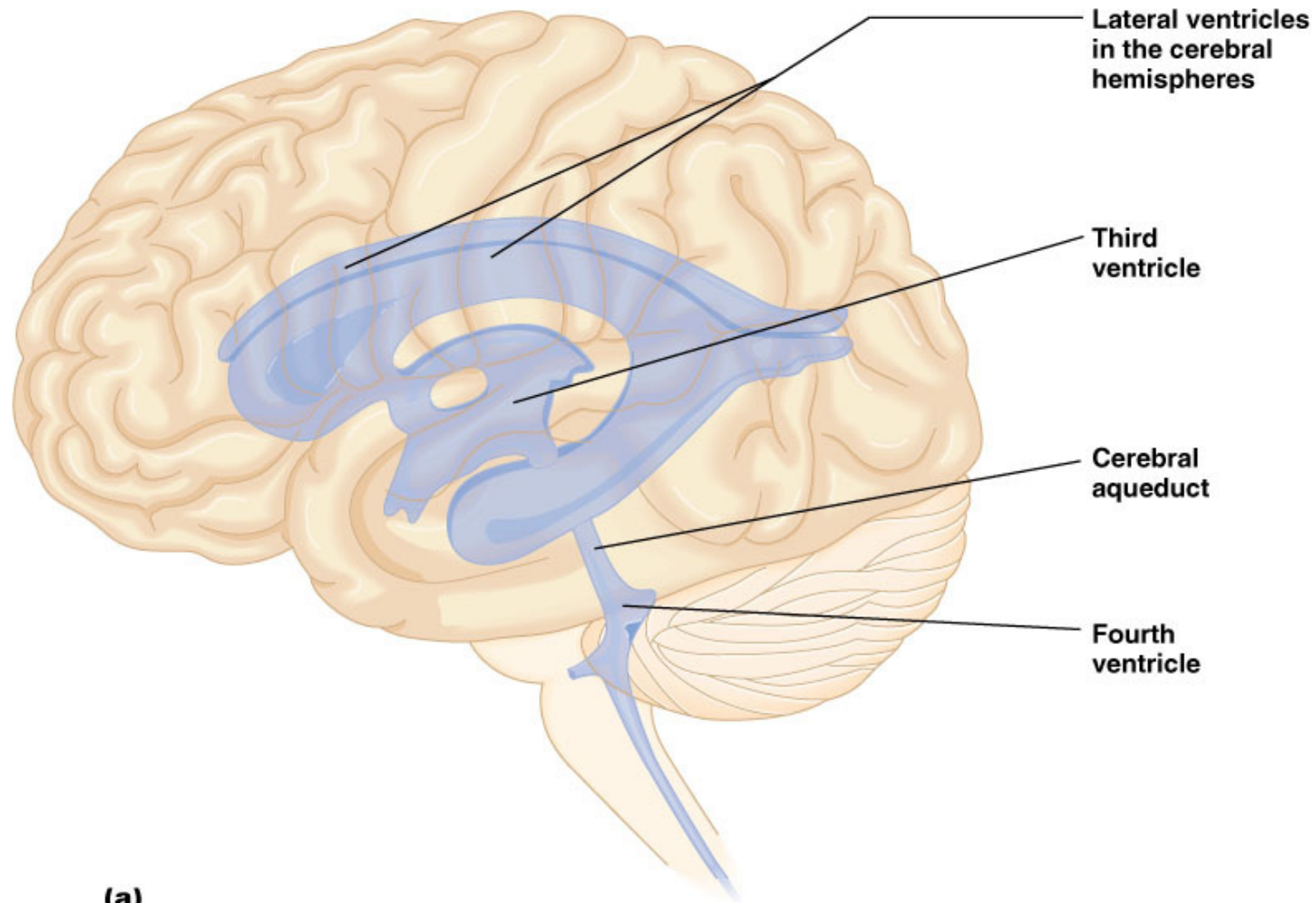
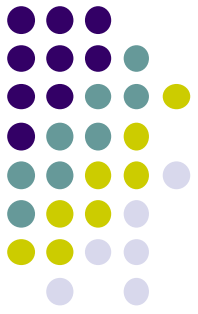
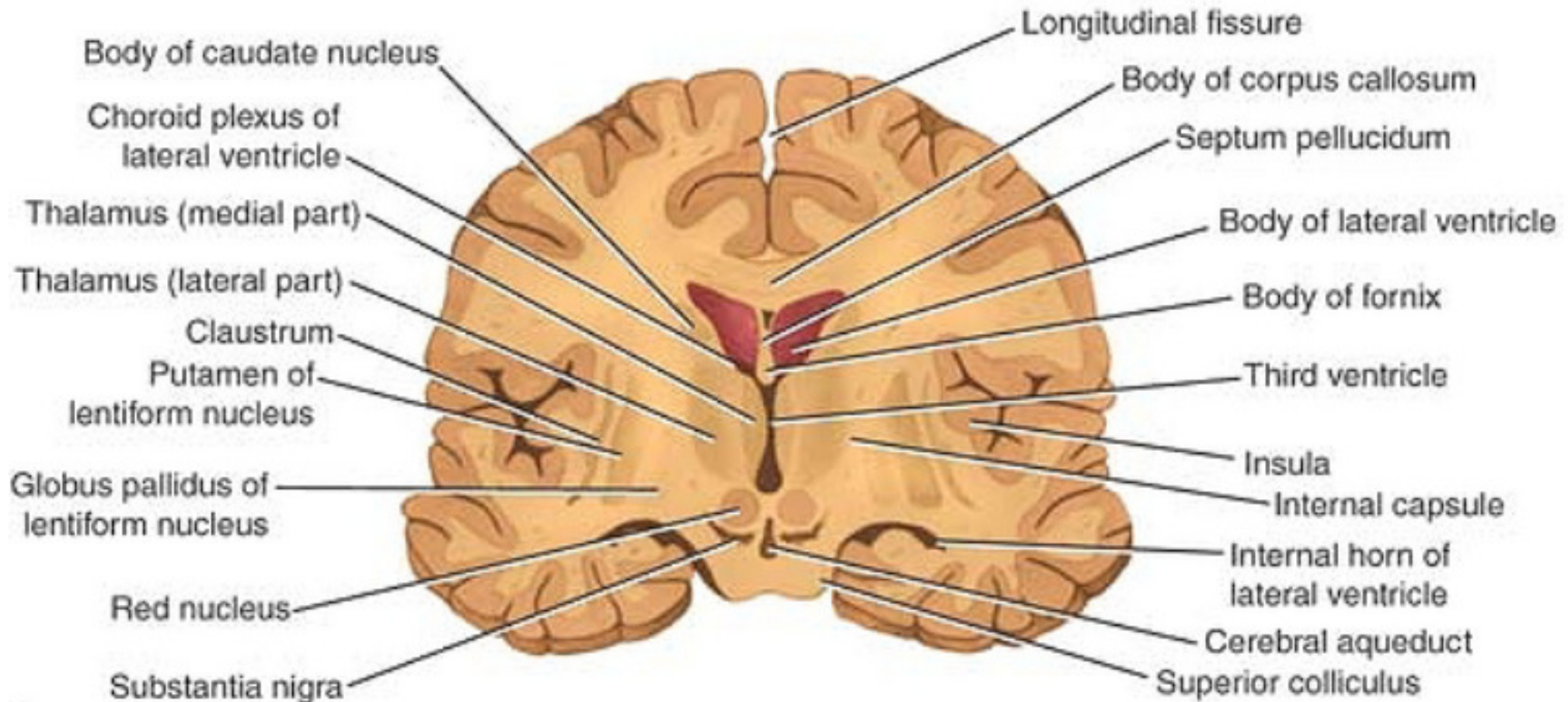
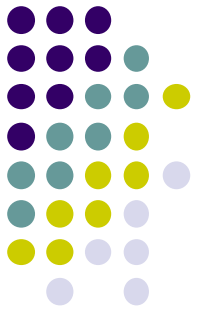


