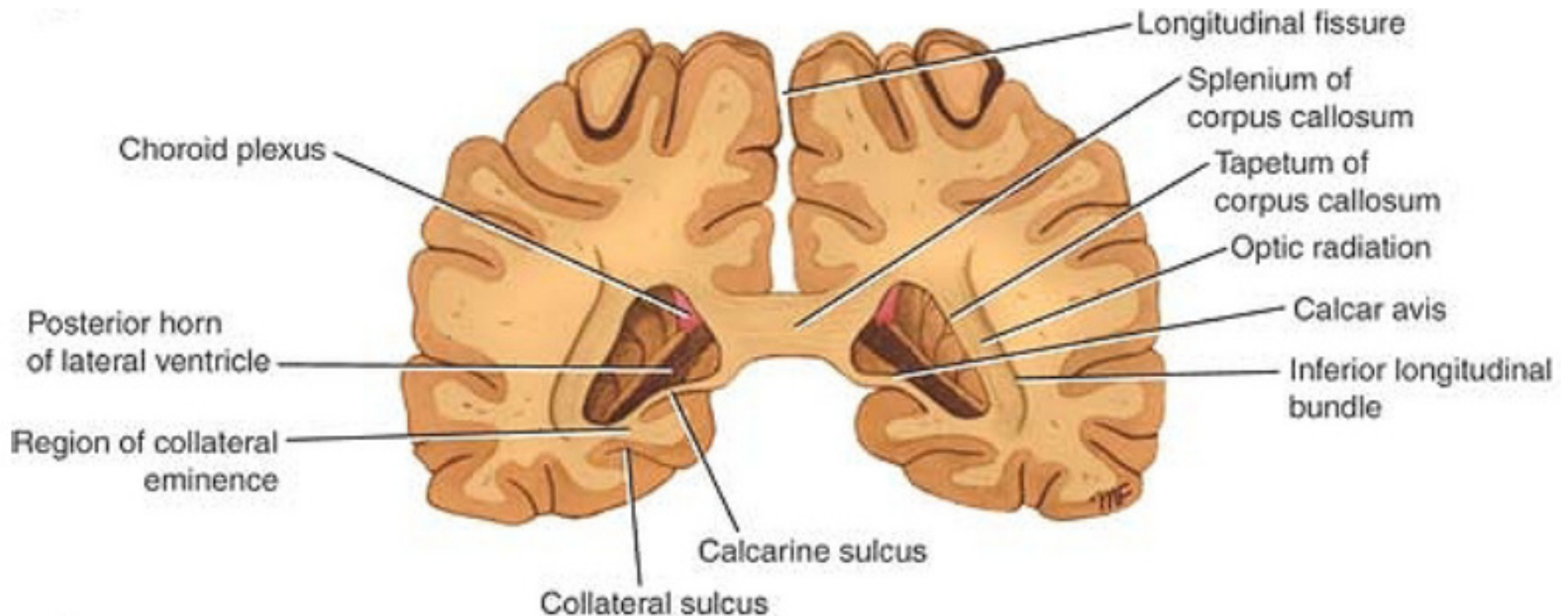
Anterior horn of the lateral ventricle

- Anterior end: frontal lobe
- Posterior end: continuous with the body of the ventricle
- **Roof:** anterior part of the corpus callosum
- **Floor:** head of the caudate nucleus
- **Medial wall:** superior surface of the rostrum of the corpus callosum, septum pellucidum and the anterior column of the fornix

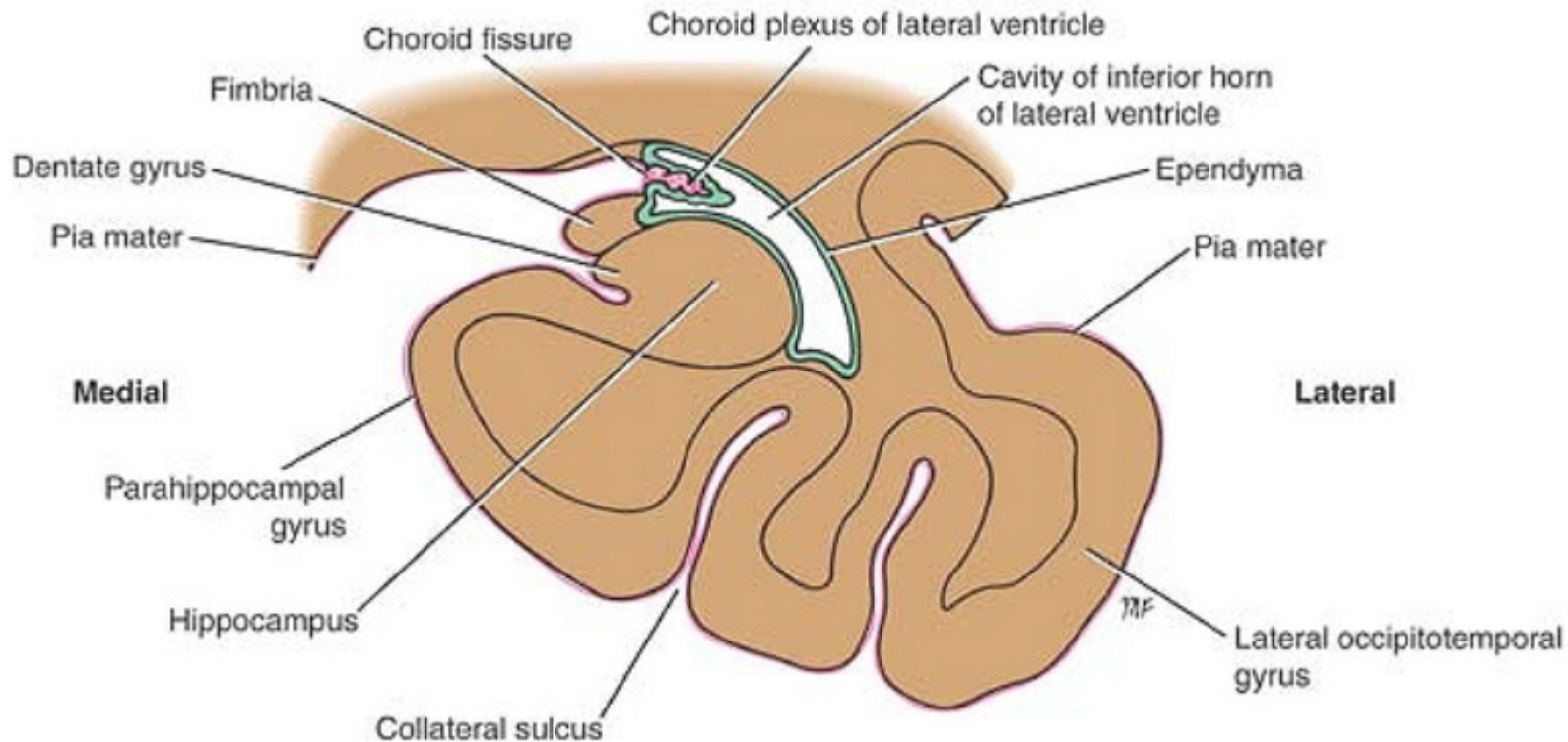


Posterior horn of the lateral ventricle

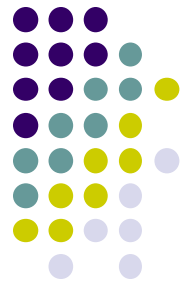
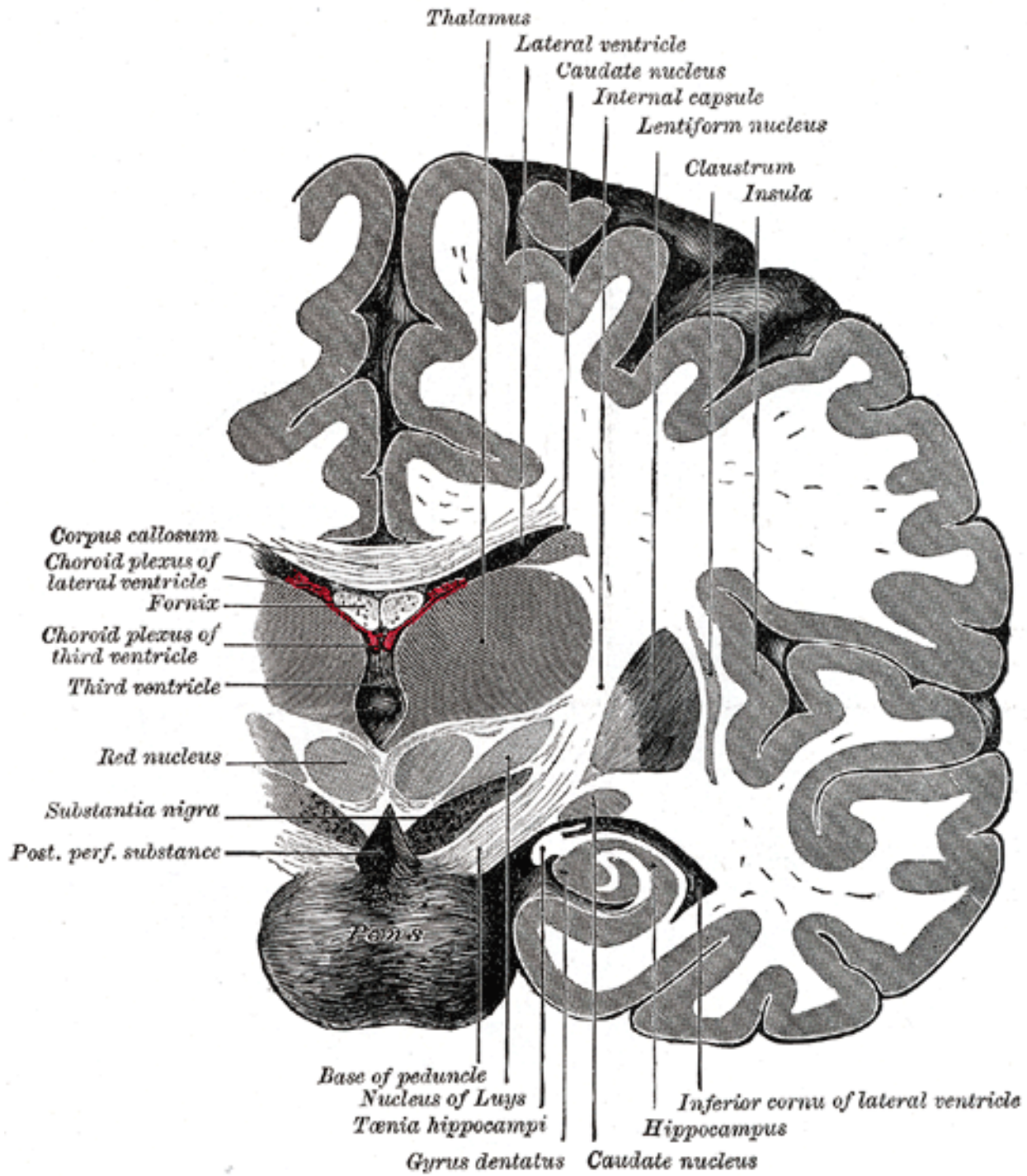
- Anterior end: continuous with the body of the ventricle
- Posterior end: occipital lobe
- **Roof and lateral wall** : tapetum of the corpus callosum
- **Medial wall:**
 - Superior: splenial fibers of the corpus callosum, forceps major
 - Inferior: **calcar avis**



