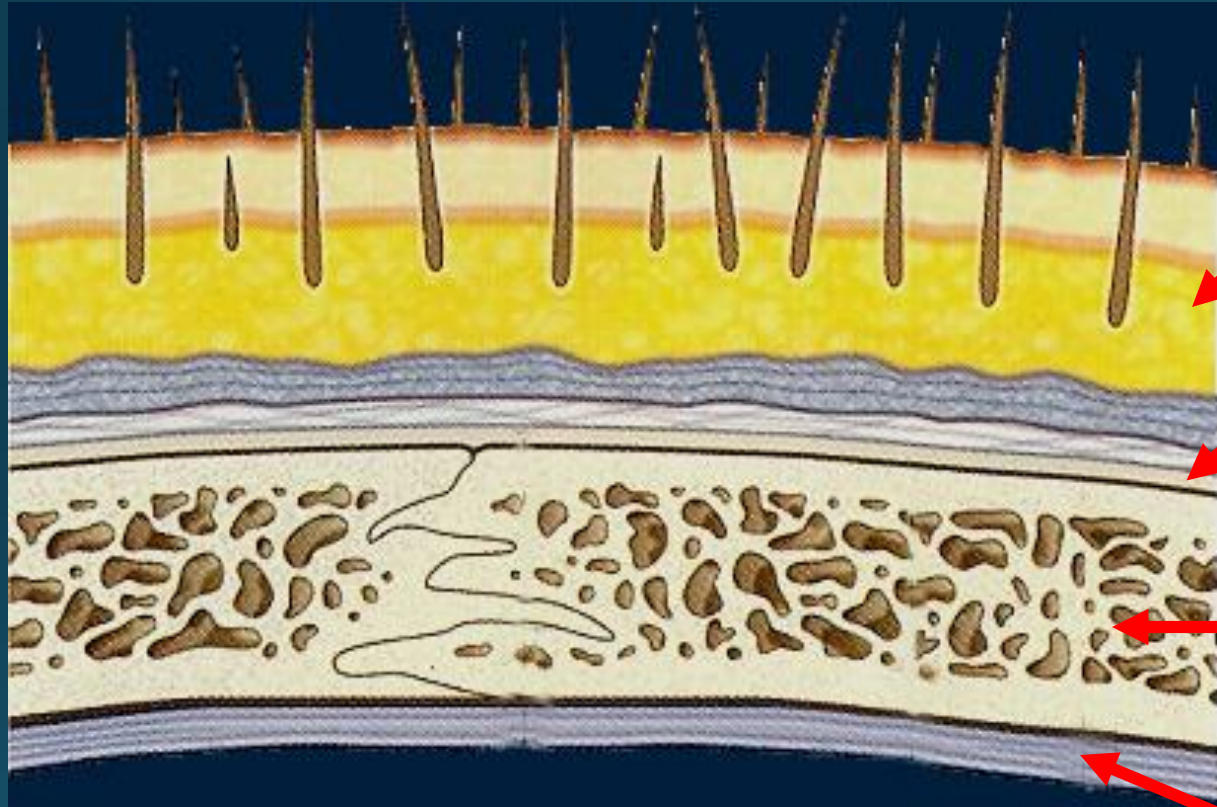




Dr Maan Al-Abbasi

Dural Coverings & Venous Sinuses

Skull bones coverings



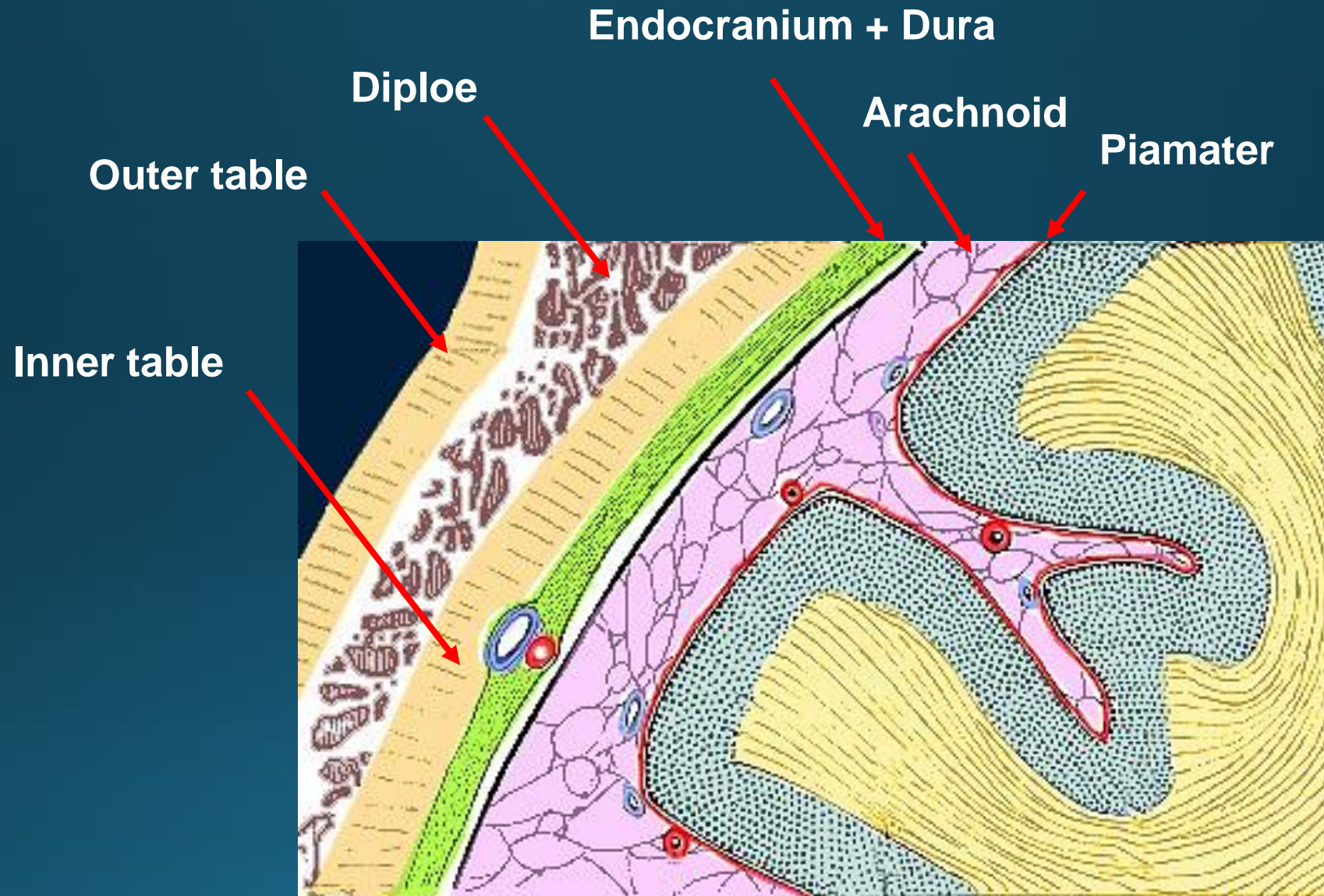
Scalp

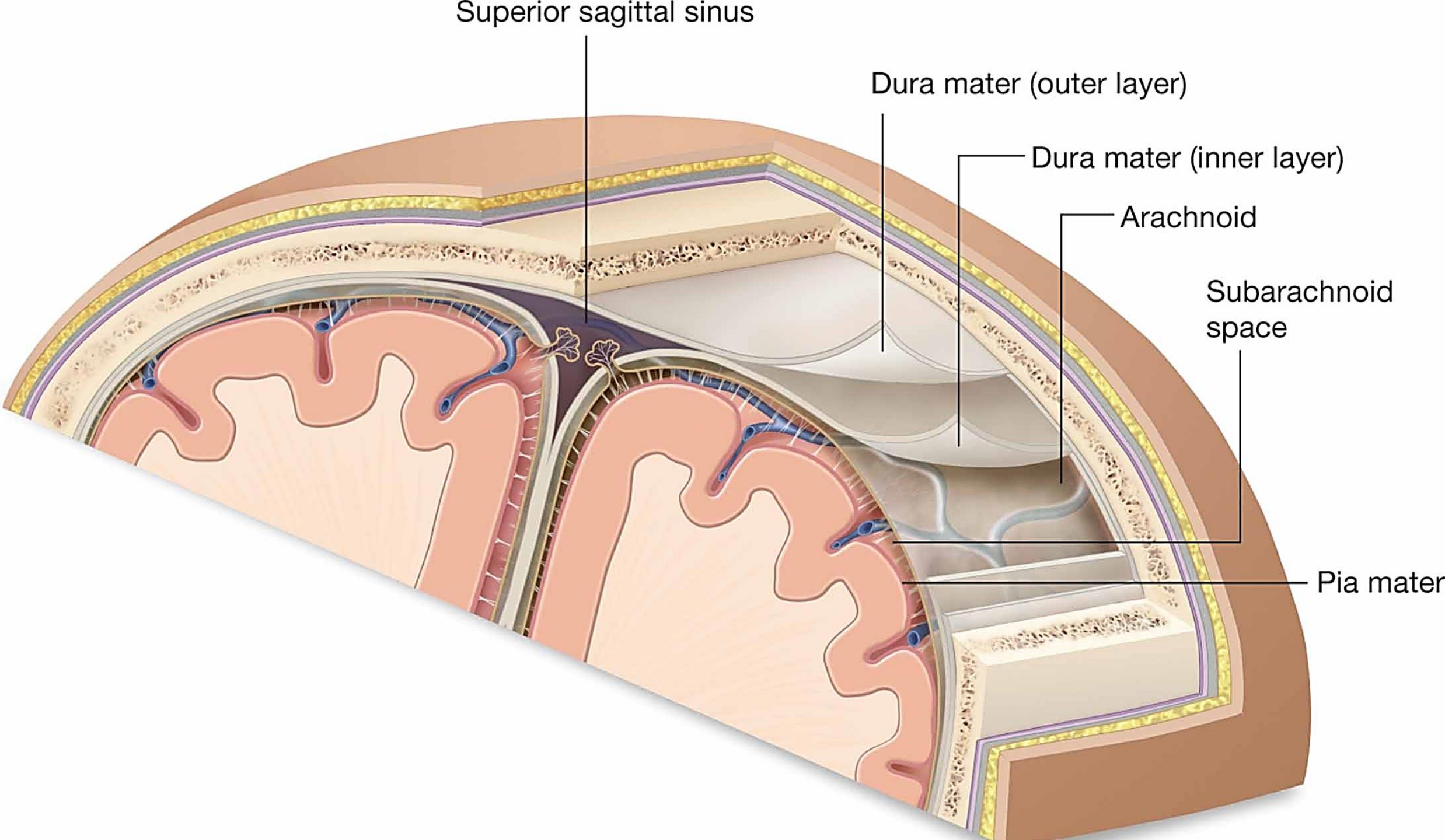
Pericranium

Diploe

Dura

Skull bones coverings





Superior sagittal sinus

Dura mater (outer layer)