Ventricles and Location of the Cerebrospinal Fluid



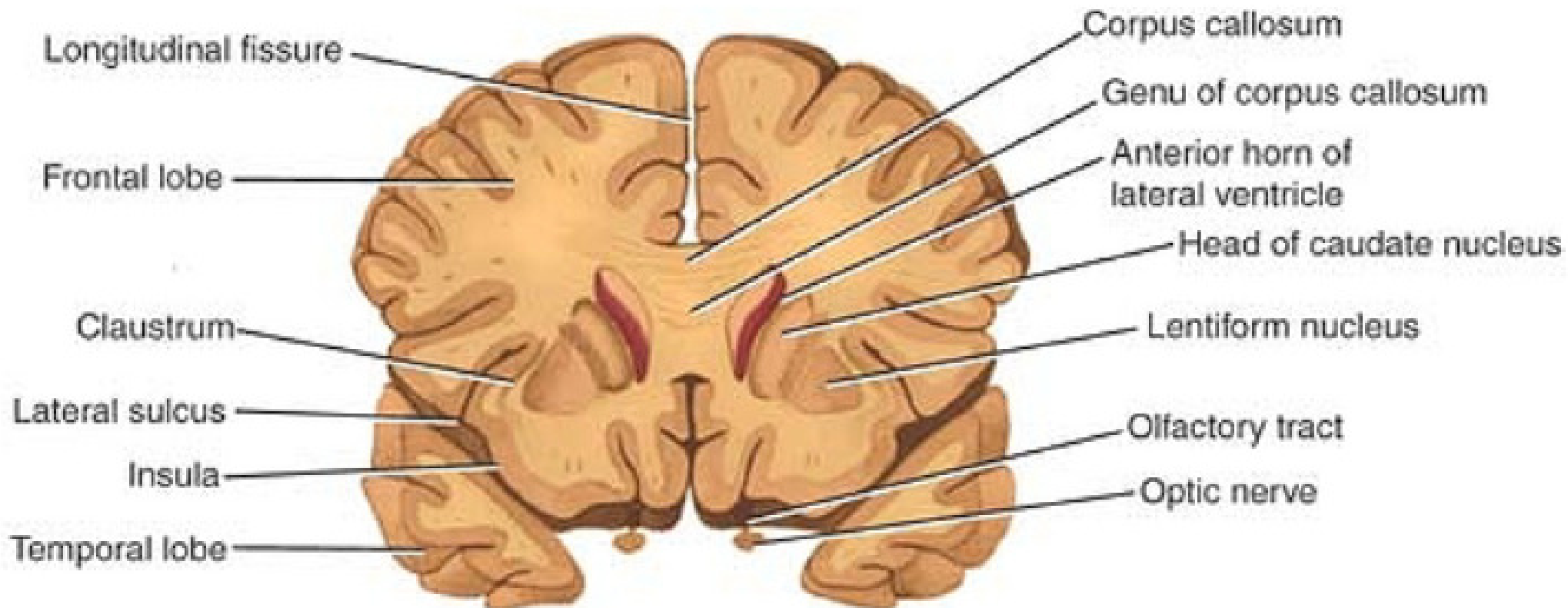
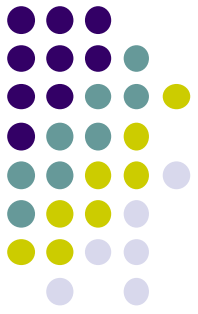
The body of the lateral ventricle

- 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



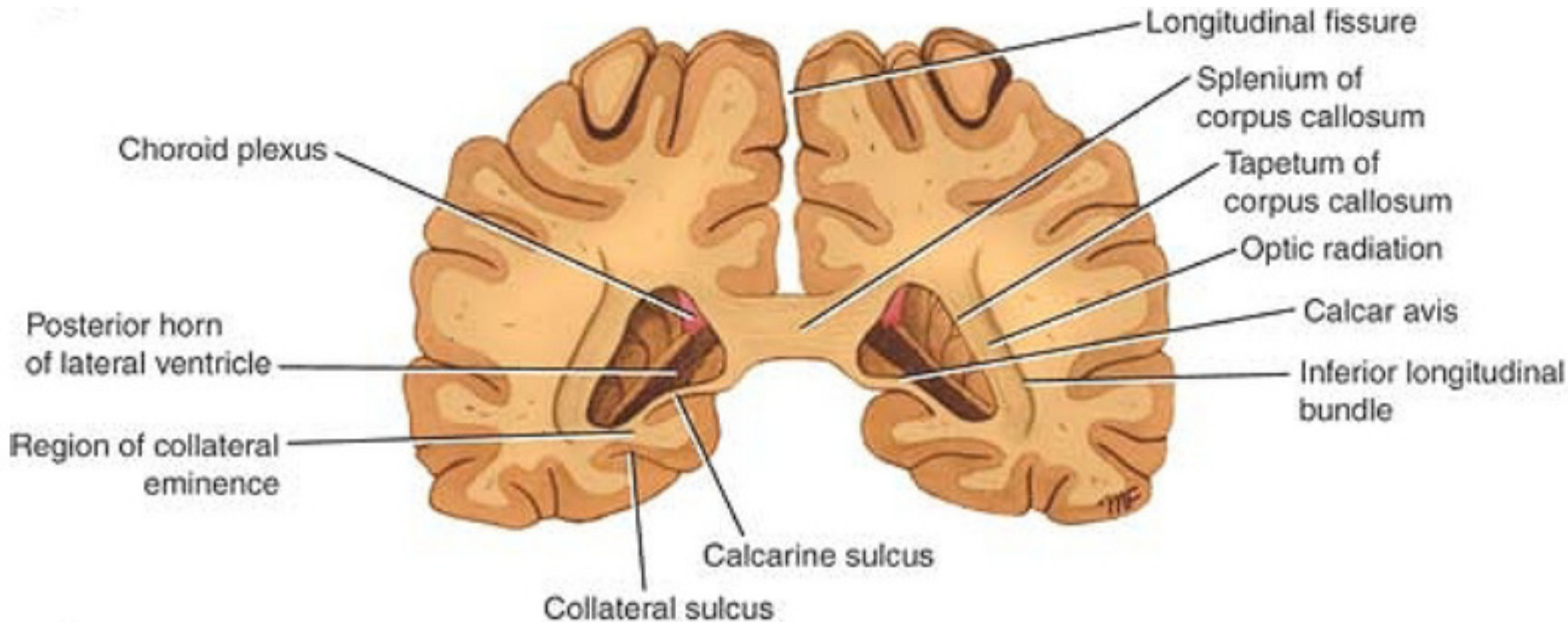
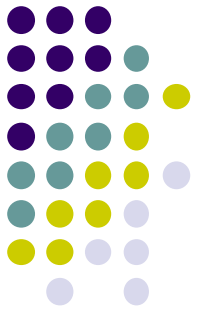
Anterior horn of the lateral ventricle

- 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

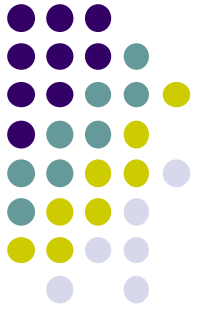
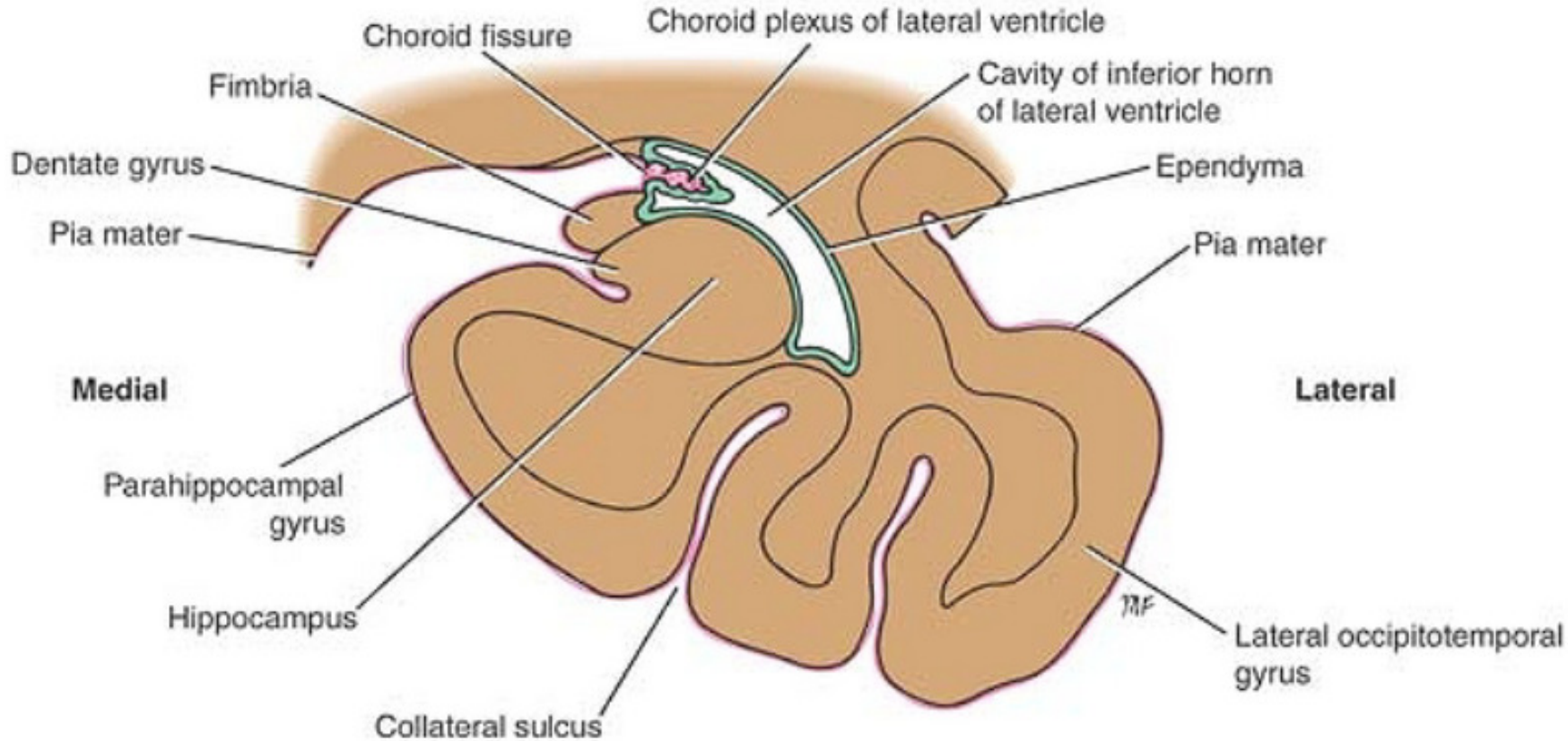