Inferior horn of the lateral ventricle

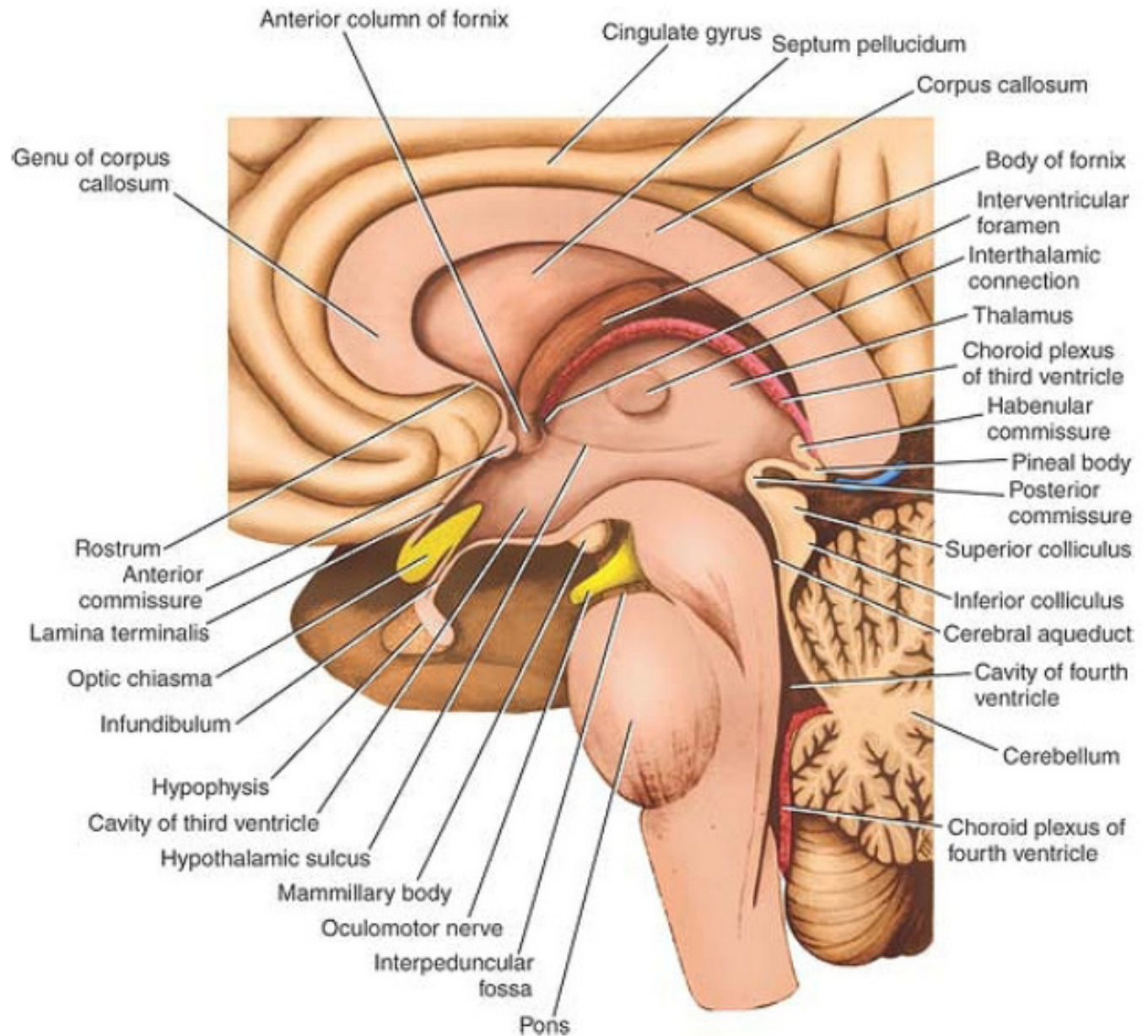


- Anterior end: temporal lobe
- Posterior end: continuous with the body of the ventricle
- **Roof** : inferior surface of the tapetum of the corpus callosum, tail of the caudate nucleus and amygdaloid nucleus
- **Floor**:
 - **Laterally**: collateral eminence
 - **Medially**: hippocampus



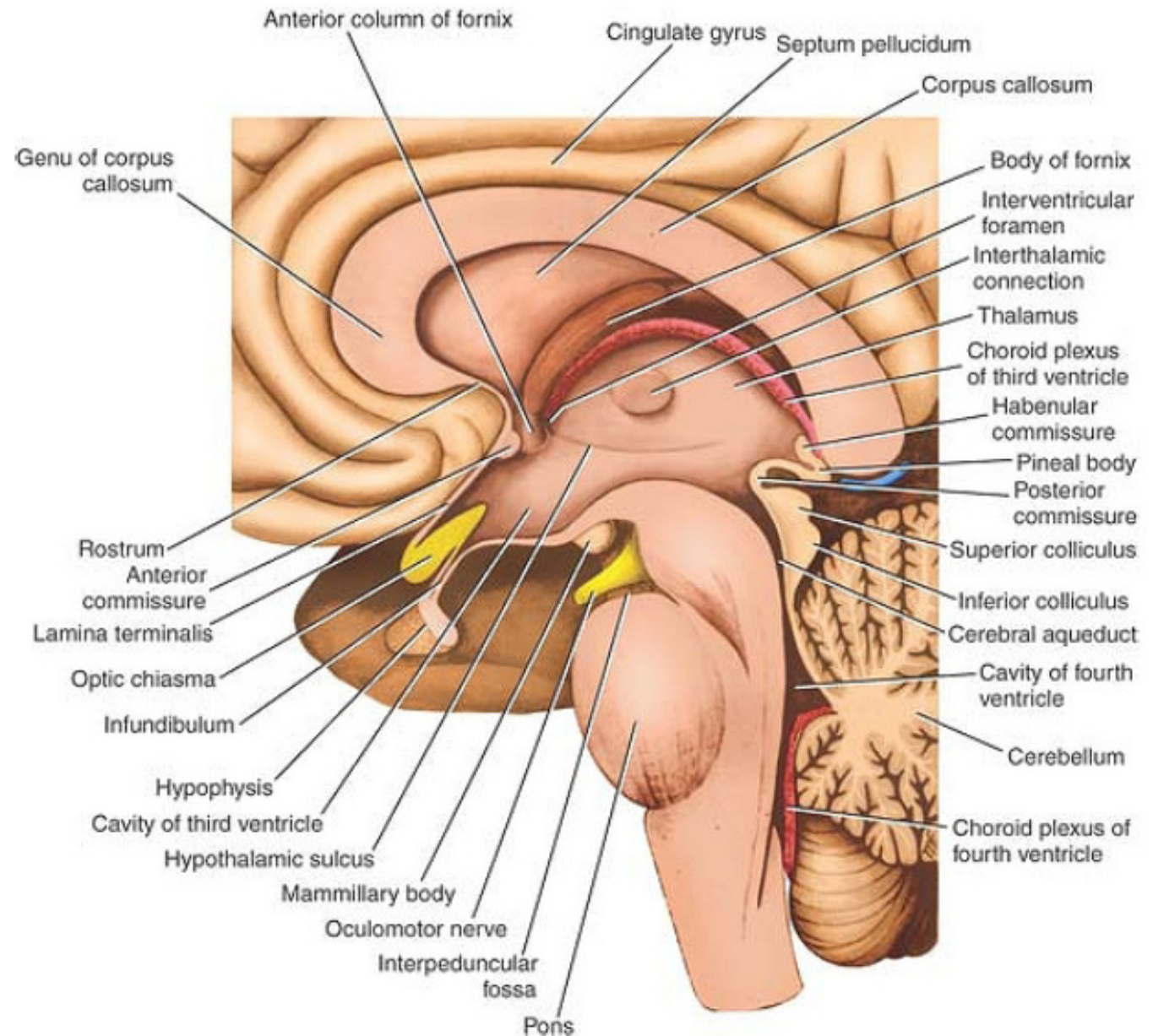
Third ventricle

- **Anterior wall:** lamina terminalis (thin sheet of gray matter) crossed by anterior commissure which is situated anterior to the anterior columns of the fornix
- **Posterior wall:** opening of cerebral aqueduct, posterior commissure, pineal recess, pineal body, habenular commissure



Third ventricle

- **Lateral wall:**
 - **superiorly:** medial surface of the thalamus
 - **Inferiorly:** hypothalamus
 - hypothalamic sulcus
 - the interthalamic connection
 - stria medullaris thalami. (bundle of nerve fibers, which are afferent fibers to the habenular nucleus)



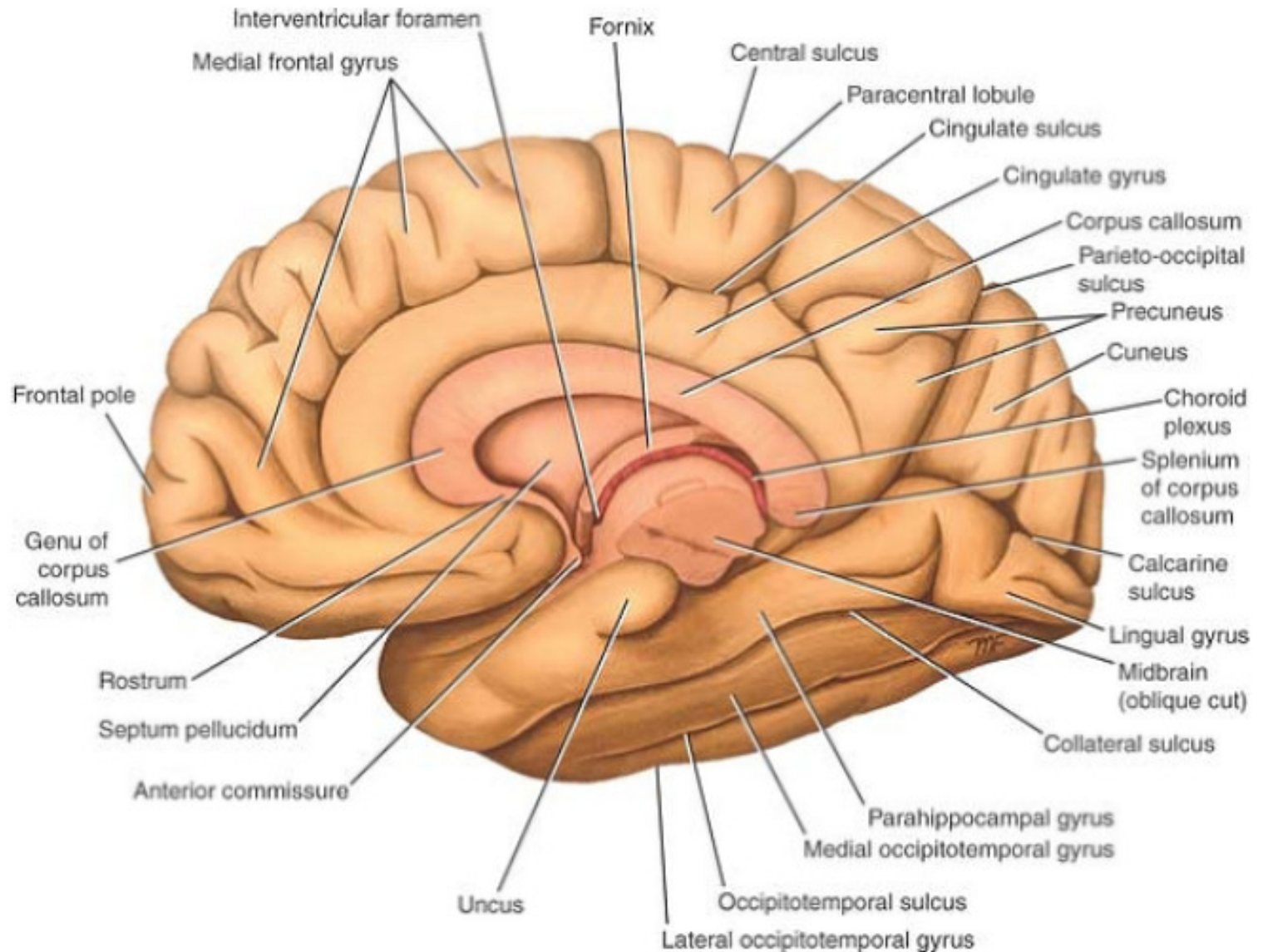
The corpus callosum

- The largest commissure of the brain, connects the two cerebral hemispheres (at the bottom of the longitudinal fissure)

