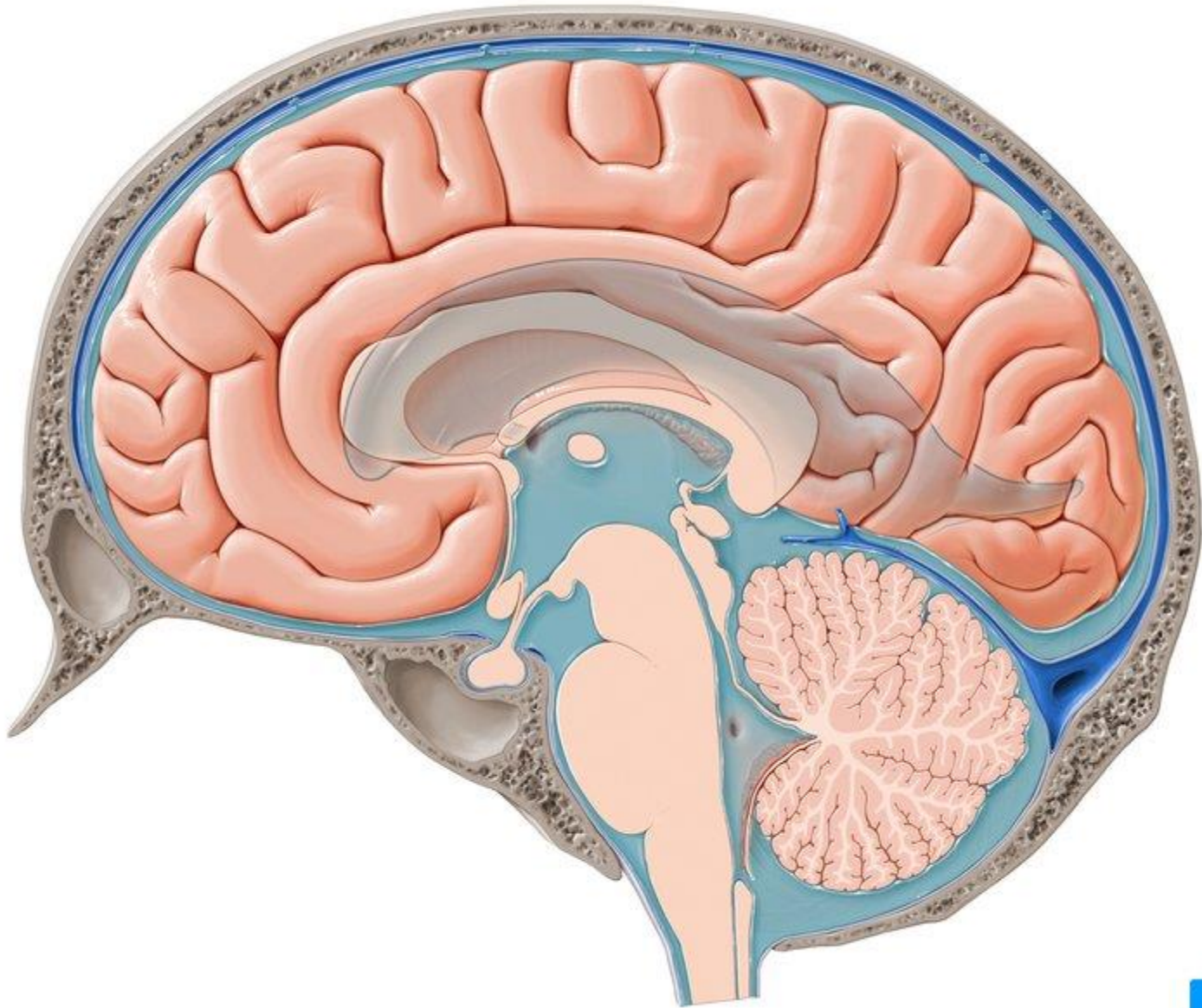
Dural folds

Coverings of the brain and spinal cord

- Brain and spinal cord are covered by 3 connective tissue membranes or meninges
- These are the **dura, arachnoid and pia mater**
- **Sub arachnoid space** is filled with CSF
- In some parts the sub arachnoid spaces are enlarged to form cisterns
- The arachnoid and pia mater together are called **leptomeninges**



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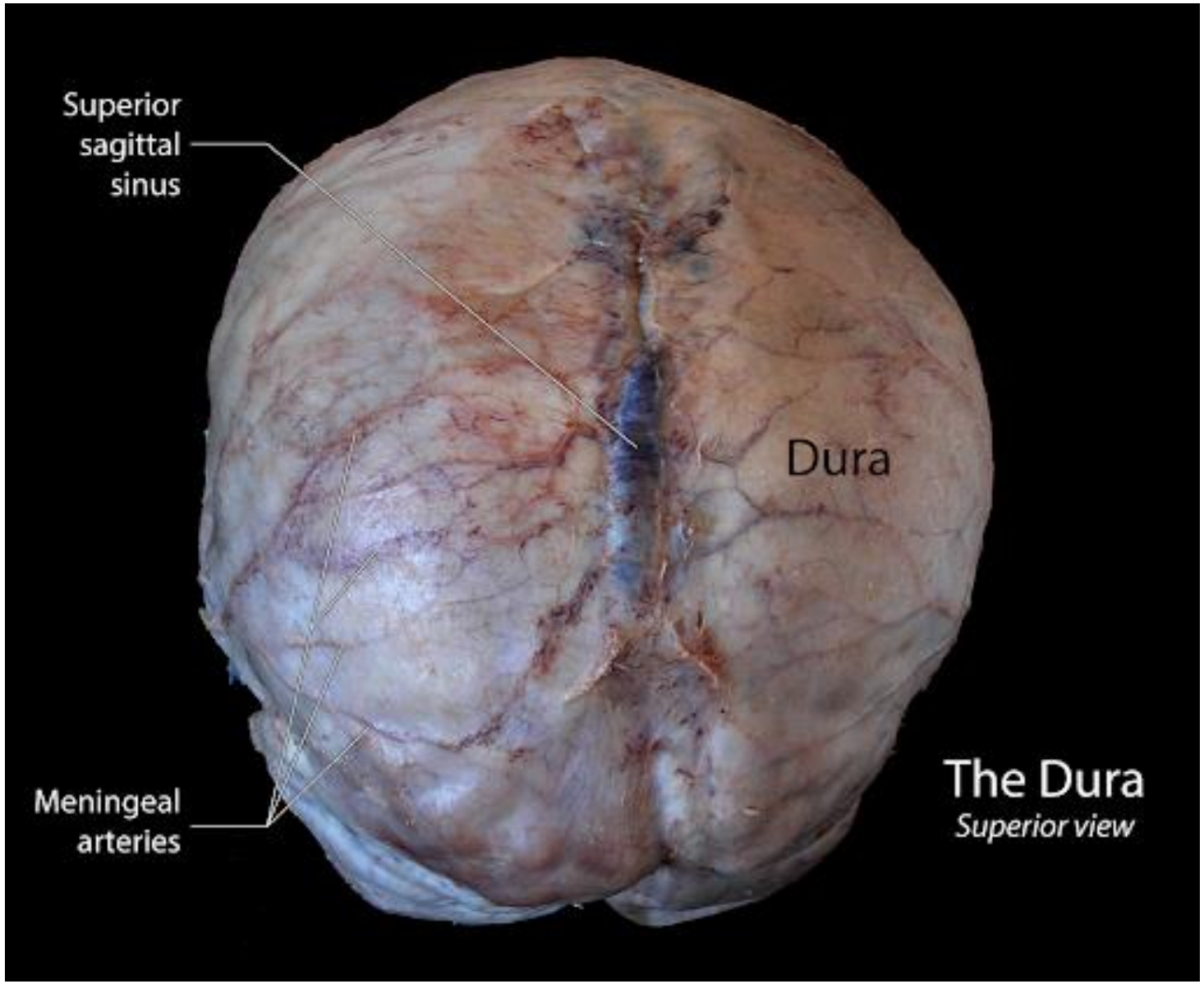
Dura mater

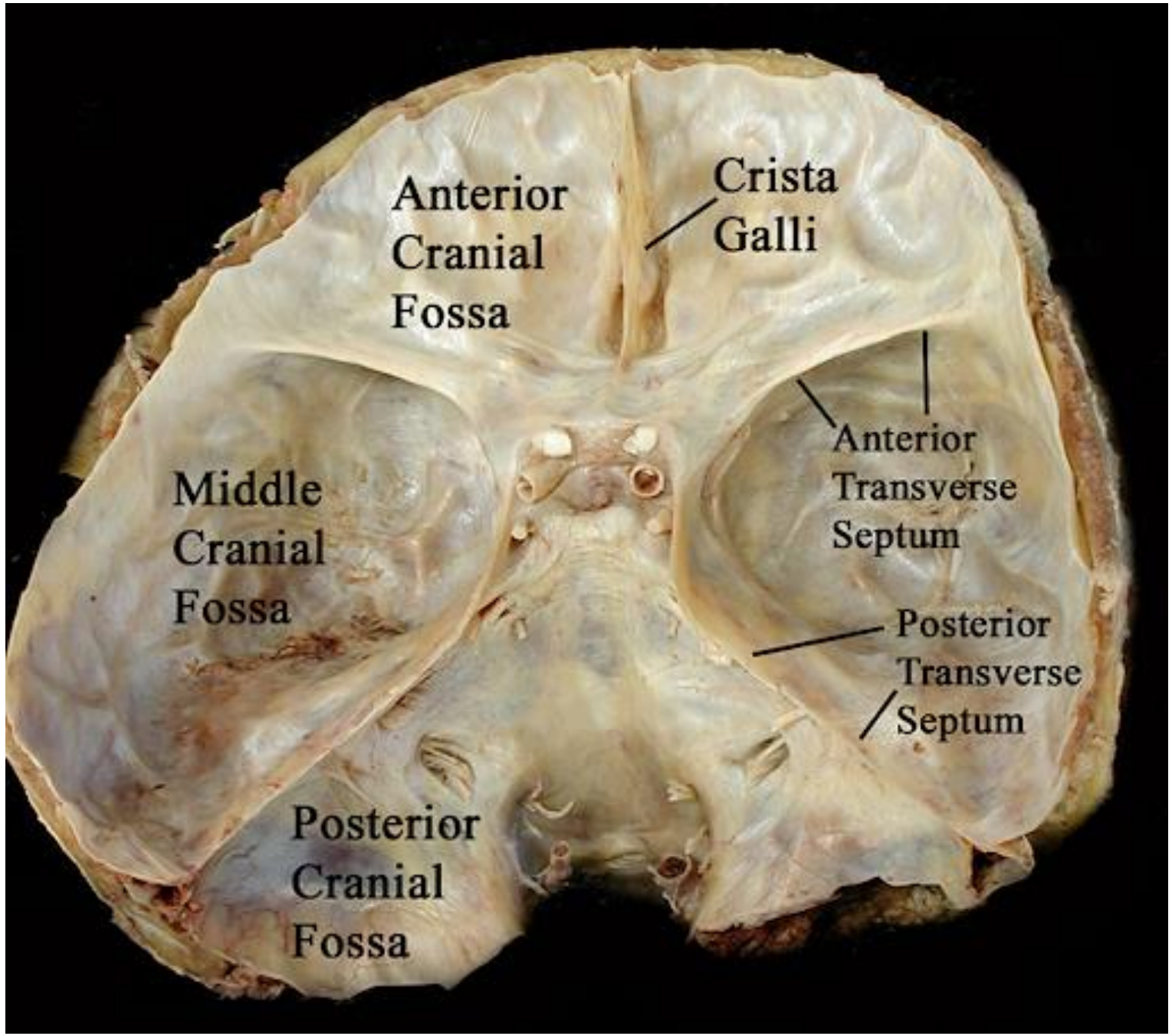
- Also called **pachymeninx**
- Thick, non elastic, fibrous
- Cranial dura is in 2 layers