Posterior horn of the lateral ventricle

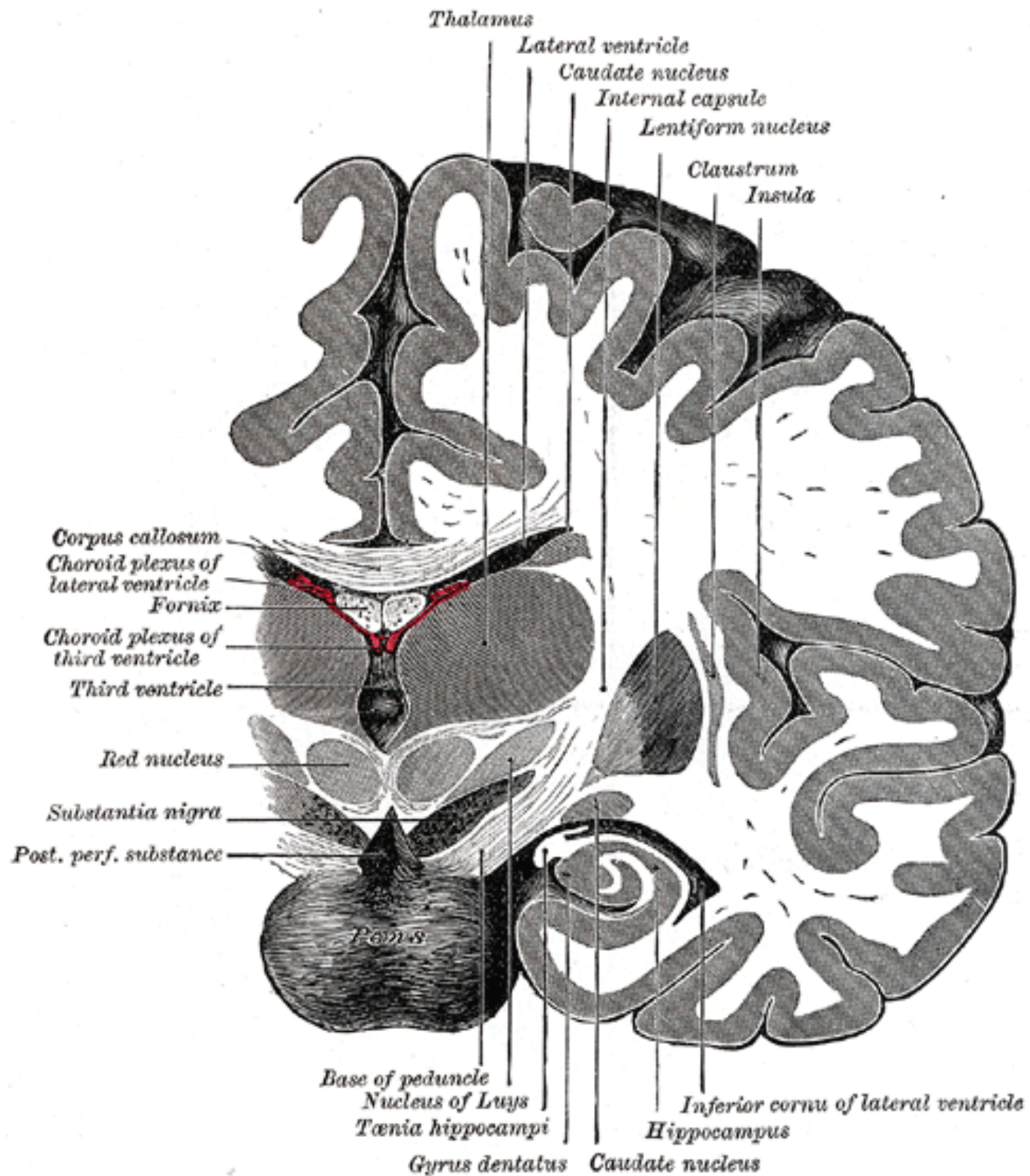
- Anterior end: continuous with the body of the ventricle
- Posterior end: occipital lobe
- **Roof and lateral wall** : tapetum of the corpus callosum
- **Medial wall:**
 - Superior: splenial fibers of the corpus callosum, forceps major
 - Inferior: **calcar avis**



Inferior horn of the lateral ventricle

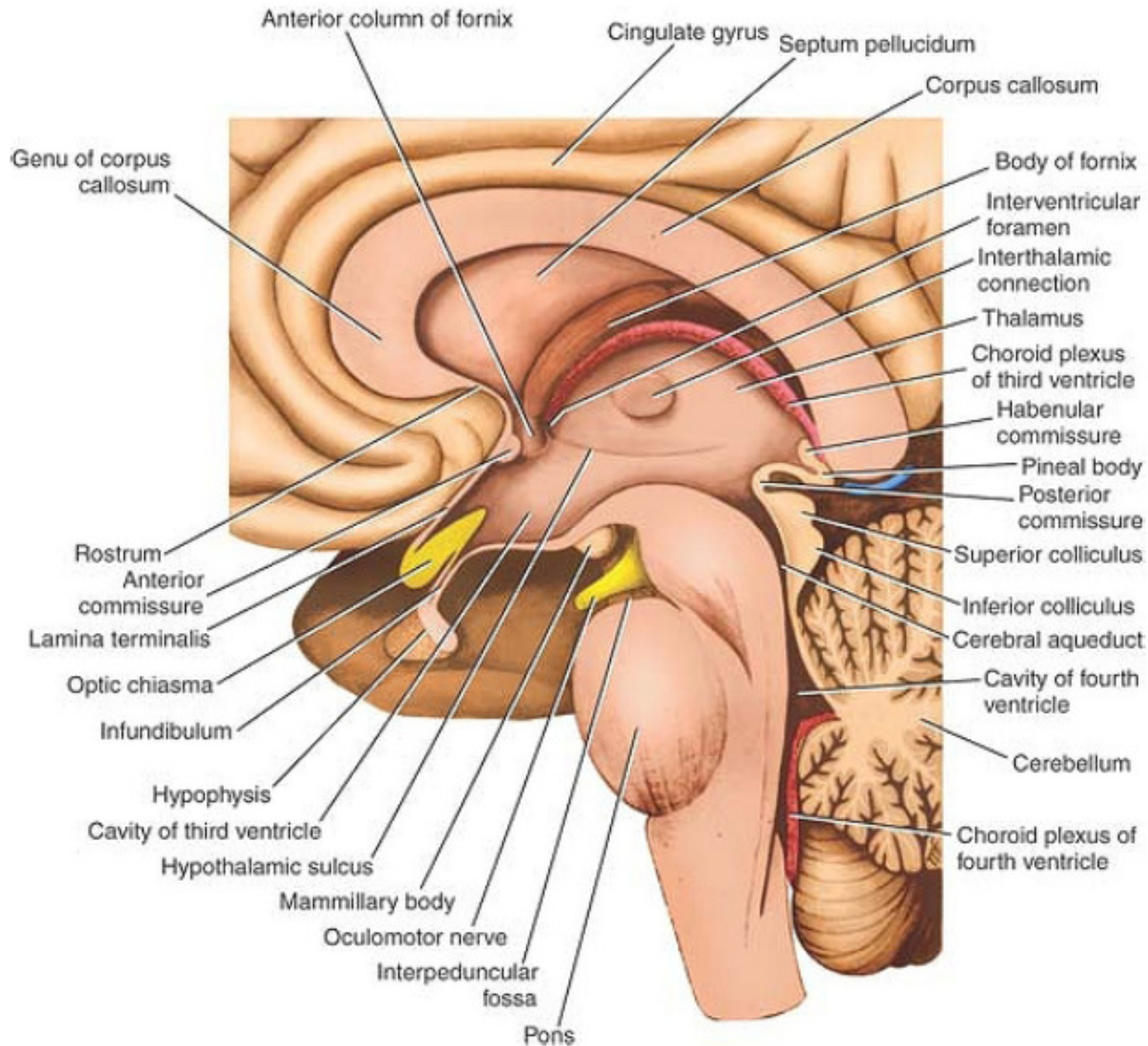


- Anterior end: temporal lobe
- Posterior end: continuous with the body of the ventricle
- **Roof** : inferior surface of the tapetum of the corpus callosum, tail of the caudate nucleus and amygdaloid nucleus
- **Floor**:
 - **Laterally**: collateral eminence
 - **Medially**: hippocampus