Dura mater (inner layer)

Arachnoid

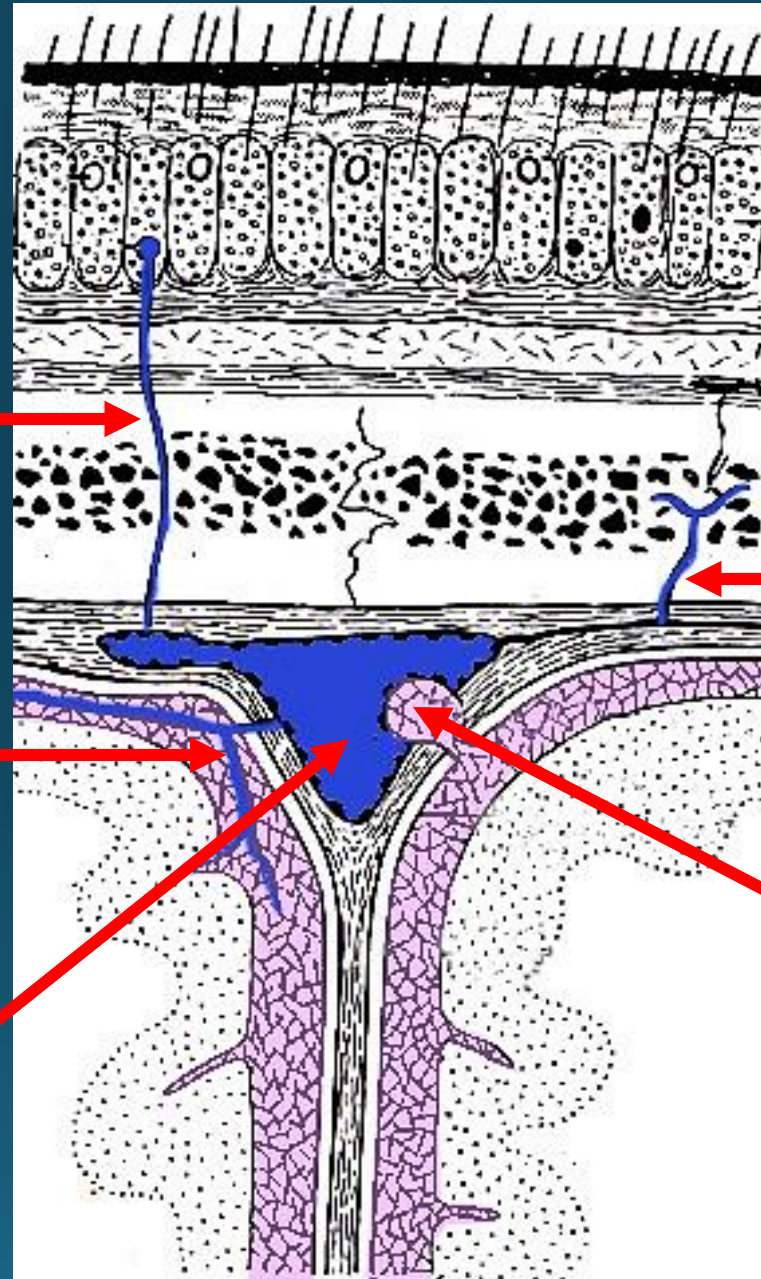
Subarachnoid space

Pia mater

Emissary vein

Cerebral vein

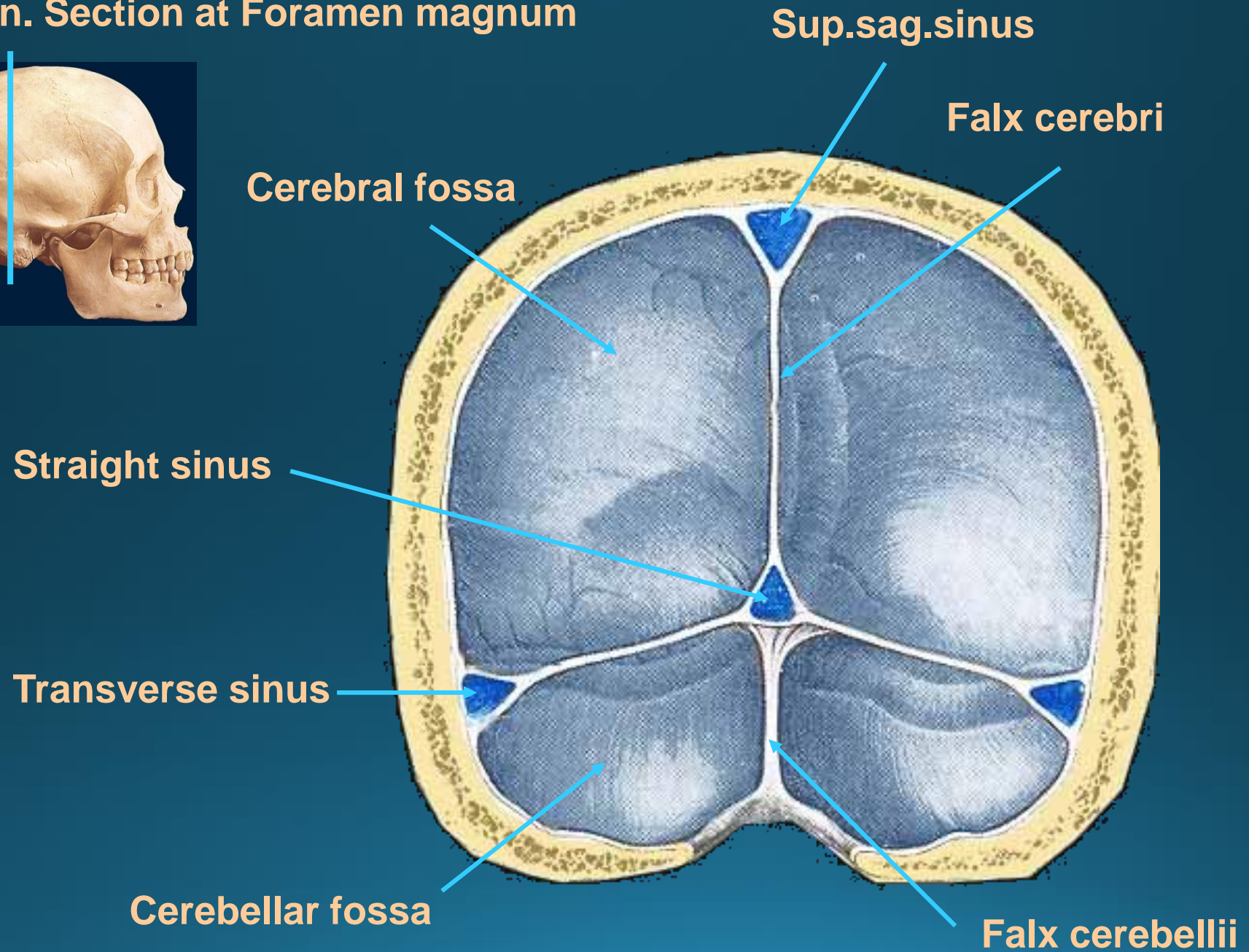
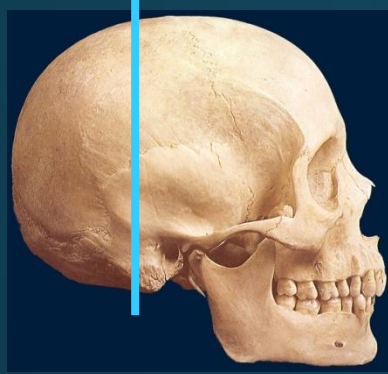
Sup.Sag. Sinus