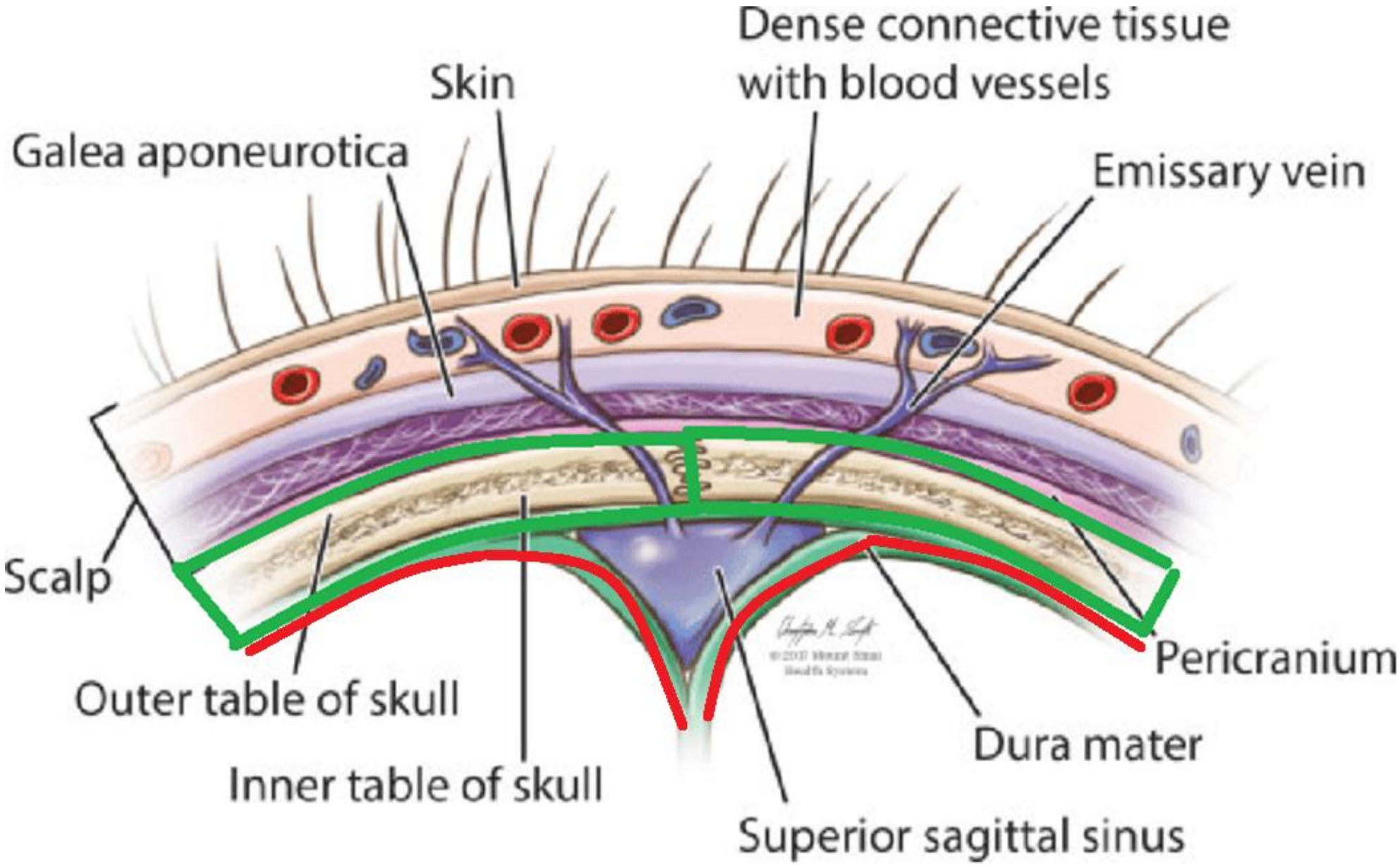
❖The outer is the endosteal layer (which is the inner periosteal layer of the skull) This layer is continuous with the pericranium at the sutures

❖The inner is the meningeal layer

- Spinal dura has **only** the meningeal layer


Superior sagittal sinus
Dura
Meningeal arteries
The Dura
Superior view

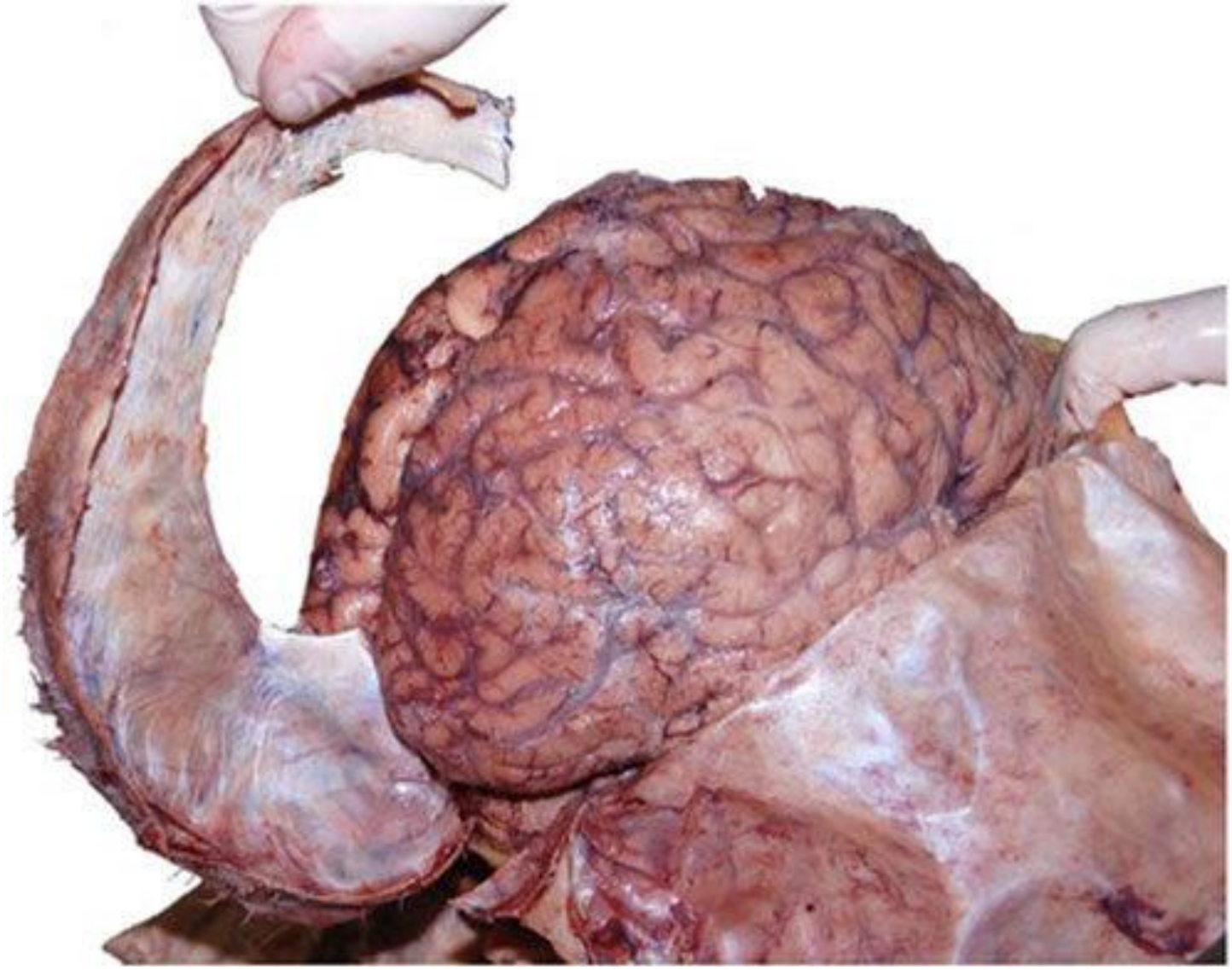

Anterior
Cranial
Fossa
Crista
Galli
Anterior
Transverse
Septum
Middle
Cranial
Fossa
Posterior
Transverse
Septum
Posterior
Cranial
Fossa

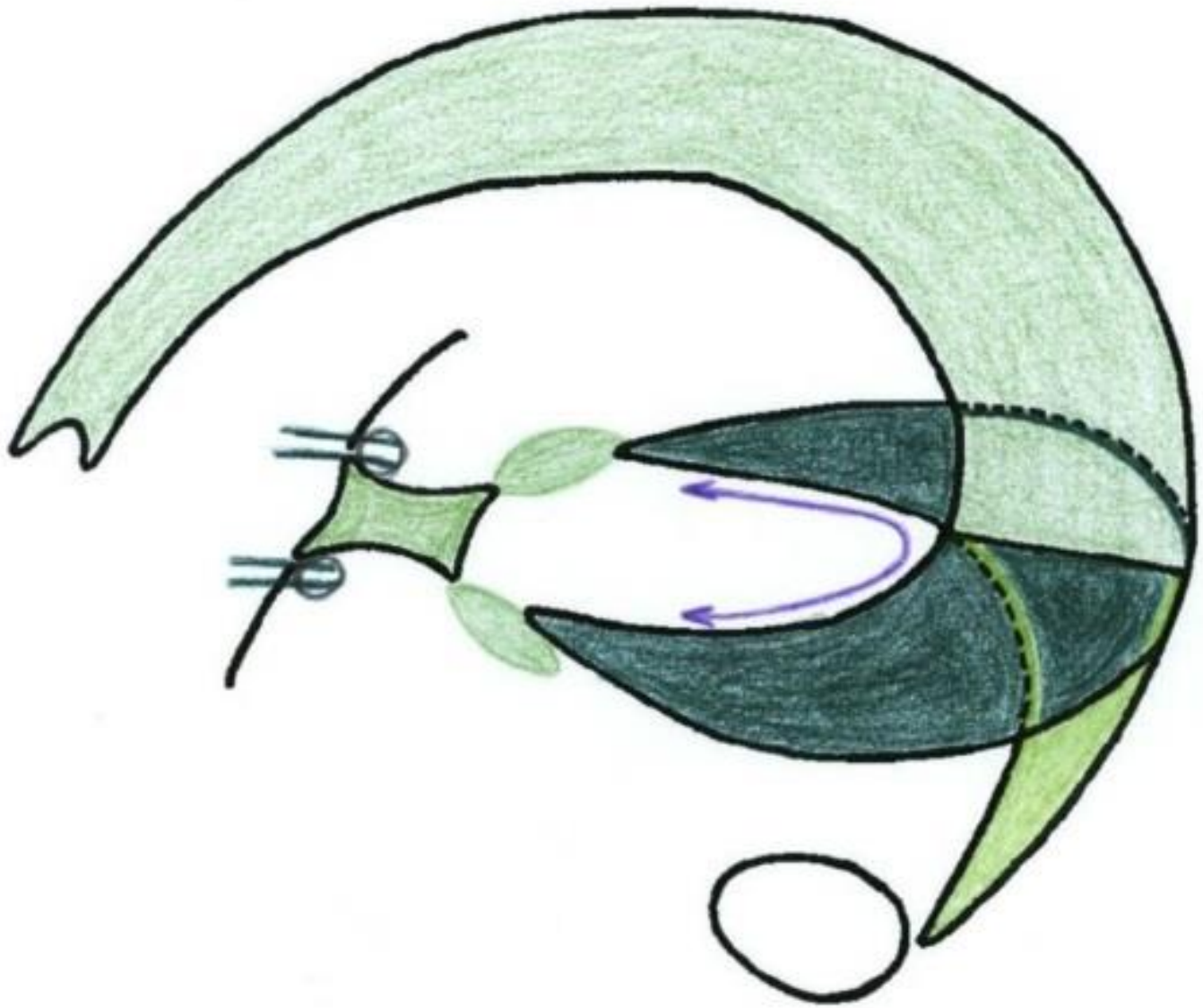

Dense connective tissue
with blood vessels
Skin
Galea aponeurotica
Emissary vein
Scalp
Outer table of skull
Inner table of skull
Pericranium
Dura mater
Superior sagittal sinus

