

CENTRAL NERVOUS SYSTEM – Meninges of the Brain & Dural Venous Sinuses

Dr. Aiman Qais Afar

Set 1: Study MCQs (Memorization)

Q1. The meningeal layer of the dura mater is best described as:

- A. Periosteum of the skull
- B. Dura mater proper
- C. Continuous with cranial sutures
- D. Continuous with skull periosteum externally
- E. Absent at foramen magnum

Q2. Venous sinuses of the brain are formed by separation of:

- A. Arachnoid and pia
- B. Pia and brain
- C. Endosteal and meningeal layers of dura
- D. Skull bone and dura
- E. Arachnoid and dura

Q3. The superior sagittal sinus runs in the:

- A. Free margin of falx cerebri
- B. Attached margin of tentorium cerebelli
- C. Upper fixed margin of falx cerebri
- D. Lower fixed margin of falx cerebri
- E. Attached margin of falx cerebelli

Q4. The falx cerebelli is attached to the:

- A. Crista galli
- B. Tentorium cerebelli
- C. Internal frontal crest
- D. Internal occipital crest
- E. Posterior clinoid process

Q5. Which dural fold forms the roof of the sella turcica?

- A. Falx cerebri
- B. Falx cerebelli
- C. Tentorium cerebelli
- D. Diaphragma sellae
- E. Tela choroidea

Q6. The tentorial notch allows passage of the:

- A. Pons
- B. Medulla
- C. Midbrain
- D. Optic chiasma
- E. Pituitary stalk

Q7. Which sinus drains directly into the internal jugular vein?

- A. Transverse sinus
- B. Superior petrosal sinus
- C. Cavernous sinus
- D. Inferior petrosal sinus
- E. Occipital sinus

Q8. The inferior sagittal sinus ends by forming the:

- A. Transverse sinus
- B. Cavernous sinus
- C. Straight sinus
- D. Sigmoid sinus
- E. Occipital sinus

Q9. The cavernous sinus extends between the:

- A. Foramen magnum and jugular foramen
- B. Anterior and posterior clinoid processes
- C. Superior orbital fissure and apex of petrous temporal bone
- D. Crista galli and petrous bone
- E. Optic canal and jugular foramen

Q10. Arachnoid villi are most numerous along the:

- A. Inferior sagittal sinus
 - B. Cavernous sinus
 - C. Straight sinus
 - D. Superior sagittal sinus
 - E. Sigmoid sinus
-

Q11. A fracture near the internal occipital protuberance is MOST likely to affect which venous structure?

- A. Cavernous sinus
 - B. Sigmoid sinus
 - C. Confluence of sinuses
 - D. Inferior petrosal sinus
 - E. Occipital sinus
-

Q12. Which feature explains why dural venous sinuses cannot actively regulate blood flow?

- A. Absence of valves
 - B. Endothelial lining
 - C. Presence of trabeculae
 - D. Absence of muscular tissue
 - E. Communication with scalp veins
-

Q13. Compression of the free margin of the tentorium cerebelli would MOST likely affect which structure?

- A. Optic nerve
 - B. Oculomotor nerve
 - C. Trochlear nerve
 - D. Abducens nerve
 - E. Trigeminal nerve
-

Q14. Cerebrospinal fluid enters the venous circulation mainly through:

- A. Diploic veins
 - B. Emissary veins
 - C. Subdural space
 - D. Arachnoid villi
 - E. Choroid plexuses
-

Q15. A subarachnoid hemorrhage would directly fill the space between:

- A. Dura and skull
 - B. Dura and arachnoid
 - C. Arachnoid and pia
 - D. Pia and brain
 - E. Endosteal and meningeal dura
-

Q16. Which structure is continuous with the spinal dura mater through the foramen magnum?

- A. Endosteal layer
- B. Sutural ligament
- C. Periosteum
- D. Meningeal layer

E. Arachnoid mater

Q17. Which sinus occupies the junction between falx cerebri and tentorium cerebelli?

- A. Superior sagittal sinus
 - B. Inferior sagittal sinus
 - C. Straight sinus
 - D. Transverse sinus
 - E. Occipital sinus
-

Q18. CSF leaves the fourth ventricle to enter the subarachnoid space through:

- A. One median foramen only
 - B. Two lateral foramina only
 - C. Three foramina in the roof
 - D. Arachnoid granulations
 - E. Central canal
-

Q19. Which meningeal layer closely invests the brain surface and follows the sulci?

