# Intracranial Dural Venous Sinuses

↳ Separation of 2 layer of cranial dura
↳ Reduplication of meningeal layer

→ Only inferior sagittal & straight sinus doesn't lie blw meningeal & endosteal layers of dura mater.
→ Drain from brain & skull bones
→ ultimately drain to internal jugular vein

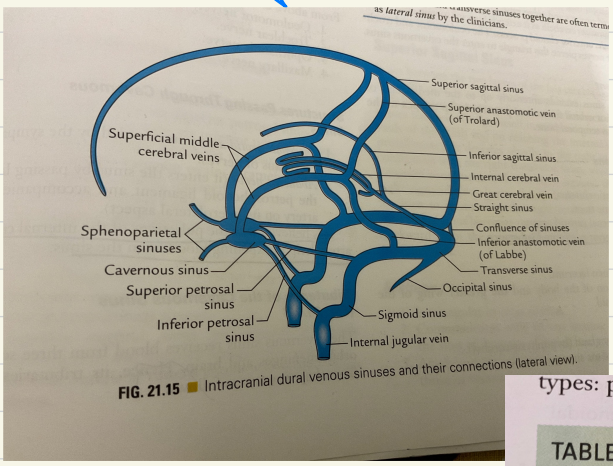


FIG. 21.15 ■ Intracranial dural venous sinuses and their connections (lateral view).

Characteristics
→ Muscular coat absent
→ Line by endothelium only
→ Devoid of valves
→ Recieve venous blood & CSF

→ Middle meningeal vein
middle meningeal sinus

types: paired and unpaired (Table 21.1).

TABLE 21.1 **Classification of the dural venous sinuses (seven paired and seven unpaired)**

| Unpaired sinuses | Paired sinuses |
|---|---|
| 1. Superior sagittal | 1. Cavernous |
| 2. Inferior sagittal | 2. Superior petrosal |
| 3. Straight | 3. Inferior petrosal |
| 4. Occipital | 4. Transverse } lateral |
| 5. Anterior intercavernous | 5. Sigmoid |
| 6. Posterior intercavernous | 6. Sphenoparietal |
| 7. Basilar venous plexus | 7. Petrosquamous |

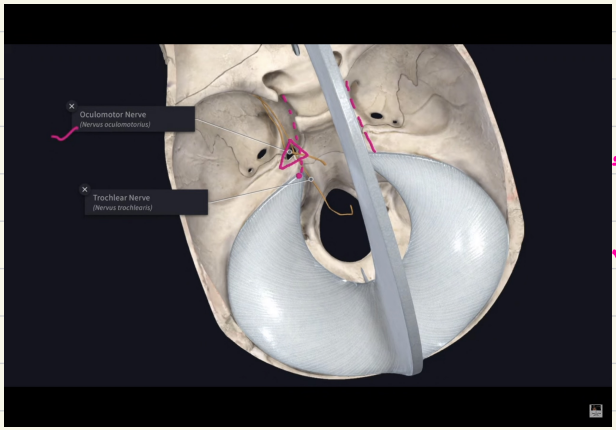
# CAVERNOUS SINUS

(2cm long, 1cm wide

(Read Clinical Anat book

- Location
  - Either side of body of sphenoid & sella turcica in middle cranial fossa
- Floor:- Endosteal layer
- Lateral, Roof, medial:- Meningeal layer

## ★ Triangle




→ Posterior to cavernous sinus
→ BW attached margin of tentorium cerebelli to post. clinoid process & ridge raised by free margin of TC as it extend to ant. clinoid process
→ Oculomotor & trochlear nerve

## ★ Extent

- Anterior:- Medial end of superior orbital fissure
- Posterior:- Apex of petrous temporal bone

Inf:-
- Foramen lacerum
- Junction of body & GW of sphenoid

Lateral
- Temporal Lobe
- Cavum Trigeminale having trigeminal ganglion

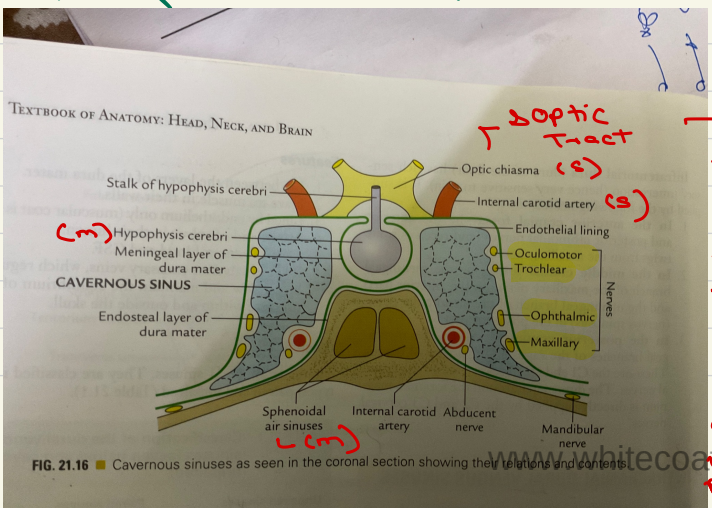


FIG. 21.16 ■ Cavernous sinuses as seen in the coronal section showing their relations and contents.