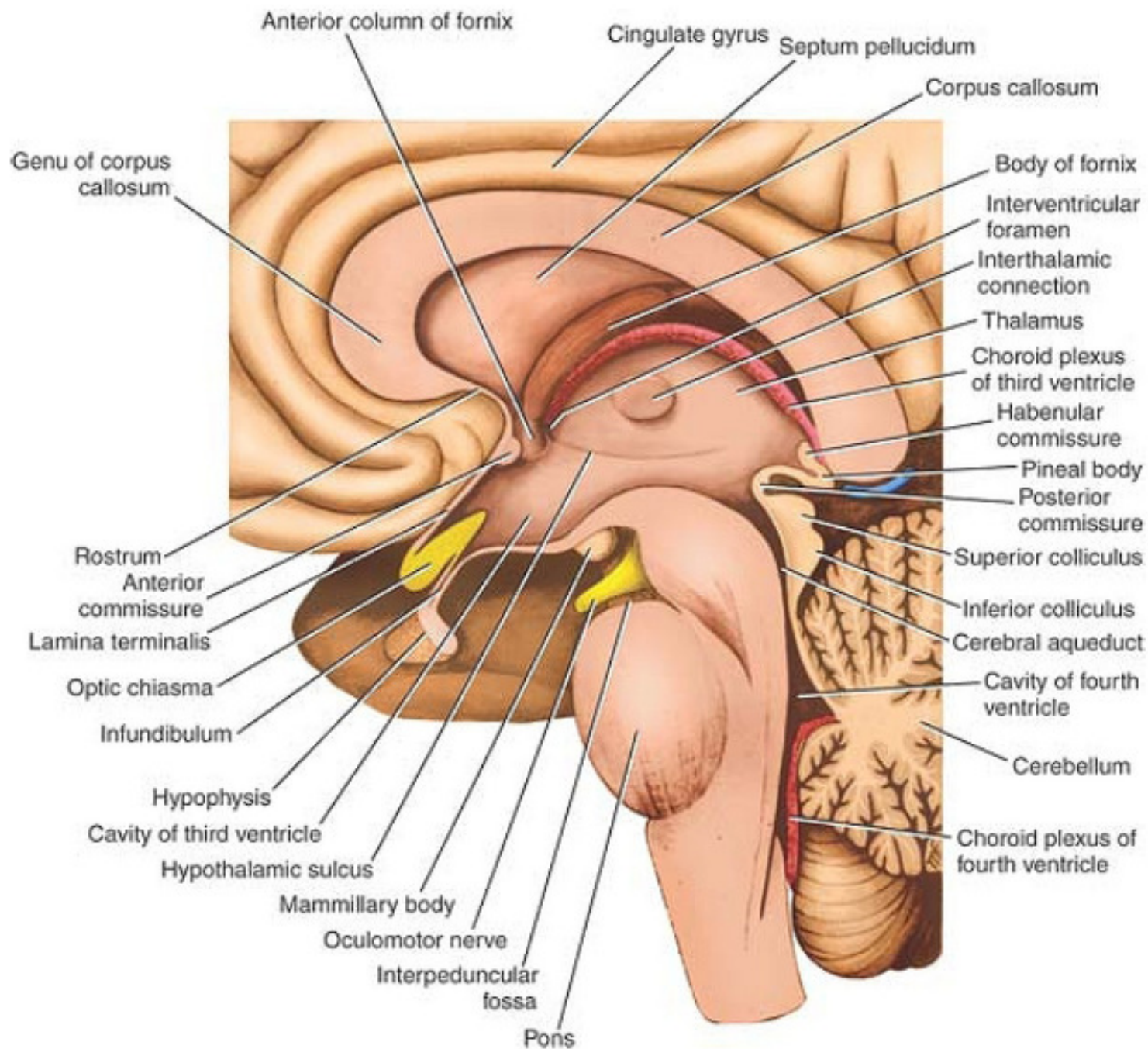
Third ventricle

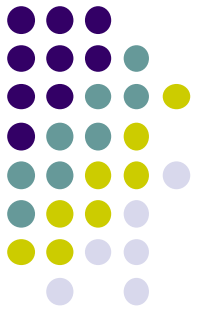
- **Anterior wall:** lamina terminalis (thin sheet of gray matter) crossed by anterior commissure which is situated anterior to the anterior columns of the fornix
- **Posterior wall:** opening of cerebral aqueduct, posterior commissure, pineal recess, pineal body, habenular commissure



Third ventricle

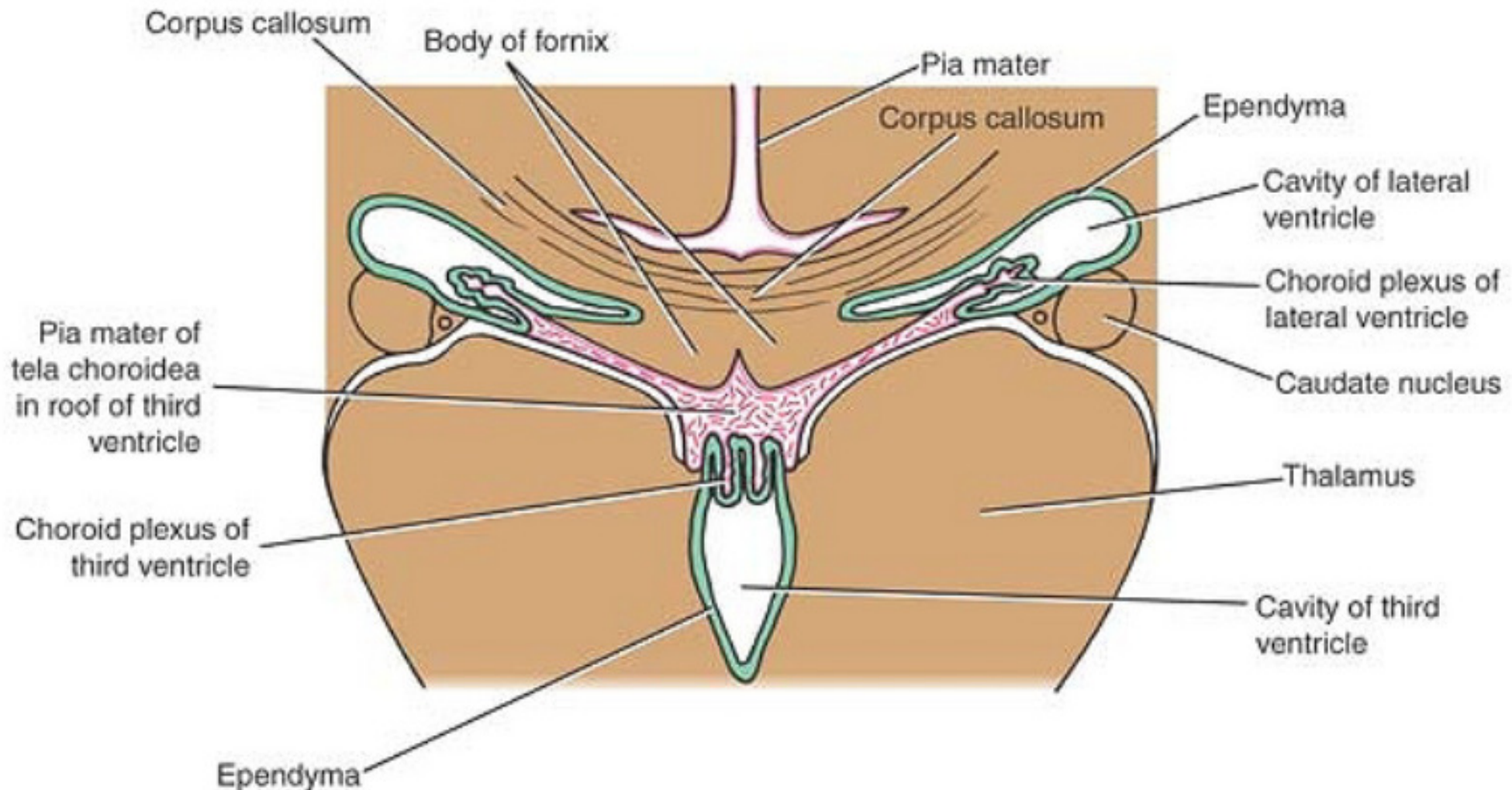
- **Lateral wall:**
 - **superiorly:** medial surface of the thalamus
 - **Inferiorly:** hypothalamus
 - hypothalamic sulcus
 - the interthalamic connection
 - stria medullaris thalami. (bundle of nerve fibers, which are afferent fibers to the habenular nucleus)





Third ventricle

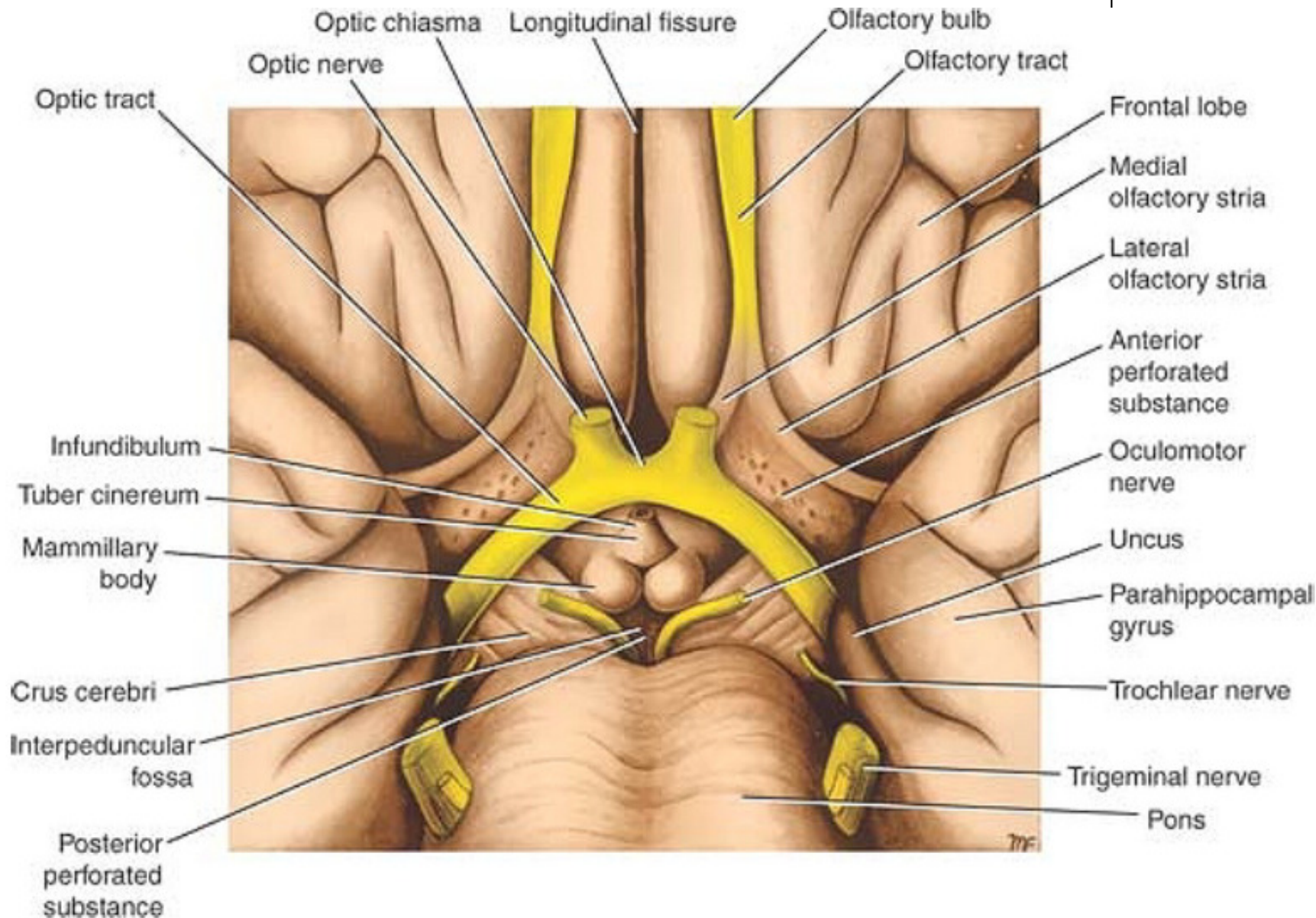
- **Roof:**
 - Layer of ependyma
 - Tela choroidea: two-layered fold of pia mater
 - fornix and corpus callosum