- Divided into:

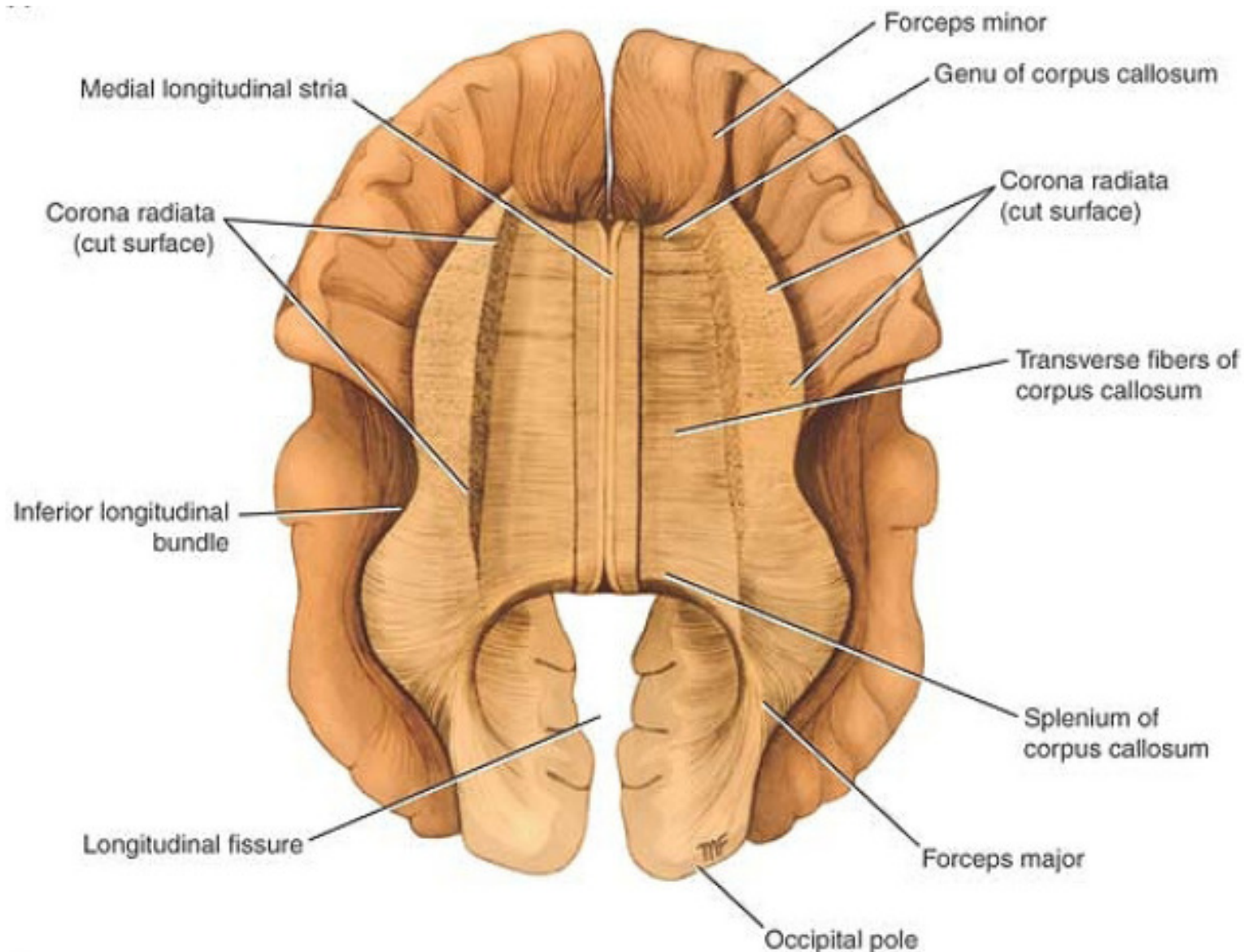
- **Rostrum:** continuous with the upper end of the lamina terminalis

- **Genu:** bends inferiorly in front of the septum pellucidum
- **Body**
- **Splenium**



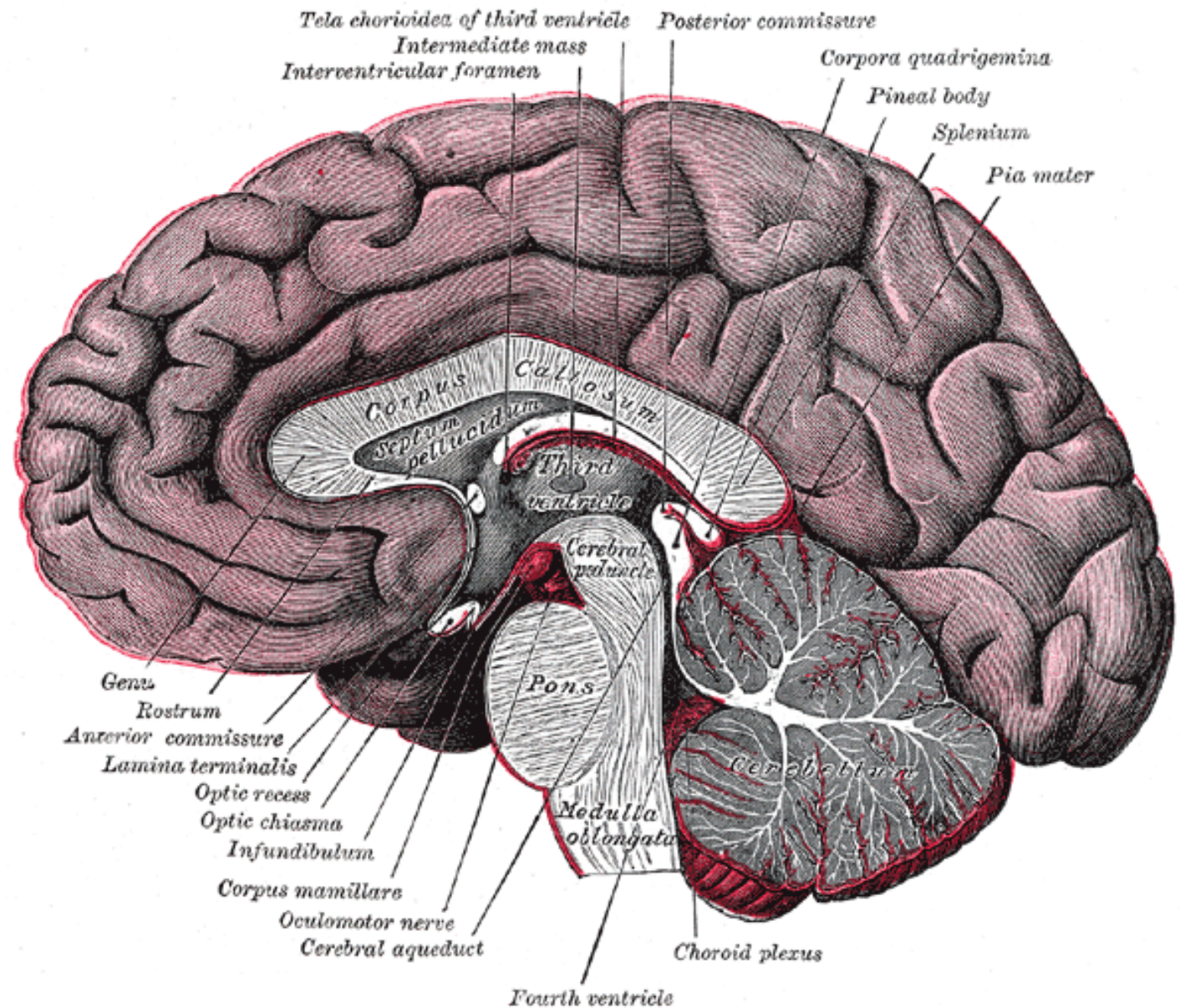
The corpus callosum

- **Forceps minor**
- **Radiation of the corpus callosum**
- **Forceps major**



Anterior commissure

- Crosses the midline in the **lamina terminalis**
- **Smaller bundle** (anterior) curves forward toward the olfactory tract.
- **Large bundle** (posterior) curves to reach the temporal lobes



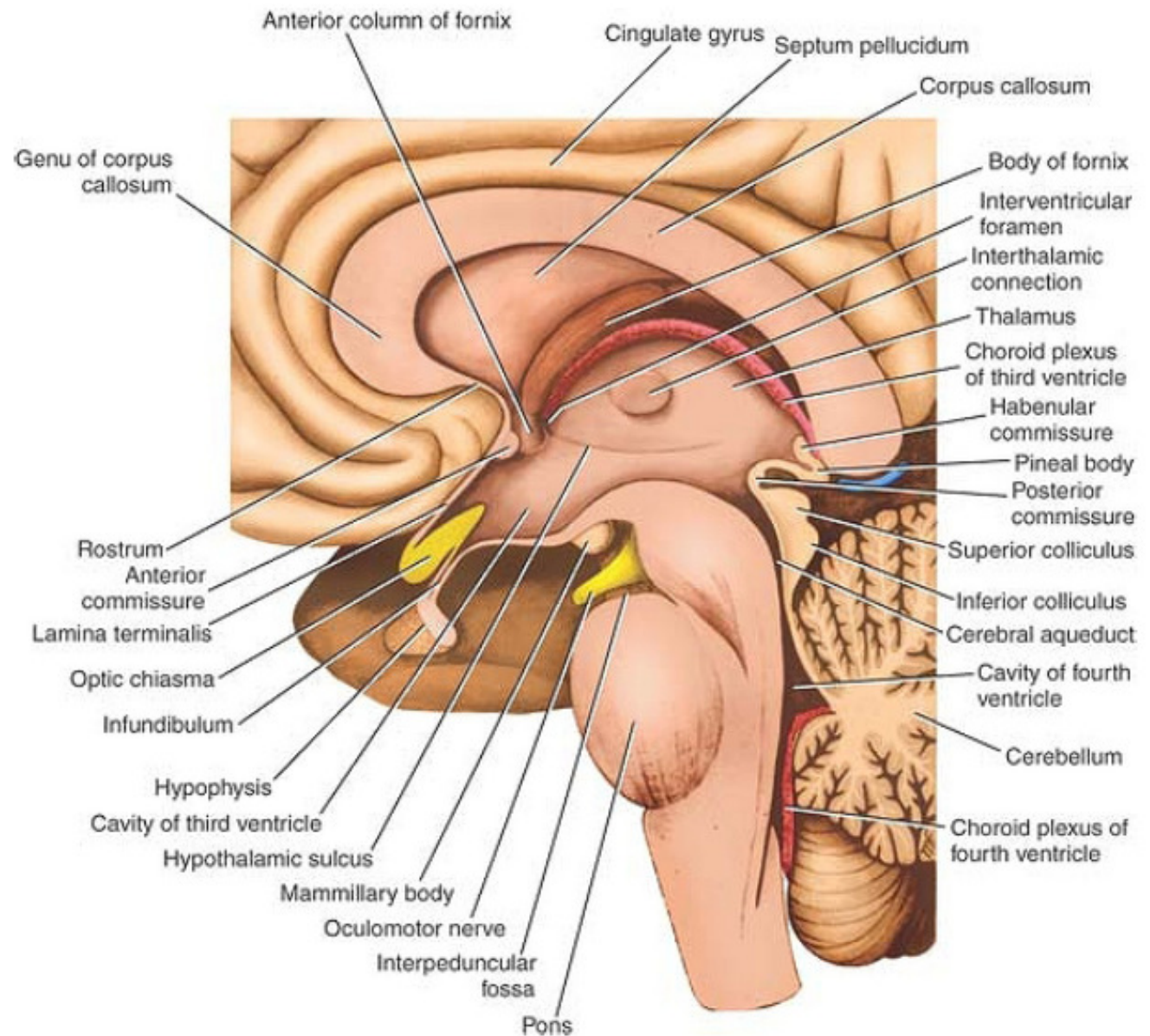
**plays a key role in pain and pain sensation???