- A. Dura mater
 - B. Arachnoid mater
 - C. Pia mater
 - D. Endosteal layer
 - E. Meningeal septa
-

Q20. The tela choroidea is formed mainly by the:

- A. Arachnoid mater
 - B. Dura mater
 - C. Pia mater
 - D. Ependyma alone
 - E. Endosteal dura
-

 **Correct Answers**

1. **B**

2. **C**

3. **C**

4. **D**

5. **D**

6. **C**

7. ~~B~~ **F**

8. **C**

9. **C**

10. D
11. C
12. D
13. B + C
14. D
15. C
16. D
17. C
18. C
19. C
20. C

Set 1: Study MCQs (Memorization)

Q1. The meningeal layer of the dura mater is best described as:

- A. Periosteum of the skull ✗
- B. Dura mater proper
- C. Continuous with cranial sutures ✗
- D. Continuous with skull periosteum externally ✗
- E. Absent at foramen magnum ✗

Endosteal Layer

Meningeal layer =
 Dura mater proper
 continued through
 foramen magnum
 - provides tubular
 sheaths for cranial
 nerves
 + sends inward four septa

Q2. Venous sinuses of the brain are formed by separation of:

- A. Arachnoid and pia *subarachnoid space*
- B. Pia and brain
- C. Endosteal and meningeal layers of dura
- D. Skull bone and dura
- E. Arachnoid and dura

Q3. The superior sagittal sinus runs in the:

- A. Free margin of falx cerebri
- B. Attached margin of tentorium cerebelli
- C. Upper fixed margin of falx cerebri
- D. Lower fixed margin of falx cerebri *inferior sagittal sinus*
- E. Attached margin of falx cerebelli

Q4. The falx cerebelli is attached to the:

- A. Crista galli
- B. Tentorium cerebelli
- C. Internal frontal crest *Falx cerebri*
- D. Internal occipital crest
- E. Posterior clinoid process *fixed border of tentorium cerebelli*

Q5. Which dural fold forms the roof of the sella turcica?

- A. Falx cerebri
- B. Falx cerebelli
- C. Tentorium cerebelli
- D. Diaphragma sellae
- E. Tela choroidea

Diaphragma sellae
small, circular fold
of dura mater.
small opening in center
for passage of
pituitary gland stalk

Q6. The tentorial notch allows passage of the:

- A. Pons
- B. Medulla
- C. Midbrain
- D. Optic chiasma
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inferior sagittal sinus
⊕ great cerebral vein
(great vein of Galen)
Straight Sinus

Q9. The cavernous sinus extends between the ² *are situated in middle cranial fossa on each side of the body of sphenoid bone*

- A. Foramen magnum and jugular foramen
- B. Anterior and posterior clinoid processes *α*
- C. Superior orbital fissure and apex of petrous temporal bone
- D. Crista galli and petrous bone
- E. Optic canal and jugular foramen

Q10. Arachnoid villi are most numerous along the:

- A. Inferior sagittal sinus
- B. Cavernous sinus
- C. Straight sinus

D. Superior sagittal sinus

E. Sigmoid sinus

Aggregation of Arachnoid Villi is called Arachnoid Granulations

Set 2: Exam Simulation MCQs (Understanding & Application)

Q11. A fracture near the internal occipital protuberance is MOST likely to affect which venous structure?

A. Cavernous sinus

B. Sigmoid sinus

C. Confluence of sinuses Superior sagittal (at internal occipital protuberance) → Confluence of sinuses

D. Inferior petrosal sinus

E. Occipital sinus ❌ و

Palk cerebelli - attached to internal occipital crest posterior Fixed margin of it contain occipital sinus

Q12. Which feature explains why dural venous sinuses cannot actively regulate blood flow?

A. Absence of valves ✓

B. Endothelial lining ✓

C. Presence of trabeculae هذه الحبيبة تصنع الـ cavernous sinus

D. Absence of muscular tissue ✓

E. Communication with scalp veins ✓

سؤال عن وارد بالاعقان جعد على العظم
Dural sinuses أتبعته حتى تتذكر حوائطها

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CSF في

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- B. Two lateral foramina only
- C. Three foramina in the roof
- D. Arachnoid granulations
- E. Central canal *↳ Ventricular System → spinal cord*

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- C. Pia mater
- D. Endosteal layer
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