Optic Tract

Sup. & ant. perforated substance

Ant
- Sof
- Apex of orbit

Post
- Crus cerebri of midbrain
- Apex of petrous temporal bone

- Structure in lateral wall

0 - Ophthalmic
1 - Trochlear
2 - Oculomotor
3 - Maxillary

- Structure passing through

A - Abducent nerve
I - Internal Carotid Artery

- Pulsation of ICA help in expelling blood from sinus

## Tributaries

From meninges along with ant. branch of middle meningeal vein

From brain

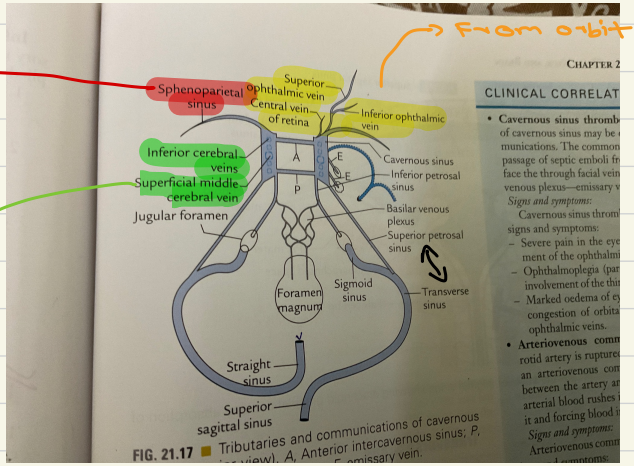



FIG. 21.17 ■ Tributaries and communications of cavernous ... A, Anterior intercavernous sinus; P, ... emissary vein.

CHAPTER 2

CLINICAL CORRELAT

- Cavernous sinus thromb... of cavernous sinus may be ... munications. The common ... passage of septic emboli fr... face the through facial vein... venous plexus—emissary v...
  *Signs and symptoms:*
  Cavernous sinus throm... signs and symptoms:
  - Severe pain in the eye... ment of the ophthalmi...
  - Ophthalmoplegia (par... involvement of the thi...
  - Marked oedema of ey... congestion of orbita... ophthalmic veins.
- Arteriovenous comm... rotid artery is ruptured... an arteriovenous con... between the artery a... arterial blood rushes ... it and forcing blood ...
  *Signs and symptoms:*
  Arteriovenous comm... ...symptoms:

## Communication

-> Transverse sinus via Sup. petrosal sinus
-> IJV via inf. petrosal sinus
-> Pterygoid venous plexus via emissary vein
-> Opp. cavernous sinus via A of intercavernous sinus
-> Sup. sagittal sinus via SF middle cerebral vein -> sup. anastomotic vein
-> Internal vertebral venous plexus via basilar venous plexus

---> FACIAL VEIN

- Sup. Ophthalmic vein ---> Angular vein ---> Facial Vein
- Emissary vein ---> Pterygoid Venous Plexus ---> Deep Facial vein ---> Facial Vein

# SUPERIOR SAGITTAL SINUS

- Triangular
- Begins at crista galli
- Lodges itself in sagittal groove

(read clinical anatomy book)

- On reaching int. occipital protuberance deviate towards right to continue with right sigmoid sinus
- Sigmoid sinus (R) → jugular foramen → IJV

Size ↑ as go back

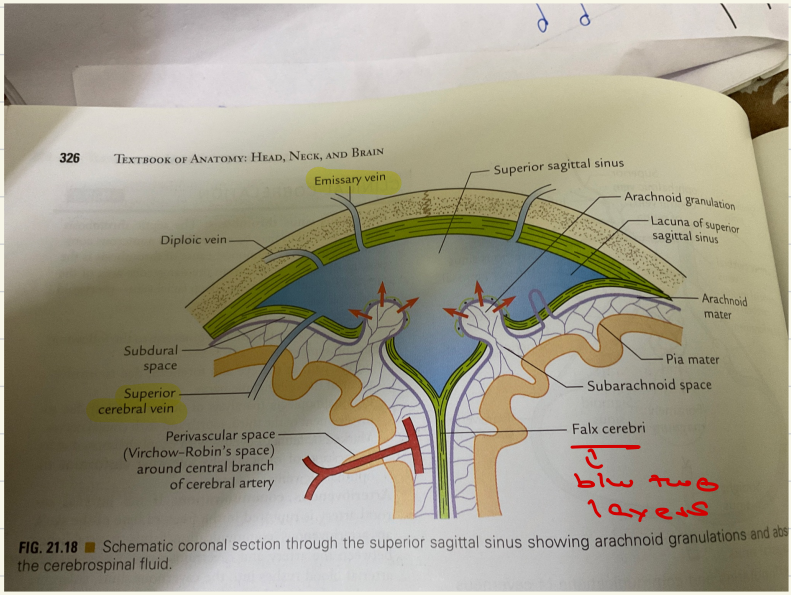



FIG. 21.18 ■ Schematic coronal section through the superior sagittal sinus showing arachnoid granulations and abs the cerebrospinal fluid.

- **Feature**

→ Communicate with venous lacunae on each side, site of drainage of diploic & meningeal vein

→ Arachnoid granulations projection into lumen.

- **Tributaries**

S → Sup. Cerebral vein
↳ Small vein from nasal cavity

P – Parietal emissary vein

V – Vein of frontal air sinus