Posterior commissure

- Crosses the midline immediately above the opening of the cerebral aqueduct into the third ventricle (involved in the pupillary light reflex)?

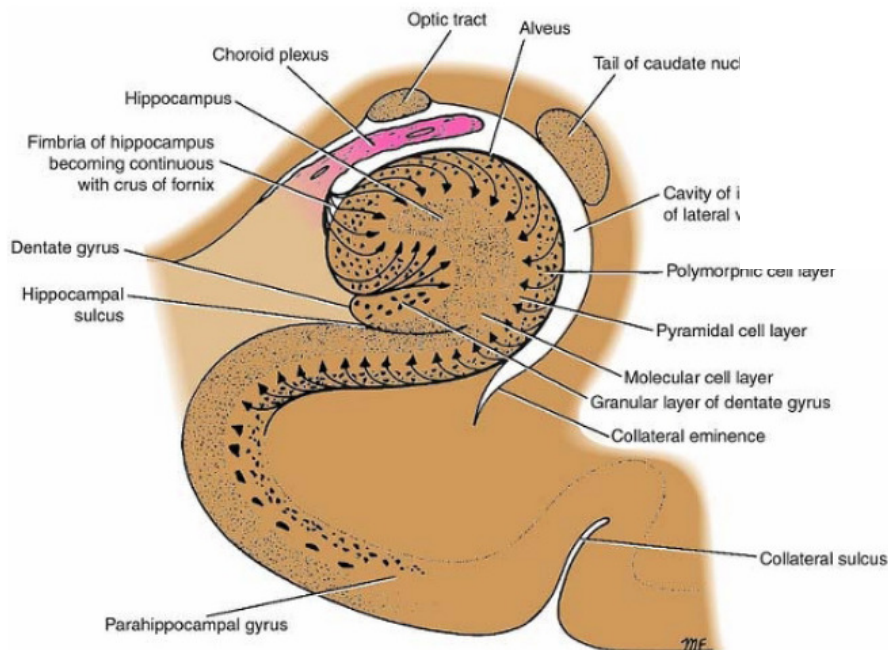
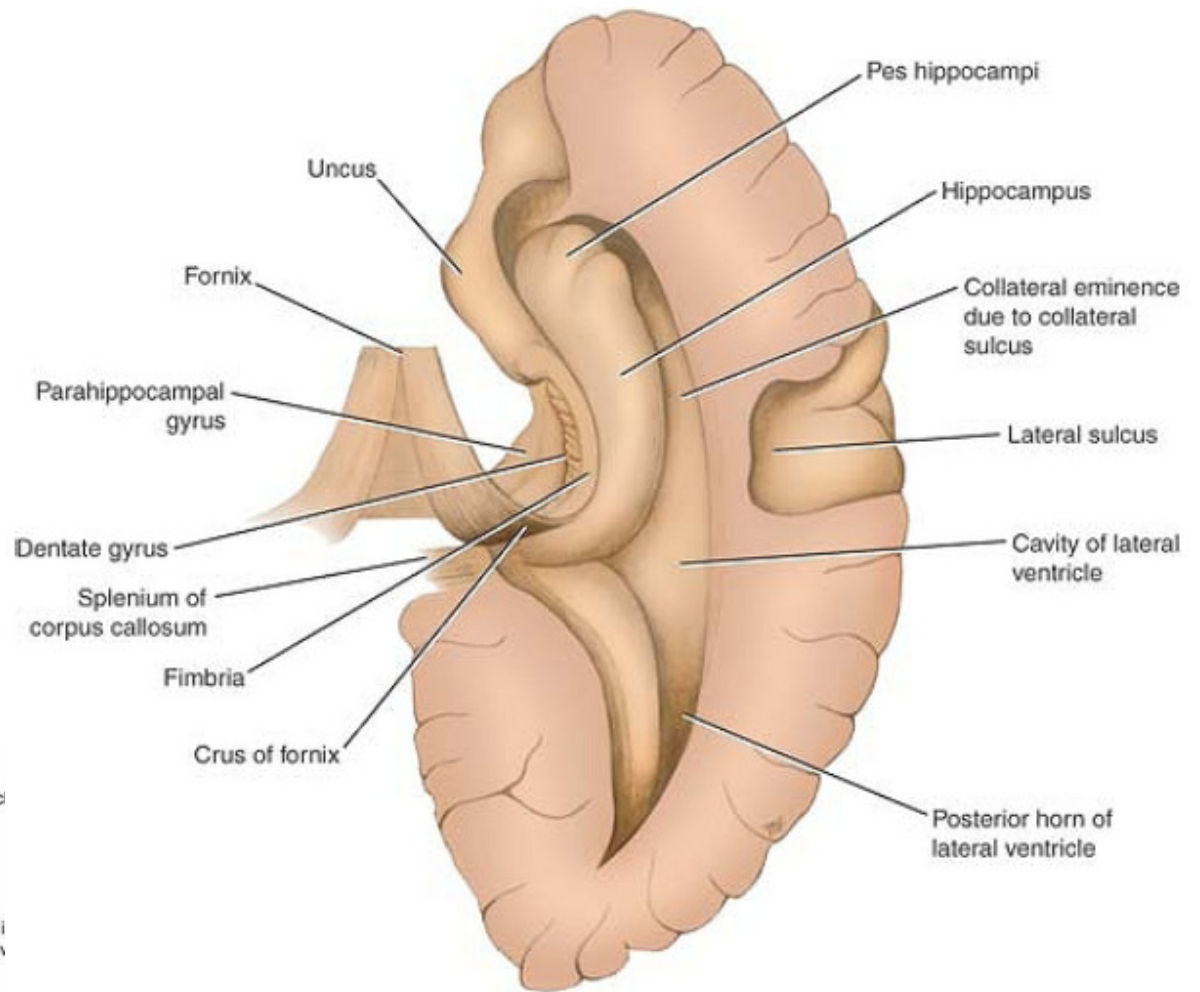
Habenular commissure

- Crosses the midline in the superior part of the root of the pineal stalk
- connects the Habenular nuclei on both sides



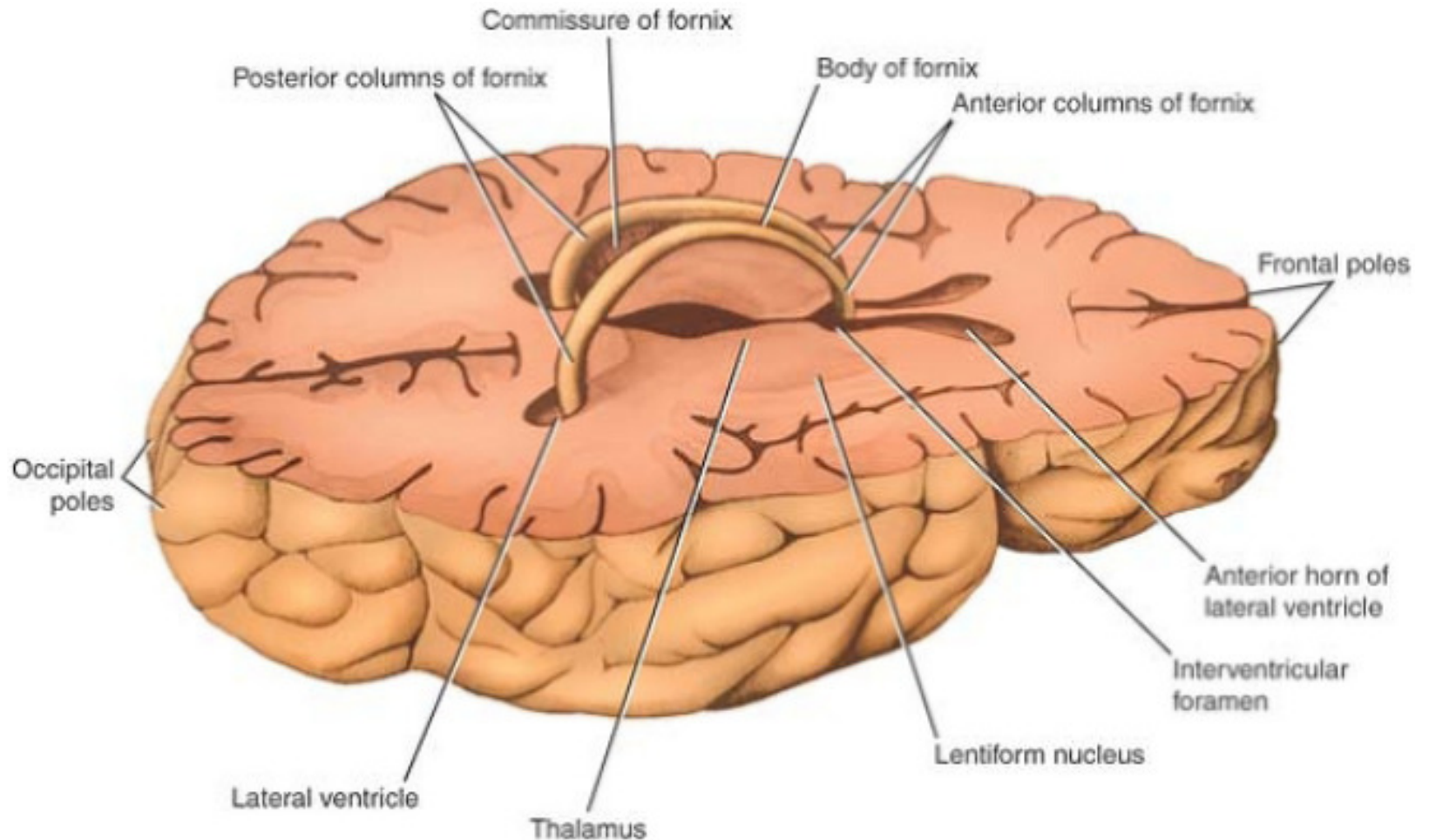
The fornix

- From the hippocampus to the hypothalamus.



- The nerve fibers first form the alveus, (thin layer of white matter covering the ventricular surface of the hippocampus), then converge to form the fimbria.