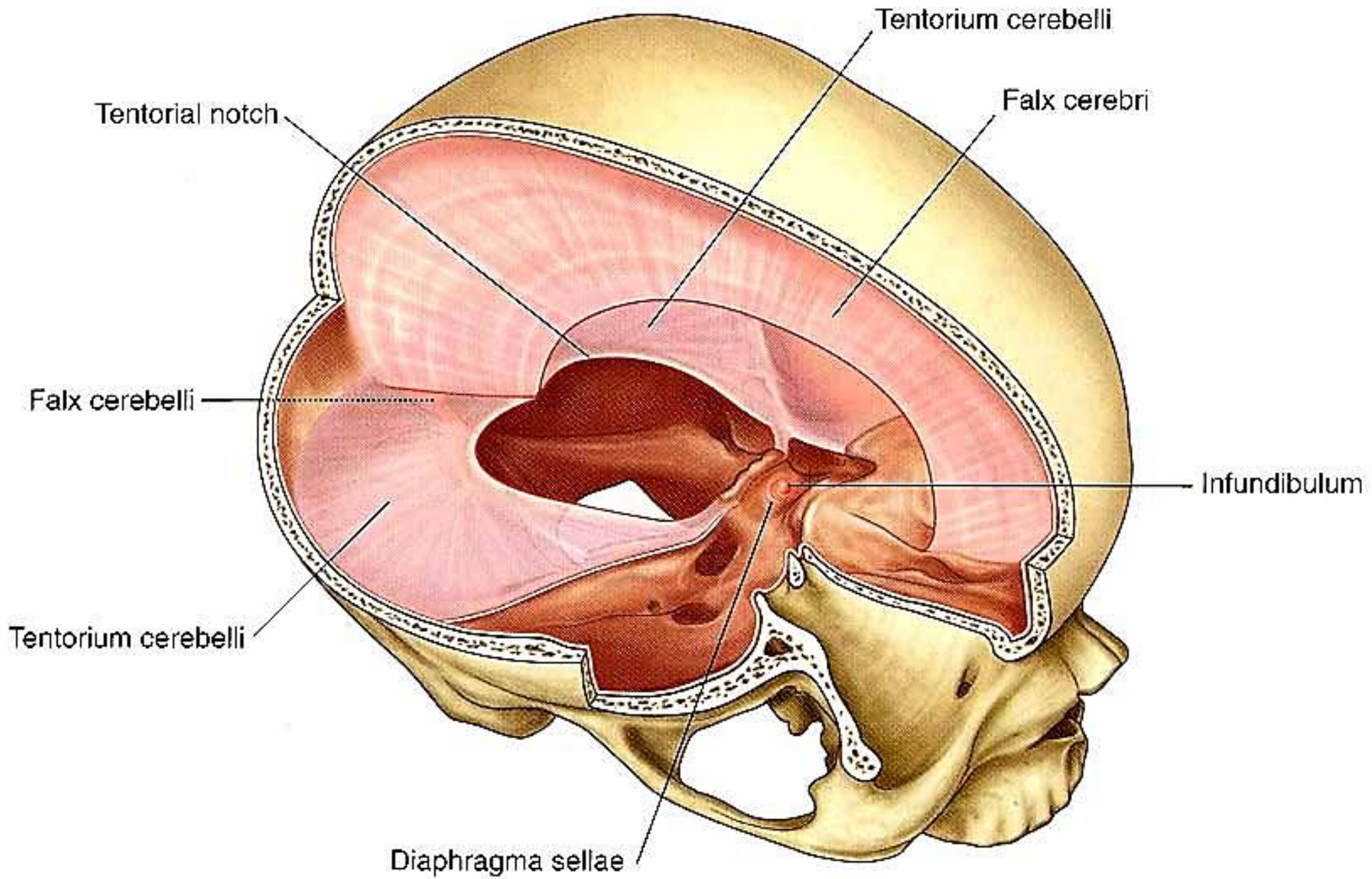


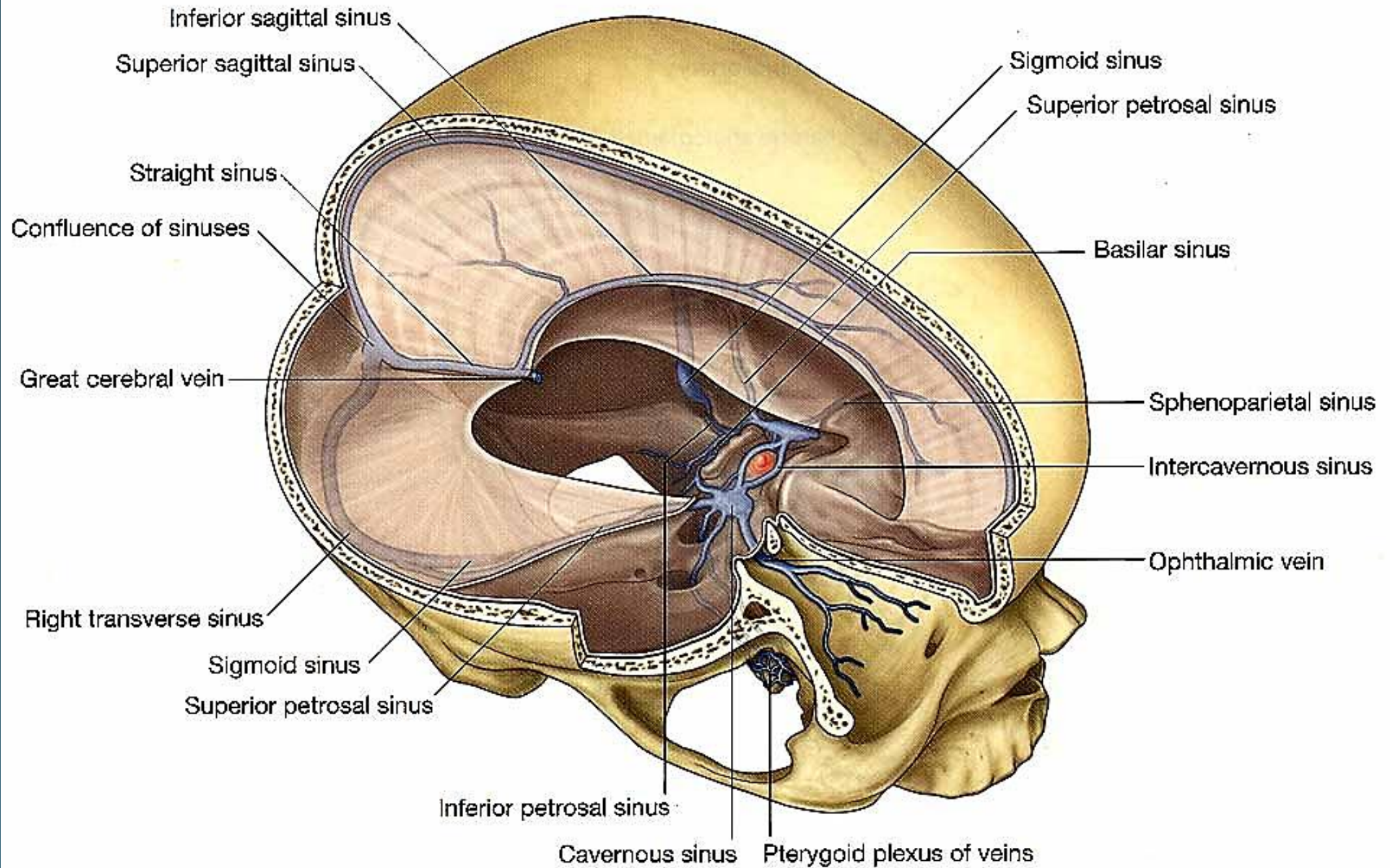
Diploic vein

CSF through Archnoid granulation

Coron. Section at Foramen magnum





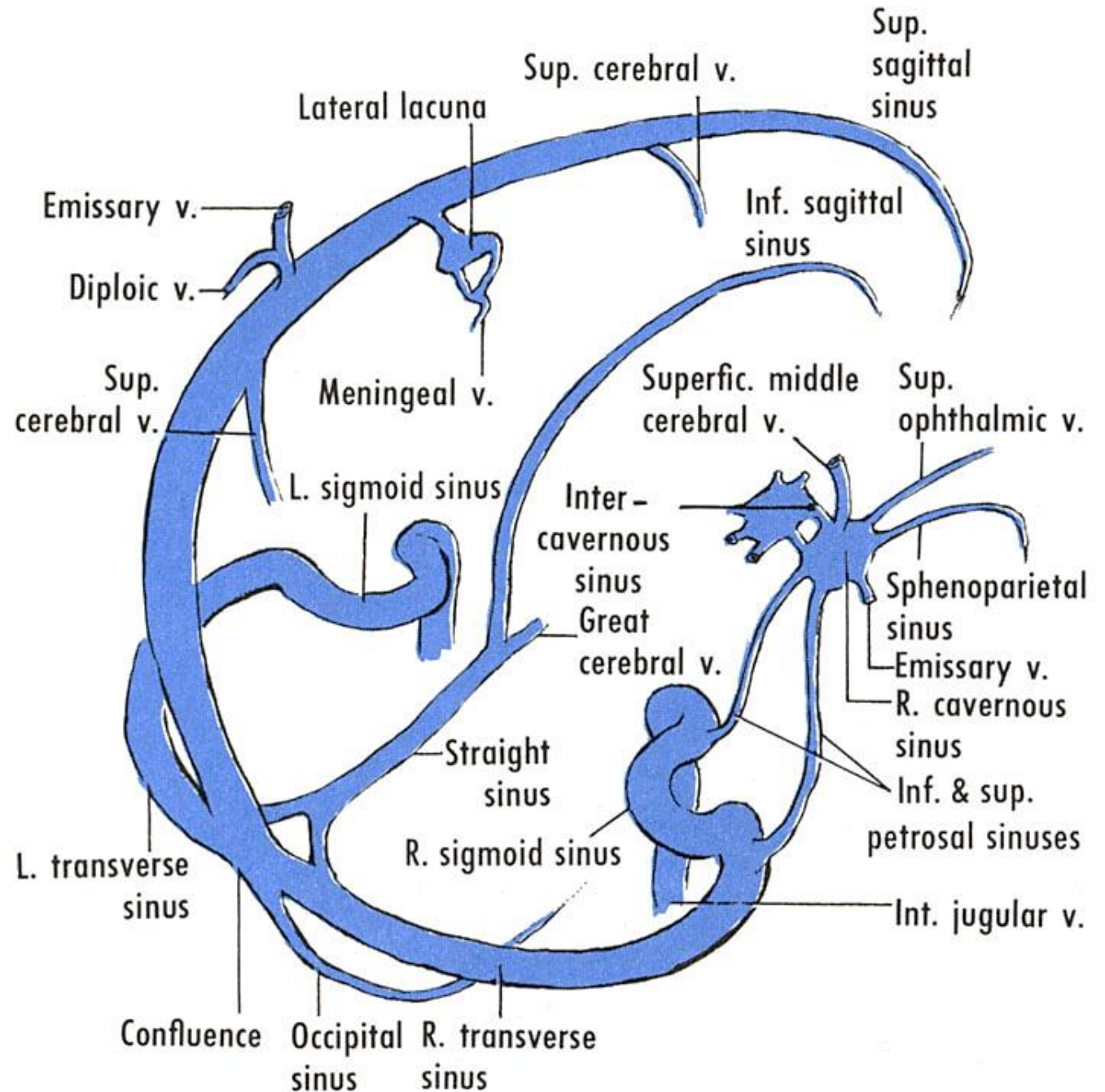


Dural Venous Sinuses

- Venous channels situated between inner & outer layers of Dura mater
- Drain the venous blood of the brain & bones of the skull.
- Transmit the venous blood to the internal jugular vein.
- Communicates with the internal vertebral venous plexus through the foramen magnum
- Also communicates with the scalp veins through the emissary veins
- Valveless