Third ventricle

- **Floor:**

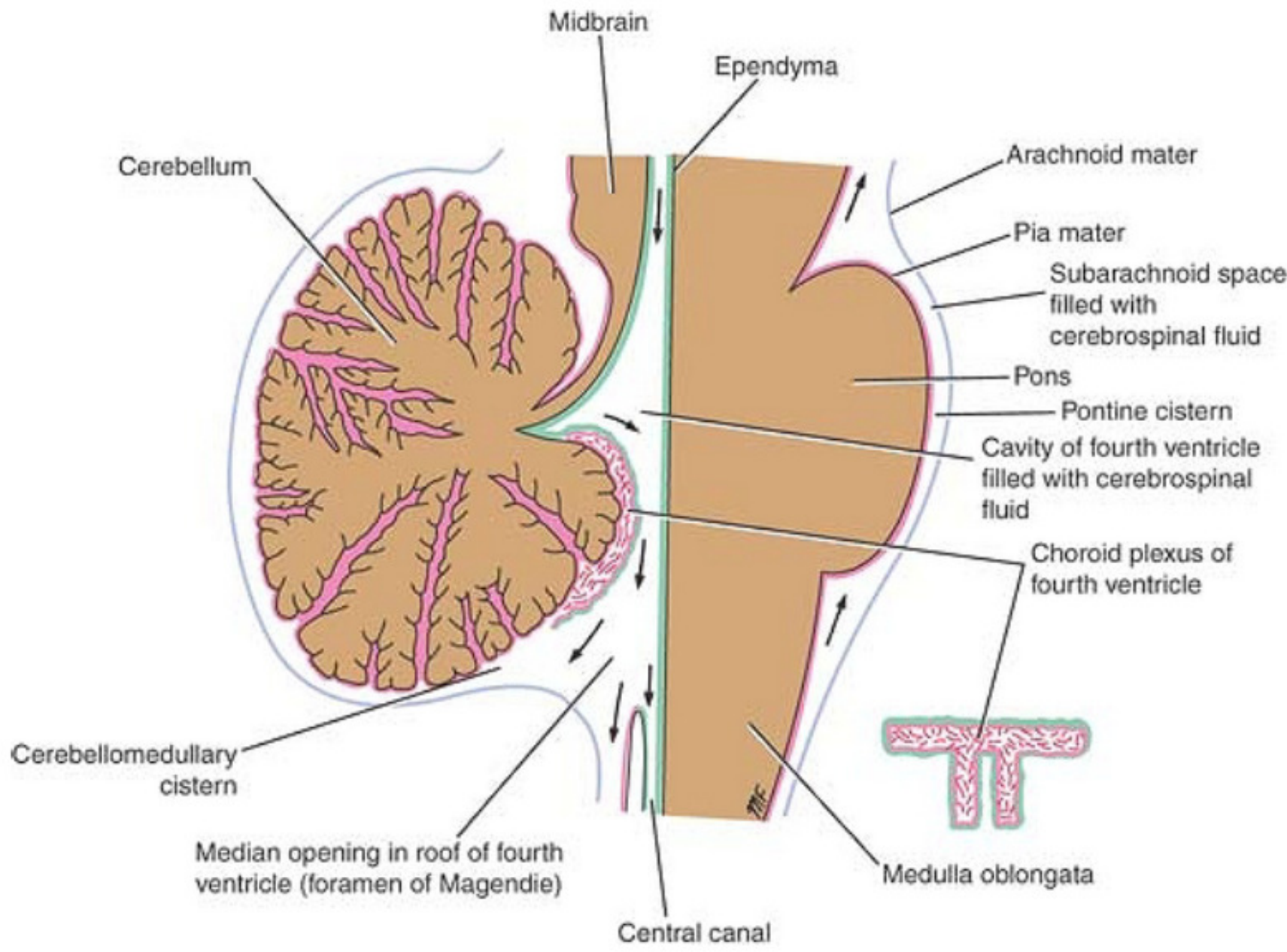
- Optic chiasma, the tuber cinereum, the infundibulum, and mammillary bodies





Fourth ventricle

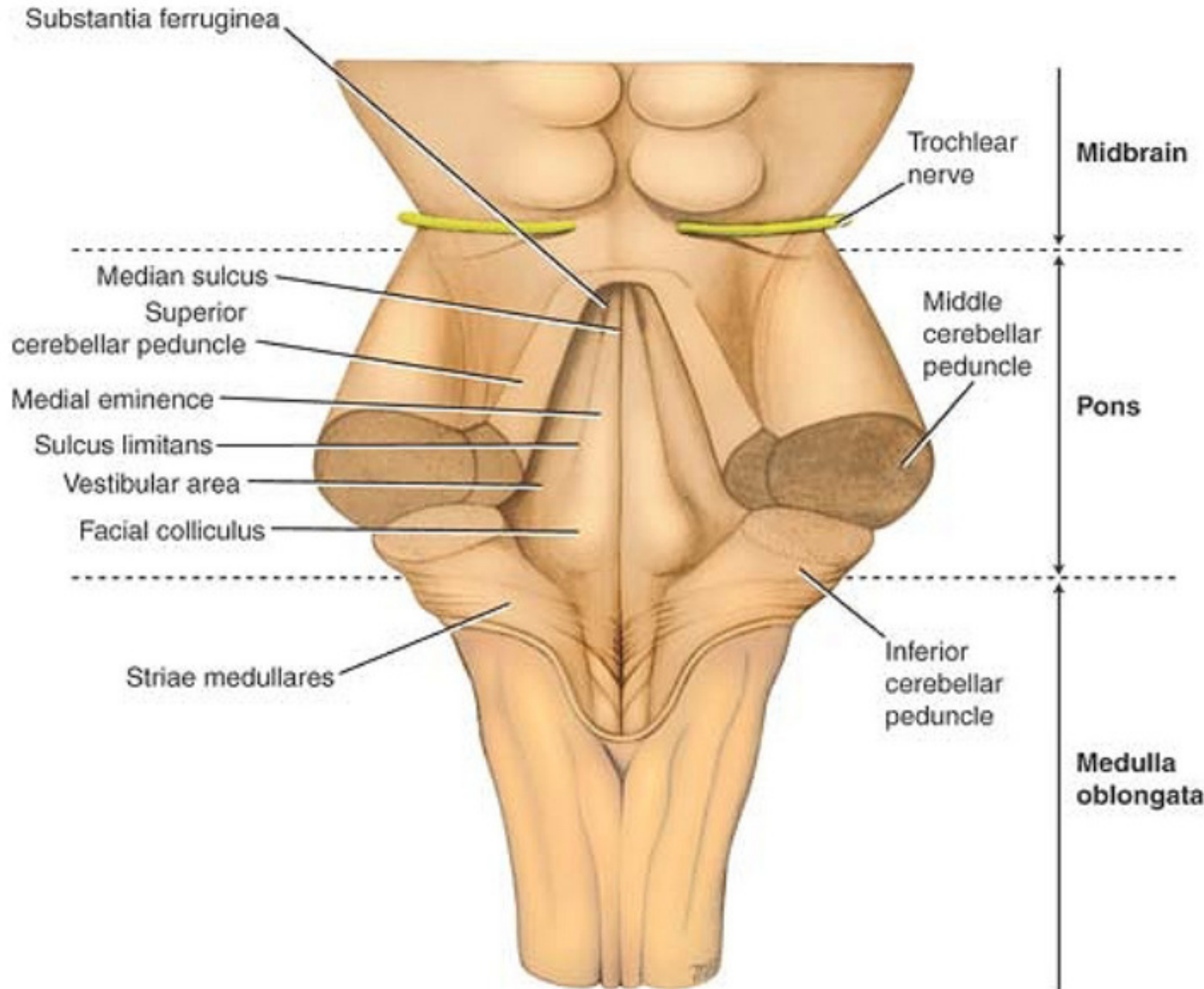
- **Anteriorly:** pons and the superior half of the medulla oblongata
- **Posteriorly:** cerebellum