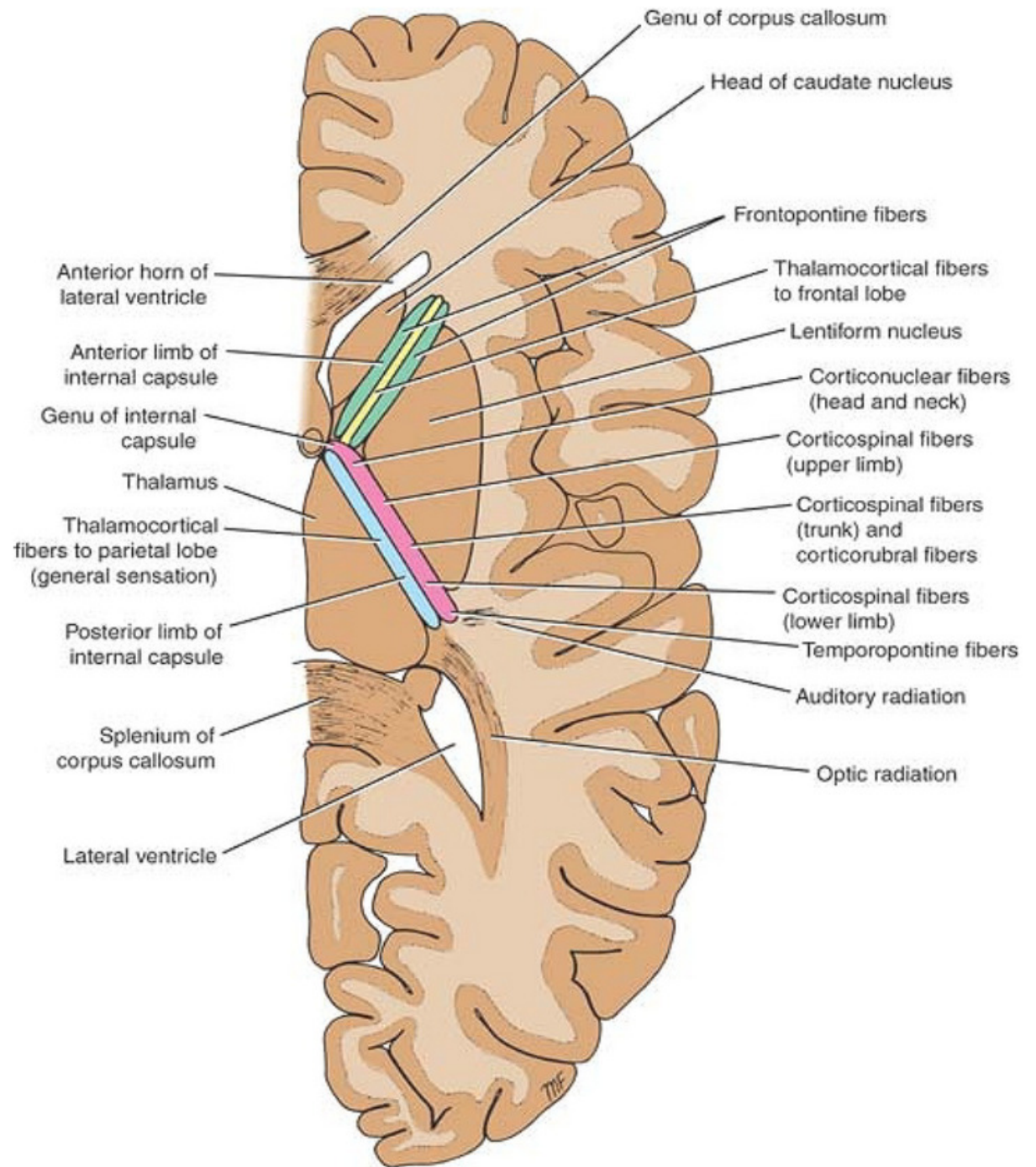
Fornix



- The fimbriae of the two sides arch forward above the thalamus and below the corpus callosum to form the posterior columns of the fornix.
- The two columns then come together in the midline to form the body of the fornix
- The commissure of the fornix consists of transverse fibers that cross the midline from one column to another just before the formation of the body of the fornix.

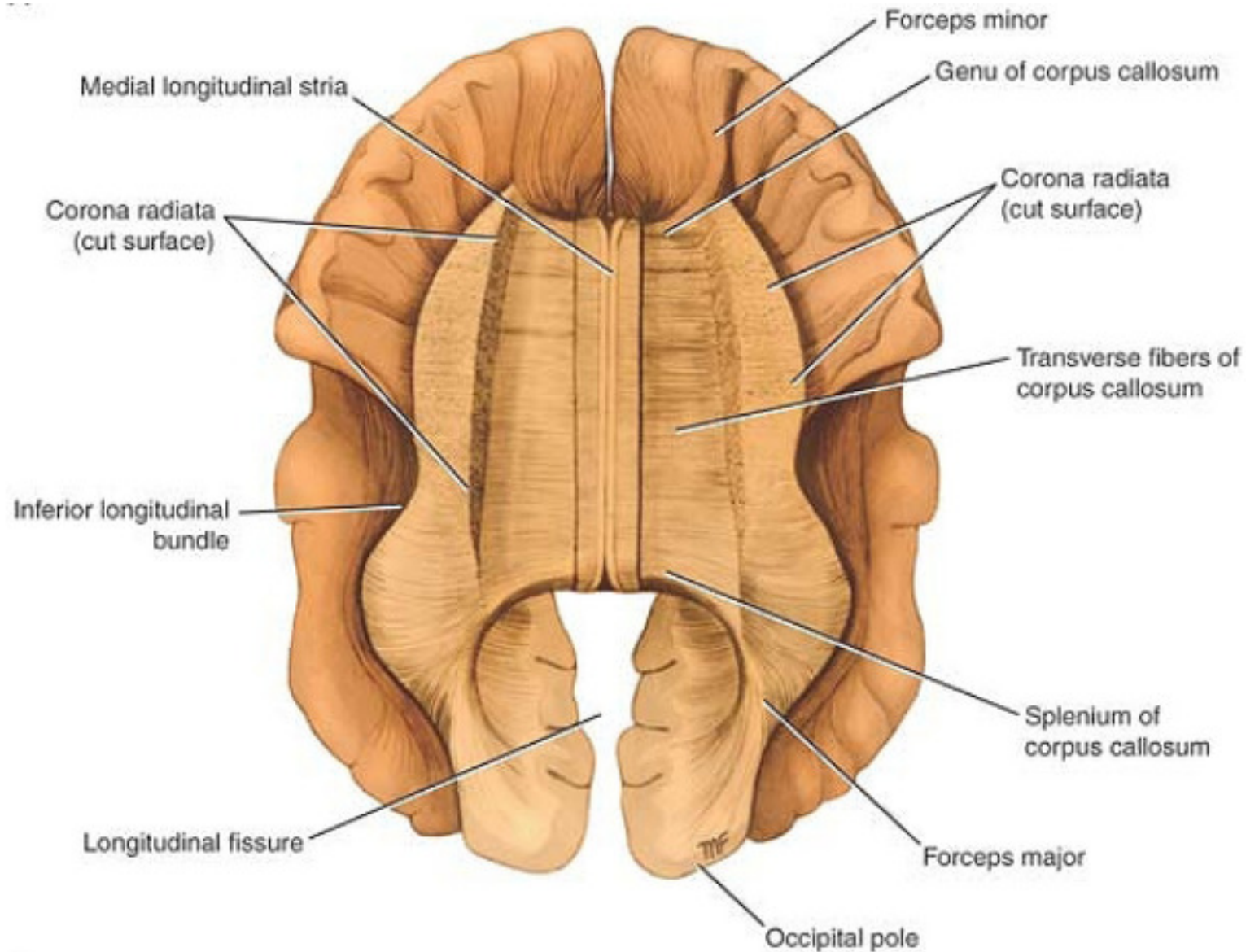
Projection Fibers

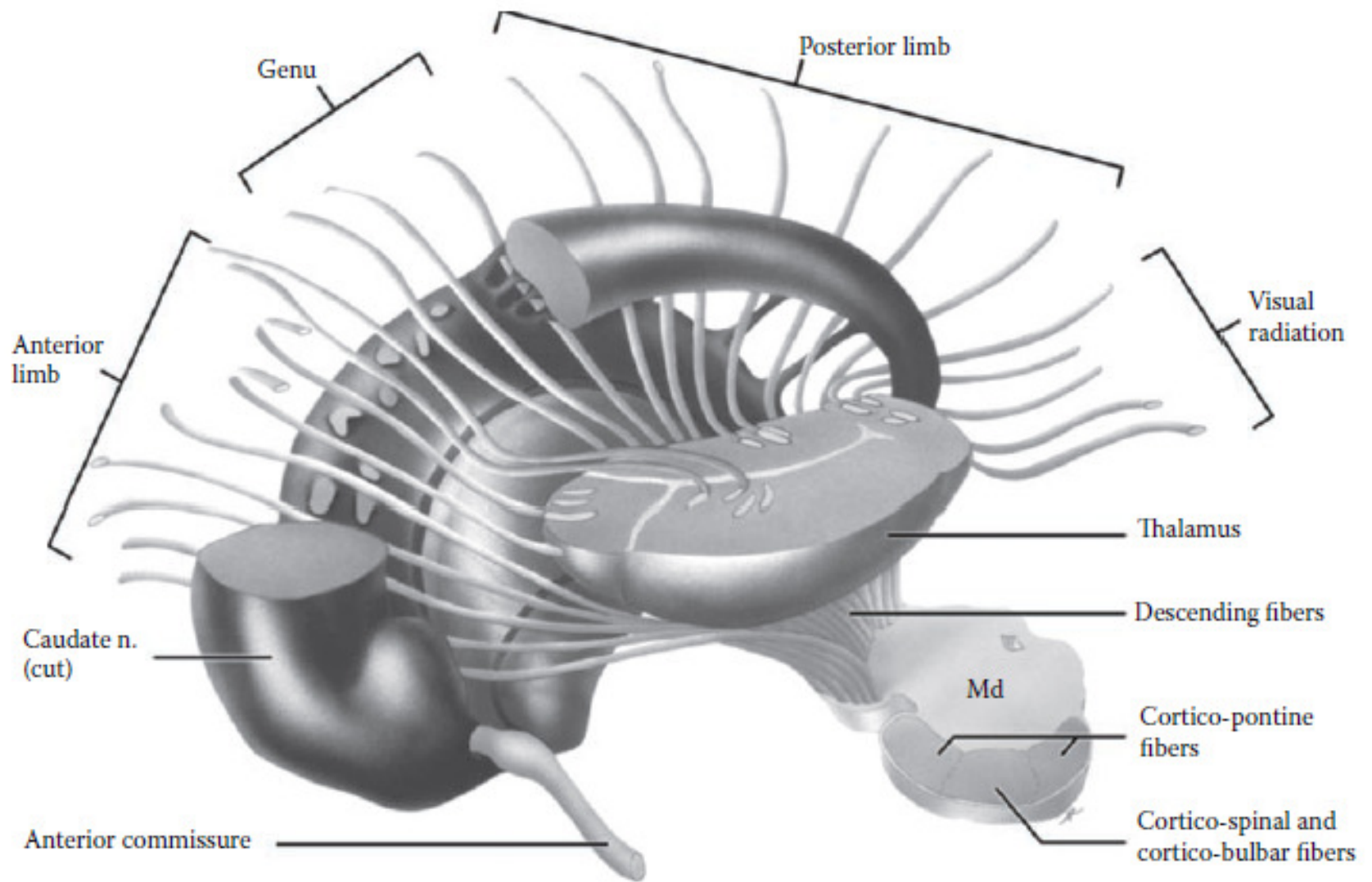
- Passing to and from the brainstem to the entire cerebral cortex
- **Internal capsule:**
 - **Anterior limb**
 - **Posterior limb**
 - **Genu**
- Medially: caudate nucleus and the thalamus
- Laterally: the lentiform nucleus