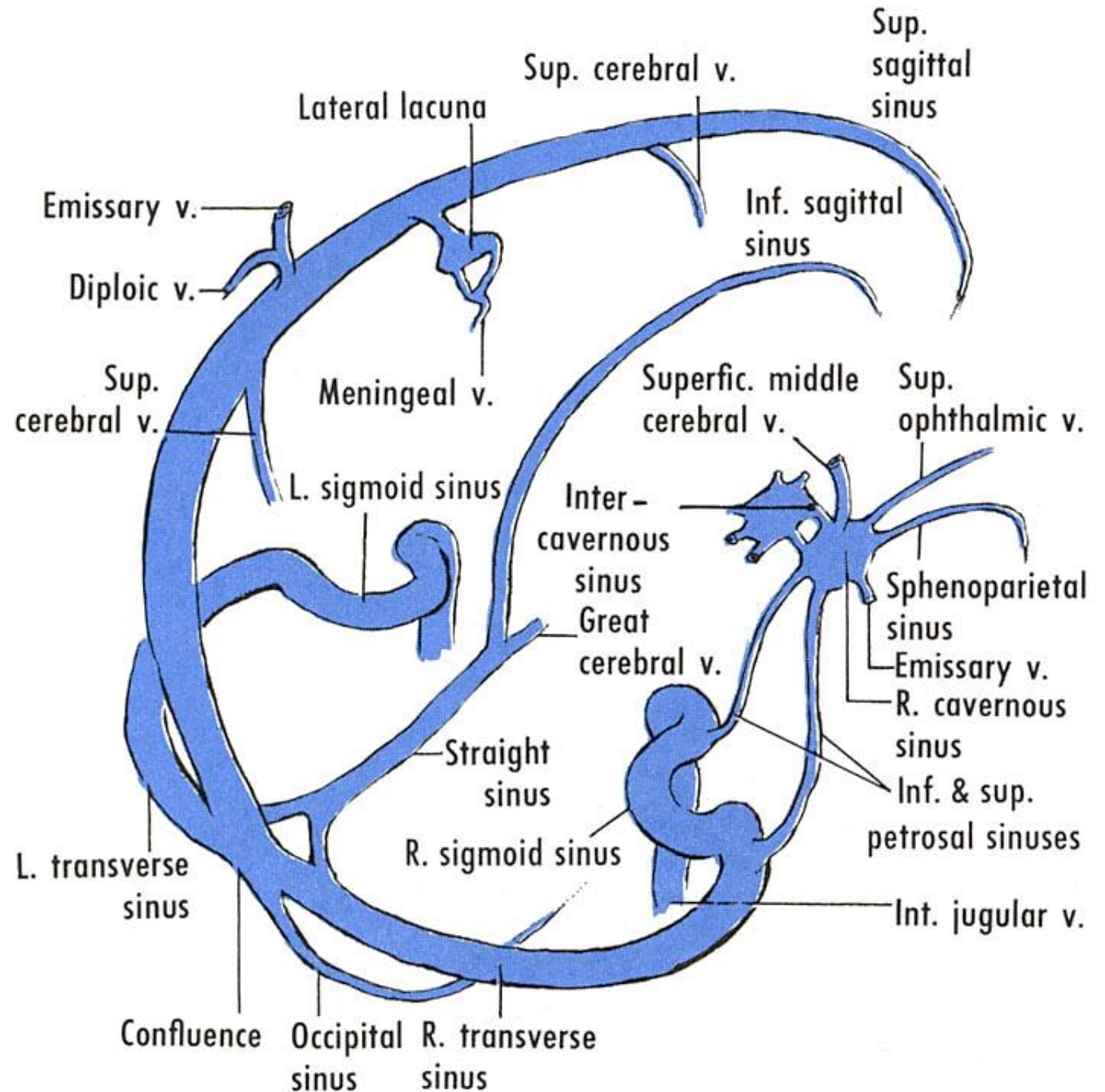
Single:

1. Superior sagittal
2. Inferior sagittal
3. Straight
4. Occipital
5. Ant. Intercavernous
6. Post. Intercavernous
7. Basilar venous plexus



Paired:

1. Transverse
2. Sigmoid
3. Cavernous
4. Sup. Petrosal
5. Inf. Petrosal
6. Sphenoparietal
7. Petrosquamous
8. Middle meningeal



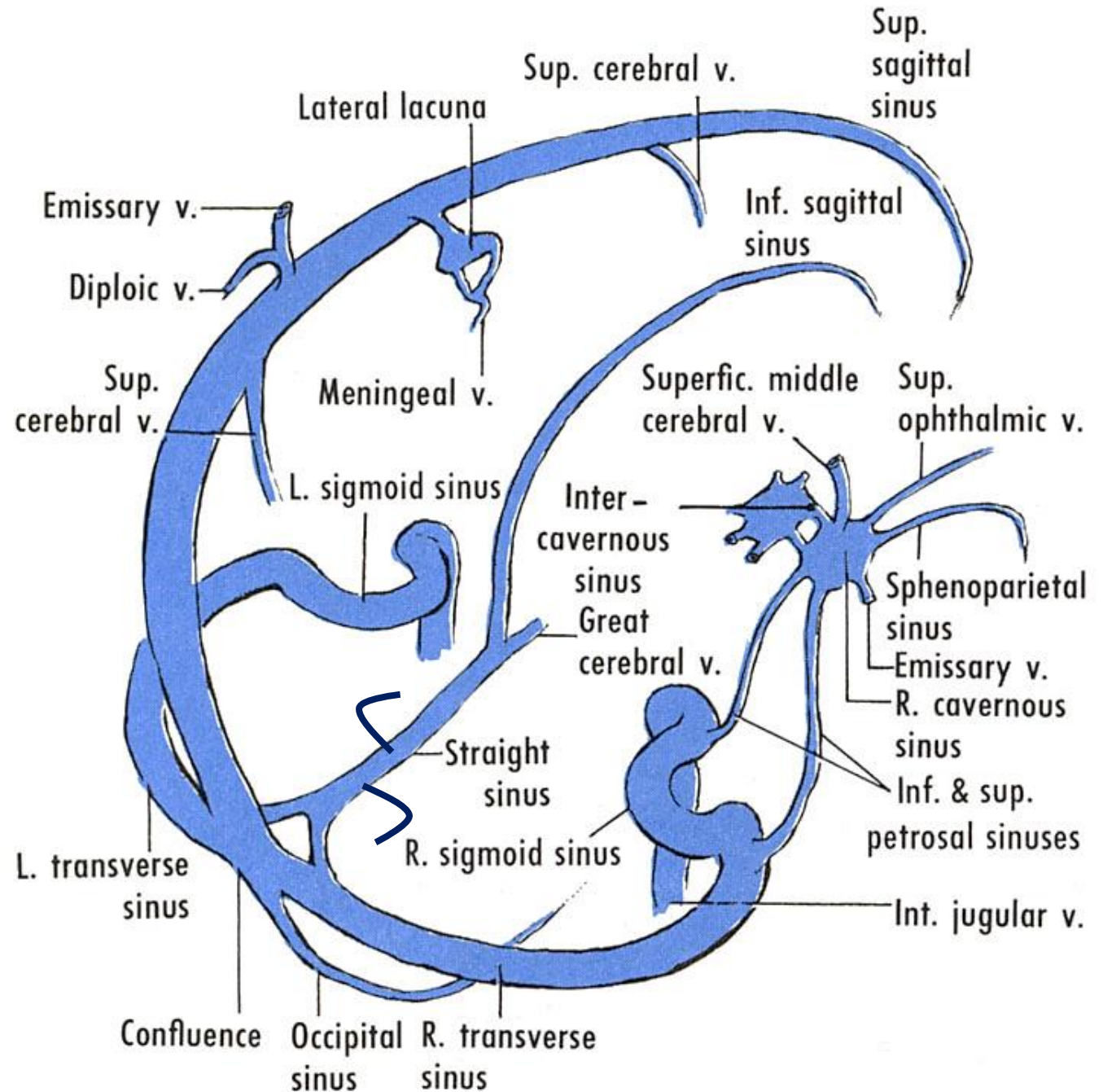
Straight sinus

It receives :