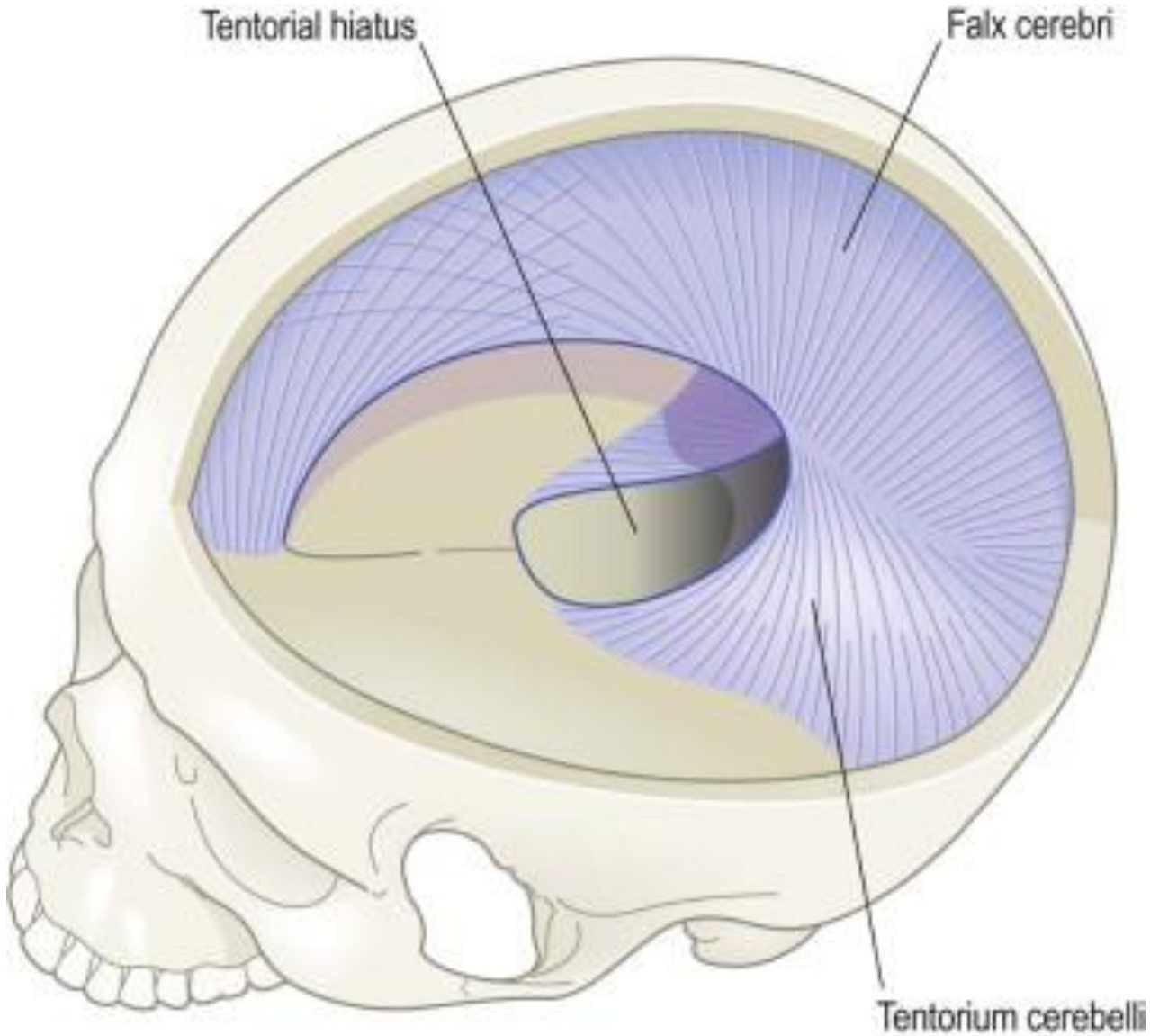
The inner meningeal layer has 4 projections or processes=

- Falx cerebri
- Falx cerebelli
- Tentorium cerebelli
- Diaphragm sellae

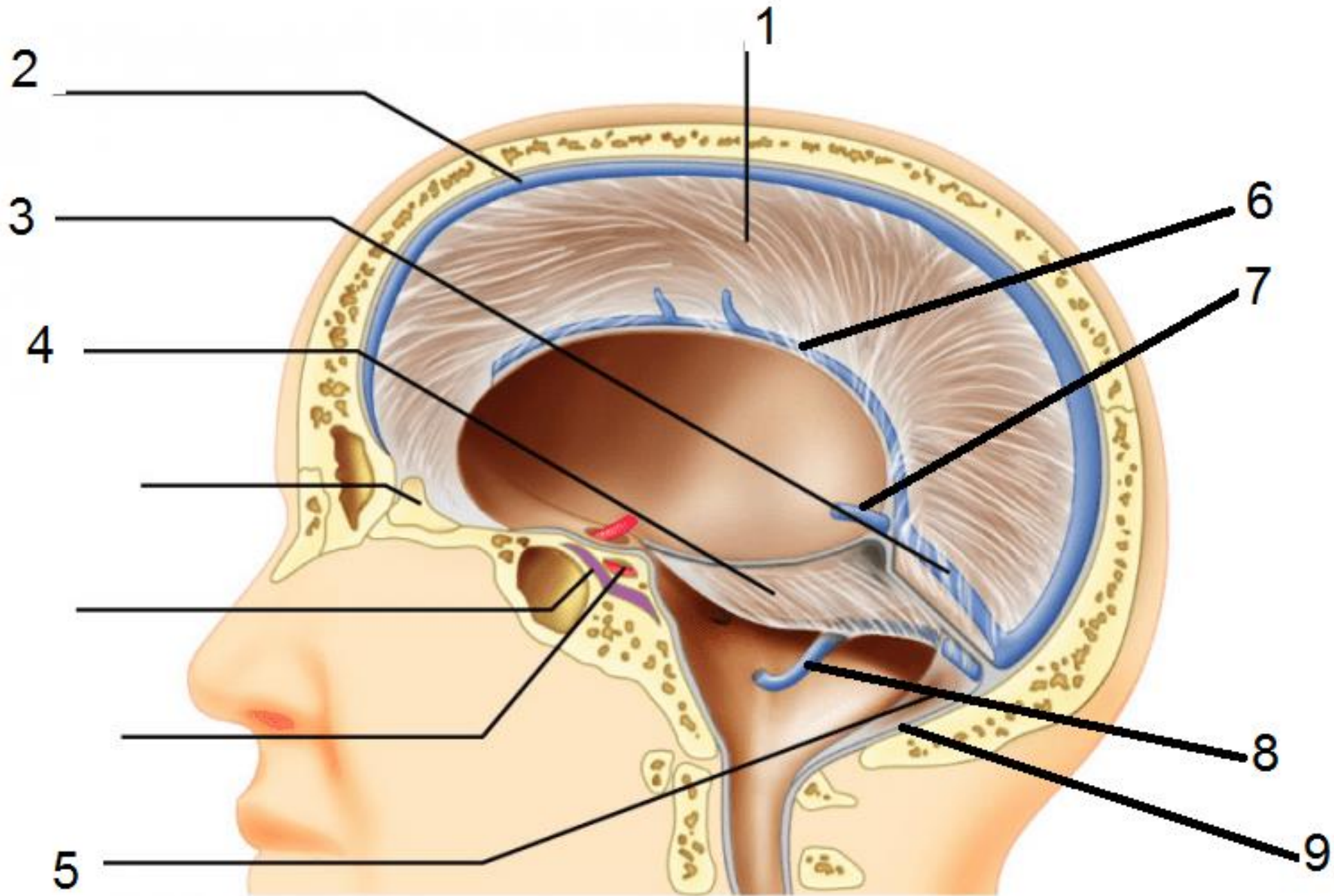
These processes compartmentalize the cranial cavity






Tentorial hiatus
Falx cerebri
Tentorium cerebelli

- Dural venous sinuses lie between the 2 layers of cranial duramater


1
2
3
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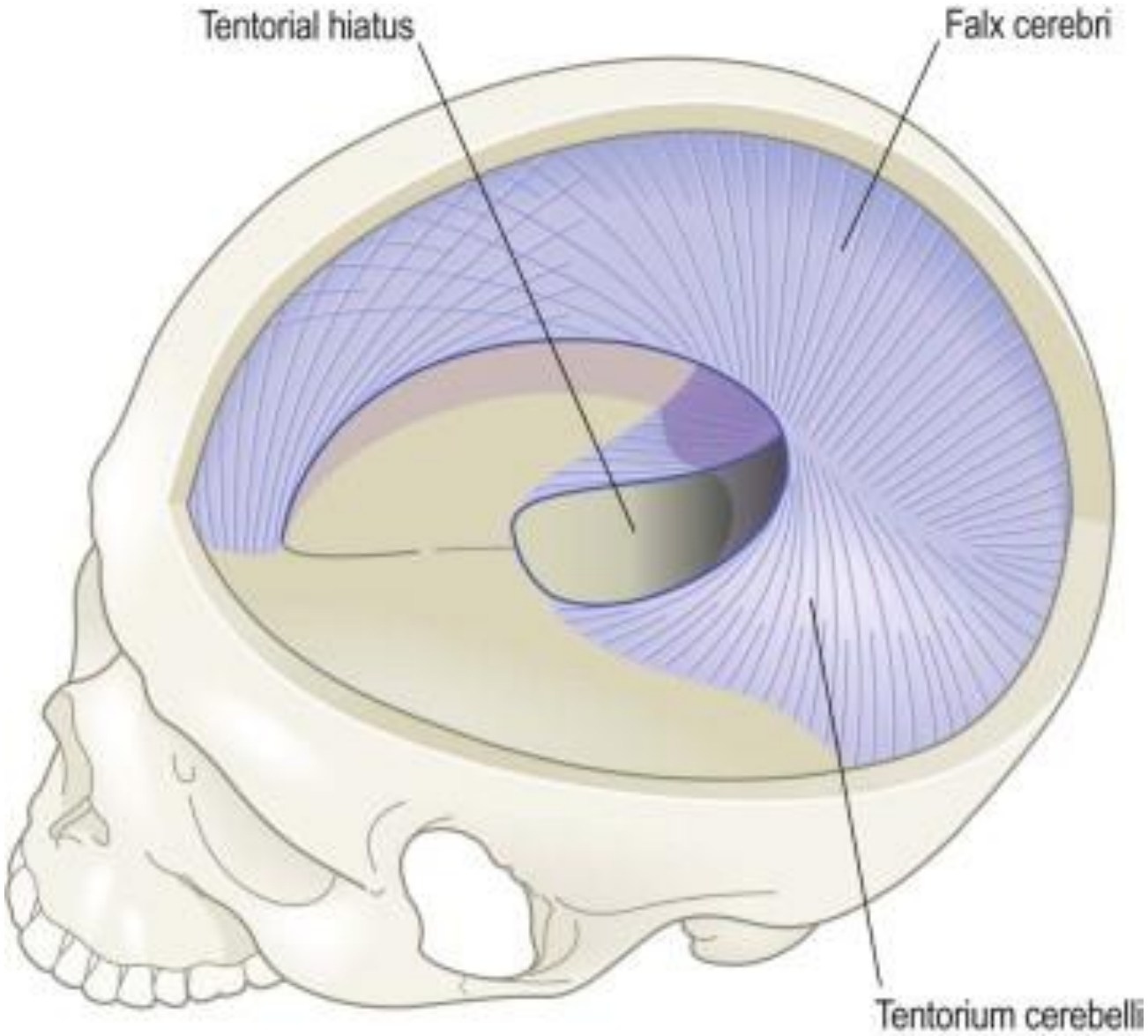
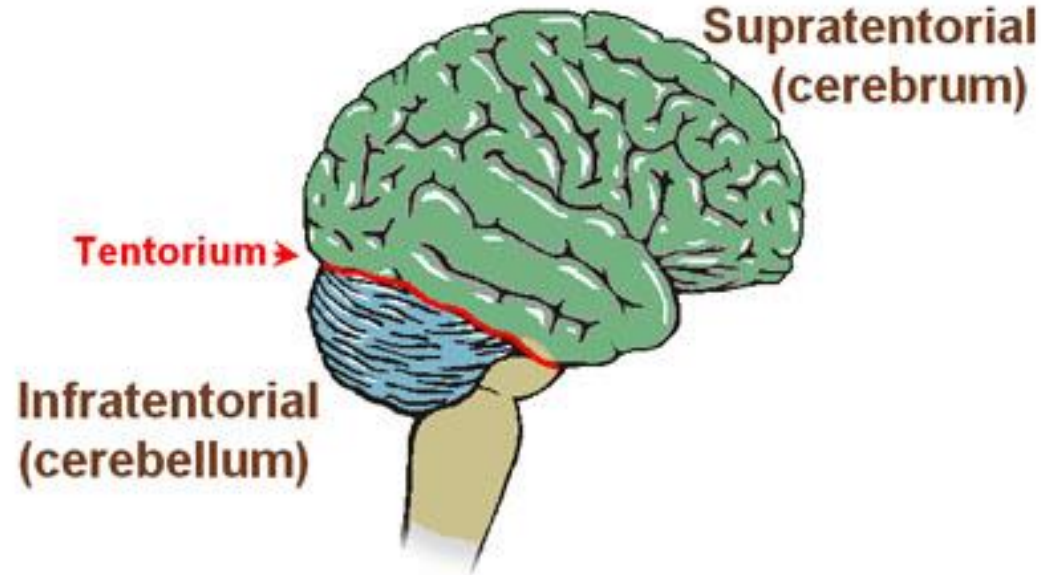
7
8
9