Projection Fibers

- **Corona radiata:**
fibers emerging superiorly from between the nuclear masses
- **Optic radiation:**
Most posterior

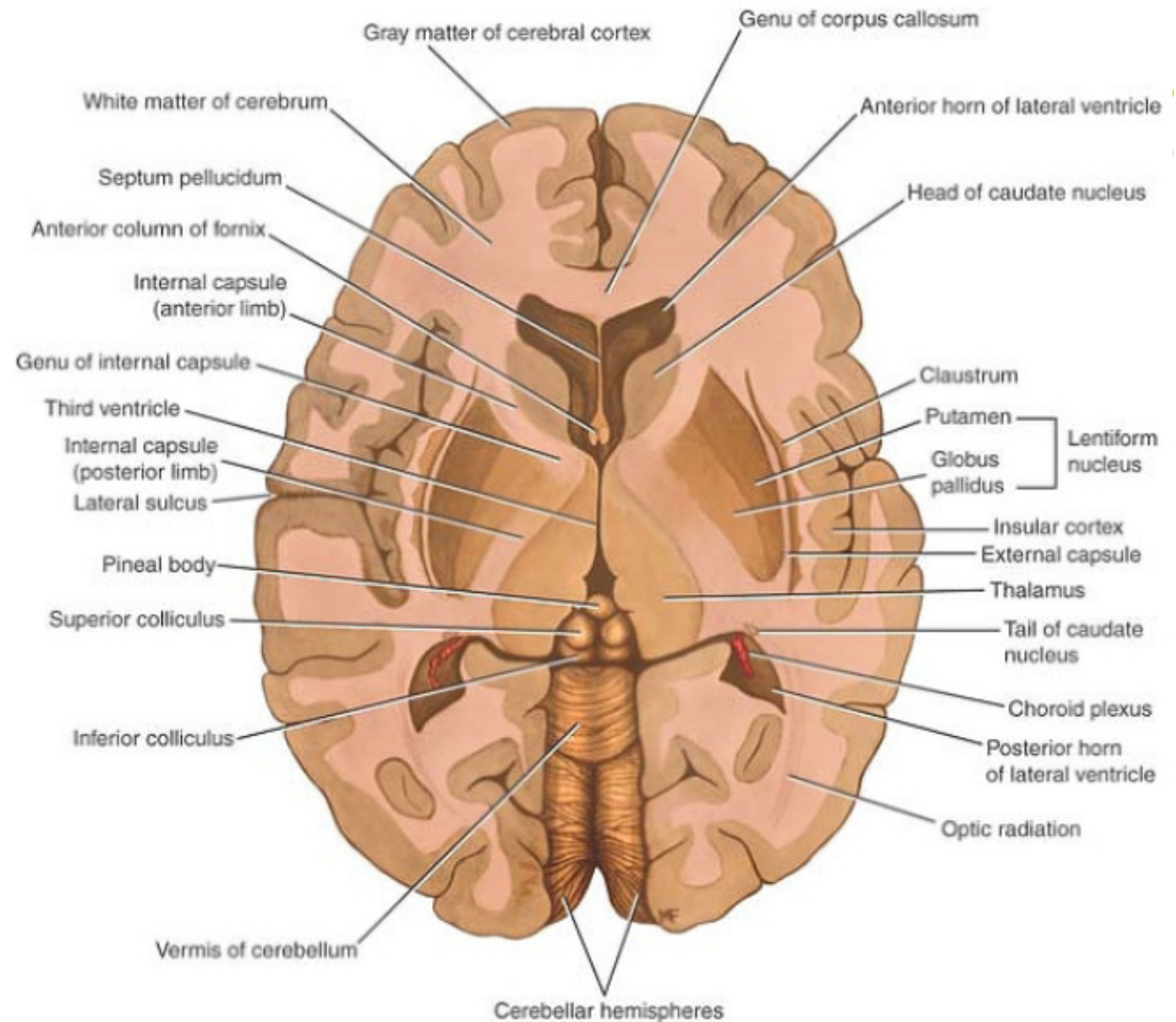




Md = Midbrain

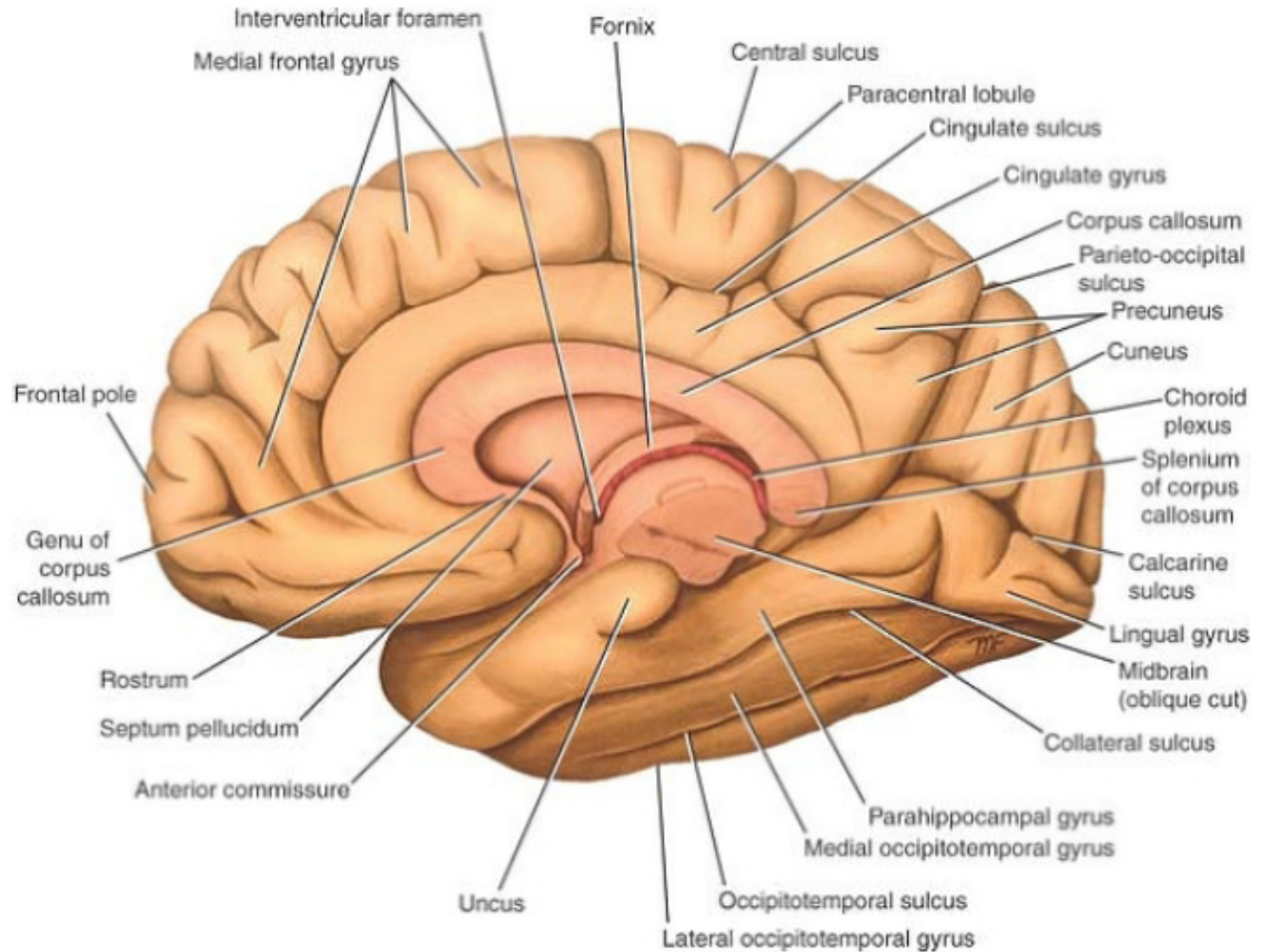
Septum Pellucidum

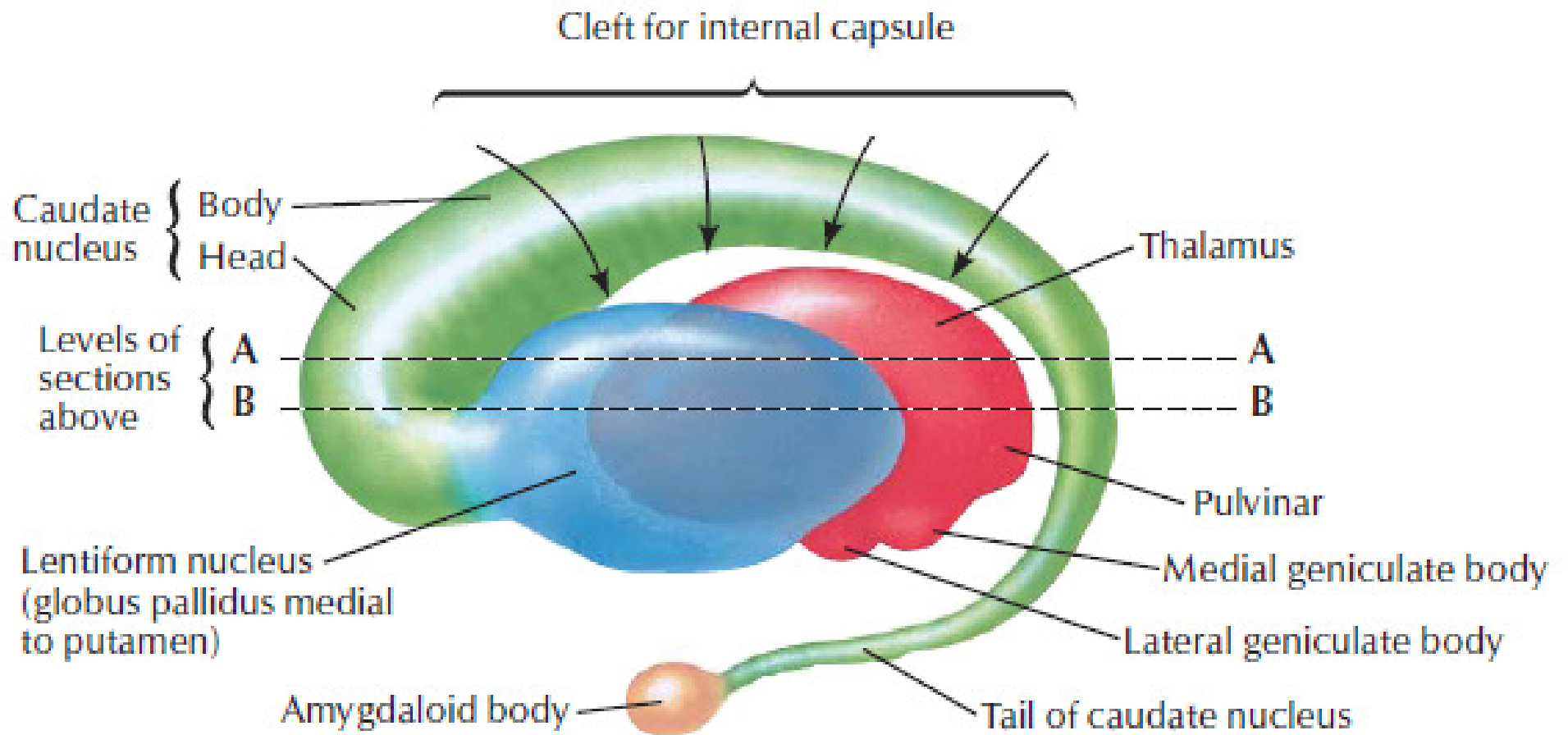
- Thin vertical sheet of nervous tissue consisting of white and gray matter covered on either side by ependyma
- partition between the anterior horns of the lateral ventricles