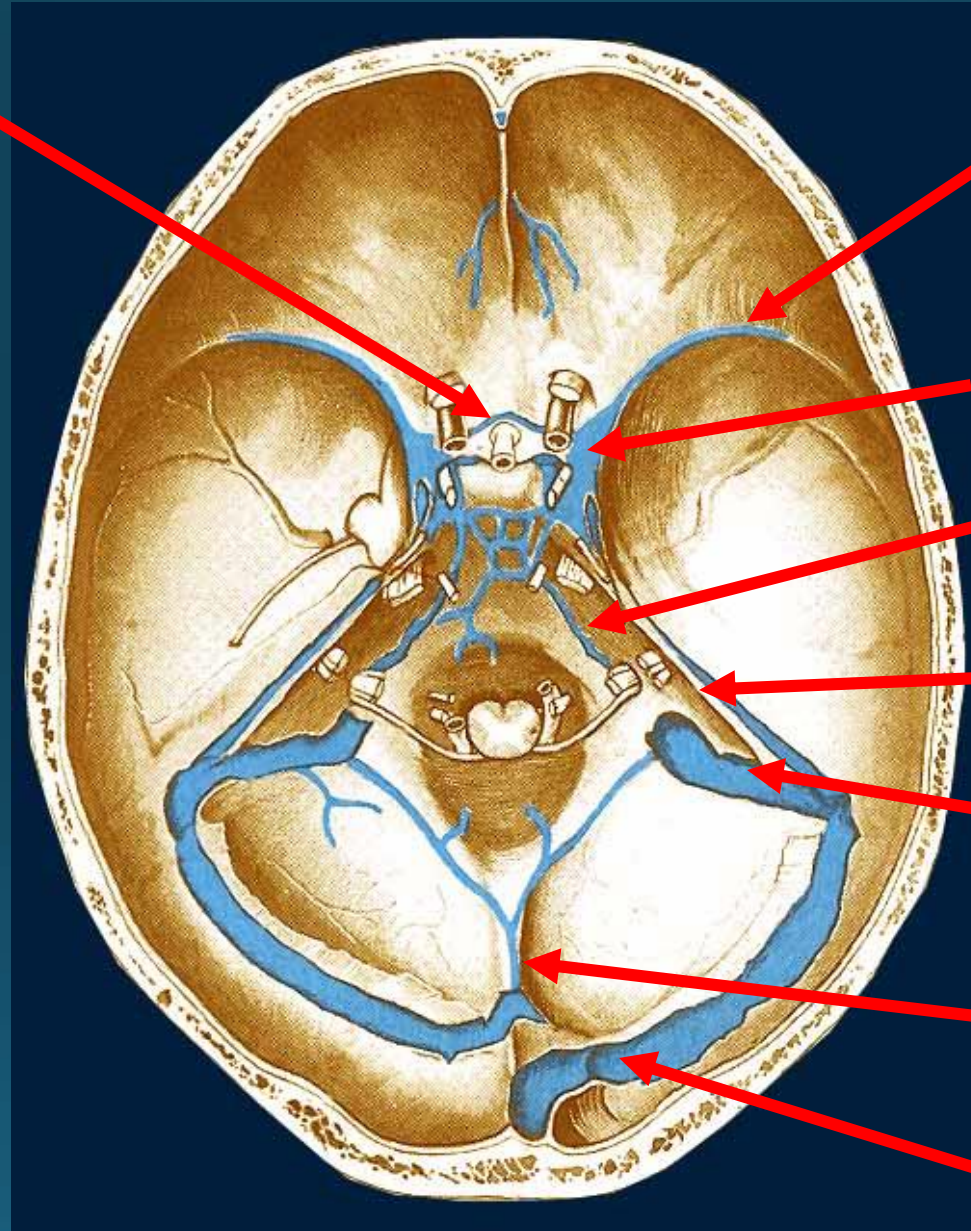
- 1- inferior sagittal sinus
- 2- great cerebral vein

It ends at internal occipital protuberance by becoming the left transverse sinus

It receive the **inferior cerebral** and **cerebellar veins**, and the **diploic veins**.



