

## 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
- 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

F. Sigmoid 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

inferior sagittal sinus  
+ great cerebral vein  
(great vein of Galen)  
Straight Sinus

Q9. The cavernous sinus extends between the <sup>2</sup> *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 *x*
- 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 الحبيبات تصنع الـ cavernous sinus

**D. Absence of muscular tissue** ✓

E. Communication with scalp veins ✓

سؤال عن وارد بالاعقان جعد على العظم  
أبقيته حتى تتذكر حوائض Dural sinuses

**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** Where the subarachnoid space

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: *Choroid plexuses in ventricles*  
*CSF في*

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

Q19. Which meningeal layer closely invests the brain surface and follows the sulci? *+ covering guri*

- 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