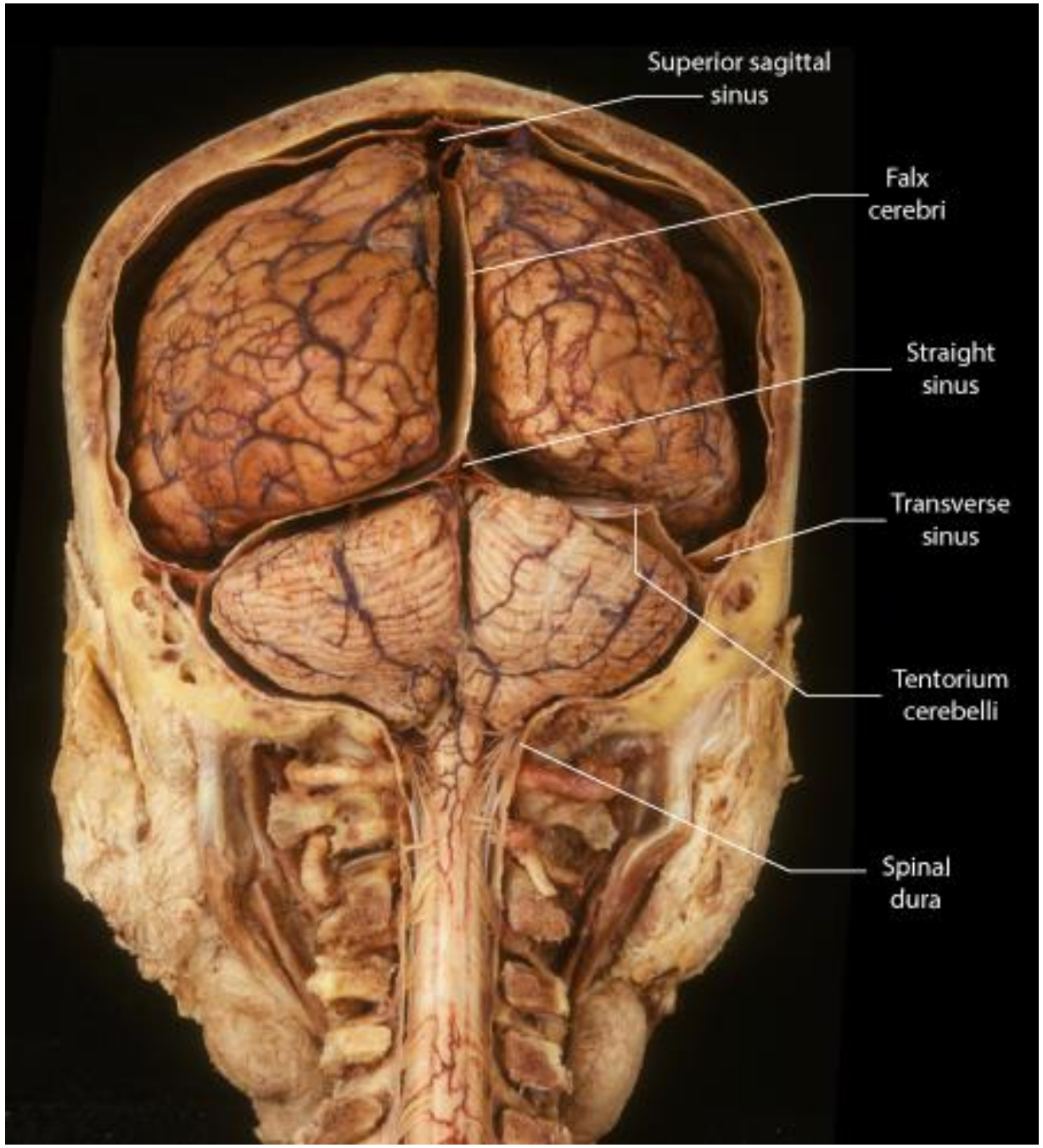
Falx cerebri

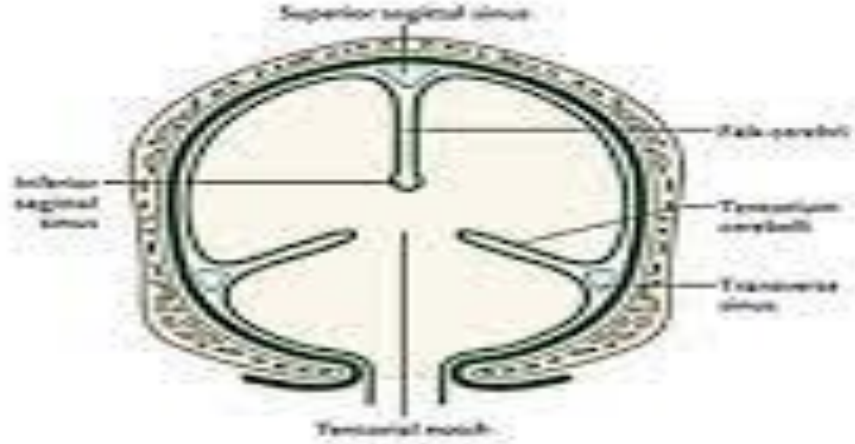
- Sickle shaped fold
- Made of double layer of meningeal dura mater
- Mid sagittal in position extending from the roof of the skull into the medial longitudinal fissure (between 2 cerebral hemispheres)
- It separates the 2 cerebral hemispheres
- Anterior end is narrow and attached to crista galli
- Broad posterior end blends with the tentorium cerebelli in the mid line

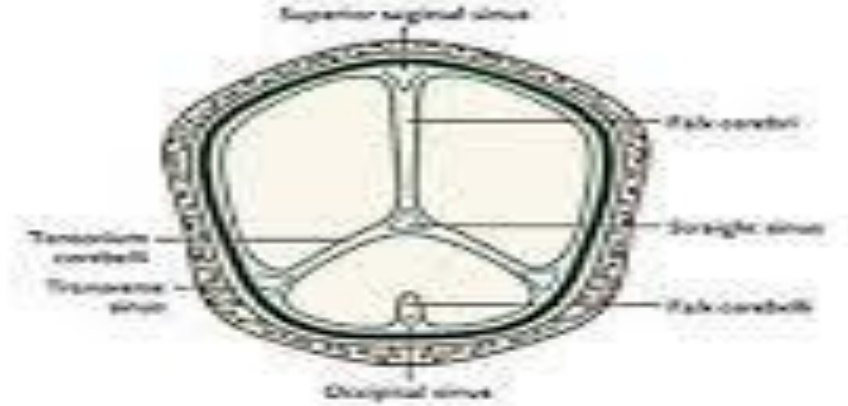


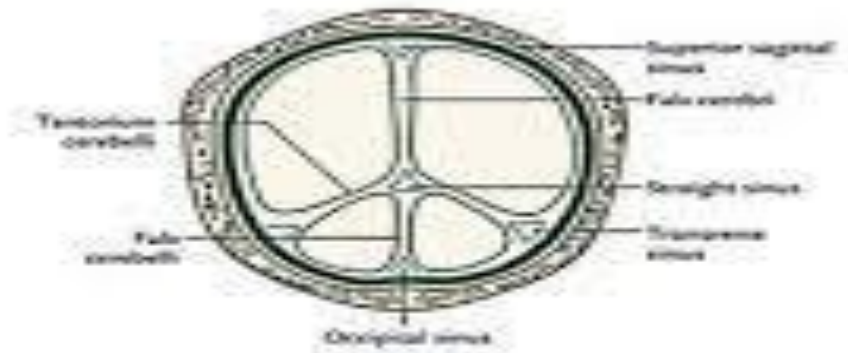
The Tentorium Cerebelli




Superior sagittal sinus
Falx cerebri
Straight sinus
Transverse sinus
Tentorium cerebelli
Spinal dura


Superior sagittal sinus
Falx cerebri
Inferior sagittal sinus
Tentorium cerebelli
Transverse sinus
Tentorial notch

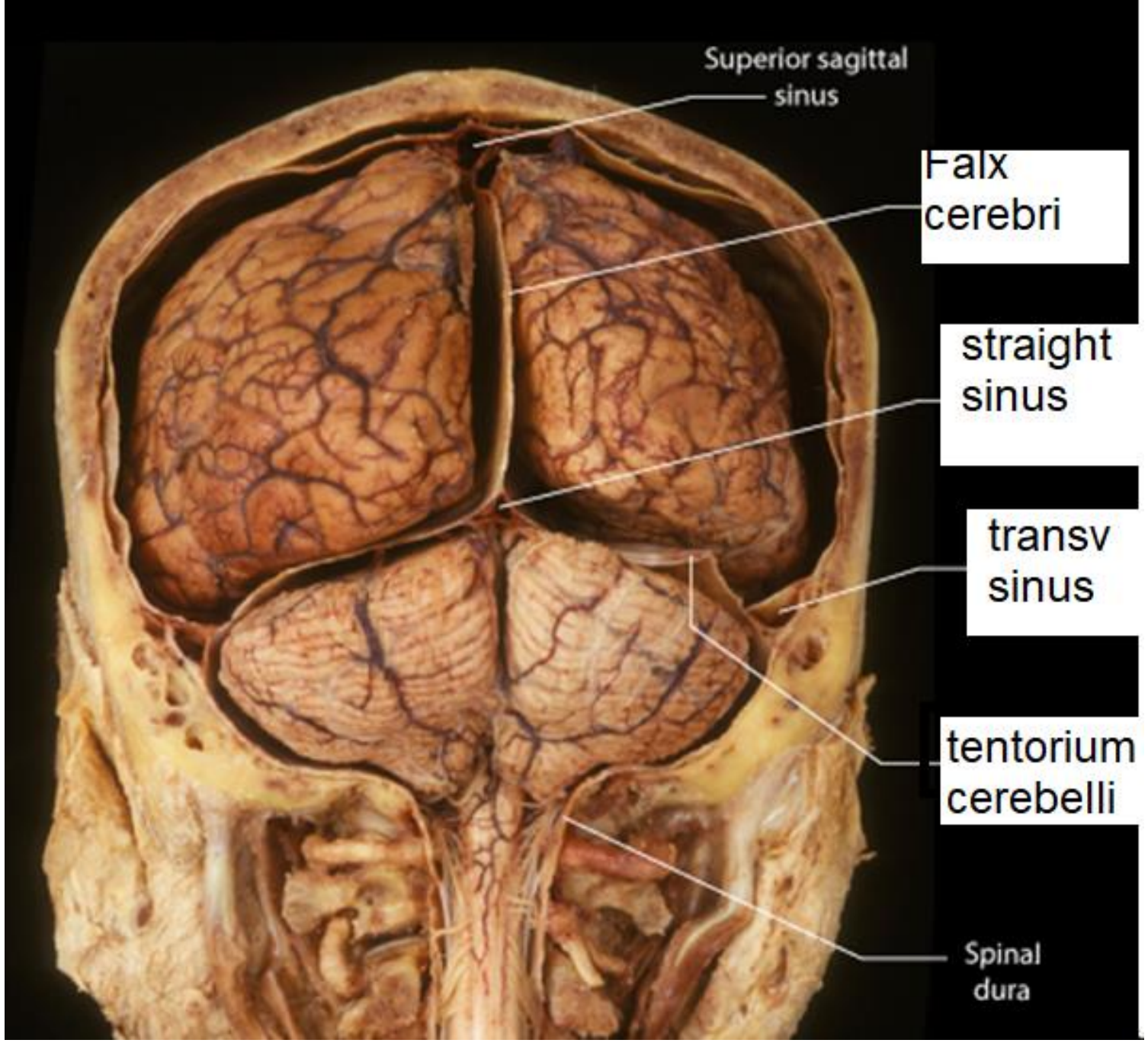

Superior sagittal sinus
Falx cerebri
Tentorium cerebelli
Straight sinus
Transverse sinus
Falx cerebelli
Occipital sinus