Ant. intercavernous



Sphenoparietal

Cavernous

Inf. petrosal

Sup. petrosal

Sigmoid

Occipital

Transverse

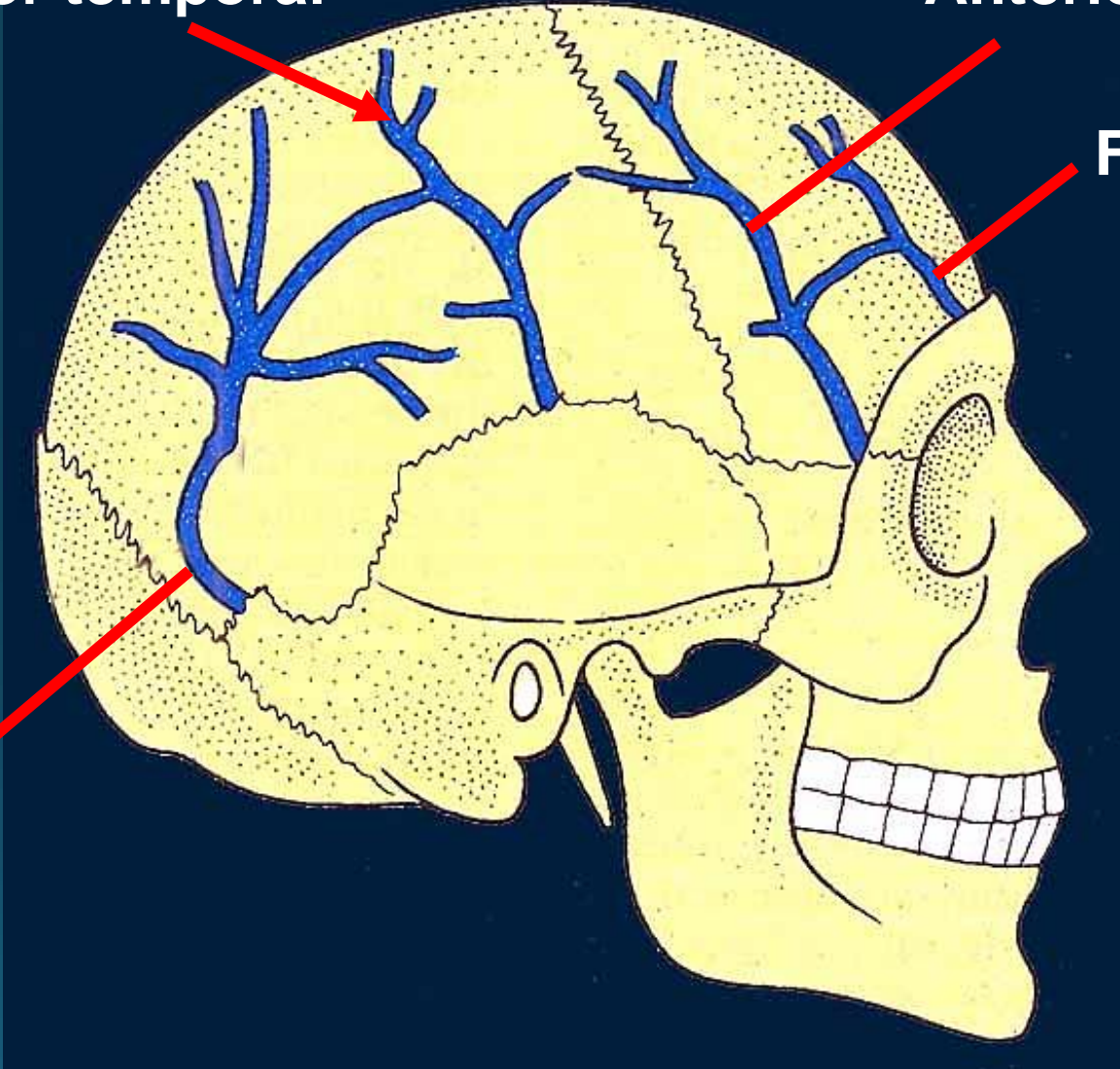
Diploic veins

Posterior temporal

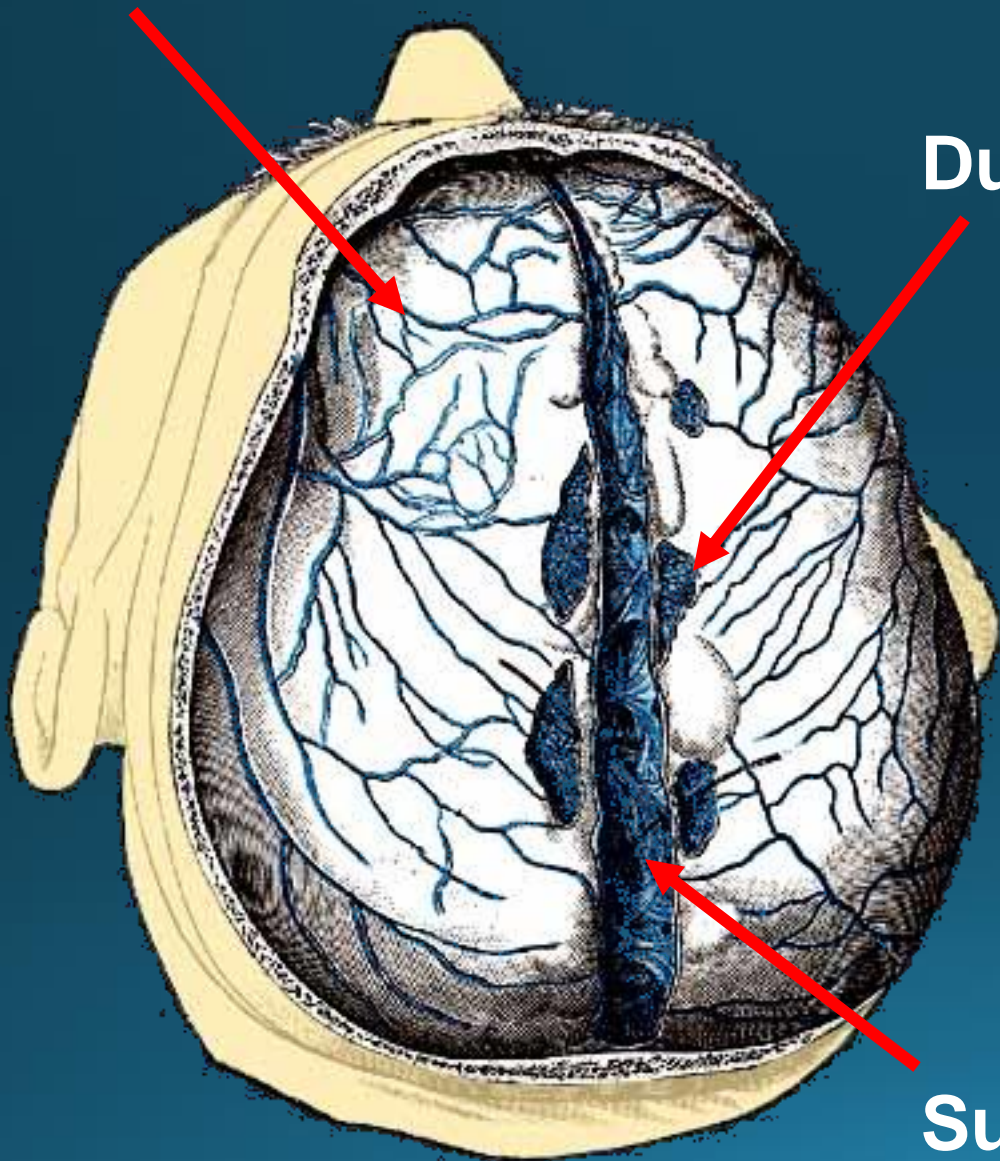
Anterior temporal

Frontal

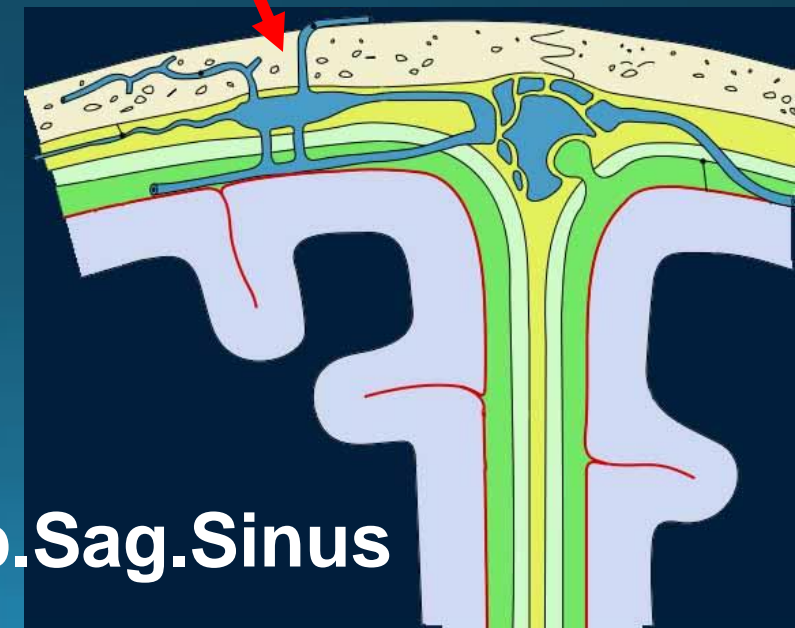
Occipital



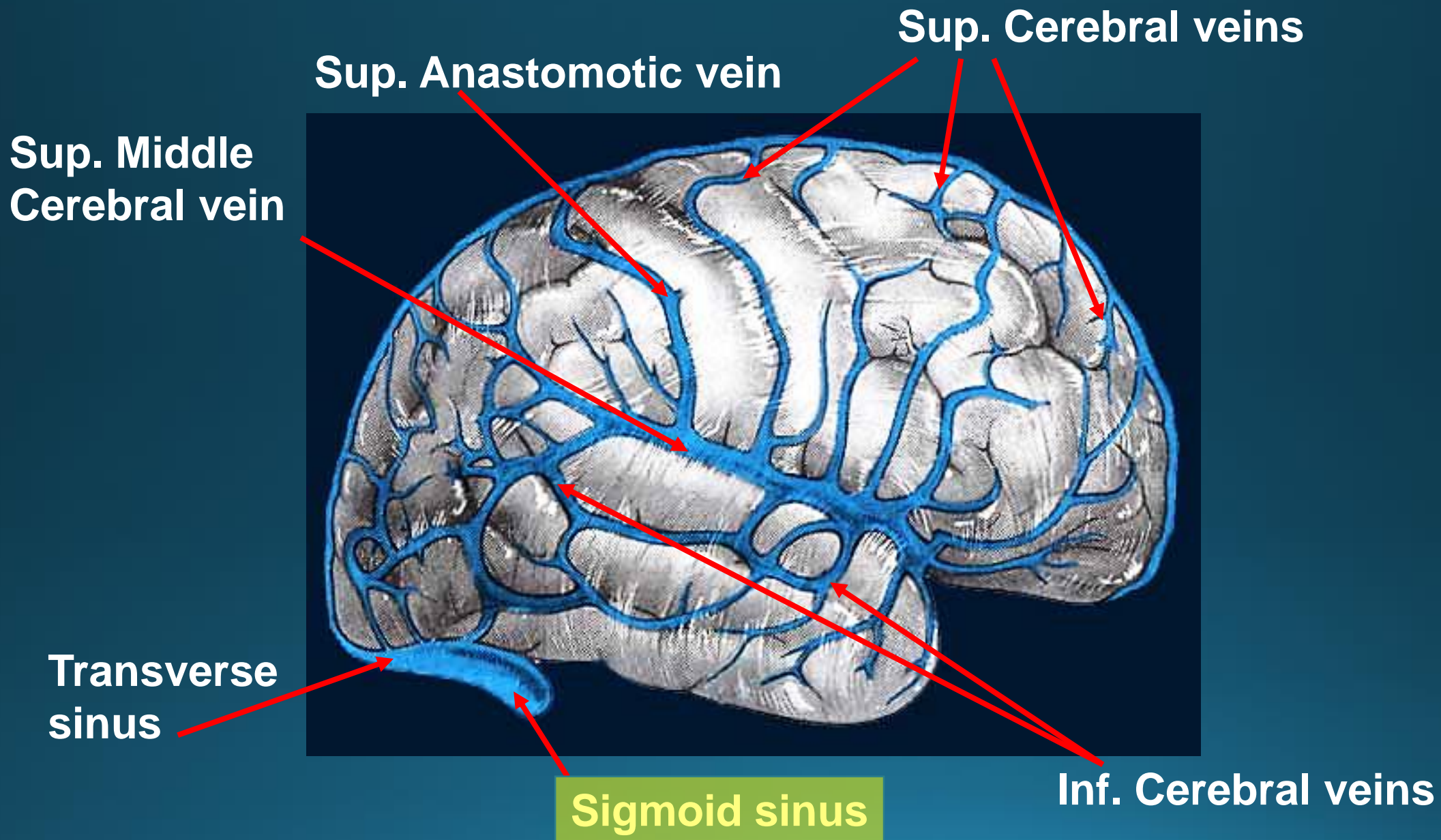
Dural Veins

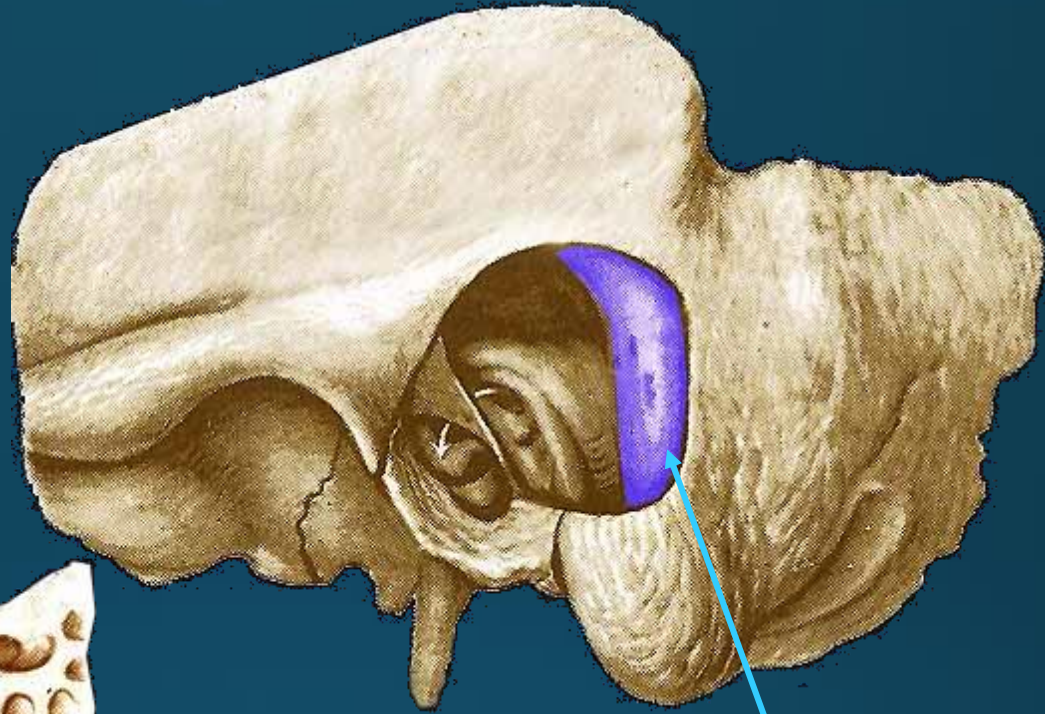
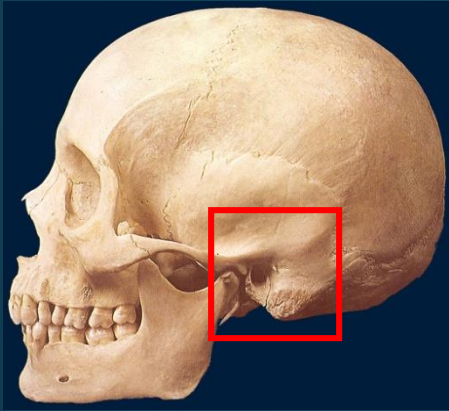