Fourth ventricle

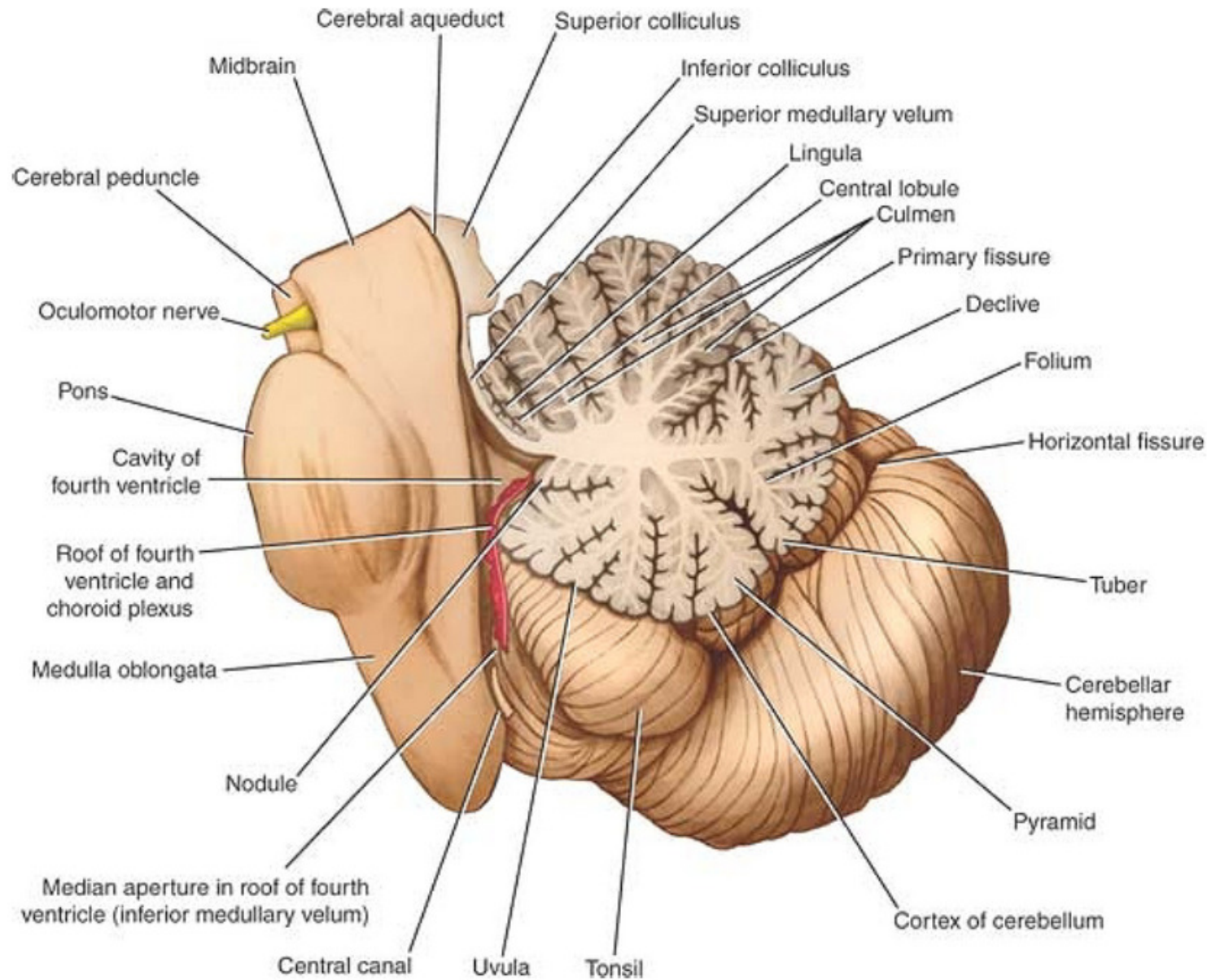
- **Lateral Boundaries:**
 - **Superiorly:** Superior cerebellar peduncle
 - **Inferiorly:** Inferior cerebellar peduncle





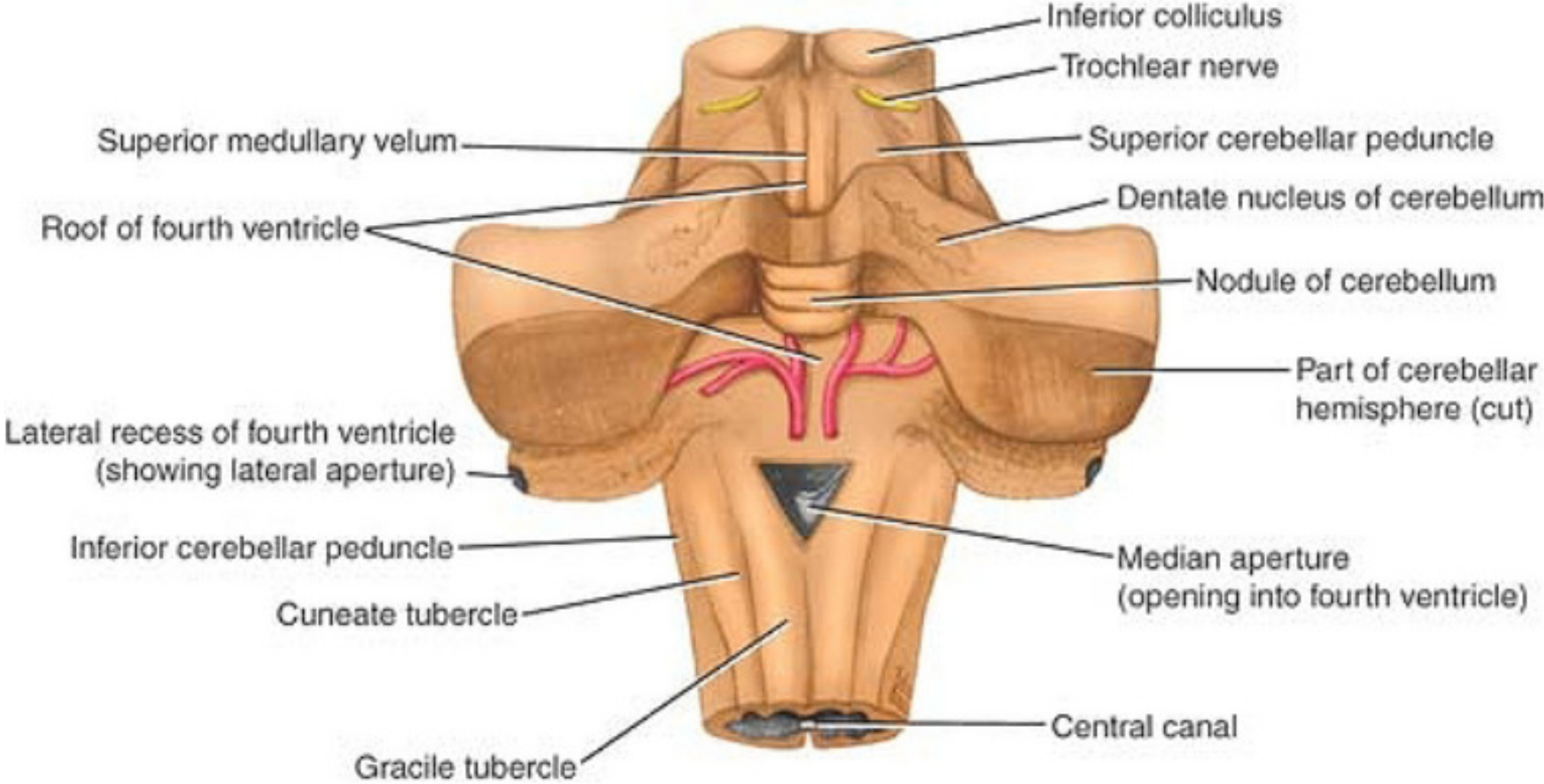
Fourth ventricle: Roof or posterior wall

- **Superiorly:** two superior cerebellar peduncles and superior medullary velum (connecting sheet of white matter)
- **Inferiorly:** inferior medullary velum
- median aperture (foramen of Magendie)
- foramina of Luschka: lateral openings of the fourth ventricle