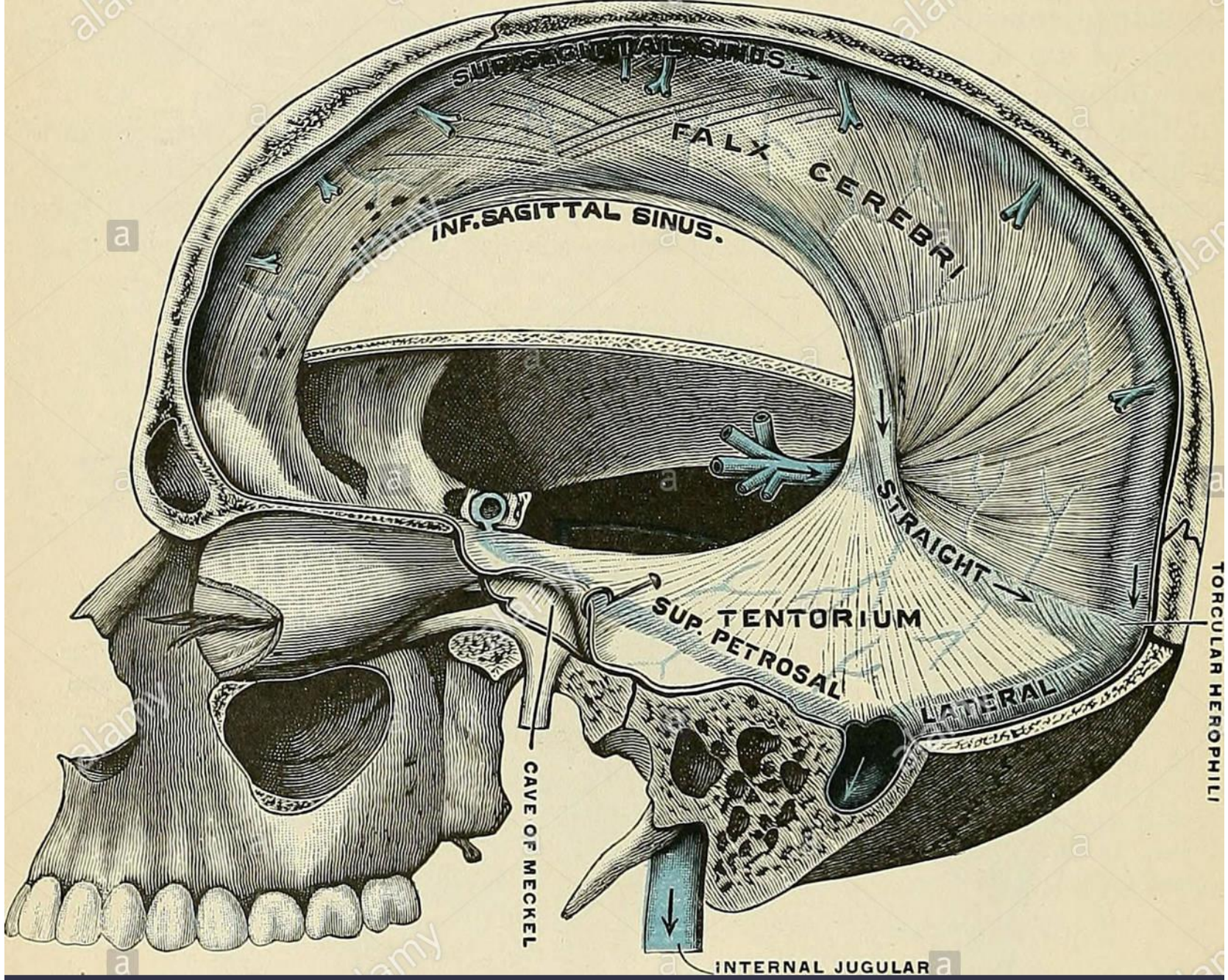

Superior sagittal sinus
Falx cerebri
Tentorium cerebelli
Straight sinus
Falx cerebelli
Transverse sinus
Occipital sinus

- Convex margin is superior and is attached to the cranial vault in the mid line as far back as the internal occipital protuberance
- Concave margin is inferior and free
- The superior margin contains the superior sagittal sinus
- The inferior margin contains the inferior sagittal sinus

Tentorium cerebelli

- Tent shaped double fold of meningeal dura
- Separates the occipital lobes of cerebral hemispheres (above) from the cerebellar hemispheres (below)
- It blends in the mid line superiorly with the posterior end of falx cerebri
- The line of fusion of the falx cerebri and the tentorium cerebelli contains the straight sinus


Superior sagittal sinus
Falx cerebri
straight sinus
transv sinus
tentorium cerebelli
Spinal dura



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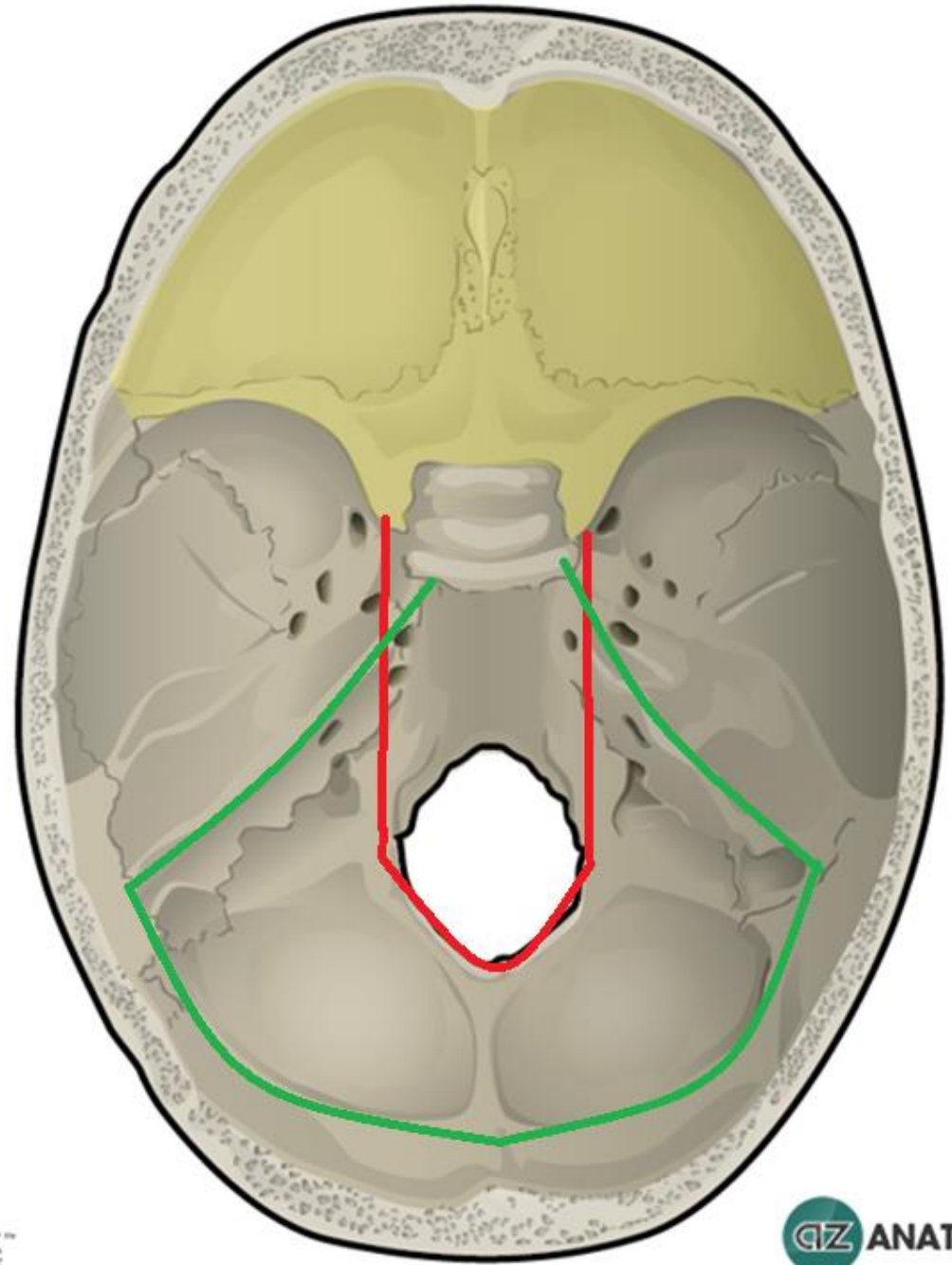
- It has a peripheral attached part which is attached to the transverse sulci of the occipital bone
- These attached parts contain the right and left transverse sinuses
- Antero laterally it is attached to the superior border of the petrous temporal bones (up to the posterior clinoid process) and this part contains the superior petrosal sinus

- The free margin of tentorium cerebelli presents a U shaped notch
- Through this tentorial notch passes the mid brain
- Anterior ends of the free margin are attached to the anterior clinoid processes
- The free and attached margins of the tentorium cross over at the apex of petrous temporal.
- In this area of crossing is the oculomotor trigone which is pierced by the 3rd and 4th cranial nerves
- The meninges at this trigone are continuous with the diaphragm sellae and the roof of the cavernous sinus in front



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ANATOMYZONE

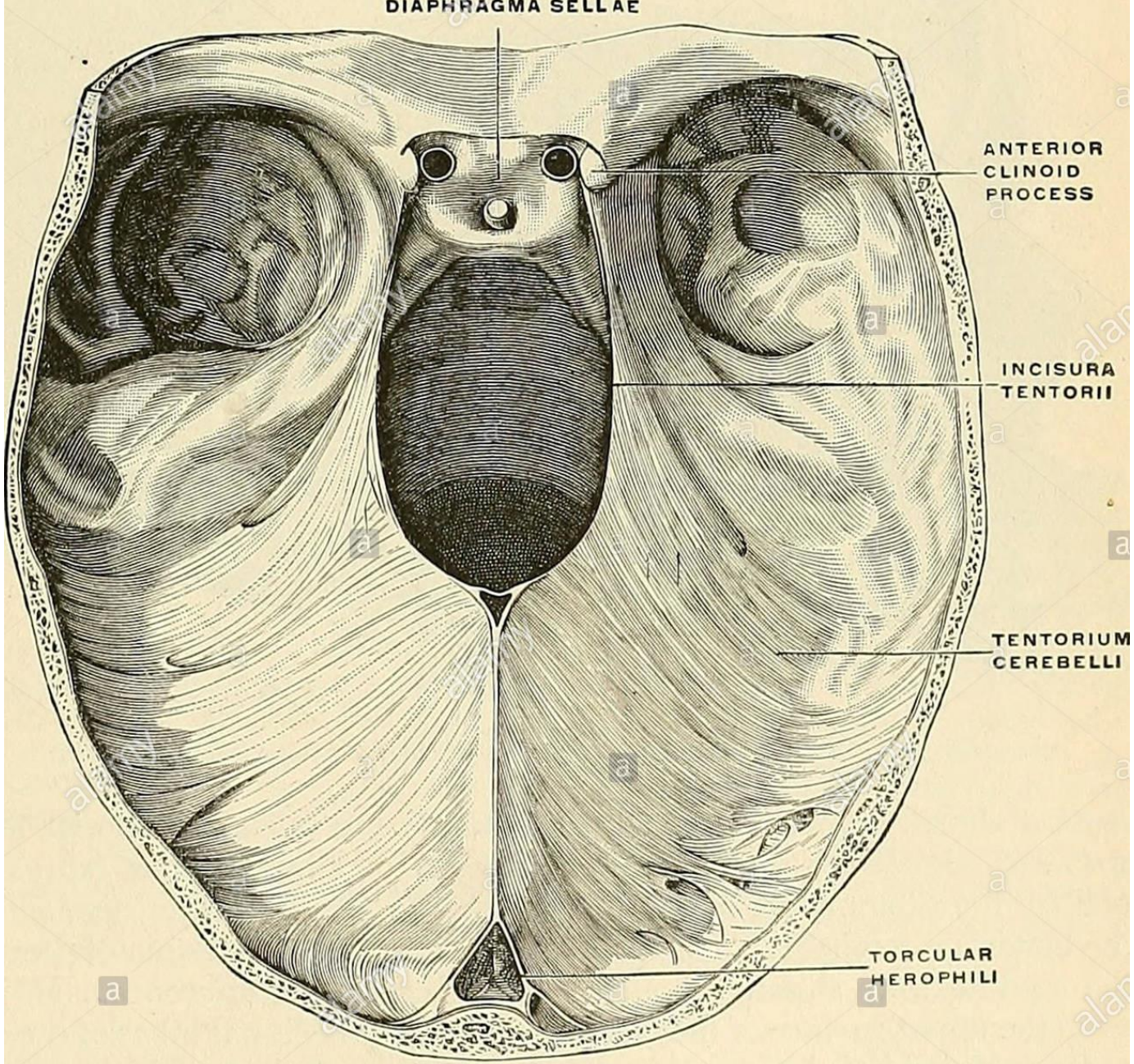

FIG. 725.—The tentorium cerebelli. (Poirier and Charpy.)