Dural Lacnua

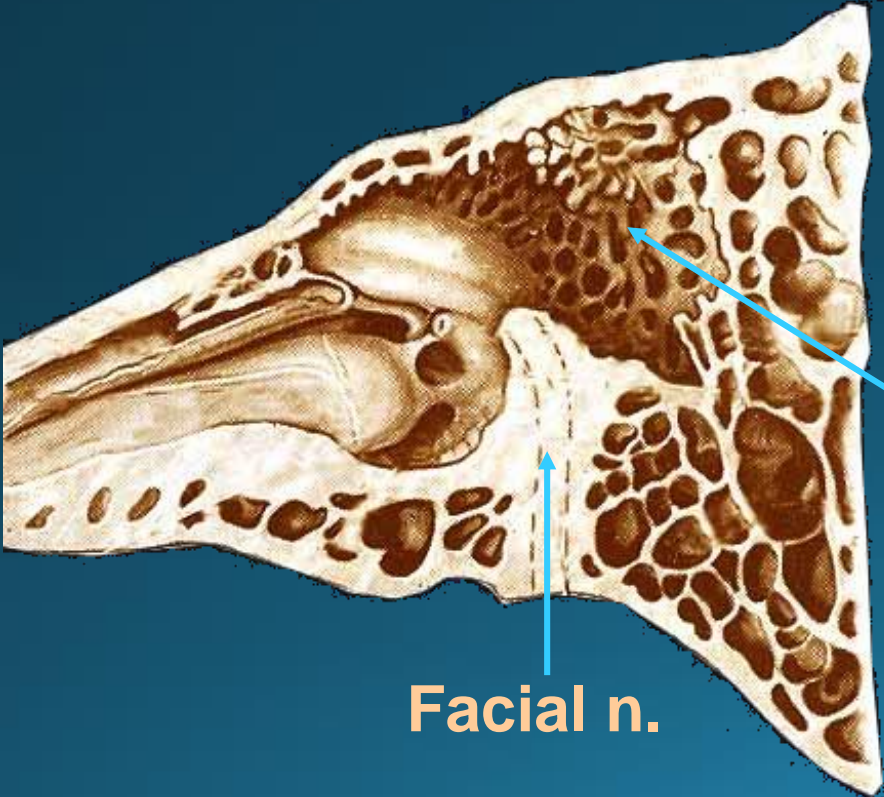


Sup.Sag.Sinus





Wall of groove for Sigmoid sinus



Mastoid antrum

Facial n.

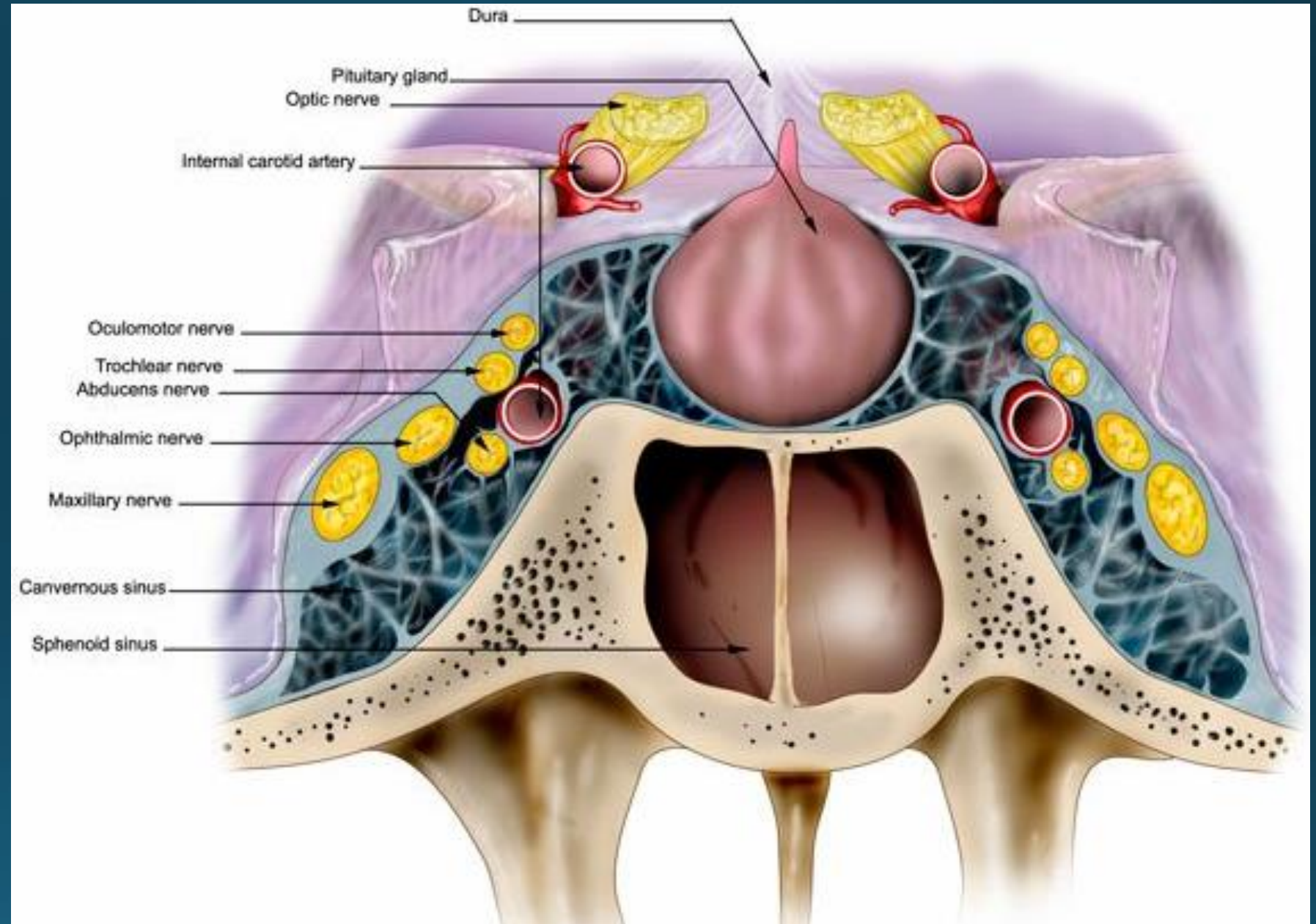
Cavernous Sinus

Medially :

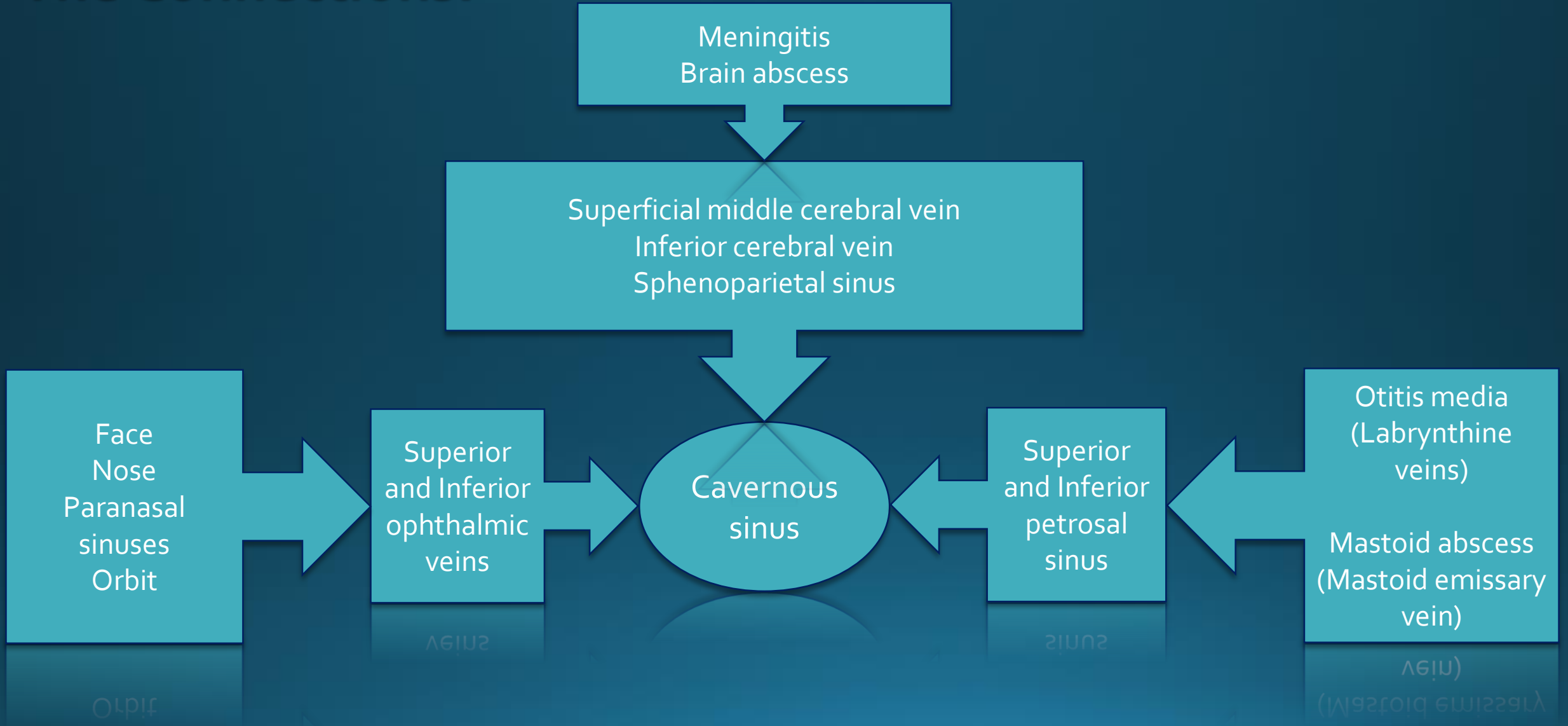
- Sphenoid air sinus
- Pituitary gland

Laterally:

- Trigeminal ganglion
- Uncus of temporal lobe

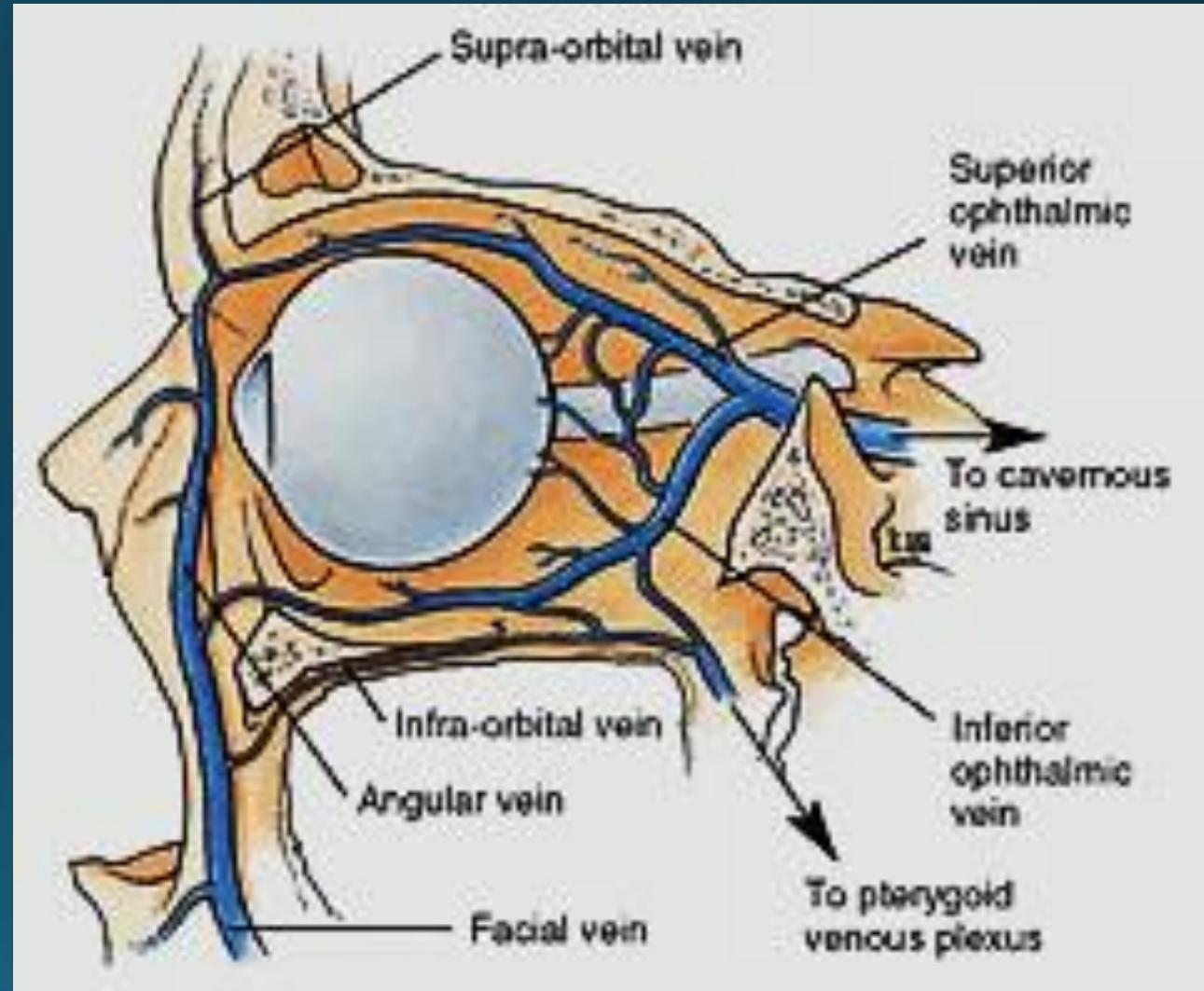


The Connections!



Quiz/ Name the routes of communication between the cavernous sinus and the veins of the face.

1. Superior ophthalmic veins
2. Deep facial vein
3. Pterygoid plexus of veins
4. Emissary vein through the foramen Ovale



Tributaries of cavernous sinus

A. Anteriorly

- Ophthalmic vein
- Spheno-parietal sinus

B. Posteriorly

- Superior petrosal sinus
- Inferior petrosal sinus

C. Medially

- Anterior & posterior intercavernous sinuses

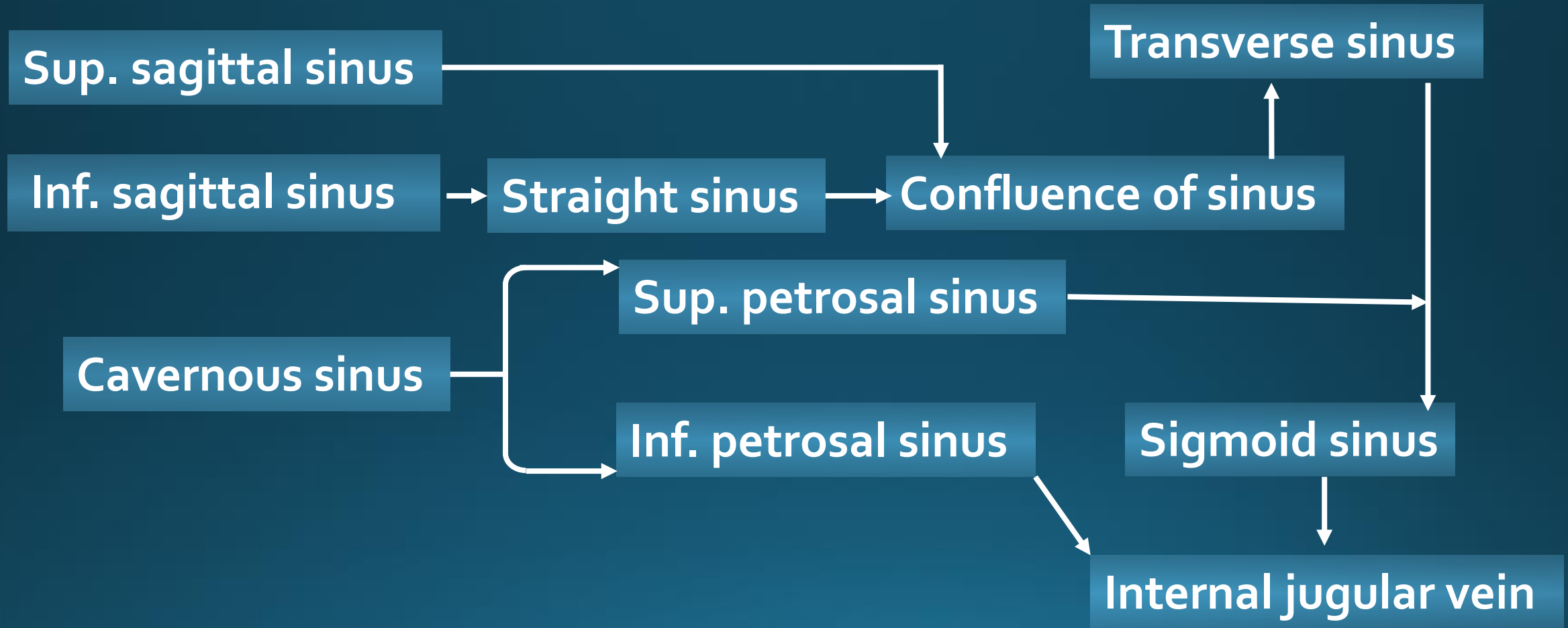
D. Superior

- Superficial middle cerebral vein
- Veins from inferior surface of brain

E. Inferior

- Emissary vein through the carotid canal which connects the sinus with internal jugular vein
- Emissary vein through the foramen ovale which connects the sinus with pterygoid venous plexus

The flowing of the blood in dural sinus



Cavernous sinus Thrombosis

Causes:

- Bacterial infection that has spread from the sinuses, teeth, ears, eyes, nose, or skin of the face

Symptoms:

- Bulging eyeball, usually on one side of face
- Cannot move the eye in a particular direction
- Drooping eyelids
- Headaches
- Vision loss



Blood supply of brain

Brain – Internal carotid

- Vertebral art.
- Choroid plexus

Skull – Mid.Meningeal art.

(Foramen spinosum)

Br. of 1st part Max.art.

(Ext. Carotid art.)

Venous drainage of brain

Brain – Ext.cerebral veins

- Ineter. cerebral veins
- Terminal veins

- Great cerebral vein

(Union of 2 int.cereb.veins)

- Basal veins

(Drain into Grt.Cereb.vein)

Skull - Diploic veins

- Emissary veins

Ventricles - CSF

Ultimately drain into
Venous sinuses

Internal Jugular Vein