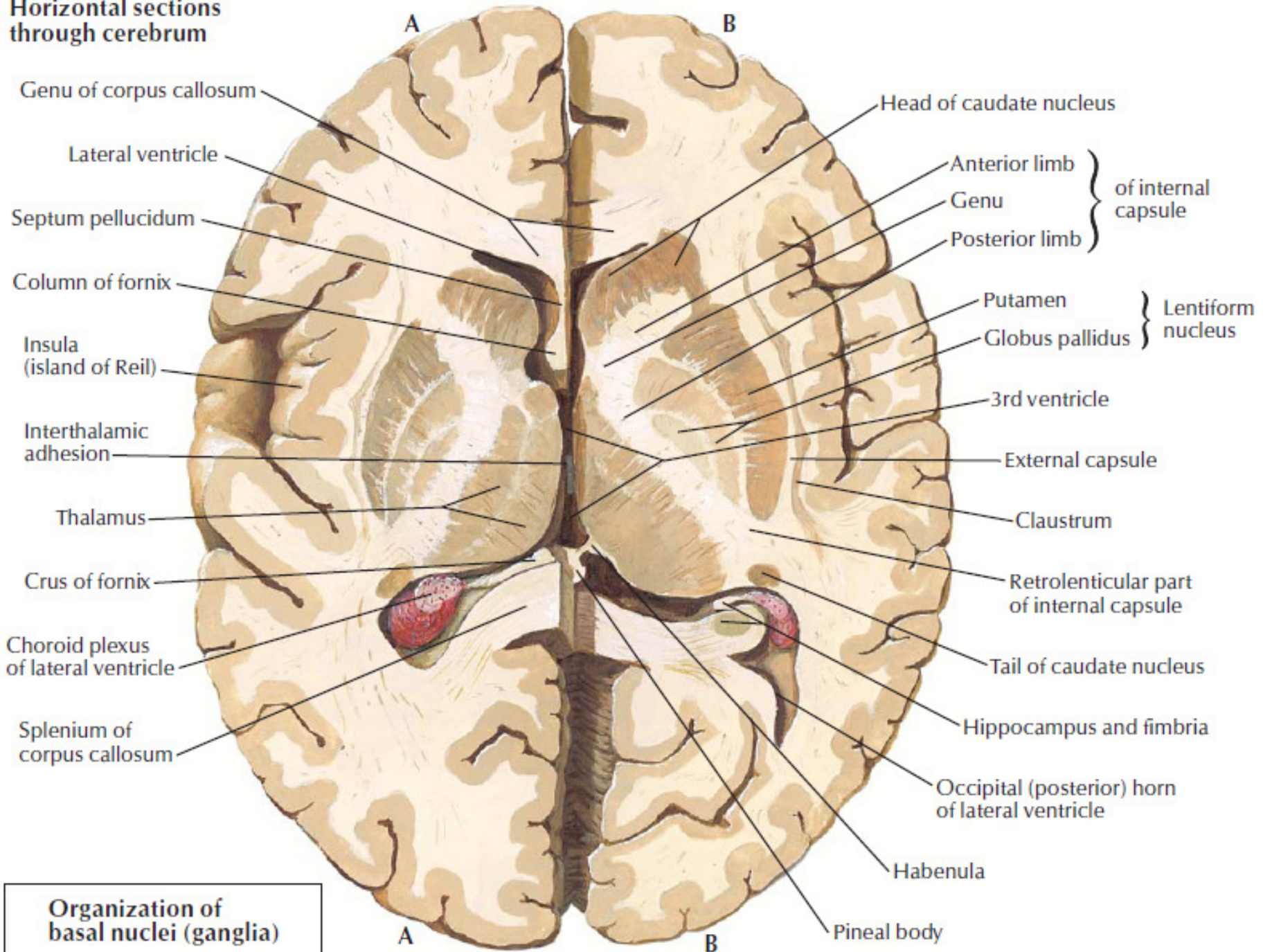
Septum Pellucidum

- Between the fornix and the corpus callosum.
- Between body of the corpus callosum and the rostrum.