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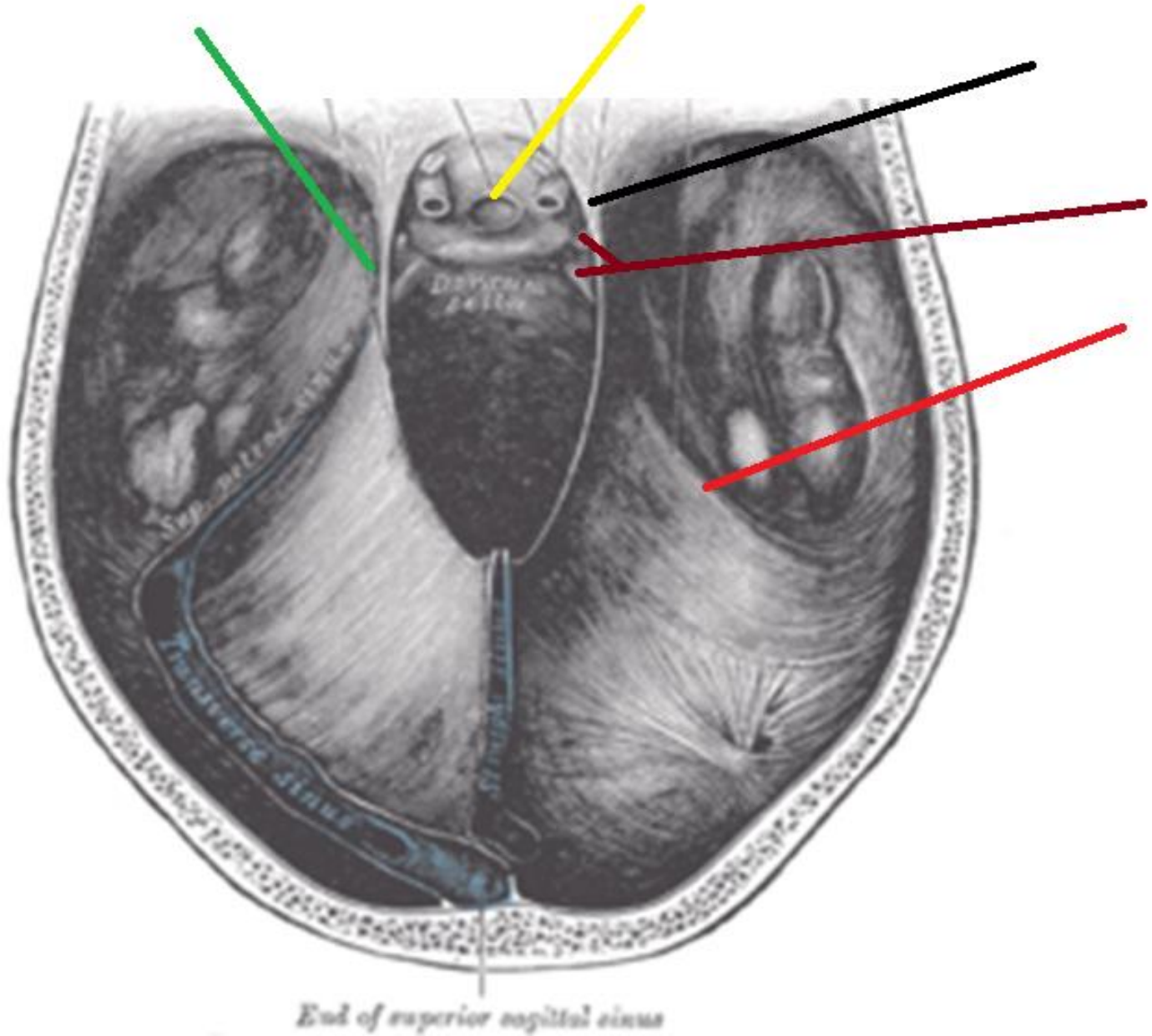
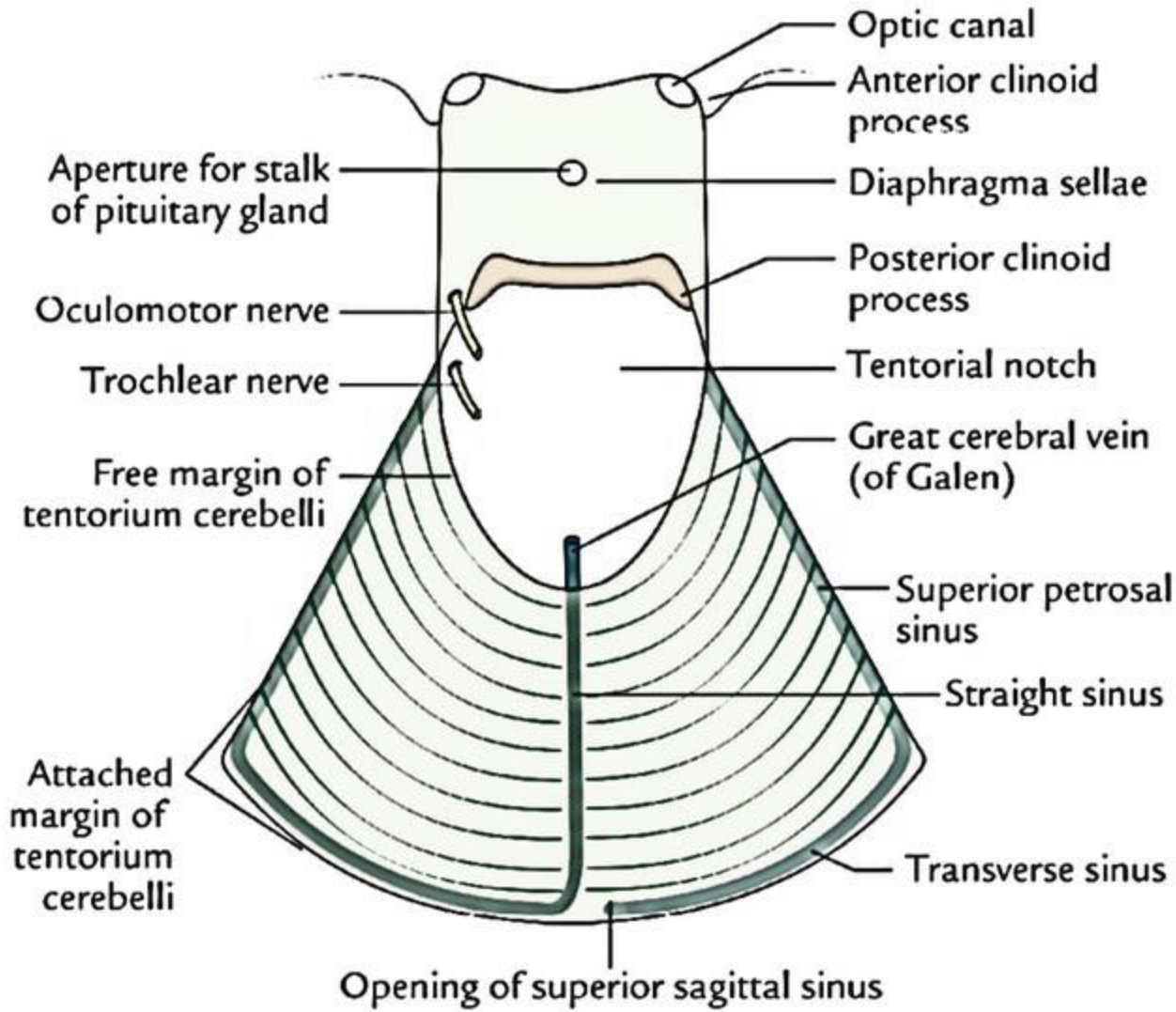
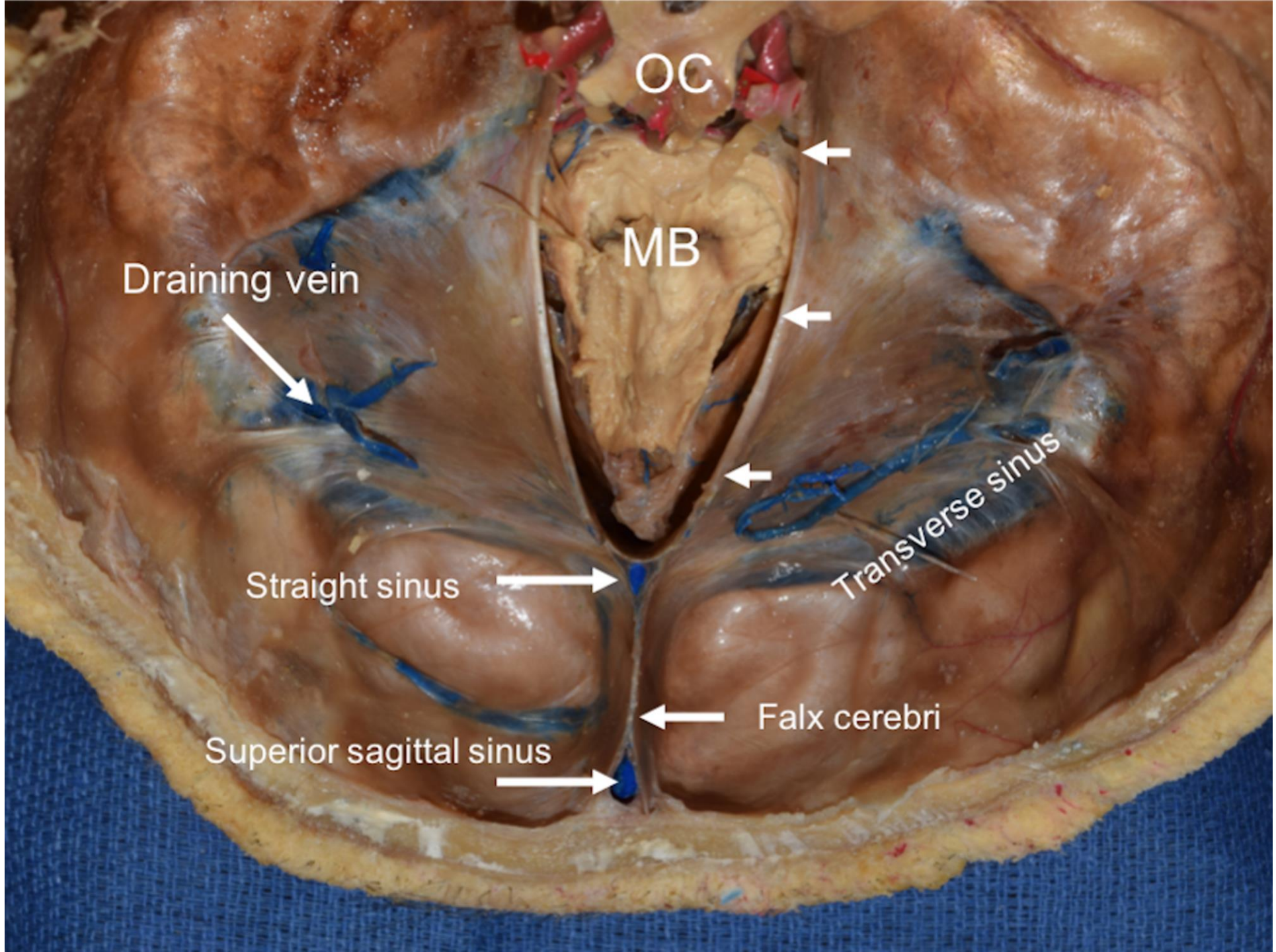
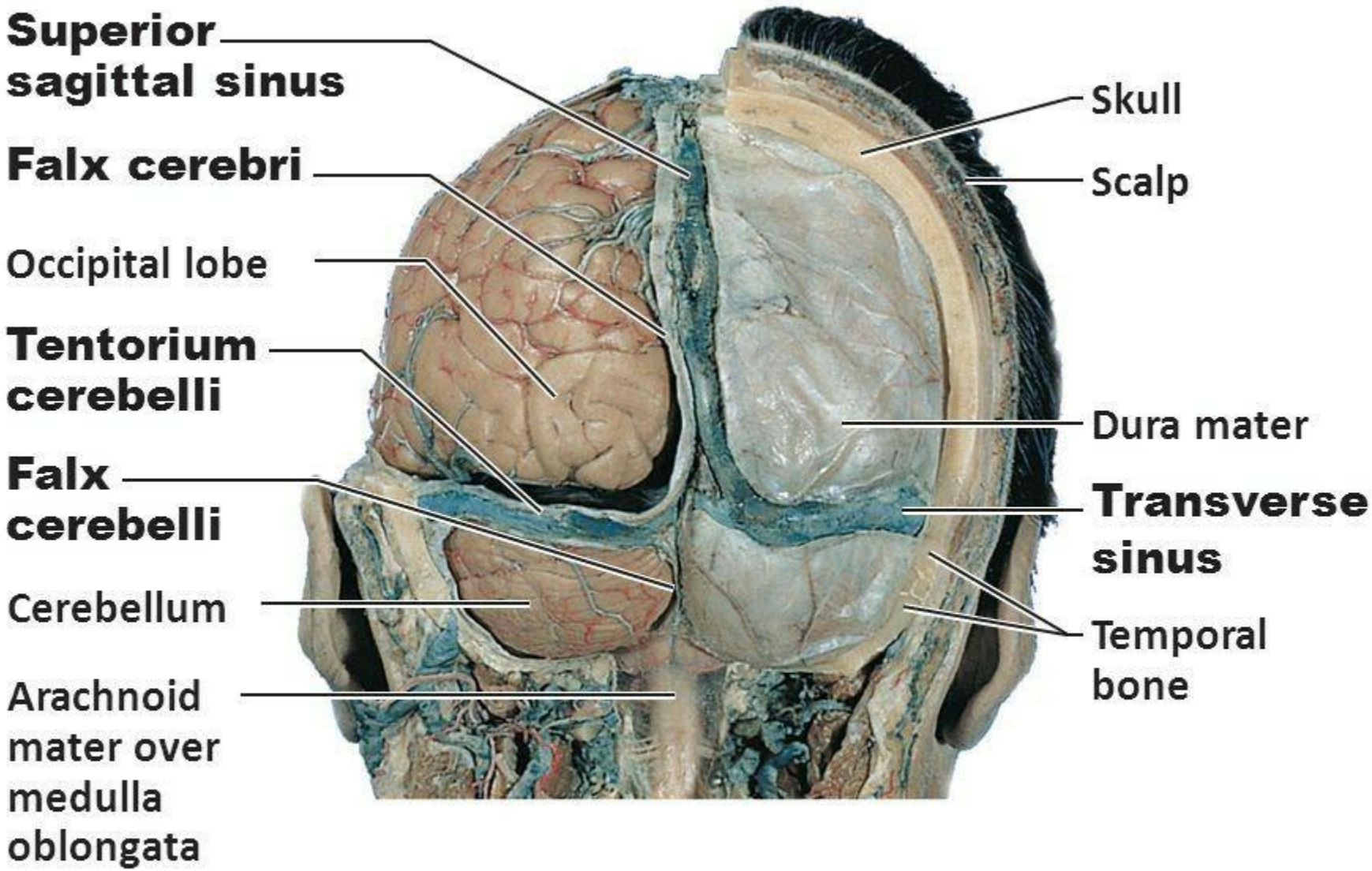
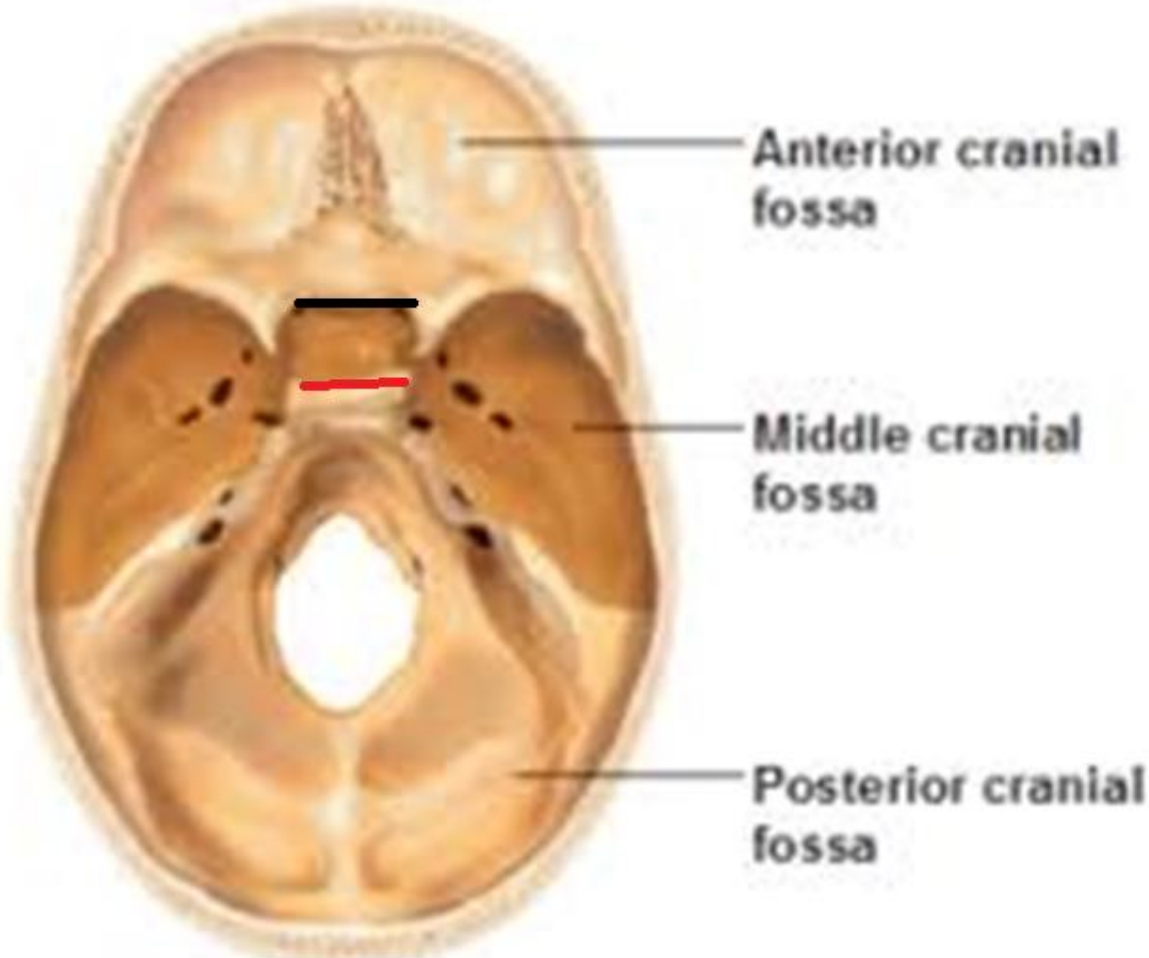