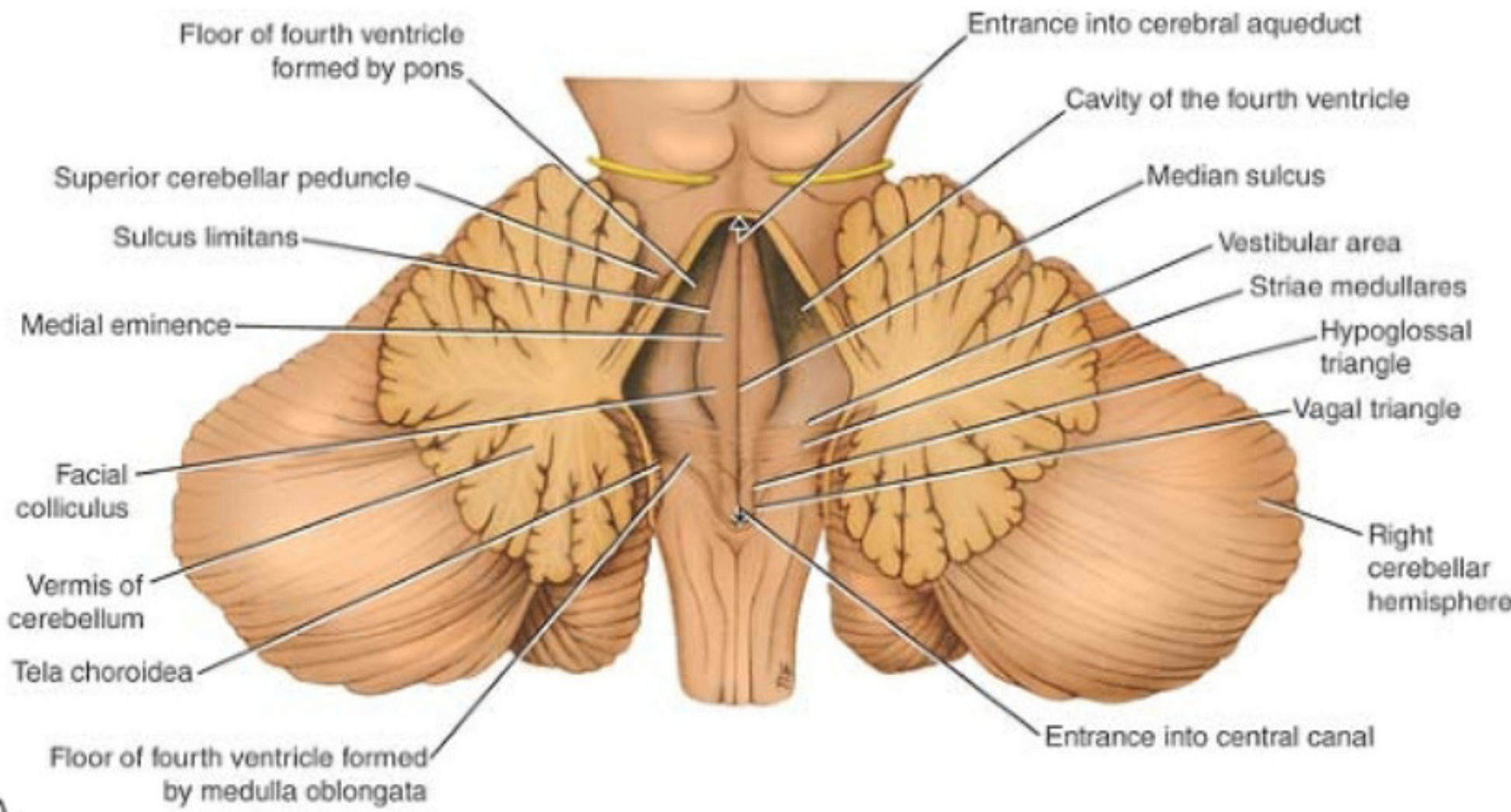
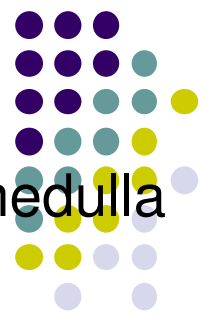
Fourth ventricle

- Foramen of Magendie
- Foramina of Luschka

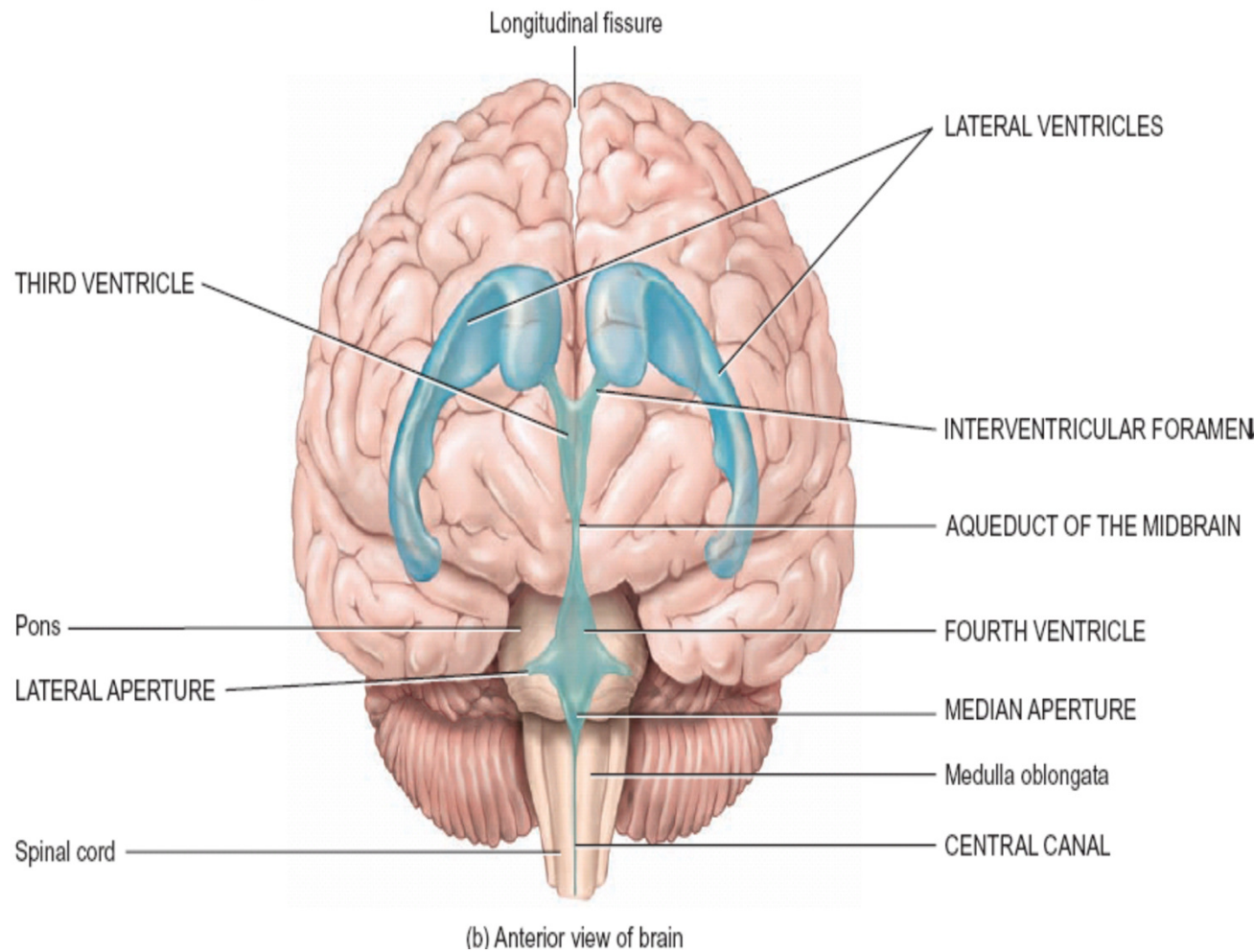


Fourth ventricle: Floor or Rhomboid Fossa

- Diamond-shaped
- Formed by posterior surface of the pons and the cranial half of the medulla oblongata

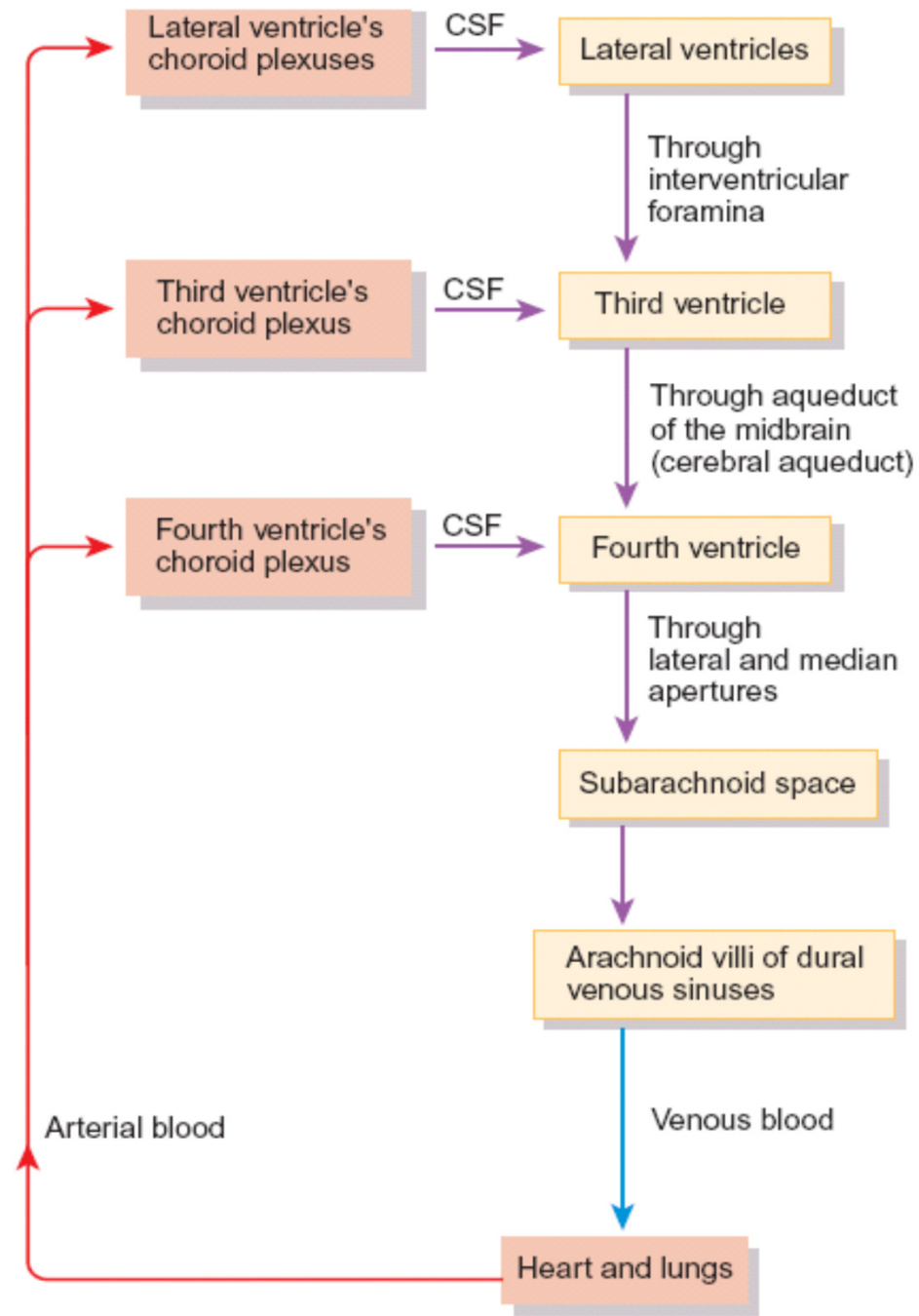


- **Interventricular foramina** narrow, oval openings, between the two lateral ventricles and the third ventricle.
- **Aqueduct of the midbrain (cerebral aqueduct)** passes CSF from third ventricle through the midbrain, into the fourth ventricle.
- CSF enters the subarachnoid space through three openings in the roof of the fourth ventricle: a single **median aperture** and paired **lateral apertures**

