

High-Yield Summary: Meninges & Dural Venous Sinuses

1. The Meninges

The brain and spinal cord are surrounded by dura mater, arachnoid mater, and pia mater.

2. Dura Mater

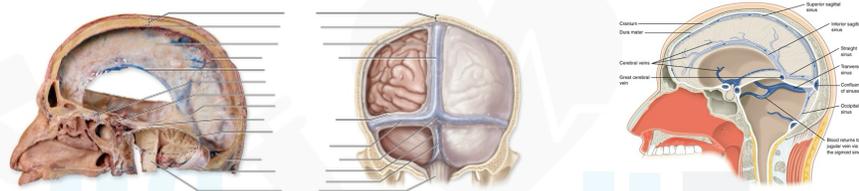
Layers

- Endosteal layer: periosteum lining inner skull; not continuous with spinal dura; continuous with periosteum at foramina and sutural ligaments.
- Meningeal layer: true dura; strong fibrous membrane; continuous with spinal dura; forms nerve sheaths.

Dural Septa

The meningeal layer sends four septa:

1. Falx cerebri: between cerebral hemispheres; contains superior sagittal, inferior sagittal, and straight sinus.
2. Tentorium cerebelli: roofs posterior cranial fossa; contains straight sinus, superior petrosal sinus, transverse sinus.
3. Falx cerebelli: contains occipital sinus.
4. Diaphragma sellae: forms roof of sella; opening for pituitary stalk.



3. Dural Venous Sinuses

Located between dura layers; receive blood from cerebral veins and CSF from arachnoid villi; drain to internal jugular veins; valveless; connected to scalp by emissary veins.

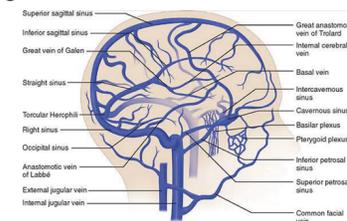
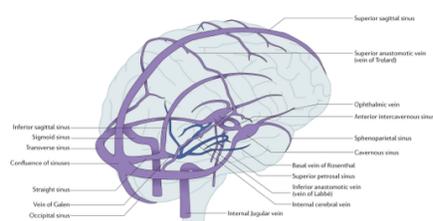
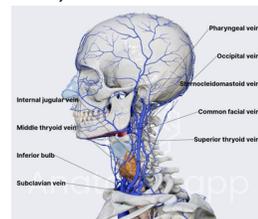
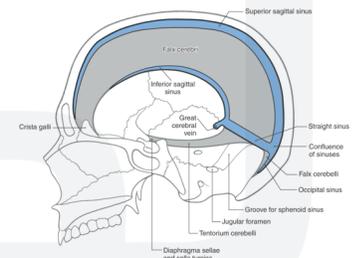
Major Sinuses

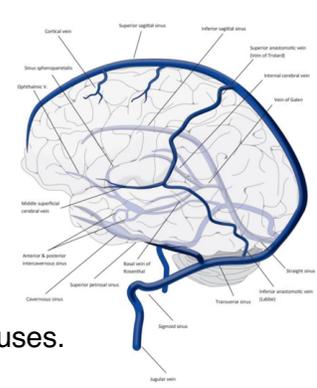
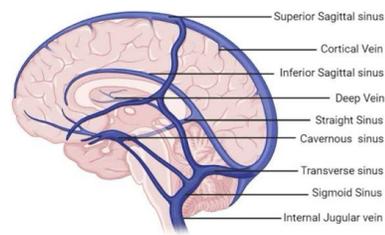
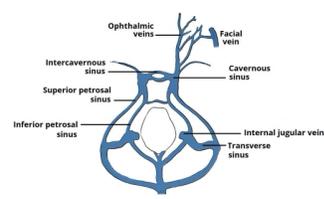
Superior sagittal sinus: receives superior cerebral veins; enlarged at confluence; continues as right transverse sinus.

Inferior sagittal sinus: joins great cerebral vein → straight sinus.

Straight sinus: joins falx and tentorium; continues to left transverse sinus.

Transverse sinuses: begin at confluence; right from superior sagittal, left from straight;





continue as sigmoid sinuses.

Sigmoid sinuses: exit via jugular foramen → internal jugular vein.

Occipital sinus: in falx cerebelli; drains to confluence.

Cavernous sinuses: beside sphenoid body; drain via superior & inferior petrosal sinuses.

4. Arachnoid Mater

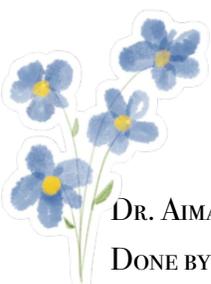
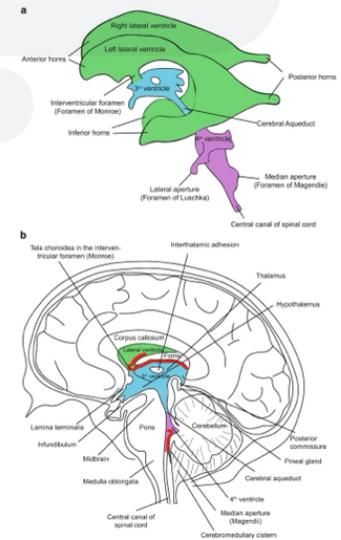
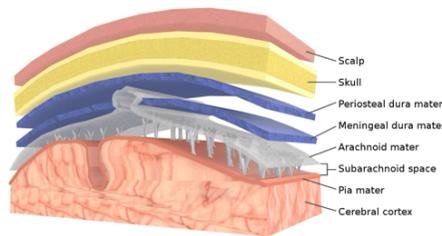
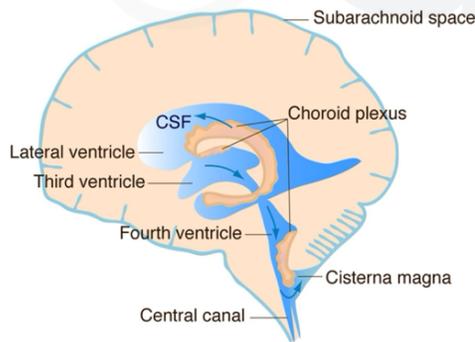
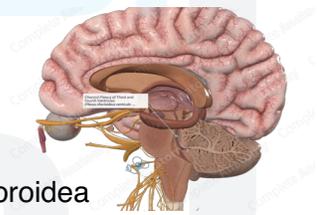
Delicate membrane between dura and pia; subdural and subarachnoid spaces; forms cisterns; arachnoid villi absorb CSF; surrounds cranial nerves; extends to S2.

CSF Flow

Produced in ventricles; exits 4th ventricle foramina to subarachnoid space; circulates around brain & spinal cord; absorbed via arachnoid villi.

5. Pia Mater

Vascular membrane investing brain; follows sulci; extends on nerves; forms tela choroidea and choroid plexuses.



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يَكْفِي أَنْ اللَّهُ يَرَى سَعْيَكُمْ، وَيَعْلَمُ صِدْقَ نِيَّتِكُمْ، فَاطْمَئِنُّوا بِالْخَيْرِ عَائِدًا لِمَحَالَةٍ؛