End of superior sagittal sinus


Optic canal
Anterior clinoid process
Aperture for stalk of pituitary gland
Diaphragma sellae
Posterior clinoid process
Oculomotor nerve
Trochlear nerve
Tentorial notch
Great cerebral vein (of Galen)
Free margin of tentorium cerebelli
Superior petrosal sinus
Straight sinus
Attached margin of tentorium cerebelli
Transverse sinus
Opening of superior sagittal sinus

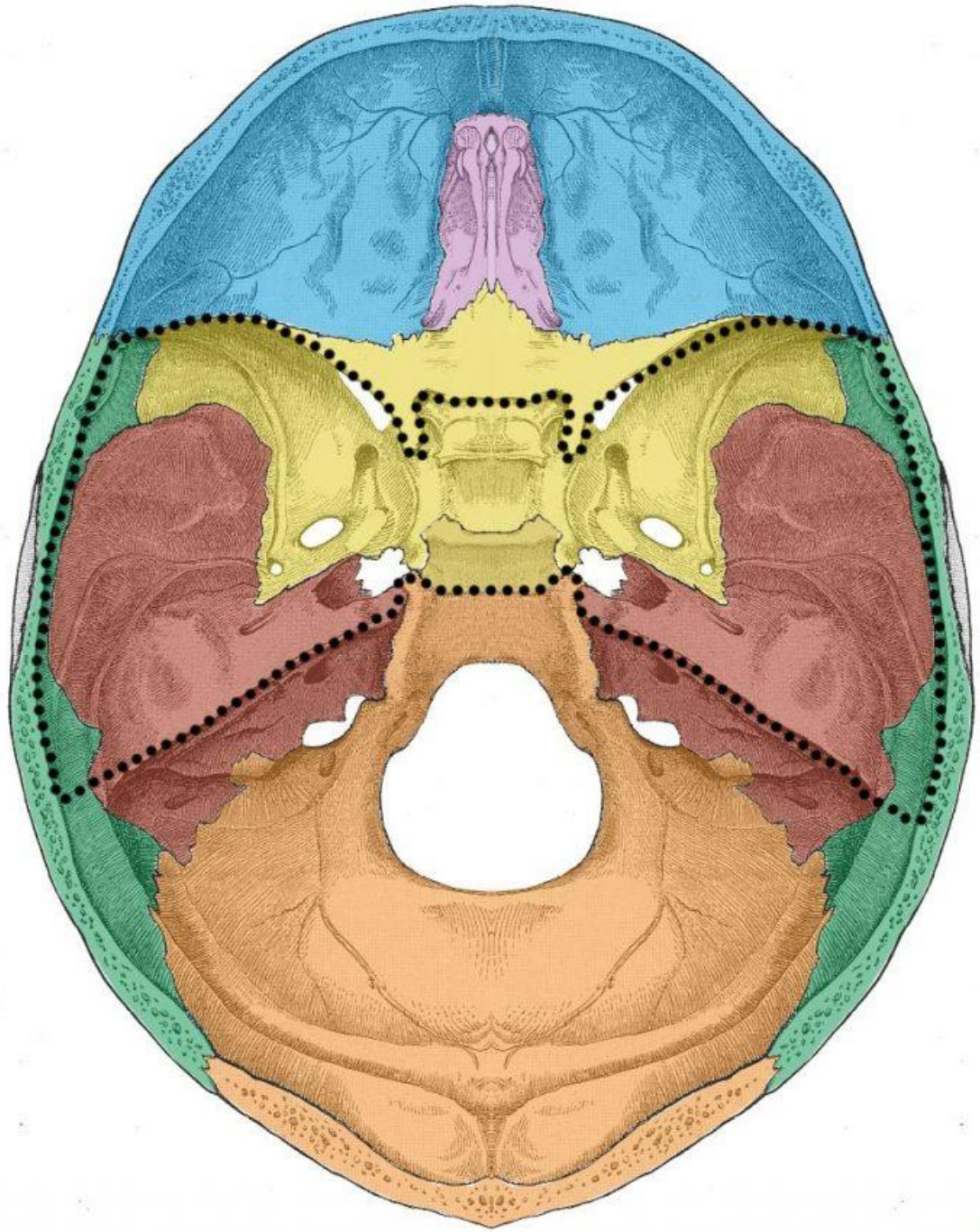

OC
MB
Draining vein
Transverse sinus
Straight sinus
Falx cerebri
Superior sagittal sinus


Superior sagittal sinus
Falx cerebri
Occipital lobe
Tentorium cerebelli
Falx cerebelli
Cerebellum
Arachnoid mater over medulla oblongata
Skull
Scalp
Dura mater
Transverse sinus
Temporal bone