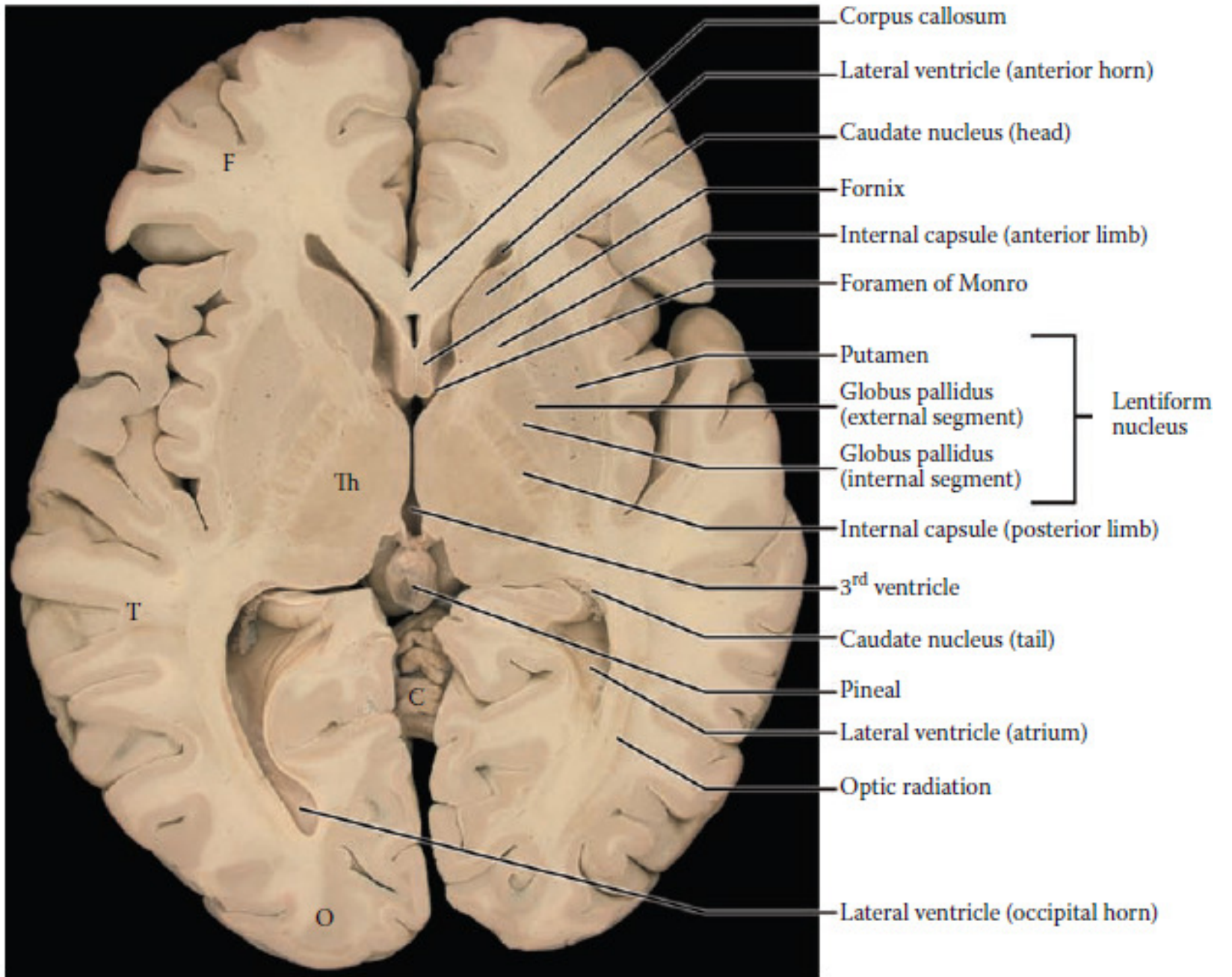


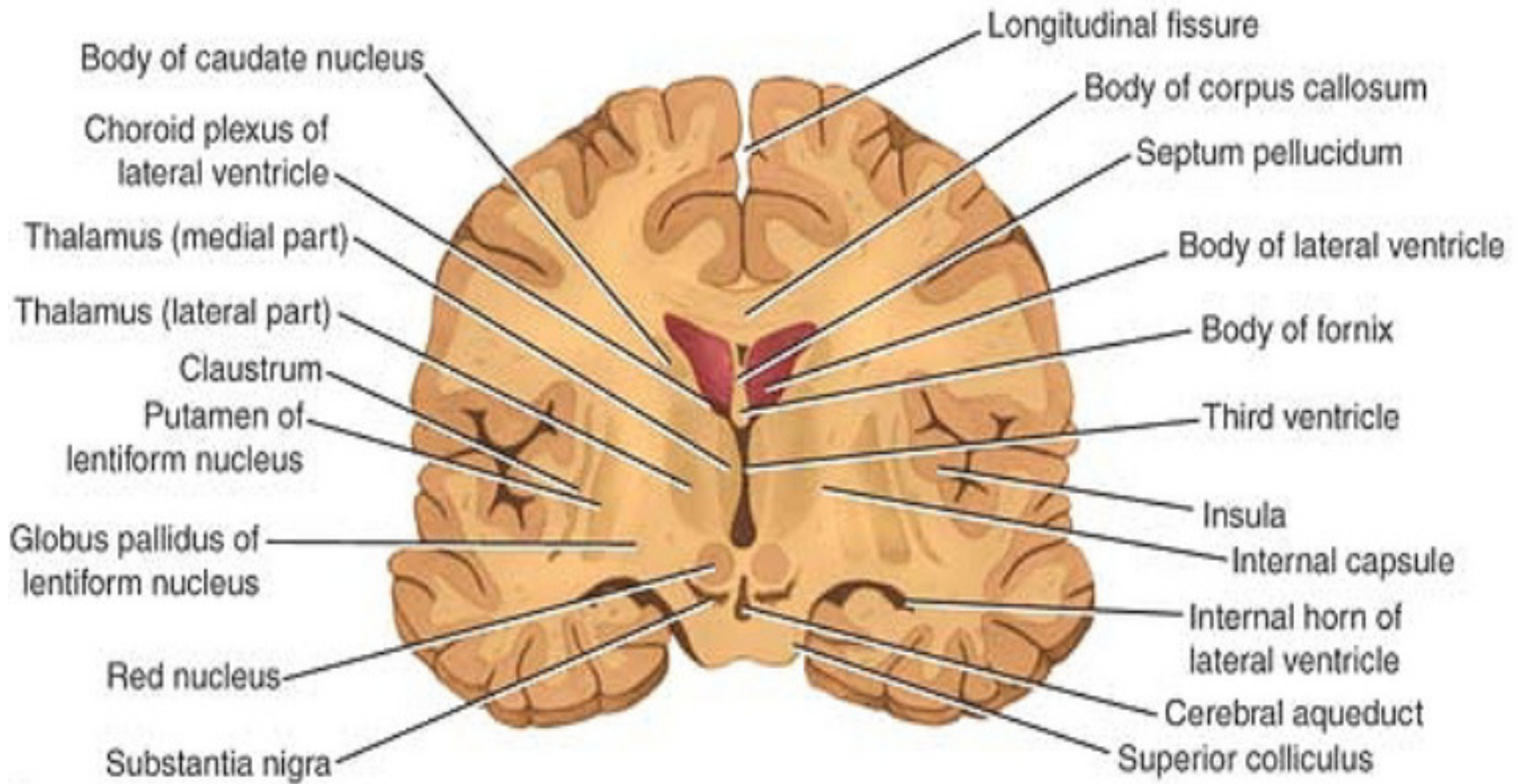


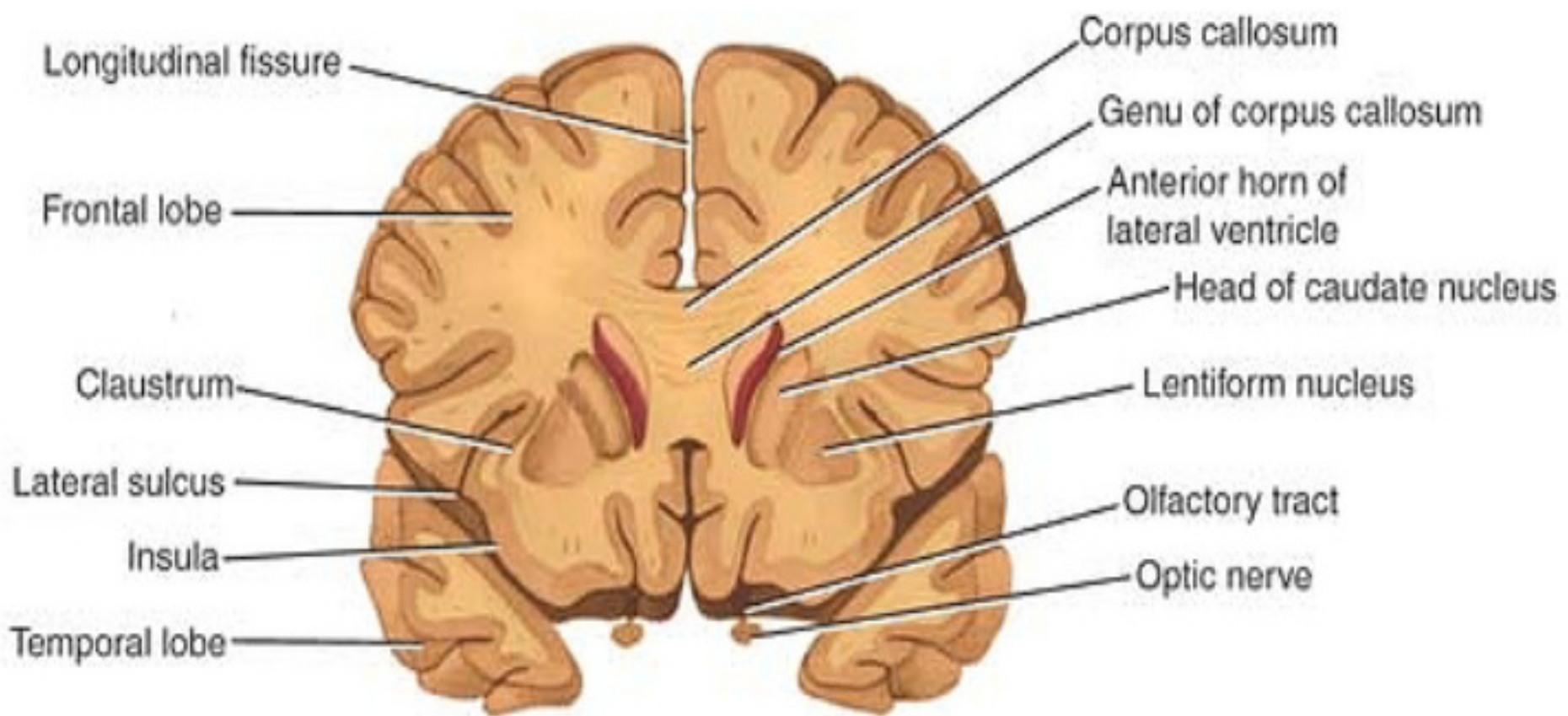
Horizontal sections through cerebrum

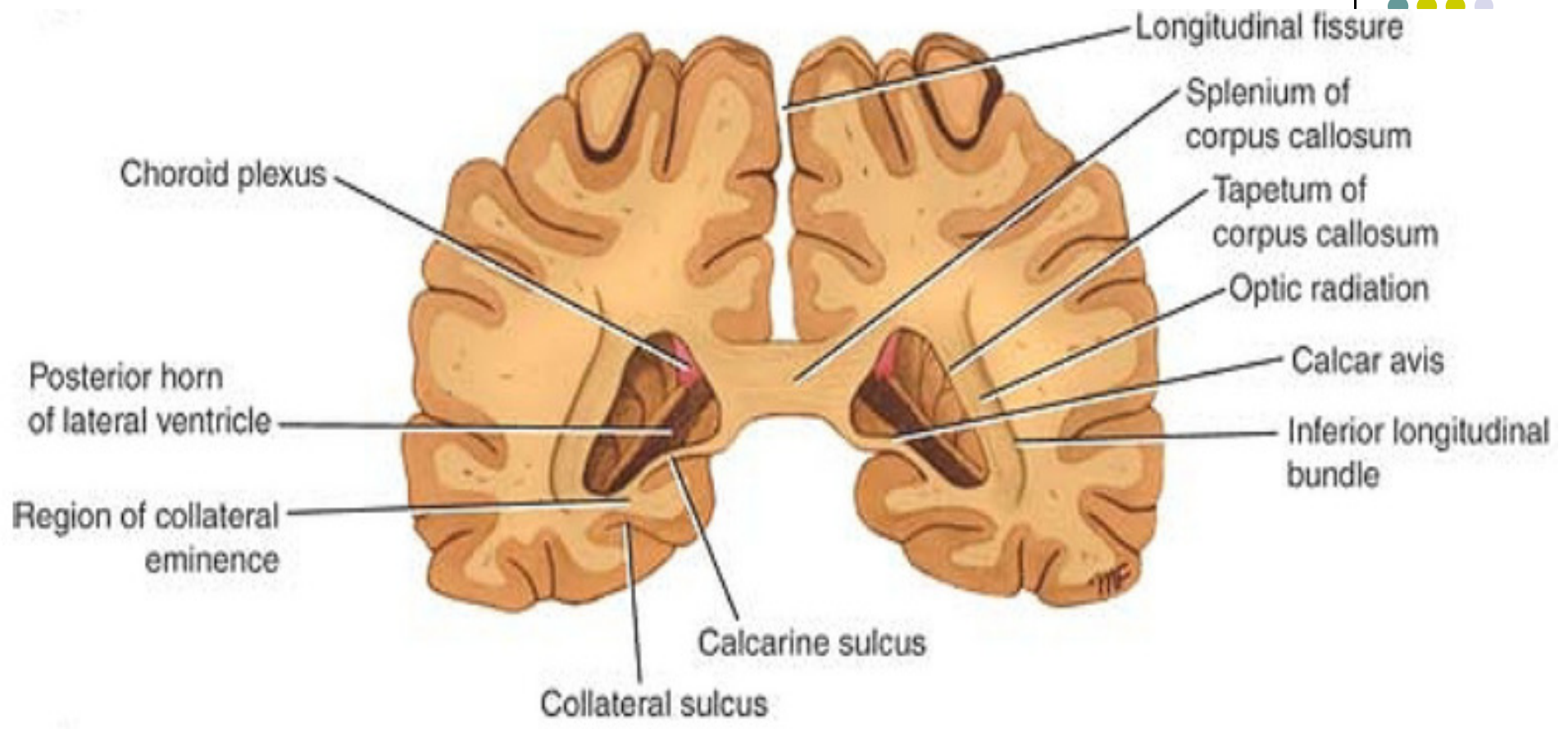


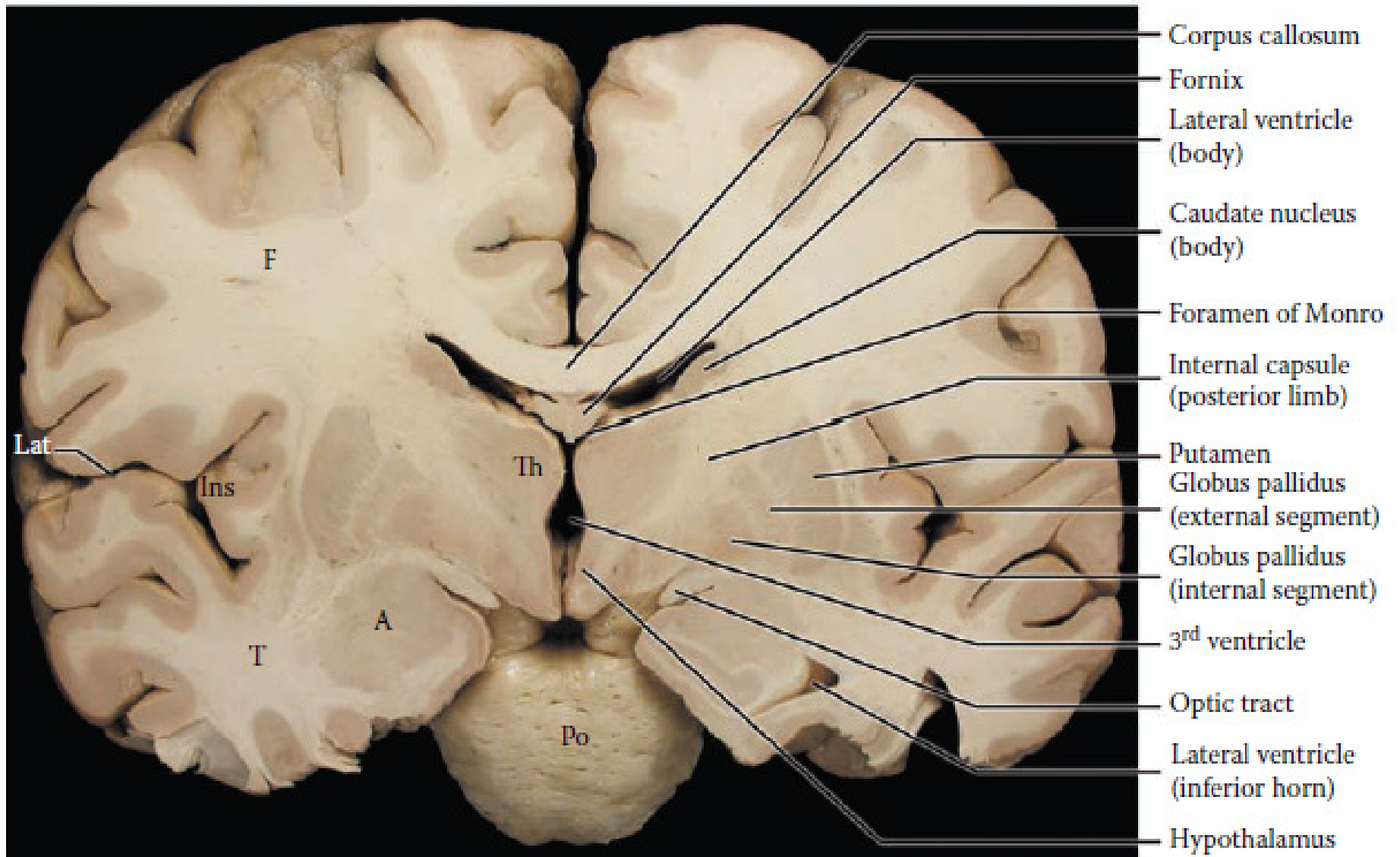
Organization of basal nuclei (ganglia)











F = Frontal lobe
 T = Temporal lobe
 Lat = Lateral fissure
 Ins = Insula

Th = Thalamus
 A = Amygdala
 Po = Pons