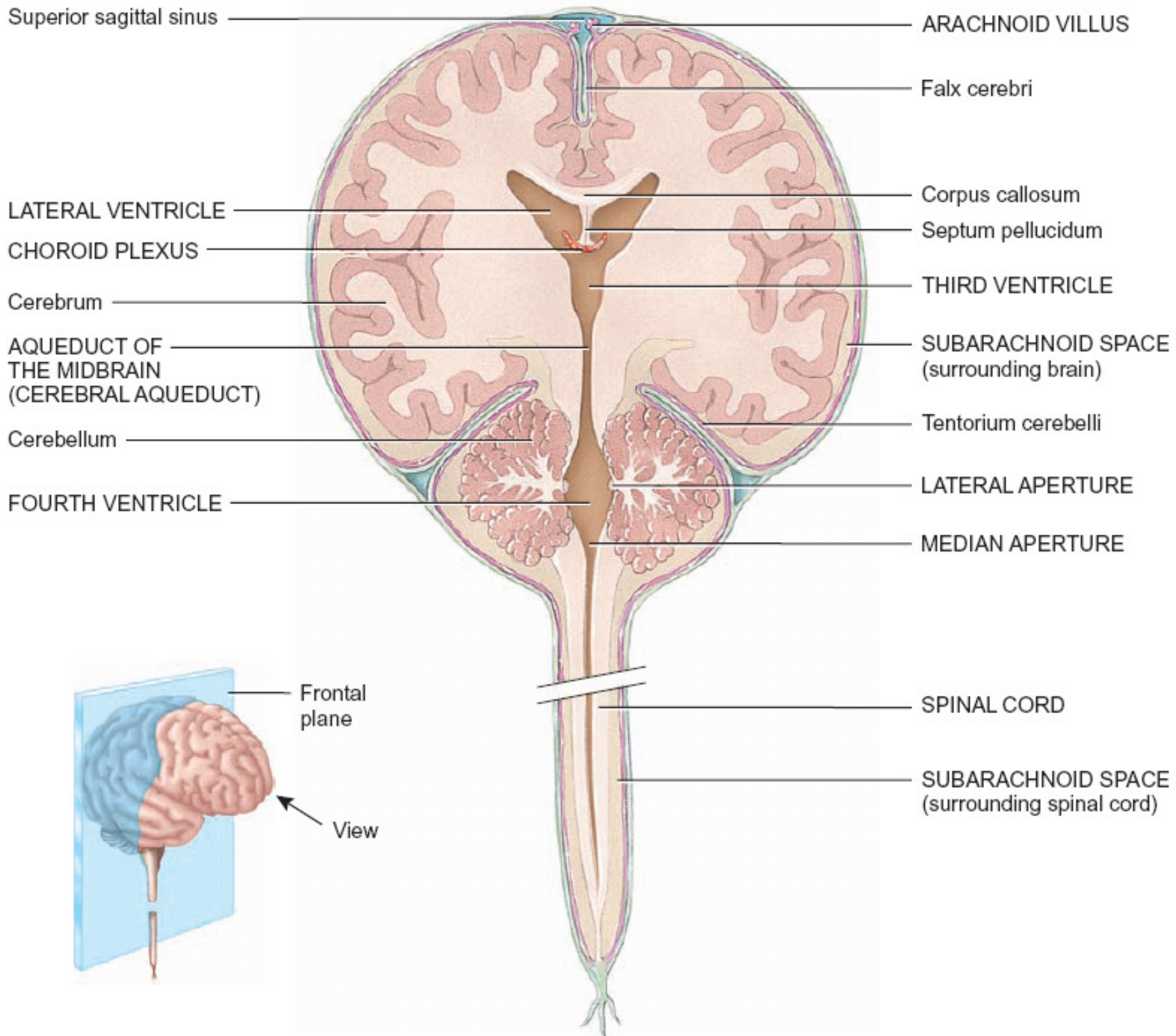


Cerebrospinal Fluid

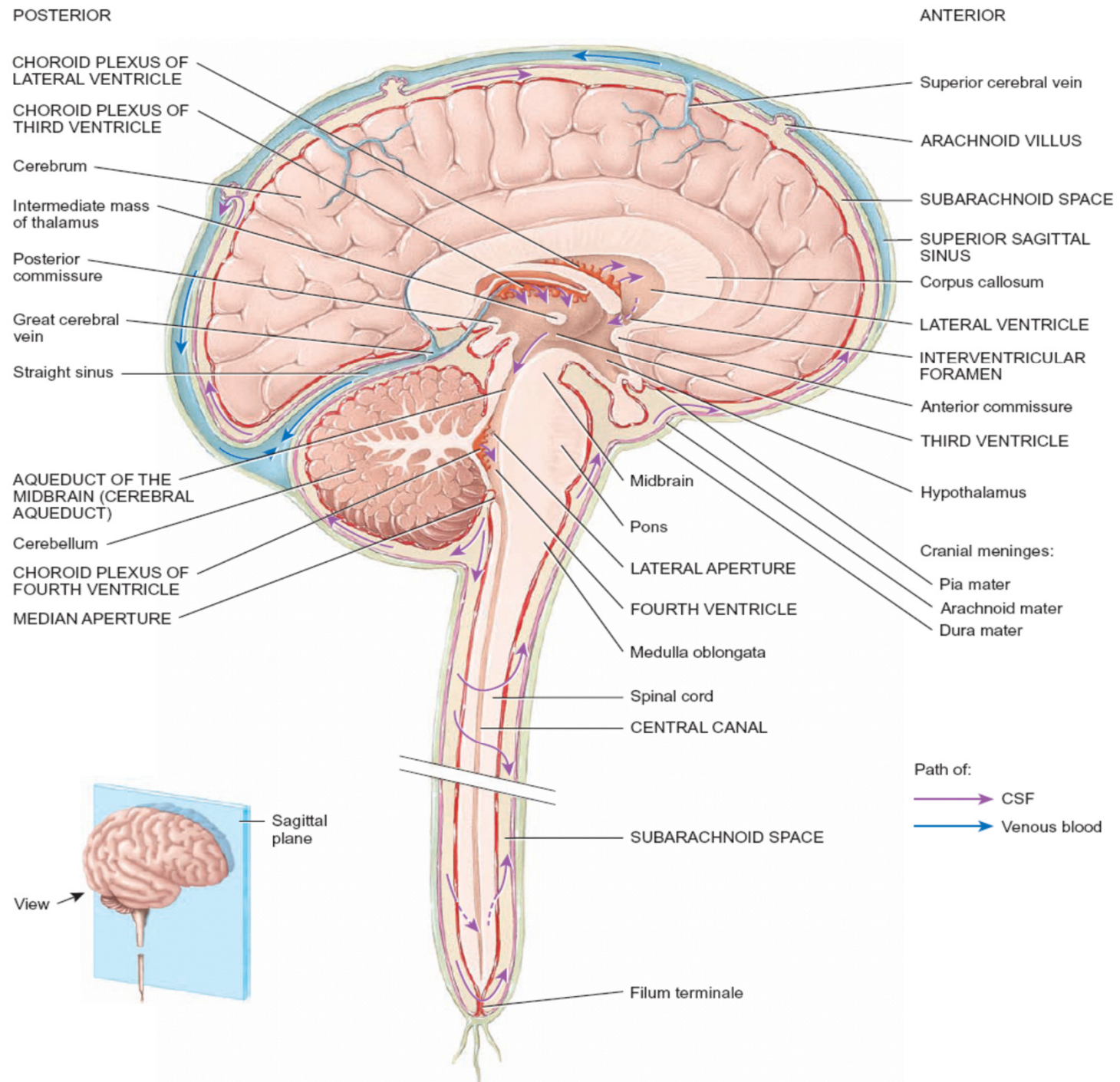
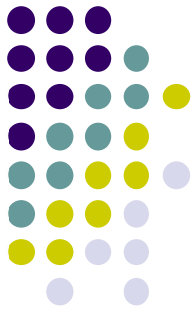
- Similar to blood plasma composition
- Formed by the **choroid plexus** (networks of modified blood capillaries in the walls of the ventricles)
- Forms a watery cushion to protect the brain
- Circulated in arachnoid space, ventricles, and central canal of the spinal cord
- CSF is gradually reabsorbed into the blood through **arachnoid villi**, fingerlike extensions of the arachnoid that project into the dural venous sinuses, especially the **superior sagittal sinus**



(d) Summary of the formation, circulation, and absorption of cerebrospinal fluid (CSF)



Ventricles and Location of the Cerebrospinal Fluid



(b) Sagittal section of brain and spinal cord