Anterior cranial fossa
Middle cranial fossa
Posterior cranial fossa

Diaphragm sellae

- Horizontally oriented circular dural fold
- Forms roof of sella turcica
- Is continuous laterally with the roof of cavernous sinuses
- Attached in front to the tuberculum sellae
- Attached behind to the dorsum sellae
- Contains the inter cavernous venous sinus
- Perforated by the pituitary infundibular stalk



Frontal
Ethmoid
Sphenoid
Temporal
Parietal
Occipital

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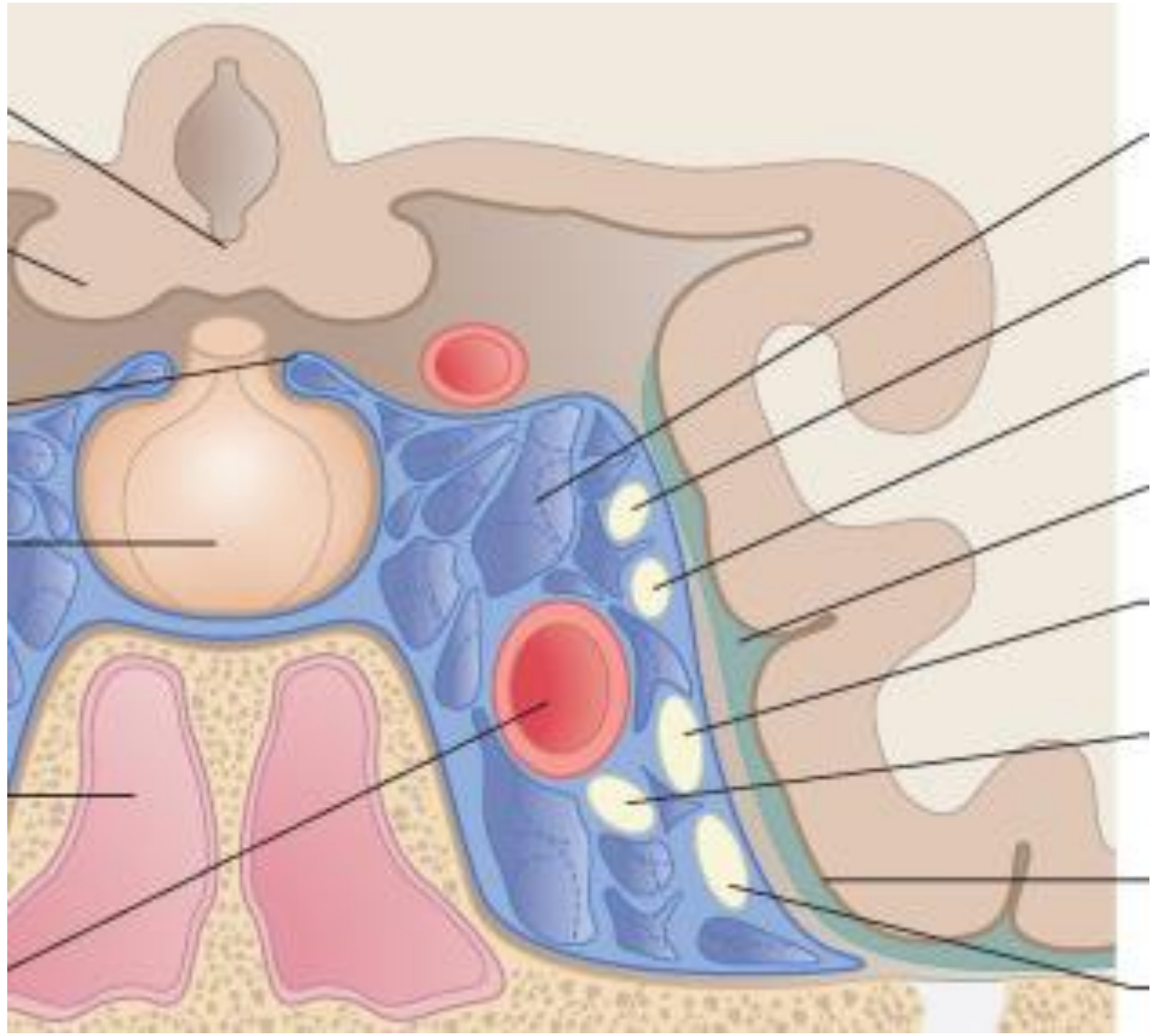
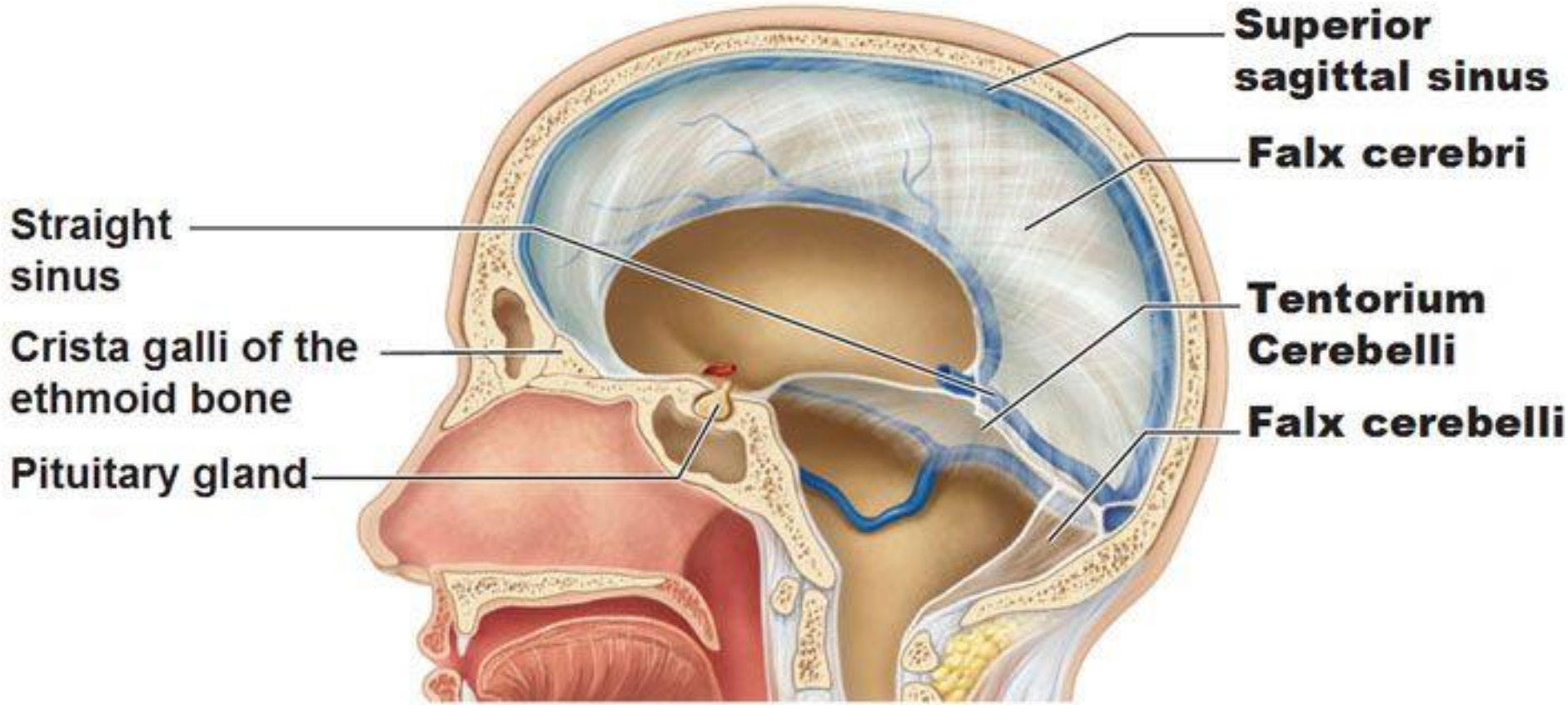


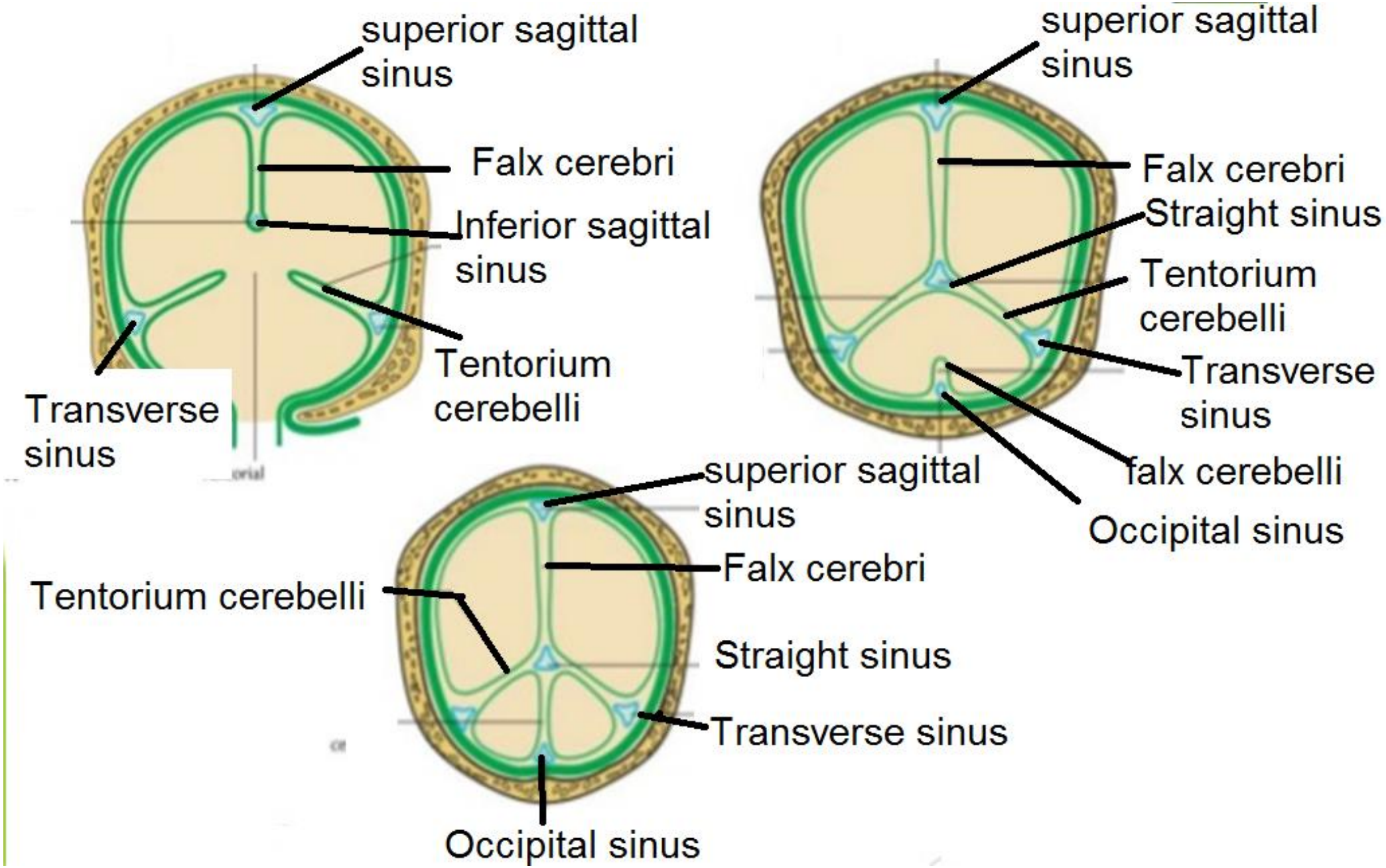
Falx cerebelli

- Sickle shaped fold of dura mater separating the 2 cerebellar hemispheres
- Extends from the internal occipital protuberance (base) to the posterior edge of the foramen magnum (apex)
- Contains the occipital venous sinus

The Dura Mater and Dural Sinuses



(a) Midsagittal view


superior sagittal sinus
Falx cerebri
Inferior sagittal sinus
Tentorium cerebelli
Transverse sinus
superior sagittal sinus
Falx cerebri
Straight sinus
Tentorium cerebelli
Transverse sinus
falx cerebelli
Occipital sinus
superior sagittal sinus
Falx cerebri
Tentorium cerebelli
Straight sinus
Transverse sinus
Occipital sinus

Functions of the dural folds

- Compartmentalize the cranial cavity and thus restrict the movements of the brain
- Contain the dural venous sinuses